MCL Integrated Pest Management[i] Policy

For Invasive Plants (Approved by MCL Board, 10.20.2015)

[**Note**: This is intended to be a general statement of policy. It does not address Marin's biodiversity (which could be a separate policy), county and city IPM ordinances and policies and the agencies to which they apply, invasive plants generally (also the subject of another policy), and particular control methods, projects or herbicides. These more detailed issues have been or can be addressed in letters as issues arise, or this policy can be revised as appropriate at that time.]

Marin Conservation League (MCL) supports the use of Integrated Pest Management (IPM) to control or eradicate invasive plants in order to preserve and protect the biodiversity of native plant and animal communities in wildlands and other open space areas, to protect human and natural communities from catastrophic wildfire, and to maintain healthy rangelands and pastures. Invasive plants are generally non-native species that proliferate and aggressively displace or alter native biological communities and their environments, and/or negatively affect pastures and rangelands for grazing animals.

IPM is a decision-making framework for controlling undesirable species ("pests"). Pests can include all types of animal life, pathogens, and plants (including invasive non-native species). For managing invasive plants in open space lands, IPM provides a systematic method for determining which treatment option (method), or combination of methods, will be effective in controlling the plants. It is based on knowledge of the species' biology and ecology, the environment, the goals of management, the effectiveness of mechanical, cultural, biological, and, where and when necessary, chemical (herbicide) methods, and the selection of one or more appropriate methods of control to be used to meet those goals. IPM is not a set of standards unless adopted as such in an ordinance or other regulations. Rather it is a process that uses *methods* and *actions* to manage invasive species in a manner that is environmentally sensitive, scientifically based, and cost effective.

Methods

IPM for vegetation management combines four basic methods:

- Mechanical and physical, using hand-tools; hand-held or wheeled/tracked mechanized equipment; and/or physical covers such as tarps, mulches, and sheet materials;
- Cultural, using practices designed to hinder invasive species' establishment, reproduction, dispersal, and survival;

- Biological, using live organisms such as predators, parasites, pathogens, and competitors to reduce the viability of the invasive plant population; and
- Chemical, using herbicides to suppress or eradicate living plants.

Actions

To prevent invasive species from becoming established and/or spreading from existing populations, some or all of the following actions may be considered and implemented:

- Prevent the introduction of invasive plants to a given area, such as by minimizing soil disturbance, mulching or revegetating bare soil, and limiting vehicle and recreational access into currently undisturbed areas;
- Locate new or existing infestations that are threatening native plant communities and species;
- Identify the invasive plant and investigate its biology and ecology;
- Prioritize management for recent or small infestations with Early Rapid Response (i.e., early detection and prompt response);
- Prioritize infestations for management based on known invasive characteristics of the plant, injury types and thresholds for control actions, and the location of the site in relation to the native vegetation to be protected;
- Gather data on the conditions of a particular site where management will occur;
- Evaluate control methods for effectiveness in the specific case and in the specific plant community (wetlands, forests, grasslands, pastures, rangelands, etc.);
- Evaluate cost effectiveness and risks to non-target plants and wildlife, and of human exposure;
- Implement the selected control method(s);
- Revegetate areas following control actions as appropriate;
- Monitor the site at appropriate time intervals after control methods have been used;
- Modify or add control methods, as needed, following the principles of Adaptive Management (i.e., monitoring results and using results to update knowledge and adjust management actions);
- Perform follow-up plant control activities as needed;
- Monitor site at appropriate time intervals for at least five years, performing above tasks when and as necessary.

MCL supports the use of herbicides on public open space lands as an integral IPM tool or method under the following conditions:

- applied in a manner consistent with regulations of the California Department of Pesticide Regulation and the Marin County Agricultural Commissioner;
- narrowly targeted to address the specific issue at hand, adhering to currently accepted Best Management Practices;
- used minimally and with caution to avoid contact with non-targeted vegetation, waterways, wildlife, people, and domestic animals;
- applied after the public has been notified through signs and other informational sources; and
- with the goal of progressively reducing use as control is achieved.

[i] The roots of IPM are as old as agriculture itself; biological, physical, mechanical and cultural methods have been applied for millennia to minimize harm to crops from pests. Chemicals like sulfur and arsenic compounds have also been used to control pests at various times in history. As the use of synthetic pesticides exploded in the years following World War II, scientists recognized the need to control pests from an ecological perspective. In the late 1950s, a group of entomologists at the University of California, Riverside, coined the term "Integrated Control." This evolved into "Integrated Pest Management" in the early sixties, a term that was formalized by the U.S. Academy of Sciences in 1969 and is now recognized internationally. In the U.S., IPM was first recognized at the federal level by President Nixon in 1972, and is used at state and local levels, as well as in all facets of private practice. In Marin, the UC Extension, in cooperation with UC Davis, serves as a resource to the agricultural and ecological restoration communities, Marin Master Gardeners, and other interested parties, providing scientific knowledge and research and practical advice on the use of IPM and evolving best practices.