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Item No. 2

**Halifax Regional Council
April 22, 2008**

TO: Mayor Kelly and Members of Halifax Regional Council

A handwritten signature in cursive script that reads "Cathie O'Toole".

SUBMITTED BY: _____
Cathie O'Toole, Director, Infrastructure & Asset Management

DATE: April 4, 2008

SUBJECT: Brown Spruce Long Horn Beetle Mating Interruption Trials

INFORMATION REPORT

ORIGIN :

Request by the Canada Forest Service (CFS) to conduct a pheromone trial on HRM property. The trial is directed at mating disruption of the Brown Spruce Longhorn Beetle (BSLB). HRM staff have been working with the CFS and Canadian Food Inspection Agency (CFIA) to find appropriate controls for the Brown Spruce Long Horn Beetle for ten years.

BACKGROUND

The Insect

The Brown Spruce Long Horn Beetle (BSLB) was first identified in North America at Point Pleasant Park in 1999. The insect showed up in traps and bait logs set up by the Canadian Food Inspection Agency (CFIA) after the municipality and Point Pleasant Park Commission had repeated difficulty identifying the cause of the death of park trees over a fifteen year period. The CFIA concluded that the foreign pest was the cause and likely moved from European packing material at the container port next to the park. The insect, a native of Europe normally infests dead or dying European species of spruce trees. It is not considered a serious pest in its native range. Rearing experiments and field work indicated that the insect was not only infesting dead and dying spruce but also healthy red, black and white spruce native to North America. Since 1999, the insect has spread to other areas in HRM. This means that the insect had the potential to become a significant pest which could infest and kill valuable forest resources affecting their economic, ecological and aesthetic values of our forests.

Current Program

Under the authority of the Plant Protection Act, the CFIA is the federal agency responsible to work with other federal departments, provinces, stakeholders and scientists to develop a strategy to address foreign pests. A taskforce was created in 2000 to develop that strategy. HRM is part of that taskforce. Key elements of the strategy were;

- Survey of infested areas to determine the extent of the insect.
- Scientific research into the habits and behaviour of the insect in this new setting with the aim of determining suitable controls.
- Removal, handling and disposal of infested trees.
- Implementation of a Ministerial quarantine zone and prohibition of movement orders to prevent infested wood from being moved to other areas hastening the spread of the insect.
- Use of the Prudence Principle when dealing with the unknown.

DISCUSSION

The Canadian Forest Service, as one of the partners in the BSLB taskforce is preparing a trial program aimed at using pheromones to interrupt the mating phase of the beetle's life cycle. Pheromones are scents that help animals communicate with one another. There are dozens of different types which communicate signals for mating, aggression, trails to food and nests, alarm, overpopulation, etc. Research in the laboratory has been successful in reproducing a mating pheromone for the BSLB. The next step is to trial that pheromone under natural conditions. In this trial, the pheromone is delivered on small flakes of plastic approximately the size of a piece of confetti. It is dispersed by means of a backpack sprayer. The beetles (both male and female) are attracted to the scent on the confetti. The insect carries out its mating act with the confetti instead of another beetle, resulting in unfertilized eggs which will not hatch and thus interrupting the life cycle of the insect population in that area. The plastic confetti will become buried as part of the forest soil duff layer in one or two seasons and are not in concentrations to be noticeable.

The use of pheromones as a mating disrupter has been approved in practice for 15 years in controlling gypsy moths in Eastern North America.

This method, if successful, is a way dealing with a serious forest pest in a very benign way without the use of pesticides. It fits very well with HRM approach to pest control and is not subject to the HRM Pesticide By-law.

HRM has been involved with BSLB task force and technical committee from their inception. The CFS has requested permission of HRM staff to carry out some of the trials on HRM lands. Permission is also being sought for trials on provincial and private lands which have been granted.

Owing to the fact that the beetle is in the largest concentrations in HRM and that the Municipality owns the largest forested areas in those locations, it is to be expected that HRM lands would be in the preferred areas for trials. Among the proposed sites are Hemlock Ravine, Western Common, Mainland Common, Jacks Lake as well as MacNabs Island and parcels of crown land.

The initial casting of the pheromone agent will take place in May when the beetle emerges for mating. Monitoring will take place throughout the season and into the next season. Monitoring also will include any impact upon other native beetles. The trials are likely to be refined and repeated the future. HRM staff will be involved.

BUDGET IMPLICATIONS

There are no financial requirements of HRM at present.

On a larger scale, the financial and eco implications are one in the same. Spruce trees are large component of HRM's forests, both public and private. There has never been a case of a spruce tree in Nova Scotia surviving a BSLB infestation. If controls are not developed to control BSLB there could be future costs incurred in dealing with stands of dead spruce on HRM lands and cost implication to private land owners in dealing with dead spruce trees.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ATTACHMENTS

None

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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