

RIDGWAY COMPREHENSIVE PLAN

**INTEGRATED WEED MANAGEMENT
AND NATIVE PLANT RESTORATION**



Town of Ridgway
Final Plan: May 3, 2011

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I. INTRODUCTION

An enormous thank you is extended to the Committee and Meeting Facilitator for the extensive time, effort and energy put forth in developing this Integrated Plan. The Committee includes the following Community Members, Town Councilors, and Town Staff:

Heather Bussey	John Clark	Ellen Hunter	Joanne Fagan
Jean McDonnell	Sheelagh Williams	Pam Kraft	Dickson Pratt

Meeting facilitation: Don Batchelder

This Integrated Plan could not be the well-rounded and inclusive document that it is without the persistent and extensive inputs received from our dedicated community members at large who deserve a sincere thank you for their continued and undying participation in pulling this plan together.

Thank you to our knowledgeable guest speakers: Susan Rose, Kelley Liston, Jude Sirota, and Tim Seastadt for providing basic and advanced technical information on noxious weeds, integrated weed management and plan development, and land stewardship, and who provided us with the knowledge required to address this complicated issue.

Finally, we would like to express sincere gratitude for the extensive local coverage in the Ridgway Sun for each of the lengthy and informative meetings.

This document is organized into 11 sections:

- I. Introduction
- II. Background Information
- III. Definitions
- IV. Scope, Purpose and Guiding Principles
- V. Existing Conditions
- VI. Land Management Goals and Weed Management Objectives
- VII. Priorities
- VIII. Recommendations
- IX. Conclusions
- X. Attachments
- XI. Exhibits

II. BACKGROUND INFORMATION

While the Town of Ridgway has addressed weed management through various mechanisms for years, pursuant to state regulations (Colorado Revised Statutes Title 35, Article 5.5), there is now a requirement to develop an integrated management plan that comports with the needs and desires of the community, while effectively managing weeds within our budgetary limits.

The Weed Management Plan for the Town of Ridgway is reflected in Chapter 12 Section 1 (Exhibit A) of the Ridgway Municipal Code. This plan calls for maintaining stubble “no higher than 6 inches above the ground”, and non-compliance is managed through nuisance procedures. On August 13, 2003 the Town Council adopted Resolution 03-06 (Exhibit B), which states “the Town shall not use toxic or poisonous, chemical-based herbicides within the Town limits toward the control of noxious weeds, and that the use of non-toxic, organic management practices shall be implemented”. Since that time, the Town has managed noxious weeds on publicly-owned properties through mechanical efforts including mowing, weed whacking, and hand pulling, and with targeted chemical applications of a vinegar-based solution. Private property owners are allowed to manage weeds on their property by whatever mechanism, chemical or other method they prefer.

During the March 17, 2010 Town Council workshop the Ouray County Weed Manager approached the Town Council with concern over a growing and significant noxious weed population within the Town limits that needed management. Of particular concern was the spotted knapweed, a State of Colorado B-list noxious species that was propagating along the river corridor and primarily in Rollans Park, public property under the Town’s stewardship. In addition to the spotted knapweed along the corridor, the Weed Manager indicated there were a number of other noxious weeds of concern that were not being managed. The Council reviewed the option of using Milestone, a chemical treatment that would be spot sprayed in targeted locations within the Town. During the April 14, 2010 Town Council meeting, the Council considered a resolution for a temporary exemption to Town policy regarding the use of chemicals for noxious weed management. In response to citizen concerns and an organized volunteer pulling effort, the Council agreed to monitor volunteer mechanical efforts for weed management. Volunteer and mechanical efforts continued through 2010 with no applications of Milestone on public properties within the Town.

In August 2010, the Town entered into an Intergovernmental Agreement with Ouray County, which included an agreement to develop an Integrated Weed Management Plan (Exhibit C) for the Town of Ridgway. In December 2010, using the State of Colorado’s “Creating An Integrated Weed Management Plan: A Handbook for Owners and Managers of Lands with Natural Values”¹ as a guide, a committee was formed and the plan development commenced. All

¹ Colorado Natural Areas Program, Colorado State Parks, Colorado Department of Natural Resources, Colorado Department of Agriculture Division of Plant Industry, and the Colorado Department of Agriculture. Creating an Integrated Weed Management Plan: A Handbook for Owners and Managers of Lands with Natural Values, Caring for the Land Series Volume IV. March 2000.

committee and public meetings were noticed and advertised, including distribution of meeting fliers, email distribution, website information and verbal outreach. The Town's website maintained a repository of meeting dates, events, scheduling, and weed management resource information at <http://www.town.ridgway.co.us/weedcommittee.html>.

III. DEFINITIONS

"Integrated management" - the planning and implementation of a coordinated program utilizing a variety of methods for managing noxious weeds, the purpose of which is to achieve specified management objectives and promote desirable plant communities. Such methods may include but are not limited to education, preventive measures, good stewardship, and the following techniques:

- (a) "Biological management", which means the use of an organism to disrupt the growth of noxious weeds.
- (b) "Chemical management", which means the use of herbicides or plant growth regulators to disrupt the growth of noxious weeds, and includes vinegar-based and alternative solutions.
- (c) "Cultural management", which means methodologies or management practices that favor the growth of desirable plants over noxious weeds, including maintaining an optimum fertility and plant moisture status in an area, planting at optimum density and spatial arrangement in an area, and planting species most suited to an area.
- (d) "Mechanical management", which means methodologies or management practices that physically disrupt plant growth, including tilling, mowing, burning, flooding, mulching, hand-pulling, hoeing, and grazing.

Source: CRS 35-5.5-103 (9)

"Management" - any activity that prevents a plant from establishing, reproducing, or dispersing itself.

Source CRS 35-5.5-103

(11.6)

"Native plant" - a plant species that is indigenous to the state of Colorado.

Source CRS 35-5.5-103 (15)

"Noxious weed" - an alien plant or parts of an alien plant that have been designated by rule as being noxious or has been declared a noxious weed by a local advisory board, and meets one or more of the following criteria:

- (a) Aggressively invades or is detrimental to economic crops or native plant communities;
- (b) Is poisonous to livestock
- (c) Is a carrier of detrimental insects, diseases, or parasites;
- (d) The direct or indirect effect of the presence of this plant is detrimental to the environmentally sound management of natural or agricultural ecosystems.

Source CRS 35-5.5-103 (16)

IV. SCOPE, PURPOSE AND GUIDING PRINCIPLES

SCOPE

The scope of this noxious weed management plan focuses primarily on noxious weed management for public properties within the Town of Ridgway, as well as the properties in Ouray County owned by the Town, which include the water treatment facility and Lake Otonowanda Reservoir, south of Town. The plan also addresses the need for noxious weed management on private properties within the Town of Ridgway.

PURPOSE and GUIDING PRINCIPLES

This is a multi-purpose plan, grounded with the following:

- Create a scientifically based protocol for weed management that considers, reconciles, and integrates the community's desires, and the Town's available resources for the effective management of prioritized noxious weeds through the utilization of priority management, a variety of control methodologies, appropriate revegetation, and monitoring;
- Effectively manage or control of the Town of Ridgway's prioritized noxious weeds of concern;
- Effectively safeguard Town-owned property and facilities including parks, trails, open spaces, recreational facilities, and rights of ways in the safest manner possible;
- Manage noxious weeds with least impact on human health, wildlife, wetlands, gardens, riparian and ditch corridors, and individual ecosystems;
- Provide education for the general population and other governmental entities in noxious weed identification and management;
- Pursue Town and external resources for noxious weed management goals and objectives;
- Be a good neighbor;
- Improve and maintain natural habitat, including native plant and wildlife populations.

The meeting schedule and plan outline is appended as Exhibit D.

V. EXISTING CONDITIONS

During the December 21, 2010 public meeting the following existing conditions for weed species, locations, and population size/density were identified. These data are based upon findings and mapping efforts completed during the 2010 growing and weed management season. It is recommended that the weed inventory be updated each year beginning July 1st. While the inventory presented here is believed to be reasonably accurate and sufficient to use as a baseline for this integrated management plan, it was developed largely from memory by members of the committee, and should be updated in July 2011. Accurate records will provide monitoring data from year to year. The locations and populations represented on the map are general to the properties upon which they are identified, and not necessarily specific to the exact coordinate for which they sit on the map (ie: they were not located via GPS). For these reasons, the 10% weed reduction objective will be difficult to measure in 2011.

Population size and density are categorized as follows:

- #1 = <100 square feet
- #2 = 100-500 square feet
- #3 = >500 square feet

Location	Noxious Weed	State Rank	Size/Density	Public/Private
River Park PUD - Residential				
	Canada Thistle	B	3	Private
	Spotted Knapweed	B	1	Private
	Russian Knapweed	B	3	Private
	Canada Thistle	B	3	Public ROW
River Park PUD - Industrial Park				
	Spotted Knapweed	B	2	Public/Private
	Musk Thistle	B	1	Public/Private
Green Street Park				
	Canada Thistle	B	1	Public
	Russian Knapweed	B	3	Public
Parkside PUD				
	Russian Knapweed	B	2	Public
	Canada Thistle	B	3	Public
Uncompaghre River Trail				
	Spotted Knapweed	B	1	Public
	Russian Knapweed	B	1	Public
	Canada Thistle	B	1	Public
	Musk Thistle	B	1	Public
	Common Mullein	C	1	Public
	Hounds Tongue	B	2	Public
Wastewater Treatment Plant				
	Canada Thistle	B	3	Public
	Russian Knapweed	B	3	Public

	Spotted Knapweed	B	3	Public
	Sow Thistle	B	3	Public
	Burdock	C	3	Public
Water Treatment Plant				
	Canada Thistle	B	2	Public
Lake Otonwanda				
	Canada Thistle	B	3++	Public
	Burdock	C	3	Public
BMX Track				
	Spotted Knapweed	B	1	Public/Private
	Canada Thistle	B	3	Public
Rollans Park (Uncompahgre River Corridor)				
	Common Mullein	C	3	Public
	Oxeye Daisy	B	1	Public
	Canada Thistle	B	2	Public
	Spotted Knapweed	B	3	Public
	Chinese Clematis	B	1	Public
	Sow Thistle	B	1	Public
Ridgway Land Co Open Space				
	Spotted Knapweed	B	3	Private
	Russian Knapweed	B	2	Private
	Canada Thistle	B	3	Private
Moffat / Lena				
	Spotted Knapweed	B	3	Public/Private
Hwy 62/ South Railroad and South Liddell Stanton				
	Leafy Spurge	B	1	Private
Triangle Subdivision				
	Common Mullein	C	3	Private
Cottonwood Park				
	Canada Thistle	B	1	Public
	Common Burdock	C	1	Public
Amelia Street/ School Road				
	Spotted Knapweed	B	1	Public/Private
Marie Scott Subdivision/ Amelia Street				
	Russian Knapweed	B	1	Public/Private
	Hoary Cress	B	3	Public/Private
CR 5 (in Town)				
	Hoary Cress	B	3	Public/Private
Solar Ranches - Open Space (Outlot B)				
	Canada Thistle	B	2	Private
	Leafy Spurge	B	1	Private
	Oxeye Daisy	B	2	Private
	Dames Rocket	B	2	Private
	Spotted Knapweed	B	3	Private
Regional Athletic Park (Solar Ranches Outlot A)				
	Dames Rocket	B	1	Public

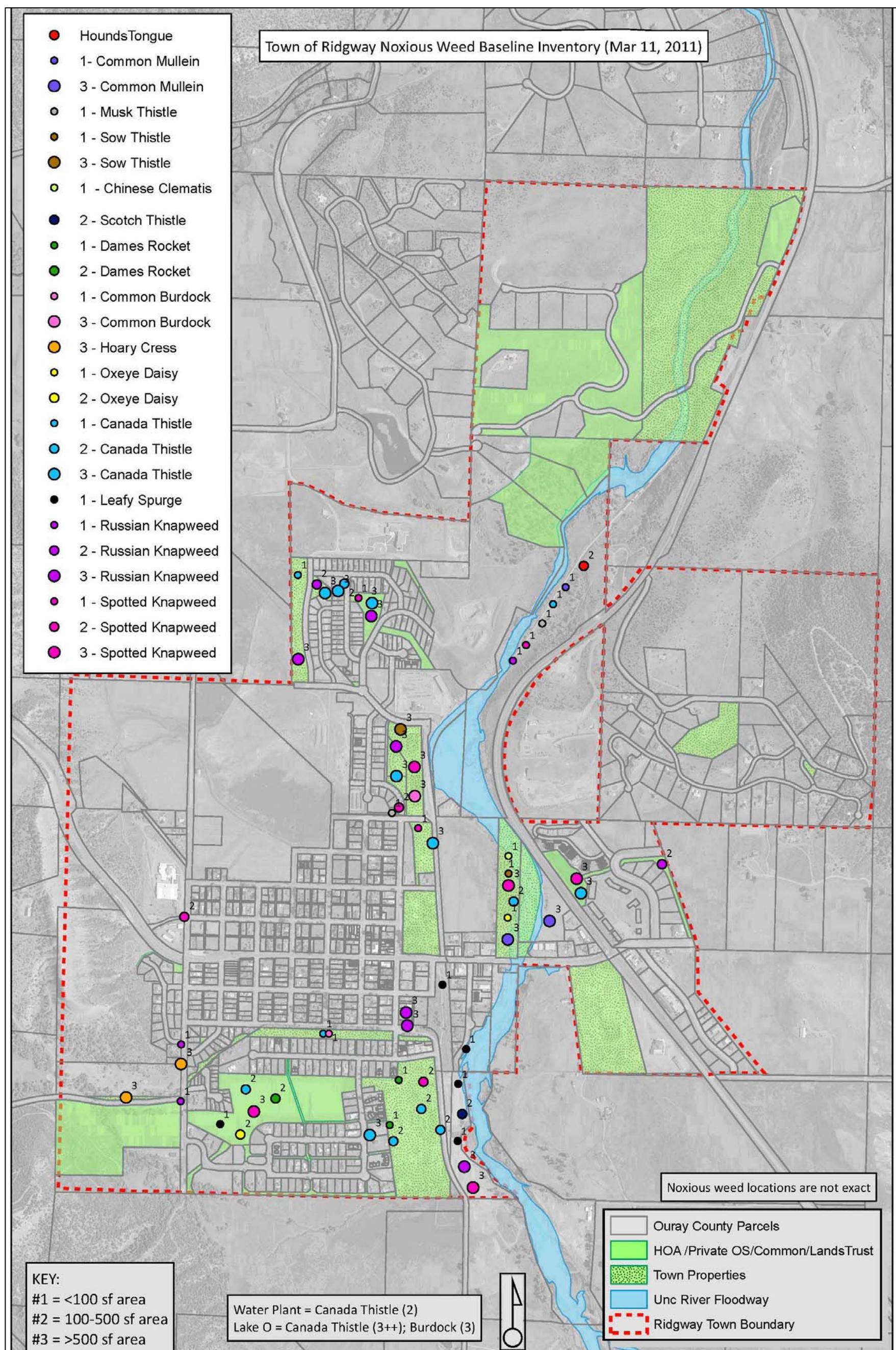
	Canada Thistle	B	2	Public
	Spotted Knapweed	B	2	Public
The Preserve				
	Leafy Spurge	B	1	Private
	Spotted Knapweed	B	3	Private
	Scotch Thistle	B	2	Private
	Russian Knapweed	B	3	Private
Solar Ranches – Private Lots				
	Canada Thistle	B	3	Private

The following natural resources were defined during the December 21, 2010 public meeting:

River corridor, wetlands, parks, wildlife habitat (bald eagles), drinking water (Lake Otonawanda and the water treatment facility), irrigation ditches, streams and creeks, landscape plantings with native and desired species, and natural willows.

While the Town policy states that property owners adjoining public rights of way are responsible for maintenance and management of that right-of-way, there needs to be collaborative efforts with weed management between public and private property owners.

Baseline Noxious Weed Types and General Locations (from memory) for the 2010 season



VI. LAND MANAGEMENT GOAL AND WEED MANAGEMENT OBJECTIVES

GOAL

Reduce or eliminate priority noxious weeds, depending on species and size of infestation, on the Town of Ridgway public property.

Objectives:

- I. Educate the public and Owners Associations on the impacts of, identification of, and methods of control of noxious weed species.
- II. Use the least toxic method that is feasible and effective, to reduce or eliminate weeds.
- III. Eradicate small infestation of priority noxious weeds before they spread and become large infestations.
- IV. Control large infestations of priority noxious weeds by preventing them from going to seed or vegetative spreading.
- V. Control identified large infestations of priority noxious weeds by reducing their numbers with a target goal of 10% reduction or more per year.
- VI. Prevent new infestations of noxious weeds by restricting movement of weed contaminated soil.
- VII. Prevent new infestations of noxious weeds by reducing soil disturbance of intact native plant communities and/or reseeding with non-invasive species, preferably native plants.
- VIII. Town Staff should annually update this plan to identify and locate the various noxious weed types within the Town, and to prioritize weed management for the season.

VII. PRIORITIES

CRITERIA FOR DETERMINING WEED MANAGEMENT PRIORITIES

1. Utilize annual mapping data that identifies noxious weed types, locations, population size, and other critical data.
2. Prioritize small infestations of targeted noxious weed populations.
3. Identify and prioritize critical locations for management.
4. Identify and prioritize noxious weed species with the greatest impact such as toxicity, most invasive, difficulty of control/containment.
5. Coordinate annually with County Weed Manager as priorities for noxious weed management change and evolve.
6. Determine financial costs and required resources, based on specific noxious weed species, locations, and methods of control.

	Spotted Knapweed	Canada Thistle	Russian Knapweed	Leafy Spurge	Hoary Cress	Hounds Tongue	Scotch Thistle	Any new found B weed
Uncompahgre River	1.4	2.3						1.0
Lake Otonowanda		2.1						1.0
Uncompahgre Riverway Trail	2.1	2.4	2.3	1.3	3.3	2.7		1.2
Riparian areas, ditches	2.3	2.6	2.4	1.5	3.4	3.1		1.3
Small patches of any B weed	1.1	1.1	1.1	1.1	1.4	1.5	1.3	1.1
Athletic Park esp'ly S ditch	2.1	2.4	2.5			2.4		1.0
Road rights of way	2.6	2.9	2.8	1.6	3.6	3.3		1.6
Trails	2.1	2.6	2.7	1.6	3.6	3.3		1.5

█	1.0 - 1.5 (Highest Priority)
█	1.6 - 1.9
█	2.0 - 2.5
█	2.6 - 2.9
█	3.0 - 3.5
█	3.6 - 4.0 (Lowest Priority)

= weed not known to be in that area

Lowest number = Highest Priority

VIII. RECOMMENDATIONS

A. IMPLEMENTATION MEASURES

Education and Outreach

- 1) Educate the public, including Owners Associations, about: the Town's weed management regulations, this integrated weed management plan, financial costs to the Town for weed management, and the Colorado Revised Statutes Title 35 Article 5.5 addressing weed management.
- 2) Public outreach efforts may include: collaboration with the Ouray County Weed Manager on special events such as Pulling for Colorado and the noxious weed symposium, posting information on the Town's website, incorporating information into building permit and land use applications (e.g.: subdivisions). General information on noxious weeds may include: weed identification and methods of control, the potential negative impacts of soil and vegetation disturbance, and sources for weed-free seed mixes.
- 3) Explore opportunities for organized, informed, and easy volunteer actions and education for weed control.
- 4) Work with schools to promote educational programs by exploring natural resource-based programs and hands-on learning.
- 5) Contact and collaborate with neighboring property owners to control noxious weeds, and provide opportunities for participation in weed management on public lands.
- 6) Encourage the public to contact town staff when noxious weeds are identified within the Town through education and public outreach efforts, including signage at trailheads, and other methods of posting information about noxious weeds.

Prevention and Monitoring

- 1) Implement noxious weed management throughout the Town through enforcement and/or implementation of land development and code enforcement regulations, including minimizing disturbance of areas within proposed developments and during construction, and working to prohibit redistribution of noxious weed infested soils and chemically treated soils, and mandatory re-vegetation of disturbed areas on public and private properties.
- 2) Minimize surface disturbance of Town-owned property to limit the need for re-vegetation, create specific revegetation plans and budget funds for re-vegetation during projects.
- 3) Utilize the varied techniques as indicated in this plan for effective management, and adapt to changing conditions annually.
- 4) Prepare and implement site specific plans for weed management at prioritized locations annually.
- 5) Identify populations as quickly as possible through annual mapping of noxious weed locations, densities, and populations to identify and target specified, small, noxious weed population that can be readily eradicated.
- 6) Annual evaluation of specific management plans and techniques and efficacy thereof, through continuous mapping of noxious weed locations, densities, and populations.

- 7) Identify, assess and prioritize effective management tools from this integrated plan, including creation and management of healthy soils and environments not conducive to noxious weed growth.
- 8) Work from “the outside in” when controlling weeds, i.e.: manage the perimeter.

Least Toxic Methods

- 1) Encourage and collaborate with volunteers to effectuate weed management.
- 2) Target and manage weed infestations early when first identified, and they are less costly and least difficult to control.
- 3) Pursue grant and outside funding opportunities for noxious weed management commensurate with management goals, objectives, and priorities.
- 4) Use biological methods as much as possible in riparian areas to complement other management techniques.
- 5) Favor native plant populations and establish goals using trend-line analysis (*i.e.: plotting data from year to year and drawing a line from point to point in order to visually establish positive and negative trends; Are populations growing (positive line), diminishing (negative line), or staying the same (flat line)?*)
- 6) Encourage and nurture habitats for native species.
- 7) Develop a chemical application protocol as a guideline for utilizing chemical management methods.
- 8) Work to control weeds in a manner that least impacts neighboring properties.
- 9) Explore and utilize effective alternatives to chemical treatments, including identification and maximization of areas in town that can be effectively managed without toxic chemicals, and using chemical applications as a last resort to the extent allowed with available resources.

B. TECHNIQUES/ METHODS FOR MANAGING PRIORITIZED NOXIOUS WEEDS

Targeted weeds, locations, and management techniques are in priority order:

1.) Any new found “B” list, noxious weed

Past Management Methods

Pulling, mowing, weed whacking by Town Staff; Vinegar based chemical applications.

Management Goal: **Eradication**

Proposed Management Techniques:

Mechanical is the preferred method for all new “B” list noxious weeds when practical. The goal is to eradicate the small populations while they are isolated and possible to effectively manage, so as to minimize requiring future resources and to minimize any future management issues. These newfound “B” list weed populations are the highest priority for the Town of Ridgway. Perennials and non-perennials require varied management techniques, as follows:

Perennials

(Canada Thistle, Hounds tongue, Hoary Cress, Dames Rocket, Leafy Spurge, Oxeye Daisy, Spotted Knapweed, Russian Knapweed)

Biological control: Not practical due to limited population size.

Cultural control: Minimize disturbance, re-vegetate with native perennial grasses, followed by native forbs, if desired, and maintain until established. If desirable grass competition is evident, judicious herbicide application that does not injure grasses may release them to compete effectively with the weeds. Irrigation may help stimulate grass competition in these cases. Seeding suitable perennial grasses is necessary to prevent weed re-invasion.

Mechanical control: Pulling, mowing, weed-whacking with goal of preventing the weeds from seeding.

Chemical control: Contact the Ouray County Weed Manager or a licensed applicator for specific recommendations. Refer to Attachment C for recommendations including preferred active ingredient, and the Chemical Application Protocol.

Non-perennials/ Biennials

(*Musk Thistle, Scotch Thistle*)

Cultural:	Minimize disturbance, re-vegetate with native perennial grasses, followed by native forbs, if desired, and maintain until established. Prevent from seeding, and suppress growth with healthy soils, native perennial grasses, and rapid re-vegetation.
Biological control:	Not practical due to limited population size.
Mechanical:	Prioritize all mechanical treatments: pulling, mowing, weed-whacking, etc.
Chemical:	Not necessary and not desired.

2.) Leafy Spurge on the Town-Owned areas of the Uncompahgre River Trail

Past Management Methods

Pulling, mowing, weed whacking by Town Staff; Vinegar based chemical applications

Description:	A perennial up to three feet tall that reproduces by vigorous root stalks and seed.
Comments:	Leafy spurge is primarily found along the ditches in Solar Ranches and near the intersection of Hyde and Railroad.

Management Goal: *Eradication - although it is estimated this weed in this location may already be eradicated, it should be checked in season for management need.*

Proposed Management Techniques:

Biological control:	Population is too small for biological controls.
Cultural control:	Minimize disturbance, re-vegetate with native perennial grasses, followed by native forbs, if desired, and maintain until established. Any activity that encourages vigorous grass growth is very important.
Mechanical control:	Mowing leafy spurge at 14 to 21 day intervals may cause higher susceptibility to fall applied herbicides.
Chemical control:	Spot spray small populations with signage and enclosure sufficient to keep out animals and pets, with such enclosure

present for 2 weeks. Contact Ouray County Weed Manager or a licensed applicator for specific recommendations. Refer to Attachment C for recommendations including preferred active ingredient, and the Chemical Application Protocol.

3.) Spotted Knapweed on Uncompahgre River Corridor (Rollans Park)

Past Management Methods

3 "Pulling for Colorado" events; 2 years of Youth Corps pulling; 2 years of Community Corps pulling; Volunteer pulling efforts in 2010.

Description: A short-lived, non-creeping perennial that reproduces from seed and forms a new shoot each year from a taproot.

Comments: One of the most invasive, aggressive weeds to plague the western United States. Significant infestations are located along the river and elsewhere in town.

Management Goal: Control

Proposed Management Techniques:

Biological control: Use of goats is not recommended in this location due to the desire to retain native vegetation, moist soils with parasite concerns, steep rocky slopes, and resulting soil disturbance; Due to the limited size of the weed infestation, there are concerns about the insect biological agent population's ability to over-winter and the sufficiency of the existing weed population to sustain the insects; The seed-head flies, *Urophora affinis* and *Urophora quadrifasciata*, have been released in many Front Range counties. These insects cause plants to produce fewer viable seeds and abort terminal or lateral flowers. Root feeding insects may have more of a detrimental effect on knapweed populations than seed feeding insects. Larvae of the yellow winged knapweed moth feed in the roots of both knapweed species.

Cultural control: Minimize disturbance, re-vegetate with native perennial grasses, followed by native forbs, including willows, if desired, and maintain until established. If desirable grass competition is evident in spotted knapweed stands, judicious herbicide application that does not injure grasses may allow them to compete effectively with the weeds. Irrigation may help

stimulate grass competition in these cases. Seeding suitable perennial grasses is necessary to prevent weed re-invasion.

Mechanical control: Frequent and consistent pulling (most effective), mowing, weed-whacking with goal of preventing the weeds from seeding.

Chemical control: Contact the Ouray County Weed Manager or a licensed applicator for specific recommendations. Refer to Attachment C for recommendations including preferred active ingredient, and the Chemical Application Protocol. In order to minimize chemical applications and maximize effectiveness, only the rosettes should be spot sprayed in the spring, and bolted plants should be pulled repeatedly. If consistently applied for 3-4 years, the spotted knapweed should begin to decline as the seed bank is exhausted.

4.) Leafy Spurge in Riparian Areas and Ditches

Management Goal: Eradication

Past Management Methods and Proposed Management Techniques:

Refer to Priority #2 – Leafy Spurge on the Uncompahgre River Trail.

5.) Leafy Spurge along Trails

Management Goal: Eradication

Past Management Methods and Proposed Management Techniques:

Refer to Priority #2 – Leafy Spurge on the Uncompahgre River Trail.

6.) Leafy Spurge along Road Rights-of-Way

Management Goal: Eradication

Past Management Methods and Proposed Management Techniques:

Refer to Priority #2 – Leafy Spurge on the Uncompahgre River Trail.

7.) Canada Thistle at Lake Otonowanda

Past Management Methods

Pulling, mowing, weed whacking by Town Staff; Vinegar based chemical applications

Description: *Perennial. Reproduces from vegetative buds in root system and from seed.*

Comments: Canada thistle is best managed through an integrated management system that emphasizes competitive, desirable plants. Population at the Lake is dense.

Management Goal: Control

Proposed Management Techniques:

Biological control: Bugs are not a preferred option due to potential to damage native thistle populations in addition to the noxious weed population. Prioritize goats as a biological control.

Cultural control: Minimize disturbance, re-vegetate with native perennial grasses, followed by native forbs, if desired, and maintain until established.

Mechanical control: Research indicates that mowing of Canada thistle may be effective when done repeatedly at two week intervals over a period of several years. Pulling and digging up Canada thistle is ineffective as the plant has such an extensive root system. Weeds may also be weed-whacked.

Chemical control: Contact the Ouray County Weed Manager or a licensed applicator for specific recommendations. Refer to Attachment C for recommendations including preferred active ingredient, and the Chemical Application Protocol. Due to non-public access, signage should be placed on the gate accessing the reservoir property. Any chemical application should observe a 30 foot setback from the water surface of the lake.

8.) Spotted Knapweed along Town-Owned areas of the Uncompahgre River Trail
Management Goal: Control

Past Management Methods and Proposed Management Techniques:

Refer to Priority #3 – Spotted Knapweed on the Uncompahgre River Corridor.

9.) Spotted Knapweed in the Athletic Field

Management Goal: Control

Past Management Methods and Proposed Management Techniques:

Refer to Priority #3 – Spotted Knapweed on the Uncompahgre River Corridor, with the exception that goats may be an effective management technique in this location. This location has potential for volunteer, mechanical weed management efforts, which should be coordinated through a centralized volunteer management program.

10.) Spotted Knapweed along Trails

Management Goal: Control

Past Management Methods and Proposed Management Techniques:

Refer to Priority #3 – Spotted Knapweed on the Uncompahgre River Corridor.

11.) Spotted Knapweed in Riparian Areas and Ditches

Management Goal: Control

Past Management Methods and Proposed Management Techniques:

Refer to Priority #3 – Spotted Knapweed on the Uncompahgre River Corridor.

12.) Russian Knapweed along Town-Owned areas of the Uncompahgre River Trail

Past Management Methods

Pulling, mowing, weed whacking by Town Staff; Vinegar based chemical applications

Description: A perennial with an extensive underground root system.

Comments: Like other creeping perennials, the key to Russian knapweed control is to stress the weed and cause it to expend nutrient stores in its root system. An integrated management plan should be developed that places continual stress on the weed. Currently, the best management plan includes cultural control combined with mechanical and/or chemical control techniques. A single control strategy, such as mowing or an herbicide, usually is not sufficient. Russian knapweed releases toxins into the soil, which prohibit the growth of native plants. ***The plant is toxic to horses, however they must consume it over a period of time before poisoning will occur. Once poisoning occurs horses are unable to chew and advance food to the back of their***

mouths, swallowing is impaired and horses can drink only if they immerse their head in water far enough to get water to the back of their mouths. Poisoning is irreversible and death by starvation will occur.

Management Goal: Control

Proposed Management Techniques:

Biological control: None currently available.

Cultural control: Minimize disturbance, re-vegetate with native perennial grasses, followed by native forbs, if desired, and maintain until established. Russian knapweed tends to form monocultures by eliminating other plants. Therefore, sowing desirable plant species is necessary after the weed is controlled. Research indicates that the native grasses, streambank wheatgrass and thickspike wheatgrass will establish in an area after Russian knapweed is suppressed with herbicides. If the Russian knapweed stand is not too old and grasses are still present, stimulating grass growth by irrigation (where possible) should increase grass competition with knapweed and keep it under continual stress.

Mechanical controls: Repeated mowing combined with herbicide applications will gradually stress the plant, and this is the recommended approach in this location.

Chemical control: Contact the Ouray County Weed Manager or a licensed applicator for specific recommendations. Refer to Attachment C for recommendations including preferred active ingredient, and the Chemical Application Protocol. Spot spray small populations.

13.) Canada Thistle along Town-Owned areas of the Uncompahgre River Trail

Management Goal: Control

Past Management Methods and Proposed Management Techniques:

Refer to Priority #7 – Canada Thistle at Lake Otonowanda, minus the 30' setback from the lake and signage on the gate, and minus the biological insect controls as the population is insufficient to sustain an insect population.

14.) Canada Thistle in the Athletic Field**Management Goal:** Control**Past Management Methods and Proposed Management Techniques:**

Refer to Priority #13 – Canada Thistle along the Uncompahgre River Trail, minus the biological insect controls as the population is insufficient to sustain an insect population. A dedicated, local citizen has offered resources for volunteer mechanical management services in this location, which should be coordinated through a centralized volunteer management program.

15.) Russian Knapweed in Riparian Areas and Ditches**Management Goal:** Control**Past Management Methods and Proposed Management Techniques:**

Refer to Priority #12 – Russian Knapweed along the Uncompahgre River Trail

	Priority Noxious Weed Type and Location	Cultural	Biological	Mechanical	Chemical
1	Any new found “B” list, noxious weed	X		X	X
2	Leafy Spurge on the Uncompahgre River Trail	X		X	X
3	Spotted Knapweed on Uncompahgre River Corridor	X	X	X	X
4	Leafy Spurge in Riparian Areas and Ditches	X		X	X
5	Leafy Spurge along Trails	X		X	X
6	Leafy Spurge on Road Rights of Way	X		X	X
7	Canada Thistle – Lake Otonowanda	X	X	X	X
8	Spotted Knapweed along Uncompahgre River Trail	X	X	X	X
9	Spotted Knapweed in the Athletic Field	X	X	X	X
10	Spotted Knapweed along Trails	X	X	X	X
11	Spotted Knapweed in Riparian Areas and Ditches	X	X	X	X
12	Russian Knapweed along Uncompahgre River Trail	X		X	X
13	Canada Thistle along Uncompahgre River Trail	X	X	X	X
14	Canada Thistle in the Athletic Field	X	X	X	X
15	Russian Knapweed in Riparian Areas and Ditches	X		X	X

C. TEST AREAS

Green Street Park

Green Street Park is recommended as a potential test site for volunteer management of noxious weeds. This will be a collaborative effort of dedicated community members under the supervision and direction of Town Staff. A detailed action plan should be developed with the community volunteer group and should include: weed inventory and mapping (type, size, location, etc.), proposed management efforts, detailed documentation of completed efforts, and constant monitoring of the test area with annual reporting to Town Staff.

Mycorrhizal Test Area

A mycorrhizal test area should also be incorporated with this plan in order to ascertain the viability of this product in assisting in effective weed management. Effective monitoring will be required and necessary to evaluate the efficacy of this product.

IX. CONCLUSIONS

Integrated weed management for a small municipality requires a technical and coordinated approach considering a variety of sometimes competing needs and desires, including identification of shared community values and priorities, evaluating noxious weed science, incorporating weed management experiences, and understanding human and animal sensitivities to weeds and various chemical treatments. Creating this plan was incredibly difficult and at times required reconciliation of seemingly incompatible objectives and demands. The discussions and conclusions developed through an organized series of public meetings where information was gathered, shared, solicited, and eventually crafted into a community guidance document. Extensive outreach efforts were put forth in both real and virtual space to insure the needed inputs were gathered, and educational opportunities were offered to encourage community involvement.

In the end, this plan puts forth a list of 4 priority noxious weeds found in 15 prioritized weed management locations on public properties within the Town, and including Town property outside of the municipal boundary (Lake O). In addition, the plan identifies specific management techniques for each of the various priority weed types and specific locations. Based on community inputs throughout the plan development process, a Chemical Treatment Protocol is recommended (Attachment C), and specific active ingredients for the chemical treatments are identified as a management technique to be incorporated for effective management of the priority noxious weeds. When the biological, cultural, and mechanical management techniques have not or will not be effective, and /or staffing and financial resources are insufficient or unavailable, in managing the noxious weed, in order to preserve the desired natural resources impacted by the weeds, chemical methods will need to be utilized for effective management (eg: Russian Knapweed). The Chemical Treatment Protocol was developed through community inputs for this purpose. When biological, cultural, and mechanical methods will effectively manage the weed population, those methods have been prioritized.

As remains true for small, local government operations, the need to balance very dynamic human and financial resources will need to be taken into consideration with any management plan. This plan is drafted to provide the appropriate technical and financial information to assist with these determinations, and of course will develop and change over time with variable resources and changing priorities.

X. ATTACHMENTS

ATTACHMENT A: Photos of Noxious Weeds within the Town of Ridgway

Oxeye Daisy



Musk Thistle



Scotch Thistle



Common Burdock



Dame's Rocket



Hoary Cress



Houndstongue



Leafy Spurge



Spotted Knapweed



Canada Thistle



Russian Knapweed



Spotted Knapweed





Canada Thistle Rosette



Leafy Spurge Rosette



Musk Thistle Rosette



Burdock Rosette



Spotted Knapweed Rosette



Oxeye Daisy Rosette



Absinthe Wormwood Rosette

ATTACHMENT B: Line Drawings of Noxious Weeds within the Town of Ridgway

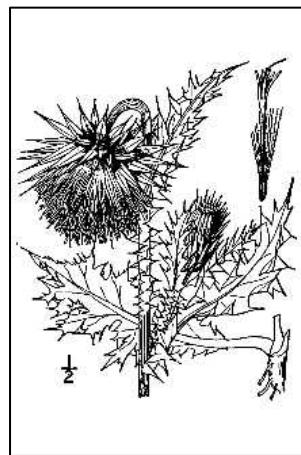
Canada Thistle



White Top



Musk Thistle



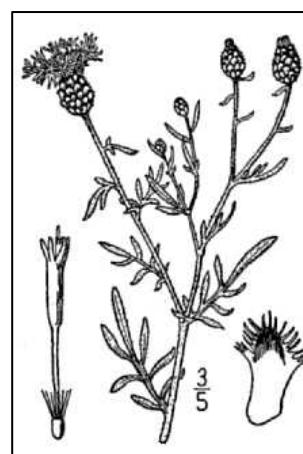
Oxeye Daisy



Scotch Thistle



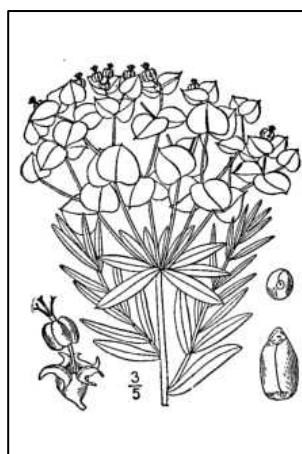
Spotted Knapweed



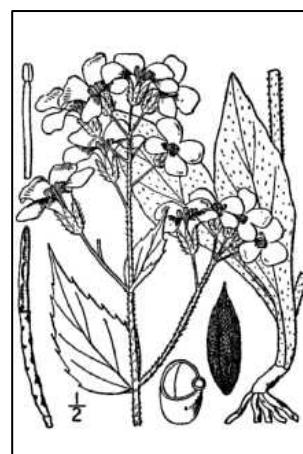
Common Burdock



Leafy Spurge



Dames Rocket



ATTACHMENT C: Chemical Application Protocol and Recommendations

- Contact adjoining property owners prior to chemical applications, a minimum of 48 hours prior to possible time of application.
- Posting of chemical treatment usage on public properties within the Town, for a 2 week period following treatment.
- Posting and notification of chemical treatment usage to adjoining private properties within the Town, for a 2 week period following treatment.
- Selection and use of available least toxic, effective chemical treatments are recommended and desired.
- Make available sources of information on the impacts of chemical applications.
- Maintain a list of registered chemically sensitive persons within the town limits for notification purposes and encourage private property owners to post property when spraying chemicals for weed management, and make available signage for public use at Town Hall.
- Persons desiring to not have chemical management techniques utilized on public properties directly adjoining their property may request a no-spray buffer when they agree to manage the noxious weeds that otherwise would have been treated by the Town.

**Comments taken from inputs during the previous goals and objectives development discussions*

Specific Chemical Recommendations

The following least-toxic, effective active ingredients available at the time of this Integrated Weed Management Plan for chemical treatments are recommended for the specified noxious weeds:

Leafy Spurge	- Imazapic
Spotted Knapweed	- Aminopyralid
Canadian Thistle	- Aminopyralid
Russian Knapweed	- Aminopyralid

XI. EXHIBITS

EXHIBIT A

Ridgway Municipal Code

12-1-1

CHAPTER 12

SECTION 1

Weeds and Brush

Subsections:

12-1-1 Removal Of Weeds And Brush.

12-1-1 REMOVAL OF WEEDS AND BRUSH.

(A) It shall be unlawful for any person to fail to remove or cut weeds or brush located upon his property or property in his control or possession, and upon that portion of abutting street and alley rights of way lying between said property and the center line of said rights of way, from time to time so that the stubble is kept no higher than 6 inches above the ground. (Ord 14-1999)

(B) Weeds or brush higher than 6 inches high are hereby declared to be a nuisance and may be abated in accordance with law.

(C) In addition to other remedies, the Town may abate weeds and brush, as follows:

(1) It may mail a notice to the owner or person in possession of the property ordering them to cut the weeds or brush addressed to the address listed in the County tax records, or in Town utility account records, unless a better address is known.

(2) If the weeds and brush are not removed within ten (10) days of the mailing, the Town may cause the weeds or brush to be removed and assess the cost of so doing against the property affected, together with 5% for inspection. Such assessment shall be mailed similarly to owner or person in possession, as provided in Subsection (C)(1), above, and shall be due as of the date of mailing. (Ord 14-1999)

(3) If the assessment is not paid within ten (10) days of mailing, the Town may certify the assessment, together with a 5% penalty, to the County Treasurer for collection as property taxes are collected. (Ord 14-1999)

EXHIBIT B
RESOLUTION NO. 03-06

**RESOLUTION OF THE TOWN COUNCIL OF RIDGWAY, COLORADO
ESTABLISHING A POLICY RELATIVE TO NOXIOUS WEED MANAGEMENT**

WHEREAS, the proliferation of noxious weeds poses a genuine health threat to the Ridgway community; and

WHEREAS, the Town of Ridgway ("Town") has chosen to establish a noxious weed management program to help eradicate and control noxious weeds; and

WHEREAS, the community has expressed its desire to eliminate and contain noxious weeds without the use of toxic and poisonous chemical herbicides, the use of which may itself pose a health threat to the Ridgway community; and

WHEREAS, the Town Council has agreed to this type of management program and has expressed its desire to establish a policy relative to noxious weed management through the use of non-toxic, organic herbicides.

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF RIDGWAY, COLORADO that the Town shall not use toxic or poisonous, chemical-based herbicides within the Town limits toward the control of noxious weeds, and that the use of non-toxic, organic management practices shall be implemented.

PASSED AND APPROVED this 13th of August, 2003.

TOWN OF RIDGWAY

Pat Willits, Mayor

ATTEST

Pam Kraft, CMC
Town Clerk

EXHIBIT C
INTERGOVERNMENTAL AGREEMENT REGARDING WEED CONTROL

This Intergovernmental Agreement Regarding Weed Control entered into and effective this _____ day of _____, 2010, hereinafter referred to as the "Agreement" or the "IGA" entered into by and between the **Board of County Commissioners of Ouray County, Colorado ("County")**; the **Town of Ridgway ("Town")** and the **City of Ouray ("City")**, and collectively referred to as ("Parties") as follows:

WHEREAS, C.R.S. §35-5.5-101, *et seq.* is known as the Colorado Noxious Weed Act ("Act") and the legislative declaration to the Act provides, in part, that "there is a need to ensure that all the lands of the state of Colorado, whether in private or public ownership, are protected by and subject to the jurisdiction of a local government empowered to manage undesirable plants as designated by the state of Colorado and the local governing body"; and

WHEREAS, further that: "certain undesirable plants constitute a present threat to the continued economic and environmental value of the lands of the state and if present in any area of the state must be managed"; and

WHEREAS, the Act provides at C.R.S. §35-5.5-105(3) that the County may cooperate with municipalities for the exercise of any or all of the powers and authorities granted by the Act through the use of an intergovernmental agreement; and

WHEREAS, Art. XIV, section 18(2)(a)(b), Colo. Const. and section 29-1-203(1), C.R.S., provide that government entities may cooperate or contract with one another to provide any function, service, or facility lawfully authorized to each of the cooperating or contracting units, including the sharing of costs, the imposition of taxes, or the incurring of debt, only if such cooperation or contracts are authorized by each party thereto with the approval of its legislative body or other authority having the power to so approve; and

WHEREAS, by Resolution 2002-017 the County adopted a Noxious Weed Management Plan which set forth a list of noxious weeds as well as a plan for the management of noxious weeds in Ouray County; and

WHEREAS, municipalities have plans in place? Per 35-5.5-106

WHEREAS, there currently exists the Ouray County Weed Advisory Board ("Weed Board") that has the power and duty to recommend a management plan for the integrated management of designated noxious weeds and management criteria for noxious weeds and other duties as set forth by C.R.S. §35-5.5-107; and

WHEREAS, in order to develop integrated weed management plans, it is critical that the Weed Advisory Board include members from the Town and the City such that management plans may take into account all areas of infestation within Ouray County; and

WHEREAS, the County, City and the Town wish to effectively coordinate efforts to address the invasive noxious weeds in the respective jurisdictions; and create a more effective integrated weed management program;

NOW THEREFORE, in consideration of the mutual promises between the Parties, and other good and valuable consideration, the receipt and sufficiency of which each hereby acknowledge, the Parties agree as follows:

1. On or before January 31 of each year, a designated representative of the Town and the City shall meet with the Ouray County Weed Manager to develop an annual operating plan for the ensuing year for the management of noxious weeds in each respective jurisdiction. All Parties shall cooperate in the implementation of the annual operating plans.
2. The City and the Town will each appoint a representative as a member of the Weed Board and such representative shall be the liaison between the City or the Town and the County Weed Department.
3. Except as otherwise agreed, all grants and contracts shall be made in the name of Ouray County in accordance with County rules and regulations, and the county weed manager or other individuals designated by the county shall be the responsible party for grant administration, fund accountability and administration of related contractual obligations. The Town and the City agree to provide supporting letters or other documentation as may be necessary to obtain grants or other funding.
4. All parties agree to work together to inventory, monitor, and prevent the spread of noxious weeds, and, as provided above, to seek funding for weed control as a cooperative weed management area.
5. The Parties may, by subsequent agreement, choose to share resources on a case by case basis or make contributions, reimbursements or transfer funds.
6. This contract shall not be construed to create a financial obligation of any party. All expenditures by any party shall be authorized by the respective party pursuant to a proper appropriation therefore.
7. No party is delegating decision making authority. Each party is responsible to make decisions within their jurisdictions. This agreement is not creating a legal entity of any sort.
8. This contract and implementation thereof shall be in accordance with all applicable laws and regulations,
9. This agreement does not restrict any party from participating in other public, private, or individual weed control activities which are not destructive of cooperative efforts under this Agreement.
10. Any party may terminate its participation in this Agreement at any time without cause, by giving written notice to the other parties.
11. On an annual basis, the governing bodies of each of the Parties shall meet and determine whether goals of this Agreement are being met and whether any modifications or amendments to this Agreement shall be made.

BOARD OF COUNTY COMMISSIONERS
OURAY COUNTY, COLORADO

By: _____
Lynn M. Padgett, Chair

ATTEST:

Michelle Nauer, County Clerk and Recorder
By: Linda Munson-Haley, Deputy Clerk of the Board

CITY OF OURAY

By: _____

ATTEST:

TOWN OF RIDGWAY

By: _____

ATTEST:

EXHIBIT D
PUBLIC MEETING OUTLINE AND DETAILS

Meeting Outline and Timeline

Meetings	Date	Purpose
#1	Dec 7, 2010	Establish Process and Identify Resources
#2	Dec 21, 2010	Describe Property/ Review Inventory <i>Finalize Map of public properties and known weeds and locations</i>
#3	Jan 4, 2011	Develop Land Management Goals and Weed Management Objectives Guest Speaker: Susan Rose
#4	Jan 18, 2011	Set Priorities <i>Prioritizing management, target areas, resources available</i> Guest Speaker: Kelley Liston
#5	Feb 1, 2011	Open Forum <i>Scheduled time slots for public comment (schedule with Pam Kraft)</i> Finalize Management Priorities
#6	Feb 15, 2011	Summarize Inputs to Date Finalize Goals and Objectives Finalize Priorities
#7	Mar 1, 2011	Consider Actions <i>Techniques/methods of control</i> Guest Speaker: Jude Sirota on Management Techniques & Methods of Control
#8	Mar 15, 2011	Compile Integrated Weed Management Plan (IWMP) <i>Bring it all together: Develop Recommendations, methods, short and long term...</i>
#9	Apr 13, 2011	Presentation of Draft Plan to Public and Town Council

Time and Location

Meetings are Tuesdays, 4:00-6:00 PM in the Ridgway Town Hall Community Center- 201 North Railroad Street.

Details

The public is encouraged and welcome to participate in each meeting. Public meetings will be posted and advertised. Guest Speakers will be present at Meetings 3, 4, and 5 (above), and will present information germane to the scheduled workshop topic. The presentation at Meeting #3 will review weed basics: 'Weeds 101'. The presentation at Meeting #4 will review management priorities, identification of priority species and priority infestations targeting areas for weed management, consideration of resources required for weed management. The presentation at Meeting #5 will review management techniques, best practices, environmental conditions, underlying causes, methods of control, etc. Presentations will begin at 4:00 PM and be approximately 30-60 minutes in length. After the presentation, workshop facilitation will begin and public inputs will be solicited and summarized. *Don Batchelder will be present at Meetings #3 through #7 for facilitation. Weed management resources, meeting notes, and plan related information will be available throughout the process at www.town.ridgway.co.us/weedcommittee.html. Committee members will meet after each meeting to summarize inputs and draw conclusions from the meeting. Additional committee meetings may be scheduled if needed.

Committee Member Roles

Committee Leads – Pam Kraft, Sheelagh Williams
 Community Outreach – Pam Kraft, Ellen Hunter
 Technical Resource and Assistance – Dickson Pratt
 Meeting Notes – Pam Kraft
 Facilitation Assistant – Joanne Fagan

EXHIBIT E
Meeting Agendas, Objectives, Notes

WEED MEETING #2 (PROJECT SCOPE AND INVENTORY) – DEC 21, 2010

TO: WEED COMMITTEE

FROM: JEN COATES

SUBJECT: MEETING #2 OBJECTIVES

DATE: 12/21/2010

1.) Project scope and meeting schedule

2.) Describe and Inventory Management Areas

a.) Define areas of weed management

Town boundary: public / private lands

Topography – river, wetlands, pasture

Uses – public/private, parks, passive use

Soil types

b.) Identify resources – *this will aid in developing management goals and objectives*

Wetlands, streams, ponds, lakes, rivers, riparian areas, vegetation types (prairie, shrub, forest), wildlife range, sensitive plant/animal species, drinking water, fish, flora/fauna, native plant communities, irrigated pasture, livestock, threatened plant communities, parks/developed recreation areas, etc.

c.) Inventory/define known noxious weed species – *important for prioritizing management*

From Maps:

Spotted Knapweed – B

Russian Knapweed – B

Leafy Spurge – B

Canada Thistle – B

Hoary Cress – B

Absinthe Wormwood – B

Dames Rocket – B

Oxeye Daisy – B

Scotch Thistle – B

d.) Re-inventory in the spring

Every spring – *May, June?*

Targeted areas for inventory – *Prioritize: disturbed areas, species most difficult to control, and highest value natural resource areas?*

3.) Next Meeting – Jan 4th at 4PM: Management Goals and Objectives

Sub-Committee to Develop an Integrated Weed Management Plan

December 21, 2010 4:00 p.m. Ridgway Community Center
Meeting Notes

Members Present: Heather Bussey, John Clark, Joanne Fagan, Ellen Hunter, Pam Kraft, Jean McDonnell, Dickson Pratt, Sheelagh Williams

Facilitators: Jen Coates and Don Batchelder

Audience: Ron Mabry and Susan Baker

Discussion: review of map identifying location of noxious weeds

Map identifies noxious weeds on public property within town boundaries and also the water plant and Lake Otonowanda

Weed populations are all Class B by State identifications; Ouray County priorities include two identified plants, knapweed and absinth wormwood

Bike path as shown on map includes Railroad Street to the BLM property

Consolidate the map identifying weed populations on public property with the one used to identify populations on private property and develop one map using different colors for public and private properties

Size and density of populations need to be identified; Jen, Heather and Ron will meet to identify the size and density of populations and incorporate into the map

July 1st perform an inventory to update the map; the plan should state an inventory will be performed annually on July 1st

Plan should state intention to educate citizens regarding private property and the Town Council can address enforcement and requirements for private property owners at a later date

Define which weeds are a priority for eradication and then start removal at the most dense locations

Address in the plan rights of ways are the responsibility of the adjacent property owner (per municipal code regulations)

Important natural resources: river corridor; wetlands; parks; drinking water; irrigation ditches and streams; landscaped plantings i.e.: trees and shrubs; natural willow populations; wildlife habitat

Place in the plan a requirement for notification to adjacent property owners when eradication work is performed by the town

WEED MEETING #3: MANAGEMENT GOALS AND OBJECTIVES
AGENDA AND MEETING OBJECTIVES
JANUARY 4TH, 2010 – 4PM AT RIDGWAY TOWN HALL

TO: WEED COMMITTEE/ PUBLIC PARTICIPANTS
FROM: JEN COATES
SUBJECT: MEETING #3: AGENDA AND OBJECTIVES
DATE: DEC 30, 2010
EST TIME: 2.5 - 3 HOURS

1.) Review of Draft Plan: Weed Inventory/ Map, from Dec 21, 2010 Meeting – Jen Coates (*10 minutes*)

2.) Introduction and Meeting Purpose – Pam Kraft (*5 minutes*)

3.) Guest Speaker - Susan Rose (*30-60 minutes*)

4.) Meeting Process, Structure, Focus – Don Batchelder (*5 minutes*)

5.) Establish Land Management Goals – Don Batchelder (*30 minutes*)

**Describe conditions you wish to create or maintain, not just weed related
Focus on human values, natural resources, financial resources

Examples of land management goals:

- a.) Provide opportunities for public education
- b.) Identify and protect natural resources
- c.) Be a good neighbor
- d.) Maintain natural habitat, including native plant and animal populations

6.) Establish Weed Management Objectives – Don Batchelder (*45 minutes*)

**Specific, measureable, achievable statements with deadlines and specific actions
Link the general goal statements to the specific management actions

Examples of weed management objectives (linked to goals above):

- a.) Goal: Provide opportunities for public education

Objective - Insure the Town's weed management plan and weed identification information are readily available on the Town website and at Town Hall by May 2011, and updated as necessary

Objective- Work with Ridgway Schools and the Ouray County Weed Manager to develop an educational plan on noxious weed education and management in 2011 for students including annual field trips and experiential outdoor education

b.) Goal: Identify and Protect Natural Resources

Objective - Develop and implement revegetation plans in conjunction with all weed management efforts, as necessary, to insure native habitats are restored and management efforts and resources are maximized

c.) Goal: Be a good neighbor

Objective - work collaboratively with private property owners on priority areas for weed management to insure efforts by both public and private parties are effective through shared resources, open dialogue, and targeted management techniques

d.) Goal: Maintain natural habitat, including native plant and animal populations

Objective - Prioritize management and employ various techniques such as early season mitigation, that reduce the spread of weed seed within 3 years (by 2013) in heavily populated areas of spotted knapweed, Canada thistle, and other specified noxious weeds where seed management is appropriate to prevent proliferation of weeds that work to choke out native vegetation and natural habitats, and insure management methods will be effective in decreasing these weed populations within 5 years (by 2015)

7.) Wrap Up – Don Batchelder (25 minutes)

Committee will summarize inputs and finalize the goals and objectives for the plan

8.) Next Meeting – Jan 18th at 4PM: *Setting Priorities*

Sub-Committee to Develop an Integrated Weed Management Plan
January 4, 2011, 4:00 p.m. Ridgway Community Center
Meeting Notes

Members Present: Joanne Fagan, Ellen Hunter, Pam Kraft, Jean McDonnell, Dickson Pratt, Sheelagh Williams

Facilitators: Jen Coates and Don Batchelder

Audience: There were 13 people present in the audience

Discussion: Presentation of Weeds 101 and Development of Land Management Goals and Weed Management Objectives

Susan Rose, Horticulture Education Specialist with CSU Extension Tri River Area Office presented a slide presentation and stated she would provide a basic introduction talk to weeds and why they matter and why they are a problem.

Information from the slides included:

What's a weed – a plant where you don't want it; non-native; invasive; plant who's virtues are yet to be discovered. Weeds are defined by human perspective, there is not scientific definition

Problems associated with crops and in gardening - there can be 50,000 weed seeds in a cubic foot of garden soil; seeds can remain dormant and viable for up to 50 years based upon the species; weeds compete with desirable plants, reduce crop yields and quality and increase labor and production costs; some are hosts for insects and disease to other plants; some are poisonous or irritating to people, animals and livestock

Increase costs for upkeep of homes and maintenance in recreation areas – increase cost of maintaining roadways and irrigation ditches; reduce land values; limit crop choices; increase reforesting and revegetation costs

Weeds affect us by - changing fire cycles; winter annual grasses can ignite easily by lighting strikes; wildfires occur far more often within infested areas; weeds threaten wildlife habitat; agriculture estimated costs - economic impact exceeds 25 billion annually in US due to crop loss, weeds account for 45% of annual crop loss (insects 30%, disease 20%), without weeds competing with crops world crop production would increase at least 11.5%; roadside and canal maintenance; loss of property value; loss of income from recreation; time lost from work due to allergies

To develop a weed management plan must identify if the plant is a dicot or monocot; annual, winter annual, biennial or perennial

A noxious weed is defined legally by state definitions and are categorized in A, B & C lists and have three different management strategies. Those on the A list must be eradicated wherever detected; are often toxic or have serious undesirable characteristics; some of the weeds on the list are not in the state yet; B list requires management and prevention of further spreading; is typically the largest classification on the noxious weed list; C list use integrated management methods and provide educational, research and biological control resources

Integrative management methods – decision making process that relies heavily on regular monitoring to determine if and when treatment is needed; minimize the use of chemicals; protect the environment and save money

Control methods in integrative management psychology

1) Prevention is the first line of defense for weed control

- always use clean seed
- avoid manures with viable seed
- inspect equipment used during roadside maintenance
- no soil from weed infested areas
- inspect nursery stock
- don't allow existing sources to reseed

2) Cultural methods support prevention

- crop rotation
- good soil preparation
- use mulches
- good watering practices
- monitoring and scouting

3) Control methods

- mechanical – mowing, hoeing, pulling, tilling
- knowing life cycle of weeds helps to know which method to use
- burning is more effective along ditch banks, roadways
- biological control – introduction of insects and diseases brought in from the plants original environment and released in a controlled environment (this is a long term fix and since not a quick fix is not suitable for A list weeds)
- goats
- chemical controls – used in conjunction with other methods (to use need to know the life cycle of the weed, right time to intervene and right chemical for the job); often the most cost effective choice

Weed identification - correct identification is key to successful management; must know if annual, biannual or perennial

If an annual – prevent seed formation and dispersal; mechanical is more effective and should be done after the seed sets (winter annuals germinate in late summer or fall)

Biannual – form rosette first year, bloom and set seed in the second year; prevent seed spread

Perennials – may spread by rhizomes; most effective management is chemical; tilling and grubbing will need to be used in follow up; treatment most successful in early bloom or in fall; in summer cut seed heads to prevent spread of seeds

Integrated weed management keys – observation and scouting; correct identification; education about lifecycles and points of intervention; timely follow through; evaluation of results; modification of tactics when necessary; prevention is the always the starting point

Jen Coates explained at the previous meeting the committee developed a map which identifies weed populations, the types of plants, where they are located and if on public or private property and natural resources which need to be evaluated. She explained tonight the committee will be working on developing management goals and objectives.

Don Batchelder explained the land management goals should describe the conditions to create or maintain and focus on human values, natural and financial resources. Weed management objectives should be specific, measureable and achievable statements with deadlines and specific actions.

The committee and audience created the following list of items. There was not enough time to complete the list so members agreed to bring ideas for remaining objectives to the next meeting.

The meeting adjourned at 7:05 pm

WEED MEETING #4: FINALIZE OBJECTIVES/ MANAGEMENT PRIORITIES

AGENDA AND MEETING OBJECTIVES

JANUARY 18TH, 2010 – 4PM AT RIDGWAY TOWN HALL

TO: WEED COMMITTEE/ PUBLIC PARTICIPANTS
FROM: JEN COATES
SUBJECT: MEETING #4: AGENDA AND OBJECTIVES
DATE: JANUARY 18TH, 2011
EST TIME: 2.75 HOURS

- 1.) Introduction – Pam Kraft (5 minutes)**
- 2.) Meeting Purpose – Don Batchelder (5 minutes)**
- 3.) Guest Speaker: Management Priorities – Kelley Liston (30 minutes presentation, 10 minutes Q&A)**
- 4.) Review of Draft IWM Plan – Don Batchelder (10 minutes)**
- 5.) Finalize Goals and Objectives, continued from Jan 4, 2011 Meeting – Don Batchelder (30 minutes)**
- 6.) Establish Priorities – Don Batchelder (60 minutes)**
 - *Focus control efforts on:
 - those weed species, which have the greatest impact on resource base
 - those which become more difficult to control if action is delayed
 - *Establish priorities by determining priority species and priority infestations in light of objectives
 - *All weed species identified in Ridgway's Plan to date are Colorado B-list (management required)
 - A. Prioritize the Weed Species and Revisit Objectives to determine if objectives need revised
 - B. Determine which Infestations have the Highest Priority
- 7.) Wrap Up – Don Batchelder (5 minutes)**
 - Committee will summarize inputs and finalize the priorities
- 8.) Next Meetings – (5 minutes)**
 - Discussion of meeting dates and timeline changes
 - Special Committee Assignments and Public Presentations
 - Next Meeting - Feb 01 at 4PM: *Consider Actions/ Management Techniques*
 - Meeting Notes
 - Sub-Committee to Develop an Integrated Weed Management Plan
 - January 18, 2011 4:00 p.m. Ridgway Community Center

Members Present: Heather Bussey-Patterson, John Clark, Joanne Fagan, Ellen Hunter, Pam Kraft, Jean MacDonald, Dickson Pratt, Sheelagh Williams

Facilitators: Jen Coates and Don Batchelder

Audience: There were 15 people present in the audience

Discussion: Presentation of Management Priorities and Establishment of Priority Weed Species

Kelley Liston, Rangeland Management Specialist with Ouray Ranger District, presented a slide presentation on establishing priorities for weed management. She stated management “is not easy” and involves “complex planning decisions”. Prioritize weeds by targeting species “that pose the largest threat”. This includes identifying which species help meet the objectives, “while not treating them at the expense of something else” and determining “what are the trade offs associated with addressing the problem area”.

Information from the slides included:

1. Establish Weed Priorities

- conduct on site inventory (maps, local knowledge, site access)
- what invasive species are present
- what threat is created by the invasive species that are present (highly aggressive, poisonous, assets that are threatened)
- which species are not present but within a specified distance
- any planning/management documents that exist that address additional resource objectives
- how feasible is treatment
- is it on the state/county/local weed lists

2. Prioritize Weed Species

- work with the County Weed Manager
- get familiar with state & county weed lists
- evaluate weed management objectives to see if they are consistent with the weed species prioritization

3. High Priority Weed Infestation

- once priority weed species are identified then determine which infestation is highest
- small isolated infestations are priority and most easily treated and may be a species that doesn't pose a high threat
- infestation of high priority weed species would be uncontrollable if left untreated
- areas of frequent, high disturbance, such as road sides, parking areas, trails, ditches and streams and rivers
- frequent disturbance creates favorable habitat for weeds to become established
- weed seeds are spread by vehicles, animals and water

There were questions from the audience for Kelley.

The committee reviewed the goals and objectives from the previous meeting and amended and added items to the lists, with input from the audience.

The committee established a prioritization of weed species as follows:

1. Spotted Knapweed
2. Canada Thistle
3. Russian Knapweed
4. Leafy Spurge
5. Hoary Cress
6. Hounds Tongue
7. Scotch Thistle

The following areas which have infestations were identified as having the highest priority:

1. Uncompahgre River Corridor
2. Lake Otonawanda
3. Uncompahgre River Trail
4. Riparian areas and ditches
5. Tackle small patches of noxious weeds first
6. Regional Athletic Park
7. Roadsides and trails

The meeting adjourned at 6:45 p.m.

Submitted by: Pam Kraft

**WEED MEETING #5: PUBLIC FORUM
AGENDA AND MEETING OBJECTIVES
FEBRUARY 1ST, 2010 – 4PM AT RIDGWAY TOWN HALL**

TO: WEED COMMITTEE/ PUBLIC PARTICIPANTS
FROM: JEN COATES
SUBJECT: MEETING #5: PUBLIC FORUM
DATE: FEBRUARY 1, 2011
EST TIME: 2.75 HOURS

1.) Introduction and Meeting Purpose – Pam Kraft and Don Batchelder (10 minutes)

2.) Presentation Schedule – each speaker will have 10 minutes to present on their specific topic, offering solutions for the integrated weed management, followed by 5 minutes for questions and answers:

1. Timothy Seastedt
2. Joanne Fagan
3. Heather Bussey Patterson
4. Pam Kraft
5. Couple from Log Hill (sorry didn't get their name!)
6. Kimah McCarty
7. Heidi Comstock
8. Susan Baker

3.) Wrap Up – Don Batchelder (5 minutes)

4.) Finalize Goals and Objectives (*if time allows*) – Don Batchelder (20 minutes)

5.) Next Meeting – (5 minutes)

Next Meeting - Feb 15 at 4PM

Meeting Notes
Sub-Committee to Develop an Integrated Weed Management Plan
February 1, 2011 4:00 p.m. Ridgway Community Center

Members Present: Heather Bussey-Patterson, John Clark, Joanne Fagan, Ellen Hunter, Pam Kraft, Jean McDonnell, Dickson Pratt, Sheelagh Williams

Facilitator: Don Batchelder

Audience: There were 14 people present in the audience

Discussion: Committee Member and Public Presentations on Control Methods

1. Tim Seastedt, Professor of Ecology and Evolutionary Biology at the University of Colorado at Boulder spoke via the telephone, and slides were presented for his presentation. He explained he is a research scientist and in the mid 90's began scientific research to find sustainable solutions for management of regionally abundant invasive weed species. He has researched sustainable control methods using organisms that harm the weed and management techniques that favor particular species. The research is intended to find cost effective methods and provide sustainable eco systems. His projects encompass 150,000 acres of public property in the City and County of Boulder, which is being used as a laboratory to test and research management controls. He presented background on a study area of 50 acres of spotted knapweed that the CU Invasive Plant Lab has been working with since 2005. A biological control program was developed which has prevented the spread of the plant and is contributing to its apparent slow decline.

He suggested the Town address the infestation of spotted knapweed along the river corridor with the use of insects and proactive control measures. The first step is to focus on containment and then focus on controls to reduce seed dispersal. He noted the plant needs seed production to survive and any control measures to minimize seed production will help, including damaging the plants. The use of this method, he said, guarantees that if regrowth occurs, it does not produce more viable seed. Hand pulling the plant would be the best method along with the planting of competitive plants, as competition with other plants will kill the seedlings, and the use of insects.

On questions from the committee and audience he explained there are four insects which attack spotted knapweed. Two are usually present with the plant, both species are gull flies, which stop seed production and winter in the seed heads. The other are weevils, which will over winter in the soil. One type eats the seeds and foliage and the other the root. Approximately 500 insects are needed for a million plants and will take five to six years to build a colony. The best competitive plants would be native and non-native grasses. The Boulder project has had a modest decline with the use of insects and hand pulling.

2. Joanne Fagan addressed the use of insects for biological weed control. She contacted an insectory in Palisade, Colorado which shared research on which insects control specific species, and will not affect other species. The insects act as predators and will control, but not eradicate, a species. They need to over winter so they can breed and create a population to impact the weed infestation, and it will take between three and five years to have a colony large enough to make an impact. The cost of obtaining the insects is affordable.

3. Heather Bussey Patterson addressed the use of mushroom spores as a control method. These products are marketed as soil amendments and they work to control seed populations, and the microorganisms in the product aid the soil. The spores will feed on woody stocks and seed production. The cost for application is \$70 to 100 an acre. She reported she has contacted a company that is willing to donate the product for experimental test plots, and a CSU professor would oversee the testing.

4. Pam Kraft spoke regarding the use of goats for weed management. She explained the City of Denver has used hired a company that supplies herds of cashmere goats to control weeds in city parks. Goats eat broadleaf plants, such as thistle and bindweed, and will ignore grasses. The Canon City Recreation District owns a herd of 16 goats, all of which have been donated to the City and include an eclectic mix of breeds. The goats are used to control weeds in the natural parks and along the river corridor. Weed management is very successful, the only challenge that has been encountered is perimeter fencing to confine the goats in areas that are being eradicated. Recently the goats completely cleared a park area of knapweed. They are also eating the russian olive and tamarisk plants along the river. The city maintenance crew take care of the goats, which are housed in a chain link fenced area at the maintenance yard. They are visited by the public who come to feed the goats, which will eat anything offered to them. The Canon City Water Department also has a herd of goats that live up at two settling basins, where the city stores its water supply.

The use of goats to reduce weed populations is an effective bio-control agent and is economical. They eat 25 percent of their body weight each day; and their hooves till and aerate the soil as they trample in their own manure which becomes fertilizer. Goats prefer plants that are at eye level and eat weeds, and also poisonous plants. They will not eat grasses if there are weeds in the area. The older males prefer different plants than the females and younger goats. She explained they will eat weeds the committee has identified on the list of priority weeds – canada thistle, leafy spurge, scotch thistle and spotted knapweed. The way in which the goats eat weeds does not allow the plant to photosynthesize and produce any more seeds.

5. Kimah McCarty presented an overview of the eradication project undertaken last summer by students who hand pulled knapweed along the river corridor. She encouraged the committee to continue the Town's policy to disallow the use of herbicides on public property. She addressed the need to protect soils, encourage organic gardening, and teach youth ways to work in harmony with the land. She spoke regarding detrimental health effects from exposure to herbicides, and cancer causing agents contained in chemicals. She explained herbicides can affect the food chain, birds, insects, wildlife and water sources.

6. Heidi Comstock expressed concerns regarding chemical exposure and public safety. She reported on new discoveries in photon technology and noted changes in physics are happening so quickly that new technologies may be available before the plan is even prepared. She encouraged the committee to consider the need to protect the environment and ensure a continuation of tourism.

7. Susan Baker encouraged educating the public that the use of herbicides on private properties can impact neighbors. She asked the committee to consider not including the use of herbicides as a control method and chose the use of alternative methods. She presented documentation on the dangers of toxic chemicals, and expressed concerns if herbicides are used along the river it may have a detrimental affect on the bald eagle population. Glen Rein explained he is a biochemist and addressed the dangers of chemical toxicity and impacts on humans, wildlife, and water sources.

It was noted the next meeting will be held on February 15th at which time the committee will finalize goals and objectives and management priorities. At the March 1st meeting a speaker will address control methods for specific weed species.

The meeting adjourned at 6:45 p.m.

Submitted by: Pam Kraft

WEED MEETING #6:
AGENDA AND MEETING OBJECTIVES
FEBRUARY 15TH, 2010 – 4PM AT RIDGWAY TOWN HALL

TO: WEED COMMITTEE/ PUBLIC PARTICIPANTS
FROM: JEN COATES
SUBJECT: MEETING #6:
DATE: FEBRUARY 15, 2011
EST TIME: 2.5 HOURS

1.) Introduction and Meeting Purpose – Pam Kraft and Don Batchelder (10 minutes)

2.) Committee Discussion – Don Batchelder (30 minutes)

Committee summarize discussions and public inputs to date

3.) Finalize Goals and Objectives– Don Batchelder (30 minutes)

4.) Finalize Priorities for Weed Management - Don Batchelder (40 minutes)

5.) Review Chemical Application Protocol – Don Batchelder (20 minutes)

6.) Meeting Schedule – Don Batchelder (10 minutes)

*Next Meeting – March 1st at 4PM: Management Techniques with Guest Speaker, Jude Sirota
Meeting Schedule – confirm meeting schedule, remaining dates, scope and summary*

Sub-Committee to Develop an Integrated Weed Management Plan
February 15, 2011 4:00pm Ridgway Community Center

Members Present: John Clark, Joanne Fagan, Ellen Hunter, Pam Kraft, Jean McDonnell, Dickson Pratt, Sheelagh Williams

Facilitators: Jen Coates and Don Batchelder

Don reminded the committee and public of the reasons for an integrated weed management plan: Colorado State legal requirements, efficient use of the Town Council and the need for river restoration.

The Committee reviewed the Goals and Objectives, including Dickson's proposal for a much simpler set with a focus on noxious weeds. The consensus was that Dickson's proposal was much simpler, on task and easier for staff to interpret, track and achieve. Jean proposed the addition of an objective to use the "least toxic method to reduce or eliminate priority noxious weeds that is feasible and effective". Education was also added as an objective. Staff was directed to revise the draft plan to reflect the consensus.

The Committee discussed what should be included in the Integrated Weed Management Plan. There was consensus that Purpose should include "restoration, maintenance and beautification of public property".

The Committee then moved to prioritization of location specific noxious weeds. Before discussion of the specifics, the Committee agreed on a process and criteria which would be used and vetted in this initial evaluation and then included in the Integrated Weed Management Plan for annual use thereafter. Criteria include town resources (money, labor), additional resources (volunteers, grants, donations), species of noxious weeds present and size and location of infestations. Joanne agreed to redo the matrix of locations, noxious weed species and priority based on the criteria the Committee developed and make that available at the next meeting to compare it to the matrix based on prior "ad hoc" committee input. She will also add the likely cost since that was included as a criteria for determining action.

**WEED MEETING #7:
AGENDA AND MEETING OBJECTIVES
MARCH 1ST, 2010 – 4PM AT RIDGWAY TOWN HALL**

TO: WEED COMMITTEE/ PUBLIC PARTICIPANTS
FROM: JEN COATES
SUBJECT: MEETING #7: METHODS AND TECHNIQUES
DATE: MARCH 1, 2011
EST TIME: 2.5 HOURS

- 1.) Introduction and Meeting Purpose – Sheelagh Williams (10 minutes)**

- 2.) Presentation of Methods and Techniques – Jude Sirota (30 minutes; 10 minute QA)**

- 3.) Review Draft Management Plan and Inputs to Date – Don Batchelder (20 minutes)**

- 4.) Identify Control Methods for Priority Noxious Weeds - Don Batchelder (70 minutes)**
Committee will discuss management techniques for priority weeds and then open to public comment

- 5.) Meeting Schedule – Don Batchelder (10 minutes)**
Next Meeting – March 15th at 4PM: Management Techniques Continued

Sub-Committee to Develop an Integrated Weed Management Plan
March 1, 2011 4:00pm Ridgway Community Center

Members Present: Heather Bussey, John Clark, Joanne Fagan, Ellen Hunter, Jean McDonnell, Dickson Pratt, Sheelagh Williams

Facilitators: Jen Coates and Don Batchelder

Jude Sirota gave a presentation on the techniques which can be used to control weeds. She presented both a general view and then provided specific information on the availability and effectiveness of various control techniques for weeds known to exist in Ridgway. She also provided some ideas for a volunteer program. Jude answered questions from the committee and the public. One point of emphasis was that if herbicides are used, the skill of the licensed applicator is critical to minimizing potential adverse impacts on humans and the environment.

The Committee reviewed the draft Integrated Weed Management Plan and made a few recommendations. Jen and Joanne will make the recommended changes.

**WEED MEETING #8:
AGENDA AND MEETING OBJECTIVES
MARCH 15TH, 2010 – 4PM AT RIDGWAY TOWN HALL**

TO: WEED COMMITTEE/ PUBLIC PARTICIPANTS
FROM: JEN COATES
SUBJECT: MEETING #8: METHODS AND TECHNIQUES/ FINALIZING THE PLAN
DATE: MARCH 15, 2011
EST TIME: 2.5 HOURS

- 1.) Introduction, Meeting Purpose, Discussion Format – Sheelagh Williams (5 minutes)**

- 2.) Confirm Control Methods for Priority Noxious Weeds - Don Batchelder (120 minutes)**
Committee will discuss management techniques for each priority weed and location, and then open the public comment period

- 3.) IS IT DONE... or one last meeting?!?**

Meeting Notes
Sub-Committee to Develop an Integrated Weed Management Plan
March 15, 2011 4:00 p.m. Ridgway Community Center

Members Present: Heather Bussey-Patterson, John Clark, Joanne Fagan, Ellen Hunter, Pam Kraft, Jean McDonnell, Dickson Pratt, Sheelagh Williams

Facilitator: Don Batchelder

Audience: There were 6 people present in the audience

Discussion: Control methods for priority weeds

At the last meeting the committee asked staff to work with the draft plan and insert Proposed Management Techniques from the Carbondale Integrative Weed Management Plan. The committee reviewed those inserts which addressed prevention/revegetation; cultural; biological; mechanical and chemical control methods and added, deleted or modified the content. Each identified weed type was addressed (leafy spurge, spotted knapweed, canada thistle and russian knapweed) and then modified for each area that the weed has been located on Town owned property and rights of ways. The committee also amended Attachment C: Chemical Application Protocol.

The meeting adjourned at 7:05 p.m.

Submitted by: Pam Kraft