

Grant report for “Addressing Critical Issues in IPM” Projects

A. Grant Data

Grant Agreement #: K009607-NCAP

Title: WIPMC/Effective IPM Strategies for Parks Maintenance Staff in the Pacific Northwest

Type: Addressing Critical Issues in IPM

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State(s) involved: Oregon, Washington, Idaho, Montana, California

Funding Year(s): 2007, 2008

Funding amount: \$29,850

B. Nontechnical Summary

The goal of this project was to reduce human health risks and environmental effects from pesticides used in parks. Effective non-herbicidal weed control strategies that have been implemented by parks staff were documented in a series of four reports covering the following areas: turf, tree wells, fence lines, hardscapes, shrub beds and other landscaped areas. These reports were distributed by the following groups: Northwest Coalition for Alternatives to Pesticides, Oregon Recreation and Parks Association and California Recreation and Parks Society by mail and email, and they were posted on websites as downloadable PDFs. The information was also presented at five trainings for pesticide applicators in Oregon.

C. Introduction

Urban parks provide recreational opportunities, places for people to socialize and relax, and safe play places for children. In the Pacific Northwest, park landscapes are managed using a combination of cultural and chemical controls. Herbicides are commonly used to control weeds in tree wells, along fence lines, in turf, around sign posts, and in cracks and crevices. Because of a growing public concern about the health and environmental effects of pesticides, including insecticides and herbicides, there is an increasing interest by parks maintenance staff to control weed and pest problems without the use of pesticides.

Innovative IPM techniques that do not involve the use of pesticides are being implemented by some parks maintenance staff in cities throughout the Pacific Northwest. When this project was developed there was no system for sharing information about effective IPM techniques among parks staff. Our stakeholders in parks departments look to their peers when they are seeking examples of effective IPM strategies, yet these peer networks were not established and information was not easily shared. Parks staff have limited time and do not have the resources to compile and disseminate this information themselves. In order to build upon the previous success of innovative parks departments in the Pacific Northwest to manage problem vegetation without herbicides, the project compiled and disseminated this existing information.

We found through conversations and letters of support from numerous park maintenance staff or park managers that there was a need for information about techniques that can provide effective weed control without the use of herbicides. This need was clearly stated by Scott Bernards, President of the Maintenance and Construction Section of Oregon Recreation and Parks Association (ORPA) and Landscape Maintenance Supervisor for Tualatin Hills Parks and Recreation District. He stated, "Parks maintenance staff are interested in techniques that can provide effective weed control without the use of pesticides. Cultural practices are effective and can offset the costs of chemical inputs, but parks maintenance staff do not have the time or resources to compile this information. We are not interested in 'reinventing the wheel' so we look for techniques that have worked well for our colleagues with other parks departments."

Stakeholders identified a need for resources about IPM techniques that do not rely on the use of herbicides. This project addressed their needs by providing information about effective IPM strategies in a format they found useful and trustworthy. Based on communications with stakeholders, there was a strong need for this information to be compiled into a useable format and distributed. Parks maintenance employees simply did not have the resources to do so. The purpose of this project was to collect, compile, and distribute this information to parks employees in the Pacific Northwest.

D. Objectives

(2) Objectives

- 1) Thirty parks maintenance staff from Oregon, Washington, Montana and California will identify their top weed control challenges by June 2007. By July 2007, five top weed control challenges will be selected based on overlap and priorities identified by parks maintenance staff.**

NCAP surveyed 38 parks maintenance staff from 29 cities in Oregon, Washington, Montana, California and Idaho to identify five top weed control challenges and identified the following priorities: turf, tree wells, fence lines, hardscapes, and shrub beds and other landscaped areas. One modification was that NCAP expanded the project to include staff from Idaho.

- 2) At least ten effective IPM strategies employed by collaborating parks maintenance staff that address these top five weed control challenges will be identified and documented by the end of September 2007.**

NCAP identified and documented 63 effective non-herbicidal weed control strategies implemented by parks staff including: 16 strategies for maintaining hardscapes and fence lines, 14 strategies for maintaining turf, 8 strategies for maintaining tree wells, and 25 strategies for maintaining shrub beds and other landscaped areas.

- 3) The practices and techniques, presented in user-friendly electronic documents beginning in October 2007, will be distributed to parks staff throughout the Pacific Northwest via the Oregon Recreation and Parks Association (ORPA) listserve, on NCAP's website, and directly to stakeholders. Finalized documents will be presented to all stakeholders in June 2008.**

The practices and techniques were documented in printed and electronic reports and were distributed in the following ways:

- A) Mailed printed color copies of the reports to 26 parks maintenance staff.
- B) Emailed links to the reports to 140 parks maintenance staff and parks resource people.

C) Posted reports on the websites of NCAP and ORPA.

D) Notified members of Oregon Recreation and Park Association (ORPA) and California Parks and Recreation Society (CPRS) about the availability of the finalized reports in email newsletters sent out by these organizations. We did not anticipate the partnership with CPRS.

- 4) **Three courses for a total of 125 parks maintenance staff in the state of Oregon will be held in January-June 2008 in collaboration with Oregon Recreation and Parks Association and Oregon State University Extension. Courses may be web-cast regionally via a web-based training program currently being considered by Oregon Recreation and Park Association.**

A total of 683 pest control operators including approximately 164 parks staff attended five trainings conducted in collaboration with Oregon State University Extension. We did not implement a training in association with ORPA, as anticipated, and ORPA did not web-cast a course regionally.

E. Approach

Cities from Oregon, Washington, Idaho, Montana, and northern California were selected to achieve variety in climate, geography, and size. Parks maintenance employees and their supervisors, who manage either developed parks or natural areas in the selected cities, were surveyed in July and August 2007 by email and phone. Parks maintenance employees responded to an initial survey that asked which park areas they manage using herbicides and how often herbicides were applied in these areas. They were also asked for which areas in parks they are most interested in learning about effective, non-herbicidal weed control strategies. Upon receiving these responses, the five most problematic areas for weed control were identified: landscaped areas, fence lines, hardscapes, tree wells, and turf. In a second survey, parks maintenance employees were asked to provide the names of weeds that are most problematic in these areas and to describe any effective, non-herbicidal strategies for these areas or to target a specific weed. Strategies that could be implemented by other parks staff with limited resources were selected from among these, with preference given to strategies that had been used over long periods of time or tested in an experimental setting. Also, strategies from both wet and dry climates were selected so that parks staff from both climates would benefit.

To witness the effectiveness of the strategies and document them firsthand, site visits were conducted during August and September of 2007 in the following cities: Eugene, Portland, and Bend, Oregon; Seattle, Washington; San Francisco, California; and Boise, Idaho. The results from the surveys and interviews were compiled into a series of four reports entitled *Non-herbicidal Weed Control Strategies Implemented by City Parks Staff in the Northwest* covering the following areas: turf, tree wells, hardscapes, fence lines, shrub beds and other landscaped areas. The strategies were also presented by NCAP and parks maintenance staff in a series of five trainings throughout Oregon.

F. Progress

NCAP surveyed parks staff to identify their top weed control challenges and selected five focus topics based on overlap and priorities identified by parks staff. Through a second survey NCAP identified effective non-herbicidal weed control strategies implemented by these parks staff to address these challenges. Through phone interviews and site visits we gathered detailed

information about how these strategies are implemented and compiled this information in a series of four reports entitled *Effective Non-herbicide Weed Control Strategies Implemented by Parks Staff in the Northwest* covering the following areas:

- Turf (13 page report)
- Tree wells (8 page report)
- Hardscapes and fence lines (9 page report)
- Shrub beds and other landscaped areas (16 page report)

These reports were distributed to parks staff by mail, email, and downloadable PDFs. Oregon Recreation and Parks Association and California Parks and Recreation Society (CPRS) supported the project by publicizing the reports to their members. The connection with CPRS was established during the project and resulted in a new collaborative partnership. The strategies were also presented by NCAP and parks maintenance staff in a series of five trainings throughout Oregon.

G. Results

NCAP was able to provide new resources to parks maintenance staff on effective non-herbicide weed control strategies. Training evaluations submitted by 37 parks staff showed that 84% of those who responded gained knowledge about non-herbicide weed control strategies; and 81% of those who responded indicated they had the resources and information needed to implement these new strategies. Report evaluations submitted by 22 parks staff showed that 85% of those who responded believed the information will be helpful in reducing pesticide use in the parks they manage. Report evaluations also showed that 61% of parks staff who responded have implemented or intend to implement techniques they learned about in the reports.

H. Impacts

1. Innovations

The goal of this project was not to develop new strategies, but instead to identify and document innovative strategies that have been developed and implemented by parks staff.

NCAP highlighted 63 effective non-herbicide weed control strategies which are not yet widely adopted by parks staff.

2. Safeguarding human health and the environment

There are increasing public awareness and concern about the health and environmental hazards of pesticides. Parks maintenance personnel commented on the awkwardness of spraying pesticides in public setting during the project's training sessions. In the evaluation process NCAP asked parks staff who reviewed these reports if they expect that this information will be helpful in reducing pesticide use in the parks they manage. An impressive 85% of parks staff who responded indicated that the information will be helpful in reducing pesticide use in the parks they manage.

3. Economic benefits

Economic benefits were not the focus of this project.

4. Implementation of IPM

a. This project did not validate IPM strategies or systems. It did, however, share information

about Pesticide Enhancement Trials implemented by Portland Parks and Recreation as well as a trial of a fine fescue in tree wells by Eugene Parks and Open Space. The nature of these trials were disclosed in the reports.

b. The practices and techniques were documented in printed and electronic reports and were distributed to the following audiences in the following ways:

- 1) Mailed printed color copies of the reports to 26 parks maintenance staff.
- 2) Emailed links to the reports to 140 parks maintenance staff and parks resource people.
- 3) Posted reports on the websites of NCAP and ORPA. Between March 15-August 17, 2008 the report focused on maintaining hardscapes and fence lines was downloaded from NCAP's website 1,493 times. The report focused on maintaining shrub beds and other landscaped areas was downloaded 1,473 times. The report focused on maintaining tree wells was downloaded 1,084 times. The report focused on maintaining turf was download 1,227 times.
- 4) Notified members of Oregon Recreation and Park Association (ORPA) and California Parks and Recreation Society (CPRS) about the availability of the reports in email newsletters sent out by these organizations. We did not anticipate the partnership with CPRS.

c. A total of 683 pest control operators including approximately 164 parks staff attended five trainings in the state of Oregon in collaboration with Oregon State University Extension Service.

d. The final reports were posted on a page on NCAP's website focused on this project. www.pesticide.org/pfp/reports.html . This site received 217 visits between July 15-Aug 17, 2008.

e. Training evaluations from 37 responders showed that 84% of parks staff gained knowledge about non-herbicidal weed control strategies; and 81% of those evaluated indicated they had the resources and information needed to implement these new strategies.

Report evaluations from 22 responders showed that 61% of parks staff have implemented or intend to implement techniques they learned about in the reports. The strategies parks staff have implemented include: sheet mulching, flame weeding, weed whacking, wood chip tree mulch, manual weed removal, proper turf practices utilizing aeration-fertilization-overseeding, corn gluten meal, sanitation layered mulching, use of natives, swales, shrub bed border strips, and non-disturbance tools. The surveyed park staff indicated two strategies they intend to implement in the future: planting native grasses around tree wells and lasagna mulching (a layering technique that provides a particularly effective weed barrier).

f. In addition to the non-herbicidal weed control strategies being implemented, we have built a network of parks maintenance staff who can share resources with each other. This network was created through training sessions provided by parks staff as well as through their participation and collaboration in the reports NCAP published.

5. Has your project or study enhanced collaboration among stakeholders interested in the development and implementation of improved IPM strategies and systems?

In addition to the non-herbicidal weed control strategies being implemented, we have built a network of parks maintenance staff who can share resources with each other. This network was created through training sessions provided by parks staff as well as through their participation and collaboration in the reports NCAP published. Contact information for all parks departments involved in the reports, was included in each report, so that parks staff can easily connect with each other in the future.

I. Appendices

NCAP's four reports entitled *Non-Herbicidal Weed Control Strategies Implemented by Parks Staff in the Northwest* are available from NCAP's website at:

www.pesticide.org/pfp/reports.html

Printed copies of the reports will also be mailed.

PowerPoints used during the trainings will also be mailed on a CD.