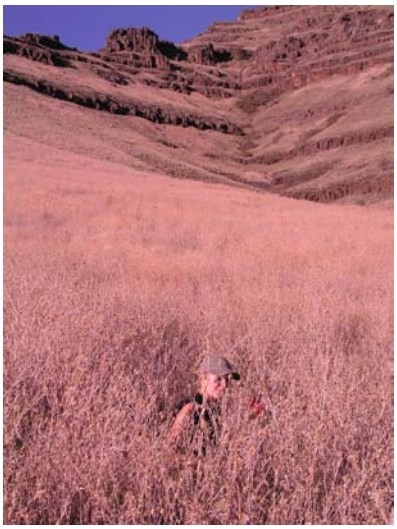
Tri-State Weed Management Area
2004 End-of-Year-Report

This year proved to be an interesting one due to a dry, cool spring followed by an unusually wet summer. The cool weather delayed emergence of our yellow starthistle biological control agents causing alarm for those watching the progress of these insects. Upland weeds which usually senesce in mid-July, bloomed until frost. We continue to refine our remote sensing technologies and have found one that is helpful in our challenging topography. Cooperators noticed that a significant reduction of weed densities is occurring in areas we have been treating for a period of time; this is particularly evident on travel corridors and eradication sites. A potential shift in our weed priorities may be occurring due to changing weed species and patterns of infestations. Monitoring of our rehabilitation sites further proves that healthy, competitive plant communities can resist weed invasion. Cooperators continue to build upon past experiences and are unwaveringly resourceful as evidenced by new activities and implementation of new projects.

EDUCATION/AWARENESS:

- The third annual *Herbicide Application and Safety Workshop* was held with thirty participants. Attendees reviewed herbicide safety, proper mixing, application, and hazards of working in remote areas. Licensed applicators received six recertification credits for participating in the workshop. We trained individuals from Tri-State as well as three other WMAs.



Tri-State Graduate Student Rachel, getting to know her new pet plant.

- Tri-State funded three graduate research projects in the area. Corey Gucker finalized and defended her thesis looking at post fire response of invasive and native plant species. Cathy Sampselle also finished her project looking at biotic crust components and their relationship to both topography and plant community health. The third project is looking specifically at biological control impact on yellow starthistle. Rachel Winston set up her plots late this fall and began researching the history of biocontrol releases in the Corral Creek area. A portion of her study may also assess whether biocontrols are helping reduce yellow starthistle densities within our endangered Spalding's silene plant populations.

- Tri-State hosted the 6th Aridlands Grazing Workshop in June with thirty-seven professional land managers representing eight states in attendance. Participants were able to see how cooperators are implementing an integrated weed management (IWM) strategy. Art Talsma and Jason Karl from the Nature Conservancy of Idaho presented information at the Lewiston workshop. The group toured the Garden Creek Ranch looking at treatment sites and rehabilitation trials.

- Eighteen Joseph High School FFA members and advisors participated in a three day integrated weed management workshop/volunteer work effort. Leigh Dawson from the FS provided an overview of IWM and the group monitored yellowstar biocontrols, manually treated weeds in sensitive areas, chemically treated weeds, completed a revegetation plot, set up monitoring, and inventoried weed populations.

- A multi-cooperator funded educational notice about Wallowa County's weed free feed ordinance was placed in the Oregon Hunt Synopsis. This effort broadened the effort to educate out-of-area hunters about the requirements for weed free feed.

- Educational signs were placed at Garden Creek Ranch to educate outfitter clients and other visitors about weed issues in the area.

- Idaho Public Television aired an Outdoor Idaho segment "War on Weeds". Footage for this program was filmed in 2003 with Lynn Danly from the BLM providing information on yellow starthistle biocontrols and IDFG's Matt Lucia providing information about weed threats to wildlife. The original script was for weeds to be a portion of a show detailing threats to Idaho's wildlands. Instead of weeds being a portion of the show, it was expanded to a full show with a call-in Dialog program following to discuss the weed issue.

- Cooperators set up a weed display at the Idaho County Fair and the Wallowa County Fair.

- A contractors meeting was held in Wallowa County. Topics included information sharing about new invaders, successful treatment activities, awareness about requirements for Threatened and Endangered species and distribution of upcoming contract work in the area.

- The Nature Conservancy's Art Talsma and Idaho Weed Awareness Campaign's Roger Batt filmed a television advertisement focusing on education of ATV users about noxious weeds in the Eagle Creek area. These segments began airing locally in the Lewiston area.

- A new publication, *Beautiful Wildflower or Evil Twin?*, was developed to target river users on the Snake and Salmon Rivers. The publication detailed new invaders to the canyon and gave contact information for reporting weed locations.

- Cooperative efforts were a focus topic for the Pacific North-West Intermountain Vegetation Management Association, Forestry and Rights-of Way conference held in Portland November 9-10. Lynn Danly presented a history and overview of the Tri-State WMA for approximately fifty participants then participated in a panel discussion about cooperative efforts. Additional panel members included Mark Porter and former Tri-State cooperator Dan Sherwin.

- Advances in new technology and the internet as a way to distribute information provides

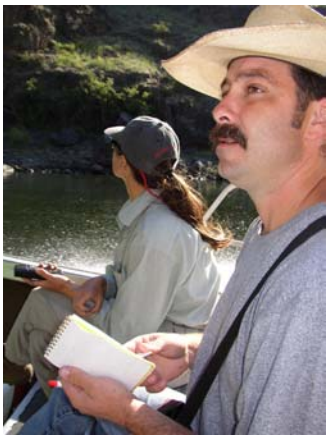
exciting opportunities. Panoramic photography and embedded "hot spots" which present additional information including video and dialog were tried this year. Art Talsma worked with "Mountain Visions" of Boise to trial this technology. Art was able to present this information to the Intermountain Native Plant Summit in November. A portion of this product can be viewed at the Mountain Visions website at www.mountainvisions.com. Check out the cubic panoramas for Idaho.

INVENTORY:

- Through volunteer efforts, thirty-four miles of trail in Hells Canyon was inventoried.

- Assessment of multi-temporal imagery was finalized. This technology looked at using multi-spectral images taken of the same area at two times during the year. Analysis to detect change in vegetation through the summer will hopefully provide a better detection of weeds in native vegetation.

- Aerial sketch mapping was used to assess approximately 40 miles of the Snake and Salmon River corridor. An initial trial of this technique last year proved it to be one of the most useful technologies tried to date. Weed species targeted were dalmation toadflax, whitetop, rush skeletonweed, and purple loosestrife.



Mark Porter recording weed locations on the Snake River.

- Over 78,500 acres of inventory completed by cooperators in 2004.

- Trial of panoramic photography to monitor weed treatments and plant populations. Art Talsma presented information on this technique to the Intermountain Native Plant Summit in November.

- Cooperators met for a field workweek on the Hells Canyon National Recreation Area on June 21st. Inventory was conducted along the river corridor from Pittsburg Landing to Garden Creek. Species inventoried included purple looestrife, dalmatian toadflax, spotted knapweed, Japanese knotweed, rush skeletonweed and common bugloss.

PREVENTION:

- Completion of the Draft Wallowa County Weed Management Plan.

- Implemented vehicle wash stations at fire camps.

- Monitored sites disturbed by construction activities.

- Continued weed control in parking areas and gravel sources.

- Contract stipulations for contractors utilizing heavy equipment in the WMA to clean weed seeds and debris from their equipment prior to entering the area.

- Best management prevention practices for cooperators to include cleaning undercarriages of vehicles to avoid spread of weed seed.

- Wallowa County hay station on a major road into hunting areas where hay potentially contaminated with weed seeds was exchanged for certified weed free hay.

- Prevention education was given to volunteers before they conducted treatments. Information included the importance of cleaning equipment before moving to new areas and how to clean clothing to avoid weed spread.

WEED CONTROL:

The second year of focused aerial spraying was accomplished. This project targeted invading yellow starthistle and whitetop in good condition Pacific Bunchgrass communities which serve as critical elk habitat. Funding provided by the Rocky Mountain Elk Foundation and the Idaho Department of Agriculture was used to implement the project. The SWAT team ground truthed, monitored, and delineated the spray sites with precise GPS units.

The second year of our SWAT team provided new ideas and better coordination. Cooperators were able to define roles and treatment sites prior to the team starting work. The new team members provided additional ideas and energy to this cooperative effort. The BLM weeds/fuels crew began its third year in the Corral Creek area targeting the Upper Corral Special Ecological Area in an attempt to reduce yellow starthistle in good condition Pacific Bunchgrass communities. This was the second year some of these fuels crew members had treated weeds, so they were more efficient and better trained than last year.

A total of 8,640 acres were treated by cooperators through chemical, mechanical and hand methods. Chemical control was accomplished aerially, by pickup mounted tank, ATV mounted tank, backpack and horse pack sprayers. Treatment was accomplished on twenty-seven different species of weeds. The project summary at the end of the document provides a list of each species treated and the total treatment acres.

Asotin County Weed Supervisor Nelle Murray at the 2004 Eustenopus collection.

BIOCONTROL:

Climate significantly affected the relationship of biological control agents and their target weed in 2004. Dry spring weather was indicating small plants and early curing of our annual weeds. This proved not to be the case as early summer showers began and soil moisture remained high through-out the summer. We also did not see emergence of our biocontrol agents until after yellowstar was blooming, about two weeks later than normal.

Cooperators met for a mass collection of *Eustenopus villosus* collecting approximately 100 releases of these insects. A majority of the insects went to the second aerial attack on yellowstar in the Craig Mountains. Idaho Department of Fish and Game dropped insects from an airplane over more remote populations of yellow starthistle on the mountain. The remainder of the insects were given to cooperating landowners in adjoining WMAs.

BLM's Becky Chaffee releasing Mecinus janthinus on dalmation toadflax.

Two releases of *Mecinus janthinus* were provided by the University of Idaho and released on dalmation toadflax upstream from the WMA on the Salmon River. These two releases will begin our nursery sites. Hopefully, this insect proves itself as good for cooperator collection as the yellow starthistle insects have.

Monitoring on initial release sites continued. We now have a five year record of biocontrol impact on at least fifteen sites. This will serve as a good base of information as we continue our biocontrol assessment.

MONITORING:

Monitoring continues to allow refinement of our integrated weed management strategies. Interesting facts noticed due to our monitoring include:

- ✓ Transline™ treatment targeting yellow starthistle was effective for two years of weed reduction. We had not been able to detect this treatment effect until a focused larger site was treated in '03. The site is easily discernable due to lack of yellow starthistle in '04 with no additional treatment.

- ✓ Continued monitoring of "eradicated" leafy spurge sites showed re-emergence of the weed from seed or root propigules five years after the last plant was treated. Vigilant monitoring of these eradicated sites will be essential long after treatment ceases.

- ✓ Re-assessment of rehabilitation projects is valuable well after the completion of the project. Cooperators are finding continued development of plant diversity and re-introduction of native plants into our stabilized perennial plantings. Periodic inspection and complete recordkeeping are essential to detect these changes.

- ✓ Treatment of travel corridors has been effective in removing easily transported plant propigules from the roadsides and reducing the opportunity for yellow starthistle to hitch a ride to new areas. Treatment time of many travel corridors has been reduced to a minimal amount of spot treatment.

- ✓ At a minimum, photopoint records should be maintained on a portion of new biocontrol release sites. Vegetation changes resembling those at nursery sites and earlier yellowstar release sites are again being seen at new release sites.

REHABILITATION:

- **Canyonlands Restoration Network** – A spin-off effort of the Aridlands Grazing Workshop held in June. An expanded group of researchers and land managers met in October to focus on sharing information and working together to prove out revegetation techniques developed by Tri-State cooperators. The Network is currently developing research, funding, and proposals for site treatments.

- **Native Plant Garden** (3 acres) - This mid-elevation farm field was planted in 2003 in less than desirable conditions. The native vegetation plugs were met with dry conditions and a very competitive vegetation composed of climbing plants such as morning glory and hairy vetch. During the spring and summer it was very difficult to see any of the plants. In late summer, after the climbing vegetation had scenesed, the site was reviewed for surviving trial plants. It appears the bluebunch wheatgrass that had been produced from local seed stock was by far the most successful species. Monitoring of other vegetation is inconclusive at this time.

Bighorn field post seeding.

- **Bighorn Field** (2 acres) – Implementation of the first trial where glyphosate was the chemical used to reduce invasive annual competition. Seed mix and seed coverage techniques were consistent with past revegetation efforts in Corral Creek. Establishment of this seeding will show if this alternate chemical will help us achieve our revegetation objectives.

- **Black Butte/Joseph Creek** (400 acres) – Spot seeding of areas within a larger site was trialed in the attempt to establish better perennial plant competition.

REHABILITATION MONITORING:

- **Power line seeding** (70 acres) – A comprehensive monitoring trip was made to assess the portion of the powerline seeding from Eagle Creek to China Creek. For the most part establishment has exceeded expectation. The seed bed was hard due to traffic and much of the top soil had been scraped off the surface making a poor soil resource. Many of the road spurs did not establish well, presumably because the harrow treatment could not be accomplished due to logistics. This again supports the need for some kind of soil disturbance to cover seed. The main roadbed, except for areas that were mostly volcanic cinder, established very well. There are also places where native forbs are establishing on the roadbed. This is good to see, as more plant diversity is generally considered a positive thing.

- **China Creek Flats** (20 acres) – In addition to the road and spurs along the powerline road, accessible flats next to China Creek were reseeded utilizing the same herbicide, seed mix, and harrowing treatment. A dramatic transformation in these flats has taken place. There

has been no herbicide treatment since the seeding in the fall of 2001. Treated areas are easily seen because the grass stand is very thick and competitive and excluding weedy annuals. There is a distinct line of both yellow starthistle and annual bromes where the seeding ended. In some areas, the grass species expressing itself most notably is Sherman big bluegrass, a native species. This successful seeding is achieving the goals for rehabilitation which were to establish a perennial stand of vegetation that would provide longer term quality forage for wildlife, a more stable watershed condition, and less of a fire hazard.

- **Snake River Benches** (110 acres) – Baker BLM aerially seeded benches above the Snake River that were dominated by annual vegetation in 2003 in a preemptive attempt to establish perennial grasses in disturbed areas before yellow starthistle invades these sites. Monitoring shows that this aerial trial was still considered moderately successful

- **North Bench** (10 acre disc plow field) – This area was seeded in 1999 as a portion of a larger trial and had not been monitored for a few years after being considered moderately successful. Cottonwood BLM personnel looked at these older seedings to see if any changes in establishment or persistence could be detected. This year the site has made a remarkable change in plant density and health. Of interest was the fact that Sherman big bluegrass was making an increased presence in portions of the field thought to have been a failure in the past. This plant is exhibiting a competitive nature that makes it a good choice for seed mixes where a perennial stand will be in direct competition with annuals. Sherman big bluegrass may lag behind companion species in establishment as evidenced by its expression in the stand as much as five years post planting.

- **Cave Gulch** (60 acres) - Seeded in 2001 to a variety of native and introduced mixes, this site had not been monitored since 2002. Of most notable interest was the establishment of local genotype bluebunch wheatgrass. This is the first trial of native species revegetation utilizing techniques which have successfully established introduced seedings. Initial monitoring in 2002 showed some areas where seedling density was very high (>7 plants/sq ft). This high density caused concern for later survival due to intraspecific competition. The planted bluebunch is persisting but exhibiting a more rhizomatous or single stemmed nature and not the bunchgrass character most often seen at this lower elevation dryer site. It is competing with a stand of whitetop and monitoring photopoints have been established to document trend over time.

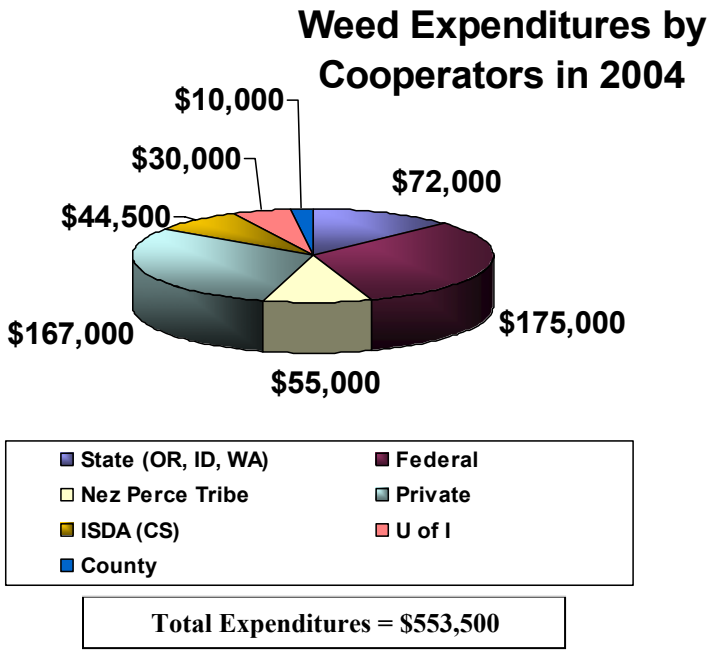
Local bluebunch wheatgrass field.

Project Summary

Category	Weed Species	Measure
Education/Awareness		760 individual contacts

Inventory	All species	78,500 acres
Control		Acres
Chemical	Bull thistle	3
	Canada thistle	50
	Cocklebur	1
	Common burdock	1
	Common bugloss	15
	Common crupina	1
	Dalmatian toadflax	2,064
	Diffuse knapweed	220
	Field bindweed	8
	Hounds tongue	28
	Leafy spurge	94
	Meadow hawkweed	20
	Mediterranean sage	1
	Musk thistle	6
	Orange hawkweed	26
	Perennial pepperweed	11
	Poison hemlock	18
	Puncturevine	26
	Purple loosestrife	5
	Reed canarygrass	12
	Rush skeletonweed	219
	Russian knapweed	5
	Scotch thistle	1,859
	Spotted knapweed	2,010
	Sulfur cinquefoil	91
	Tree of heaven	2
	White top	610
	Yellow starthistle	994
Hand Control	Diffuse knapweed	41
	Mediterranean sage	3
	Musk thistle	6
	Scotch thistle	76
	Sulfur cinquefoil	1
	Rush skeletonweed	1
	Yellow starthistle	80

Mowing	Scotch thistle	32
Biocontrol	Dalmatian toadlfax	2 releases
	Diffuse knapweed	9 releases
	Yellow starthistle	100 releases
Monitoring	All species of weed control	1,303 acres
	Biocontrol monitoring	29 release sites
Rehabilitation	Seeding work	502 acres



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