

## **San Luis Obispo County Weed Management Area – CDFA Grant Proposal (2009 Calendar Year)**

### **Primary Contact/Lead Contract Person**

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### **Project Leads**

Project 1: Marc Lea

**Contract Confirmation:** If selected, the project described in this proposal will be in 1 contract with the San Luis Obispo County Department of Agriculture

### **WMA Structure and Partners**

The San Luis Obispo County Weed Management Area has been actively conducting weed mapping, weed control, and educational outreach since our formation in 2000. The SLO County WMA is coordinated by the SLO County Department of Agriculture, which organizes and hosts semi-annual general meetings and oversees numerous ongoing projects and outreach efforts. Our WMA group email list includes 49 individuals representing 28 different groups, agencies and organizations. The following list includes some of our most active WMA members:

- SLO County Department of Agriculture (coordinator)
- Cal Poly State University – San Luis Obispo
- Cal Trans
- California Army National Guard – Camp Roberts/Camp SLO
- California Cattlemen’s Association
- California Conservation Corps
- California Native Plant Society
- California State Parks – Morro Bay Region
- California State Parks – Oceano Dunes SVRA
- Land Conservancy of San Luis Obispo County
- SLO County Parks
- Small Wilderness Area Preservation – Los Osos Chapter
- USFS – Los Padres National Forest
- Upper Salinas/Las Tablas RCD

### **San Luis Obispo County WMA: Past Performance, Activities, & Projects**

- The SLO County Weed Management Area has had 2 general member meetings in the past twelve months, with our next semi-annual general meeting slated for early August.
- The SLO County Weed Management Area has an MOU and Integrated Weed Management Plan (IWMP), and anticipates expanding and updating the IWMP into a more comprehensive Strategic Plan during the next year.

- The SLO County Weed Management Area has developed two different brochures, “Noxious Weeds of San Luis Obispo County” produced in 2001 and “Don’t Plant a Pest – Central Coast Version” released in 2005.
- The SLO County Weed Management Area developed and hosts a website: [http://www.slocounty.ca.gov/agcomm/Weed\\_Control.htm](http://www.slocounty.ca.gov/agcomm/Weed_Control.htm)

Through grant funds received from CDFA (AB1168, SB1740, 2006 Supplemental Funding) and the Morro Bay National Estuary Program, we have developed and implemented the following projects (beginning with most recent):

- Arundo eradication and tamarix control from the Upper Salinas River Watershed (project was initiated in 2007, and an estimated 65% of the arundo has been controlled in the portion of the Salinas River that occurs within San Luis Obispo County).
- Arundo eradication from Santa Rosa Creek in conjunction with our grant project on the Fiscalini Ranch Preserve (FRP). Eradicated jubatagrass from the high-value habitat coastal bluffs of the FRP, and controlled the french broom on the West Ranch of the FRP.
- Arundo eradication from the Chorro Creek watershed (project is completed except for routine follow-up surveys; an estimated 99% of the arundo within the watershed has been controlled over an 11 linear mile section of the creek and its tributaries).
- Successful control of an approximately 150 acre pioneer infestation of yellow starthistle in the Carrizo Plain Natural Area, one of the last remaining native California grasslands.
- Eradicated 15 pioneer infestations of jubatagrass in the north coastal region of San Luis Obispo County (included in-kind contributions from several different groups).
- Conducted a cost-share program with private landowners for yellow starthistle control.
- Produced and distributed a color brochure titled, “Noxious Weeds of San Luis Obispo County”

Other cooperative projects involving San Luis Obispo County WMA partners:

- The SLO County Department of Agriculture has developed and implemented a regional “wildfire” approach to yellow starthistle management that includes utilizing a GIS database to track control efforts on 60 identified pioneer infestations outside of the heavy and moderately infested areas.
- The Land Conservancy of San Luis Obispo County is involved in invasive weed control and restoration projects throughout the region, including a project designed to eradicate arundo from the San Luis Creek watershed funded from a variety of outside sources.
- Developed regional countywide maps for 13 different noxious weed species using GPS and GIS technology, which are utilized in order to prioritize target weed species and pioneer infestations of particular species. The mapping work was conducted by both volunteers and in-kind staff hours from several different WMA partners.
- The SLO County Department of Agriculture has spearheaded efforts to eradicate the only known county locations of CDFA Q rated Foxtail Restharrow (*Ononis alopecuroides*) and CDFA B rated Barbed Goatgrass (*Aegilops triuncialis*).
- Developed a Central Coast version of Cal IPC’s “Don’t Plant a Pest” brochure, and secured enough outside funds to produce and distribute nearly 12,000 copies.

- Created an educational display board used frequently for local events, including farmer's markets, garden festivals, and land management seminars.

**General In-Kind Contributions - January 2009 – December 2009**

As projected by WMA partners over the period of this proposed grant (not counting expenses included as in-kind line items in the budget).

General Meetings	\$3,000.00
General Meetings Mileage	\$252.00
Subcommittee Meetings	\$1,200.00
Subcommittee Mileage	\$102.00
General Education & Outreach – Fairs, Festivals, Seminars	\$480.00
Ongoing Cooperative Control Project (Yellowstar Control in Carrizo Plains)	\$2,000.00
Mapping Activities (species specific & project based) – General Public/Volunteers	\$3,000.00
Mapping Coordinator – Compiling volunteer generated data	\$1,000.00
<b>Total General In-Kind Contributions - January 2009 – December 2009</b>	<b>\$11,034.00</b>

## **PROPOSED PROJECT**

### **Project Title: Project #1 – Morros Area Preservation – Containing Yellow Starthistle Spread, Eradicating Artichoke Thistle, and Managing Jubatagrass**

#### **Project Setting:**

The Morros are a series of ancient, extinct volcanic peaks that run from the city of San Luis Obispo northwest toward Morro Bay, and serve as a scenic focal point for San Luis Obispo County. The Nine Sisters, as the peaks are locally known, run through the Chorro Creek valley, ending at Morro Rock on the edge of the Pacific Ocean (see Project Area map).

The roughly 7,000 acres that comprise the Morros area provide a wealth of biological and agricultural resources. The diverse habitats of the Morros chain support numerous special-status species, from California red-legged frog and steelhead to a series of locally endemic plant species, such as the Chorro Creek bog thistle, San Luis mariposa lily, and Morro manzanita. The Morros area also provides a vital habitat-rich wildlife corridor that connects the coastal portions of the county to the Santa Lucia mountain range, which, in turn, connects to the vast inland areas of SLO County.

The agricultural resources of the Morros area are as diverse as the biological ones. The Morros area contains hundreds of acres of prime farmland, that produce a variety of our county's most recognizable crops, such as avocados, citrus, lettuce, cole crops, flower seeds, and wine grapes. In the hills above the rich floodplain soils, dryland oats and hay are grown and cattle are raised on the lush rangeland.

The property within the Morros area is mostly privately owned by farmers and ranchers, although the largest parcels are public lands owned by Cal Poly, the California Army National Guard installation at Camp San Luis, San Luis Obispo County Parks, and California State Parks.

The Morros represent one of San Luis Obispo County's most critical habitat and agricultural areas; unfortunately, the picturesque chain of peaks is not immune to the economic and ecological costs caused by invasive plants. The ideal conditions for native plant communities and local farmlands also provide ample opportunity for noxious weeds to flourish. With this project, we intend on gaining the upper hand on several weed species and utilizing these grant funds as a launching point for a complete restoration of the Morros through additional grant opportunities.



### **Project Goals:**

1. To establish a defensible leading edge against the northwest spread of yellow starthistle in the coastal area of San Luis Obispo County by eradicating several small pioneer populations, conducting detailed surveys of areas with potential infestations, and managing three known infestations (and preparing to manage any additional infestations detected) along the eastern edge of the Morros area.
2. To eradicate three pioneer infestations of jubatagrass within the Morros project area, and develop a management plan for a larger infestation in the Los Osos area.
3. To eradicate the two known infestations of artichoke thistle within the Morros project area.

### ***1. Yellow Starthistle: Establish Leading Edge Containment***

#### **Long Term Benefits & Region-Wide Significance:**

Yellow starthistle (*Centaurea solstitialis*) is one of the most widespread, problematic weeds in San Luis Obispo County, invading thousands of acres of rangeland and wildlands. Despite the high-level infestations in parts of the county, there are still large areas with little or no yellow starthistle infestation, notably the coastal and southern parts of San Luis Obispo County (**See Map #1**).

However, pioneer infestations of yellow starthistle are routinely detected within these areas, and it requires constant vigilance to maintain the uninfested status of these regions (as depicted by the gold bullet points on Map #1). The Chorro Creek valley has become a focal point in our local cooperative effort to contain yellow starthistle, as the plant has been spreading from the Cuesta Grade area into the rangeland hills north of the City of San Luis Obispo. From there, the population has been steadily expanding west into the Morros' coastal-influenced grasslands (**See Map #2**).

We have devised a strategy to halt this spread and protect the vast coastal grasslands from yellow starthistle infestation.

#### **Priority Topic Area:**

This portion of our project addresses priority area #2, the establishment of a containment line against yellow starthistle in order to prevent its movement northward into a large region of coastal grasslands and rangelands.

#### **Project Objectives and Methods:**

**Objectives:** Our foremost objective will be to eradicate two small pioneer infestations outside of the main population of yellow starthistle (**See Map #2**). Our second priority will be to survey the blue area depicted on Map #2 in order to detect any unknown infestations of yellow starthistle; if populations are found, these will be targeted for eradication, or at least management. Our third goal will be to manage the three larger infestations (as depicted by the orange hatched lines on Map #2) on the leading edge, eventually beating yellowstar back to the yellow area on Map #2.

**Task #1:** Using in-kind contributions, a variety of SLO County WMA members (SLOCAC staff, Camp San Luis employees, volunteers) will survey the blue area (**See Map #2**) for any potential yellow starthistle infestations. These surveys will be conducted from July 2008 – October 2008

when the plants are most recognizable. Any infestations detected will be recorded using GPS. The GPS points will be added to our GIS database, and the populations will be prioritized for treatment in 2009.

**Task #2:** San Luis Obispo County Department of Agriculture (SLOCAC) staff will spray the two pioneer infestations during early 2009 with Milestone herbicide from either an ATV or hand wand. We will also conduct follow-up visits, spot treating or hand removing any missed plants. If additional populations are found during the surveys conducted in Task #1, they will be treated by SLOCAC staff, private landowner partners, or an outside contractor.

**Task #3:** The three larger populations will be treated by a combination of an outside contractor and private landowner partners. These applications will be made by whatever equipment is best suited to the particular area, either tractor, ATV, or possibly even helicopter. Milestone herbicide (or possibly late-season treatments of Transline herbicide) will be used for these broadcast applications. The three populations cover an estimated 85 gross acres. In addition to budgeting for treatment of the three known populations, we have budgeted to treat an additional 85 gross acres. Any infestations found within the blue survey region will be covered by this additional budget; if less than 85 acres are detected within the blue area, the remaining herbicide and/or contract funds will be utilized for applications along the leading edge of yellow starthistle distribution as depicted by the westernmost boundary of the yellow polygon (**See Map #2**)

**Performance Measures:** At the site of the pioneer infestations, photos will be taken and field notes will be kept estimating the number of plants found at each visit. At the larger sites, we will follow CDFA's monitoring protocol, measuring percent cover of yellow starthistle both before and after treatment.

## ***2. Jubatagrass: Eradicate Pioneer Populations in the Morros Project Area/Develop Management Plan for the Los Osos Area***

### **Long Term Benefits & Region-Wide Significance:**

Jubatagrass (*Cortaderia jubata*) commonly occurs in the coastal areas of San Luis Obispo County, with large infestations in the south county and near the northern town of Cambria. Within the central coastal section of the county, the SLO County WMA has been eradicating pioneer jubatagrass infestations before they become well established (**See Map #3**).

There are a few small infestations of jubatagrass in the eastern part of the Morros project area (**See Map #4**). We intend on eradicating these populations before they can spread further into the Morros. We will also develop a management plan for the jubatagrass infestation in the Los Osos area (as depicted by the blue polygon on Map #4); it's uncertain at this time if the plan will call for management of the entire area, but at a minimum, it will be designed to prevent jubatagrass from spreading east into the Morros.

### **Priority Topic Area:**

This portion of our project addresses priority area #1 and #2, the eradication of pioneer jubatagrass populations, as well as the establishment of a containment line for a larger infestation on the other end of the project region.

### **Project Objectives and Methods:**

**Objectives:** Our primary objective will be to eradicate three small pioneer infestations of jubatagrass on the eastern edge of the project area. The second objective will be to develop a management plan for the larger population in Los Osos, focused on preventing any spread outside of its current range.

**Task #1:** SLOCAC staff will either remove or spray any jubatagrass plants found. Plants less than 1-2 feet in diameter are typically hand removed; larger plants are treated with a glyphosate based herbicide.

**Task #2:** Using in-kind funds, jubatagrass in the Los Osos area will be mapped in detail and a management plan developed. Infestations detected on the eastern edge of the Los Osos population will be prioritized by risk of spread; those infestations that threaten lands to the east will than be treated according to the methods discussed in Task #1.

**Performance Measures:** The pioneer infestations have already been GPS recorded. Any other infestations that are detected and slated for treatment would also be GPS recorded and added to our GIS database. The number of plants estimated to occur before treatment will be recorded in a spreadsheet database. The spreadsheet will also be used to indicate when the site was revisited, how many plants were detected following the initial treatment (if any), and what treatment method was used to control the plants found.

### ***3. Artichoke Thistle: Eradicate Pioneer Populations in the Morros Project Area***

#### **Long Term Benefits & Region-Wide Significance:**

Artichoke thistle has a scattered distribution across San Luis Obispo County (**See Map #5**), and our recent control efforts have been limited to eradicating very small pioneer infestations outside of the known range. Within the Morros project area, there are two sizable populations of artichoke thistle, and it is critical that we control these areas before this pernicious perennial invader can spread further (**See Map #6**). It is especially important in this coastal grassland area of the county, since it represents the habitat type that artichoke thistle has been most problematic across California.

#### **Priority Topic Area:**

This portion of our project addresses priority area #1, the eradication of outlying artichoke thistle infestations that threaten the habitat and rangeland economy of the entire Morros region. All of our goals for the Morros project area also address priority area #4, the protection of high-value sites. The elimination of these artichoke thistle infestations will help protect a local high-value habitat, as artichoke thistle currently occurs adjacent to a few drainage seeps that support the Federally-endangered Chorro Creek bog thistle.

#### **Project Objectives and Methods:**

**Objectives:** Eradicate two pioneer infestations of artichoke thistle occurring on private rangeland. These two populations cover a fairly substantial gross acreage (estimated 60 gross acres), but the percent cover is low (1-5%) over much of the property. There are a handful of half-acre areas that are densely infested and will require broadcast herbicide applications, but the bulk of the area has only scattered plants and will need to be dealt with using hand-held ATV spray systems and backpack applications.

In conjunction with the treatment of these two areas, we will conduct surveys in the public and private rangelands on the east end of the Morros for potential unknown artichoke thistle infestations. Any infestations found will be GPS recorded, added to our GIS database, and included in our eradication efforts; we have included funds in our budget in anticipation of detecting unknown infestations. If at all feasible, these will be included within the scope of our current project.

**Task #1:** A combination of outside contractors or private landowner partners will treat the dense half-acre infestations using an ATV or tractor spray rig. The plants will be sprayed during late spring with a broadleaf selective herbicide, likely Transline. SLOCAC staff will work in the less densely populated areas, utilizing ATV and backpack sprayers to treat any plants found; selective herbicides will be used in early to late spring transitioning to a glyphosate based herbicide later in the season after the desirable annual grasses have gone to seed.

**Task #2:** Using in-kind funds, the hills of the eastern Morros area will be surveyed in late 2008 and into 2009. Any infestations detected will be recorded using GPS. The GPS points will be added to our GIS database, and if feasible, the infestations will be incorporated into our eradication efforts using the control methods laid out in Task #1.

**Performance Measures:** Using a detailed GIS map, we will break down the artichoke thistle infestations by percent cover. The densely populated areas will be monitored using CDFA's percent cover estimate protocol, measured before and after treatments; photos will also be taken. In the vast areas with sparse cover (less than 5%), plant count estimates for distinct polygons will be kept for before and after treatment in a spreadsheet database. The spreadsheet will be used to record when the site was revisited, how many plants were detected (if any), and what treatment method was used to control the plants found.