

El Dorado County Noxious Weed Projects

Counties Covered in this Proposal: El Dorado

Primary Contract Lead Person:

William Stephans, El Dorado County Department of Agriculture, 311 Fair Lane, Placerville, CA 95667, (530) 621-5520

Project Leads:

LeeAnne Mila, El Dorado County Department of Agriculture, 311 Fair Lane, Placerville, CA 95667, (530) 621-5520

Wendy West, University of California Cooperative Extension, 311 Fair Lane, Placerville, CA 95667, (530) 621-5533

WMA Structure and Partners:

El Dorado County Invasive Weeds Management Group (WMA) was formed in 1998 to coordinate activities necessary for the prevention and control of invasive and noxious weeds in El Dorado County. The emphases of the activities are focused upon the exclusion, detection, eradication and suppression of invasive weeds and public education. Over 20 organizations and landowners have been actively involved in planning and implementing weed control projects and educational programs.

Active partners include:

El Dorado County Department of Agriculture, University of California Cooperative Extension, Georgetown Divide Resource Conservation District, USDA Natural Resource Conservation Service, El Dorado Resource Conservation District, El Dorado County Farm Bureau, Sacramento Municipal Utility District, El Dorado Irrigation District, Sierra Consulting and Pest Management, California Native Plant Society – El Dorado Chapter, California Department of Food and Agriculture, Placerville Pest Control, USDA Forest Service-Eldorado National Forest, Sierra Pacific Industries, Amador/El Dorado/Sacramento Cattlemen's Association, El Dorado County Department of Transportation, Caltrans-District III, UCCE Master Gardeners, Bureau of Land Management, California State Parks

Past Performance of WMA and Partners in Weed Control:

The El Dorado WMA will have met four (4) times by the end of 2008, with an average of 12-14 members attending each meeting. The group has consistently averaged four meetings per year from 2000-2008.

The WMA has a 1) Memorandum of Understanding, renewed in 2005; 2) a Priority Weed List, reviewed and updated in March 2006; 3) a current Plan of Work updated in 2007; 4) a Mission Statement and Strategic Plan and 5) a website housed by the El Dorado County Department of Agriculture.

Under AB1168 & SB1740 funding, we have undertaken the following projects:

- Defined the Yellow starthistle (YST) eastern leading edge at 3500 foot elevation and treated outlier populations and acreage at the “knock back zone”. Three hundred ten (310) acres of forest and rangelands have been treated annually since 2000 along with 34 miles of roads in the priority area. YST outlier population surveys have been completed on over 700 miles of roads.
- Printed and distributed 2100 copies of “Selected Invasive Weeds of the Central Sierra Nevada” weed identification booklets.
- Developed an informational booth and displays utilized for fairs, events, at the library and Board of Supervisor’s chambers.

Other cooperative projects completed by the El Dorado County Invasive Weeds Management Group:

- Treated 15 gross acres (5.00 net acres) of pioneer Oblong spurge infestations in six isolated locations in the county; created educational brochures to create awareness of Oblong spurge’s negative impacts and control issues.
- Conducted Scotch broom control projects at Dave Moore Nature Center (BLM), Marshall Gold Discovery Park (California State Parks), Eldorado National Forest (USFS) and at an 8 mile Adopt-A-Highway project along Highway 50.
- Developed demonstration sites, utilized goats as a cultural control method and conducted workshops on the control of Himalayan blackberries, Yellow starthistle and Scotch broom.
- Adapted, printed and distributed 700 copies of the “Managing Yellow Starthistle” booklet, including a landowner planning guide to encourage long-term planning by property owners.
- Reached 7400 people through weed identification workshops, demonstration sites, presentations to clubs, organizations, agencies (including road crews) and homeowners associations and through informational booths at fairs and events.
- Generated **\$1,011,400 in-kind contributions** from partners for projects and programs conducted from 2000-2007.

General In-kind Contributions 2009:

\$15,000 including cooperative control and education projects, time and mileage for WMA meetings, WMA group administration/coordination and funded WMA projects through other grants. This in-kind figure does not include contributions to projects in this grant proposal.

Proposed Projects

Performance measures for all projects:

- Delimitation and mapping: We will follow CDFA's weed monitoring protocol, measuring the cover of weeds or counting individual plants when feasible.
 1. All mapping will be completed utilizing Global Positioning System (GPS) data collection and Geographical Information Systems (GIS) for data management and map production.
- The staff will survey previous infestation sites for persistent weed populations. Delimitation will continue outside the original infestation to determine any possible spread.
- A computerized GIS map of the project sites will continue to be created with the locations of detected A and/or B rated noxious invasive plant populations and treatment sites. There will also be a record of previously detected locations that have been treated and considered eliminated.
- Photo points will be taken whenever possible.
- Graphs and reports will be generated to show the performance of the projects
- Plant counts will be taken whenever possible

Project Title: Project 1 – Spotted Knapweed Eradication in the Cleveland Fire Area - \$17,000 Contract (excluding overhead)

Project Goal:

To eradicate Spotted knapweed (*Centaurea maculosa*) within the Cleveland Fire Area in El Dorado County, east of Placerville and stop the spread of this invasive weed into the El Dorado National Forest and private production timberlands.

This "A – rated", Spotted knapweed population is the only known infestation on the western slope of El Dorado County.

Several treatment applications per season have led to the eradication of numerous populations throughout the drainage and have dramatically decreased the population densities at the remaining sites. We are extremely close to eradication at this point. Additional funding is imperative to complete the eradication goal by 2010, with planned monitoring surveys through 2015.

What are the project's long-term benefits and/or region-wide positive impacts:

This is the only known Spotted knapweed infestation in western El Dorado County. Eradication will protect the Sierra Nevada Mountain Range and Lake Tahoe. This infestation is along Silver Creek, which drains into the South Fork of the American River. Eradication of this species will directly protect the South Fork of the American River Watershed and water quality throughout the drainage.

Spotted knapweed, an "A" rated pest was introduced into the Cleveland Fire area on out of state fire fighting equipment in 1992. In 2001 this plant species was established at 46 sites within the project area with up to 25,000 plants per site. Substantial reductions in population size due to diligent and aggressive eradication efforts over 7 years have reduced the populations to 28 sites with an average of less than 10 plants per site, in 2007. Continued support of this project is critical, underscored by the fact that we found 4 new sites in 2007, each consisting of only 1 plant. These sites were identified early and treated immediately, avoiding the potential that Spotted knapweed has to rapidly spread through its adaptive ability, production of up to 40,000 seeds per plant, and root fragment reproduction. Preliminary data for the 2008 season shows a 30% to 40% decline in number and size of populations. Due to the limited distribution of Spotted knapweed and its ability to rapidly spread, continued treatment to eradicate this weed is critical. (See Figure 1A)

Priority Topic Area Being Addressed (from request for proposal announcement):

This project addresses priority area #1, the eventual complete eradication of a small (.5 acre), pioneer infestations of "A-rated" noxious weeds.

Project Objectives and Methods:

Objective: Continued Spotted knapweed detection and eradication will be conducted on private and public lands, within the Cleveland Fire Area. The El Dorado County Department of Agriculture (ECDA) will continue to lead this project. Detection, survey and treatment efforts will be coordinated by the El Dorado County Department of Agriculture utilizing contract crews, seasonal staff, and permanent staff. US Forest Service-Eldorado National Forest and Sierra Pacific Industries will also conduct eradication efforts in coordination with the El Dorado Department of Agriculture.

Task 1). Utilizing the historic Geographical Information Systems (GIS) shape files, *personnel will visit each public and private site treating all encountered populations* of Spotted knapweed multiple times throughout the season. Eradication measures will continue to utilize an Integrated Pest Management (IPM) approach to eradicate the noxious weed infestations when discovered. IPM tools include hand pulling, shovel, weed wrench and chemical methods. The seasonal and contract crews will be trained to determine the best tool choice to utilize based on the location of the infestation, maturity of plant, weather conditions, etc.

Project Title: Project 2 – Save The Sierras -Yellow Starthistle/Skeleton Weed Leading Edge Project - \$12,187 Contract (excluding overhead)

Project Goal:

By defining a line of demarcation at the eastern leading edge of the Yellow starthistle (*Centaurea solstitialis*) and Skeleton weed movement into the higher elevations, a control effort can be coordinated with land managers and owners to stop the spread into the Lake Tahoe Basin and surrounding areas.

What are the project’s long-term benefits and/or region-wide positive impacts:

The El Dorado County Invasive Weed Management Group began a Yellow starthistle leading edge and outlier infestation control program in 2000. The purpose of this program is to stop the spread of Yellow starthistle into the Sierra Nevada Mountains. A “knock-back” zone, utilizing Yellow starthistle population data, at the 3500 foot elevation level was established. Extensive survey and control work has been completed since then in El Dorado County and surrounding counties, with a special emphasis on Highway 50 and the Lake Tahoe Basin.

In 2007, El Dorado County participated in the development of a regional Yellow starthistle leading edge component. 14 counties have coordinated their efforts on a leading edge to protect the Sierra Nevada Mountain Range from Yellow starthistle.

In 2006, the weed management area has expanded the leading edge program to include skeleton weed. We have established that the leading edge for Skeleton weed was at approximately the 3500 foot elevation, through a survey conducted by California Department of Food and Agriculture (CDFA) in 2004. In the Lake Tahoe Basin, there has been only one known occurrence of both Yellow starthistle and Skeleton weed, both of which have been eradicated.

Containment of Yellow starthistle and Skeleton weed, below the knock-back zone has a direct positive effect in the prevention of additional infestations of USFS lands, private timber and range lands and recreational areas. Ultimately we will also limit the spread into Nevada, especially via transportation corridors. To date, the program has been successful in preventing the spread into the basin area as evidenced in 2007 with no plants identified near Lake Tahoe. **It is important that we continue our efforts to keep these invaders out of the Sierra Nevada Mountain range.**

Priority Topic Area Being Addressed (from request for proposal announcement):

This proposal addresses priority topic area #2 and #3, the leading edge containment of a noxious weed and a regional collaboration. A clear link to proposed containment activities preventing further spread towards USFS and private forested lands and along transportation corridors has been shown. A map clearly showing the total geographic area impacted by the infestation and proposed containment boundaries is included as an attachment. (See Figure 1B)

Project Objectives and Methods:

Task 1). *Continued intensive control efforts along Highway 50, keeping Yellow starthistle out of the Sierra’s.* Funding in 2008, allowed us to expand our survey and detection efforts in the fight to stop the spread of Yellow starthistle into the Sierra’s. Satellite populations were found in extremely rough terrain up to 5,000 feet. Treatments of these limited populations were started early, before they could expand. These efforts will be continued to knock back to our leading edge. Steps that will be taken are as follows:

1. Utilizing the historic Geographical Information Systems (GIS) shape files, personnel will visit each public and private site treating all encountered populations of Yellow starthistle. Eradication measures will continue to utilize an Integrated Pest Management (IPM) approach to eradicate the noxious weed infestations when discovered. IPM tools include hand pulling, shovel, weed wrench and chemical methods. The seasonal and contract crews will be trained to determine the best tool choice to utilize based on the location of the infestation, maturity of plant, proximity to water, weather conditions, etc.
2. Contract Crews have been utilized for two treatment seasons on Hwy 50 with great success. Contract crews will again be utilized in this particularly difficult treatment area. Contract crew members will be trained in Integrated Pest Management treatment techniques.

Task 2). *Increase detection and survey work over the entire area for Skeleton weed populations:* including additional surveys in cooperation with private land owners and managers, beyond the current project partners. Detection and survey work will be coordinated by the El Dorado County Department of Agriculture utilizing seasonal weed crews and permanent staff. Limited

funds were available for the initial study and additional surveys are needed to assure that Skeleton weed stays out of The Lake Tahoe Basin and the Sierra Nevada Mountain range.

Project Title: Project 3 – Eradication of “A” and “B” rated weeds in El Dorado County - \$9,946 Personnel (excluding overhead)

Project Goal:

Eradicate isolated populations of “A” and “B” rated weeds in the western slope of El Dorado County.

The Western Slope of El Dorado County is in a prime location to act as a buffer zone, for specific CDFA rated species, between the Sacramento Valley region and the Sierra Nevada Mountain range.

In 2006, El Dorado County Department of Agriculture identified isolated, “A” and “B” rated noxious weed populations in the western slope of El Dorado County. Eradication of these populations is possible due to their small size and isolated populations. Noxious weeds targeted for eradication include limited populations of Tall whitetop (*Lepidium latifolium*), Oblong spurge (*Euphorbia oblongata*), Hoary cress (*Cardaria draba*), and Giant knotweed (*Polygonum sachalinense*).

What are the project’s long-term benefits and/or region-wide positive impacts:

El Dorado County is a major conduit into the Sierra Nevada Mountains. Eradication of “A” and “B” rated weeds will lower the pressure for dissemination of invasive weeds into the Lake Tahoe Basin and the Sierra Nevadas, essentially acting as a buffer zone. The target weed species are all aggressive invaders that thrive in drainage areas, disturbed sites, and roadsides. By safely eradicating these populations now, creeks and streams in the lower sections of the local watersheds will also be protected. All of El Dorado County’s A and B-rated invasive weed populations are small and still eradicable. Education on methods to prevent the spread of invasive plants will also reduce the number of new infestations along roads and at construction sites, ultimately protecting water quality, preventing soil erosion and reducing long-term control costs. (See figure 1C)

Priority Topic Area Being Addressed (from request for proposal announcement):

This proposal addresses Priority topic area #1, eventual complete eradication of non-native invasive “A” and “B” rated weed populations. This project also addresses priority topic #3, a regional collaboration, as many adjacent Counties are also fighting these populations.

Task 1). Utilizing the historic Geographical Information Systems (GIS) shape files, personnel will visit each historic site multiple times throughout the season. (\$5141.00) Detection surveys will be coordinated throughout the season. Eradication measures will continue to utilize an Integrated Pest Management (IPM) approach to eradicate the noxious weed infestations when discovered. IPM tools include hand pulling, shovel, weed wrench and chemical methods. The seasonal and contract crews will be trained to determine the best tool choice to utilize based on the location of the infestation, maturity of plant, weather conditions, etc.

Task 2). Expanding prevention BMP outreach efforts to the material supply/gravel pit industry. (\$4,805 reprinting/outreach)

The prevention of additional introductions and spread of “A” and “B”-rated weeds is an important element in any eradication program. We are currently developing prevention best management practice (BMP) guidelines for contractors, landowners and road crews.

Expanding these BMP outreach efforts to the material supply/gravel pit industry, is the next import step in stopping new introductions, additional spread---and ultimately succeeding at eradication --- of these invaders.

- Local and regional materials and gravel suppliers will be identified in collaboration with USFS-Eldorado National Forest, the El Dorado County Department of Transportation, Caltrans and El Dorado Irrigation District.
- BMP guidelines will be mailed to the suppliers and follow-up calls and visits to the facilities will be completed.
- Reprint “Selected Invasive Weeds of the Central Sierra Nevada” to aid staff in detecting and identifying invasive weeds at materials facilities.
- Weed identification and control workshops will be conducted and will include prevention and BMP guidelines. Target goal: 50 attendees. Target audience: utility crews, road crews, contractors, materials suppliers, private landowners working on site-disturbing projects.

Performance measures: (Additional for education outreach efforts)

- Document the number of BMP guidelines distributed and by what distribution method.
- Document the number of contacts made to the materials supply/gravel pit industry.
- Document the number of workshop participants
- Conduct a follow up survey with those receiving prevention/BMP materials and training to document how the information was utilized and if the Best Management Practices guidelines were adopted; document any barriers to implementation of the guidelines.