

STRATEGIC PLAN FOR THE CONTROL OF NOXIOUS AND INVASIVE WEEDS

SAN MATEO COUNTY WEED MANAGEMENT AREA 2018 - 2022

I. Introduction

The San Mateo County Weed Management Area (SMCWMA) was founded in December, 2000, and has continued to meet bimonthly. The SMCWMA is a regional network formed by state and local agencies, private landholders, the agricultural industry and environmental organizations that have concerns about the proliferation of invasive plant species in San Mateo County.

Mission Statement

The San Mateo County Weed Management Area is committed to protecting human health and safety, while improving the economic, aesthetic, and environmental health of San Mateo County by using integrated management to minimize the negative effects of noxious weeds. The SMCWMA promotes, coordinates, and funds activities that remove and destroy noxious weeds, and prevents the introduction, establishment, and spread of invasive exotic plants in San Mateo County.

In this document, State of California designated noxious weeds and invasive exotic plants are hereafter called "weeds."

The Problem

Weeds are a serious threat to San Mateo County's natural resources. These non-desirable plants are classified as noxious and invasive weeds due to their aggressive competitive behavior. Weeds crowd out native plants, disrupt ecosystem processes, degrade animal habitats, create fire danger, exacerbate erosion, and are a costly problem for farmers, ranchers, and landowners.

San Mateo County has many areas where dense urban development is adjacent to agricultural and wild lands. This proximity provides a direct conduit for the establishment of invasive ornamental plants, and results in the degradation of already dwindling habitat in wildland areas. San Mateo County is also host to a number of endangered plant and animal species. When weeds take over native habitat, important native species have a greatly diminished chance of survival. Additionally, some invasive weeds are highly flammable, adding to wildland fuel load.

SMCWMA Strategic Plan Goals

Below are the goals of the Strategic Plan for coordinated weed management in San Mateo County:

- Increase the effectiveness of weed control in roadsides, parks, open spaces, and waterways
- Protect and enhance cropland and rangeland productivity
- Protect and enhance ecosystem biodiversity
- Reduce fire hazard and fire control costs
- Ensure that weeds are not the primary cause of the loss of rare and/or endangered plant and animal species, or sensitive habitat

The Strategic Plan

To accomplish these goals the SMCWMA will coordinate and promote the sustained detection, eradication, and control efforts of land managers countywide. The SMCWMA will also make the public aware of the degradation of San Mateo County lands by the uncontrolled spread of weeds. We will also inform the public of the benefits of weed management and how they can participate in weed management efforts.

The Strategic Plan is made up of five elements critical to building a successful regional weed management program.

- A. Education and outreach
- B. Prevention
- C. Detection, surveying and mapping
- D. Eradication, control, and monitoring
- E. Site restoration
- F. Funding and in-kind services

Full implementation of the Strategic Plan, which emphasizes proven integrated weed management practices, will halt the spread of weeds in San Mateo County. SMCWMA cooperators will combine resources, align priorities, and share strategies to create a viable active Strategic Plan. The plan will be revised as needed to reflect program successes and challenges old and new.

II. Program Description

A. General Overview

The weed management program in San Mateo County is a cooperative effort between county, state, and local agencies; and other interested non-governmental organizations, individuals and landowners. It is directed at preventing, suppressing, and eradicating non-native, invasive, noxious weeds. Participants in the SMCWMA cooperate to procure grants and aid, and may supply money, personnel (volunteers and/or staff), or equipment.

Whether a certain weed is eradicated, prevented from entering, suppressed or otherwise managed is usually determined by:

- State rating
- Pest potential in San Mateo County
- Size of infestation in the county
- Available control methods
- Interest and capacity among participating weed management entities

Integrated weed management is a system used to plan and recommend selected methods to prevent, contain or control the spread of undesirable plant species or groups of species. Strategic use of all available tools and techniques is economically and environmentally more effective than depending on any single option. The elements of integrated management include:

- Education and outreach, to encourage public awareness and participation
- Prevention and early detection of incipient infestations
- Mapping and inventory of existing populations
- Control (physical/mechanical, biological, chemical, cultural) of existing infestations
- Monitoring and evaluation of completed control projects
- Land Stewardship

A number of regulated weeds warranting control are found in San Mateo County. An integrated strategy to manage these populations could minimize their negative effects and prevent future infestations of undesirable plant species.

B. Prioritization

The SMCWMA uses recommendations from CDFA as well as from California Invasive Plant Council's (Cal-IPC) inventory and tools, as sources for information and prioritization on invasive plants.

State ratings: In California, biologists of the CDFA recommend plants for listing after consultation with outside experts and California's County Agricultural Commissioners (CACs). If a plant is found to probably be "troublesome, aggressive, intrusive, detrimental or destructive to agriculture or silviculture, or to an important native species and is difficult to control or eradicate," CDFA will designate the plant as a noxious weed and will assign the weed a rating of A, B, C, D, Q, or W. These ratings reflect CDFA's view of statewide importance of the pest, the likelihood that eradication or control efforts would be successful and the present distribution of the pest within the state. These ratings are law, and discretion regarding management is the responsibility of the local CAC as local conditions may dictate more stringent action at the discretion of the CAC, and the rating is subject to change.

Definitions of ratings:

"A" – A pest of known economic or environmental detriment and is either not known to be established in California, or it is present in a limited distribution that allows for the possibility of eradication or successful containment. A rated pests are prohibited from entering the state with limited exceptions due to research purposes.

"B"- A pest of known economic or environmental detriment and, if present in California, it is of limited distribution. B-rated pests are eligible to enter the state if the receiving county agrees to accept them. At the discretion of the local CAC, they are subject to eradication, containment, suppression, control or other holding action.

"C"- A pest of known economic or environmental detriment, and if present in California, it is usually widespread. C-rated organisms are eligible to enter the state as long as the commodities with which they are associated conform to pest cleanliness standards when found in

nursery stock shipments. If found in the state they are subject to regulations to retard spread or suppress at the discretion of the local CAC.

“D”- A pest known to be of little or no economic or environmental detriment, to have an extremely low likelihood of weediness, or is known to be a parasite or predator.

“Q”- An organism or disorder suspected to be of economic or environmental detriment, but whose status is uncertain because of incomplete identification or inadequate information.

“W”- This notation indicates that the plant is included in the CCR Section 4500 list of California State Noxious Weeds.

Priority Species

San Mateo County has unique natural and cultural areas with serious pest plant problems. The following list of weeds is built upon the accumulated experience and knowledge of many people who work and conduct research in the county. We recognize that many weeds of statewide concern show up in San Mateo County, but we took a fresh look at weeds based on criteria that address conditions here. In particular, every weed on this list meets one or more of the following criteria.

- **Control feasibility:** the species must be manageable within the scope of foreseeable available resources
- **Economic impact:** weeds may degrade rangeland, pose a threat to livestock or crops, or have significant potential to fuel wildland fires, in particular in the interface zones
- **Threat to biodiversity:** may suppress or crowd out native species
- **Ability to spread:** exhibits significant seed generation, widespread dispersion potential, aggressive growth, and may require rapid response to prevent establishment
- **Soil alteration:** alters the chemistry and composition of the soil. Contributes to erosion, reduces the soil’s capacity to support native plants and other economically valuable plants
- **Groundwater reduction:** uses water for growth, thereby reducing groundwater level

The following list represents “top priority” species for the county as a whole. Each species is not equally destructive in every part of the county. In addition, certain easy-to-recognize species present the SMCWMA with the opportunity to educate the public about weeds in ways that will promote abatement work. Spreading the word about these weeds will help the SMCWMA recruit allies to extend the scope of abatement. Weed control activities are not limited to species on this list.

In order to better focus our limited resources, the SMCWMA has further divided the list into 3 different priority sections, based on the potential for eradication, containment and or the need to

keep them out of sensitive areas such as serpentine soils or other biologically significant areas. The list will be modified by the SMCWMA to reflect the current state of infestation.

Finally, we have included a Lookout list which includes those weeds of limited distribution and/or those that are not currently invasive but may have the potential to become invasive in San Mateo County.

This list is non-binding and is subject to change.

Priority 1 (working towards eradication):

Atlantic Cordgrass	<i>Spartina alterniflora</i>
Barbed Goatgrass	<i>Aegilops triuncialis</i>
Canary Island Hypericum	<i>Hypericum canariense</i>
Fertile Capeweed	<i>Arctotheca calendula</i>
Purple Loosestrife	<i>Lythrum salicaria</i>

Priority 2 (working towards containment):

Distaff thistle	<i>Carthamus lanatus</i>
European Beach Grass	<i>Ammophila arenaria</i>
Gorse	<i>Ulex europaea</i>
Hanging sedge	<i>Carex pendula</i>
Skeletonweed	<i>Chondrilla juncea</i>
Slender false brome	<i>Brachypodium sylvaticum</i>

Priority 3 (manage as appropriate for the situation):

Arundo (Giant reed)	<i>Arundo donax</i>
Broom, French; Broom, Scotch	<i>Genista monspessulana, Cytisus scoparius</i>
Broom, Spanish	<i>Spartium junceum</i>
Cape Ivy	<i>Delairea odorata</i>
Ehrharta	<i>Ehrharta erecta</i>
English ivy, Algerian ivy	<i>Hedera helix, H. canariensis</i>
Harding Grass	<i>Phalaris aquatica</i>
Italian Thistle	<i>Carduus pycnocephalus</i>
Jubata Grass	<i>Cortaderia jubata</i>
Little Robin	<i>Geranium purpureum</i>
Medusahead	<i>Taeniatherum caput-medusae</i>
Pampas Grass,	<i>Cortaderia selloana</i>
Poison Hemlock	<i>Conium maculatum</i>
Purple False Brome	<i>Brachypodium distachyon</i>
Purple Starthistle	<i>Centaurea calcitrapa</i>
Stinkwort	<i>Dittrichia graveolens</i>
Tocalote, or Malta star thistle	<i>Centaurea melitensis</i>
Tree of Heaven	<i>Ailanthus altissima</i>
Yellow Starthistle	<i>Centaurea solstitialis</i>

Lookout List (be aware of potential to invade desirable locations):

Artichoke thistle	<i>Cynara cardunculus</i>
Blue gum Eucalyptus	<i>Eucalyptus globulus</i>
Bull thistle	<i>Cirsium vulgare</i>
Carolina Horsenettle	<i>Solanum carolinense</i>
False Garlic	<i>Nothoscordum gracile</i>
Heart-podded Hoary Cress	<i>Lepidium draba</i>
Mexican Feather grass	<i>Stipa tenuissima</i>
Oblong Spurge	<i>Euphorbia oblongata</i>
Panic Veldt grass	<i>Erharta erecta</i>
Perennial Pepper Cress	<i>Lepidium latifolium</i>
Puncture Vine	<i>Tribulus terrestris</i>
Rattlesnake grass	<i>Briza maxima</i>

III. Program Elements

A. Education: Awareness and Outreach

History shows us that people inadvertently spread weeds to new environments when they don't know about the harmful effects of weeds. On the other hand, an informed public is instrumental in reducing the spread of weeds. People who know and care have contributed in many ways, including locating new and remote weed populations, manually pulling and destroying weeds, and in rallying support for controlling and eradicating weeds in infested sites. Raising public awareness and understanding requires a well-planned and well-funded long-term program.

Listed below are SMCWMA education projects that have been completed:

- a. Produced the brochure *Invasive Weeds – A Serious Threat to San Mateo County's Natural Resources* featuring six priority weeds in the county with control and contact information. The brochure was distributed to large landowners and public agencies, at the San Mateo County Fair, and via the Agricultural Commissioner's Office.
- b. Produced a portable display describing the SMCWMA, local weeds of concern, and control projects of groups in San Mateo County. SMCWMA participants and other interested parties are using the display to educate the public about the effect of weeds on San Mateo County's ecosystems and agricultural lands.
- c. Organized and publicized workshops on weed identification, mapping and control. Workshops included Weed Mapping, Managing Yellow Starthistle, and Wildland Weeds.

The SMCWMA will implement or continue the following education tasks during the plan period:

- Produce, update, and distribute the Invasive Weeds brochure, and extend distribution to include public libraries, nurseries, and to private land owners.

- Produce, update and distribute the Guide Book to Invasive Plants of San Mateo County
- Promote weed management education, including early detection and rapid response, at public events using the SMCWMA display when appropriate. Update the display to describe new projects, and to address relevant issues in weed management.
- Sponsor workshops on how to use volunteers in weed management and weed mapping.
- Work with San Mateo County nurseries and other partners to reduce and discourage the sale of invasive plants.
- Work with San Mateo County Public Works to improve the control of roadside weeds.
- Work with San Francisco Public Utilities to control invasive weeds on PUC property within the County.
- Partner with the media and others to promote the control of invasive plants.
- Encourage the use of Calflora to document observations and early detection of invasive weed species

B. Prevention: Weed exclusion, detection, monitoring, eradication, and management.

Prevention is any activity that keeps a non-native noxious or invasive species from entering and becoming established in a new range. Preventing establishment of a weed avoids future control costs. Public outreach and education is key to preventing the spread of new weeds. Effective outreach includes the distribution of brochures, setting up informative displays in public places, and presenting SMCWMA-sponsored workshops.

Weed exclusion is any action that prevents a weed from entering a region. While border inspections are effective at the national and state level, at the county level, we rely in part on the San Mateo County Agricultural Commission's regulatory activities. These activities include plant quarantines, inspections of incoming plant product shipments for regulated weeds and nursery inspections. Other weed exclusion programs could include promotional and certification of weed-free-forage. To support weed exclusion it is also important to educate the public on activities that are known to spread invasive weeds.

Detection, monitoring, and eradication of early-stage, small infestations removes weeds that elude the exclusion system. Detection includes all activities that locate new and unusual weed infestations. When new weeds are introduced into a region and found before wide-spread establishment, eradication costs are lower and chances of eradication are higher. When unknown weeds are encountered, farmers, land management organizations, and any concerned individuals are encouraged to bring weeds for identification to the San Mateo County Agriculture Department offices in Redwood City, Half Moon Bay, and South San Francisco. Weed monitoring by member groups for weeds rated "Q," "A," and "B," or on the Cal-IPC inventory

will help detect noxious weed infestations at an early stage, making eradication or control more cost effective and feasible.

Management. The SMCWMA uses Integrated Weed Management (IWM), a systems approach to managing undesirable plants. IWM is defined in the Federal Noxious Weeds Act as a "system for the planning and implementation of a program, using an interdisciplinary approach, to select a method for controlling undesirable plant species or group of species using all available methods, including education, prevention, physical or mechanical methods, biological control agents, herbicide methods, cultural methods, and general land management practices." Integrated pest management programs emphasize ecosystem-based strategies that provide economical, long-term solutions to pest problems.

The SMCWMA will implement the following exclusion, detection, management, monitoring, and eradication activities during the plan period:

Join with statewide efforts to encourage the nursery industry to discontinue selling invasive plants.

Create and maintain a list of newly detected weed species and provide relevant identification and control information for the new infestations.

Stay informed on ecological impacts of modified plants and organisms especially regarding herbicide-resistance. Invite speakers to present to the SMCWMA.

Petition the State of California when necessary or appropriate to add or modify a classification regarding state-rated noxious weeds.

Collaborate with Cal-IPC or other early detection resource agencies to identify and work on early detection weed management opportunities in our county.

C. Surveying and Mapping

The members of the SMCWMA believe that a strategic long-term approach to noxious and invasive weed control is based on a growing knowledge of weed distribution. Mapping should be conducted at an appropriate scale. Areas without known infestations, and areas not previously surveyed should also be identified and mapped. Knowing the location of the priority weed species through mapping and weed inventory will allow the SMCWMA to implement appropriate control strategies.

The SMCWMA will implement the following surveying and mapping activities:

- a. The SMCWMA will promote the use of mapping tools for early detection and management.
- b. Continue sharing mapping data with statewide WMAs and other agencies through Calflora.

- c. Promote geographic and organizational cross-boundary alliances and partnerships for improved mapping and surveying.

The SMCWMA will implement the following eradication, control, and monitoring projects:

- a. The SMCWMA will continue to work with California Department of Food and Agriculture (CDFA) to locate sites and share information leading to the eradication or control of “A-, B-, and Q-rated” weeds, such as Slender False Brome, Canary Island Hypericum, Purple Loosestrife, Fertile Cape Weed, and Pampas Grass, and share information about locations and effects of newly discovered weeds.
- b. SMCWMA members will share their experiences with weed control, project monitoring, and revegetation strategies through presentations by group members at meetings, such as those of the Mid-peninsula Regional Open Space District, the California Native Plant Society, San Mateo County Parks Department, Resource Conservation District, and Friends of Edgewood Natural Preserve.
- c. SMCWMA members will continue to participate in annual weed management area statewide meeting and CAL-IPC events.
- d. The SMCWMA will review the Strategic Plan as needed.

D. Site Restoration:

When practical the SMCWMA will support the efforts of all agencies to restore disturbed sites to a more native habitat, thereby lessening the possibilities of new infestations of ruderal plants.

Agency cooperation and sharing of education and resources will be used towards site remediation to improve access roads, increase native plantings and protect sensitive resources such as habitat for special-status species

E. Funding and In-kind Services:

It is important to find and efficiently use funds and in-kind services to support the Strategic Plan. The SMCWMA has received three grants that were used successfully to fund workshops, educational materials, weed eradication, and weed mapping. Participating members have contributed significant in-kind services, including weed mapping, staff time, coordinating volunteers, writing and designing publications and web sites, data collection, supplies and equipment.

The SMCWMA will implement the following activities during the plan period.

- a. SMCWMA members will work together to obtain funding and provide in-kind services to support the Strategic Plan. (In-kind services include, but are not limited to mapping, staff time, procuring supplies and equipment, recruiting volunteers and coordinating volunteer efforts, producing publications and web sites, and data collection.)

- b. The SMCWMA will investigate coordinating contracts, schedules, and resources among members to optimize efficiency of weed management work.
- c. The SMCWMA will support lobbying efforts by Cal-IPC to increase funding and support for all necessary invasive species plant projects.

IV. Conclusion

Every acre of our county has been touched by people who live, work, and play here, and by the people that came before us. It is our hope that the Plan outlined above, created by the individuals and organizations that are members of the SMCWMA will prove to be effective at protecting the health and safety of all who live here, as well as improve the economic, environmental and aesthetic health of our county. The strength of this plan lies in part in its flexibility and calls for cooperation. Weeds are living adversaries in changing ecosystems. We need to match the adaptability of invasive plants with our own adaptive creativity focused on the control and eradication of weeds.