

**Strategy for Integrated Weed Management  
In the  
UPPER SNAKE RIVER CWMA Cooperative Weed Management Area  
Revised and Updated 11/28/2007**

**I. INTRODUCTION.**

A common operating approach to the management of noxious weeds and other invasive plants is to focus strictly on specific sites. Weeds are treated, but the relationship of the treatment to the entire weed problem in an area is not addressed. In addition, individual landowners and managers in a given area attempt to manage weeds based on narrowly defined objectives, independent of each other.

Treatment of specific weeds and sites remain a critical component of an effective strategy. However, long-term solutions to the problem of noxious weed and other invasive plants must include a broad-scale approach to weed management. A weed management area is a broad-scale approach to managing invasive exotic plants. The landscape view places specific weeds and treatment sites in context with geographic distribution of invasive plants, susceptible habitats, and management feasibility. The weed management area focus is finding solutions to invasive weeds across a landscape rather than strictly focusing on treatments on specific land ownership's. The following plan outlines a landscape approach to the weed problem in the Upper Snake River CWMA (USRCWMA).

**II. PURPOSE.**

The Upper Snake River CWMA is established to coordinate area wide activities to prevent, contain, and control non-native invasive plants and noxious weeds on public and private lands within the area. The CWMA provides a forum for partners to pool technical and financial resources, staff, and equipment where appropriate to achieve better control and containment of weeds. The USRCWMA brings together those responsible for weed management within the area to develop common management objectives, set realistic management priorities, facilitate effective treatment, and coordinate efforts along logical geographic boundaries with similar land types, use patterns and problem species. It is established under the direction and resolution of Bonneville, Teton, Madison, Jefferson and Bingham County Commissioners and the state and federal agencies managing lands within those counties. Signatories to the Cooperative Agreement agree to coordinate priorities, actions, and resources for preventing, eradicating, containing, and controlling non-native invasive plants and noxious weeds. Participants further agree to cooperatively develop public relations, education, and training initiatives within the USRCWMA. The counties and the state and federal land managing agencies annually set budgets for integrated noxious weed control programs. Other USRCWMA partners provide technical assistance, equipment, services, and dollars in support of integrated noxious weed programs.

**III. CWMA DESCRIPTION AND BOUNDARIES**

During November of 2004 the USRCWMA agreed to a merger with the Black Snake CWMA . This added all of Bingham County, Idaho to the USRCWMA . The USRCWMA contains approximately 3,515,838 acres within Madison, Teton, Bonneville, Jefferson, and Bingham Counties. Table 1 displays the acres located within each county.

Table 1: Acres - USRCWMA

<b>COUNTY</b>	Bonneville	Bingham	Jefferson	Madison	Teton	<b>TOTAL</b>
<b>ACRES</b>	1,211,405	1,340,672	363,761	306,000	294,032	<b>3,515,838</b>

Land ownership is inter-mingled federal, state, county, and private holdings.

The area covered by the USRCWMA includes all lands within Bingham ,Teton , and Madison County, Idaho. It includes all lands located to the south of Highway 33 in Jefferson County, Idaho with the exception of the cropland around Mud Lake. It includes all lands within Bonneville County that lay north of Palisades Ranger District southern boundary. The USRCWMA is bordered by the Henry's Fork CWMA, Jackson Hole CWMA, Highlands CWMA, Utah/ Idaho CWMA, Blaine County CWMA, Butte County CWMA, and the Continental Divide CWMA .

#### **IV. COOPERATIVE WEED MANAGEMENT AREA GOALS.**

Major goals of the USRCWMA are to:

- Provide a more efficient way to identify, prevent, contain, and control non-native invasive plants and noxious weeds within the area.
- Elevate concerns and understanding among private land owners, public land managers, public officials and the general public regarding noxious weeds.
- Coordinate the inventory, mapping, and monitoring of noxious weed infestations and treatments within the area.
- Seek adequate funding from internal and external sources to implement annual work plans, special projects, long term strategies and plans.
- Create new pro-active weed fighting partnerships and initiatives and provide a communication forum to keep all parties

#### **V. STEERING COMMITTEE.**

The USRCWMA is managed by a steering committee. Officers include a chairperson, vice-chair person, and secretary selected by the participants. The steering committee has appointed the High Country Resource and Development Council, Inc., a 503c (3) non-profit organization as its grant administrator. Administrative duties will include project coordination, documentation, billing and paying bills, preparing reports to funders, and developing grant requests to agencies and foundations to implement USRCWMA projects and leverage CWMA assets. The steering committee duties include:

- Annually develop a work plan to coordinate objectives, priorities, and actions for preventing, eradicating, containing, and controlling non-native invasive plants and noxious weeds.
- Establish priority initiatives, treatment areas, weed species, and habitats may be targeted in the long term weed fighting strategies.
- Serve as advisors to land managers and county commissioners upon request.
- Develop and maintain an integrated inventory.
- Develop area wide informational, educational and public awareness material.
- Coordinate the use of resources and stakeholder groups to treat designated weed infestations.
- Manage designated weeds in an integrated weed management approach.
- Monitor the effectiveness of control strategies and tactics and make necessary adjustments.

#### **VI. INTEGRATED MANAGEMENT SYSTEM.**

Integrated weed management “is a system for the planning and implementation of selected methods of management for preventing, containing or controlling undesirable plant species or group of species using all available strategies and techniques”<sup>1</sup>. Together these strategies and techniques are economically and environmentally more effective than any single option. All control methods are available and are prescribed on species/infestation specific basis. Elements of Integrated Management included in this plan are: Education/Awareness, Prevention/Early Detection, Rapid Response, Inventory, Treatment (including physical, biological, cultural and chemical methods), and Monitoring.

##### **A. Education/Awareness.**

Education and awareness programs foster public understanding of the threat invasive exotic plants pose to the natural resources of the USRCWMA, the techniques used to manage the weeds and the role humans play in the dispersal and establishment of invasive weeds. Awareness also provides an important first step in the detection of new invaders. Education includes the training of weed district and agency personnel, private landowners and general public in weed identification, new management techniques, monitoring protocols and other skills needed for the management of noxious and other invasive weeds.

##### **B. Prevention/Early Detection.**

Prevention measures are management practices that reduce the potential for the introduction, establishment or spread of weeds. Prevention is a high priority in the management of noxious weeds. In the long term, it is more cost effective to prevent weeds from establishing than to initiate treatment after establishment.

##### **C. Rapid Response.**

The ability to organize a rapid response to new invasive species discovered within the USRCWMA is critical to preventing a new invader from becoming an ecological and economic threat. Rapid response will require USRCWMA partners to focus immediate attention and resources on eradication of the new invader.

#### **D. Inventory.**

An inventory is the collection, documentation and storage of information on the extent and location of invasive weeds within the USRCWMA. A critical part of integrated management is a current and maintained inventory of infestations occurring within the management area. An inventory provides necessary information for establishing site-specific priorities, management objectives and for prescribing treatment methods. It highlights the need for preventive measures and is the baseline for effective monitoring.

#### **E. Treatment Methods.**

Under the integrated approach all control methods are available. It is the use of all available options in combination that results in the most successful program. Specific treatment is determined by plant species, site characteristics, and management objectives. The following management techniques of noxious weed control will be considered on a site specific and plant species basis.

**Physical/Mechanical:** The use of physical or mechanical methods to weed control can be effective on small infestations of annual or biannual species. Hand grubbing, mowing, tilling and burning are commonly used to physically destroy weeds or interfere with their reproduction. To be effective, treatment must take place before seed production. Plants that have flowered must be removed from the site and destroyed. Repeated mowing or tilling during the growing season is required with most weed species.

**Biological:** Biological weed control involves the deliberate introduction and establishment of natural enemies to reduce the target plant's competitive or reproductive capacities. Insects are the most common agent released against noxious weeds. Plant pathogens, such as fungi, are increasing in use. Sheep and goats have been effective in reducing densities and limiting spread of specific weed species. Biological control can be a slow process, often requiring multiple years to be effective. Its purpose is not eradication but a reduction in densities and rate of weed spread to an acceptable level. It is most effective on dense weed infestations over large areas.

**Chemical:** Herbicides are an effective and efficient tool for the control of noxious weeds. Herbicide application and rates are dependent on specific site characteristics, target plant, location, non-target vegetation and land-use. Herbicides are an important method of treatment when control or eradication is the management objective. Environmental concerns make it critical to follow all label instructions, site directions and safety precautions when using any herbicide.

**Cultural/Land Use:** Cultural practices are activities that purposefully enhance and maintain the growth of desired vegetation. Practices that retain enhance or introduce desirable plant species that out-compete or dominate exotic plant species can serve as prevention, control and/or follow-up. Examples that are applicable to the management area are seeding, planting, fertilizing, and retaining brush and tree canopy cover. Grazing prescriptions that are designed to maintain or enhance perennial vegetation in a healthy state or maintain soil cover is an important practice in slowing the spread of invasive plants. Minimizing the extent and duration of exposed soil during management actions can also reduce the risk of weed establishment.

#### **F. Monitoring.**

Monitoring is the collection of information to determine the effectiveness of management actions in meeting the prescribed objectives. Noxious weed management focuses upon density and rate of spread of invasive exotic plant species, and the effect these aggressive plants have on the natural resources of the USRCWMA. Monitoring will help determine if our prescriptions and activities are accomplishing the goals and objectives established by USRCWMA partners.

### **VII. MANAGEMENT OBJECTIVES AND PRIORITIES**

The SC has identified and prioritized noxious weeds based on threat posed and response the response the USRCWMA will take.

**Prevention** :Prevent the establishment exotic plant species not known to be located within the USRCWMA but occurs adjacent to the area with the imminent potential for introduction and poses a future threat to the resources.

**EDRR** (Early Detection & Rapid Response): Weeds listed in this category and identified within Idaho shall be eradicated during the same growing season as identified.

**Control**: Weeds listed in this category are known to exist in varying populations throughout the state. The concentration of these weeds is at a level where control and/or eradication may be possible.

**Containment:** Weeds listed in this category are known to exist in various populations throughout the state. Weed control efforts may be directed at reducing or eliminating new or expanding weed populations while known and established weed populations, as determined by the weed control authority, may be managed by any approved weed control methodology, as determined by the weed control authority.

Table 1: USRCWMA General Management Priorities by species

<b>EDRR</b>	<b>Control</b>	<b>Containment</b>
Brazilian elodea	Black henbane	Canada thistle
Common crupina	Bohemian knotweed	Field bindweed
Dyer's woad	Buffalobur	Houndstongue
Eurasian watermilfoil	Dalmation toadflax	Jointed goatgrass
Giant hogweed	Diffuse knapweed	Puncturevine
Hydrilla	Giant knotweed	White bryony
Matgrass	Hoary alyssum	Whitetop (Hoary cress)
Meadow hawkweed	Japanese knotweed	
Meadow knapweed	Johnsongrass	
Mediterranean sage	Leafy spurge	
Milium	Musk thistle	
Orange hawkweed	Oxeye daisy	
Parrotfeather milfoil	Perennial pepperweed	
Policeman's helmet	Perennial sowthistle	
Rush skeletonweed	Plumeless thistle	
Scotchbroom	Poison hemlock	
Silverleaf nightshade	Purple loosestrife	
Skeletonleaf bursage	Russian knapweed	
Small bugloss	Saltcedar	
Squarrose knapweed	Scotch thistle	
Syrian beancaper	Spotted knapweed	
Tall hawkweed	Yellow toadflax	
Tansy ragwort		
Toothed spurge		
Vipers bugloss		
Water hyacinth		
Yellow devil hawkweed		
Yellow starthistle		
		* <i>Common mullein</i>
		* <i>Downy brome</i>
		* <i>Flowering rush</i>
	* <i>Chicory</i>	* <i>Mayweed chamomile</i>
* <i>Medusahead</i>	* <i>St. Johnswort</i>	* <i>Russian olive</i>

\* *These species are not noxious weeds and no ISDA Grant funds will be used in controlling these weeds.*

**VIII. SPECIFIC MANAGEMENT RECOMMENDATIONS**

Partners in the USRCWMA place a high priority on five major strategic areas. They are:

- I) Rapid Response to new invaders
- II) Cooperative Weed Control Initiatives
- III) Information and Education
- IV) Mapping and Inventory
- V) Monitoring and Research.

### **I) Rapid Response Plan**

If a new weed is discovered, the various agencies will help each other as needed to quickly map the extent, determine the method of introduction into the USRCWMA, and eradicate the weed. We will develop a RAPID RESPONSE BOOKLET including a set of photos or other identification aids for field crews to aid in identifying weeds currently absent or uncommon in this area. Training will be provided.

### **II) Cooperative Weed Control Initiatives**

The steering committee developed several *priority initiatives* and annually targets resources to address those concerns. The CWMA is well equipped with GPS units and mapping is a component task in each initiative. A brief description of those initiatives follows:

**Early Detection Rapid Response Initiative:** In addition to the species on the State EDRR list, there are a number of weeds which are not yet established in the Upper Snake River CWMA. This project aims to get CWMA cooperators and the general public better trained to detect new invaders. This project also will develop a rapid response plan if any of these new invaders are detected to immediately eradicate those weeds. EDRR species of special concern in the Upper Snake are Dyer's woad, rush skeletonweed, yellow starthistle, squarrose knapweed, Policeman's helmet, and Eurasian watermilfoil. Actions needed:

- Increase education and weed identification skills among CWMA cooperators and their coworkers, landowners, and the general public.
- Encourage field personnel to clearly identify and mark EDRR species discovered and report to the County Weed Superintendent and USRCWMA Steering Committee immediately.
- Develop and implement a rapid response plan.
- Notify local media.
- Revisit the site later in the season and in the following years to ensure the weed infestation was eradicated.

**Highway Corridor Initiative:** Highway 33 is the major east – west thoroughfare crossing Jefferson, Madison, and Teton Counties for approximately 96 miles. In recent years spotted knapweed has gained a foothold along State Highway 33 and it's clear this weed is spreading, especially in Madison and Teton Counties. Other major highway corridors include Highway 20 and Highway 26. Early detection and aggressive coordinated control actions are underway to prevent spotted knapweed from becoming a major economic and ecological burden in the USRCWMA. Actions needed:

- Coordinate annual spray days.
- Inventory and map known infestations and determining the degree of spread onto adjacent lands.
- Continue I&E efforts to inform highway travelers about noxious weeds.

**Snake River Corridor and Tributaries Initiative:** This effort targets Leafy Spurge, Spotted Knapweed, Russian Knapweed, Whitetop, and Saltcedar in the major river corridors, including the South Fork Snake, Henrys Fork Snake, Teton, and mainstem Snake River. Major tributaries include, but are not limited to, Bitch Creek, Moody Creek, Pine Creek, Willow Creek, and the Blackfoot River. The Snake River flood plain and associated riparian habitats are a major wildlife resource and agricultural zone. Noxious weed seeds originating in this region will be spread throughout the Upper Snake River Valley via the extensive network of irrigation canals that divert water from the Snake River. Action needed:

- Coordinate annual spray days.
- Develop a landowner cost share initiative.
- Develop and implement an ‘ornamental saltcedar’ replacement program CWMA-wide.
- Inventory and map known infestations.
- Introduce biological control agents to establish local insectaries.

**Bio-control Initiative:** The USRCWMA has been implementing bio-control projects, including targeted grazing and insects, since the early 1990’s. Over 2,000 bio-control releases have already been completed and release data has all been stored in a GIS database accessible to all CWMA partners. Some project have been very successful, other less so. This project will focus on filling in the gaps of areas where effective biocontrols are available but have not been established the local area. It will also involve local landowner and student groups to collect and redistribute biocontrols for existing insectaries. It will develop a simple protocol for monitoring the success of existing biocontrol sites. Actions needed:

- Monitor existing biocontrol release sites and insectaries.
- Introduce additional biological control agents to establish local insectaries
- Coordinate annual collection days at established insectaries.
- Develop a landowner cost share initiative.
- Inventory and map release sites using GPS technology.
- Utilize targeted grazing with goats or sheep to control noxious weeds where applicable.

**Weed Free Materials Initiative:** Gravel, hay and top soil are key transport materials for weed seed throughout the state including the USRCWMA. These materials pose high risks to areas of increased development which is occurring throughout the CWMA. Action needed:

- Inventory and map of gravel and top soil sources.
- Inventory of weed free forage producers.
- Weed free certification of gravel pits and top soil sites.
- Develop cost share projects for hay producers and gravel pit owners.

**Rexburg Bench Initiative:** Within Madison County, the canyons dissecting the Rexburg Bench contain major infestations of leafy spurge, Russian knapweed, white bryony and an emerging infestation of Spotted Knapweed. Leafy Spurge has spread down stream along the riparian habitats of Moody Creek then along the Teton River to its confluence with the Henry’s Fork of the Snake River. Several insectaries of *Aphthona spp.* have been established since 1996. Action needed:

- Coordinate annual spray days.
- Develop a landowner cost share initiative.
- Inventory and map known infestation.
- Introduce biological control agents to establish local insectaries. Coordinate the collection and relocation of insects to establish local insectaries.

**Teton Leafy Spurge / Knapweed Initiative:** The Teton County Weed Department is targeting an emerging serious infestation of Spotted Knapweed countywide for accelerated herbicide control measures. They will also targeting established stands of Leafy Spurge and Yellow Toadflax in the Bitch Creek Watershed for accelerated control. Action needed:

- Coordinate annual spray days.
- Develop a landowner cost share initiatives.
- Inventory and map known infestation.
- Introduce biological control agents to establish local insectaries

**Swan Valley / Dan Creek Initiative:** A serious noxious weed problem exists within the Swan Valley Area of Bonneville County. In this portion of the South Fork Watershed, there are approximately 98,000 acres mostly in

private ownership. The USDA-Forest Service manages the uplands. Private lands are mostly in ranches and farms. However, rapid subdivision along the South Fork has created numerous small acre ranches and home sites. A very successful cost-sharing program with private landowners in the Swan Valley Area will be continued. The program will specifically target Spotted Knapweed, Canada Thistles, Leafy Spurge, Musk Thistle, Dalmatian and Yellow Toadflax. Landowners will be responsible for the purchase of herbicide. The USRCWMA contracts application costs. Action needed:

- Coordinate annual spray days.
- Develop a landowner cost share initiative.
- Inventory and map known infestation.
- Introduce biological control agents to establish local insectaries

**Railway / Utilities / Canal Corridors Initiative:** It is widely recognized that corridors such as railways, powerlines, and canals contribute to the spread of noxious weeds. This project will focus more CWMA partner attention to these corridors and work to develop a relationship with the responsible corridor managers to develop more proactive noxious weed management programs. Actions needed:

- Continue the Raildogs project and expand to additional railroad lines.
- County weed superintendents or land managers develop contacts with other utility managers (powerlines, fiber-optic cable lines, gas lines, etc.) and canal company and irrigation district representatives.
- Inventory and map utility corridors for noxious weed infestations.
- Develop cost-share programs with utility managers to control infestations.

### **III.) Information and Education**

Education and Awareness is a critical element in the long-term management of noxious weeds in the USRCWMA. Creating awareness of the threat to the USRCWMA natural resources and the need to manage weeds will provide the foundation for active treatments, early alert programs and prevention practices. Audiences include landowners and operators in the farming and ranching community, political leaders, urban folks, absentee landowners, community leaders and citizens groups, agencies, and youth. All forms of media including television, radio, newspapers, newsletters, brochures, etc will be utilized. The CWMA has established an I&E sub-committee to implement the planned actions. Action may include:

- Coordinate with other Information and Education specialists in agencies and non profit organizations.
- Conduct annual Weed Fairs/seminars and tours.
- Develop and maintain a weed management display for public gatherings such as fairs, expos, conventions and shows.
- Develop and place interpretive signs to alert the general public of the threat of weeds and the efforts in the USRCWMA.
- Post weed identification signs at specific trailheads, road turnouts and other public places.
- Provide presentations to classrooms, and special interest groups.
- Develop and implement training programs to familiarize agency personnel with noxious weeds.
- Develop brochures and pamphlets specific to the USRCWMA. Facilitate communication and coordination of cooperators and partners in the CWMA.
- Develop demonstration plots for treatment and management techniques.

### **IV.) Mapping and Inventory**

The USRCWMA is well equipped with GPS units. All USRCWMA projects will be mapped using the protocol established by the ISDA. USRCWMA partners will provide mapping data annually to ISDA. A coordinated weed inventory will be maintained for the entire management area. This inventory will be continually updated from new reports of weed infestations, and inventories.

## **V. Research and Monitoring**

Although the CWMA is not a research organization it can still play an important role in identifying noxious weed research needs, designing field trials, evaluating local on the ground results, evaluating cost effectiveness, monitoring trends, and publishing findings.

The USRCWMA will implement field trials evaluating the effect of grasses on noxious weeds and establish herbicide field trials. The USRCWMA will establish long-term biological weed control monitoring sites. Historic release sites will be catalogued with a GPS location and evaluated for insect survival, establishment, and impact to the noxious weed. Insectaries will be harvested and insects moved to new locations where feasible.

## **VI. Annual Operating Plan**

Each year an Annual Operating Plan (AOP) will be developed for the USRCWMA. The Annual Operating Plan outlines the management actions and activities that the cooperators agree to accomplish for the current year. The annual plan will identify the treatment priorities, treatment tools, prevention measures, locations of priority infestations, specific responsibilities, and other management activities that will be accomplished for that year. Common practices that are implemented across USRCWMA such as educational programs, prevention measures, and inventory work will be coordinated with the CWMA Steering Committee.

APPENDIX A.  
Map of the UPPER SNAKE RIVER CWMACWMA

