

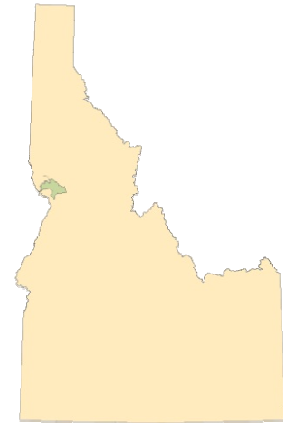
Joseph Plains Weed Management Area

End of Year Report FY 2009



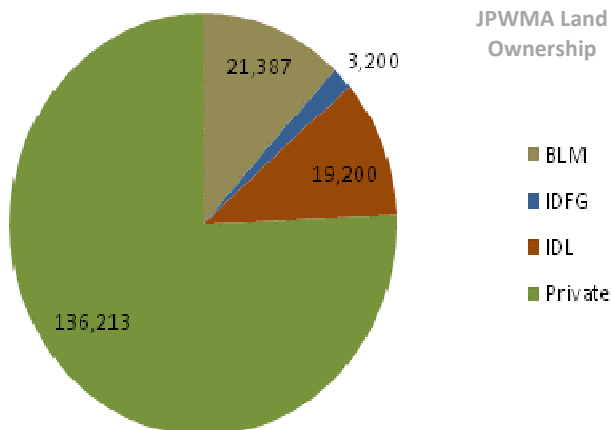
INTRODUCTION

The Joseph Plains Weed Management Area (JPWMA) encompasses approximately 180,000 acres located south of the Salmon River (common boundary with the Tri-State WMA), east of the Snake River, north of the Forest Service boundary, and west of the Salmon River WMA. The majority of land located within the JPWMA is privately owned (see below). Consequently, the role of private landowners in the cooperative efforts of weed control is very large. In addition to private landowners, JPWMA cooperators include the Bureau of Land Management (BLM) Cottonwood office, Idaho Department of Lands (IDL) Craigmont office, Idaho Department of Fish and Game Lewiston office (IDFG), and Idaho County Weed Control. The steering committee of the JPWMA is listed on the following page.



The goals and mission of the JPWMA are for cooperators to work together in order to successfully:

- Establish control priorities
- Establish specific weed management objectives
- Create treatment zones within the Management Area
- Treat individual weed species/infestations
- Coordinate the use of resources and manpower
- Develop common inventory techniques and mapping
- Manage designated noxious weeds with an integrated approach
- Test the feasibility of new techniques and management strategies



Though several weeds listed as noxious in the state of Idaho are present in the JPWMA, the most problematic include yellow starthistle, spotted and diffuse knapweed, Dalmatian toadflax, Italian and Scotch thistle, and whitetop. These weeds have demonstrated their ability to spread rapidly in pastures, rangeland, and forests where they decrease forage production for domestic livestock and native wildlife and disrupt natural ecosystems.

JPWMA STEERING COMMITTEE

Name	Title	City	State
Carl Crabtree (Chair)	Chairman	Grangeville	ID
Joe & Connie Anderson	Private Landowner	Cottonwood	ID
BANRAC	Private Landowner	Spokane	WA
Miles Benker	IDFG	Lewiston	ID
Lynn Burton	USFS	Grangeville	ID
Lynn Danly	BLM	Cottonwood	ID
Ed Enneking	Private Landowner	Cottonwood	ID
Norm Fitzsimmons	Private Landowner	Orofino	ID
Thom Hawkins	IDL	Craigmont	ID
Don Heckman	Private Landowner	White Bird	ID
Russ Henning	Private Landowner	Cottonwood	ID
Bob Hitchcock	Private Landowner	McCall	ID
Marianne Lindsey	Private Landowner	White Bird	ID
John Nelson	IDFG	Lewiston	ID
Jim & Janet Pope	Private Landowner	Clarkston	WA
George Schroyer	Private Landowner	Philomath	OR
Craig Spencer	Private Landowner	Grangeville	ID
Margie Wright	Private Landowner	White Bird	ID
Skipper Brandt	Commissioner	Kooskia	ID
James Rockwell	Commissioner	Grangeville	ID
Jim Rheder	Commissioner	Cottonwood	ID

2009 ACCOMPLISHMENTS

JPWMA partners have been very aggressive in the development of an integrated program that is implemented by all agencies, organizations, and landowners in the region. The accomplishments stated below are a result of the successful implementation of the Annual Operating Plan for this past calendar year (2009) and new management targets determined during the year via continued cooperation of JPWMA members. The majority of work conducted in the JPWMA during 2009 focused on eradicating new invaders, and treatment of the containment lines. Additionally, significant effort was put into post treat evaluation of previous treatment efforts. Inventory work was conducted by all partners, with Idaho County Crews providing the lead. Control work was conducted primarily by Idaho County Crews, with Reforestation Services (helicopter applicators) and private landowners being significant players. Revegetation/grazing work was conducted by Marianne Lindsey and Bob Stoll. Prevention work was conducted by all partners. All accomplishments in 2009 are listed below beginning on page three and separated according to prevention, inventory, and treatment.

PREVENTION

It is often more cost effective to prevent weeds from invading a site, than it is to treat weeds once they are established. Consequently, prevention is the first priority of invasive weed management in the JPWMA. As stated in the JPWMA Invasive Weed Prevention Plan, prevention includes education, restoration, and revegetation. Key prevention activities carried out during FY 2009 are listed below.



- Washing equipment utilized during suppression actions on wild fires

- Certification of gravel pits and stock piles as weed free
- Development of local volunteer inspectors as part of the certification process for weed free hay and straw
The county certified approximately 1000 tons of forage
- A weed display for the Idaho County Fair
- Weed awareness posters at campgrounds and trailheads
- Application of certified weed free straw for fire restoration
- Implementation of Idaho's Certified Weed Free Forage Program
- Web page providing the public with invasive weed information and JPWMA plans and strategies
- Annual meetings with steering committee to develop AOP and distribute EOY report

In the 2009 JPWMA AOP, public contacts estimated to take place throughout 2009 were approximately 6,000. Through various weed education and control efforts undertaken by the JPWMA throughout 2009, approximately 12,500 public contacts were made.

INVENTORY

Inventory, or mapping, is one of the most important elements of a successful weed management plan. It is imperative that the extent of a population is understood before control activities are implemented. It is also crucial that inventory data be collected and assembled in a format that allows information to be shared among all partners. Accurate and efficient inventory is a high priority in the JPWMA, and was its own priority (#4) listed in our 2009 Annual Operating Plan. In addition, because inventory must be present for efficient control tactics to occur, inventory was a component of all other priorities listed in the 2009 AOP of the JPWMA.

2009 AOP Estimates for Early Detection System for Salmon River Canyon:
(Priority 4 on 2009 AOP)

Acres to be Inventoried: 70,000

This project successfully accomplished even more than originally estimated in the 2009 AOP. Interagency crews were trained in and utilized HP-IPAQs & Windows CE software to map invasive plants. Field information was downloaded from the IPAQs to laptop computers and then to a central database. The Inventory Data Base used was the United States Forest Service model, FACTS. Risk assessments and survey designs were coordinated with the University of Idaho. At the close of the 2009 growing season, JPWMA inventory data was cleaned and distributed among partners as well as sent to the Idaho Department of Agriculture so that it could be added to the statewide noxious weed database. As outlined in AOP for 2009, it was estimated that 70,000 acres would be surveyed. Through successful interagency cooperation and good resource management utilizing efficient aerial inventory methods, nearly 79,000 were surveyed. The following table lists the invasive species found in 2009 inventories and the actual acreage they infested.

2009 GROSS INFESTED ACRES WITH INVENTORY DATA¹

Common Name ¹	Scientific Name	Gross Infested Acres ²	% of Gross Acres Infested	Average Density (%)
Dalmatian toadflax	<i>Linaria dalmatica</i>	43.619	100	1.5650
diffuse knapweed	<i>Centaurea diffusa</i>	59.015	100	1.256
dog rose	<i>Rosa canina</i>	133.074	100	3.185
dyer's woad	<i>Isatis tinctoria</i>	1.570	100	1.000
Italian thistle	<i>Carduus pycnocephalus</i>	181.715	100	3.303
orange hawkweed	<i>Hieracium aurantiacum</i>	0.395	100	2.067
puncturevine	<i>Tribulus terrestris</i>	0.144	100	50.000
purple loosestrife	<i>Lythrum salicaria</i>	1.251	100	10.191
rush skeletonweed	<i>Chondrilla juncea</i>	97.100	100	19.887

Common Name ¹	Scientific Name	Gross Infested Acres ²	% of Gross Acres Infested	Average Density (%)
Scotch thistle	<i>Onopordum acanthium</i>	95.802	100	3.029
Spiny plumeless thistle	<i>Carduus acanthoides</i>	143.925	100	1.871
spotted knapweed	<i>Centaurea stoebe</i>	428.215	100	2.316
sulphur cinquefoil	<i>Potentilla recta</i>	9.501	100	2.481
whiteweed	<i>Cardaria draba</i>	29.950	100	4.535
yellow starthistle	<i>Centaurea solstitialis</i>	4567.848	100	4.741
Total		5793.124		

¹All weed species listed on the Idaho Noxious Weed List but not listed on this table are not present at this time within the boundaries of the JPWMA.

²The inventory acres listed in this table were polygons drawn with absolute certainty around exact weed infestation borders and not grossly inflated guesses. Consequently, the “percentage of gross infested acres” calculations explained in the Cost Share Handbook do not truly apply.

TREATMENT

To assist in the integration of weed management activities and to help coordinate yearly treatments, the JPWMA has identified objective and priority codes for each proposed weed project. Projects are given a code that relates to the planned management outcome and the relative importance of the treatment. Codes are derived from the JPWMA Strategic Plan. Objective and priority definitions stated in the following tables reflect an operational approach. This coding system provided guidance to field crews and landowners during the year, helping to determine where limited resources should be allocated to obtain the most effective long-term results.

Objectives	
1 Eradicate	Weed is treated to the extent that no viable seed is produced over the entire infestation and all plants (above ground portions) have been eliminated during the current field season.
2 Eradicate Satellites	Weed is treated to the extent that no viable seed is produced over the specific outbreak. All plants are eliminated during the current field season.
3 Control	Portions of the infestation or outbreak are treated to the extent that overall infestation area diminishes because no viable seed is produced and/or plants have been eliminated.
4 Contain	Portions of the infestations are treated to the extent that the weed is not expanding beyond the established treatment zones. The main body of the infestations may be left untreated.
5 Reduce	Infestation is treated to the extent that densities and/or rate of spread are reduced to an acceptable level.

Priorities	
H High	Highest priority for treatment because it is a new weed, in a new area, and a susceptible habitat.
M Medium	Intermediate priority for treatment associated with invasive weeds in boundary zones and transportation corridors.
L Low	Low priority for treatment because the weed is non-invasive or located in areas where weeds are endemic. May not warrant immediate (current year) attention.

Successful eradication depends upon thorough detection and inventory via effective communication among all partners. In 2009, once infestations were identified and prioritized by JPWMA partners, they were methodically treated. In the 2009 AOP, treatment projects given the highest priority involved Objectives 1, 2, and 5. Each of these projects is described separately below.

ERADICATION OF NEW INVASIVE WEEDS (OBJECTIVE 1)

Infestations assigned to an eradication objective had the highest priority for treatment because they were new species, in a new area, or in a susceptible habitat.

2009 AOP Estimates for Monitoring of eradicated weed sites and treatment of sites with an eradication objective:

(Priority 1 on 2009 AOP)

Acres planned for treatment: 340

Following the step-by-step cooperative eradication procedure outlined in the 2009 AOP, this project resulted in the successful eradication of targeted new invasive weeds from the UCWMA. The project was considered successful only after no viable seeds were produced (or vegetative spreads) for the entire growing season; 100% of the known plants were eliminated from the site; treatment prescriptions were analyzed for success; all sites were visited a minimum of three times per season to ensure treatment of missed plants, regrowth, germinates, and late developing plants; and all resulting information was communicated in a timely manner to all cooperators of the effort. In addition to eradicating new sites, included in this project was the monitoring of infestations eradicated in previous years, to ensure that weeds did not return to eradicated areas. Weed infestations treated per this objective are listed in the following table, along with the acreage and number of infestations.

Objective/Priority	Common Name	Scientific Name	# of Sites	Acres
1H	diffuse knapweed	<i>Centaurea diffusa</i>	7	124.247
1H	Dyer's woad	<i>Isatis tinctoria</i>	1	1.600
1H	Italian plumeless thistle	<i>Carduus pycnocephalus</i>	3	7.800
1H	Japanese knotweed	<i>Polygonum cuspidatum</i>	1	0.500
1H	Johnsongrass	<i>Sorghum halpense</i>	1	0.100
1H	leafy spurge	<i>Euphorbia esula</i>	1	1.000
1H	purple loosestrife	<i>Lythrum salicaria</i>	2	7.100
1H	rush skeletonweed	<i>Chondrilla juncea</i>	2	97.100
1H	spotted knapweed	<i>Centaurea stoebe</i>	6	260.000
1H	whitetop	<i>Cardaria draba</i>	1	3.880
Total:				503.327

ERADICATION OF SATELLITES (OBJECTIVE 2)

Infestations were assigned to this objective because they comprised small populations that had the potential to increase, but also because their smaller size made them more manageable than widespread monocultures.

2009 AOP Estimates for Eradication of New Outbreaks of Established Invaders:

(Priority 2 on 2009 AOP)

Acres planned for treatment: 2885

During 2009, this project entailed determining battle lines within which priority established weeds were contained. The broad-scale strategy for this project was to eradicate satellite outbreaks of priority invasive weeds beyond these battle lines and to reduce the extent of the main advancing fronts. Idaho County, working with private landowners, surveyed and monitored target areas. Outbreaks occurring

beyond the designated battle lines were documented, entered into a special database, and treated on-the-ground. Treatments were followed by additional monitoring to ensure that populations were eradicated such that no viable seed was produced over the entire infestation and all plants (above ground portions) were eliminated during the field season.

Objective/Priority	Common Name	Scientific Name	# of Sites	Acres
2H	Italian plumeless thistle	<i>Carduus pycnocephalus</i>	8	83.972
2H	leafy spurge	<i>Euphorbia esula</i>	1	4.800
2H	Scotch cottonthistle	<i>Onopordum acanthium</i>	4	56.500
2H	spiny plumeless thistle	<i>Carduus acanthoides</i>	6	195.482
2H	spotted knapweed	<i>Centaurea stoebe</i>	14	202.181
2H	yellow starthistle	<i>Centaurea solstitialis</i>	7	2454.968
Total:				2997.902

REDUCTION OF AN ESTABLISHED POPULATION (OBJECTIVE 5)

The infestations assigned to this objective were done so given the widespread nature of their infestation and establishment. The goal in their treatment was to confine the spread of well-established populations by decreasing seed production and/or clonal advance along perimeters. Significant progress has been made in the past on maintaining “weed free” areas adjacent to containment lines that have been treated on a rotational basis. This effort required the use of aerial application via helicopters, the most cost-effective method for treating the rugged terrain where targeted infestations exist.

2009 AOP Estimates for Confinement of established invaders through development of containment lines and clean up in weed free zones:

(Priority 3 on 2009 AOP)

Acres planned for treatment: 1220

Objective/Priority	Common Name	Scientific Name	# of Sites	Acres
5H	Dalmatian toadflax	<i>Linaria dalmatica</i>	3	38.919
5H	dog rose	<i>Rosa canina</i>	2	249.200
5H	Scotch cottonthistle	<i>Onopordum acanthium</i>	1	78.900
5H	sulphur cinquefoil	<i>Potentilla recta</i>	1	9.500
5H	yellow starthistle	<i>Centaurea solstitialis</i>	4	1862.000
Total:				2238.519

Chemicals purchased with ISDA grant funds are listed in the following table.

Chemical Description	Quantity	Purpose
Milestone	2.5 gal	Weed Control
Picloram	166.66 gal	Weed Control
Placement	7.5 gal	Adjuvant
Syl-tac	5 gal	Weed Control

BIOLOGICAL CONTROL

The infestations mentioned above in the 2009 treatment tables pertain to sites treated with herbicides. Integrated control methods are utilized wherever feasible at various weed infestations throughout the JPWMA. In several weed infestations where patches have extensive coverage, biocontrol agents have been released over the years. The University of Idaho and the Nez Perce Biocontrol Center assisted in the release and management of all biocontrol agents. The following table lists the insects and numbers released in 2009.

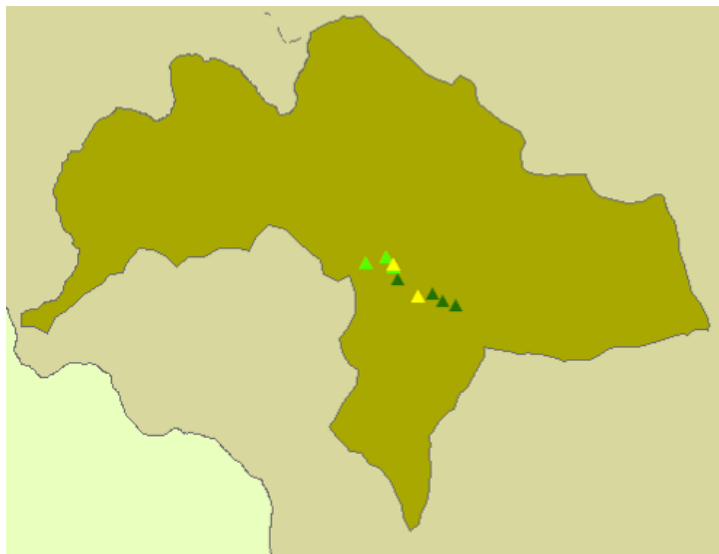
Agent	Target Weed	Releases	Numbers
<i>Larinus minutus</i>	Spotted knapweed	1	150
<i>Mecinus janthinus</i>	Dalmatian toadflax	8	2400

2009 AOP Estimates for Biological Control Activities:
(Priority 5 on 2009 AOP)

Areas planned for study:

- Fitzsimmons Site for Leafy Spurge
- Center Canyon Region for Dalmatian Toadflax
- Salmon River Face Area for Yellow Starthistle

Numerous cooperators in the JPWMA and many other WMA's across the state have historically been very good at releasing hundreds and thousands of biocontrol agents against invasive weeds. However, very few agencies have taken the time to go back and revisit earlier releases to determine which agents, sites, and/or conditions were successful or not. In order to learn from past successes or failures and in order to know for certain if resources spent on biocontrol programs are effective uses of funds, post-release monitoring must be conducted. The JPWMA in 2009 took the lead in a regional biological control program aiming to establish permanent biocontrol monitoring sites throughout three neighboring WMA's



9 Biocontrol monitoring sites set up in JPWMA in 2009. Yellow: yellow starthistle; light green: leafy spurge; dark green: Dalmatian toadflax.

to ascertain the effects of past efforts and to make more informed release-plans for the future. This was the fifth highest priority listed on the 2009 JPWMA AOP.

Nine permanent biocontrol monitoring sites were placed throughout the JPWMA, though the original proposal called for only 3. These included 4 for Dalmatian toadflax, 3 for leafy spurge, and 2 for yellow starthistle. All sites were monitored following the state-wide protocol developed jointly by the ISDA, BLM, Forest Service, University of Idaho, and Nez Perce Biocontrol Center. All sites capitalized any earlier release or monitoring photos if such information was available in order to be as inclusive as possible. All resulting data were cleaned and submitted to the ISDA/BLM

biocontrol program manager to add to the statewide biocontrol monitoring effort.

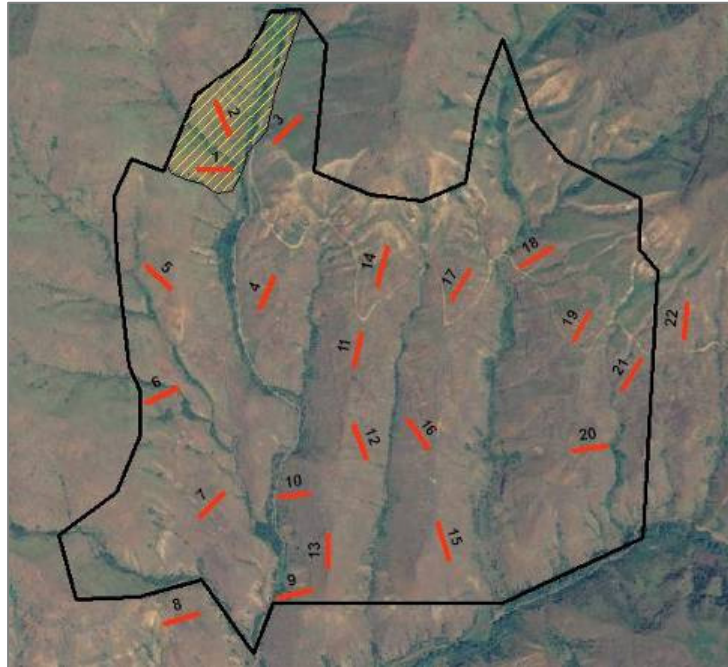
In addition to the new releases made as part of this project, and the valuable data collected at the 9 sites set up in the JPWMA, the leadership the JPWMA gave to this effort led to the creation of 39 additional permanent monitoring sites in neighboring WMAs. As such, this project concluded very successfully.

REVEGETATION

2009 AOP Estimates for Monitoring of Revegetation and Restoration Sites:
(Priority 6 on 2009 AOP)

Acres planned for revegetation study: 25 Acres planned for grazing study: 1300

In the year 2000, a 500 acre parcel (beyond the 25 acres originally estimated as part of this study) of disturbed soil in the Getta Creek area was reseeded, with and without trampling, and with and without herbicide application in order to determine the best approach for revegetating this type of habitat. In 2009, a third-party contractor conducted a vegetation study to achieve an unbiased, scientific evaluation of this work to determine if 2000 efforts were successful and recommended for future restoration efforts. Reseeding is extremely expensive in these steep canyon lands, but is essential to healing some of the lands damaged by weed invasion.



22 100-m transects, Getta Creek, 2009. Yellow striped area treated with Plateau.

Unfortunately, the 2000 seeding resulted in a close to zero establishment of seeded species. The mix and application methods that took place on this parcel

would not be recommended for other regions in the WMA. However, because of the active approach taken by the JPWMA in prioritizing this type of research, additional revegetation sites were also studied in neighboring WMAs during 2009. Some of these alternative revegetation efforts proved very successful. Though the Getta Creek Revegetation Project was ineffective, lessons can be learned from the failures observed just as techniques from successful nearby sites can be used in future efforts.

ADDITIONAL TREATMENTS (IN EXCESS OF GOALS OUTLINED ON 2009

In addition to the six projects accomplished above as part of fulfilling the 2009 AOP, the JPWMA also inventoried, monitored, and treated numerous other weed infestations with chemical control methods. These additional projects are part of the overall Strategic Plan for successful weed management in the JPWMA.

CONTROL AND CONTAIN (OBJECTIVE 3&4)

Infestations assigned and treated according to a Control Objective (3) consisted of widespread, established weeds and/or were along transportation corridors. These had a mixture of high and medium priority where the goals were to treat these infestations in order to reduce the amount of viable seed that was produced over the entire infestation and to eliminate at least portions of the population throughout the course of the growing season. The infestations assigned to a Containment Objective (4) were done so given the widespread nature of their infestation and establishment. The goal in their treatment was to reduce the spread of well-established populations by decreasing seed production and/or clonal advance along perimeters.

Objective/Priority	Common Name	Scientific Name	# of Sites	Acres
3H	Italian plumeless thistle	<i>Carduus pycnocephalus</i>	1	116.400
3H	yellow starthistle	<i>Centaurea solstitialis</i>	1	2956.200
4H	yellow starthistle	<i>Centaurea solstitialis</i>	14	390.482
Total				3463.082

2009 SUMMARY OF ACCOMPLISHMENTS

Weed Species ¹	Scientific Name	Acres Treated			Biocontrol Releases	Acres Inventoried ²	Acres Revegetated	Acres EDRR ³	Public Contacts
		Chemical	Mechanical	Grazing					
Dalmatian toadflax	<i>Linaria dalmatica</i>	38.919			8 (2400)	43.619			
diffuse knapweed	<i>Centaurea diffusa</i>	124.247	63.4473			59.015			
dyer's woad	<i>Isatis tinctoria</i>	1.600				1.57			
Japanese knotweed	<i>Polygonum cuspidatum</i>	0.500							
Johnsongrass	<i>Sorghum halpense</i>	0.100							
leafy spurge	<i>Euphorbia esula</i>	5.800							
orange hawkweed	<i>Hieracium aurantiacum</i>					0.395			
puncturevine	<i>Tribulus terrestris</i>					0.144			
purple loosestrife	<i>Lythrum salicaria</i>	7.100				1.251			
rush skeletonweed	<i>Chondrilla juncea</i>	97.100				97.1			
Scotch thistle	<i>Onopordum acanthium</i>	135.4				95.802			
Spiny plumeless thistle	<i>Carduus acanthoides</i>	195.482				143.925			
spotted knapweed	<i>Centaurea stoebe</i>	462.181			1 (150)	428.215			
whitetop	<i>Cardaria draba</i>	3.880				29.95			
yellow starthistle	<i>Centaurea solstitialis</i>	7663.65				4567.848			
General Weeds		466.872				324.29			
Multiple Weeds									12.500
Total		9202.831	63.447	1400	9 (2550)	5793.124	25	0.000	12,500

¹All weed species listed on the Idaho Noxious Weed List but not listed on this table are not present at this time within the boundaries of the JPWMA.

²The numbers listed in this column represent acreage inventoried during the 2009 season only. The number of acres treated sometimes surpasses the number of acreage inventoried because treatments are often made utilizing present and past years' inventory data. The inventoried acreage should not be confused with surveyed acreage. More than 79,000 acres of the SRWMA were surveyed for weeds; inventory data simply refers to all specific data collected for confirmed infestations.

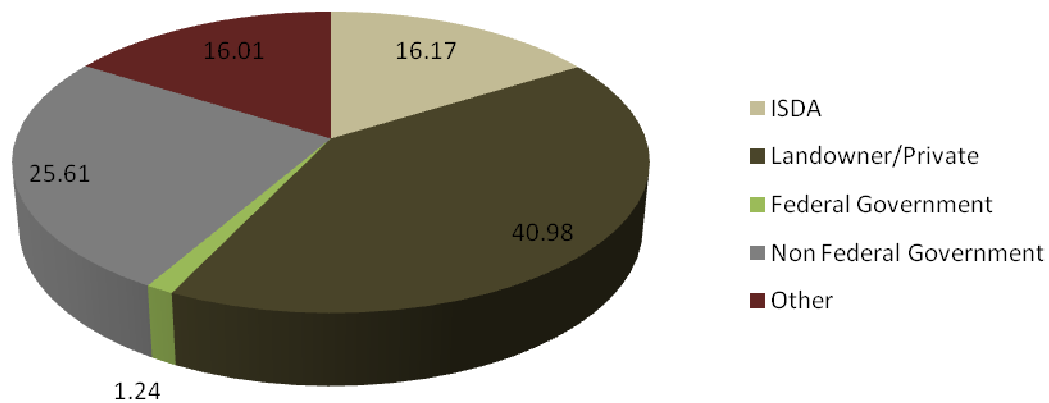
³Please note that while the EDRR column is blank on this table, this is because no species listed as EDRR on the Idaho Noxious Weed List are present in the JPWMA. However, EDRR action *does* take place within this WMA and is a high priority for JPWMA members. Those species which are new to the WMA or occur in susceptible areas are given the highest priority and treated and eradicated immediately. In this manner, EDRR certainly does take place in this region.

FINANCIAL CONTRIBUTIONS

For 2009, direct contributions toward all JPWMA programs and projects totaled \$312,385.

This went towards contractors, equipment, supplies, and services that were used to accomplish the management elements outlined in the Annual Operating Plan for FY2009. The following pie chart displays the general percentages of the year's contributions.

2009 UCWMA Financial Breakdown (%)



2010 GOALS

In 2009, partners plan to stay on track with strategic objectives, including education, prevention, monitoring, and treatment. Elements of treatment, in order of priority of effort will include EDRR, treatment of new invaders, treatment of satellite populations of existing invaders, along with transportation corridors, followed by control of existing large populations of weeds. One of the most difficult tasks of weed management is to keep these fundamental goals in sight at all times, and not allow for distraction.

In addition, JPWMA members will continue to monitor the success of various herbicide, grazing, and biological control methods in order to ensure all cooperators are aware of the most up-to-date and successful weed management tactics available.