

MCL Invasive Plant Subcommittee

Meeting of September 16, 2015

Agenda

Announcements/Calendar Items/Info Sharing:

- Board of Supervisors public workshop, Tues Oct. 6, IPM, herbicides, and invasive plants on open space preserves (and other public lands); educational campaign (Nona)
- Saturday Sept. 19 Coastal Cleanup Day

Agenda Items

Recent Events

- Report on multi-agency meeting in SF on 9/10 re herbicide use policy
- Status update: draft letter to the Board of Supervisors re the search for a new Parks and Open Space Director stating our concerns to find a candidate with solid experience managing invasive species.
- Letter from Prof Paul Da Silva, COM, to Supervisor Rice re herbicide use on Ring Mountain (attached)

Current/New Items

- Presentation by Janet Klein of MMWD:
- Discussion: draft IPM policy for MCL (Attached)
- Paul: review of Harpers Magazine article re differing perspectives on the control of invasive plants.

Mission Statement

The mission of the Invasive Plant Subcommittee of the Parks and Open Space Committee is to educate and inform the citizens of Marin County about the threat to our open spaces posed by invasive plants and to mobilize the human, financial, governmental and institutional resources of our county to take effective action to restore our open space habitats to their natural condition to the maximum extent reasonably feasible.

MCL Invasive Plant Subcommittee

Meeting of August 26, 2015

Minutes

Attending: Paul Minault, Rika Gopinath, Eva Buxton, Kate Powers, Betsy Bickle, Patricia Nelson, Dave Chenoweth

Announcements/Calendar Items/Info Sharing:

- Status of letter by Jerry Meral to GGNRA and PRNS re devoting more resources to habitat restoration: endorsed by MCL.
- Reviewed: MCL letter of 7-28-15 to Board of Open Space District affirming MCL support for IPM
- Status update on proposal by Open Space Board to hold public forums re herbicides and IPM: no developments as yet.
- Forwarded to members FYI: Article in current Harpers Magazine re differing perspectives on the control of invasive plants.
- Reviewed: Documents of Note:

-FONSI for the Coastal Dune Restoration project at Point Reyes, with summary discussion of exchanges between anti-herbicide groups and the NPS

-Best Management Practices for Wildland Stewardship: Protecting Wildlife When Using Herbicides for Invasive Plant Management, CAL-IPC & PRI, Draft for Review, Aug 2013. No discussion, since Cal-IPC expects this to be finalized by the end of 2015

Agenda Items

Recent Events

- IPM Commission meeting of 7-24-15.
 - Noted: Proposal to form a glyphosate subcommittee to make a recommendation to the Commission to be forwarded to the Board of Supervisors/Open Space Directors
 - Mentioned: IPM Commissioners' requests for speakers. Requested topics include: Invasive species--ideology or science? What other agencies and communities are doing about invasives, and IPM-related field trips. Suggestion for committee members to consider appropriate topics.
- Status update: Paul has begun drafting a revised MCL IPM Policy and proposed a biodiversity conservation/invasive species policy
- Reviewed: MCL comments on Marin County Vegetation and Biodiversity Management Plan EIR

-Briefly discussed Paul's draft letter to the Board of Supervisors re the search for a new Parks and Open Space Director stating our concerns to find a candidate with solid experience managing invasive species.

Current/New Items

-Reviewed: Cal Fish and Wildlife's State Wildlife Action Plan 2015 Update, Chap. 2 Natural Diversity and Conservation Issues and Appendix E Invasive Species, with good overview of Cal's biodiversity

-Reviewed: Sonoma County's Biodiversity Action Plan (2010) with discussion of need for a similar plan for Marin.

-Forwarded to committee members and briefly discussed: Book Reviews of Nature Out of Place: Biological Invasions in the Global Age, Jason and Roy Van Driesche, Island Press, 2000, A Plague of Rats and Rubber Vines, Yvonne Baskin, Shearwater Books, 2002, and 1493, Uncovering the New World Columbus Created, Charles C. Mann, Vintage Books, 2011.

-Proposals by Kate re document handling: 1) letters and policies etc. to be originated in the committee most appropriate to the issue and advanced through that committee and other appropriate committees to the board for review and approval. 2) All documents for discussion in meetings to be attached or linked to the agenda.

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[Letter from Dr. Paul Da Silva, College of Marin, to Supervisor Rice re Herbicide Use, June, 1015, signature page missing]

Dear Supervisor Rice:

Over the past few weeks, I have followed with interest the discussion about the flora of Ring Mountain, its preservation, and the use of the herbicide glyphosate. As an educator with a background in ecology and pest management, I think that this is an important opportunity to increase public understanding of a complex and important subject.

In this respect, it is similar to the debate over vaccines that attracted so much news last year. Two problems characterize many reports and expressions of public concern pertaining to both issues. One is failure to evaluate the reliability of available information. The other is the failure to pay attention to numbers indicating probable risk and benefits.

In the case of vaccines, this negligence led to Marin becoming the object of criticism and ridicule statewide and even nationally. Many local residents apparently were deceived by repeated references to an old article purportedly linking vaccines to autism, even though this article had been shown to be fraudulent many years ago. Others focused their attention on potential risks due to allergies and other complications from vaccines. While these definitely do exist, it makes no sense to consider them except in comparison to the risks from contracting the diseases they are designed to protect against. Behavior that was not based on rational calculations of risks and benefits led to a minor public health crisis as many Marin children became sick from diseases now considered largely preventable in the developed world.

In the case of the use of glyphosate on Ring Mountain, there has also been a lack of objective evaluation of the goals of its use and its probable benefits and risks. Unfortunately, since many more species are involved than in cases of humans and their pathogens, the discussion is more difficult for many people to understand. The matter is complicated by the widespread ecologically unsound use of glyphosate in agricultural situations.

The starting point for the discussion should be the negative environmental effects invasive species are having on our planet today. According to most sources, invasive species are one of the largest causes of reductions and extinctions of other species worldwide. This is largely due to the rapid increase in human transportation technology, coupled with ever-increasing disturbance of natural habitats. Species that had evolved in isolation for millions of years are now being rapidly and rudely brought together in the midst of general environmental disruption.

Humans have felt most acutely the effects of those particular invaders that have posed threats to our personal health. AIDS and Ebola are two examples of pathogens that quickly spread through populations that had no evolved resistance. Here in Marin, the most similar threat to non-human organisms from an invader has been Sudden Oak

Death; few have been able to ignore the massive die-off of some of our largest and best-loved trees.

Statistically, however, the biggest threats to our native plants are other plants. These are those aggressive species that have been introduced from other continents without associated species that could naturally keep them in check; their spread has been encouraged by many forms of disturbance caused by humans. Often called weeds, these invasive plant species present more difficult challenges in wild lands than the weeds familiar to gardeners and farmers. This is largely because plowing and other forms of cultivation that can keep most agricultural weeds under control are not normally practiced in parks, nature preserves and other similar areas. On the contrary, they are usually considered destructive to the native flora and fauna

Integrated Pest Management (IPM) is a system of pest control that combines different techniques to reduce the population of an organism to the level where it no longer poses a significant threat to other organisms. For each technique, and for each IPM program, benefits and risks are calculated so that the maximum benefit can be achieved with the minimum risk at the least cost. Development of IPM programs requires a broad base of information about all of the organisms involved as well as about the techniques.

Ring Mountain is home to a very special assemblage of plants, many legally recognized as rare and/or endangered. Not surprisingly, the greatest threat to these plants is introduced weeds. Since the county has taken over management of the open space preserve from the Nature Conservancy, there has been a continual loss of habitat for the native plants due to continual expansion of the invasive weeds and increased human disturbance. Perhaps one-third of this original preserve has been lost. Failure to control the destructive weeds that threaten the remainder would amount to negligence in management of the preserve; this becomes especially serious when the presence of species with special legal status is considered. Precise information on the seriousness of the situation can be gained by consulting botanists Eva Buxton and Clint Kellner, who together have perhaps 70 years of experience on Ring Mountain.

Marin Parks personnel had put together an IPM program for the most serious of the Ring Mountain weeds and were attempting to carry it out when use of one component of it, the herbicide glyphosate, was halted. This is regrettable, since the success of an integrated program depends on the use of its different components at the correct times. Every day that the program is not carried out, the weeds will keep growing, and the situation will get worse. Furthermore, because of the exponential growth of pests, it will get *much* worse and be that much harder to control later. An apt comparison from the human health world is the lamentable failure to concentrate sufficient amounts of resources at the point of the initial outbreak of the Ebola epidemic; this resulted in much unneeded suffering and many more difficulties in containing it later.

IPM Programs for weeds in Marin typically include hand-pulling, mowing, burning, grazing and application of herbicides. Specific biological control techniques are available for only a few weeds because their development and implementation usually

requires decades. It is important to remember that each technique has its advantages and disadvantages. IPM programs can only be optimal when multiple techniques are used together.

For weeds, many gardeners may assume that hand-pulling is sufficient. However, in wild land areas, “weeds” may have taproots that go more than three feet into the ground. They may be woody. Pulling them up usually disturbs the soil, making it more likely that more weeds will come in. Topping it all off is the problem that although hand-weeding may be feasible in a small or even large garden, relying on this one technique for areas that include rugged terrain and are measured in acres or square mile is simply not feasible.

Conversely, many people may assume that all herbicide use is bad. However, it is important not to confuse different herbicides, application techniques or amounts used. Agent Orange, used widely in the Vietnam War, was composed of 2,4-D and 2,4,5-T and contaminated by dioxin impurities; its aerial applications over large swaths of the landscape did indeed cause severe human health problems. Glyphosate is a completely different chemical; nevertheless, its massive use in agriculture has caused significant problems, most importantly the ecological and evolutionary phenomenon of resistance. However, both the amounts used and the application method employed on wild lands are radically different. Most commonly, it is used sparingly and applied topically or from a backpack sprayer, with targets being individual plants or stands of plants that are difficult to eliminate by other techniques.

There have been to date no documented cases of human health being compromised by the careful use of glyphosate as part of IPM systems on wild lands in Marin County. This is partially due to the chemical nature of glyphosate, but this is not the only factor to be considered. As with the diseases vaccines protect us against, another important variable is the likelihood of exposure.

Once again, it is a question of benefits and risks. On Ring Mountain and on certain other wild lands in Marin County, the benefits to careful use of glyphosate in IPM programs are substantial, and the human health risks negligible. County staff can provide numbers on the exact benefits and risks, and it is these numbers that should guide the discussion.

To sum up with another human health comparison, we can take the case of antibiotics. Resistance to antibiotics is a serious human medical problem internationally. However, Marin County should not ban the use of antibiotics. We need them on special occasions. For example, anyone who contracts Lyme disease in a park or open space preserve would do well to take the correct antibiotic immediately. On the other hand..... we need to stop the indiscriminate use of antibacterial soap!