Public Comment
Commission on the Environment
Policy Committee
February 17, 2016
Thanks, Anthony. Please send my email to the Commissioners as a general public comment for their next meeting. Thank you.

Hi Mary:

Just so you know – the Policy Committee will be considering the Reduced Risk Pesticide List at their March meeting. I can add this to the general public comment for the February meeting or would you like me to wait and add to the public comment for the item in March?

Thanks,
Anthony

Anthony E. Valdez
Commission Affairs Manager
San Francisco Department of the Environment
1455 Market Street, Suite 1200, San Francisco, CA 94103
anthony.e.valdez@sfgov.org T: (415) 355-3709

Please consider the environment before printing this email.
Mr. Valdez, Please distribute this comment about IPM practice and policy to Commissioners in advance of the Policy Committee meeting on February 9, 2016. Thank you.

Dear Commissioners,

I was very impressed with your hearing on January 26th about San Francisco’s pesticide policy. Thank you for taking the public’s concerns regarding pesticides seriously and for considering improvements in the policy to reduce risks to the public, to wildlife, and to pesticide applicators.

I am writing about Mr. Geiger’s follow up on the spraying of pesticides on Mt. Davidson on November 19, 2015. Mr. Geiger reported to the Commission that blackberries are not sprayed while they are fruiting and that fruits are removed before they are sprayed in the event that they are found.

That was reassuring information that I did not have prior to the hearing. According to Rec & Park’s pesticide use reports, most pesticide applications on blackberries in 2015 appear to be outside the fruiting season. There were four applications on blackberries in February and five in November. There were also two applications in October, when there may have been some fruit still on the vines.

It is reassuring to know that applicators are aware of this issue and are apparently trying to avoid poisoning the fruits that are attractive to both children and wildlife.

However, it seems advisable to consider adding this apparently informal policy to the formal policy. The advantage of codifying this apparent practice is that it informs all applicators, some of whom may not be aware of such an informal policy. And, with a formal policy in place applicators can be held accountable for following the policy.

Thank you for your consideration.

Mary McAllister

Cc: Chris Geiger
Kevin Woolen
Dear Mr. Valdez, Please submit the following comment for item #7 on the agenda for the Policy Committee Meeting on February 17, 2016. Thank you.

Mary McAllister

Dear Commissioners,

I watched the Environment Commission’s hearing regarding annual renewal of San Francisco’s pesticide policy. I commend the Commission for seriously considering the concerns of the public regarding pesticide use in San Francisco’s public parks and for asking the difficult questions that I hope will improve policy and practice of pesticide applications.

The need for eradicating oxalis in public parks was discussed as well as the risks associated with using pesticides for that purpose. Therefore, I am writing to provide you with more information regarding these important questions that I hope will help the Environment Commission consider the question of whether or not the risks outweigh the potential benefits of attempting to eradicate oxalis in public parks.

As you may know, the mission of the California Invasive Plant Council (Cal-IPC) is the identification and eradication of non-native plants considered “invasive” and or harmful to native species of plants. Cal-IPC is therefore closely allied with those organizations that advocate for native plant “restorations,” such as the California Native Plant Society. Cal-IPC should therefore be considered a credible source of information regarding the preservation of native plants and the need for eradicating non-native plants.

Bay Nature recently published an article (available here: https://baynature.org/articles/a-natural-history-of-that-little-yellow-flower-thats-everywhere-right-now/) about oxalis in which the Executive Director of Cal-IPC is quoted as saying that eradicating oxalis is no longer a realistic goal:

“It could be worse, though, says Doug Johnson, executive director of the California Invasive Plant Council. Oxalis’s M.O. is simply to grow prolifically and crowd out other plants. It’s not dangerous from an economic standpoint; it’s not a fire hazard, and it doesn’t threaten crucial resources like crop plants... There’s also the simple fact that there’s just too much of the plant to tackle. “It’s not a target for landscape-level eradication because it’s way too widespread,” Johnson says... Oxalis is so widespread that physically removing the plant is no longer feasible. “It takes a surprising amount of resources to truly eradicate a population of weeds,” Johnson says. In oxalis’s case, the benefits that would accrue from fighting it on all fronts aren’t quite enough to justify the costs—there’s just not enough time or people to dedicate to the effort.”

Cal-IPC has made many valuable contributions to the public debate about the need for eradication of non-native plants. They surveyed land managers regarding the methods they use for eradication and learned that 94% of land managers use herbicides, in addition to other methods. They also employed the Pesticide Research Institute to do a risk assessment of the herbicides used to eradicate “invasive” plants. The survey and the risk assessment are available on Cal-IPC’s website: http://www.cal-ipc.org/symposia/archive/pdf/2014/Law_Johnson.pdf

Cal-IPC’s risk assessment considers Garlon (the herbicide used to eradicate oxalis) one of the most toxic herbicides used by land managers. The Cal-IPC risk assessment of Garlon says that it “poses reproductive and developmental risks to female applicators.” Yet, some of the Garlon applications done by Rec & Park in 2015 were done by female applicators of reproductive age according to Rec & Park’s records of pesticide use. I ask that the Environment Commission consider
adding to the city’s pesticide policy a prohibition against the application of Garlon by female applicators. Actually, it seems wise to reconsider the use of Garlon for this purpose altogether, given the toxicity of the herbicide, the futility of the effort, and the benign nature of oxalis.

Cal-IPC headquarters and its Executive Director, Doug Johnson, are in Berkeley. He may be willing to speak with you about Cal-IPC’s cost-benefit analysis of eradicating “invasive” species. He is a valuable resource on this topic because he has credibility with the community of native plant advocates.

Thank you for agreeing to reconsider San Francisco’s pesticide policies in the light of current knowledge about their toxicity and the public’s concerns.

Mary McAllister

Cc: Chris Geiger
    Kevin Woolen
Valdez, Anthony E (ENV)

From: Woolen, Kevin (REC)
Sent: Friday, February 12, 2016 9:47 AM
To: Valdez, Anthony E (ENV)
Cc: Geiger, Chris (ENV); Wayne, Lisa (REC)
Subject: Re: Public Comment for Policy Committee Meeting

Hi Anthony

Is it possible that the entire article that that is attached to the link be printed and made part of the rerecord? What Mary has sent here is a bias compilation of excerpts that does not reflect the actual content of the article which presents differing points of view.

Thank You,

Kevin M. Woolen
IPM Coordinator
San Francisco Recreation and Park Department
Office (415) 831-6312 | kevin.woolen@sfgov.org

From: marymcallister
Sent: Thursday, February 11, 2016 5:01 PM
To: Valdez, Anthony E (ENV)
Cc: Geiger, Chris (ENV); Woolen, Kevin (REC)
Subject: Public Comment for Policy Committee Meeting

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Mary McAllister

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Thank you for agreeing to reconsider San Francisco’s pesticide policies in the light of current knowledge about their toxicity and the public’s concerns.

Mary McAllister

Cc:          Chris Geiger
Kevin Woolen
A Natural History of That Little Yellow Flower That’s Everywhere Right Now

by Chelsea Leu on March 11, 2015

Yellow bursts of color for spring mean the ruthless invader oxalis has arrived.

*xalis pes-caprae* is an attractive little flower with five yellow petals and leaves that are cloven in a way that apparently reminded Linnaeus—who described the species in 1753—of a goat’s foot. Commonly known as sourgrass or Bermuda buttercup, it flowers from November to April, and in the last few months oxalis has come out in full force in the Bay Area, encouraged by December and February rains. The flowers dot hillsides, parks, and highway medians like the mottled points of light in a Monet, delighting many observers.

They do not delight Jake Sigg.

“I’ve just been frantic about it,” says Sigg, a retired Golden Gate Park gardener and the Bay’s most outspoken opponent of yellow oxalis. “It’s our most troublesome plant.”

*Oxalis pes-caprae* is invasive, a weed native to South Africa that was transplanted to California early in the 1900s, probably to be grown as a demure ornamental plant. By the late 1980s, the *Los Angeles Times* reported in 1988, it was a frustratingly persistent nuisance in home gardens. Now, Sigg has watched in horror as oxalis has taken over the coastal grasslands he tends. He first noticed a small patch of them in San Francisco’s Grandview Park back in the 1980s. By 2003, Sigg says, it was all over the hill. “In the last 10 years it really got going fast,” he says. “It’s just a blitzkrieg.” And the onslaught will probably continue. “If we did nothing, in X many years Twin Peaks would just be one solid mass of yellow, and there wouldn’t be any other plants there,” Sigg says. “It’s destroying our grasslands.”

Oxalis crowds out native wildflowers for light and space, and prevents other plants from gaining a foothold in the land. “Oxalis is terminal,” Sigg says. Once it takes over, the wildlife that depends on native flowers moves on, leaving nothing but oxalis in its wake (and bare ground during the six months of the year oxalis doesn’t flower). An oxalis-dominated landscape drives away coyotes, hawks and owls that feed on grassland foragers, and the situation is especially dire for endangered Mission blue butterflies, which depend heavily on native wildflowers. Whole hillsides are now “marching towards monoculture,” Sigg says. But we haven’t raised the alarm because, as he wrote in 2003, “we hardly notice [the spread] because it occurs slowly, subtly, surreptitiously.”

It could be worse, though, says Doug Johnson, executive director of the California Invasive Plant Council. Oxalis’s M.O. is simply to grow prolifically and crowd out other plants. It’s not dangerous from an economic standpoint; it’s not a fire hazard, and it doesn’t threaten crucial resources like crop plants. Eaten in large quantities, oxalis can poison sheep and other livestock, but the animals are usually put off by the sour oxalic acid in its leaves (also found in rhubarb and raw beets) before they overindulge. There’s also the simple fact that there’s just too much of the plant to tackle. “It’s not a target for landscape-level eradication because it’s way too widespread,” Johnson says.

What’s the secret to oxalis’s success? Like many other weeds, it’s hardy and aggressive, and thrives in areas of human disturbance. Oddly, oxalis doesn’t produce seeds in any of its invasive strongholds (which, besides California, include Arizona, Florida, southern Australia, and much of the western Mediterranean basin). Instead, it sends out lateral runners underground, and grows a taproot lined with small bulbs. Even if a flower is pulled, the bulblets remain in the ground for the next year, waiting to spawn anew and in greater numbers. Their spread is abetted by pocket gophers and scrub jays, which have been spotted carrying the bulbs and caching them in the ground—effectively planting them in new areas.

So is there any way to check the spread of these flowery legions?
Well, we can’t eat it out of existence. Oxalis is entirely edible, urban foragers note. But there’s much more growing than anyone would ever want to eat. Its extremely tart flavor makes it better as a zest or a garnish than a main dish, says Kevin Feinstein, coauthor of The Bay Area Forager (which includes a recipe for a sourgrass salad). “A little bit goes a long way,” Feinstein says, “and right now, there’s enough growing for everyone in the Bay Area.”

Oxalis is so widespread that physically removing the plant is no longer feasible. “It takes a surprising amount of resources to truly eradicate a population of weeds,” Johnson says. In oxalis’s case, the benefits that would accrue from fighting it on all fronts aren’t quite enough to justify the costs—there’s just not enough time or people to dedicate to the effort. (Not to mention that eliminating oxalis takes a doggedness that even Sigg describes as “fanatic.” He managed to eradicate it from his garden, but it took him five to six years, and he sometimes had to comb through his plants by hand.) Instead, Cal-IPC focuses its efforts on the battles that can be won: new, potentially dangerous weeds that can be stopped, or existing weeds that threaten valuable resources.

Our only hope is biological controls, or insects or other parasites that naturally attack oxalis into the wild. Sigg and Cal-IPC are beginning a push to request funding from the USDA for research into oxalis biocontrols. If the funds are approved, the research effort would involve traveling to South Africa to collect potential pests and bringing them back to a USDA quarantine lab in Albany, where they’d be tested in isolation to see if they can be released into the wild without going after California’s native oxalis species, including the redwood sorrel. “But that’s a decade-long effort, and whether that would be a high priority for the USDA group that develops biocontrols is an open question,” Johnson says.

So for now—and probably for good—oxalis is here to stay. And there’s not much we can do but admire the sheer tenacity of this perky, ubiquitous plant, and watch the yellow expanses grow year after year, slowly but surely.

See more articles in: Plants and Fungi, Stewardship, Urban Nature

Most recent in Plants and Fungi

In which California is the first state to have a state lichen. Plants and Fungi

Manzanita expert Mike Vasey wants to share the world of these fascinating shrubs with the public. Plants and Fungi

Why are some stands of redwoods so spindly? Marin County Parks naturalist David Herlocker explains this anomaly. Ask the Naturalist | Habitats | Land | Plants and Fungi

See all stories in Plants and Fungi

https://baynature.org/articles/a-natural-history-of-that-little-yellow-flower-thats-everywhere-right-now/
Mr. Valdez,

I’m the Executive Director of the California Invasive Plant Council (Cal-IPC). I wish to contribute information relevant to the recent letter from Mary McAllister regarding the city’s pesticide policy. Her letter cites me and the organization I work for, and I’d like to ensure that commissioners have appropriate context for the information she presents.

Regarding Oxalis pes-caprae - Cal-IPC lists the plant as invasive, meaning that a panel of environmental experts has determined that the plant causes some level of environmental damage in California. We encourage management action for plants on our list when appropriate for a given site. Ms. McAllister references an article on O. pes-caprae from Bay Nature Magazine, in which I am quoted. The intent of my comments in the article are that O. pes-caprae is too widespread in California to eradicate entirely. That should not be taken to mean that removing O. pes-caprae from particular sites (such as San Francisco natural areas) may not be an important management action.

Regarding herbicide use - Cal-IPC supports the use of herbicides as an important part of the IPM toolbox. We recently published Best Management Practices (BMPs) for Wildland Stewardship: Protecting Wildlife When Using Herbicides for Invasive Plant Management (see www.cal-ipc.org/ip/management/BMPs). We collaborated with toxicologist Dr. Susan Kegley of the Pesticide Research Institute (PRI) in Berkeley on the publication. PRI produced toxicological risk charts for the manual showing the level of risk to wildlife of herbicides used in restoration work. Separate from the manual, PRI also produced risk charts showing potential risk to pesticide applicators. These are posted on their website at www.pesticideresearch.com/site/?page_id=12900. Questions regarding potential applicator risk would be best addressed by Dr. Kegley and herbicide applicators who can relate the assumptions inherent in the charts to real-world exposure scenarios.

Please contact me if I can provide any further information that may be useful. Thank you,

Doug

__________________________
Doug Johnson, Executive Director
California Invasive Plant Council | www.cal-ipc.org

Protecting California’s lands and waters from invasive plants.
Subject: Public Comment for Commission on the Environment Policy Committee Meeting, 2-17-2016
To: anthony.e.valdez@sfgov.org

Dear members of the Committee,

Toxicity Category II & I (more & most toxic) herbicides should not be used in our parks. They should not be used anywhere on Earth, especially for a dubious goal of "restoring" the habitat to something which presumably was here about 250 years ago.

Climate is changing. It's always changing. Plants and animals are moving north and moving up. What was at some time living in some place can do it no more. Woolly mammoth tooth was found at the Transbay construction site in 2012, other woolly mammoth fossils have been found on Columbus Avenue, near Twin Peaks and in Hunters Point - is restoration of the woolly mammoth to it's native habitat under consideration? Camel bones were among many other fossils found during 2013 Hetch Hetchy water system seismic upgrade in Fremont - is there a plan to bring camels back to where they belong? "Native restorations" are big industry with most money going to subsidize chemical companies. Damaging health of many of us for which all of us pay. Why does San Francisco participate in this sham is unclear.

Please do not approve the "Reduced Risk Pesticide List" in present form - require removal of herbicide use in city parks, especially in "natural" areas - let them finally become NATURAL.

Sincerely,
Eugene Bachmanov
2016 Reduced Risk Pesticide List for City Properties.

Dear members of the Committee,

San Francisco is supposed to be a "green city" - only it isn't - using the most toxic herbicides in parks for many years.

According to the San Francisco Forest Alliance research - based on compiled individual application data obtained via sunshine requests - the use of Toxicity Category I & II herbicides in "natural" areas measured by active ingredient increased by more than 400% from 2009 to 2013. It went slightly down in 2014 and in 2015, but is still about 200% more than it was in 2009: http://sfforest.org/category/applies-pesticides/

San Francisco claims to adhere to the precautionary principle - only this is a lie. The herbicides used in San Francisco parks - "natural" areas in particular - have been linked to many health problems, including cancer, birth defects, infertility, neurological issues. But they are still being used. They must be banned. Do not approve the list until all Category II & I synthetic herbicides are removed from use (with the only exception allowed for the Harding golf park.)

Sincerely,
Svetlana Savchuk & Valentin Ignatovski
Fact Sheet on Triclopyr, Garlon Ultra 4, Tier 1

- **Who in San Francisco uses and why they use Garlon**: 74% of land managers use it, principally for habitat restoration and species recovery. i

- **Risks to applicators**: “It poses developmental and reproductive risks” to female workers who apply it, with risks 20X higher for women of reproductive age than for men.” ii
  - It is highly risky through accidental spills, backpack applications, and wearing contaminated gloves.
- **Birth defects**: It causes birth defects in rats, is water soluble, iii and slowly works its way thru human skin into the blood.iv
- **Risks to general public**: Poses high risks by brushing up against contaminated vegetation. v

- **Risks to particular species**:
  - Dogs’ kidneys may be particularly vulnerable, vi
  - Aquatic creatures: fish (particularly salmon) are highly susceptible, and aquatic plants are susceptible. vii
  - It’s slightly toxic to birds and may lower their successful reproductive rate. viii
- **Altering soil biology**: Can inhibit growth in the mycorrhizal fungi.ix
- **Persistence**: Can persist in soil for many months following application.x
- **Kills insects like butterflies**, as was found in a recent study of Lange’s Metalmark butterflies in the Antioch dunes by US Fish and Wildlife Service.xi

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iii Marin Municipal Water District Vegetation Management Plan Herbicide Risk Assessment draft, 1/1/2010, Ch. 4

iv Marin Municipal Water District, Ibid.

v Ibid.

vi Ibid.

vii Garlon 4 Ultra is defined as a “Hazardous Chemical” according to the OSHA Hazard Communication Standard.


ix Marin Municipal Water District, Ibid.

x Marin Water District Management Plan includes many studies showing extended half-life of triclopyr in soil, depending on moisture and temperature.

Fact Sheet on Glyphosate (Roundup)

- **Who in San Francisco uses and why do they use Glyphosate (Roundup):** 99% of land managers use glyphosate. More than 90% of the time their objective is habitat restoration and species recovery.\textsuperscript{i}

- **World Health Organization International Agency for Research on Cancer (IARC) declared glyphosate as “probably carcinogenic”** (Group 2A, meaning “strong mechanistic evidence that animal data applies to humans.”) Similarly classified: malathion and lead compounds.

- **Persistence in soil:** A powerful chelating agent, i.e. it avidly binds to metals. This property led to glyphosate's first use as a descaling agent to clean mineral deposits from pipes in boilers and other hot water systems. The ability to bind to metals found in the soil either naturally or by fertilizer also allows glyphosate-metal complexes to persist in soil for decades.\textsuperscript{ii}

- **Monsanto’s claims:** Roundup is safe because it binds tightly to most types of soil so it is not available for uptake by roots of nearby plants. It works by disrupting a plant enzyme involved in the production of amino acids that are essential to plant growth. The enzyme, EPSP synthase, is not present in humans or animals, contributing to the low risk to human health from the use of glyphosate according to label directions.\textsuperscript{iii}

- **Birth defects:** The data shows that glyphosate causes birth defects. Andrés Carrasco, an embryologist and the former director of the molecular embryology laboratory at the University of Buenos Aires suspected that glyphosate caused an abnormal hyperactivity in the Vitamin A pathway. The Vitamin A signaling pathway is present in all vertebrates from the very earliest stages of embryonic development. The pathway turns on certain genes and turns off others. It acts like a conductor, orchestrating the symphony of embryological development. And there is no room for error. Genes must be turned on and off at precisely the right instant in exact sequence. Any disturbance of the Vitamin A pathway can result in birth defects. Glyphosate had caused birth defects by over-stimulating the Vitamin A pathway. Since this pathway is present in all vertebrates, glyphosate has the capacity to cause birth defects in fish, birds, amphibians, reptiles, and mammals.

- **Various types of cancer:** Other epidemiological research has implicated glyphosate in brain cancer in children and has correlated it with non-Hodgkin's lymphoma.\textsuperscript{iv} In addition, laboratory studies of many kinds, as well as animal feeding studies, have repeatedly linked glyphosate to cancer. Glyphosate's links to cancer have also been assessed in studies with a variety of test animals for more than three decades.\textsuperscript{v}

- **Who is at risk:** Usually glyphosate is more potent among people exposed to high levels of glyphosate, such as applicators, but **“children typically more susceptible to carcinogens. Potency is assumed to be higher for them.”**\textsuperscript{vi}

- **Are there alternatives? YES, according to Dr. Kegley:** Alternative herbicides like clove oil and salt or citrus oil; manual removal; and minimizing the need to weed by Xeriscaping or hardscaping; flaming on hardscapes; mulch and landscape cloth; planting varieties that shade out weeds.\textsuperscript{vii}

“The Studies behind the IARC Cancer Listing for Glyphosate”, presentation by Dr. Susan E. Kegley, Pesticide Research Institute to San Francisco’s Integrated Pest Management, July 2, 2015

http://www.eastbayexpress.com/oakland/the-case-for-banning-monsantos-roundup/Content?oid=4247612

“The Studies behind the IARC Cancer Listing for Glyphosate”, presentation by Dr. Susan E. Kegley, Pesticide Research Institute to San Francisco’s Integrated Pest Management, July 2, 2015

“The Studies behind the IARC Cancer Listing for Glyphosate”, presentation by Dr. Susan E. Kegley, Pesticide Research Institute to San Francisco’s Integrated Pest Management meeting, July 2, 2015
How to Create a Sustainable Landscape

Start with Healthy Soil
Healthy soil supports healthy plants that resist pests, disease, drought, and other stresses. Applying compost and mulch and allowing soil organisms to thrive by avoiding pesticides will foster a healthy soil. The organisms will break down the compost, mulch, and plant clippings into vital nutrients. Plants that are nourished by these nutrients remain vigorous and naturally pest-resistant.

Right Plant in the Right Place
Different plants have different needs. Select plants to suit the soil, sunlight, and space in your yard. Plants need enough space to reach full size without frequent pruning. By placing plants in the right place, they will thrive naturally, remain healthy, and reduce the time needed for upkeep.

Water Wisely
Some plants tolerate a range of watering conditions; some are more sensitive. Watering too much or too little can weaken the plant. As stated above, grouping plants with similar watering needs makes it easier to provide the right amount of water. To optimize water use, deliver it near the roots. Drip and other smart irrigation methods deliver water directly to roots, allowing no excess water for weeds.

Use Smart Pest Management
There are several approaches to natural pest and weed management that - when used together (integrated) - can help avoid the need for pesticides and herbicides. Selecting plants adapted to our climate is the first step to avoid problems with pests, weeds, or disease. Other approaches include:

- Use cultural controls such as removing irrigation water and fertilizer from areas where you don't want weeds to grow.
- Use less-toxic herbicides such as herbicidal soaps and vinegars can be used as a last resort.
- Use physical controls such as manual removal with tools, smothering weeds with a mulch barrier.
- Use biological controls, such as selecting competitive, desirable plants that make it hard for weeds to grow, or attracting beneficial insects to control insect pests.