

Contra Costa County Integrated Pest Management Advisory Committee (IPMAC)

ADDENDUM TO:

DECISION DOCUMENTATION for VEGETATION MANAGEMENT on County Roadsides and Road Rights-of-Way ([Link](#))

and

DECISION DOCUMENTATION for WEED MANAGEMENT on County Flood Control Channels ([Link](#))

Date: July 18, 2024

Department: Public Works Maintenance Division (PWD-Maintenance)

Introduction: IPMAC is concerned that current conditions elevate wildfire risk and pose additional hazards to County staff and the public. A variety of factors have impacted vegetation management operations since the last revisions to the documents named above. Chief among them are significant recruitment and retention issues that led to sporadic control of problematic vegetation in many areas. Dramatic year-to-year fluctuations of herbicide usage over the last few years appears correlative to how many Vegetation Management Technicians positions were filled during respective reporting periods. Likewise, contemporary occurrences of hazardous overgrowth remain tied to the period between November 2018 and February 2021 when all PWD-Maintenance herbicide applications were paused.

Staffing levels are a critical component to the ongoing implementation of the County IPM Policy. The decision-making impacts of the personnel situation within the PWD-Maintenance vegetation management function has unfortunately eclipsed traditional IPM processes. Therefore, IPMAC has prepared this addendum to capture operational changes since the 2018 decision document revisions—most of which are assumed to be temporary and correctable.

This document is intended to transparently reflect the impacts of current challenges and identify potential areas for refinement. Once vegetation management operations have stabilized, a full revision of PWD-Maintenance decision documentation should resume.

Type of operational changes or other factors to consider since the 2018 revision of applicable decision documentation	<u>Additional context of challenges</u>
What recruitment and retention challenges have impacted the vegetation management function of PWD-Maintenance?	<p><u>The elimination of the Vegetation Management Supervisor position:</u></p> <ul style="list-style-type: none">• In 2019, the Board of Supervisors voted to cancel the Vegetation Management Supervisor as recommended by the Public Works Director. The position was vacant from May 2016 to its cancellation in December 2019 as the Department was unable to hire a qualified candidate.• In addition to a Qualified Applicator Certificate (QAC), that position required a Pest Control Adviser license (PCA) with five different pest control categories. The PCA license is a highly specialized qualification that cannot be obtained without meeting strict educational and experiential prerequisites.• Written pest control recommendations from a licensed PCA must be obtained in order to document environmental impacts, worker safety, and plans for using chemical or biological pest control materials on public rights-of-way, creeks, and other sites.• Prior to the cancellation of the Vegetation Management Supervisor position, the IPM Coordinator conducted an informal comparison of equivalent job classifications from adjacent jurisdictions and

shared it with leaders in the Department. That assessment revealed a staggering disparity between relatively higher licensure expectations and a disproportionately low assigned salary. Instead of lowering the minimum qualifications to more closely match the day to day tasks of the position and its assigned salary range, the Department has utilized the position of a Maintenance Supervisor to lead the Vegetation Management Crew (Crew 91), which is consistent with the structure of other crews within PWD-Maintenance.

- The number of licensed PCA's in California has generally decreased over the years, and the number of PCA's who are employed by public agencies has declined even more dramatically. The trend for many municipal service providers is to obtain PCA recommendations from contracted consultants or from product distributors. PWD-Maintenance herbicide applications since 2021 have been performed in accordance with recommendations from contracted PCA's from Blankinship, a multi-disciplinary consultant firm.
- When considering the immense amount of sites and inadequate in-house vegetation-related expertise, there is room for improvement of site monitoring protocols. Hundreds of linear miles of vegetated property need ongoing monitoring and treatment. The contracted PCA has an effective relationship with staff, but there appears to be limitations on the existing contract to expand vegetation tracking. Additionally, there are opportunities to collaborate on regional and statewide weed management pursuits through applications like [Calflora's Weed Manager](#) and other endeavors.

Difficulty hiring and retaining qualified Vegetation Management Technicians:

- The following tasks are typical to the Vegetation Management Technician (VMT) classification: Inspect and monitor County-owned creeks, drainage channels, rights-of-way, easements and other County-owned properties for prohibited and restricted noxious weeds and undesirable weed growth; promote desirable vegetation; introduce IPM techniques including herbicides; prepare reports and records; provide lead direction to temporary workers and maintenance workers assisting with herbicide application; other tasks as assigned (taken from [VMT job description](#)).
- The number of filled positions within the classification has seldom matched the number of positions allocated and funded over the last several years. With the exception of fiscal year 2021-22—when four VMT positions were filled—one or zero VMT's were in place during all other years since 2018. There is currently one VMT in PWD-Maintenance.
- One significant barrier to the retention of VMT's is the apparent inaccessibility of advancement to the Senior Vegetation Management Technician position, which also has not been filled for several years. As presently written, the [job classification](#) requires several categories of a PCA license in addition to a QAC. That requirement does not seem compatible with day-to-day realities of the position. Moreover, an individual who meets Senior VMT minimum qualifications could reasonably expect better employment opportunities outside the organization.
- According to a February 2024 PWD-Maintenance organizational chart, there was an 82% vacancy rate of VMT's and Maintenance workers on Crew 91 (9 out of 11 positions were vacant).

Difficulty hiring and retaining qualified Maintenance Workers:

- Incumbents of the Maintenance Worker series ([MWI](#), [MWII](#), [MWIII](#), & [MWIV](#)) perform a wide variety of tasks on all PWD-Maintenance crews. There are five allocated positions on Crew 91 which are primarily dedicated to major tree work. Maintenance Workers from other crews also perform vegetation management activities such as machine & hand mowing and minor tree work.
- Throughout PWD-Maintenance, there is a 38% vacancy rate for Maintenance Workers and VMT's depicted on the document referenced above. While not as drastic as the current state of Crew 91, the impacts of these unfilled positions are evident.
- In April 2024, the Board of Supervisors [approved](#) a 3% salary increase for each classification within the Maintenance Worker series after a salary study was completed. It is probably too soon to determine whether the adjustment influences recruitment and retention trends.

Interruptions to the effective flow of institutional knowledge

- The extended vacancy and ultimate elimination of the Vegetation Management Supervisor position will be noticeable for several years even in a best case scenario with adequate resources and attention.
- There have been perceptible gaps in the exchange of organizational expertise specific to vegetation management. The legacy of former staff members' mastery of site nuance seems largely unavailable. Few records exist that convey information that could strengthen preventative IPM measures.
- It will take time for new staff to fully grasp the dynamic vegetal conditions across the County and their variable responses to diverse environments. Information regarding historical landowner interactions and problematic weed areas has not been passed on in many circumstances. Also, known locations with a history of safety concerns, accidents, or other road challenges are lost with no formal system of knowledge transfer.
- Staff develop customer service proficiencies over time that are adaptable to the wide variance of geographic and political conditions present within this jurisdiction. It is particularly difficult to preserve skills within this realm in any operation. The challenge is elevated when there have been staffing gaps that have limited side-by-side interactions of new and seasoned personnel.

<p>What tactical challenges have arisen or become more prominent?</p>	<p><u>Ineffectively-timed treatments</u></p> <ul style="list-style-type: none"> • Whether a hazardous weed reproduces by seed or vegetatively, the success of control efforts is closely tied to the appropriate and consistent timing of treatments. • Mechanical tactics such as mowing or string trimming can mitigate hazardous conditions in the short term, but can compound long term problems if the treatments occur after the plant has produced viable seeds. In the case of plants that asexually reproduce, there is a higher likelihood that they will reestablish the larger they grow before being mowed. Poor timing of mechanical treatments can assist unwanted cultivation through the spreading of tubers or underground structures. If sites are easily accessible and conducive to multiple service visits throughout the year, mowing can be an effective long-term management tool as long as there is year-to-year consistency. • PWD-Maintenance has increasingly relied on mowing, especially when herbicide treatments were not available or adequate. It is likely that vegetal pest pressures will increase over time due to suboptimal timing at many locations. Also, mowing in dry conditions can often unintentionally ignite wildfires. • There is great variability between effective management techniques for perennial and annual weeds. Current operations do not appear to have capacity to adequately target species within both categories. <p><u>Inconsistent herbicide applications</u></p> <ul style="list-style-type: none"> • The 27-month suspension of herbicide use on Flood Control properties and rights-of-way from 2018 to 2021 was viewed by many as a success story. In reality, the ephemeral achievement of vegetation management goals for these properties has been hindered. Increased resource needs will likely outweigh the perceived benefits of that period. When living organisms such as weeds are combined with deferred maintenance backlogs, conditions do not favor those charged with controlling weeds. • PWD-Maintenance herbicide usage saw a nine-year high in fiscal year 2021-22. Apart from that notable uptick, relatively little use was reported by the Division during 4 of the last 5 years. Because usage during this span seems to be more closely tied to staff availability than to field conditions, chemical controls do not appear to be utilized as an effective tool within the broader context of an integrated program. • Approximately three years of active management is typically required to get annual weeds growing at County properties under control. The desired condition can only be achieved after consistent management strategies have been in place over time. The period of catching up with weed populations really cannot begin until sustained actions are implemented. <p><u>Unintentional neglect</u></p> <ul style="list-style-type: none"> • One potential outcome of the decision-making process is the choice to take no action. That has been the de facto condition in the case of some overgrown properties, but was not a deliberate pursuit. • Unmanaged roadside vegetation promotes shoulder degradation, potholing, and impacts drainage.
<p>What other operational challenges exist?</p>	<p><u>Structural budget deficit issues</u></p> <ul style="list-style-type: none"> • Costs will likely continue to rise and many funding streams may not keep pace with such increases. Executive leadership from the Public Works Department gave a presentation outlining budget challenges within the Flood Control, Roads, and Special Districts Programs to the Board of Supervisors on February 28, 2023. A copy of the presentation slides can be found at this link and a video of item D.2 can be viewed here. Essentially, there are very real fiscal limitations to how this vast network of local infrastructure is managed. • While the vacancy rates referenced in the above staffing section involve positions that are fully funded, historic salary trends within County operations likely impact recruitment and retention and may require further study. <p><u>Competing priorities</u></p> <ul style="list-style-type: none"> • With limited staff availability, many worthwhile maintenance and management endeavors may not receive adequate attention as other Divisional priorities become more urgent. • Vegetation management staff must triage simultaneous work requests to mitigate hazardous conditions. Situations involving hazardous tree removal or wildfire fuel load reduction work are both important, but may pose varying levels of urgency. The timing and scale of prioritized actions is further complicated by the consideration of the actual impact of the hazard. • Prevention is a hallmark of integrated pest management. Reactive maintenance actions tend to compound the issues that increasingly provoke additional costly reactionary efforts. Many expensive repairs to road infrastructure damaged by unmanaged vegetation could have been prevented through investments in maintenance. • The size of the County and the distribution of property locations make it difficult to monitor, manage, and follow up on treatment efficacy. Areas that are unseen by vegetation management personnel will likely be unmanaged. Likewise, if conditions in one part of the County require all the resources at a given moment, urgent matters on the other side of the jurisdiction may not receive attention.

	<p><u>Regulatory limitations</u></p> <ul style="list-style-type: none"> Meeting requirements of regulatory permits or restrictions present technical challenges that limit the availability of several tools. Examples include Lake and Streambed Alteration (LSA) agreements, Routine Maintenance Agreements (RMA), East Contra Costa County Habitat Conservation Plan & Natural Community Conservation Plan (HCP/NCCP) compliance, the Department of Pesticide Regulation's (DPR) Groundwater Protection Program, California red-legged frog injunction, DPR's Pesticide Regulation's Endangered Species Custom Realtime Internet Bulletin Engine (PRESCRIBE), the Goby 11 Pesticide Injunction, and DPR's pollinator protection plan. <p><u>Misconceptions about vegetation treatments</u></p> <ul style="list-style-type: none"> The success of IPM programs is sometimes tied to the reduction or elimination of pesticides. That narrative can also falsely lead to the assumption that non-chemical methods are always preferred or wholly without risk. The County IPM Policy is intended "to protect public health, County resources and the environment." Combined methods are needed to achieve that purpose. There are also environmental tradeoffs associated with mechanical methods that should be considered. Since chemical methods are more regulated and scrutinized than most other tactics, pesticides tend to evoke strong public reactions. The history of pesticide usage merits additional layers of transparency, particularly within democratic systems. The applicator usually bears the greatest exposure risk when performing chemical and non-chemical treatments. Internal discussion within the Department suggests that efforts may be underway to self-impose broad limitations on certain herbicide formulations. <p><u>Climate impacts</u></p> <ul style="list-style-type: none"> Wildfire risks are expected to increase due to growing volatility of droughts, heatwaves, unpredictable precipitation patterns, and other factors. Localized flooding on these properties can contribute to tree damage, the transportation of plant pathogens, sedimentation deposits, and nutrient loading. These issues can dramatically alter the types of vegetation growing in a certain area. Extreme weather events will further limit the availability of staff resources to respond to service needs. Signs of operational adaptive capacity over the last six years are scarce. The failure to demonstrate resilience during the period when de facto herbicide reductions further intensified conditions of overgrowth, points to the need to embrace the full suite of IPM tools.
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<p>Recommendations from the IPM Advisory Committee</p>	<p><u>To the Board of Supervisors:</u></p> <ul style="list-style-type: none"> Direct the Public Works Department to prepare a report on recruitment & retention issues within the vegetation management function of the Maintenance Division. The report should address the problems and impacts identified by the Integrated Pest Management Advisory Committee and include additional context as appropriate. <p><u>To the Public Works Department</u></p> <ul style="list-style-type: none"> When considering vegetation management treatments, prioritize staff safety while pursuing target conditions. It's important to recognize that no single pest control tactic is void of risk. Field personnel should retain access to all available tools in order to produce safe, effective treatments. Increased exposure to roadside traffic hazards should be considered and weighed against the perceived benefit of reducing herbicide use. The concepts contained in the Pesticide Risk Footprint Tool and the advice of licensed Pest Control Advisors should guide Department's herbicide selection criteria. Initiate the process to pursue expanded on-call service contracts to supplement in-house vegetation management efforts. Prioritize contracts that foster mutually beneficial community partnerships that allow County personnel to provide a higher level of service by focusing on core tasks. These should maximize balanced cooperation between organized labor, community-based organizations, as well as employment training enterprises. <p>Whether community based organizations, conventional vegetation management contractors, or a combination of both are retained, the inclusion of effective contract compliance specifications is critical. Robust safety provisions should also be detailed throughout the procurement process.</p> <p>Contracts that reduce wildfire fuel loads should also be prioritized.</p> <ul style="list-style-type: none"> Eliminate the PCA requirement from the Senior Vegetation Management Technician classification. Consider replacing with measurable core competencies related to technical knowledge, innovation, and leadership to meet the needs of the Maintenance Division. Consider expanding the value of the PCA contract to allow for an enhanced level of site monitoring and training in order to better support the ongoing efforts of the Department. There are opportunities to improve IPM training in multiple divisions within Public Works, and this contract is well positioned to support that purpose.
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