

2001 SEPTEMBER 12

TO: CITY MANAGER
FROM: DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES
SUBJECT: PETITION FOR TREE REMOVAL AT 3700 BLOCK CAMBRIDGE STREET
PURPOSE: To provide Council with information regarding the request for the removal of trees on Cambridge Street.

RECOMMENDATION:

1. THAT a copy of this report be sent to John Anderson, Umberto Garbuio, Brian McCaughey, Elaine Dickson, Debbie Birnie Smith and Patrick Smith.

REPORT

INTRODUCTION

In 1998, Council received a letter from a number of residents along Cambridge Street requesting the removal of Red Oak trees in the 3700 block of Cambridge Street. The request for the tree removal centered around the Ribbed Oak Casemaker insect that has infested the trees causing many annoyances for a period in the fall season each year. Staff have undertaken a series of pest management controls and monitoring programs which continue today to try to remove or reduce the insect population. Success has not been achieved to date, however several options remain to be explored before there are no other alternatives but to remove the trees.

BACKGROUND

Since 1996 staff have been working with environmental consultants to understand the caseworm life-cycle and develop natural control measures that may be effective in getting rid of the worm. The approach and treatments selected to date have been consistent with the City's Integrated Pest Management plan adopted by Council in 1994.

The approach has been incremental by design. Taking one step, measuring effectiveness, reassessing biological control options and then taking the next step. To be effective however, each new measure has been linked to critical stages of the pest life cycle, therein, the solution by biological means, requires patience, as implementing each step and measuring effectiveness takes a number of seasons.

Staff currently follow a common process for the investigation and management of tree insect problems. The approach involves implementing a series of incrementally more aggressive steps to deal with pest problems. For tree pest management this involves: crown thinning, mineral oil sprays, insecticidal soap sprays, release of predator insects, selective tree removal, biological sprays, systemic insecticide sprays and tree removals. To date staff have worked through and measured the effects of crown thinning, mineral oil sprays, insecticidal soap sprays and determined predator insects are not commercially available for this particular pest (steps 1 - 4), see attached (Attachment #1) history of pest management activities.

There is at least one more significant measure that should be taken before staff entertain the idea of complete tree removal. This step is select tree removal. The intended outcome would be a change in environmental conditions that would be detrimental to the pest. The anticipated outcome:

- a reduction in the quantity of breeding sites;
- a reduction of the transfer of insects from one tree to the next; and
- improved coverage of spray treatments on remaining trees due to easier access

Removal of select trees would also address some of the specific concerns of residents on the street by:

- opening portions of the street and residential yards to more sunlight;
- reducing the number of case droppings along the walkways making wheelchair travel easier;
- allowing planting of new tree species along the street; and
- retention of some of the Red Oaks (some residents feel strongly they should be kept).

For these reasons staff will undertake a selective removal and replanting program of trees in the 3700 block. The remaining oak trees would be treated with the insecticidal soap and monitored.

DISCUSSION

Work to date on the Red Oaks on Cambridge has allowed staff to draw the following conclusions:

- The infestation problem may be exacerbated by the size of the grouping of Red Oak as the insect moves easily between host trees. Crown thinning may have helped but it is not enough.
- Insecticidal soap may be effective at an early stage of infestation but after the infestation has established itself to this level the soap loses its effectiveness.
- The infestation is too large to expect natural systems to be able to control the insect, however it appears that natural predatory insects and wasps do exist and are at work.

Considerable time and effort has been invested in dealing with the casemaker infestation on Cambridge Street. This will provide staff with the necessary information to deal with outbreaks in other prominent parks and streets in the City (800 oaks are susceptible in the City).

While work is carried out on this particular group of Oak trees on Cambridge Street, staff have researched and documented the effectiveness of several steps of the common approach strategy. The outcomes will help refine the approach taken in future situations.

SUMMARY

The steps undertaken to date and those proposed in the future are consistent with the City's Integrated Pest Management Policy. Although there has been limited success to date, all of the options for pest reduction have not been explored, and the plan is to carry through with the remaining steps.

Staff have entered into a wider discussion about the management of pests on trees and drafted a common approach for their investigation and management. The plan is currently being refined with the intent on bringing it forward to Council through the Parks, Recreation and Culture Commission and the Environment and Waste Management Committee in the near future. Once the report is adopted, the public will have a clearer understanding of steps undertaken to control/eliminate pests infestations in trees.



KATE FRIARS
Director Parks, Recreation and
Cultural Services

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cc: Director Engineering

**Pest Management Activities
for the Red Oak Casemaker
in the Cambridge Area of Burnaby**

<u>Date</u>	<u>Activity</u>
1996	First contact with the issue and initial contact with ESCrop Consultants to gather information.
1997	ESCrop undertakes sampling. Information provided to residents on the program. Insecticidal soap applied in July. Consultant report confirms the spray was not effective, recommends sampling to continue and suggests other biological control options.
1998	Petition for tree removal from some residents in the 3700 block of Cambridge. The City considers the severity of the problem.
1999	Letters to residents describing the City work plan. ESCrop continues sampling. Heavy tree pruning conducted to reduce canopy and hence breeding sites/shade/litter. Insecticidal soap applied 4 times. Consultant report confirms the spray was not effective.
2000	Letters to residents describing continuation of the program and intended use of TKO orange peel extract. ESCrop continues sampling. Insecticidal soap/TKO applied twice in a trial program. Consultant report confirms the spray was not effective.
2001	Sampling program continued. No sprays intended.

Specific Work Plan for 2001

1. Monitor one indicator tree on each of the 3700, 3800 and 3900 blocks of Cambridge Street weekly from June 04 - October 05 to document activity level of the pest and predatory insects. Pole pruners will be used to collect 20 branch terminals from 4 locations around each tree, at approximately 3-5 meters from the ground.

One leaf will be taken from each terminal and examined visually under a dissecting microscope for eggs, immature and mature larvae, pupae. Numbers of each life stage will be recorded and used to determine when to complete larger samples for beneficial insects. Predators will also be recorded. At least 60 leaves will be examined per week and life stage totals submitted in a weekly report.

2. When sampling determines that the largest proportion of the population is at one life stage, a larger sample of 20 terminal branches from each of the three trees on each block (60 terminals/block = 180 terminals in total) will be collected. At least 180 leaves will be examined visually with a dissecting microscope. Each life stage of casemaker and all predators will be identified and recorded. Insects on leaves will be placed in petri dishes on moist paper and observed for 1 week for signs of parasitism/disease. A subsample of symptomless individuals will be dissected to determine early stage parasitism. Levels of parasitism and disease will be recorded for each stage of each generation. It is usual for such natural mortality factors to be higher in second generation.
3. Prepare a summary of findings and develop a specific strategy for implementation of the selective removal of Oak trees in the 3700 block of Cambridge.

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