
CITY OF KELOWNA

MEMORANDUM

Date: December 1, 2004
File No.: 6130-13
To: City Manager
From: Parks Manager
Subject: Integrated Pest Management Program
Prepared by: Ian Wilson, Urban Forestry Supervisor

RECOMMENDATION

THAT Council receive for information the December 1, 2004 report from the Parks Division on the Integrated Pest Management (IPM) Program.

BACKGROUND

This report provides an update on the status of IPM initiatives by the City of Kelowna Parks Division for 2004.

The Parks Division achieved yet another significant reduction in pesticide use in 2004, with a 58% reduction (by weight of active ingredient) in use levels in parks and on boulevard trees. This represents an 89% reduction in use levels when compared to average pesticide use over the last 10 years, in spite of an increasing park inventory over the same period. We have increased our tolerance levels and found alternative treatments for a number of pests, yet the health and quality of our park assets remains very high. While we hope to continue this downward trend, pest outbreaks are as unpredictable as the weather and pesticides are one of the tools of last resort in our IPM plan.

Some highlights from 2004 include:

- ◆ Parks has now completely phased out and replaced four insecticides being reviewed by the federal Pesticide Management Regulatory Agency (PMRA), including diazinon, chlorpyrifos, malathion and carbaryl.
- ◆ Use of herbicide products, currently under review by the PMRA, has also declined significantly in recent years (Fig. 1). Research is underway to find suitable alternatives.
- ◆ Among the pesticides still being used, 89% are environmentally friendly alternatives such as soap, dormant oil, or vinegar.
- ◆ IPM educational programs are continuing (e.g. in conjunction with the Mayor's Environmental Expo and Arbour Day and media releases).
- ◆ Street tree pest problems were again very minimal in 2004 partly due to our efforts to maintain a healthy tree inventory and educate the public. Monitoring indicated that elm leaf beetle did not require any treatment.

- ◆ Older playgrounds with treated wood are gradually being phased out and replaced. Manufacturers have voluntarily stopped the treatment of wood with Copper Chromated Arsenate (CCA). All treated wood decking has now been replaced.
- ◆ Biological control programs continue against tree and shrub pests.

RESEARCH AND NEW INITIATIVES

- ◆ 2005 will be the final season of a three year research project being conducted in partnership with Olds College (Olds, AB) involving corn gluten or mustard meal, sugar beet extract and other natural products which have activity similar to a pre-emergence herbicide. Trials are on-going in Kelowna, Penticton, Calgary and Regina and it is hoped that this will result in new herbicide alternatives for turf.
- ◆ Parks has been testing various weed control machines which use either steam and boiling water or heat from propane combustion. These alternatives are generally much slower and less effective than conventional products. One of the most promising alternatives is a new vinegar product. This product is registered as a pesticide with the federal government, yet the active ingredient is acetic acid applied at a slightly higher concentration than found in pickling vinegar. It can still require several applications but was found to be highly effective in the right conditions, and very efficient to use.
- ◆ A research partnership with a local researcher, the City of Kelowna and the City of Penticton, is underway to test the use of beneficial “mycorrhizae” to improve the health of street and park trees. Mycorrhizae are naturally occurring fungi that form a beneficial association with tree roots. They enable trees to better tolerate stress, take up nutrients and avoid harmful substances such as salts, but are sometimes absent in urban soils.

Parks has submitted a \$10,000 budget item for 2005, so that we can continue to explore new alternatives and use this funding as “seed money” in seeking other grants or funding sources. Another 2005 budget item is directed towards purchasing a deep tine turf aerator which will be used to improve and maintain turf health and further reduce the reliance on herbicides.

BARK BEETLES

Bark beetle populations are on the rise in the Okanagan, as evidenced by a recent outbreak in Mission Creek Regional Park. Some increased activity has also been seen over the last year in areas such as Knox Mountain, Dilworth and Quail Ridge. Approximately 40 infested trees were removed over the course of the year in these areas.

There is a risk that bark beetle populations may build up in fire scorched trees along the south slopes and then spill over into healthy trees within the Mission, similar to outbreaks that occurred after the Salmon Arm fire of 1998. To help assess this risk, monitoring traps were placed in several locations along the fire perimeter and monitored in a cooperative project last summer with the B.C. Ministry of Forests. To date, we have not seen a large outbreak along the fire perimeter but at least one significant infestation was observed in a burned city right-of-way on private property, and is currently being addressed. Weather conditions in the coming year will likely play a key role in determining the future extent of beetle activity in the Mission. We intend to continue monitoring in 2005.

KELOWNA MEMORIAL PARK CEMETERY

As mentioned in the last IPM update to Council, Parks tried a new approach to weed control in the dry heritage sections of Kelowna Memorial Park Cemetery.

This season a summer student was able to keep weeds down at a slightly higher cost than the previous spray program. However, the results were not as good, and this was only intended as a short term solution as it does not deal with the underlying design problem of the bare soils which constantly become colonized with weeds and turn into a muddy mess when it rains.

Parks has submitted a capital budget item for 2005 to initiate a series of gradual improvements to these areas, as a longer term solution.

CONCLUSIONS

Recent changes to the Federal Pest Control Products Act and the new Provincial Integrated Pest Management Act have tightened safeguards around pesticide use. The final regulations for the new IPM Act are expected to be completed this month.

The pesticide industry is acutely aware of public concerns over the use of pesticides and has been aggressively researching new types of low-toxicity products, such as vinegar or a recent insecticide developed from a substance found in soil bacteria. These new alternatives are just starting to reach the marketplace. Parks is optimistic that these changes in the industry will benefit the public and address many of the concerns around pesticide use.

In the mean time, the IPM program in Parks continues to be an extremely effective tool for environmentally friendly pest management. Parks will continue to keep Council updated on progress in this rapidly changing area.

Joe Creron, Parks Manager

c.c. Director of Parks and Leisure Services
 Urban Forestry Supervisor
 Parks Maintenance Supervisor
 Cemetery Manager
 Environment Manager

Enclosure.

Figure 1. Use of four herbicides (under PMRA review) since 1998, by weight of active ingredient. Note: use of MCPA is zero across the board.

