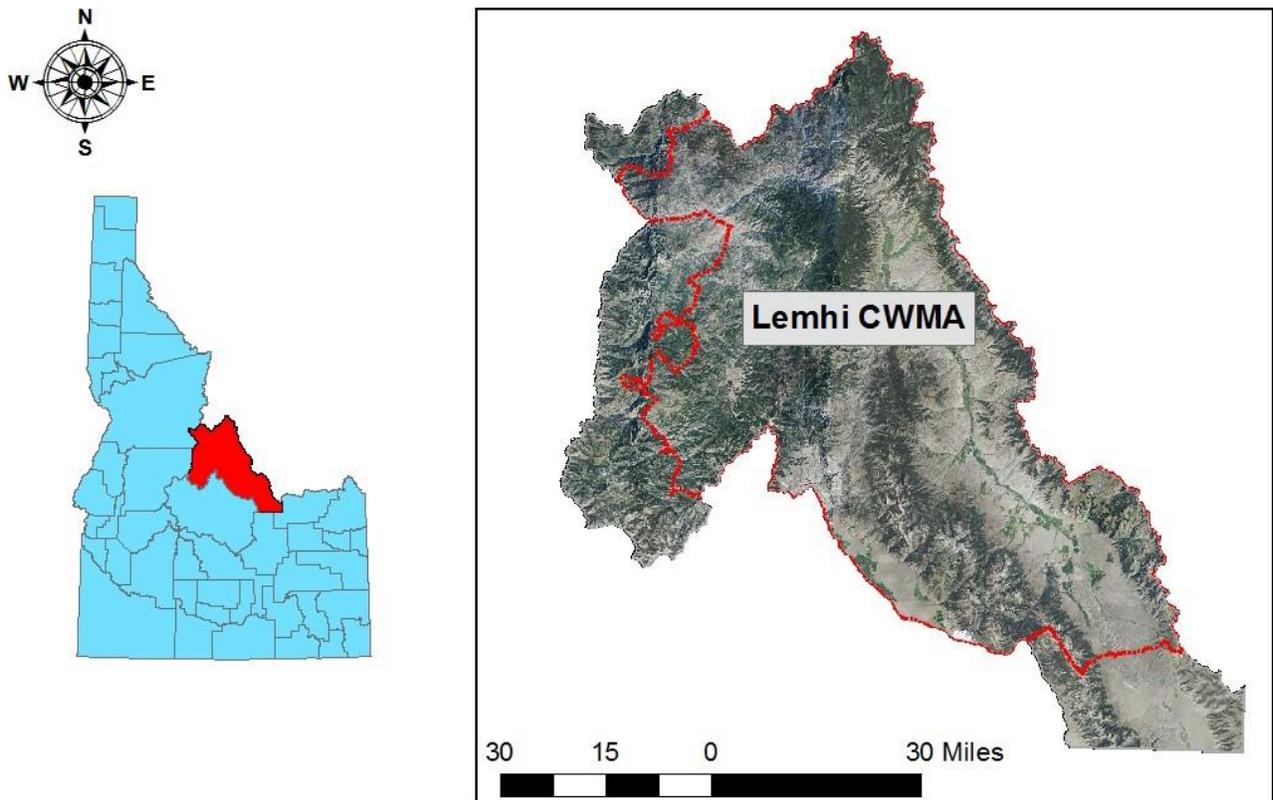


Lemhi Cooperative Weed Management Area *Strategic Plan*



Lemhi Cooperative Weed Management Area

Updated May 1, 2018

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I. INTRODUCTION

The federal government and the state of Idaho recognize the serious economic and environmental threats posed by the establishment and spread of invasive plants across public and private lands (Federal Interagency Committee for the Management of Noxious and Exotic Weeds, 1998 and Idaho Noxious Weed Coordinating Committee, 2005). Cooperative efforts among federal, state, local and private land managers are recognized as key to accomplishing successful control of invasive plants.

An invasive plant species is legally defined as a non-native species whose introduction to an ecosystem causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112, issued 2/3/1999). This definition includes seeds and other biological material (e.g. root fragments) capable of propagating the species. Invasive plants generally display rapid growth and spread, are free from natural community controls, displace and dominant existing vegetation, and alter ecological communities or ecosystem processes (Federal Interagency Committee for the Management of Noxious and Exotic Weeds, 1998).

A noxious weed is a subset of the invasive plant category. The term “noxious weed” is a legal designation under the Federal Noxious Weed Act of 1974 (PL 93-629, as amended) and is defined as plant species of foreign origin that are new or not widely prevalent in the United States that have the potential to cause injury to crops, other useful plants, livestock and other agricultural interests, irrigation and navigation, fish and wildlife resources or the public health. Noxious weed species are designated at the federal level by the Secretary of Agriculture and at the state level by state code.

The 1990 Farm Bill (PL 101-624), Presidential Executive Order 13112 (1999) and the Noxious Weed Control and Eradication Act of 2004 (PL 108-412) elaborated on these responsibilities by establishing a program to provide assistance to eligible weed management entities to manage noxious weeds on public and private land. As amended, the Federal Noxious Weed Act requires federal land management agencies to (a) develop and coordinate programs to control noxious weeds, (b) implement cooperative agreements with state and local agencies and (c) establish integrated management systems to control or contain noxious weeds targeted under the cooperative agreements.

These requirements resulted in the establishment of cooperative weed management areas. The Idaho Noxious Weed Coordinating Committee defined a cooperative weed management area as “a local organization that integrates all noxious weed management resources across jurisdictional boundaries in order to benefit entire communities (CWMA Cookbook – A Recipe for Success, 2003). Cooperative weed management areas are governed by the terms of participating agreements and memoranda of understanding that spell out the purpose of the weed management area and responsibilities of each signing party (Guidelines for Coordinated Management of Noxious Weeds: Development of Weed Management Areas, 2002). A steering committee is appointed to see these responsibilities carried out and to guide the accomplishment of goals and objectives established in a strategic plan (CWMA Cookbook – A Recipe for Success, 2003).

The Lemhi Cooperative Weed Management Area (Lemhi CWMA) recognizes that invasive plants pose a serious threat to desired plant communities, wildlife habitat, watershed function, recreation and agriculture, regardless of ownership. Long-term

solutions to the problem of noxious weeds and other invasive plants must include a broad view of weed management issues. The Lemhi CWMA provides a broad-scale approach to managing invasive plants, placing specific weeds and treatments in context with geographic distribution of invasive plants, susceptible habitats, and management feasibility. Pooling of resources and funds provides the Lemhi CWMA with the ability to strategically manage invasive plants regardless of ownership. This strategic plan outlines an integrated approach to weed management in the Lemhi CWMA.

II. HISTORY

Lemhi County is the fourth largest county in Idaho at approximately 3 million acres in size, most of which is public land. The United States Department of Agriculture Forest Service (FS) manages the largest portion (almost 71%) of lands within the county. Of this, 55% is non-wilderness and the other 15.8% lies within the Frank Church-River of No Return Wilderness (FC-RONR Wilderness). The United States Department of Interior Bureau of Land Management (BLM) manages most of the other public lands in the county, at 19.9%, while State and local governments manage 1.5%. The remainder of lands, 7.8%, is privately owned.

The Lemhi CWMA was formed in 1998 by the Salmon District BLM and the Salmon National Forest in cooperation with the Lemhi County Cooperative Extension Service. The first Lemhi CWMA strategic plan was drafted in October 2000. It was finalized in April 2001 and ratified by representatives of each of the participating member agencies.

The effectiveness and capabilities of the Lemhi CWMA were greatly increased by several landmark events: (1) federal funding became available on an annual basis to the Idaho State Department of Agriculture (ISDA) to fund operating expenses and weed management programs for cooperative weed management areas, (2) participating agreements with the Salmon District BLM and Salmon-Challis National Forests were signed, providing multi-year funds for weed control projects and (3) Lemhi County hired the first dedicated, full-time county weed superintendent.

III. PURPOSE

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. A Steering Committee represents the Lemhi CWMA and other groups and individuals involved in invasive plant management.

IV. STEERING COMMITTEE

The Steering Committee is responsible for planning and implementing weed management strategies within the boundaries of the Lemhi CWMA. It is comprised of federal, state and county natural resource managers, private landowner representatives and agricultural and industry representatives (Appendix C).

Steering Committee Primary Duties include:

- Ensure Lemhi CWMA is aligned with Federal and State weed management direction
- Review the Lemhi CWMA Strategic Plan and Prevention Plan on an annual basis
- Determine and refine, as necessary, treatment objectives and priorities
- Manage databases
- Coordinate and implement management activities
- Complete and distribute year-end reports. Showcase accomplishments to all partners and public
- Update Strategic Plan as needed and/or every 5 years

V. CWMA BOUNDARIES

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.

VI. COOPERATIVE WEED MANAGEMENT AREA GOALS

- Prevent the introduction, establishment and spread of new invasive plants.
- Reduce the extent and density of established invasive plant infestations.
- Protect desired plant communities from weed invasion.
- Implement economical, practical and effective weed control methods for target species.
- Rehabilitate priority areas after treatment to reduce the susceptibility of re-invasion and attain desired plant communities.

VII. WEED MANAGEMENT OBJECTIVES AND PRIORITIES

A. Integrated Weed Management

Integrated Weed Management (IWM) is a multi-disciplinary, ecological approach that uses an array of effective weed management technologies, often in combination with one another, to maintain or develop ecologically healthy desired plant communities that are relatively weed-resistant while meeting other land use objectives (Guidelines for Coordinated Management of Noxious Weeds: Development of Weed Management Areas, 2002). Together these strategies and techniques are economically and environmentally more effective than any single option. Elements of Integrated Weed Management include prevention, education, detection/inventory, monitoring, treatment and rehabilitation.

Prevention: Treatment alone cannot keep pace with the unchecked spread of invasive plants. It is more cost effective to prevent weeds from invading a site than to treat weeds once they are established. Prevention is the first priority in the management of invasive plants. An invasive weed prevention plan that incorporates various State laws, BLM, FS regulations and policies, and general practices appropriate for the Lemhi CWMA has been developed and is being implemented in the Lemhi CWMA (Appendix D).

Continued implementation of a weed prevention strategy will help reduce the establishment of new invasive plants and slow the spread of existing infestations.

Education: Education regarding the threat of invasive plants is vital to successful accomplishment of weed management objectives. It is important to share ideas regarding steps people can take to help prevent establishment and spread of invasive plants. We must solicit the aid of the public to help slow weed expansion through wide spread use of prevention practices. Learning to (a) identify invasive plants, (b) the factors leading to their spread and (c) effective control measures are crucial components of education. Annually, the Lemhi CWMA Steering Committee will consider elements of "invasive plant education" that may be appropriate to implement in a given year.

Inventory: Surveys and inventories for new invasive plant infestations is an important aspect of the integrated weed management program. By working collectively with existing partners and volunteer groups, and by seeking new partners and funding opportunities, inventory and invasive weed detection will remain a high priority in the Lemhi CWMA. Likewise, re-inventory of existing weed infestations helps the Lemhi CWMA track the footprint and plant density of these known infestations and guide treatment decisions. In addition to inventory of weed infestations, it is important to know which areas are weed-free so prevention measures can be applied to keep these areas clean.

The collection of invasive weed inventory information will be conducted in a consistent manner across the Lemhi CWMA. The BLM, FS and Lemhi County have agreed to implement North American Invasive Species Management Association standards for recording invasive weed inventory. The FS Natural Resource Information System (NRIS) Invasive Plants database will be used to store data in a consistent manner.

Successful invasive weed management programs recognize the importance of early detection and rapid response to new weed infestations, particularly infestations of weed species new to the Lemhi CWMA. To effectively eradicate new weed infestations as they are found, detection must occur while the infestation is small and treatment must occur within the first or second season. Subsequent treatment and monitoring is also critical. The Lemhi CWMA will cooperate with partners to implement an on-going early detection/rapid response program for invasive plants. A watch list of potential weeds will be maintained (Appendix E) and suspicious plant specimens will be forwarded to a partner that is able to identify species as necessary.

Monitoring: Monitoring associated with IWM within the Lemhi CWMA will focus on: (1) trends in infestation number, size and density, (2) the effect that invasive plants have on native or desired vegetation, soil, watershed, wildlife and other resources (3) the effects of treatment on target invasive plant infestations as well as native or desirable vegetation and (4) the effectiveness of treatments as implemented.

Acceptable methods of monitoring include qualitative and quantitative techniques such as photo points, walk-through evaluations, and permanent monitoring points and line, belt or quadrat transects. One or more of these techniques may be used in conjunction as needed. Data consistency will be achieved through the use of common protocols used on all Lemhi CWMA treatment projects. The primary quantitative vegetation monitoring

protocol used by the Lemhi CWMA for effectiveness of treatments and recovery of native or desired vegetation is a Percent Cover method developed by Dr Jeff Yeo for the Lemhi CWMA (Lemhi CWMA, 2010). Each year a sample set of treated infestations will be monitored to detect change over time. Techniques developed by the Lemhi CWMA and ISDA State Biological Control Coordinator will serve as the primary protocol for biological control release monitoring.

Accomplishment of monitoring for Lemhi CWMA projects is the responsibility of the project leader. Annual monitoring results will be shared with the entire Lemhi CWMA at the yearly fall showcase meeting.

Specific elements of monitoring include:

1. Documentation of location, overall distribution, number, size and density of invasive plant infestations.
 - Follow-up qualitative monitoring as often as needed to determine effectiveness of early detection/rapid response treatments on invasive plant species.
 - Ongoing inventory of susceptible plant communities within the Lemhi CWMA to map the location, distribution, size and density of invasive plant infestations.
 - Re-inventory on a rotational basis areas previously inventoried to maintain up to date inventory information.
 - Maintenance of Lemhi CWMA inventory data in the NRIS Invasive Plants inventory database, hosted by the FS.
2. Qualitative evaluation of immediate and short term impacts of treatment on target invasive plants and on non-target vegetation through the use of photo points and/or walk-through evaluations. These monitoring techniques are primarily for the use of herbicides or prescriptive grazing.
 - Monitoring will be conducted shortly after treatment to determine any potential need for modifications to treatment strategies.
 - Observations will be documented using photo point and qualitative monitoring record forms.
3. Quantitative evaluation of the long-term effects of treatment on target invasive plants and on non-target vegetation, whether beneficial or detrimental.
 - Permanent vegetation monitoring transects (Percent Cover) for pre-treatment and post-treatment plant community composition and percent cover by species group.
 - Permanent biological control monitoring points at release sites to track the survival, establishment, self-distribution and effectiveness of biological control agents.
 - Compilation, analysis and summarization of monitoring data.
 - Maintenance of monitoring data in databases to aid in detection of long-term vegetation trends.

Treatment: Treatments will be focused where they have the greatest potential to reduce the impacts of invasive plants on resources, environmental and economic values. Weed

species to be managed include State listed noxious weeds and non-State listed invasive species. The priority for treatment is determined by a weed species' ability to invade and displace native plants communities, the potential rate of expansion, the extent and proximity to susceptible native plant communities and the potential to successfully implement a treatment strategy. Treatments will be documented using national BLM and FS protocols.

Treatment techniques within the Lemhi CWMA include hand pulling, application of herbicides, the distribution of biological control agents and prescriptive grazing. The Lemhi CWMA recognizes prescriptive grazing as an effective tool and a successful part of an integrated weed management program. However, the Federal land management agencies are not presently considering the use of prescriptive grazing due to disease transmission concerns from domestic goats and sheep to Bighorn sheep. The Idaho Department of Fish and Game follows a policy of euthanization for any Bighorn sheep that comes into contact with domestic goats and sheep. Therefore, if private landowners wish to use prescriptive grazing, the Lemhi CWMA recommends they do not utilize domestic goats or sheep.

Rehabilitation: Ultimately, the goal for weed management efforts is to restore and maintain healthy desired plant communities that are resistant to noxious weed establishment, that recover quickly from disturbances and provide ecosystem functionality. Healthy plant communities provide for fish and wildlife habitat, soil and watershed stability, biodiversity, and contribute to improved and sustained land use opportunities for commercial and private interests. Many weed-infested plant communities are able to successfully re-establish without intervention after control efforts. However, sites that are severely damaged or at which few desirable species remain may not be able to recover without additional rehabilitation. The Lemhi CWMA assesses areas to determine where these additional rehabilitation measures may be required. These measures could include changes in land use to remove the source of disturbance, seeding, supplemental irrigation, protective measures such as fencing, etc. These rehabilitative measures are used in conjunction with weed control treatments with the objective of re-establishing a desired plant community at the site.

B. Weed Treatment Priorities

Weed treatment priorities are species and location specific. The Lemhi CWMA prioritizes weed treatment priorities by weed species and management zone (see Section B.1 below). Land within the CWMA has been stratified into four weed management zones to focus weed management objectives, priorities and treatment strategies. These may vary from one weed species to the next and from zone to zone.

Regardless of priorities set at the management zone level, the Lemhi CWMA is committed to annually controlling invasive plants associated with spread corridors including roads, trails, campgrounds, trailheads, parking lots, and airfields.

The Lemhi CWMA also engages in "Special Emphasis" projects that at times may not strictly follow the weed treatment priorities outlined in this section.

These projects include:

* Rehabilitation opportunity

* Active Partnerships

- * Specific funding sources
- * Heightened public interest

- * Active landowners
- * Unique ecological values

With the exceptions noted above, the following categories depict prioritization of the various weed treatments employed by the Lemhi CWMA. Refer to the Glossary of Weed Management Strategy Terms in Appendix A for definitions.

Weed Management Priorities:

Prevent or Eradicate Potential and/or New Invasive plants

1. Prevent establishment of potential invasive plants that do not occur in the Lemhi CWMA (refer to the Lemhi CWMA Prevention Plan for the strategies and actions that help attain this objective).
2. Monitor eradicated weed infestations until the root system of the infestation is dead or the seed bank is fully depleted (the time required to achieve this objective varies by weed species – a minimum of three years with no evidence of new vegetative growth).
3. Eradicate infestations of new invasive species or new infestations of high priority invasive plants that are already present in small amounts in one or more Lemhi CWMA management zones.

Control Established Invasive plants

4. Control infestations of established invasive plants. Consider the use of biological control agents where available to slow the rate of spread and density of the target species.

Contain Established Invasive plants

5. Contain large, dense infestations of established invasive plants. This includes control of spot infestations that are outside, but close to, identified containment area boundaries (see glossary for definition). Treat along the edges of designated containment boundaries. Use biological control agents if available and proven effective to slow the rate of spread and density of the target species within the containment area.

The following 2nd-tier priorities are nested within Objective 5 (refer to Zone Treatment Priority tables in Section B.2 below):

- (H) High Priority: Higher Priority for treatment due to a relatively high rate of spread and/or high impact potential.
- (L) Low Priority: Lower Priority for treatment due to low rate of spread or low impact potential.

Custodial Management of Invasive plants

6. Treatment of large, dense infestations or remote, difficult to access infestations may be deferred or unachievable due to lack of the financial resources or appropriate treatment strategies. Schedule inventory and monitoring to identify specific weed containment boundaries, to track rate of spread and to locate spot infestations when treatment options are limited. Reduce the size and/or density of infestations within containment boundaries through use of biological control agents, if effective and available.

1. Weed Management Zones

The physical description, drainages and delineation of the four Lemhi CWMA weed management zones are as follows. Refer to the map in Appendix B for the location of each zone.

North Fork Zone: This zone includes all areas draining into the North Fork of the Salmon River; those drainages on the north side of the Main Salmon River from the town of North Fork, Idaho downriver to the FC-RONR Wilderness boundary; and those drainages on the east side of the Main Salmon River from the town of North Fork, Idaho upriver to and including Tower Creek. The southern boundary of the Wild & Scenic River corridor along the Main Salmon River from North Fork, Idaho to Panther Creek is the southern extent of this zone.

Lemhi Valley North Zone: This zone includes areas within the Lemhi River watershed, from the northern borders of the Basin creek, Lower Hayden creek, Lemhi River-Zeph creek, and Yearian creek watersheds North to the town of Salmon; those drainages on the east side of the Main Salmon River from the town of Salmon, Idaho, downriver to (but not including) the Tower Creek drainage; and those drainages on the west side of the Main Salmon River north of (but not including) the Jesse Creek drainage downriver to where Napoleon Ridge joins the Main Salmon River.

Lemhi Valley South Zone: This zone includes areas within the Lemhi River watershed, from the northern borders of the Basin creek, Lower Hayden creek, Lemhi River-Zeph creek, and Yearian creek watersheds South to the Southern boarder of the Lemhi CWMA; Including those drainages on the east to the Idaho-Montana boarder; and to the West to include all drainages west from the Lemhi river to the watershed divides along the Lemhi mountain range.

Salmon-Pahsimeroi Zone: This zone includes those areas of Lemhi County within the Pahsimeroi River drainage; those drainages on the east side of the Main Salmon River from the town of Ellis, Idaho, downriver to the town of Salmon, Idaho; and those drainages within Lemhi County on the west side of the Main Salmon River from the town of Ellis, Idaho, downriver to and including the Jesse Creek drainage.

Panther Creek Zone: This zone includes those parts of the Panther Creek watershed not within the FC-RONR Wilderness; those parts of Lemhi County within the Camas Creek watershed that are not within the FC-RONR Wilderness; and those drainages on the south side of the Main Salmon River from the town of North Fork, Idaho downriver to the FC-RONR Wilderness. The southern boundary of the Wild & Scenic River corridor along the Main Salmon River from North Fork, Idaho to Panther Creek is the northern extent of this zone.

2. Weed Treatment Priorities by Zone

Treatment priorities are established for each invasive plant species within the identified weed management zones. Each inventoried site (i.e. infestation) within a weed management zone is then prioritized based on the priorities established for that zone. Priorities assigned to each site will stratify infestations for treatment in the Annual Operating Plan.

The following tables depict treatment priorities for invasive plant species within each zone and, for the entire Lemhi CWMA, new invaders that apply to all zones.

ALL ZONES: Weed Management Priorities for All Zones	Priority
New Invasive Plants	
Purple Loosestrife	1
Dyer's Woad	2
Salt Cedar (all species)	2
Common St. Johnswort	3
Common Teasel	3
Diffuse Knapweed	3
Orange Hawkweed	3
Perennial Pepperweed	3
Puncturevine	3
Scotch Thistle	3

ZONE: Lemhi Valley North	Priority
Dyer's Woad	1
Purple Loosestrife	1
Common Teasel	3
Perennial Pepperweed	3
Salt Cedar (all species)	2
Scotch Thistle	3
State-listed Knotweed species	3
Dalmatian Toadflax	3
Rush Skeletonweed	4 – H
Russian Knapweed	4 – H
Whitetop	4 – H
Yellow Toadflax	4 – H
Houndstongue	5
Leafy Spurge	4 – H
Sulfur Cinquefoil	4 – H
Hoary Alyssum	5
Oxeye Daisy	3
Spotted Knapweed	5
Black Henbane	5
Canada Thistle	6
Musk Thistle	6
Chicory	6
Field Bindweed	6
Perennial Sowthistle	6

ZONE: Lemhi Valley South	Priority
Dyer's Woad	2
Purple Loosetrife	1
Common Teasel	1
Perennial Pepperweed	2
Salt Cedar (all species)	1
Scotch Thistle	1
State-listed Knotweed species	1
Dalmatian Toadflax	1
Rush Skeletonweed	3
Russian Knapweed	3
Whitetop	3
Yellow Toadflax	3
Houndstongue	4 – H
Leafy Spurge	4 – L
Sulfur Cinquefoil	1
Hoary Alyssum	5
Oxeye Daisy	1
Spotted Knapweed	4 - H
Black Henbane	5
Canada Thistle	6
Musk Thistle	6
Chicory	6
Field Bindweed	1
Perennial Sowthistle	6

ZONE: North Fork	Priority
Dyer's Woad	2
Salt Cedar (all species)	1
Common St. Johnswort	3
Diffuse Knapweed	3
Orange Hawkweed	3
Puncturevine	3
Perennial Pepperweed	3
State-listed Knotweed species	3
Dalmatian Toadflax	3
Rush Skeletonweed	4 – H
Russian Knapweed	4 – H
Sulfur Cinquefoil	4 – H
Whitetop	4 – H
Houndstongue	4 – L
Leafy Spurge	4 – L
Yellow Toadflax	4 – L
Hoary Alyssum	5
Oxeye Daisy	4-H
Black Henbane	5
Canada Thistle	6
Musk Thistle	6
Chicory	6
Field Bindweed	6
Perennial Sowthistle	6
Spotted Knapweed	6

ZONE: Panther Creek	Priority
Black Henbane	1
Common St. Johnswort	3
Diffuse Knapweed	3
Salt Cedar (all species)	3
Dalmatian Toadflax	4 – H
Houndstongue	3
Oxeye Daisy	3
Leafy Spurge	4 – H
Sulfur Cinquefoil	4 – H
Whitetop	4 – H
Yellow Toadflax	4 – H
Rush Skeletonweed	4 – L
Hoary Alyssum	5
Spotted Knapweed	5
Canada Thistle	6
Musk Thistle	6
Chicory	6
Field Bindweed	6
Perennial Sowthistle	6

ZONE: Salmon-Pahsimeroi	Priority
Diffuse Knapweed	2
Purple Loosestrife	1
Salt Cedar (all species)	2
Common St. Johnswort	3
Puncturevine	3
Dalmatian Toadflax - Patterson Spots	4 – H
Houndstongue	4 – H
Rush Skeletonweed	4 – H
Scotch Thistle	4 – H
Sulfur Cinquefoil	4 – H
Leafy Spurge	4-L
Russian Knapweed	4-H
Whitetop	4-L
Yellow Toadflax	4-L
Dalmatian Toadflax - Big Patterson	5
Hoary Alyssum	5
Oxeye Daisy	5
Spotted Knapweed	5
Black Henbane	5
State Listed Knotweed spp.	3
Canada Thistle	6
Musk Thistle	6
Chicory	6
Field Bindweed	6
Perennial Sowthistle	6

VII. APPENDICES

Appendix A

Glossary of Weed Management Strategy Terms

Biological Control: Biological control is the introduction of an invasive plant's natural predators (e.g. insect, fungus, bacterium, or other life form) to established infestations. Biological control agents suppress host plant populations by reducing vigor and reproductive capacity. In choosing to use biological control agents, the Lemhi CWMA will consider establishment sites with the most favorable habitat conditions for a particular biological control agent. Infestations or portions of infestations in which no biological control agents are yet established will be the highest priority for release sites.

Contain Strategy: Invasive plant infestations will be contained geographically and prevented from expanding beyond the perimeter of the containment area (see below). Treatment within established infestations may be limited, but control or eradication strategies are employed along the edge of and outside the containment area boundaries.

Containment Area: A delineated area containing weed infestations in which treatment priorities usually consist of alternate control measures and fewer treatments within the body of the infestation due to the difficulties of treatment and high costs associated with a control strategy. Herbicide applications are usually employed only along containment area boundaries and on spot infestations beyond the boundary to keep the weed species confined within the containment area.

Control Strategy: Seed production and vegetative growth are prevented throughout the infestation and the size and density of the infestation decreases over time, preventing the invasive plant from dominating the vegetation. Successful control strategies include herbicide application, mechanical treatments and/or prescriptive grazing.

Custodial Strategy: Treatment of a particular invasive plant or infestation is deferred due to lack of the financial resources or appropriate treatment strategies that would be required to implement successful control. Infestations may be treated after other higher priorities have been accomplished. Biological control shall be used if effective agents are available.

Desired Plant Community: Any plant community containing the desired native or non-native vegetation suitable for the intended land use. For example, desired plant communities can range from alfalfa hay fields to crested wheatgrass seedings to native bunchgrass plant communities.

Early Detection/Rapid Response: Considered the second line of defense after prevention measures. This critical component consists of strategies to detect as quickly as possible any new invasive species moving into an area. Once detected, prompt and coordinated inventory and eradication measures are undertaken to protect resource values and keep control costs down.

Eradicate Strategy: Infestations of the invasive plant species are eliminated from the Lemhi CWMA or a particular management zone, including viable seeds and/or vegetative propagules (e.g. creeping root systems). Eradication is determined to be complete when the target species has not been detected during monitoring visits to the infestation for a minimum of three years after the last plant was observed. Eradication is species, size and location dependent and may take multiple treatments over a number of years to accomplish.

Herbicide Application: The application of products that disrupt plant growth processes, amino acid production, or cellular replication with the objective of killing the plant. Herbicide application is usually the most effective and cost-efficient method of control.

Mechanical Treatment: Any treatment, including hand-pulling, digging, grubbing, cutting, mowing, etc. that severs the root and prevents seed production. Mechanical treatments often include bagging and removal of the plant, or at least inflorescences and seeds, from the site. Bagged and removed plants or plant parts will be properly disposed of at the county landfill or incinerated.

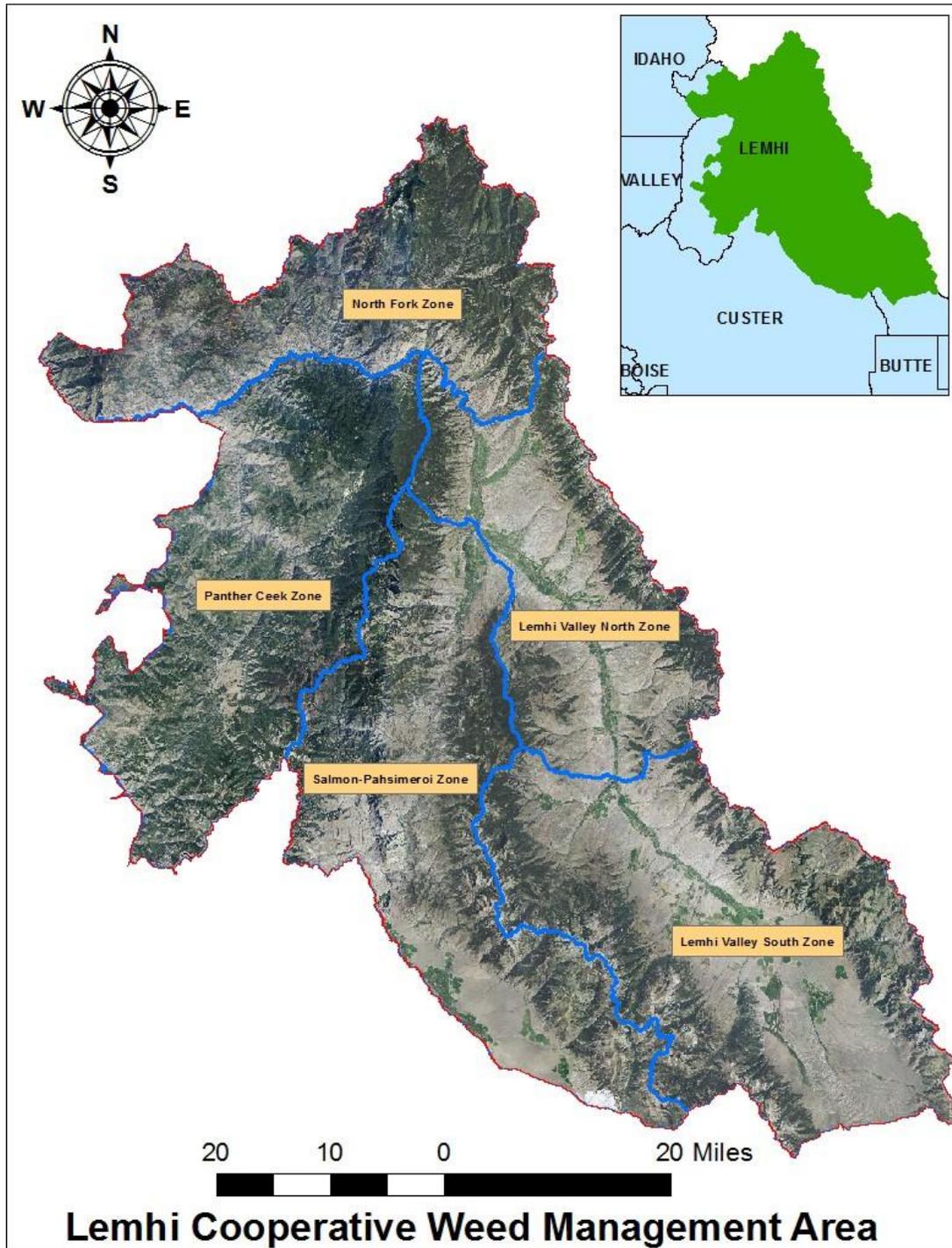
Potential Invasive Plant: Invasive plant species not known to occur within the Lemhi CWMA, but which has a high potential for introduction and that poses a future threat to resources in the Lemhi CWMA.

Prescriptive Grazing: Carefully managed and targeted grazing of domestic livestock to achieve weed control objectives. Prescriptive grazing is often used in combination with biological control and/or herbicide application as an integrated weed control strategy. The Lemhi CWMA does not recommend using domestic sheep or goat herds due to health issues with Bighorn Sheep.

Spot Infestation: Infestation often arising from the outward spread of a larger established infestation, but beyond the leading edge of the parent infestation. Spot infestations are usually established by common vectors such as motor vehicles, animals, or wind dissemination.

Appendix B

Map of Lemhi Cooperative Weed Management Area Boundaries



Appendix C

Lemhi CWMA Steering Committee Members

Lemhi CWMA Steering Committee List – 2011							
Name	Title	Address	City / State / Zip			Phone	Email
Guy Armstrong	Private Landowner (Chair)	200 Fulton St. Suite 201	Salmon	ID	83467	(208) 993-0696	gkarmstrong@fs.fed.us
Katie Baumann	Secretary	311 McPherson St.	Salmon	ID	83467	756-5218	kathrinejbaumann@fs.fed.us
Jake Zollinger	Valley Wide Coop	2026 Main St.	Salmon	ID	83467	756-2060	jzollinger@valleywidecoop.com
Sharayh Krantz	Lemhi County Weed Superintendent	200 Fulton St. Suite 201	Salmon	ID	83467	756-2815 ext 282	weeds@lemhicountyidaho.org
Dan Bertram	Project Manager Upper Salmon Basin Watershed	955 Riverfront Dr, Suite B	Salmon	ID	83467	756-6322	daniel.bertram@osc.idaho.gov
Diane Schuldt	U.S. Forest Service	311 McPherson St.	Salmon	ID	83467	756-5249	dschuldt@fs.fed.us
Charles Morton	Salmon BLM Field Office	1206 South Challis St.	Salmon	ID	83467	756-5485	cmorton@blm.gov
Vince Guyer	Salmon BLM Field Office	1206 South Challis St.	Salmon	ID	83467	756-2271	vguyer@blm.gov
Andy Klimek	U.S. Forest Service	1206 South Challis St.	Salmon	ID	83467	756-5143	aklimek@fs.fed.us
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Appendix D

Lemhi Cooperative Weed Management Area Watch Lists of Potential Invasive Plant Species

Established Invaders: Non-native invasive species firmly established and widespread throughout the Lemhi Cooperative Weed Management Area.

New Invaders: Non-native invasive species new to or having a limited distribution in the CWMA, making eradication a feasible strategy.

Potential Invaders: Non-native invasive species not known to occur in the Lemhi CWMA, but present in adjacent areas and posing a future threat.

Established Terrestrial Plant Invaders

Common Name	Scientific Name	Common Name	Scientific Name
Black Henbane	<i>Hyoscyamus niger</i>	Oxeye Daisy	<i>Chrysanthemum leucanthemum</i>
Canada Thistle	<i>Cirsium arvense</i>	Perennial Sowthistle	<i>Sonchus arvensis</i>
Chicory	<i>Chicorium intybus</i>	Rush Skeletonweed	<i>Chondrilla juncea</i>
Dalmatian Toadflax	<i>Linaria dalmatica</i>	Russian Knapweed	<i>Acroptilon repens</i>
Field Bindweed	<i>Convolvulus arvensis</i>	Russian Olive	<i>Elaeagnus angustifolia</i>
Hoary Alyssum	<i>Berteroa incana</i>	Spotted Knapweed	<i>Centaurea biebersteinii</i>
Houndstongue	<i>Cynoglossum officinale</i>	Sulfur Cinquefoil	<i>Potentilla recta</i>
Knotweed spp.	<i>Polygonum spp.</i>	Yellow Toadflax	<i>Linaria vulgaris</i>
Leafy Spurge	<i>Euphorbia esula</i>	Whitetop	<i>Cardaria draba</i>
Musk Thistle	<i>Carduus nutans</i>		

New Terrestrial Plant Invaders

Common Name	Scientific Name
Common St. Johnswort	<i>Hypericum perforatum</i>
Common Teasel	<i>Dipsacus sylvestris</i>
Diffuse Knapweed	<i>Centaurea diffusa</i>
Orange Hawkweed	<i>Hieracium aurantiacum</i>
Puncturevine	<i>Tribulus terrestris</i>
Salt Cedars	<i>Tamarix spp.</i>
Scotch Thistle	<i>Onopordum acanthium</i>
Perennial Pepperweed	<i>Lepidium latifolium</i>

Potential Terrestrial Plant Invaders

Common Name	Scientific Name	Common Name	Scientific Name
Buffalobur	<i>Solanum rostratum</i>	Mediterranean Sage	<i>Salvia aethiopsis</i>
Bugloss, Small	<i>Anchusa arvensis</i>	Medusahead	<i>Taeniatherum caputmedusae</i>
Bugloss, Viper's	<i>Echium vulgare</i>	Milium	<i>Milium vernale</i>
Common Crupina	<i>Crupina vulgaris</i>	Phragmites	<i>Phragmites australis</i>
Dyer's Woad	<i>Isatis tinctoria</i>	Plumeless thistle	<i>Cardus nutans</i>
Hawkweed, Orange	<i>Hieracium aurantiacum</i>	PurpleLoosestrife	<i>Lythrum salicaria</i>
Hawkweed, Tall	<i>Hieracium piloselloides</i>	Tansy Ragwort	<i>Senecio jacobaea</i>
Hawkweed, Yellow Devil	<i>Hieracium glomeratum</i>	Ventenata	<i>Ventenata dubia</i>
Hawkweed, Yellow	<i>Hieracium caespitosum</i>	White Bryony	<i>Bryonia alba</i>
Johnsongrass	<i>Sorghum halepense</i>	Yellow Starthistle	<i>Centaurea solstitialis</i>
Jointed goatgrass	<i>Aegilops cylindrical</i>		
Matgrass	<i>Nardus stricta</i>		

Invaders to Inventory to Track Distribution and Spread (Not Necessarily Controlled)

Common Name	Scientific Name
Cheatgrass	<i>Bromus tectorum</i>
Chicory	<i>Cichorium intybus</i>
Dames'rocket	<i>Hesperis matronalis</i>
Russian Olive	<i>Elaeagnus angustifolia</i>

Appendix E

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