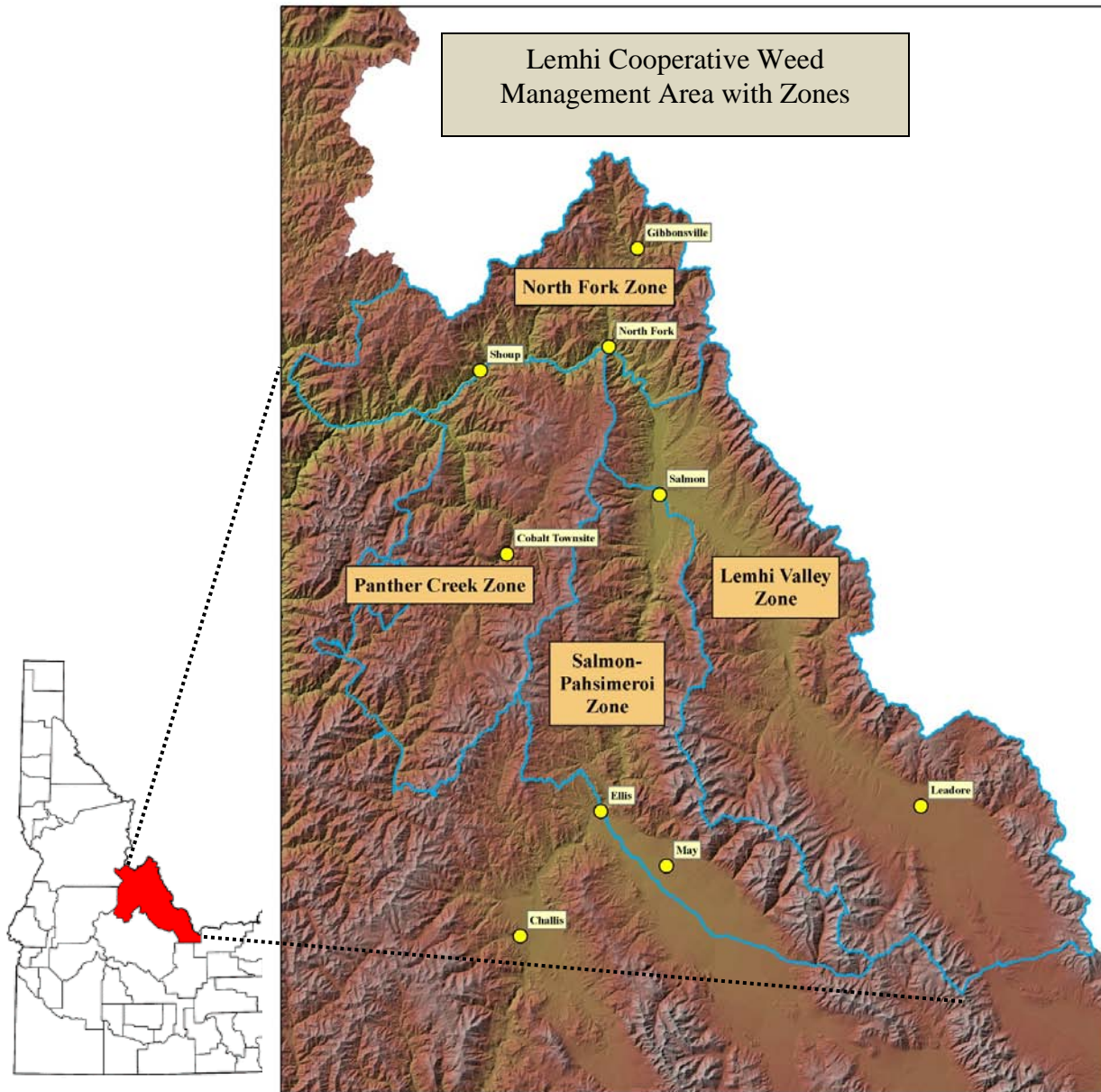


# Lemhi County Cooperative Weed Management Area Year Ending December 31, 2011 Annual Report



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## **(1)Introduction**

The Lemhi County Cooperative Weed Management Area (LCWMA) was developed in 2001 to address noxious weed issues affecting Federal, State and private land while erasing property boundaries.

The goal of the Lemhi CWMA is to bring together individuals, agencies and organizations responsible for and interested in invasive plant species to coordinate management activities throughout Lemhi County. The primary purpose of the Lemhi CWMA is to promote efficient and effective integrated weed management. The Lemhi CWMA emphasizes all aspects of integrated weed management, including education, prevention, early detection, inventory, various treatment methods and monitoring.

The Lemhi CWMA lies within the boundaries of Lemhi County with the exception of those portions of Lemhi County within the Frank Church-River of No Return Wilderness, the Birch Creek and Little Lost River drainages. Refer to the map of Lemhi CWMA boundaries in Appendix B.

Major weeds of concern within the CWMA are broken into two categories consisting of new invaders (currently managed as eradication); Puncturevine, Salt Cedar, Scotch thistle, Perennial pepperweed and established invader (currently managed as control all identified known sites); Rush Skeletonweed, Knotweed and Houndstongue. These weed species have the ability to invade large portions of the CWMA and cause severe economic downfalls in regard to agriculture and the tourism industry, in addition to a degraded ecosystem for the abundant wildlife distribution located within the CWMA. We are also extremely excited to add an additional category this year consisting of eradicated species throughout the CWMA. Species fitting within the category are required to have been absent for a minimum of 5 years and consist of the following; Purple loosestrife, Dyers woad and Yellow starthistle. Maps of all projects can be found in an electronic format submitted with this report.

## **(2A-C)Summary of Year 2011 Projects**

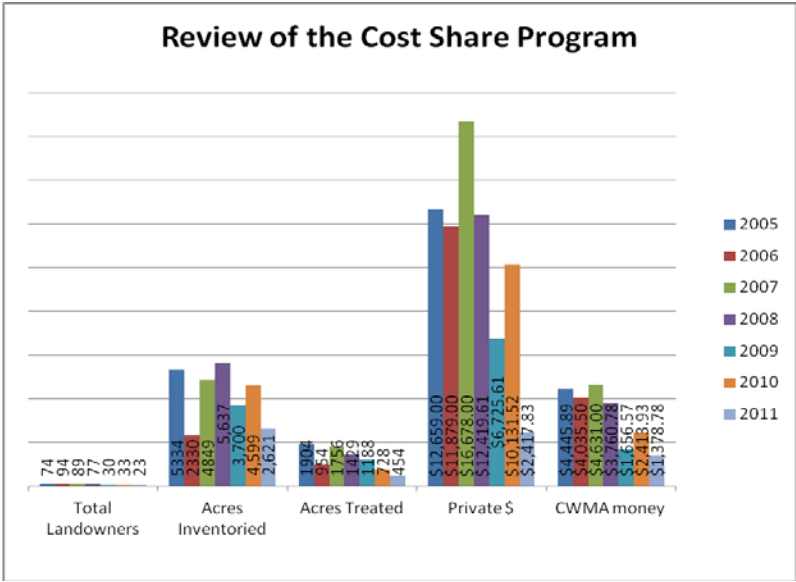
### **Priority 1 (Citizens Against Weeds)**

This priority is a combination of three projects with the same underlying concept and therefore grouped together as Citizens Against Weeds with the sub-categories of (Cost Share, Equipment Loaner and Spray Days). The goal is to encourage private landowners to become involved with noxious weed management and become educated in the methods of control. This consists of calibration, identification and herbicide usage, in addition to potential biological or mechanical control. The final outcome of the program is to help them get a handle on weed problems so that they can manage their property in the future.

**Herbicide Cost Share (\$5,000.00 ISDA State Funding)**  
Private in-kind \$14,878.08

The cost share program is run by reimbursing private landowners 50% of herbicide costs up to \$100 of the total purchase. All herbicide applications are required to be used on Idaho State noxious weed species and a completed record prior to reimbursement. All applications will be made on private land within the Lemhi CWMA during the growing season of 2011. This program is crucial in helping private landowners control any listed noxious weed thus reducing the spread and impact.

This is the tenth year for the program and it is still a very successful in that for every \$1.00 of CWMA money spent on herbicide, the landowners contributed \$2.75 of their own money. In addition \$12,460.25 of in-kind value was generated bringing the total in-kind and cash value of the cost share program to \$14,878.08 resulting in \$10.79 return for every dollar the ISDA put into this program. Funding



In

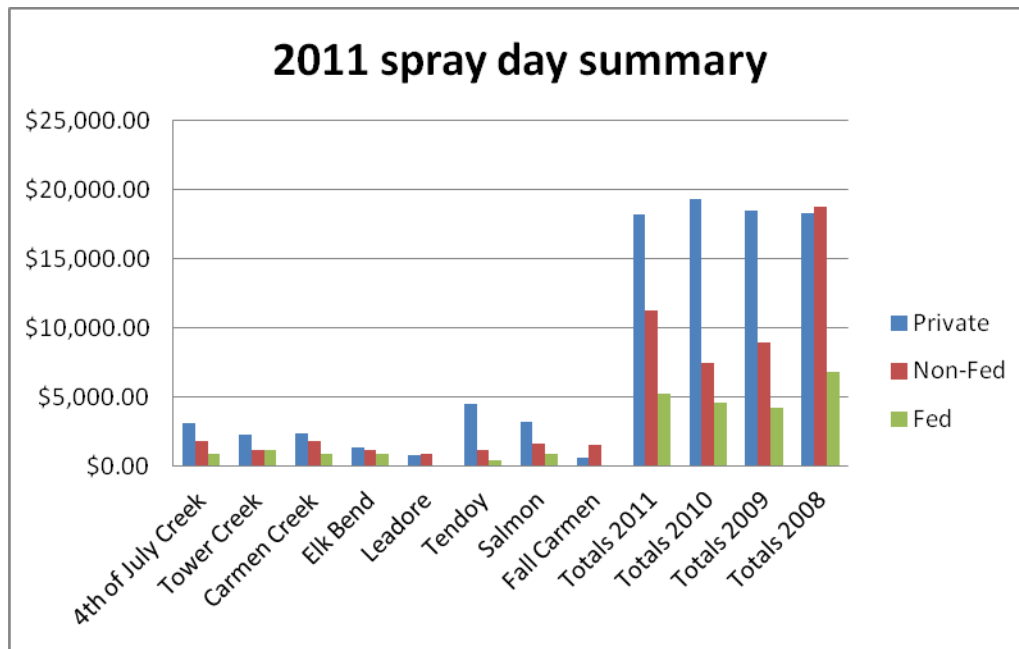
remaining within the program at the conclusion of the year is used to purchase herbicide for use in the following year. In 2011 private landowners inventoried 2,621 acres for noxious weeds, and treated 454 chemical acres of noxious weeds. These numbers are the lowest that they have been since the inception of the program and certainly an area that will receive more focus during the 2012 field season.

**Spray Days (\$7,000.00 ISDA State Funding)**  
Private in-kind \$18,170.00  
Non-Fed in-kind \$11,224.00  
Fed in-kind \$5,244.00

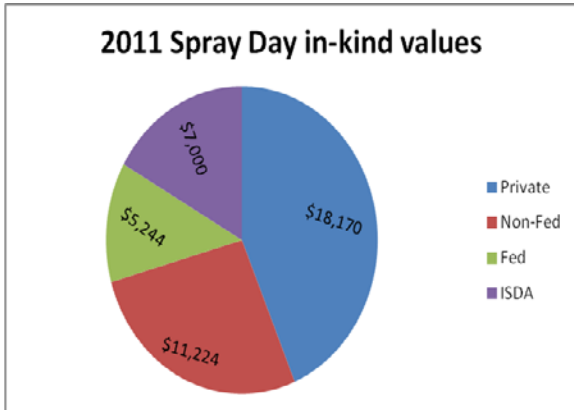
A spray day is an event sponsored by the CWMA and hosted by private citizens to encourage members from all agencies to come together and work with the private landowners for the good of the community. These events are designed to target a specific noxious weed that is of concern to the CWMA; however private landowners are permitted to treat any noxious weed with the

herbicide. The CWMA was involved in 8 community spray day events during the 2011 field season. A total of 647 postcards were sent to private landowners informing them of the events, in addition to newspaper and radio advertisements with an estimated 1500 public contacts. Between these three methods it is anticipated that the spray day events result in a total of 2,147 contacts. The spray days generated \$18,170.00 of private in-kind value to our weed control efforts for a total of 574 chemical acres treated and over 2,000 acres inventoried. The total project cost for spray days is \$41,638.00 of which ISDA funded \$7,000.00 resulting in \$5.95 being generated for every cost share dollar.

During the spray day events we were required to reschedule two of them due to weather conditions, as a result the rescheduled events experienced extremely low participation. As a result of this spray day events occurring in 2012 will not be rescheduled if a cancellation is necessary.



The graph above shows the amount of private, non-federal and federal in-kind created at each spray day event. We in-turn use this data to determine the success of each spray day and decide if the area warrants another event in subsequent years. As you can see, the Fall Carmen and Leadore spray days experience a very low turnout as mentioned above.



The spray days are not only a terrific way to treat noxious weeds but it is probably our best form of tailgate education. Since we began this project many private landowners have purchased their own sprayers for ATV's, Tractors, Vehicles and backpacks. It also gives us a chance to teach them calibration, weed identification, reading the label, safety and a plethora of additional information.

Equipment Loaner Program is designed to give private landowners the tools needed for herbicide application or habitat improvement. People can borrow ATV sprayers, back pack sprayers and seeders at no charge. This year this program came at no cost since all equipment was already purchased. In-kind values from this program are also not calculated because many individuals either utilize this program with our spray days or cost share program at which time the data is collected.

**Measurable Outcomes from Priority 1**

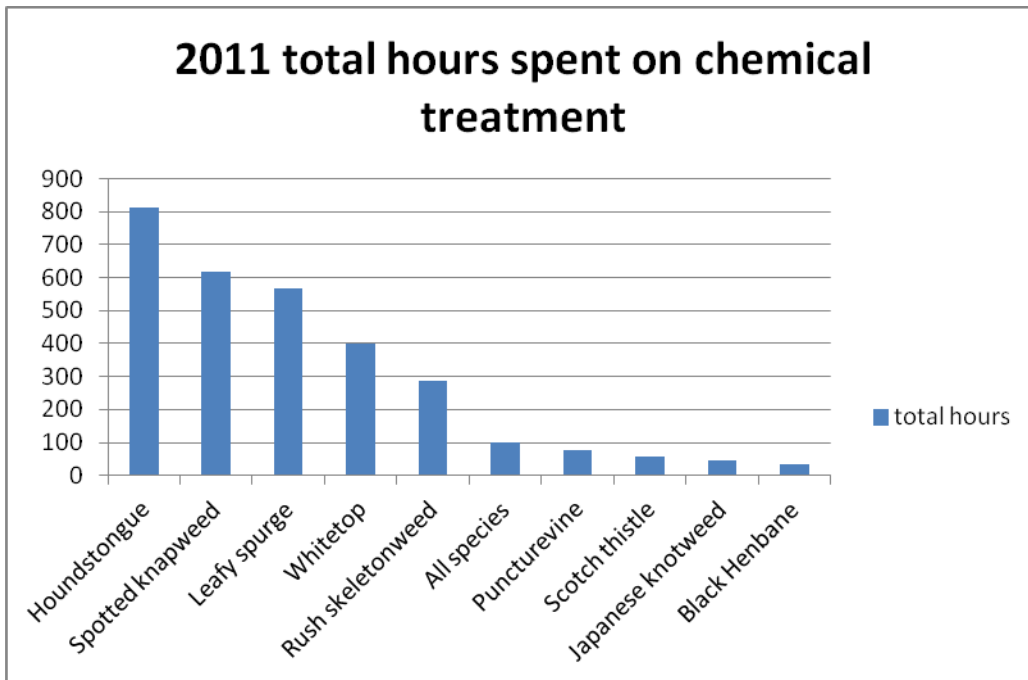
<b>Total acres treated (Herbicide)</b>	<b>1,028</b>
<b>Total acres inventoried</b>	<b>4621</b>
<b>Total number of public contacts</b>	<b>2170</b>

**Priority 2 (Species of Concern Project)**

<u>Herbicide for species of Concern (\$12,000.00 ISDA State Funding)</u>	
	Non-fed in-kind \$8,028.32
<u>Seasonal Weed Technician for species of concern (\$10,000.00 ISDA Federal Funding)</u>	
	Non-fed in-kind \$19,998.50
	Federal in-kind \$60,535.17

This project compliments the spray day events by allowing members from the Lemhi CWMA to treat noxious weeds with high priority such as Houndstongue that were not treated during the actual spray day event. By completing this project we are able to treat the entire infestation and preventing seed set to re-infest previously treated locations. Typically our crews will begin treatment on private land and follow the infestation onto the BLM and then to the Forest Service in a combined group

effort. Primary weeds that will be targeted are Rush Skeletonweed, Houndstongue, Puncturevine, Whitetop, Knotweed and Scotch thistle. In addition to these species which are on our new invader list we are constantly looking for additional weed species that could be moving into the county.



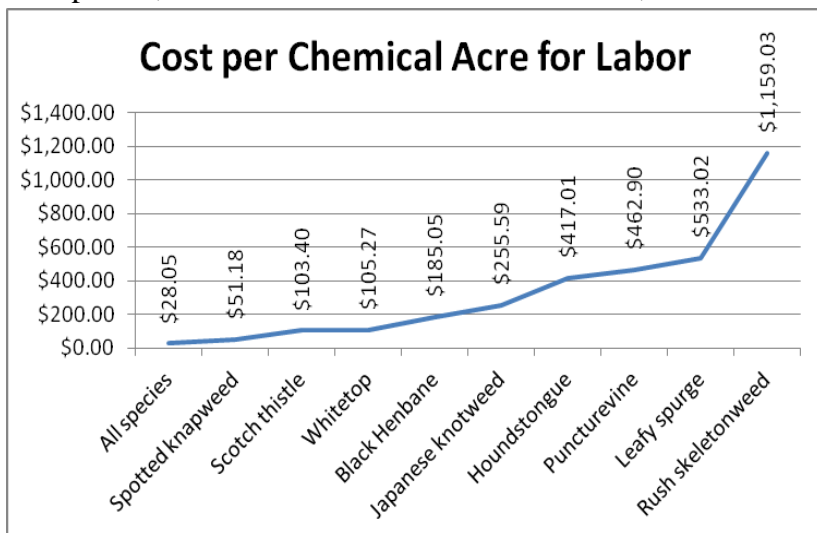
This project resulted in a total of 494 chemical acres, with over 6,000 acres inventoried and a total of 88,561.99 in-kind.

As you can see by the bar graph the majority of our time went to Houndstongue, Spotted knapweed, Leafy spurge, Whitetop and Rush skeletonweed. In

addition to these species in the graph we also spent time treating Canada thistle, Hoary alyssum, Salt cedar, Perennial pepperweed, Russian knapweed, Field bindweed and Yellow toadflax, however

these hours were minimal. The line graph is data utilizing our total hours for each species, divided by the chemical acres and multiplied by the ISDA hourly wage of \$23.00 an hour. This formula then delivers our exact cost per chemical acre per species.

This data proves to be very valuable in showing that the total chemical acres achieved on the ground aren't necessarily the highest objective. For instance, Rush skeletonweed cost us \$1,159.03 per chemical acre for labor.

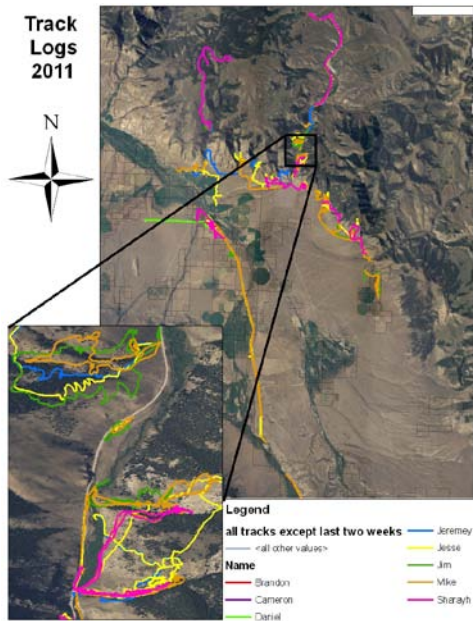


The reason for this was that we spent 285 hours treating 5.65 chemical acres of very remote hard to find Rush skeletonweed. In comparison Spotted knapweed cost us \$51.18 a chemical acre for labor. On this example we spent 615 hours treating 276 chemical acres. Should we have decided to not treat Rush skeletonweed and use that time on Spotted knapweed we would have spent a total of 900 hours which would have resulted in 403 chemical acres. This may seem confusing but when comparing our weed species data we treated all of our Rush skeletonweed sites for 100% treatment.

In comparison we have 61,027 acres of mapped and inventoried spotted knapweed resulting in 0.45% of our infested area treated. Another aspect of these two graphs to note is the all species notation; this is chemical acres achieved through our chemical injection spray truck. It is very difficult to show the exact chemical acres and time for each species because one herbicide can be used on a multiple variety of species.

As you can see from the graphs above Houndstongue is continuing to be a major challenge for members of the Lemhi CWMA. It is very evident through our monitoring efforts that we are being effective in our herbicide application of this species. Probably the biggest challenge is that we are only spot treating each plant and therefore no residual left to control plants yet to germinate. However, it is a good sign that there isn't enough bio-mass to solid spray an area. The primary frustration is associated with being able to move through an area that has been previously treated area much faster allowing for a larger inventory which has typically resulted in finding more of the species. Due to this, we have identified a location and placed paired monitoring plots in order to begin recording vegetation data should a biological control agent be approved for release. Until that time we will continue to treat any and all known Houndstongue West of Highway 93 North and anything South of North Fork, Idaho.

The Lemhi CWMA was approved to purchase two GPS Juno and two Garmin Rino Units during this past grant cycle. Due to our GIS and GPS data collection we are able to capture a tremendous amount of work completed digitally which not only allows us to show what is happening on the



ground through graphs but also through maps. On the map titled Track Logs 2011 you will see our tracklogs while treating leafy spurge in the Leadore Area. This data is extremely useful in determining the acres inventoried and ensuring that the entire area is treated to expectation. In addition to having these tracklogs all of our applicator records are entered into an access database shown below. Each applicator record is then assigned a unique ID number. This number is then given to each of the tracklogs that are

ID	Applicator	2nd App	Date	Total Hours	Ownership	Who Pays
11	Varley	Meacham	5/12/2010	40.00	BLM	Stimulus
13	Bertram	Varley	5/12/2010	10.00	BLM	Stimulus
14	Armstrong	Varley	5/17/2010	6.00	BLM	Stimulus
15	Armstrong		5/19/2010	6.00	BLM	Stimulus
16	Meacham	Varley	5/19/2010	35.00	BLM	Stimulus
17	Varley	Overacker	6/22/2010	30.00	BLM	Stimulus
18	Armstrong	Overacker	6/23/2010	50.00	BLM	Stimulus
19	Armstrong	Bertram	6/24/2010	20.00	BLM	Stimulus
20	Armstrong	Armstrong	6/17/2010	20.00	BLM	Stimulus
21	Varley	Overacker	6/24/2010	30.00	BLM	Stimulus
22	Meacham	Varley	6/23/2010	30.00	BLM	Stimulus
23	Varley	Varley	7/5/2010	7.00	BLM	Stimulus
24	Varley		7/5/2010	1.50	BLM	Stimulus
25	Armstrong	Overacker	7/9/2010	6.00	BLM	Stimulus
26	Bertram	Varley	7/13/2010	6.00	BLM	Stimulus
27	Bertram	Varley	7/13/2010	14.00	BLM	Stimulus
28	Armstrong	Meacham	6/14/2010	20.00	BLM	Stimulus
29	Varley	Meacham	7/22/2010	30.00	BLM	Stimulus
30	Overacker	Meacham	7/26/2010	20.00	BLM	Stimulus
31	Varley	Meacham	7/28/2010	20.00	BLM	Stimulus
32	Meacham	Varley	7/28/2010	16.50	BLM	Stimulus
33	Bertram	Varley	7/26/2010	10.00	BLM	Stimulus
34	Varley	Overacker	8/9/2010	70.00	BLM	Stimulus

digitally stored on Arc Map and a table is joined. What this allows us to do is not only see where each applicator has treated but also query the exact applicator record.

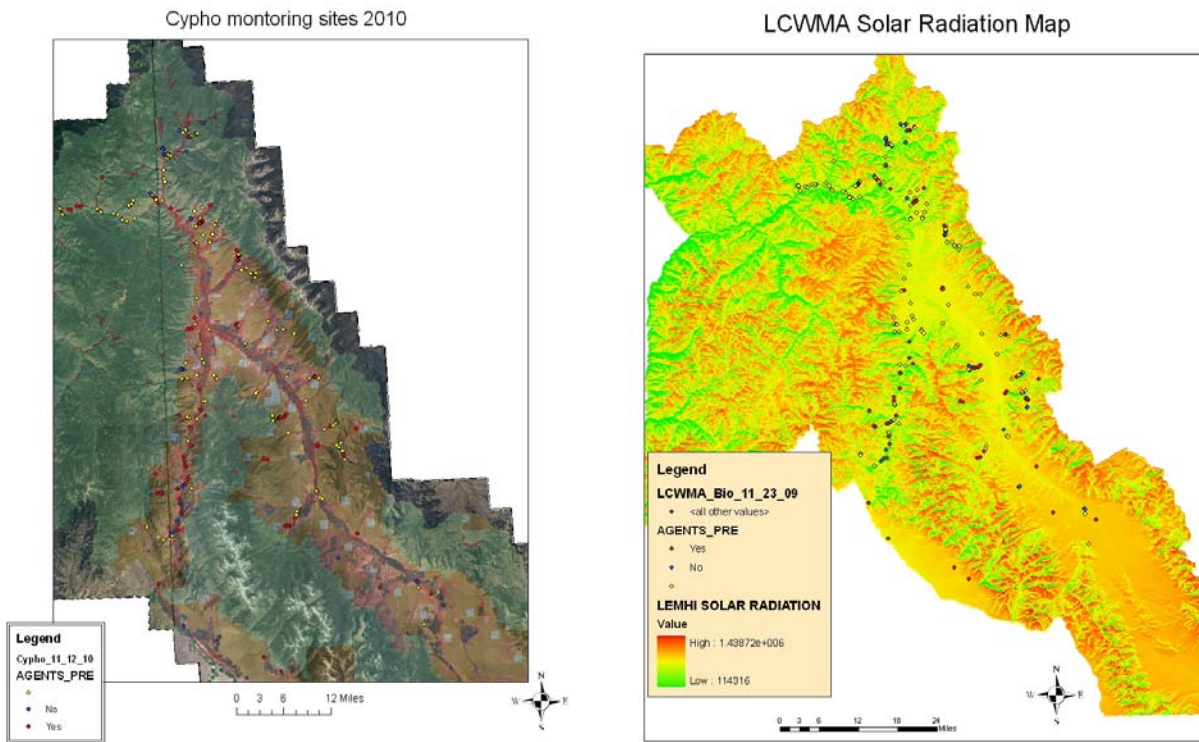
**Measurable Outcomes from Priority 2**

<b>Total acres treated (Herbicide)</b>	<b>779.98</b>
<b>Total acres inventoried</b>	<b>6,000</b>
<b>Total number of public contacts</b>	<b>300</b>

**Priority 3 Bio-Control**

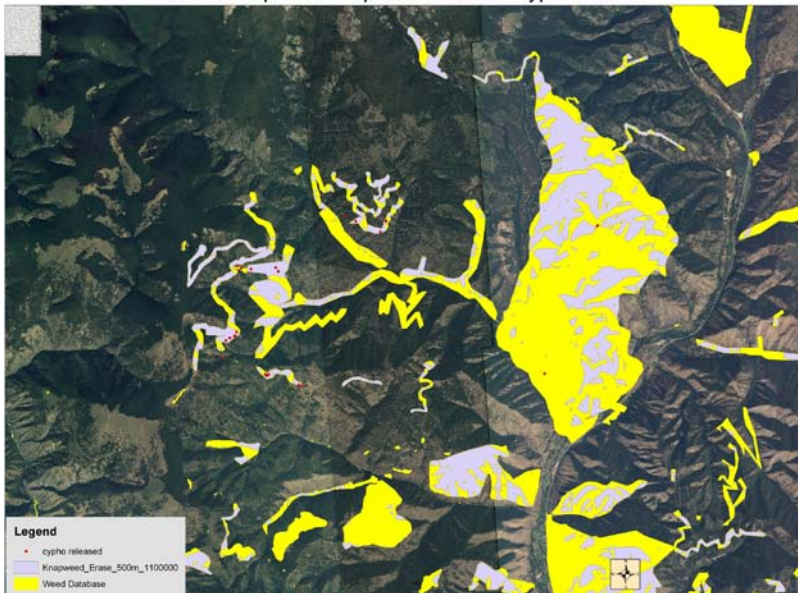
<p><b>Bio-Control (\$500.00 ISDA State Funding)</b> Private in-kind \$12,941.50 Federal in-kind \$3,772.50</p>
--

The Lemhi CWMA is once again striving to diversify the way that noxious weeds are controlled in Lemhi County. Currently we have large amounts of *Urophora* species well-distributed throughout the county, moderate numbers of *Larinus minutus* (which are spreading well on their own) and the occasional *Metzneria paucipunctella* all working with us against spotted knapweed. Due to this project being funded a total of 14,950 *Cyphocleonus achates* were collected by youth under the age of 16 from a local insectary. Over 3,000 of those collected were shipped to different parts of Idaho and the remainder released within the Lemhi CWMA.

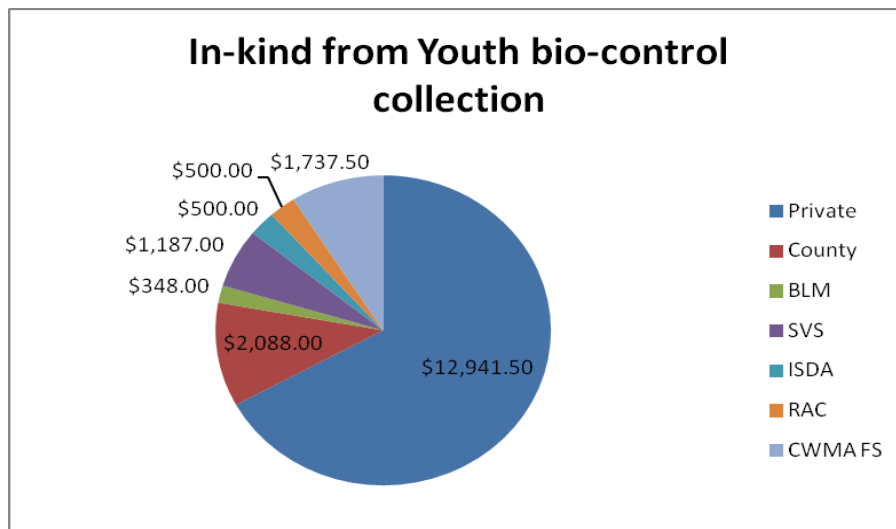


Because of the high infestation of spotted knapweed within the county we have been releasing a large number of biological agents for over a decade now and this year we have released a total of 104,987 since 1985. With having released so many *Cyphocleonus* we want to make sure that our releases are effective and that the time and money invested is worth it, because of that we have monitored a large portion of historical releases to determine efficacy. From this data we are able to show that we are having a tremendous success in establishment regardless of release size resulting in us creating a solar radiation layer that predicts the exact amount of sunlight that hits a given location. We are then able to show that *Cyphocleonus* prefer the warmer sites than those that are cool and

Suitable spotted knapweed sites for *Cyphocleonus*



moist. The next step in our GIS analysis was to overlay our knapweed infestation layer with the solar radiation and pull any infestation that met the warmer conditions shown through the solar radiation. The next step was to delete any infestation smaller than five acres in size and with established *Cyphocleonus*. From this map our original spotted knapweed inventory is the yellow and the suitable knapweed sites are in the grey. The red dots indicate releases that occurred while validating the model.



**Measurable Outcomes from Priority 3**

**Total *Cyphocleonus* collected 14950**  
**Total number of public contacts 100**

## **Priority 4 (Equipment Wash Station)**

<p style="text-align: center;"><u>Wash Station (\$7,430.50 ISDA Federal Funding)</u> Non-Federal in-kind \$37,307.57 Federal in-kind \$22,000.00</p>
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It has been well documented that the cost of controlling noxious and invasive species decreases the smaller the infestation. It is much harder to predict the cost of preventing that invasion from starting in first place. Noxious and invasive species are being moved through our society at an alarming pace due to our mobility and with that we must be mindful of moving species throughout the county, into the county and out of the county.



The Lemhi Cooperative Weed Management Area purchased an undercarriage rinse station that utilizes high pressure nozzles strategically placed to clean and remove debris and dirt from the undercarriage of vehicles. The total cost of the unit was \$66,738.07 for the initial purchase of this system

and will require additional funding for the installation. It was decided to purchase this piece of equipment rather than build our own for several reasons with the primary being that this is a proven system that works and comes with a warranty.



From the picture you can see the entire system on the semi trailer. The black tank gets buried underground and contains the reticulating water. A person is standing in the middle of the tank for a size perspective. The wash platforms are then staged on top of the tank and are utilized to clean the undercarriage of the vehicle.

**Measurable Outcomes from Priority 4**

**This project is hard to measure the outcomes due to it being prevention.**

**Priority 5 (Re-Vegetation)**

Not Funded

**Priority6 (Rush skeletonweed contract)**

Rush skeletonweed contract (\$10,000.00 ISDA State Funding)  
Private in-kind \$3,031.30

As mentioned in Priority 2 the Lemhi CWMA is being very aggressive with its Rush skeletonweed control. We are also very aware that a single treatment is not sufficient when trying to control this species. Due to this and funding from the cost share program we were able to hire a local contractor to treat a large portion of our rush skeletonweed sites after we had treated them looking for any plants our crews had missed or that had germinated after our treatment. This project proved to be very beneficial as the contractor found a rather high percentage of plants in the treatment area and because of the time of year ended up pulling the seed heads off of the plants and bagging them to prevent seed spread. If we want to continue having a severe impact on rush skeletonweed these types of duplicative treatments are going to be required.

**Measurable Outcomes from Priority 6**

<b>Total acres treated</b>	<b>0.484</b>
<b>Total acres inventoried</b>	<b>143.27</b>
<b>Total number of public contacts</b>	<b>10</b>

## (2D)Herbicide Purchases

Chemical/description	Quantity	purpose
Telar	160 oz	Houndstongue and Whitetop
Milestone	10 gal	Knapweed, thistles
Platoon	200 gal	Knapweed, Leafy spurge
Forefront R & P	100 gal	Knapweed, thistles
Forefront HL	50 gal	Knapweed, thistles
Transline	15 gal	Knapweed, thistles
Chaparral	20 lbs	Whitetop and Knapweed
Indicator Dye	50 gal	

## (2E)Gross Acres Infested by Noxious Weed

Common Name	Scientific Name	Gross Acres	Percent of Gross Acres Infested	Average Density
black henbane	Hyoscyamus niger	652.4	20.00%	10.00%
Canada thistle	Cirsium arvense	1984.9	70.00%	19.00%
Dalmatian toadflax	Linaria genistifolia ssp. dalmatica	315	50.00%	20.00%
diffuse knapweed	Centaurea diffusa	0.875	25.00%	1.00%
*Dyer's woad	Isatis tinctoria	0	0.00%	0.00%
field bindweed	Convolvulus arvensis	19.78	30.00%	12.00%
hoary alyssum	Berteroa incana	3206	20.00%	10.00%
Houdstongue	Cynoglossum officinale	3404	50.00%	5.00%
Japanese knotweed	Polygonum	30	1.00%	1.00%
leafy spurge	Euphorbia esula	3492.58	50.00%	20.00%
Musk thistle	Carduus nutans	2152.66	10.00%	19.00%
oxeye daisy	Chrysanthemum leucanthemum	127.79	80.00%	12.50%
Perennial pepperweed	Lepidium latifolium	2.7	75.00%	13.00%
Perennial sowthistle	Sonchus arvensis	0.0994	90.00%	1.00%
puncturevine	Tribulus terrestris	25.15	5.00%	1.00%
*purple loosestrife	Lythrum salicaria	0	0.00%	0.00%
rush skeletonweed	Chondrilla juncea	4494.29	10.00%	4.00%
Russian knapweed	Acroptilon repens	34.24	20.00%	18.00%
*saltcedar	Tamarix ramosissima	0	0.00%	0.00%
Scotch thistle	Onopordum acanthium	454.9	50.00%	17.00%
spotted knapweed	Centaurea maculosa	61027.37	60.00%	15.70%
whitetop	Cardaria draba	1376.7	50.00%	18.90%
Yellow toadflax	Linaria vulgaris	147	50.00%	14.00%
*Yellow starthistle	Centaurea solstitialis	0	0.00%	0.00%

\* Species noted have once occurred within the CWMA but are considered eradicated.

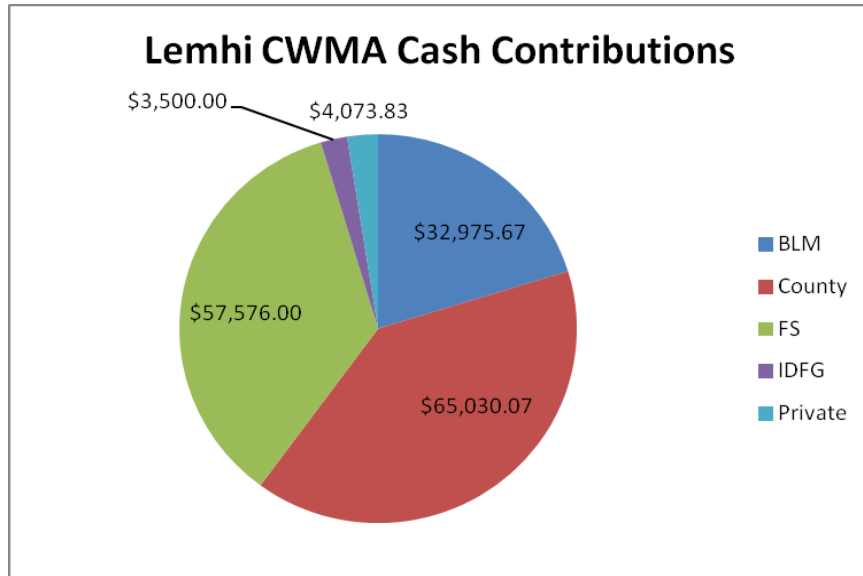
\*\* Species not listed in the table above are not known or have never been found within the CWMA

**(2F-H)Project Summaries**

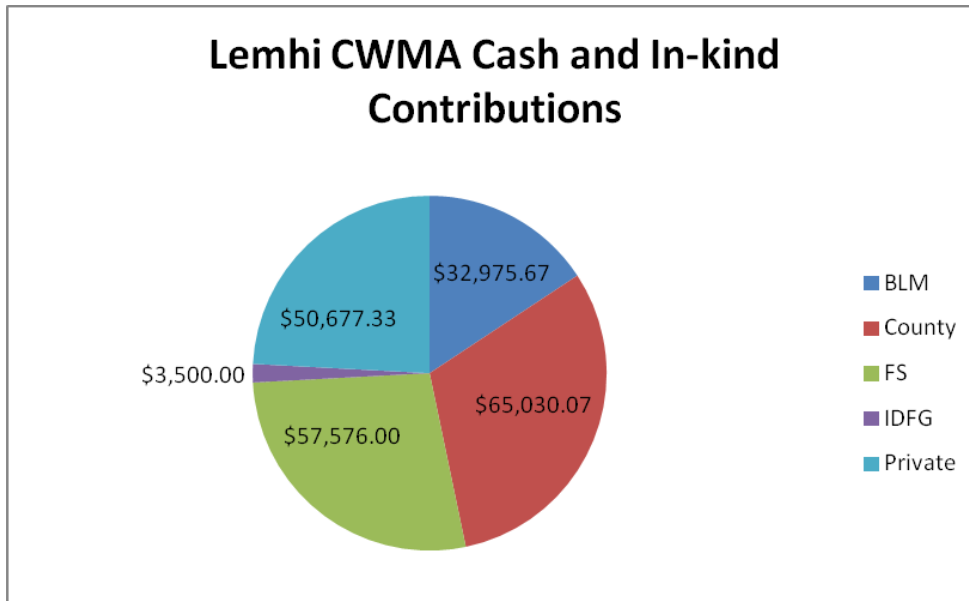
Category	Weed species	Acres Treated
Re-vegetation	NA	30 acres
Mechanical Control	Carmen Spurge (grazing)	3,811 acres
Biological Releases	Spotted knapweed	19,215 Cyphocleonus released
	Canada thistle	300 Urophora Cardui
	Field bindweed	200 Tyta luctosa
	Field bindweed	2000 Aceria malherbae
Treated chemical acres	All species - cost share	454 acres
	All species – spray days	574 acres
	All species – spray truck	83.01 acres
	Black Henbane	4.4 acres
	Canada Thistle	14 acres
	Field Bindweed	0.4 acres
	Houndstongue	44.73 acres
	Hoary alyssum	3.73
	Japanese knotweed	3.99 acres
	Leafy spurge	24.52 acres
	Perennial pepperweed	0.89 acres
	Puncturevine	3.88 acres
	Rush skeletonweed	6.56 acres
	Russian Knapweed	1.02 acres
	Scotch thistle	12.79 acres
	Spotted Knapweed	276.76acres
	Yellow toadflax	0.13 acres
	Whitetop	87.46 acres
	<b>Total</b>	<b>1,808.47 acres</b>
Total acres inventoried	All Species	10,764 acres
Public Contacts		2,580
GPS/GIS Mapping		12,572.46 acres

### (3) Contributions and Expenditures for the LCWMA

The following graph shows the cash contributions that the Lemhi CWMA received in 2011 with a total value of \$163,155.57 received. Private cash contributions were calculated through the cost share program and money that they either paid for herbicide or contractor wages. These figures are calculated only on projects that were funded with support from the ISDA. The Lemhi CWMA did complete many additional projects that are not included in this graph.



The following pie chart shows all cash and in-kind values that the Lemhi CWMA brought in during the 2011 fiscal year for a total of \$209,759.07 for the projects that were funded through the CWMA



#### **(4) Plans for next year**

The primary goal for the cwma during the 2012 season is to prevent any new invaders from becoming established within the cwma. In order to meet this challenge crews will be trained on our potential invaders outlined within the strategic plan and their identification characteristics. We are also planning on having the undercarriage rinse station up and running to further prevent any seed dispersal either out of or into the county. Along with prevention, education will rank close to the top. It is much easier if we can get members of the community looking for and treating noxious weeds, if we believe that we will be able to complete this task by ourselves then we have already lost.

After prevention and education we will work through the Lemhi strategic plan that is updated annually and follow the species prioritization. In addition we have plans of incorporating the Weed Treatment Planner and validating this model in conjunction with our strategic plan.

We look forward to next year and anticipate an even more successful year than the one that has just past.