

# **WEED MANAGEMENT PLAN**

## **STERLING RANCH EL PASO COUNTY, COLORADO**

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## **I. Introduction and Site Description**

Sterling Ranch is an approximately 1,500-acre property located in northeast Colorado Springs. The property is located north of Woodmen Road and west of Black Forest Road in El Paso County and is loosely bounded by Vollmer Road to the west, Arroyo Lane to the north, the future Banning Lewis Parkway to the east and the Woodmen Heights development to the south. Geographically the ranch is located in the SE ¼ of Section 28, the middle of Section 27, and portions of Sections 33 and 34 in Township 12 South, Range 65 West; and in the NW ½ of the NW ¼ of Section 4, Township 13 South, Range 65 West.

The property is characterized by gently rolling hills interspersed with expanses of fairly level ground, and is undeveloped with the exception of a sand and gravel operation in the center of the property. Vegetation is primarily comprised of a native short grass prairie community which is in excellent condition. The main channel of Sand Creek is aligned from north to south through the property and is sinuous with steep, deeply incised banks. Three man-made, on-line ponds are situated at intervals along the channel. A narrow, shallow tributary to Sand Creek crosses the southwestern corner of the Sterling Ranch site.

### **Weeds at Sterling Ranch**

Assessment and inventory of the natural resources at Sterling Ranch have been integral to the development planning process. During numerous site visits, natural resource specialists have observed only minor, scattered occurrences of noxious weeds and estimate cover by these species to be a fraction of one percent of the total site area.

El Paso County has formally identified noxious weed populations in several locations adjacent to the Sterling Ranch property (refer to Figure 1 for locations). Data provided by El Paso County indicates that the weed species of concern in adjoining properties are diffuse knapweed (*Centaurea diffusa*) and Canada thistle (*Breca arvensis*). Both of these species are included in Category B of the Colorado Noxious Weed List.

### **Colorado State Law**

Weeds in Colorado are defined as those non-native plant species which are listed as “noxious” in the Colorado Noxious Weed Act (C.R.S. 35-5.5) in 1990, revised 2006. The Act identifies three different priority levels of noxious weeds:

Category A: the weeds are currently found in small, isolated patches in Colorado and are required to be eradicated

Category B: the weeds are found in such large numbers that the goal is to stop the spread; they are required to be contained and suppressed; and

Category C: The weeds are so common that control is left up to the individual land owners and the weeds are to be monitored and managed as funds are available.

## **II. Integrated Weed Management Approach**

### **Weed Management Objectives**

Weed invasion, reduction in biodiversity, and soil loss are inter-related and are exacerbated by physical and climatic changes such as ground disturbance and drought. For these reasons, weed management experts recommend an integrated approach to weed control that in addition to eliminating weeds involves reducing impacts to land, enhancing soil quality to support the establishment of native plant species, and monitoring the health of the land over time.

The primary weed management objectives are to:

- identify and treat any existing small, isolated noxious weed patches.
- prevent future establishment of noxious weed species on the Sterling Ranch property, particularly in areas adjacent to documented noxious weed populations.

### **Weed Management Strategies**

#### Prevention

The best weed prevention tool is to keep native ecosystems in a healthy condition. For this reason, specifications for all activities related to ground disturbance and vegetation will include measures to preserve and maintain healthy native soils and plant communities. Specifications will include:

- topsoil salvage, handling, storage, and replacement
- use of only weed-free native seed
- use of certified weed-free straw products for erosion control and mulch.

In addition, topsoil will not be imported for native revegetation purposes. Revegetation specifications will include measures and products that promote healthy soils and thereby provide the competitive advantage to native plants.

A landscape maintenance scope of work will also be a component of revegetation plans. Maintenance work will include checking the site for weed infestations and controlling weeds if they are present. Specifications will require licensure and safety protocol for all herbicide applicators.

#### Early Detection

In the spring of 2010, existing noxious weeds on the property will be identified and mapped. Particular attention will be given to areas adjacent to weed populations mapped by El Paso County. Weed control measures appropriate to each weed species identified will be initiated.

Prior to the initiation of any future construction activities, the site will be inspected for weeds by qualified natural resource specialists. If noxious weeds are present they will be treated before the ground is disturbed.

### Eradication

If weeds are found on the site before or after construction, proposed weed control methods will follow recommendations of Colorado State University, the Natural Resources Conservation Service, and El Paso County and will in most cases include both mechanical and chemical treatments (refer to Appendix A for a summary of control methods for Canada thistle and diffuse knapweed). Once the precise locations of noxious weed populations have been identified, provisions will be made for multiple treatments appropriate to the species.

**APPENDIX A**

**Control Methods for  
Canada thistle and diffuse knapweed**

El Paso County has identified potential noxious weed threats to the Sterling Ranch property to be Canada thistle and diffuse knapweed. A summary of the recommended control methods for these species follows:

### **Canada Thistle**

Canada thistle is a perennial (meaning it lives for more than 2 years) plant that reproduces both from buds that shoot up from the root system and from seed. One plant can colonize an area 3-6 feet in diameter in just one to two years. Ultimately, roots may spread horizontally more than 15 feet and grow to depths of 6 to 15 feet.

Due to the extensive root system and the energy storage capacity, the control strategy is to stress the plant repeatedly to deplete its energy reserves. For example, an herbicide will be applied in the spring. Recommended herbicides include: Tordon, Milestone, Transline, Telar, and Banvil. Then the plants are mown in mid-summer to remove seeds before they mature. This is followed in the fall by an application of herbicide prior to the first frost. This is repeated for at least one additional growing season. The soil of weed-infested areas is amended to promote microbial growth that favors native plants and native grasses are seeded.



Canada thistle flower and rosette

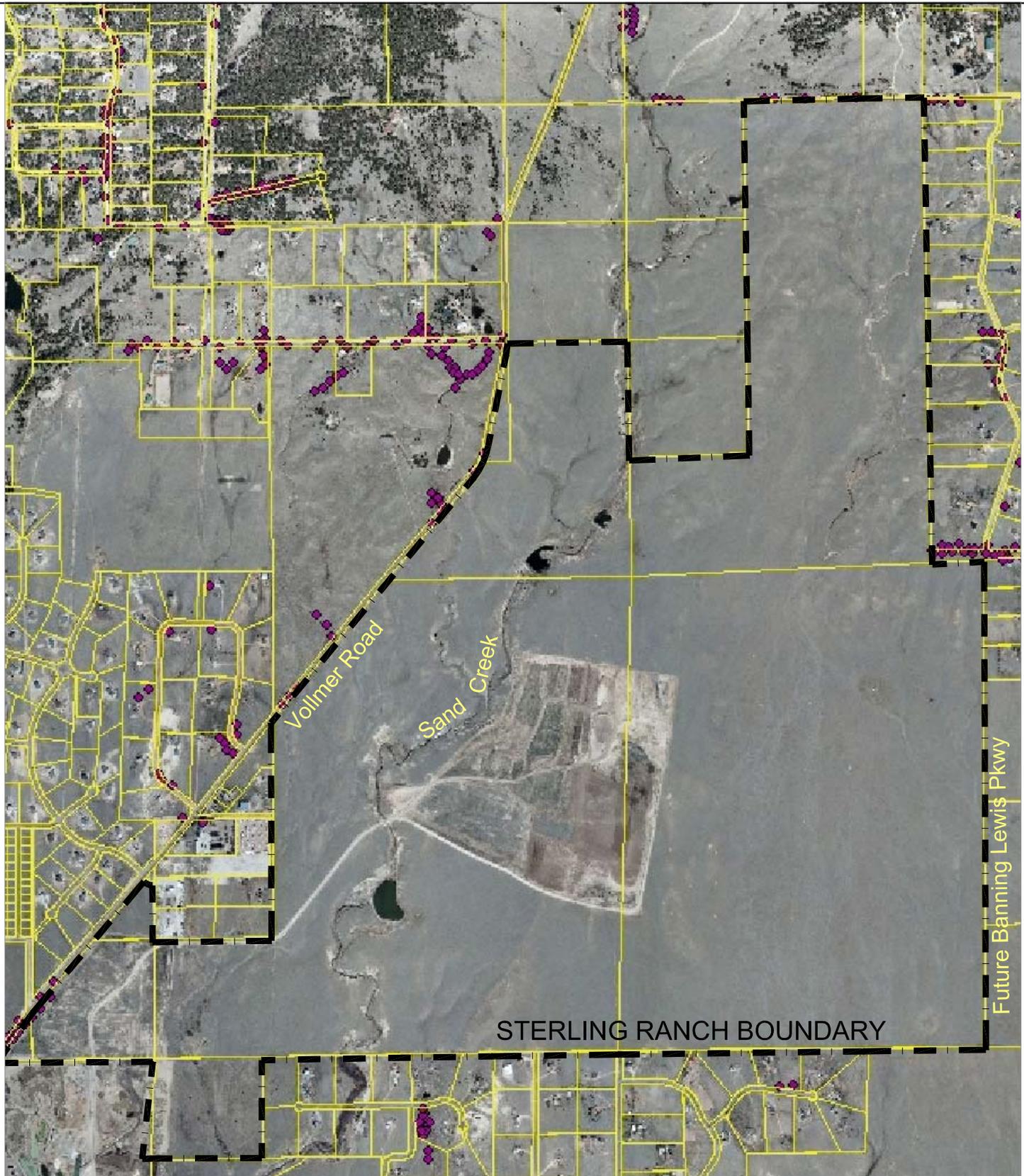
### **Diffuse Knapweed**

Diffuse knapweed is a perennial or biennial that reproduces only from seed. It can remain alive from one to two or more years.

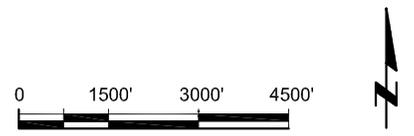
The most effective control method is to apply herbicide in the spring to prevent seed set. Recommended herbicides include: Tordon, Milestone, Transline, Curtail, and Banvil. Herbicide treatment should be combined with the promotion of native grass establishment and healthy soils.



Diffuse knapweed plant and flower



Weed map base information provided by El Paso County, 2-22-10.  
 Purple circles indicate noxious weed populations.



 Environmental Scientists and Engineers, LLC an ecology and environment company	Date: 02-23-10	Drawn by: SN	<b>Figure 1</b> <b>STERLING RANCH WEED PRESENCE</b>
	Project No. 7703-040	Checked by: JAS	