

Contra Costa County
DECISION DOCUMENTATION for VEGETATION MANAGEMENT AT MARSH CREEK
RANGE AND DETENTION FACILITY

Date: 11/19/2020

Departments: Office of the Sheriff
 Public Works—Facilities Services Division
 CAO—Office of Reentry & Justice

Location: 12000 Marsh Creek Rd, Clayton, CA 94517

Situation: Presence of nuisance vegetation throughout 154-acre site

<p>What vegetation management mandates apply to the site?</p>	<p><u>To reduce fire risk:</u> The County is subject to the regulations of the East Contra Costa Fire Protection District whose regulations are the same as the Contra Costa Fire Protection District (ConFire). Minimum weed abatement standards can be found at: http://www.cccfpd.org/pdfs/WA-2-minimum-standards-17.pdf</p> <p>Excerpts from the County's fire protection ordinance: Title 7, Division 722, Section 320.4.1 says, "No person who has any ownership or possessory interest in or control of parcel of land shall allow to exist thereon any hazardous rubbish, weeds, trees, or other vegetation that constitutes a fire hazard." Title 7 Division 722, Section 320.4.2.1 says, "The Fire Code Official is authorized to cause areas within 10 feet (3048 mm) on each side of portions of streets which are improved, designed, or ordinarily used for vehicular traffic to be cleared of flammable vegetation and other combustible growth." Additional mandates from the Office of the Sheriff: Maintain bare ground on the backstop berms at the end of each shooting range.</p> <p><u>To protect riparian vegetation and waterways</u> Nearly one linear mile of Marsh Creek flows through the property. The 13-acre shooting range accounts for all herbicide used on the parcel. Most of that area lies within 400 feet of Marsh Creek's riparian corridor. Excerpt from the County's ordinance code: Title 10 Division 1010, Section 2.006 says, "No person, firm, corporation, municipality or public district shall allow on its property or commit or cause to be committed any of the acts hereinafter described, unless a written permit has first been obtained from the enforcing officer or his duly appointed representative:</p> <ol style="list-style-type: none"> 1. Impair or impede the natural flow of storm waters, or other water running in a defined channel, natural or man-made, or allow on its property or cause or permit the obstruction of such channel; 2. Deposit any material in such channel; 3. Excavate, grade or otherwise alter the surface of land so as to reduce the capacity of such channel; 4. Destroy or significantly alter riparian or bank-stabilizing vegetation, including without limitation cutting, clearing, grubbing, burning, removing, excavating or grading, except as is necessary to maintain the hydraulic capacity of the watercourse: <p>(Range may also be subject to the NPDES General Permit for Stormwater Discharges Associated with Industrial Activities. Further investigation is required)</p>
<p>What are the vegetation management goals for the site?</p>	<p>The management goals are to maintain site vegetation in a manner that reinforces the safety, security, and natural beauty of the facility. Innovative and regenerative strategies are prioritized and are consistent with the stated mission of each department as follows:</p> <p><i>"Public Works employees deliver cost effective, safe, reliable and sustainable projects, programs and quality services with a focus on our communities and provide support services that are competitive, attentive, responsive, efficient and safe to enable County Departments to provide high quality services to the public."</i></p> <p><i>"The Office of the Sheriff works in partnership with our diverse community to safeguard the lives, rights and property of the people we serve. With unwavering dedication we provide innovative professional law enforcement services to our community. We accomplish this mission by maintaining our Core Values (Honor—</i></p>

	<p><i>Courage—Commitment—Leadership—Teamwork) while always conducting ourselves with the highest ethical standards.”</i></p> <p>Vegetation management objectives include the following:</p> <ol style="list-style-type: none"> 1. Prevention and containment of wildfire. 2. Ensure site security through the maintenance of clear sightlines. 3. Proactive management that promotes the conservation of native plant species. 4. Prevention and containment of invasive plant species. 	
How often is the site monitored?	<p>Personnel from the Office of the Sheriff monitor the site daily, but not specifically for vegetation issues. Typically, once the presence of unwanted vegetation is detected in the shooting range area, facility staff initiate a work order to the Grounds Division to perform an application of herbicide. Grounds staff do not perform preventative maintenance at this site. Programs Deputies usually lead ground maintenance efforts at the shooting range and detention facility using inmate crews. There is limited vegetation monitoring of the remaining site that comprises over 100 acres.</p>	
Weeds have been identified as the following:	<p>Any species that can pose a fire danger or sight obstruction. Other key weeds are listed below.</p> <p>Invasive species:</p> <ul style="list-style-type: none"> • Yellow starthistle (<i>Centaurea solstitialis</i>) • Purple starthistle (<i>Centaurea calcitrapa</i>) • Russian thistle, or tumbleweed (<i>Salsola tragus</i>) • <i>Kochia</i> (<i>Kochia scoparia</i>) • Stinkwort (<i>Dittrichia graveolens</i>) • French broom (<i>Genista monspessulana</i>) • Pepperweed (<i>Lepidium latifolium</i>) • Tree of heaven (<i>Ailanthus altissima</i>) • Algerian ivy (<i>Hedera algeriensis</i>) • Himalayan blackberry (<i>Rubus armeniacus</i>) <p>Other species:</p> <ul style="list-style-type: none"> • Poison oak (<i>Toxicodendron diversilobum</i>) • Poison hemlock (<i>Conium maculatum</i>) • Mare's tail (<i>Conyza canadensis</i>) • Mustard (<i>Brassica</i> spp.) • Mallow or cheeseweed (<i>Malva</i> spp.) • Various grasses 	
Are populations high enough to require control? Explain	<p>Yes. Dried vegetation in and around the shooting range presents a heightened wildfire risk relative to the presence of increased firearm-based ignition sources. Additionally, the amount of open space invasive species observable from public roadways appears detrimentally high.</p>	
Is this a sensitive site?	Is this a “highly sensitive site” as defined by PWD Environmental staff? A highly sensitive site contains a known habitat for, or is close to sightings of, endangered or threatened species.	Yes
	Are any sites under management part of any of the court-ordered injunction? (see: https://www.epa.gov/endangered-species/interim-use-limitations-eleventhreatened-or-endangered-species-san-francisco-bay)	No
	Are any of the sites known or potential habitat for any endangered or threatened species?	Yes
	Are any of the sites on or near an area where people walk or children play?	Yes
	Are any of the sites near a drinking water reservoir?	No
	Are any of the sites near crops?	Yes
	Are any of the sites near desirable trees or landscaping?	Yes
	Are any of the sites on soil that is highly permeable, sandy, or gravelly?	No
	Is it within a Groundwater Protection Area?	No
	Is there a well head near the site?	No

<p>Which cultural controls were considered?</p>	<p>Alternative Site Programming- The minimum-security detention facility has a history of allowing inmates to participate in special courses that teach new skills and job-related training. That has included viticulture, wood shop, agriculture, cement work, and general construction. A deeper exploration of potential strategic partnerships that will maximize land-asset utilization is warranted. The 2011 Public Safety Realignment Act (Assembly Bill 109) placed additional responsibility for Counties to house low level offenders locally, provide post-incarceration supervision, and allocate associated revenues from the state. The current landscape maintenance arrangement between the Office of the Sheriff and Public Works may not have the capacity to manage the site beyond the reactive methods currently employed. However, existing reentry partnershipsⁱ could be enhanced—and potentially funded—through AB 109 sources. Some County-stated objectives in this regard aspire to “create linkages between the incarcerated person and various needed services and community programs,”ⁱⁱ and to “Explore options to maximize use of local jail facilities to serve the needs of the AB 109 population.”ⁱⁱⁱ There are multiple regional programs^{iv} and community based organizations^v in the region that may inform potential collaborative strategies.</p> <p>The site abuts East Bay Regional Parks^{vi} property on the north and a parcel owned by Save Mount Diablo^{vii} on the south. Regardless of potential future use of the site, partnering with the stewardship teams from both of those agencies could noticeably enhance conservancy efforts in the near and long term. The vineyard is predominantly maintained by volunteer groups and could benefit from formalized partnerships to create reentry linkages in the community.</p> <p>Competitive Planting: A variety of ornamental and native vegetation could prevent nuisance varieties from reestablishing. The solar farm, vineyard, and open space are good candidates for this practice.</p> <p>Mulching: Approximately 5 acres of the shooting range is covered with a gravel surface that partially impedes vegetal growth. The application of wood chip mulch may be an effective short-term strategy in berm areas on the sides of each range and even more effective around buildings at the detention facility and range. A mulch product like that produced each year by Grounds personnel is recommended, since it is typically derived from heartwood and is less likely to unintentionally import undesirable vegetal pests. The costs of delivering appropriate quantities of mulch to the remote location may be prohibitive. Weed seeds could still take root in soil that will inevitably collect on top of the mulch. As the mulch layer breaks down, it improves the soil and would either need to be replenished or additional planting and irrigation projects would need to be undertaken.</p> <p>Flaming: May be effective on certain broadleaf species in smaller ornamental areas if timed to coincide with early phenological stages but may not be practical in locations where resistant varieties grow or in remote areas that may be difficult to transport the fuel and water required. Potentially useful in gravel areas.</p> <p>Soil Solarization: May be useful in gravel areas not used for vehicular access. Not recommended near the shooting range.</p> <p>Summary Statement: Alternative site programming strategies present the greatest opportunity to proactively manage vegetation on the site. Third party partnerships are encouraged since staffing resources within the Office of the Sheriff and Public Works Departments are limited. The Office of Reentry and Justice may be best situated to facilitate the coordination of mutually beneficial programs that maximize the potential of the property. Regular flaming activities could supplement the existing efforts of inmate crews and replace some of the post emergence herbicide applications with the acquisition of low-cost equipment. The areas where soil solarization would be most effective are not being considered due to the risk of the wind dislodging the plastic, creating additional hazards for firearm operators. The current property management arrangement is not ideal for an active program involving competitive planting. The tactic remains a worthwhile pursuit but will require a heightened level of innovative collaboration to implement.</p>
<p>Which physical or mechanical controls were considered?</p>	<p>Mowing: Retired annuitant deputies and inmates currently mow vegetation near roadways and on the two ranges containing turfgrass. Machinery intended for slope mowing could further mitigate fire risks on the hillside behind the shooting range.</p> <p>String Trimming: This is the primary method employed by inmate workers around the detention facility and range.</p> <p>Additional Paving: Expanded paving could decrease the level of vegetal pest pressures if used as part of a parking area reduction that formalizes the parking scheme.</p> <p>Cultivation: Disking and box scraping have been utilized at a few locations on the property</p> <p>Burning: If part of a competitive planting program is implemented, this technique could be used in certain areas of the property if carefully coordinated with the California Department of Forestry and Fire Prevention (CalFire), East Contra Costa Fire Prevention District and the Bay Area Air Quality Control Board. The site is entirely situated within both Very High and High Fire Hazard Severity Zones as defined by CalFire.</p> <p>Electrothermal weeding (Ubiquek): This method uses a probe carrying electricity at a high voltage (3,000 to 5,000 to volts) and low amperage (0.5 to 2 amps) to heat plant tissue and kill both roots and above ground plant material. The probe must contact each individual weed. This method is more efficient than steaming or flaming weeds, but would be very slow compared to mowing by machine or hand. High voltage can be lethal, so the device is potentially dangerous to the operator. This method also poses a fire risk because of the</p>

	<p>intense heat at the point of contact with the plant that can produce sparks and small flames. Currently there have been no independent evaluations of this method.</p> <p>Steam weeding (Weedtechnics): This method works by sending water under pressure through a diesel boiler and then out through hoses to an application head. The water comes out at 205 to 218 degrees Fahrenheit. This method is slower than other weed management techniques (it appears that the applicator must drive around 2 mph to treat effectively). A new model (the SW3800KD) is advertised as killing weeds faster. It uses 30 L of water per minute, and with a 1000 L water tank (apparently the largest size available), staff would have to refill the tank about every ½ hour. This tactic should be considered as a contact-only treatment and should not be expected to kill underground portions of the plant. Treatment would have to be repeated periodically during the season.</p> <p>Summary Statement: Additional paving is cost prohibitive and is not being considered. The risks associated with electrothermal weeding are perceived to be greater than the associated benefits at this location. Prescribed burning will only be considered if it is proposed by one of the fire agencies as a training exercise and is entirely supervised by them. String trimming will continue to be the primary method of managing vegetation by inmate crews. However, further exploration of alternative methods and the provision of appropriate training will reduce the likelihood of repetitive strain injuries and decrease negative environmental impacts associated with the practice. Steam weeding and the acquisition of more sophisticated mowers would strengthen the integrated program.</p>
<p>Which biological controls were considered?</p>	<p>Grazing: Cattle grazing is evident on adjacent properties that have similar characteristics to this site. Targeted grazing using contracted herds of goats and sheep is strongly encouraged for the property.</p> <p>Summary Statement: Staff from the office of the Sheriff are eager to utilize this method throughout the site, and welcome further coordination of the contracted service through Public Works.</p>
<p>Which chemical controls were considered?</p> <p>For more information on pesticides listed here visit the National Pesticide Information Center (NPIC). This a joint project of Oregon State University and the US EPA.</p> <p>http://npic.orst.edu/</p> <p>You can communicate with an actual person at 1.800.858.7378 or npic@ace.orst.edu</p> <p>They are open from 8:00AM to 12:00PM Pacific Time, Mon-Fri</p>	<p>Pesticides may potentially exhibit both acute and chronic toxicity. The Signal Words below refer to acute hazards. For information on chronic toxicity, contact NPIC (info on left).</p> <p>Herbicides and application methods are chosen that prevent or minimize the potential for drift and exposure to humans and wildlife. As with all weed control techniques, herbicides must be reapplied periodically to suppress weeds over the long term.</p> <p>Note that the Weed Science Society of America (WSSA) and the Herbicide Resistance Action Committee (HRAC) both create resistance group designations to help weed managers reduce the likelihood of creating resistant weeds.</p> <p><u>Possible herbicide choices</u> (These product names are subject to change.)</p> <p><u>Pre-emergent Herbicides</u></p> <p>Indaziflam (Esplanade®): This pre-emergent herbicide controls a broad spectrum of weeds if applied before germination. It does not generally control weeds after they have emerged. For maximum weed control, the herbicide needs to reach the soil surface and be activated by rainfall or adequate soil moisture. It is applied in the fall to control winter germinating weeds and in the spring to control spring germinating weeds.</p> <p>Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Before weeds sprout in either fall or spring near the time rain is expected. Herbicide Resistance Management Group: 29 On Ground Water Protection list (b): potential to contaminate ground water, but not yet found in groundwater</p> <p>Isoxaben (Gallery® S.C.): This pre-emergent controls certain broadleaf weeds.</p> <p>Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Before weeds sprout in either fall or spring near the time rain is expected. Herbicide Resistance Management Group: 21 On Ground Water Protection list (b): potential to contaminate ground water, but not yet found in groundwater</p> <p><u>Post-emergent (contact) herbicides</u></p> <p>Caprylic and Capric Acid (Suppress® Herbicide EC): control of annual and perennial weeds and grasses.</p> <p>Signal Word (indicates acute, or immediate, toxicity): WARNING Timing: works best on newly emerged weeds, ideally on weeds that are less than 6 inches in height. Herbicide Resistance Management Group: unclassified On Ground Water Protection list: No</p> <p>Glyphosate (Roundup® Pro Concentrate): Glyphosate is a systemic herbicide (it is absorbed into the plant and circulates to kill the entire plant) that will kill most types of vegetation.</p>

	<p>Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Varies depending on the location, the weather, the weed growth, the workload Herbicide Resistance Management Group: 9 **Enjoined for red legged frog On Ground Water Protection list (b): potential to contaminate ground water, but not yet found in groundwater</p> <p><u>Pre- and Post-Emergent Activity</u></p> <p>Aminopyralid (Milestone®): Milestone is a systemic herbicide with both pre- and post-emergent properties that controls broadleaf weeds without affecting grasses. Milestone is used for the more woody and thick-stemmed weeds.</p> <p>Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Between fall and spring before seeds germinate, but it is a more flexible chemical because it also has contact properties Herbicide Resistance Management Group: 4 On Ground Water Protection list (b): potential to contaminate ground water, but not yet found in groundwater</p> <p>Flumioxazin (Payload®): Used to maintain bare ground in secured perimeter area.</p> <p>Signal Word (indicates acute, or immediate, toxicity): CAUTION Timing: Between fall and spring before seeds germinate, but it is a more flexible chemical because it also has contact properties Herbicide Resistance Management Group: 14 On Ground Water Protection list: No</p> <p>Summary Statement: When the IPM process calls for the use of herbicides, the products described above are used when considering cost, efficacy, the environment, human communities, and resistance management. The abundance in which glyphosate applications have been historically prioritized on the site suggests the presence of resistant weeds, inadequate coordination of alternative tactics, or both.</p> <p>The Office of the Sheriff and the Public Works Grounds Division have committed to enhance their business relationship in order to place greater emphasis on the long-term prevention of problematic vegetation. Preemergent applications will be a tactic that is embraced in the short-term to ensure decreased reliance on glyphosate applications. It is important to clarify that in many cases, the active ingredient of some pre-emergent products is more toxic and poses a greater risk to applicators and others who live and work at the facility. Other tactics listed in the preceding sections should be explored.</p>
<p>Recommendations from the IPM Advisory Committee:</p>	<ul style="list-style-type: none"> • Redefine vegetation management monitoring practices that promote proactive strategies and clarifies accountability as it pertains to the site's natural resources. Efforts should include: <ul style="list-style-type: none"> ○ Adjusting how funds pertaining to grounds maintenance at the site are allocated. Proactive and regenerative maintenance practices should be prioritized over corrective maintenance requests. Personnel from the Office of the Sherriff and the Public Works Department should engage in a dialog with the IPM Coordinator to determine what alterations could be immediately implemented that would refine the business relationship as it pertains to vegetation management. ○ Incorporating a vegetation monitoring protocol that documents periodic status updates from onsite personnel to the Grounds Division. This may include sharing still photographs and/or video from the security system on a routine basis that keeps applicable County staff aware of current vegetation conditions. ○ Provision of supplemental training modules for all personnel who may be involved with vegetation management decisions that cover the County Integrated Pest Management Policy and these recommendations. • Initiate a dialog with East Bay Regional Parks and Save Mount Diablo to explore formal partnerships that strengthen the mission of each agency. Also consider contracting for vegetation management services in a manner consistent with the County IPM Policy. • Where chemical controls are required to maintain bare-earth objectives, prioritize applications to reduce glyphosate dependence and continue to explore the feasibility of implementing alternative tactics such as steam weeding, mulching, and competitive planting. • Foster mutually beneficial community partnerships that: <ul style="list-style-type: none"> ○ Allow County personnel to provide a higher level of service by focusing on core tasks, and ○ Maximize balanced cooperation between organized labor, community-based organizations, and employment training enterprises, and ○ Build on County and regional models that are financially sustainable and ecologically regenerative. ○ Facilitates collaborative landscape programming that allows every County-owned acre to be a shining example of a restorative community asset.

	<ul style="list-style-type: none"> • The IPM Coordinator is encouraged to play an active role continuing this dialog with other stakeholders in the County. These findings and additional site stewardship revelations at similar rehabilitation properties throughout the County should be presented to the appropriate County body for further consideration. That may include the Office of Reentry and Justice, The Public Protection Committee, The Community Corrections Partnership and associated committees, the Juvenile Justice Coordinating Council, or other relevant programs. • Consider establishing a site stewardship fund that receives a portion of fees charged to agencies for range usage or consider supporting the development of a partner foundation to solicit supplemental vegetation management funding and to coordinate volunteer efforts. • Allow the IPM Coordinator to set up product demonstrations of steam weeding systems, remote control slope mowers, and related equipment to prioritize which procurements would be appropriate to incorporate into the existing operation.
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ⁱ Contra Costa County Reentry System Strategic Plan for 2018-2023:

“The Sheriff’s Office contracts with the Contra Costa County Office of Education (CCCOE) and two community-based organizations (Men and Women of Purpose and Reach Fellowship International) to provide in-custody education, job readiness, reentry preparation, and mentoring services.”

<https://www.contracosta.ca.gov/DocumentCenter/View/56655/2018-23-Reentry-Strategic-Plan?bidId=>

ⁱⁱ Contra Costa County Reentry System Strategic Plan for 2018-2023. Mission Statement: *The Contra Costa County reentry system serves as a collaborative partnership that aids individuals, families, and their support system, in achieving successful community reintegration by facilitating access to a continuum of quality services and improving systemic practices.*

<https://www.contracosta.ca.gov/DocumentCenter/View/56655/2018-23-Reentry-Strategic-Plan?bidId=>

ⁱⁱⁱ AB 109 Operations Plan for Contra Costa County as Approved and Adopted by the Executive Committee of the Contra Costa County Community Corrections Partnership. Adopted November 9, 2012. *“Overarching Approach: Use Collaboration, innovation, and ongoing evaluation to foster safety and long-term liberty in Contra Costa County...Agreements of Principle: 1-Enhance public safety through reducing recidivism. 2-Foster successful reintegration of individuals back into the community. 3-Coordinate efforts to reduce duplication and increase efficiency. 4-Identify additional resources to meet AB 109 objectives and maximize coordination. 5-Explore options to maximize use of local jail facilities to serve the needs of the AB 109 population. 6-Maximize public and private partnerships in all phases of implementation. 7-Maximize interdepartmental and intergovernmental collaborations and partnerships at all phases of implementation.*

<https://www.contracosta.ca.gov/DocumentCenter/View/8820/AB-109-Operational-Plan-as-Adopted-11-9-12?bidId=>

^{iv} Related Programs in the region: [Roots of Success](#), [Insight Garden Program at San Quentin State Prison, California State Prisons—Solano & California Medical Facility—Solano](#); [San Francisco County Jail San Bruno Complex—The Garden Project](#), Federal Correctional Institution—Dublin, Alameda County Juvenile Hall & Camp Sweeney, [City View Farm \(Alameda County Deputy Sheriffs' Activities League--Dig Deep Farms\)](#)

^v Nearby community-based organizations include but is not limited to: [Save Mount Diablo](#), [Friends of Marsh Creek Watershed](#), [First Generation Farmers](#), [Groundwork Richmond](#), [The Watershed Project](#), [California Reentry Institute \(Clayton\)](#), [Planting Justice](#), and [Civicorps](#).

^{vi} <https://www.ebparks.org/about/stewardship/default.htm>

^{vii} <https://www.savemountdiablo.org/preservation/stewardship/>