

**Contra Costa County**  
**DECISION DOCUMENTATION for VEGETATION MANAGEMENT AT COUNTY AIRPORTS**

Date: 9/15/2022

Department: Public Works Airports Division (PWD-Airports)

Introduction: This document is intended to transparently depict current vegetation management considerations & practices and to identify areas for refinement. In 2019, the Countywide IPM Coordinator conducted an assessment of glyphosate use by County departments. That review revealed the airports as two of the most glyphosate-dependent properties in the County. In fiscal year 2020-21, herbicide applications by PWD-Airports accounted for two-thirds of the total pesticide used in County operations. This revision has been made for those reasons and in response to substantive organizational changes since the 2014 version of the document.

This version is divided as follows:

Section 1: Byron Airport Overview

Section 2: Buchanan Field Airport Overview

Section 3: Management Considerations

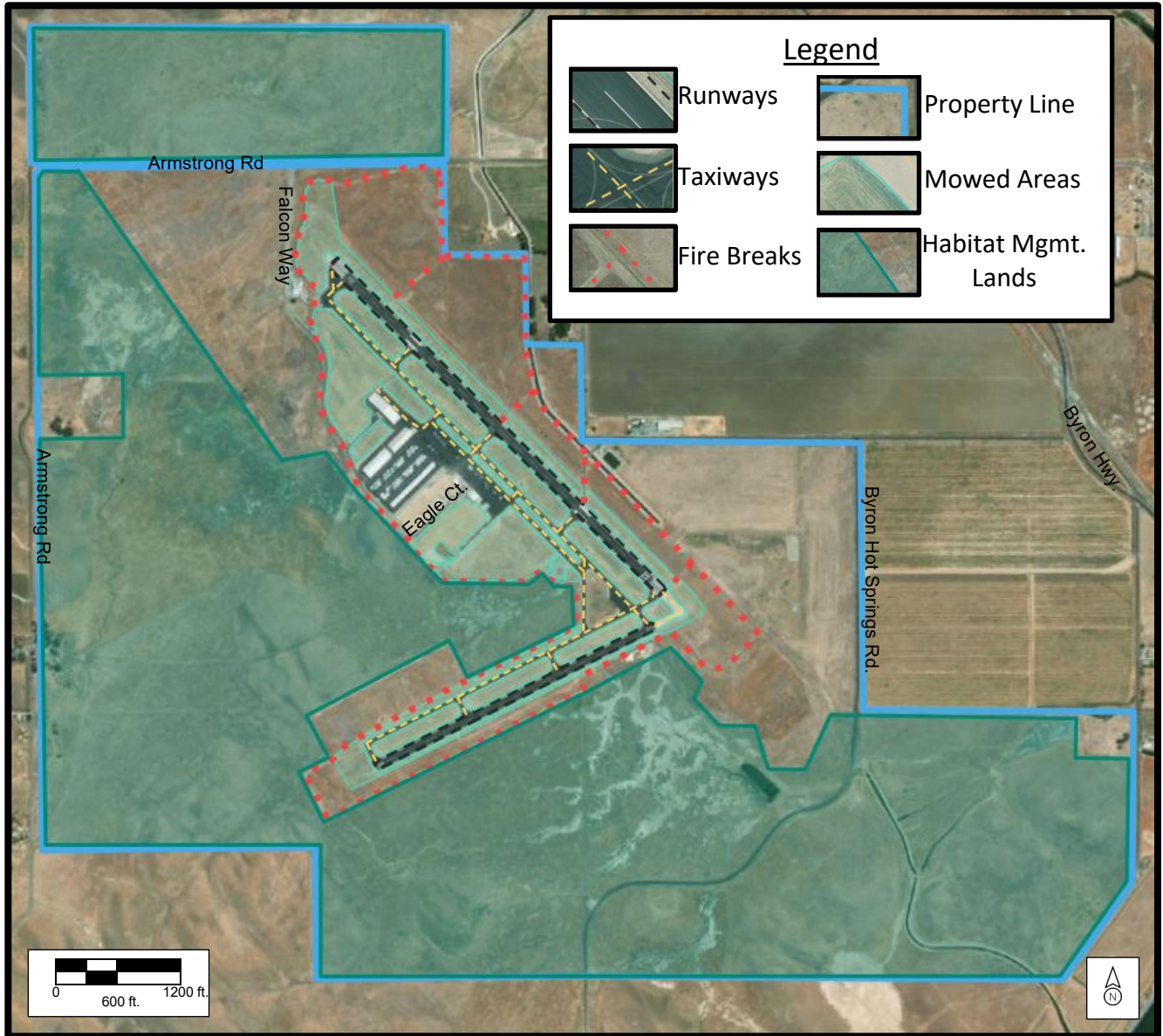
Section 4: Tactics Considered

Section 5: Recommendations



## Section 1: Byron Airport, 550 Eagle Court, Byron

Property overview: This airport sits on 1,427 acres of County-owned property. Approximately 65% of the property, or 934 acres, is under a conservation easement. That segment of land is known as the Byron Airport Habitat Management Lands (HML). This property is primarily surrounded by agricultural lands, rangelands, and residential development.

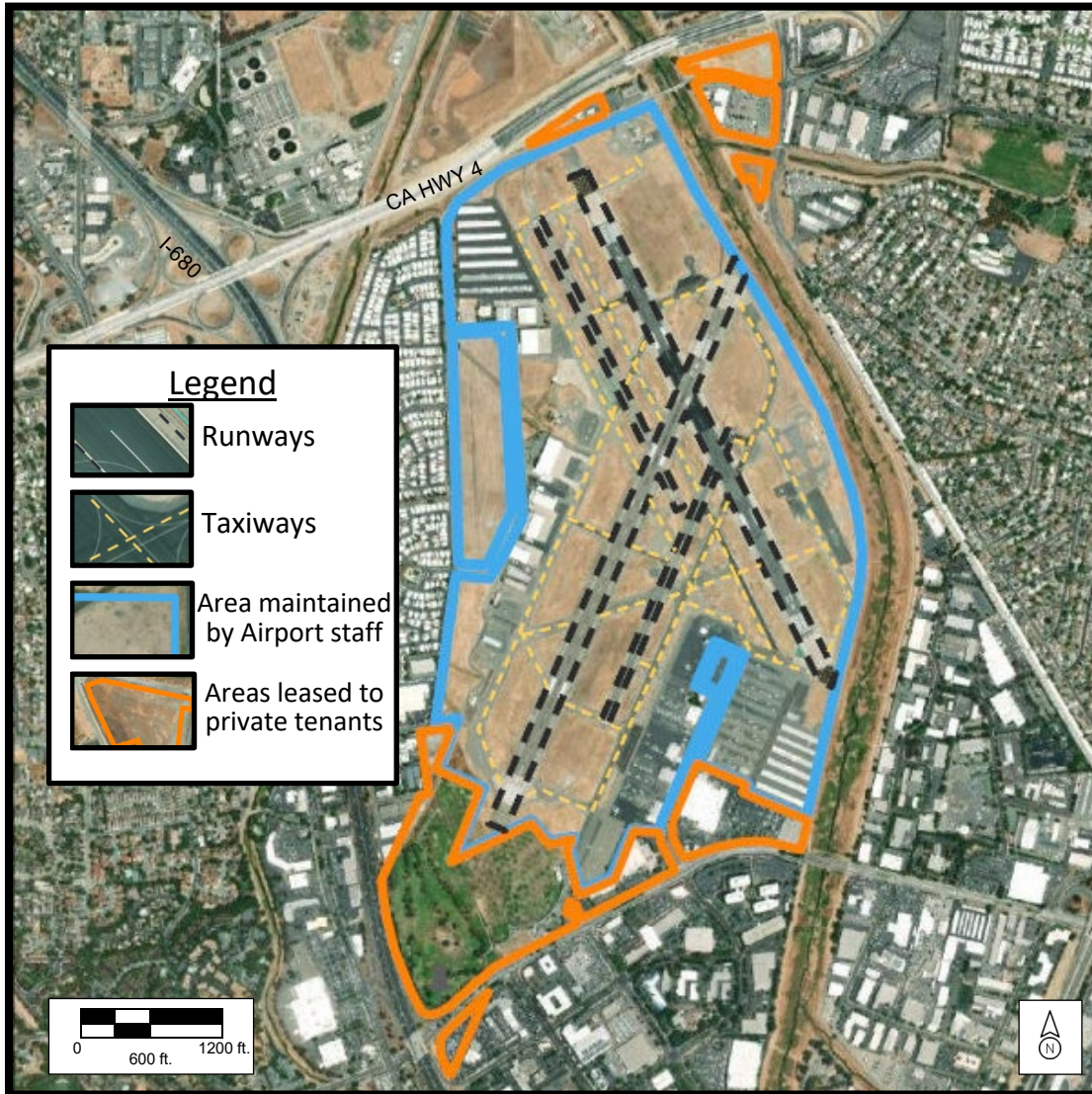


Section 1: Byron Airport Overview (cont.)

Byron Airport Site Sensitivity Considerations	<p>Is the property considered highly sensitive site?</p> <p>The Public Works Routine Maintenance Agreement with the California Fish and Wildlife Department deems Brushy Creek and its tributaries near the Byron property as a highly sensitive site.<sup>i</sup></p>	Yes
	<p>Are any sites under management part of any of the court-ordered injunctions?</p> <p>Interim use limitations remain in effect for listed pesticides subject to protective measures for the San Joaquin Kit Fox and California Tiger Salamander.</p>	Yes
	<p>Are any of the sites known or potential habitat for any endangered or threatened species?</p> <p>Federally Endangered: San Joaquin Kit Fox</p> <p>Federally Threatened: California Red-Legged Frog, California Tiger Salamander, Vernal Pool Fairy Shrimp, Steelhead<sup>ii</sup></p>	Yes
	<p>Are any of the sites on or near an area where people walk or children play?</p>	No
	<p>Are any of the sites near a drinking water reservoir?</p> <p>The southeast property line abuts a 1,200 foot section of the California Aqueduct. That easternmost property line is approximately 3,500 feet from the nearest edge of Clifton Court Forebay.</p>	Yes
	<p>Are any of the sites near a creek or flood control channel?</p> <p>A seasonal waterway known as Brushy Creek flows through a portion of the property.</p>	Yes
	<p>Are any of the sites near crops?</p> <p>A variety of crops are grown on properties immediately adjacent to the property.</p>	Yes
	<p>Are any of the sites near desirable trees or landscaping?</p>	No
	<p>Are any of the sites on soil that is highly permeable, sandy, or gravelly?</p>	No
	<p>At any of the sites, is the ground water near the surface?</p>	No
<p>Is there a well head near the site?</p> <p>It is outside the immediate fence line of the airport, about ¼ mile away. Restrictions are 100 ft around well heads.</p>	Yes	

## **Section 2: Buchanan Field Airport, 550 Sally Ride Drive, Concord**

Property overview: This airport sits on 519 acres of County-owned property. Private tenants lease over 80 acres of the property and an additional 50 acres is targeted for future aviation and non-aviation [development](#). The site is adjacent to Walnut Creek and the Clayton Valley Drain and is primarily surrounded by suburban residential and commercial uses.



Section 2: Buchanan Field (cont.)/Section 3: Mgmt. Considerations

Buchanan Field Airport Site Sensitivity Considerations	Is the property considered a highly sensitive site?	No
	Are any sites under management part of any of the court-ordered injunctions?  However, the northernmost property line is just over two miles away from an area that is included in protection for the Salt Marsh Harvest Mouse.	No
	Are any of the sites known or potential habitat for any endangered or threatened species?  Federally Threatened: Steelhead <sup>iii</sup>	Yes
	Are any of the sites on or near an area where people walk or children play?  There is a small airplane viewing area/playground at the north end of John Glenn Drive.	Yes
	Are any of the sites near a drinking water reservoir?  The nearest drinking water reservoir is over 5 miles away.	No
	Are any of the sites near a creek or flood control channel?  The entire east property line abuts 1.3 miles of Walnut Creek.	Yes
	Are any of the sites near crops?  CoCo San Sustainable Farm is less than 1/4 mile north of the property	Yes
	Are any of the sites near desirable trees or landscaping?  There is a golf course on the property in addition to hundreds of residential ornamental gardens surrounding the site.	Yes
	Are any of the sites on soil that is highly permeable, sandy, or gravelly?	No
	At any of the sites, is the ground water near the surface?	No
	Is there a well head near the site?  It is approximately 1/2 mile from the property.	Yes

**Section 3: Management Considerations**

What vegetation management mandates or standards apply to the sites?	<p><u>Federal Aviation Administration (FAA)</u></p> <p><a href="#">FAA Engineering Brief #91</a><sup>iv</sup> “details how airport owners and operators collect, submit, and manage the data describing vegetation, on or near the airport, that affects or has the potential to affect the safe and efficient use of the airport.”</p> <p><u>Section 9.2.b of <a href="#">FAA's Wildlife Hazardous Management at Airports</a><sup>v</sup> describes habitat modification and exclusion practices</u></p> <p><u>Fire Protection Ordinance:</u></p> <p>Both airport sites are subject to the regulations of the Contra Costa Fire Protection District (ConFire). Minimum weed abatement standards can be found at:  <a href="http://www.cccfpd.org/pdfs/WA-2-minimum-standards-17.pdf">http://www.cccfpd.org/pdfs/WA-2-minimum-standards-17.pdf</a></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</p>
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<p>(mandates/standards continued)</p>	<p>hazardous rubbish, weeds, trees, or other vegetation that constitutes a fire hazard.”</p> <p>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.”</p> <p><u><a href="#">Contra Costa County Administrative Bulletin #542</a></u></p> <p>“The County will provide pest management in and on County maintained properties and facilities using integrated pest management (IPM). The purpose of this policy is to promote the combined use of physical, cultural, biological, and chemical control methods to effectively manage pests with minimal risk to humans and the environment.”</p> <p>“When executing a lease for real property with a term of more than three months, the County shall use reasonable efforts to negotiate the use of IPM practices as a part of that lease. The County shall encourage the use of IPM practices by lessors whenever practical.”</p>
<p>What are the management goals for the sites?</p>	<p>The management goals are to maintain the definition of the runways and to maintain security, safety and visibility at the airports through the following objectives:</p> <ol style="list-style-type: none"> <li>1. Keep weeds out of pavement cracks and seams on runways (where planes land and take off) and taxiways (other pavement that planes use to move around the airport)</li> <li>2. Maintain bare ground 15 to 25 ft on either side of runways (if a plane needs to leave the runway, it must be able to do so unimpeded)</li> <li>3. Maintain bare ground approximately 15 ft on either side of taxiways (if a plane needs to leave the taxiway, it must be able to do so unimpeded)</li> <li>4. Keep weeds out of parking areas for planes</li> <li>5. Maintain bare ground around signs, runway lights, windsocks, and instrumentation for safety and guidance.</li> <li>6. Treat infields (non-paved areas between pavement) for broadleaf weeds to prevent any tall plants from growing above 2 to 3 ft; the airports regularly mow the infields to reduce wildlife habitat (wildlife can be a hazard to planes landing and taking off)</li> <li>7. Maintain bare ground around perimeter fence lines for security (in order to be able to easily see the fence)</li> <li>8. Leave grass in the infields tall enough to impede the germination and growth of broadleaf weeds and decrease the attractiveness to wildlife</li> <li>9. Preserve the Byron Airport Habitat Management Lands (HML) in a manner consistent with the Habitat Management Plan.</li> </ol> <p><b>With these management goals in mind, the most appropriate management tactics are chosen based on cost, efficacy, impacts to the environment, public health, employee safety, and other impacts to the public.</b></p>
<p>How often is the site monitored?</p>	<p>Airport Safety Officers monitor weed conditions daily. They conduct all vegetation management functions along with other duties that include security, fire suppression, equipment maintenance, and regulatory compliance.</p>
<p>Weeds have been identified as the following:</p>	<p>All forbs and grasses that surpass certain heights or become established within designated bare-earth areas.</p>
<p>Are populations high enough to require control? Explain</p>	<p>Any vegetation in areas where safety is concerned must be eliminated. Vegetation can reach 2 to 3 feet in the infields as long as it is of uniform height.</p>

## Section 4: Tactics Considered

<p>Which cultural controls were considered?</p>	<p><b>Mulching:</b> The application of chipped wood, crushed rock, or similar material at certain thicknesses to prevent or slow the growth of unwanted vegetation.</p> <p><b>Paving:</b> The installation of concrete or asphalt to create a physical barrier that limits sufficient soil for vegetation to become established.</p> <p><b>Crack Sealing:</b> This is done to maintain the structure of the pavement, but budget and the issue of having to close runways prohibits doing this for weed abatement.</p> <p><b>Competitive Planting:</b> The deliberate selection of plant species whose properties are likely to promote a higher rate of establishment than vegetal pests.</p> <p><b>Prescribed Burning:</b> The use of controlled fire in designated areas to reduce fuel loading and control undesirable plant communities.</p> <p><b>CONCLUSIONS:</b> Large-scale mulching is not practical at the airports because weeds would still grow in the soil that will inevitably collect on top of the material, and the mulch particles could compromise safety by migrating onto pavement. Considerable portions of the properties are paved, but it is not cost effective to pave additional areas for the sole purpose of weed prevention. Crack sealing is often practiced to preserve the structure of the pavement. Airport staff are interested in reviewing possible seed blends that may help out-compete problematic vegetation in certain areas. Prescribed burning is not currently done at either property, but should be considered on portions of the Byron HML's.</p>
<p>Which mechanical controls were considered?</p>	<p><b>Mowing:</b> Cutting vegetation at predesignated heights with various machinery and attachments. The residual live vegetation and thatch can slow or impede excessive growth.</p> <p><b>Cultivation:</b> The use of tractor-mounted implements that harrow the soil through discing, plowing, or tillage. The practice interrupts the growth cycle of dominant vegetation by turning vegetation at or below the soil surface.</p> <p><b>String Trimming:</b> The use of hand-held equipment for cutting vegetation in areas not accessible to larger mowing equipment.</p> <p><b>CONCLUSIONS:</b> Mowing is used extensively. Various tractor-mounted flail and rotary mowing implements are available to airport personnel. Disking is used to maintain firebreaks. String trimmers are also utilized particularly along fence lines and similar locations.</p>
<p>Which biological controls were considered?</p>	<p><b>Managed Livestock Grazing:</b> The use of herbivores such as cattle, sheep and goats to consume or trample vegetation to accomplish specified objectives of the property and herds.</p> <p><b>Classical Biological Control:</b> This refers to the use of host-specific insects, mites or pathogens<sup>vi</sup> to decrease numbers of certain weed species.</p> <p><b>CONCLUSIONS:</b> Large portions of the Byron HML property are leased to cattle ranchers. Targeted grazing using sheep and goats may not be appropriate at either location since most problematic vegetation occurs near runways and taxiways. Additional analysis is needed to determine whether site vegetation includes plant species that have suitable control agents available. (Adjacent properties owned by other public agencies should be surveyed to determine if these practices are being used in their respective vegetation management programs).</p>

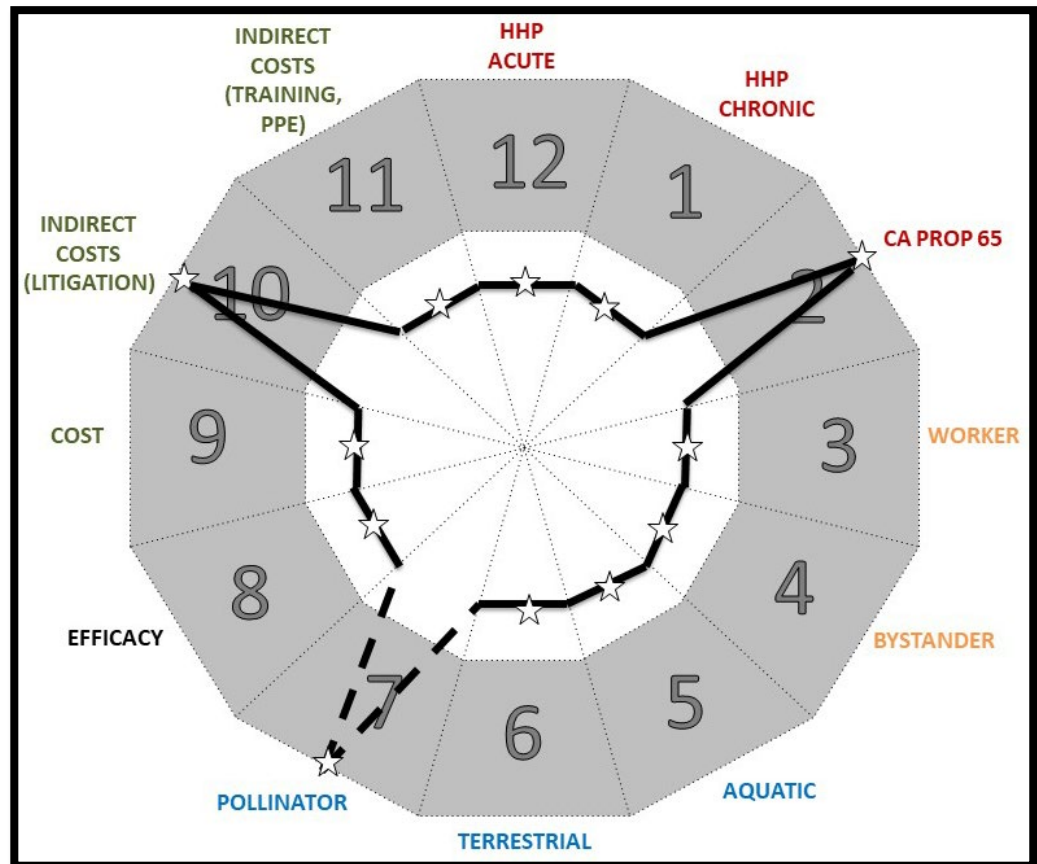
Which chemical controls were considered?

For additional information about the graphics used to illustrate risks associated with each product, see the [Pesticide Risk Footprint Tool](#).

The following diagrams and corresponding tables represent herbicides currently being used at airport properties as interpreted by the *Pesticide Risk Footprint Tool* developed by the IPM Advisory Committee. This tool is intended to assist in the evaluation of risks associated with pesticide products. **It is not a comprehensive analysis of all risks.** Each of the twelve triangular panels forming a dodecagon represent a certain type of risk. The placement of a star on the inner portion of the panel indicates that the product being reviewed does not meet criteria to be considered high risk as specified on the following page. Star placement on the outside edge constitutes elevated risk as determined by the proposed standards. The stars are then connected to form a footprint. The increased area of the footprint's spiked portions visually depicts heightened risk and helps to prioritize mitigation measures. The use of dashed lines in some footprint spikes represent a risk that can be mitigated. If mitigation measures are not possible or are otherwise unavailable, the associated spike will utilize solid lines.

It is important to consider that in many cases, when a pesticide product does not meet the established criteria to be marked as an elevated risk on panels within this tool, there are likely still hazards present associated with potential pesticide exposures. Source justification an rational for designation is available on page two of the [Pesticide Risk Footprint Tool](#).

**RoundUp Pro Concentrate** (glyphosate)      *Signal Word: Caution*      [Product Label / SDS](#)

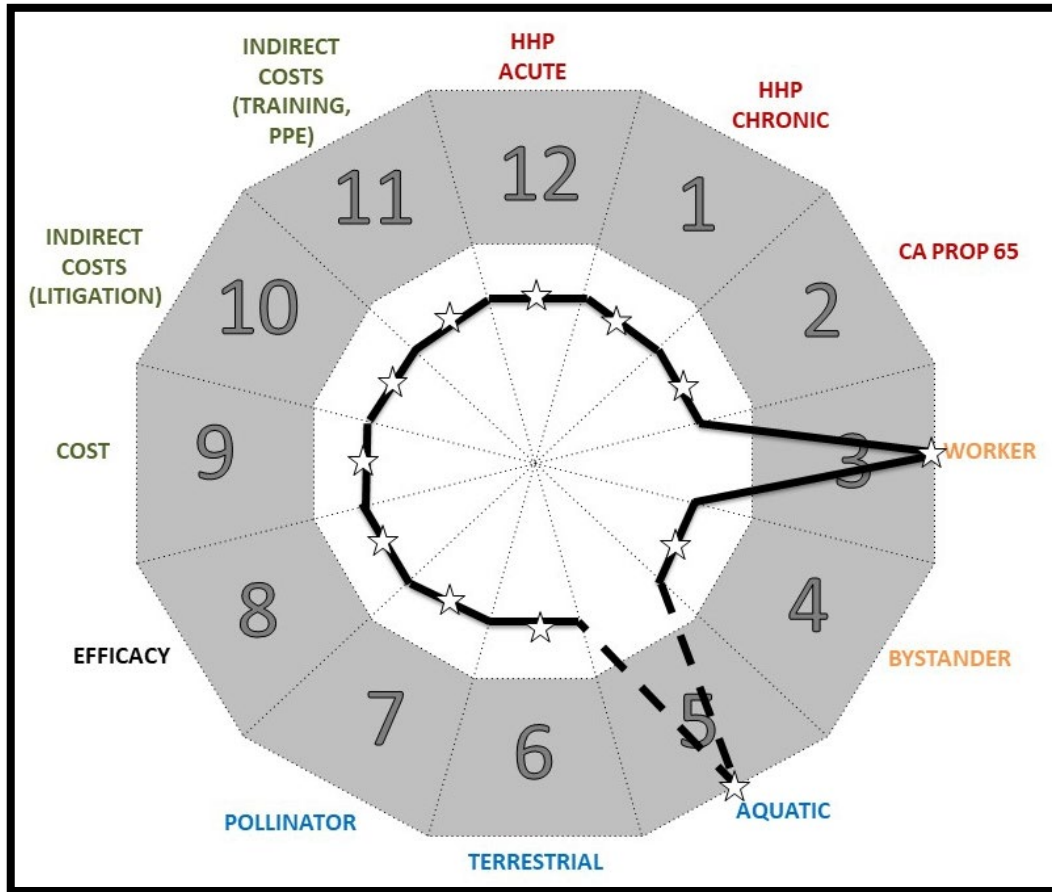


Risk Factors	Mitigation Measures (if available)
2. Listed as causing cancer on 7/7/2017	
7. Toxic to honey bee brood	Do not apply or allow to drift to flowering plants including weeds. Do not apply to water
10. Multiple cases involving litigation	



(Chemical controls continued)

**Capstone** (aminopyralid & triclopyr) *Signal Word: Caution (label) / Warning (SDS)*  
[Product Label](#) / [SDS](#)



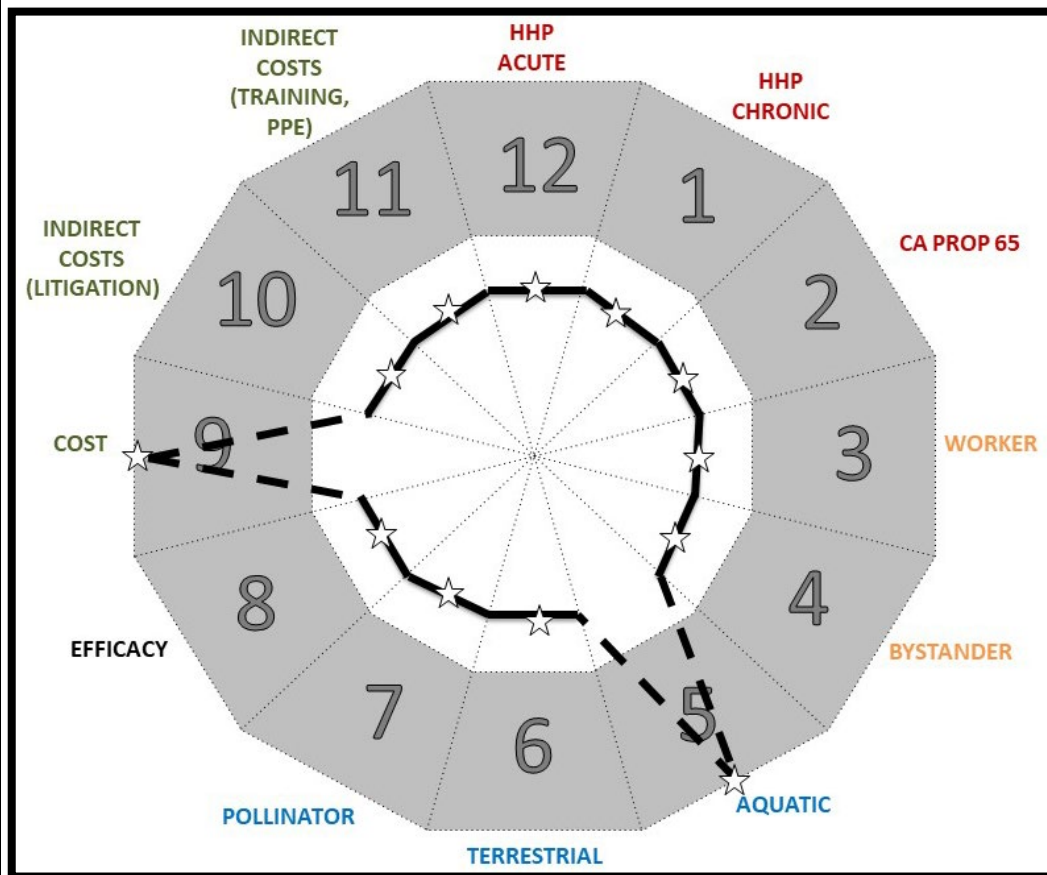
Risk Factors	Mitigation Measures (if available)
3. Listed as moderately hazardous by the World Health Organization	
5. Moderately toxic to aquatic organisms according to SDS	Do not apply directly to water. Minimize overspray when applying to terrestrial plants where surface water is present.
Other risk factors not captured on above tool: Possible groundwater contaminant "This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination" -Product	

(Chemical controls continued)

**Milestone** (aminopyralid)

Signal Word: Caution

[Product Label](#) / [SDS](#)

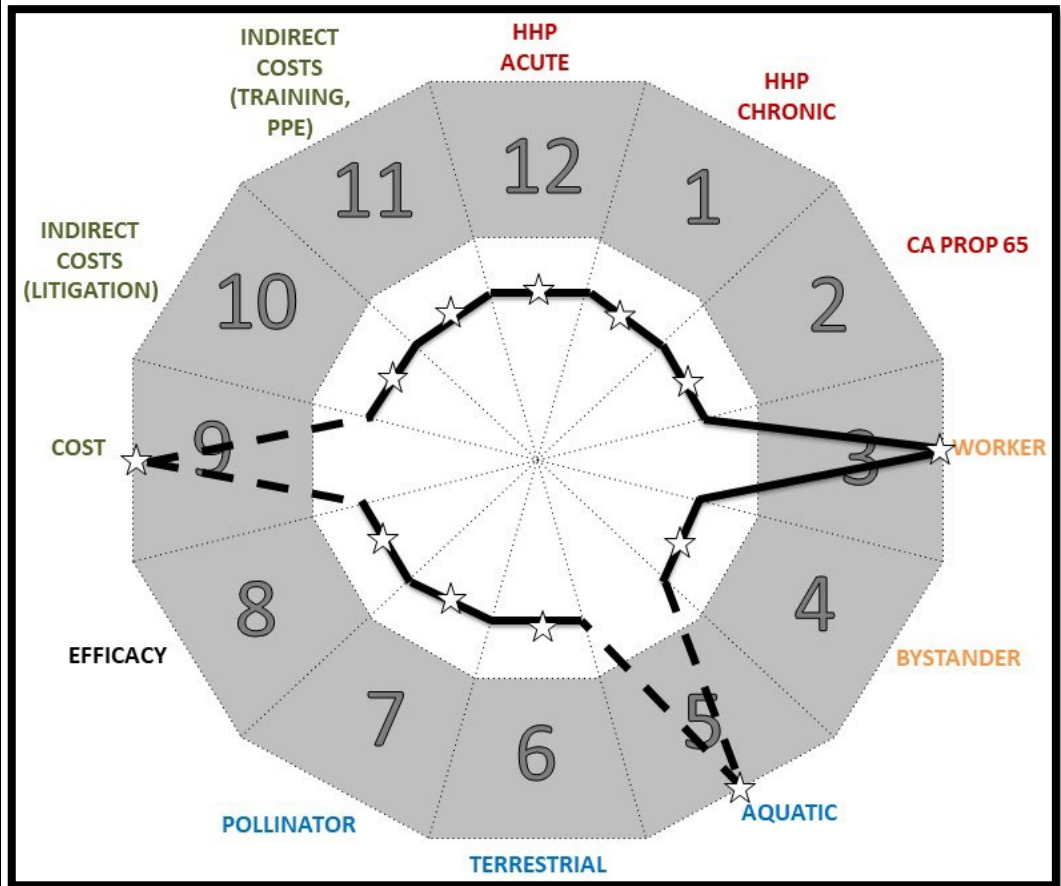


Risk Factors	Mitigation Measures (if available)
5. Highly toxic to aquatic organisms according to SDS	Do not apply directly to water. Minimize overspray when applying to terrestrial plants where surface water is present.
9. Cost of is approximately six times higher than the same concentrated quantity of the Roundup and Capstone products used	Make adequate funding available if alternatives insufficiently achieve organizational values and control targets.
Other risk factors not captured on above tool: Possible groundwater contaminant "This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater" -Product label	

(Chemical controls continued)

**Esplanade 200 SC** (indaziflam)  
[Product Label](#) / [SDS](#)

Signal Word: *Caution* (label) / *Warning* (SDS)



Risk Factors	Mitigation Measures (if available)
3. SDS has signal word of Warning.	
5. Toxic to fish, aquatic invertebrates, and plants.	Do not apply directly to water. Maintain vegetated buffer strip between areas treated and surface waters.
9. Cost of is approximately 24 times higher than the same concentrated quantity of the Roundup and Capstone products used.	Make adequate funding available if alternatives insufficiently achieve organizational values and control targets.
Other risk factors not captured on above tool: Possible groundwater and surface water contaminant. <i>"This chemical has properties and characteristics associated with chemicals detected in groundwater. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow. This pesticide may impact water quality due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having a high potential for reaching surface water via runoff for several months or more after application"</i> -Product label	

Other herbicides currently used by other publicly-managed airports in the region include:

- Promenade SC (Flumioxazin)—Used at Reid-Hillview County Airport in San Jose
- Oust XP (Sulfometuron methyl)—Used at SFO
- Habitat (isopropylamine salt of imazapyr)—Used on SFO's [West-of-Bayshore wetlands](#).

<p>(Chemical controls continued)</p>	<p><b>CONCLUSIONS:</b> The application of herbicides are a critical part of airport operations. Safety, cost, and effectiveness are the main considerations for work at these properties. Operations staff currently do not report monthly pesticide use reports to the state through the Agriculture Department based on the rationale that pesticide use at airports is considered “non-agricultural” which would make it exempt from many reporting regulations. However, it has been standard practice for all County departments who use pesticides (not including sanitizers and disinfectants) to report usage to the public through the IPM Coordinator. Mandatory annual training consistent with state regulations<sup>vii</sup> and County policy<sup>viii</sup> is still required.</p> <p>Any pesticide applications made in portions of the properties that include roadsides, waterways, wetlands, and rangelands/pasture would be considered “non-production agricultural” or “production agricultural.” Those designations have increased licensing and reporting implications.</p>
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**Section 5: Recommendations**

<p>Recommendations from the IPM Advisory Committee</p>	<ol style="list-style-type: none"> <li>1) The PWD Airports Division is encouraged to build a stronger relationship with the IPM Program if they intend to continue managing vegetation internally. Recommended initiatives may include:             <ol style="list-style-type: none"> <li>a. Coordination with the PWD-Grounds Division to utilize the position of Grounds Maintenance Specialist-Pest Control and adjust vegetation management practices to designate that position as the only staff member authorized to perform herbicide applications at both sites, or;</li> <li>b. Consider having a staff member regularly participate in meetings of the IPM Advisory Committee, and;</li> <li>c. Complete the Departmental/Divisional IPM Plan template and provide regular reports of pesticide usage, staff training, and other vegetation management activities to the Committee through the IPM Coordinator.</li> </ol> </li>   <li>2) During the development of this document, the Decision-Making Subcommittee learned about large commercial lessees operating on Airport property. The IPM Advisory Committee is concerned that the unknown nature of pesticide applications on County-owned properties leased to private entities defies the spirit of the County’s IPM Policy. The Committee recommends:             <ol style="list-style-type: none"> <li>a. Including language in new lease agreements that require the adoption of integrated pest management principles consistent with the County IPM Policy, and;</li> <li>b. Consulting with Risk Management and County Counsel to limit liabilities of potential pesticide exposures on County-owned properties leased to private entities.</li> </ol> </li> </ol>
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## Citations

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- <sup>i</sup> Retrieved from [EPA's Map Tool to Identify Interim Pesticide Use Limitations](#)
- <sup>ii</sup> From database inquiry on the [Department of Pesticide Regulation's Pesticide Regulation's Endangered Species Custom Realtime Internet Bulletin Engine \(PRESCRIBE\) Data Source](#)
- <sup>iii</sup> From database inquiry on the [Department of Pesticide Regulation's Pesticide Regulation's Endangered Species Custom Realtime Internet Bulletin Engine \(PRESCRIBE\) Data Source](#)
- <sup>iv</sup> [https://www.faa.gov/airports/engineering/engineering\\_briefs/media/eb-91.pdf](https://www.faa.gov/airports/engineering/engineering_briefs/media/eb-91.pdf)
- <sup>v</sup> [https://www.faa.gov/airports/airport\\_safety/wildlife/resources/media/2005\\_FAA\\_Manual\\_complete.pdf](https://www.faa.gov/airports/airport_safety/wildlife/resources/media/2005_FAA_Manual_complete.pdf)
- <sup>vi</sup> As cited on page 183 in the California Invasive Plant Council's *Best Management Practices for Non-chemical Weed Control*, available for free download at <https://www.cal-ipc.org/resources/library/publications/non-chem/>.
- <sup>vii</sup> The Department of Pesticide Regulation has a hazard communication leaflet that details training requirements for pesticide handlers in non-agricultural settings available at <https://www.cdpr.ca.gov/docs/whs/pdf/hs1749.pdf>.
- <sup>viii</sup> County IPM Policy located at [https://cchealth.org/ipm/committee/pdf/ipm\\_policy.pdf](https://cchealth.org/ipm/committee/pdf/ipm_policy.pdf). The Municipal Regional Stormwater Permit (MRP) mandates that "all municipal employees who, within the scope of their duties, apply or use pesticides are trained in IPM practices and the Permittee's IPM policy." Even though the airports are subject to an industrial stormwater permit, Airport personnel are still considered municipal staff and must receive the specified training.