

2009

Annual Report
Contra Costa County Noxious Weed Control Program and
Supplemental WMA Projects



Noxious Weed Control and Eradication Projects in
Contra Costa County
Alameda/Contra Costa Weed Management Area

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**2009 Annual Report
Noxious Weed Control and Eradication Projects in
Contra Costa County**

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2009 Annual WMA Report Noxious Weed Control and Eradication Projects in Contra Costa County

Introduction

The Contra Costa County Agricultural Commissioner's Office (CCCAC) has been conducting noxious weed management activities since 1979, with the goal of protecting the county's agricultural industry, and public open space. CCCAC has been a Weed Management Area partner with Alameda County Agricultural Commissioner Office since 1998. There are 22 active partners involved with the Alameda/Contra Costa County Weed Management Area (ACCCWMA):

- Contra Costa County Department of Agriculture
- California Department of Food and Agriculture
- University of California Cooperative Extension
- California Department of Transportation
- Contra Costa County Farm Bureau
- Contra Costa-Alameda Cattleman's Association
- Natural Resource Conservation service
- Contra Costa Resource Conservation District
- Contra Costa Water District
- East Bay Municipal Utility District
- Contra Costa County Public works Department
- East Bay Chapter of the California Native Plants Society
- East Bay Regional Park District
- City of Concord's Open Space Division
- City of Walnut Creek's Open Space Division
- California State Parks
- Friends of Five Creeks
- United States Department of the Interior Fish and Wildlife Service
- Town of Moraga
- San Francisco Public Utilities Commission
- John Muir National Historic Site

The ACCCWMA had a total of 4 meetings during 2009. The location of each meeting alternated between Contra Costa County and Alameda County's Livermore branch office facility. The attendance at each meeting varied from 10 individuals to 25, each representing a variety of stakeholders. During 2009, the ACCCWMA Memorandum of Understanding (MOU), and Five-year Strategic Plan were updated and revised. Currently, ACCCWMA is working with Pacific Gas and Electric (PGE) personnel to be included in the revised MOU as a new stakeholder. The ACCCWMA has also developed a partnership with the Bay Area Early Detection Network (BAEDN) which is a

group of 37 public and private entities with the goal of cooperatively working to detect, prevent and control invasive species spread throughout the San Francisco Bay Area.

Summary of Weed Management Projects in 2009

Contra Costa County has three eradication projects that have been funded by CDFA's Supplemental WMA general fund. The contract agreement is from January 1, 2008 through June 30, 2010. The three projects take place within Mt. Diablo State Park, Town of Moraga's Mulholland Ridge public open space and Contra Costa County's Agricultural Core Area. The total amount of the contract agreement is for \$39,044.50.

Contra Costa County documents known noxious weed infestations by net acreage and gross acreage. Net acreage is the actual area of land that is treated and gross acreage is the area of land that is surveyed.

Mt. Diablo State Park Project

This project's goal is to eradicate isolated populations of selected "B" and "C" rated weeds within Mt. Diablo State Park. Mt. Diablo State Park is one of the ecological treasures of the San Francisco Bay Area. The park resides entirely within Contra Costa County and consists of approximately 20,000 acres. Elevations within the park range from 300 to 3,849 feet. Wildlife is abundant as well as over 400 species of plants. Mt. Diablo is a known habitat of red-legged frogs, tarantulas, California tiger salamander and the rare Alameda whip snake plus many native plants that are rare and are only found on or in the vicinity of the mountain. The project consists of surveying and treating Artichoke Thistle (*Cynara cardunculus*), Purple Starthistle (*Centaurea calcitrapa*), Perennial Pepperweed (*Lepidium latifolium*), Barb Goatgrass (*Aegilops triumcialis*), and Medusahead (*Taeniatherum caput-medusae*). All of the selected B and C rated invasive weed populations are small and can be eradicated.

Contra Costa County Department of Agriculture has been involved with noxious weed control efforts within Mt. Diablo State Park since 2000. The goal of the eradication project is to monitor and treat all noxious weeds annually to prevent any production of new seed. This will result in eventual depletion of seed banks to accomplish eradication. The park is approximately 20,000 acres, but only 3,710 were surveyed this year. Emphasis was focused on historical Artichoke Thistle infested areas since Artichoke Thistle will mostly re-occur within the same locations throughout the park due to the seed bank that has been established. Much of the park is forested and covered with chaparral which is not known to be a preferred habitat of Artichoke Thistle. The Park staff is contacted every year prior to treatment to retrieve information on any new detections or status of existing sites. Unfortunately, these locations are within steep, rugged, hazardous and remote areas that require tremendous effort to reach. There are a total of 6 locations throughout the park that it may be safe to say Artichoke Thistle has been eradicated based upon the definition of eradication within the annual report guidelines. These locations continue to be surveyed each year, but over the last 6 years, there has been no new or existing Artichoke Thistle plants detected. All other

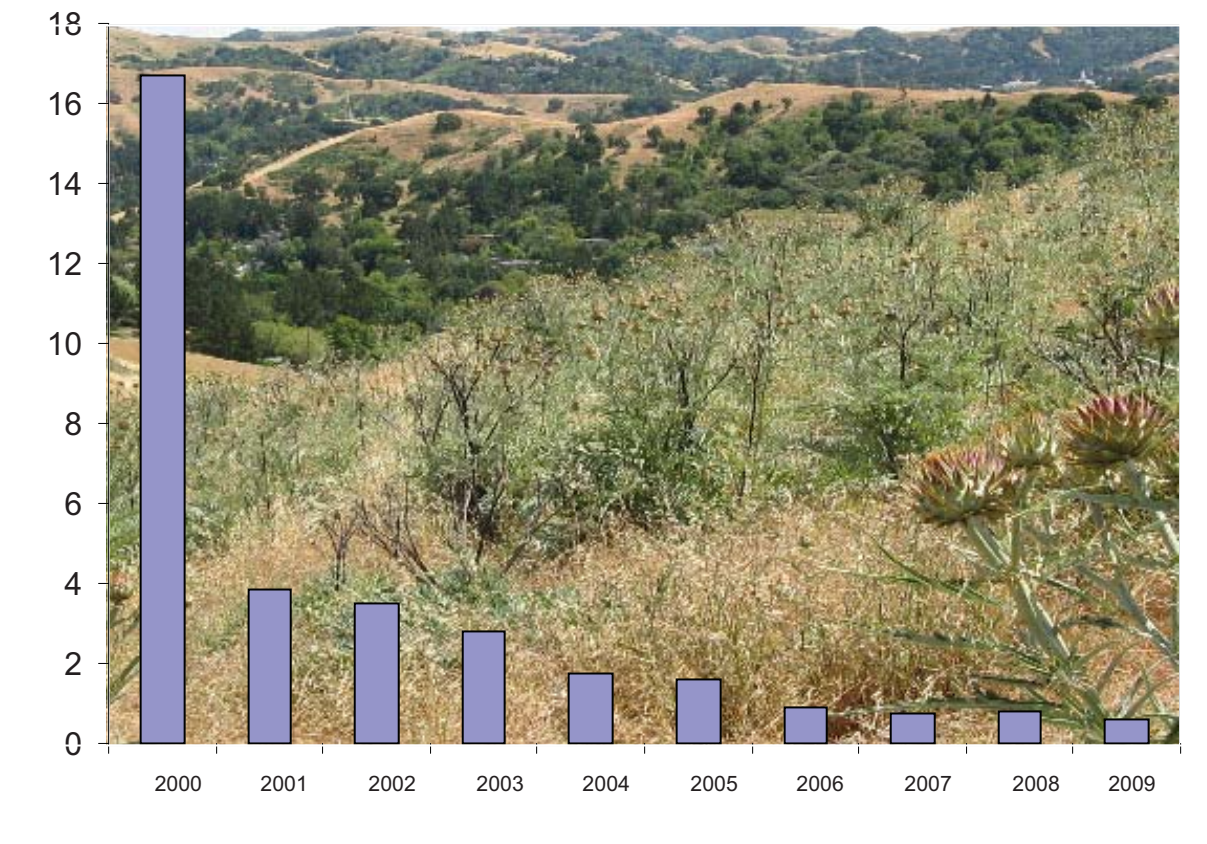
locations have had new artichoke thistle detections from the existing seed bank and eradication will not be achieved in these areas until the seed bank is fully depleted and have been treated.

Artichoke Thistle (*Cynara cardunculus*)

In 2009, the total gross acres of Artichoke Thistle that was surveyed within Mt. Diablo State Park was 3,710 and net acres treated were 0.62. It took a total of 63 hours to complete the project and 35 ounces of material. Clarity[®], a broadleaf herbicide, was used at 3 ounces per 3 gallon dilution rate. The majority of treatments were conducted using ATV's and 3 gallon backpacks and a "spot-spray" method. Whenever possible, management methods are selected with the goal of minimizing disturbance to sites and still maintaining effective management levels.

Mt. Diablo State Park Project

Artichoke Thistle Net Acres Treated

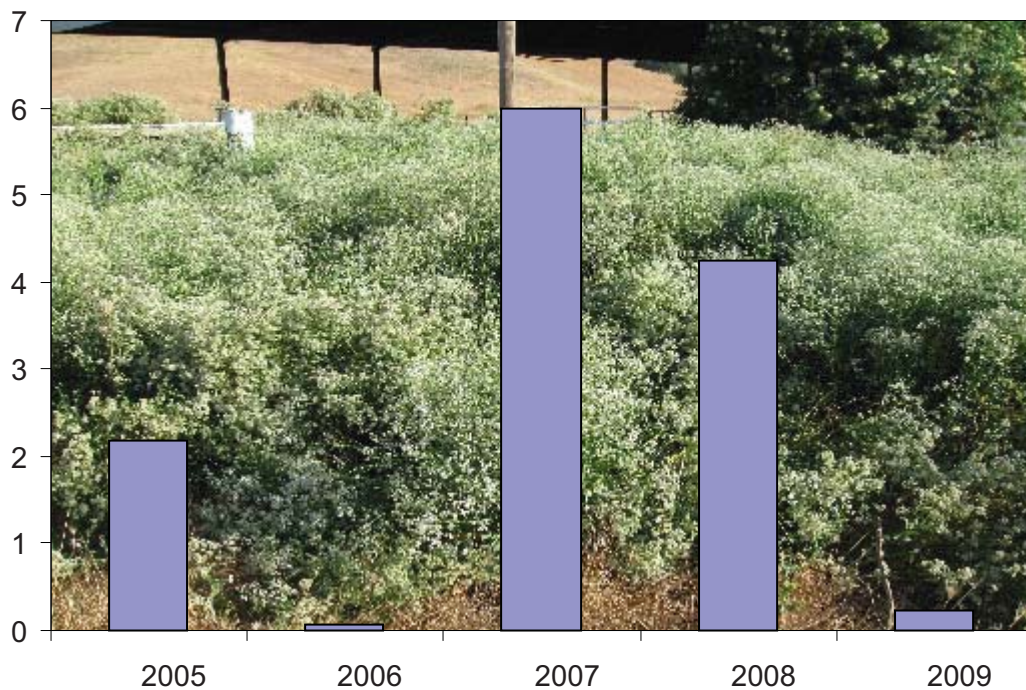


Perennial Pepperweed (*Lepidium latifolium*)

There are a total of three known Perennial Pepperweed infestations in the park. One is located on the western side of the park which is referred to as the Macedo Ranch staging area. One other location is on the north side of the park and is known as the Mitchell Canyon staging area. The third location is on the eastern side of the park adjacent to Morgan Territory road. All three are horse staging areas and are monitored each year for possible new introductions of Perennial Pepperweed and other noxious weeds. Each location is surveyed every year and all pepperweed are treated. A total of 25.1 gross acres were surveyed during 2009 and 0.24 net acres were treated. The Mitchell Canyon staging area has been free of Perennial Pepperweed over the past 6 years and is considered eradicated. A total of 3 ounces of Clarity[®] herbicide was used at the Macedo Ranch location at 1 ounce per 1 gallon dilution rate. A total of 24 ounces of Milestone[®] herbicide was used at the Morgan Territory road location at 6 oz. per acre rate. It took a total of 5 hours to complete the Perennial Pepperweed survey and treatment in 2009.

Mt. Diablo State Park Project

Perennial Pepperweed Net Acres Treated

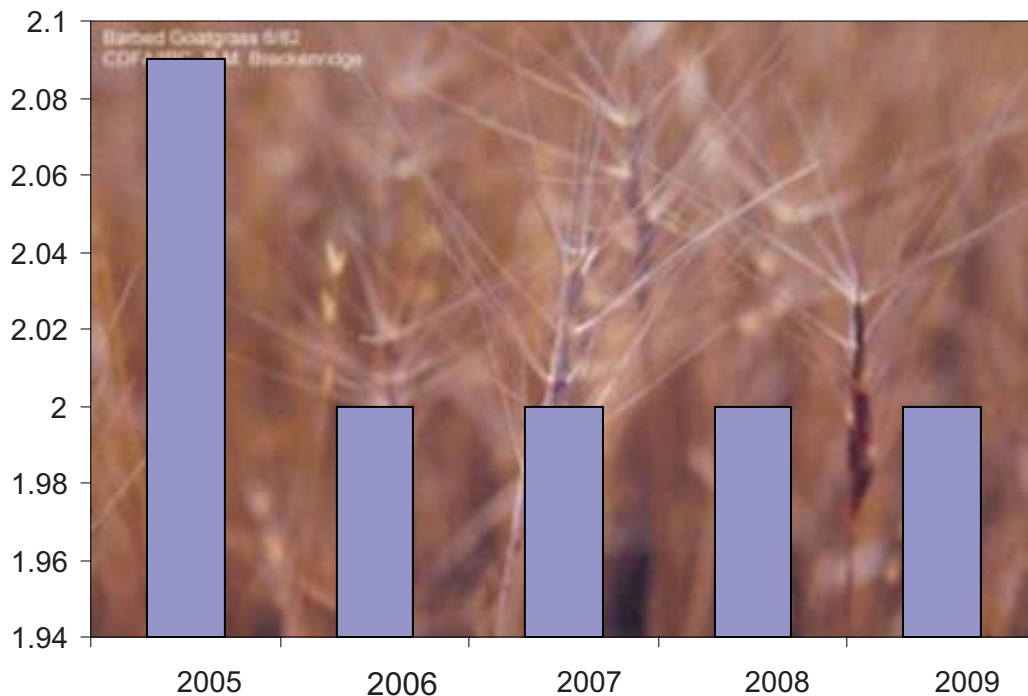


Barb Goatgrass (*Aegilops triuncialis*)

Barb Goatgrass was first discovered in Mt. Diablo State Park during 2005 by a park visitor who was hiking along a trail within the Riggs Canyon area. The section of property that includes Riggs Canyon was purchased by California Parks and Recreation in 2005. A total of 2.09 net acres was treated initially with a glyphosate herbicide which was applied with a 200 gallon spray rig using 300 feet of hose. The size of the population of Barb Goatgrass has not reduced much over time, after the first treatment year, due to the isolated and rugged terrain where it is located which has made it difficult to ensure thorough treatment. The Riggs Canyon area has several sensitive aquatic sites that have been identified by park personnel and is known to have populations of Red-legged Frog and Tiger Salamanders. It is difficult to differentiate this pest from common annual grassy forage until the annuals begin to die off. This makes the treatment window very short with treatment necessary prior to seed development of the Barb Goatgrass, (same for Medusahead), and it comes at a time that we are very busy trying to complete other noxious weed activities. Aerial applications have been ruled out due to the sensitivity of the area.

Mt. Diablo State Park Project

Barb Goatgrass Net Acres Treated



Medusahead (*Traeniatherum caput-medusae*)

Medusahead is a grass species that is located throughout the Riggs Canyon area. It was first discovered in 2007 by Agriculture Department personnel while treating the Barb Goatgrass infestation. A total of 1 net acre was treated with a glyphosate herbicide with a 200 gallon spray-rig. In 2008, the population had spread to 4 locations where 10 net acres were treated with Roundup Pro[®] material. In 2009, there was no Medusahead detected to be treated after surveying the entire area. The reason for this is not known.

Mt. Diablo State Park Project

Medusahead Net Acres Treated



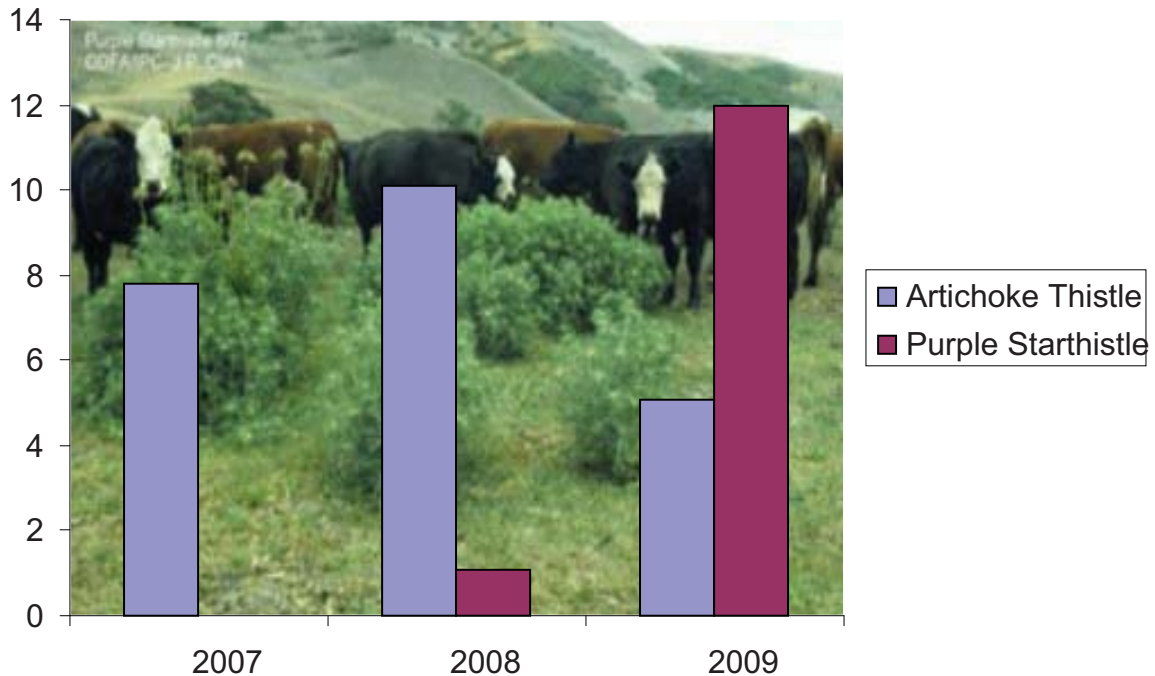
Mulholland Ridge Project

Mulholland Ridge public open space is owned by the Town of Moraga and consists of 245 acres. It is leased for cattle and is accessible for the use by the public. The project proposal focuses on eradicating artichoke thistle and purple starthistle throughout the 245 acres. Both are CDFA B-rated noxious weeds and are the only noxious weeds present on the site. The property is surrounded on two sides by residential neighborhoods. Reduction with eventual elimination of the two noxious weed populations increases useable rangeland acreage accessible to cattle for grazing and reduces an infestation source that may lead to spreading into adjacent non-infested grazing and park land. There is an EBMUD above ground water reservoir which is serviced periodically by EBMUD staff. Traveling through the open space along the service road creates an opportunity for seeds from both noxious weeds, particularly purple starthistle, to be transported to other open space and other right-of-way areas via EBMUD equipment. The EBMUD service road is heavily infested with Purple Starthistle. Eradication of these two highly invasive noxious weeds will help prevent infestation to other open spaces.

During 2007, the first treatment of Artichoke Thistle and purple starthistle took place. Limited funds from the Town of Moraga allowed only for 3 days of treatment which would only allow a portion of the 245 acres to be surveyed and treated. In addition to limited funding, the Town would only allow the use of 3 gallon backpack sprayers; therefore, treatment of the large populations of Purple Starthistle was not possible.

During 2008, the Town of Moraga allowed the use of the department's 200 gallon sprayrig. An additional new area was surveyed and treated along with the existing acres that were first treated during 2007. Large patches of Purple Starthistle, as well as, Artichoke Thistle were treated because of the permitted use of the spray rig. As of 2009, 80% of the open space has been surveyed and treated. Roundup[®] herbicide is the only material that the Town of Moraga's IPM policy would allow. Roundup[®] is applied at a dilution rate of 8 ounces in 3 gallons of water. ATV's were used along with 3 gallon backpack sprayers using a "spot-spray" method and 200 gallon spray rig using a "broadcast" method. According to the label, best results using Roundup[®] are obtained when noxious weeds are treated after they reach the reproductive stage of growth (bud formation); therefore, treatment took place in early June. During 2009, a total of 1.34 gallons of Roundup[®] was used for Purple Starthistle control and 1.22 gallons for Artichoke Thistle.

Mulholland Ridge Project Net Acres Treated



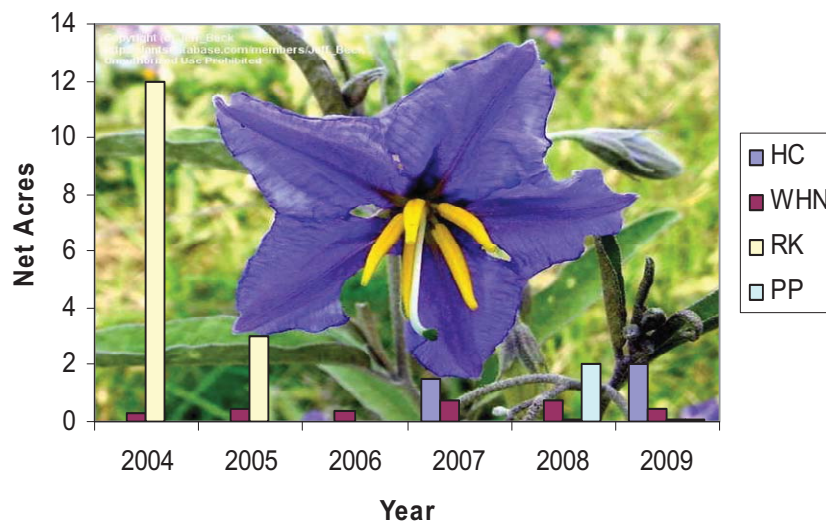
Agricultural Core Project

There are approximately 12,000 acres in the Contra Costa County Agricultural Core Area. Much of the land in this area is under active cultivation of intensive row crops, such as tomatoes, sweet corn and other vegetables. About 25% is in orchards and vineyards. The policy underlying the County Agricultural Core designation is to preserve and protect the farmlands of the County, which are the most capable of and are generally used for the production of food, fiber, and plant materials.

The project goal is to eradicate selected invasive noxious weeds found within the Agricultural Core area. Eradication efforts on these noxious weeds by the Department have been minimal over the last 20 years. Currently, the four known noxious weeds that have been identified to exist within the Ag Core are White Horsenettle (*Solanum elaeagnifolium*), Perennial Pepperweed, Russian Knapweed (*Acroptilon repens*), and Hoary Cress (*Cardania draba*). Preventing the introduction and eradicating these established selected invasive noxious weeds will assist with meeting the goals and objective of the County general plan regarding preservation of the Agricultural Core area.

During 2009, several different herbicides were used considering efficacy on the particular noxious weed species and the sensitivity of the site. A total of 14.35 ounces of Clarity® herbicide was used in addition to 6 ounces of Milestone® herbicide for White Horsenettle control and 24 ounces of Roundup Pro®. A total of 3 ounces of Milestone® and .08 ounces of Telar® herbicide were used for Russian Knapweed control. A total of 6 ounces of Milestone® herbicide was used for Perennial Pepperweed control and 2 ounces of Telar® for Hoary Cress. There was a total of 21 hours devoted towards the project during 2009.

Agricultural Core Project Net Acres Treated



Monitoring

The following two methods are used to monitor each of the three project’s treatment sites:

Date Collection

- Equipment**

Each 200 gallon spray rig has been calibrated to treat 1 acre per 50 gallons of diluted material; therefore, a total of 4 net acres is treated with 200 gallons of diluted material. Each backpack sprayer can hold a maximum of 3 gallons of diluted material. Dividing 3 gallons by 50 gallons will result in, 0.06 net acres per backpack. The number of backpacks and spray rigs is used to determine the total amount of net acres treated.

2. **Data Base**

A computer data base was created by our department, using Access, for our applicators to enter their individual daily use reports. Each site has been issued an identification number. Daily use reports are entered into the database for each location for each day treated. Each use report consists of the date of application, applicator's initials, district, site identification number, method, type material, and amount of gross acres, amount of material, number of hours, and number of backpacks or spray rigs. The database will automatically figure the net acres based upon the number of backpacks or spray rigs used.

3. **Net Acres recorded**

A report for each site is queried to determine number of net acres treated for each target weed at each project site. This is compared to previous years to help track progress over time.

Data queries can be manipulated in a variety of ways based upon the type of information that is needed.

Before and After Photo's

1. Pre-treatment pictures are taken at different locations of each project site.
2. GPS coordinates are acquired at some of the sites.
3. Post-treatment pictures are taken every year at the same locations where pre-treatment pictures were taken initially.

2010 Action Plan

Funding

Funding obtained through the CDFA supplemental grant process in 2008 will continue until June 30, 2010. CCCAC was unable to secure future funding from CDFA for the three projects beyond June 30, 2010; however, the CCCAC was successful in obtaining a contract agreement with California State Parks and Town of Moraga to fund future noxious weed control efforts within Mt. Diablo State Park and Mulholland Ridge for 2011. The Agricultural Core project will be covered by the WMA Base Funding contract for 2011.

Materials

The CCCAC will continue to use Clarity[®] herbicide on artichoke thistle and purple starthistle. Milestone VM Plus[®] was used for the first time on perennial pepperweed

along Caltrans right-of-way during 2009. This is a fairly new material to the CCCAC noxious weed program. The treatment sites will be monitored during 2010, to determine efficacy of this material on Perennial Pepperweed. Milestone VM Plus[®] is a combination of Milestone[®] and Garlon[®] and is registered to be used for broadleaf weeds and woody plant control in rangeland, Conservation Reserve Programs, non-cropland areas, rights-of-ways, ditch banks, management area, recreation areas, campgrounds and grazed areas. The CCCAC is considering the phasing out use of Telar[®] herbicide with the hope that Milestone VM Plus[®] will provide acceptable levels of control on Perennial Pepperweed. Roundup Pro[®] will continue to be used for barb goatgrass and Medusahead control. Some generic versions of glyphosate have been found to have a "Warning" label which the CCCAC will avoid.

Outreach

The CCCAC continues to remain an active participant with public education and other outreach workshops. In 2008, the Contra Costa County Resource Conservation District, (RCD), sponsored a workshop titled "Identifying and Managing Rangeland Noxious Weeds" which was well attended by property owners from Contra Costa and Alameda counties. CCCAC staff co-sponsored and attended the workshop and presented a variety of PowerPoint presentations regarding identification and management of rangeland weeds.

In 2009, (RCD) again sponsored a noxious weed and watershed training workshop targeting the equestrian communities of Alameda and Contra Costa counties. Personnel from CCCAC participated in the workshop by providing a presentation on noxious weeds that are toxic to horses. The workshop was well received and provided a network opportunity for attendees to request further information regarding Yellow Starthistle and Perennial Pepperweed control.

The RCD has copies of both workshops that were videotaped available on CD. To request copies of the workshops, contact Mary Grim at mary.grim@ca.macdnet.net or 925-672-6522 x 113.

The CCCAC continues to participate with the Contra Costa County Fair every June. The department maintains a fair booth which has several brochures, coloring books, and pictures demonstrating the noxious weed control program. The ACCCWMA has a display board that is utilized at most noxious weed workshops, including the County Fair.

The CCCAC is an active partner with the Bay Area Early Detection Network, BAEDN. During 2009-2010, personnel with CCCAC served on the BAEDN steering committee and attended the first Annual BAEDN region-wide partners meeting.

Alameda/Contra Costa County WMA Display



2009 Contra Costa County Fair

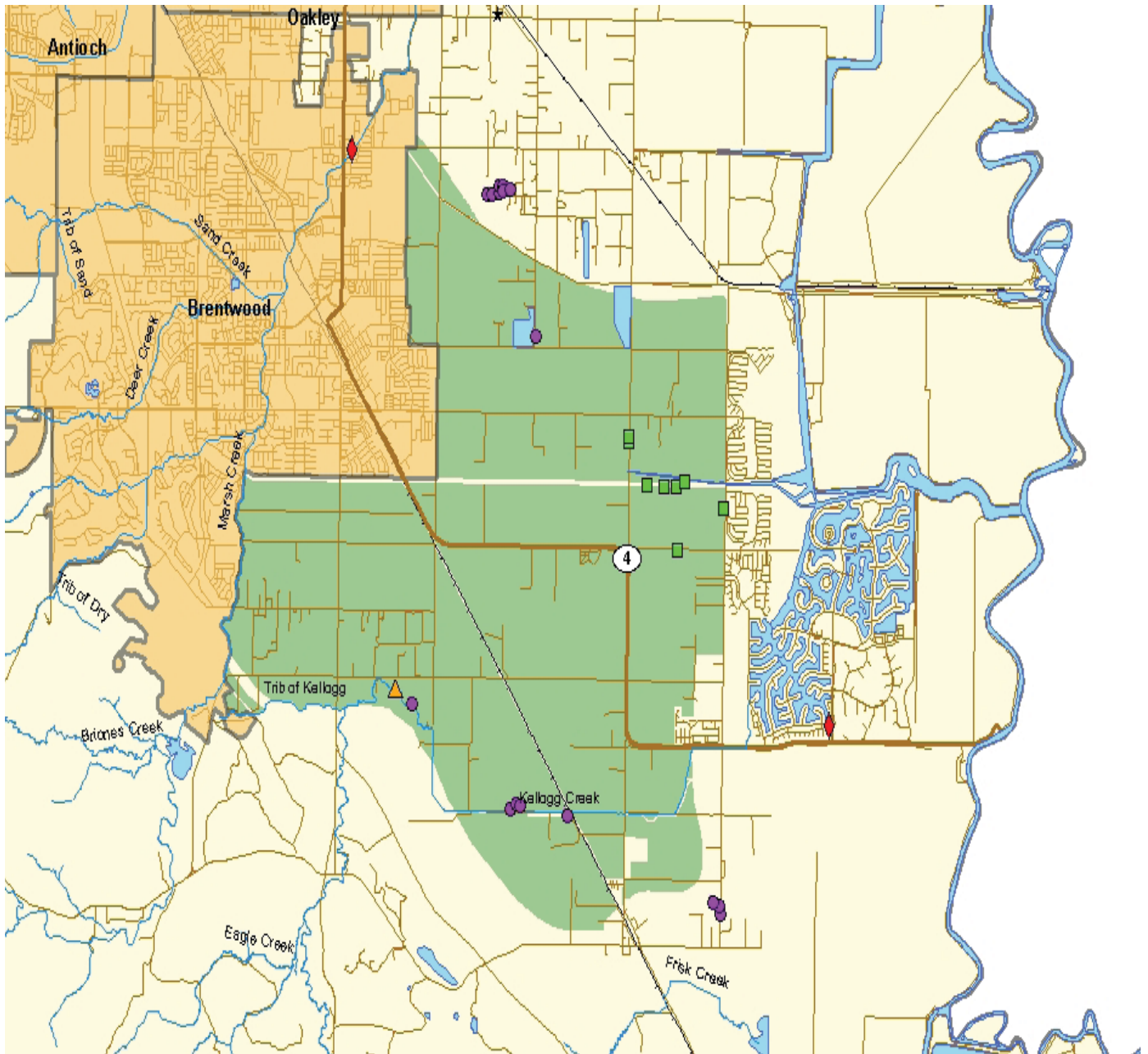


APPENDIX A-project site photos and maps

MT. DIABLO STATE PARK

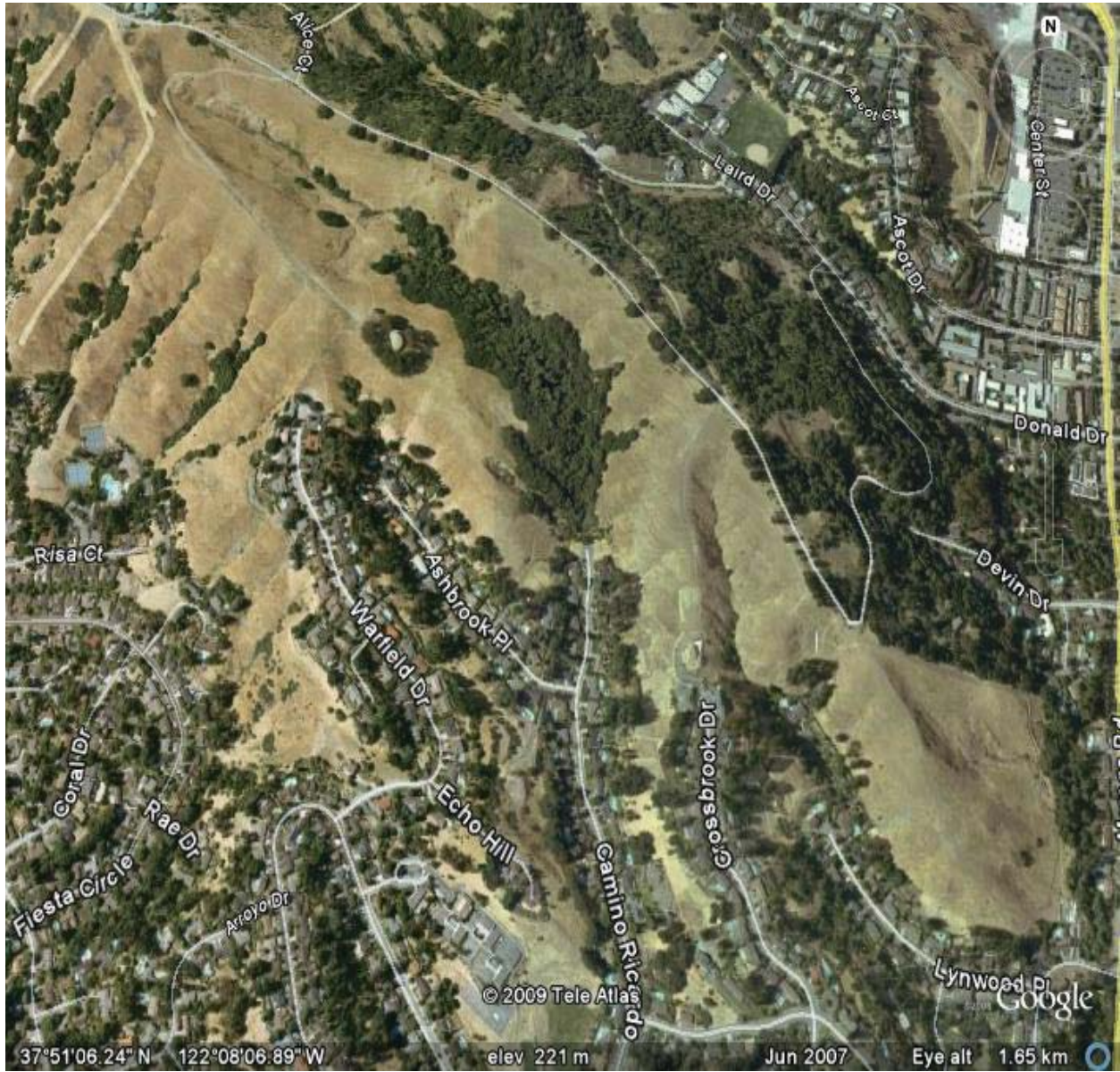


**AGRICULTURAL CORE
(Green Shaded Area)**



- Purple-Perennial Pepperweed**
- Green-White Horsenettle**
- Orange-Artichoke Thistle**
- Red-Russian Knapweed**
- Lt Purple-Hoary Cress**

MULHOLLAND RIDGE
Moraga



Map scale not available

APPENDIX B-before and after photos

**AGRICULTURAL CORE PROJECT
White Horsenettle-Byron Highway**



Before treatment 2008



After treatment 2008

Perennial Pepperweed



Before treatment 2008



After Treatment 2008

Russian Knapweed-Marsh Creek



2007



2008

General Contra Costa County Noxious Weed Program **(non-supplemental)**

The CCCAC has a long history of managing noxious weeds in a responsible and environmentally sensitive manner. In 1979, the CCCAC implemented a new noxious weed program to target Artichoke Thistle. Since then, the program has evolved to expand to a wide variety of highly invasive noxious weeds that continue to threaten the local agricultural industry. The majority of properties that the CCCAC manages for noxious weeds are public open spaces, including regional park lands, privately owned rangeland and property that is infested with target weeds adjacent to these areas. *The following information does not include the supplemental projects data.*

Artichoke thistle (*Cynara cardunculus*)

In 2009, a total of 127.77 net acres of Artichoke Thistle (AT) treated using 72.35 gallons of material. A total of 67,740 gross acres was surveyed throughout the county. The type of materials used for Artichoke Thistle control range from Clarity[®] herbicide early in the season (February through mid-April) at a rate of 3 ounces per 3 gallons of dilution then at a higher rate of 4 ounces per 3 gallons of dilution later in the season (mid-April through mid-May) and Roundup[®] herbicide (mid-May through June) at a rate of 8 ounces material per 3 gallons of dilution. Milestone[®] herbicide may be used with another material as a tank mix early in the season (February through April) as a pre-emergent at a rate of 5 ounces per acre within 50 gallons dilution. Artichoke Thistle is found throughout the county growing in a variety of habitats. About 80% of infested areas within the county are treated and surveyed with very good success toward our eventual eradication goal.

Purple Starthistle (*Centaurea calcitrapa*)

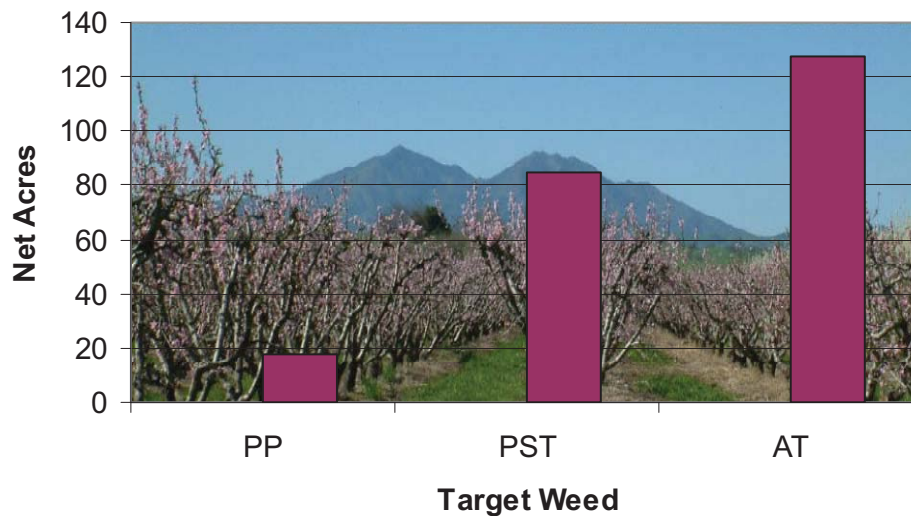
In 2009, a total of 85.05 net acres of Purple Starthistle (PST), was treated with 21.31 gallons of material. A total of 15,595 gross acres were surveyed throughout the county. Clarity[®] herbicide was used as a post emergent at 3 ounces per 3 gallons of dilution from February through May and Roundup[®] herbicide is used at 8 ounces per 3 gallons of dilution from June through July. Milestone[®] was used during some applications with another material as a tank mix early in the season (February through April) as a pre-emergent at 5 ounces per acres within 50 gallons dilution. About 90% of the known infested areas of the county are treated and surveyed.

Perennial pepperweed (*Lepidium latifolium*)

In 2009, a total of 17.32 net acres of Perennial Pepperweed, (PP), was treated and 355 gross acres were surveyed. Clarity[®] herbicide at 3 ounces per 3 gallons dilution for a total of 6 ounces of material was used and Milestone[®] herbicide at 5 ounces per 3 gallons dilution for a total of 47 ounces was used and 4 gallons of Milestone VM Plus[®] at 4 pints per acre within 50 gallons dilution was used in addition to Telar[®] herbicide at 3

ounces per 3 gallons dilution was used for a total of 3 ounces of material. Roundup[®] herbicide was also used at 8 ounces of material per 3 gallons dilution for a total of 8 ounces of material. A very small percentage of known PP acreage is treated due to limited resources. We treat Caltrans roadways as well as satellite infestations in an attempt to stop the further spread of this serious noxious weed. We roughly estimate in excess of 5,000 net acres of PP exist in Contra Costa County and unfortunately this acreage is growing.

2009 Net Acres Treated



Oblong Spurge (*Euphorbia oblongata*)

Oblong Spurge (OS) is a native of Eurasia. It was accidentally introduced in North America as a seed impurity. It is a rangeland pest that causes in mouth and digestive irritation in cattle. The red stems characterize this high rated noxious weed in California; which produces showy yellow flowers and milky sap when the plant stem is broken. There are nine sites of this conspicuous perennial that are being managed by the department throughout the county, with the objective of eradication. A total of 0.73 net acres of Oblong Spurge was treated during 2009 and 107.5 gross acres were surveyed. Several materials have been tried on this stubborn weed with Roundup Pro[®] and Clarity[®] herbicides showing the best efficacy. Roundup Pro[®] was mixed at 8 ounces per 3 gallons dilution with a total of 75.5 ounces being used. Clarity[®] herbicide was also used at 4 ounces to 3 gallons dilution with a total of 4 ounces used in 2009. The Berkeley Hills in the coast range along the border of Alameda and Contra Costa County are heavily infested and are not treated due to a lack of resources.

Kangaroo thorn (*Acacia paradoxa*)

Kangaroo Thorn is a spreading, prickly shrub that is native to Australia that has been used in ornamental and hedgerow plantings. It was likely introduced into California for that purpose. Seeds are produced in pods that burst open in dry, warm conditions. Seeds can spread by vehicles, humans, and possibly animals. The only known location within Contra Costa County is located at a golf course in El Cerrito adjacent to Wildcat Canyon Regional Park. Initially, the department removed this large stand of Kangaroo Thorn mechanically using chain saws. That first year, stumps were treated using Garlon[®] and oil and a total of 0.5 net acres was cut out and chipped in place. Every year since then, the site is surveyed and new growth seedlings removed by hand. In 2009, a total of 3.5 gross acres were surveyed and 0.01 (three plants), net acres were hand pulled.

Russian Knapweed (*Acroptilon repens*)

Russian Knapweed (RK) is a grayish perennial that grows up to 3 feet tall and typically in dense clumps. Several years ago, Russian Knapweed was detected at certain locations throughout Contra Costa County along a water districts right-of-way. It has been speculated that the water districts equipment may have introduced this invasive weed into the county. In 2009, 0.03 net acres were treated using 0.08 ounces of Telar[®] herbicide and 3 ounces of Milestone VM Plus[®]. This was the first time that Milestone VM Plus[®] was used to control Russian Knapweed in Contra Costa County. The CCCAC is attempting to experiment with newer materials for noxious weed control with the objective of replacing Telar[®] herbicide. All known infestations of RK in Contra Costa County are treated and monitored.

Smooth Distaff Thistle (*Kentrophyllum baeticus*)

Smooth Distaff Thistle, (SDT), is a noxious winter annual with rigidly erect branched stems. Plants are highly competitive with desirable rangeland species. Because of their spiny nature, distaff thistles can injure the eyes and mouths of livestock. Smooth Distaff Thistle was first detected in Contra Costa County on a ranch between Hercules and Martinez. This is the only known site in Contra Costa County and was determined to have been inadvertently introduced by contaminated construction equipment. In 2009, 0.04 net acres was treated with 2 ounces of Clarity[®] herbicide and 0.01 net acres was treated with 0.5 ounces of Roundup Pro[®].

White Horsenettle (*Solanum elaeagnifolium*)

White Horsenettle (WHN), is a showy invasive noxious weed from the nightshade family. The lavender, star-shaped flowers with yellow centers are beautifully set off by the silvery green foliage. Large patches of the plant in full bloom are striking. However, the plant is an aggressive and poisonous weed that spreads from both seeds and deep rhizomatous roots. The berries have been used by Southwestern Native Americans by crushing them to curdle milk in making cheese, and also for treating sore

throat and toothache. Several locations (12) exist in east Contra Costa County. Some locations have been treated for over twenty years. During 2009 0.54 net acres were treated with Clarity[®] (16.1 ounces), Telar[®] (.75 ounces), Roundup Pro[®] (24 ounces), and Milestone VM Plus[®] (4 ounces). No other known infestations exist in Contra Costa County.

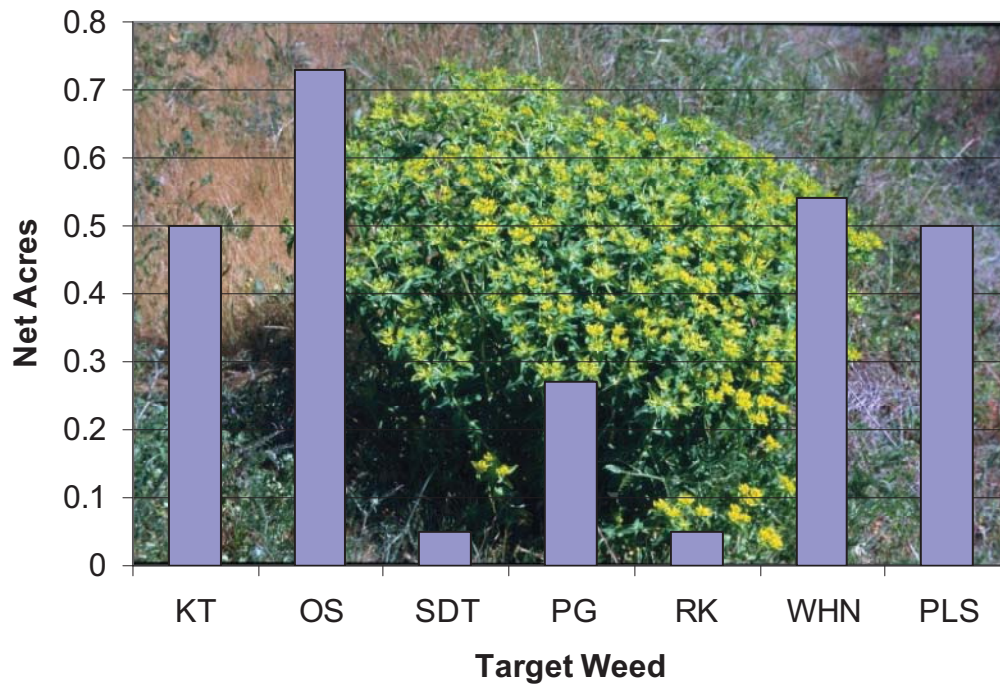
Pampas Grass (*Cortaderia selloana*)

Pampas Grass is a tall grass native to southern South America. It is a tall grass, growing in dense tussocks that can reach a height of 10 feet. The leaves are evergreen, long and have very sharp micro serrated edges. It was introduced to North America as an ornamental grass and currently, is still available from the nursery industry. Pampas Grass is very prolific with each plant able to produce over 1 million seeds during its lifetime. The CCCAC treats Pampas Grass along the Cal Trans right-of-way areas of the highway system throughout the county. In 2009 0.27 net acres were treated with 37 ounces of Habitat[®] herbicide in August and September. This plant is commonly found in landscaped areas throughout Contra Costa County and has infested large open areas of western Contra Costa County. Our efforts are directed at stopping this noxious weed from entering open and rangeland areas in the central and eastern portions of Contra Costa County.

Purple Loosestrife (*Lythrum salicaria*)

Purple Loosestrife (PLS) is an erect, herbaceous perennial of Eurasian origin that became established in the estuaries of North America by the early 1800's. It is still widely sold as an ornamental in some parts of the United States. In 2000, the Contra Costa Public Works Department observed Purple Loosestrife's magenta colored flowers in a few spots throughout the Walnut Creek flood channel and upstream into the city of Walnut Creek and Lafayette. This particular infestation has its challenges due to the difficulty with reaching the individual plants. The CCCAC has utilized a variety of techniques to treat this prolific plant, such as, hiking through the mudflats at low tide on foot and recently, navigating the waterways at high tide with kayaks. In 2009, 15 ounces of Habitat[®] herbicide was used to treat 0.5 net acres. All known spots of PLS were treated and surveyed.

2009 Net Acres Treated



Japanese Dodder (*Cuscuta japonica*)

Japanese Dodder is a very aggressive parasitic plant that has the potential of severely altering the composition and function of riparian areas, as well as affecting ornamental plantings and agricultural crops. It is an “A” rated noxious plant as classified by the California Department of Food & Agriculture (CDFA). Japanese Dodder looks very similar to thick diameter spaghetti noodles that are bright yellow-orange with tinges of green. It can completely engulf and kill a wide variety of host plants that includes native trees and shrubs.

Japanese Dodder was found for the first time in California in the summer of 2004 in Redding and was found in Contra Costa County in 2005. It has been found on a total of 45 properties including two riparian, two industrial landscaped areas and the remainder on residential properties mostly in West County, but also in Antioch.

It is under eradication which involves mechanical removal of the entire host plant or all infested portions of the plant if newly-infested. Only one new site was found in 2009. All previously infested properties are monitored with only very small amounts of Japanese Dodder found and removed from three of the historically infested sites.

Japanese Dodder (*Cuscuta japonica*)

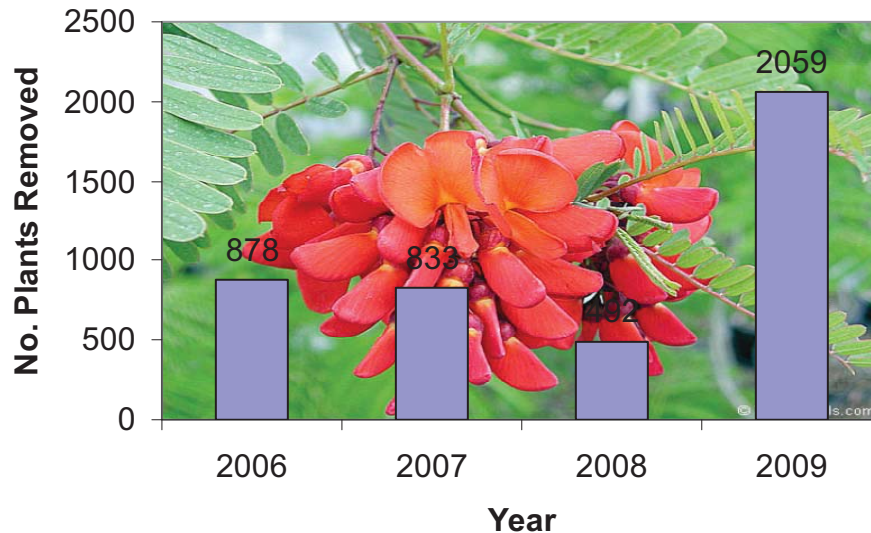


Red Sesbania (*Sesbania pucinea*)

This South American native looks very similar to a small locust tree. It has beautiful pea-like red-orange flowers. It was first introduced in the nursery trade but has been made illegal to sell in California. It is poisonous both to animals and to people if seed or plant parts are ingested. Red Sesbania has the potential to completely take over riparian areas. Its four-winged seed pods are typically 3-6" long containing 6-10 bean-like seeds. Dry seed pods tend to stick on the deciduous tree. The seeds in the pod will rattle when the tree is shaken; for that reason it is sometimes called "Rattlebox". Seed pods float when released from the tree adding to the dispersal potential of this exotic invader. It is a very serious pest of wetland and riparian areas in Florida, Georgia and Texas.

In June of 2006, the Department began an eradication program on the only known wild population located at Dow Wetlands in Pittsburg in a feeder channel leading to and into lower Kirker Creek. Individual plants have been found and removed by our Public Works Department in Walnut Creek as they were doing flood control work. It has been suspected that the source was from an upstream residential property. In 2009, the department conducted a survey and found Red Sesbania on five properties. Plants and few seedlings were removed by hand from the residential properties after issuance of abatement notices. As a member of the legume family seed viability can be as long as 30 years. Though each year all known seedlings were removed prior to seed production, the number of seedlings increased in 2009. This may be partially due to opening the foliage canopy, climatic conditions and the presence of a large seed bank reservoir that will take many years to deplete.

Red Sesbania Project



Program Challenges

Personnel:

CCCAC has had a noxious weed control program since 1979. Since then, the county has been divided into 17 geographical districts which are assigned to each Agricultural Biologist, Deputies and Agricultural Commissioner. From February through June, CCCAC personnel survey and monitor their districts for the program's targeted noxious weeds by walking and/or navigating the terrain with All Terrain Vehicles (ATV's). The most common method of control among the staff is spot spraying with 3 gallon backpack sprayers while using ATV's. Districts can require hundreds of hours to survey and treat. The utilization of ATV's has allowed CCCAC staff to survey and treat large expansive areas very efficiently.

The success of the CCCAC noxious weed control program can be attributed to the commitment, diligence, and dedication of the departments' personnel. The critical component of the program's success is the thoroughness of surveillance and treatment of these highly invasive noxious weeds. Having a limited period of time throughout the year to manage noxious weeds can contribute to the challenges that the department faces in addition to managing a myriad of other workload from State mandated programs.

The CCCAC has not been spared the threat of new pests that have been introduced into the county and threaten the local agricultural industry which in turn, has created a new workload to manage. The CCCAC also continues to experience the challenges of succession where experienced and knowledgeable staff members are retiring and being

replaced by less knowledgeable and less experienced staff which require additional time commitment for training. Our program could not have achieved the current level of success without partnerships with agencies and the agricultural community with the financial support and on-the-ground help with actual spray work.

Equipment:

Having the entire Agricultural division participate with the noxious weed control program requires the purchase and maintenance of a large number and variety of equipment. ATV's (thirteen), numerous backpack sprayers, three spray-rigs mounted on 4-wheel drive pickup trucks, two chain saws and mechanical weed pullers are just part of what is required to operate our sizable and successful noxious weed control program.

Herbicides:

CCCAC will continue to try and expand the use of newly registered herbicides for the control of certain weeds. Some of the newer materials have proven to work more effectively than those previously used materials and have developed a favorable reputation among the Integrated Pest Management (IPM) community.

Funding:

CCCAC frequently searches for and secures outside resources to help supplement funding for weed management activities. Current funding comes from CDFA contracts with State and Regional parks and Homeowner Associations, as well as, donations from ranchers. In 2010, CCCAC will continue to seek out and apply for funding through grants, contracts and agreements with CDFA and other public entities and always welcomes financial support from our local agriculture community.

IPM Policy:

Contra Costa County has an established IPM policy which clearly defines the goals and objectives that are to be met by each department that uses pesticides. Contra Costa County has an IPM Coordinator that serves as a resource for CCCAC to ensure compliance with the Countywide IPM policy. The CCCAC also serves as a member on the County IPM Advisory Committee.

Endangered Species:

Contra Costa County is known for it's diversity of habitats that have, in some cases, been identified as critical habitat for many listed species. The CCCAC utilizes a variety of resources to stay informed of restrictions that may involve the use of herbicides within a listed species habitat. The Department of Pesticide Regulations PRESCRIBE website lists Contra Costa County having 14 endangered and 9 threatened species potentially present in certain designated sections throughout the county.

Red-legged Frog (*Rana aurora draytonii*)

Status: Threatened



California Tiger Salamander (*Ambystoma californiense*)

Status: Endangered



Alameda Striped Racer (Alameda Whipsnake), (*Masticophis lateralis*)

Status: Threatened



Contra Costa Goldfields (*Lasthenia conjugens*)

Status: Endangered



Mt. Diablo Buckwheat (*Eriogonum truncatum*)

Status: Rare, not currently listed due to recent find (was listed as extinct)



Santa Cruz Tarplant (*Holocarpha macradenia*)

Status: Threatened

