

CITY OF BURNABY

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ENVIRONMENT COMMITTEE

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

RE: CAMBRIDGE STREET OAK TREE PEST INFESTATION

RECOMMENDATIONS:

1. **THAT** Council approve the pest management strategy for ninety nine red oak trees in the Cambridge/Ingleton area.
2. **THAT** Council receive this report for information purposes.
3. **THAT** the Parks, Recreation and Culture Commission receive this report for information purposes.

REPORT

The Environment Committee, at its Open meeting held on 2003May 06, received and adopted the attached report regarding a pest management strategy for ninety nine red oak trees in the Cambridge/Ingleton area.

The Committee advised that the pest infestation on the oak trees along Cambridge Street and Ingleton Avenue has been studied by staff and consultants since 1996. A progressive pest management strategy was developed based on the integrated pest management policy adopted in Burnaby in 1990.

The Committee further advised that scientific sampling has shown all biological control methods currently available have been ineffective in reducing the pest population. Chemical treatment was reviewed and deemed unsuitable for use in this particular circumstance. The original request for tree removal as a means to remove the pest problem does not have sufficient support by residents in the area and tree removal for nuisance pest problems is in contravention of the existing tree protection policy.

:COPY - CITY MANAGER
- DIRECTOR PLANNING & BUILDING
- DIRECTOR PARKS, RECREATION & CULTURAL SERVICES
- DIRECTOR ENGINEERING

Given the depletion of biological, chemical and tree removal options, the Committee noted that the City has exhausted the common methods for pest eradication. Effort will now be refocused on a ground mitigation program to provide relief for residents of the area. A high pressure water spray will be applied to knock the pest off the trees on a weekly basis during the most active nuisance period in September. The effects of the treatment will be monitored. The Committee will also continue to search for new biological control programs that might provide relief to the problem.

Respectfully submitted,

Councillor D. Johnston
Chair

Councillor P. Calendino
Vice Chair

Councillor C. Redman
Member

TO: CHAIR AND MEMBERS
ENVIRONMENT COMMITTEE

DATE: 2003 May 06

FROM: DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES

SUBJECT: CAMBRIDGE STREET OAK TREE PEST INFESTATION

PURPOSE: To seek Committee approval of the pest management strategy for ninety nine red oak trees in the Cambridge / Ingleton area.

RECOMMENDATIONS:

1. THAT the Environment Committee approve the pest management strategy for ninety nine red oak trees in the Cambridge / Ingleton area.
2. THAT Council receive this report for information purposes.
3. THAT the Parks, Recreation and Culture Commission receive this report for information purposes.

REPORT

INTRODUCTION

In 1998, Council received a petition from residents of 3700 block Cambridge to remove and replace the existing boulevard trees in order to end the nuisance resulting from a pest infestation. The pest creates annoying conditions as they spin off trees in silken threads, build cocoons and pupate on any sheltered substrate they encounter. Staff investigation revealed that ninety nine red oak trees along Cambridge Street and Ingleton Avenue were heavily infested by the red oak casemaker (*Bucculatrix ainsliella*). Recognizing the severity of the nuisance and the value of the trees as a community amenity, staff worked with ES Crop Consultants and Davey Tree Expert Company to develop and implement a pest management program specific to this problem. Initiatives began in 1997 and unfolded progressively with more aggressive biological treatment up to 2002 (attached as *Appendix 1*). To date, all current methods of biological controls as well as selective removals to reduce tree canopy cover have been explored without the desired result of reducing the pest problem.

At its regular meeting of 2002 December 09, Council received a request from a delegation of residents in the 3800 block of Cambridge Street requesting consideration be given to the use of more aggressive chemical treatments to eliminate the pest problem. The request was referred to the Environment Committee. This report outlines the work undertaken with the Environment Committee and the final recommendations.

WORK WITH THE ENVIRONMENT COMMITTEE

At the regular Environment Committee meeting of 11 February 2003, staff presented a description of the pest infestation, a history of the field work, and scientific data compiled by the ongoing research of ES Crop Consultants. Findings from the 2002 research program (attached as Appendix 2) indicated that the final biological trial program based on reduction of the tree canopy and predator enhancement programs was ineffective. The Committee was presented three options for future consideration: 1) chemical treatment to eradicate the pest problem 2) selective removal and replacement of trees, and 3) mitigation of the ground effects of the pest problem.

1 - Chemical Treatment

Staff noted that chemical treatments may be used to wipe out the pest population, however, re-infestation is likely to reoccur as the pest is airborne. Annual or biannual treatments may be required depending on the rate of spread from other infested trees which exist in Burnaby, Victoria and Vancouver. Chemical treatment would not provide a guarantee of complete, long term eradication of the pest problem. The long term impact of applying chemicals to the environment was of concern to a number of the residents, staff and Committee members.

Staff were directed to conduct a neighborhood survey to determine public opinion on the options of chemical treatment. The survey and results (attached as Appendix 3) showed there was very little support for the use of chemicals to eradicate the pest. The use of chemicals was not supported by the Environment Committee or residents in the area.

2 - Tree Removal

The existing tree management policy adopted by Council in 1989 is intended to provide clear and consistent tree management guidelines focusing on the conservation, maintenance, planting and removal of trees on public land. It is important to avoid misunderstanding or misuse of the tree management policy by allowing nuisance insect problems to be cited as a new reason for tree removal. Tree removal is intended to be a last resort to deal with special circumstance that include encroachment, hazard creation, damage caused by root growth or underground utility interference. The pest on the oak trees is a nuisance but is not harmful to the trees, humans or animals.

Changing the policy to include tree removals for pest problems would have wide ranging implications for the City of Burnaby, the health of the environment and the value and character of the neighborhoods we live in. Pest problems will affect 95% of the tree population at one time or another. Most pests and diseases are unpredictable and can be affected by warm weather, health of the tree, genetic coding of the cultivar and site conditions. The practice of using tree removal for pest control is therefore unacceptable.

Staff have initiated a process intended to address boulevard tree management questions such as this. The review will provide further direction on the pest management issues that have arisen out of reduced chemical use in the environment. The results will be presented to Council in a future report.

The Public Support for Tree Removal

Through the results of the localized survey in the Cambridge / Ingleton area conducted in February of 2003, it is evident that there are a wide variety of opinions and attitudes toward street tree management and there is not general support for removing trees as a solution to pest problems (survey results are attached as *Appendix 3*).

3 - Mitigation of the Ground Effects of the Pest Problem

Scientific sampling of the lifecycle of the pest has shown that the heaviest period of ground problems occur in September. At this time the pest is coming off the tree along silk threads to land and pupate on any substrate available. To mitigate the effect, a high pressure water spray can be administered to clear the air space and knock the silk threads off the tree surface. This treatment will not eradicate the pest but will provide a measure of relief under the trees. Spraying would be undertaken on a weekly basis during the fall pupation period. The exact timing will be weather dependent. Staff will monitor the ground effect throughout the process.

SUMMARY

The pest infestation on the oak trees along Cambridge Street and Ingleton Avenue has been studied by staff and consultants since 1996. A progressive pest management strategy was developed based on the integrated pest management policy adopted in Burnaby in 1990.

Scientific sampling has shown all biological control methods currently available have been ineffective in reducing the pest population. Chemical treatment was reviewed and deemed unsuitable for use in this particular circumstance. The original request for tree removal as a means to remove the pest problem does not have sufficient support by residents in the area and tree removal for nuisance pest problems is in contravention of the existing tree protection policy.

Given the depletion of biological, chemical and tree removal options, staff have exhausted the common methods for pest eradication. Effort will now be refocused on a ground mitigation program to provide relief for residents of the area. A high pressure water spray will be applied to knock the pest off the trees on a weekly basis during the most active nuisance period in September. The effects of the treatment will be monitored. Staff will also continue to search for new biological control programs that might provide relief to the problem.

SUMMARY OF PEST MANAGEMENT STRATEGY FOR THE RED OAK TREES IN THE CAMBRIDGE / INGLETON AREA

- Do not use chemical treatment.
- Do not remove trees.
- Implement a ground mitigation program of aggressive water spray.
- Continue to research alternate biological control options.
- Review the tree management policy in conjunction with the City-wide review of urban forestry. Provide clear direction on the use of tree removals as a solution to pest management problems.

CONCLUSION

- The current tree protection bylaw adequately states the appropriate reasons for tree removal.
- Tree removal should not be considered a viable option for nuisance pest management problems.
- The use of chemicals is not a sustainable long term solution for this pest problem.



Kate Friars
DIRECTOR PARKS, RECREATION & CULTURAL SERVICES

HE:jl

Attachments (3)

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cc: Director Engineering
Director Planning and Building

HISTORY OF PAST TREATMENTS AND RESULTS

Appendix 1

- Date* *Activity*
- 1996 First contact with the issue and initial contact with ES Crop Consultants to gather information.
- 1997 ES Crop undertakes quantitative sampling.
Information provided to residents on the program.
Insecticidal soap applied in July.
Consultant report confirms the spray was not effective, recommends quantitative 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.
ES Crop continues quantitative sampling.
Heavy tree pruning of all ninety nine oak trees in the area to reduce canopy and hence breeding sites for the pest.
Insecticidal soap applied four 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.
ES Crop continues quantitative sampling.
Insecticidal soap/TKO applied twice in a trial program involving 3700, 3800, & 3900 blocks.
Consultant report confirms the spray was not effective.
- 2001 Sampling program refined to determine lifecycle of pest and predators.
Biological treatment changes to focus on enhancing predator numbers.
No sprays intended.
Neighborhood meeting and survey of residents on the 3700 block to discuss tree canopy reduction and new biological trials.
December 10 Council report - survey results and work plan for 2002 approved.
- 2002 Letter to residents describing City work plan.
Five trees removed on 3700 block, four remaining trees have predator enhancement trials.
Consultant report shows that selective removal and predator enhancement was not effective.
December 10 - Council receives a delegation request to consider the use of chemicals.
Council deferred the question to the Environment Committee for review.

RESULTS OF THE 2002 RESEARCH PROGRAM

The City of Burnaby hired E.S. Cropconsult Ltd. to undertake two research programs in 2002. The first was designed to provide a context for the problem and the second was designed to test two final biological treatments on the remaining trees in the 3700 block of Cambridge. The findings included the following information:

- Comparative sampling of red oak stands in ten locations in the Victoria, Vancouver and Burnaby show that the Cambridge infestation is rated high.
- The dry warm conditions of 2002 contributed to an increase in the pest larvae production. The intensity of the problem continues to grow year after year.
- Safer soap, a common biological control for pests on trees has been applied by several municipalities experiencing the pest. Sampling infested trees in ten locations has shown that repeated long term applications of safer soap does not bring the pest population under control.
- Green lacewings, a natural predator of the skeletonizer pest, were released on the remaining trees in the 3700 block of Cambridge. The lacewings ignored the skeletonizer in preference to Aphids which are also present on the oak trees. Lacewings have not proven useful as a biological control agent in this case.
- Oak trees have a naturally occurring parasite that feeds on the pest. An attempt was made to add to the number of parasites on a tree on the 3700 block of Cambridge. Unfortunately, this had little effect on the pest. The expected reason is that this infestation is too large, the additional parasites were also overwhelmed.

HE:jl

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Red Oak Tree Questionnaire

Response Results

Number of households receiving survey: 132

Total surveys returned: 73

Please rank the following statements from 1 to 4 with one being the most desirable and 4 being the least desirable:

	1 Most Desirable	2 Desirable	3 Not Desirable	4 Least Desirable	Not ranked on survey	Number of households not ranking option or responding to survey
<i>I would live with the pest rather than use chemical treatment to remove it</i>	9	8	11	18	27	86
<i>I would remove and replace the trees rather than use chemical treatments</i>	47	2	3	12	9	68
<i>I would try chemical treatments to remove the pest before cutting the trees down**</i>	16	12	16	13	16	75
<i>I would stop investing money on the issue</i>	9	11	8	20	25	84

**Note: six respondents qualified their response for option 3 by stating that they would try chemical treatment as their first option, and if that did not work then they would live with the pest.

Comments Specifically Against Chemical Use:

- Are these plants life-threatening to trees? If not, is it just that we humans don't wish to share our street with these harmless pests? But please don't endanger all the other "harmless pests" - squirrels, cats, dogs, and of course children and adult humans in trying to rid our street of the pest, especially if it is only to please a few people who are "uncomfortable" with "nature"!
- We have small children and are not interested in chemicals.
- Please, no chemicals.
- There is enough chemicals in the air without adding more. Plant smaller trees and take care of them this time. It might help with the moss.
- In line with the Burnaby policy of no pesticides or herbicides being used in Burnaby - we are opposed to any chemical treatments. Try the planned 2003 program as outlined in Brent Robertson's Jan 29/03 letter. If it works, fine. If not please remove the trees.

Comments against tree removal & replacement:

- You missed the other option. I would try chemical treatment, but if they don't work then I'd live with it. These are beautiful trees and are why we bought our home on this block. We would not cut them down! The way your options are written above force us to cut them down! Please rewrite using our option #1. Please rethink the wording of the questionnaire. The 3700 block looks terrible. I'm shocked the City would even consider chopping these down!
- We are not in favour of any selective or full cutting down of the trees, other than some research with an eye to the future, new treatments. We feel that it is a nuisance but not a serious problem. Let it be.
- We do not want our tree removed at all! We would prefer chemical treatment or leaving the trees alone all together. Our neighbourhood will be ruined with the removal of the trees.
- I love the trees and don't/wouldn't mind the use of chemicals to get rid of the pest. They get all over everything. P.S. sorry I missed the meeting.
- [*referring to option #3*]: If that failed, I'd simply live with the pest. Keep the trees!
- [*referring to selection of option #3*] This of course depends to an extent on the environmental etc effects of the treatments. I assume they'd be relatively safe. The oak trees were a significant factor in my purchase of the house. I'd be very disappointed if they were removed.
- Don't get rid of the trees if at all possible.
- The oak trees are beautiful, pests or no pests. I am totally opposed to cutting the trees down.
- It is extremely irritating but not worth losing the eco benefit of the trees - aggravation is short.
- Tree foliage provides nice privacy. I would hate to see them cut down.
- You need to provide information on what chemicals would be used and any health risks associated with them. If they pose no health risks, I would rather treat the trees than replace them.
- We love our trees but hate the bugs. At their worst you can't even use the front door! If a one-time use of chemicals could reduce the amount of insects for a few years as they gradually increased it would provide some relief.

Survey Comments Cont.

- It would seem to me that insomuch as our governments, provincial and federal, are able to achieve favourable results in spraying gypsy moth infestations that, now that Burnaby is in a partnership with Simon Fraser University that surely our two institutions can come up with an adequate spray to solve the problem.
- Sorry, I find the above choices very confusing and difficult in phrasing - I would have preferred to state my opinion as follows:
(1) Want to cut? No (4)
(2) Try chemicals? No (4)
(3) Save the trees at all costs? Yes (1)
Please see additional comments attached.
[following is a paraphrase of points in attached letter]
 - destruction of trees would be a drastic action to a minor nuisance
 - even loss of trees on one block would be a dangerous precedent and a detriment to the neighbourhood overall
 - City of Vancouver's practice is to not cut down trees
- Who is thinking about the children breathing in the chemicals? Thinning the trees has been adequate and addressed the issue for the most part. Removing the remained of the trees would destroy the warm feeling of the block. Stop letting vocal owners have their way. The tree to the west of our home is healthy and must stay!

Comments in Favour of Tree Removal/Replacement

- Over the years you have used a number of things and nothing has worked. So I would rather have the trees cut down and replaced with any other kind besides oak. It has been very difficult at times to walk down Cambridge or any other streets that have the same problem. P.S. maybe a flowering one.
- I believe that replacing the oak trees is the most expedient and only permanent solution. Some kind of evergreen that would save the City leaf clean-up expenses would be best.
- Did not ask for nor want the tree recently planted on Cambridge Street outside our property. Never had one there before. Obstructs "stop" sign and neighbours views. Oak trees should be removed. Too much problem, street too dark, pesticides are harmful to humans and animals.
- Replacing the trees in the long run would save the city money from everlasting controlling the pest. It's better for the environment too.
- We have four of these trees surrounding our property, one of which is near the vegetable garden. Also, there were worms on the fig trees, Japanese Maple, etc, which are approximately 30 feet from the oak trees. According to your arborist, there is no guarantee our trees will not be infested. We want the trees removed.
- Oak trees are generally unsuitable for civic planting. Their leaves drop over a period of several months, decay very slowly, blow long distances. They are the first trees to shed and the last to leaf out. I recommend removing two out of three and replacing with an alternate 2x species to reduce transfer of disease and pests. The remaining oak trees should be treated.
- We are fed up with the worm problem - they cling to everyone and our vehicles. The sap is covering our cars and virtuously making it impossible to see out the windows. The cars are covered with it. The acorns have attracted squirrels, some getting into attics and house's boards between foundation. I would like replacement trees that aren't so dense. I love trees and have a lot front and back of my property.
- What would it cost to share, with each of you folks, in planting Japan blossom trees?

Survey Comments Cont.

- The city had replaced some trees already (selective replacement) which seem to both solve the problem and still provide a tree. Why not replace all the trees?
- Our family would like the trees removed as soon as possible without the exposure to chemical treatments.
- 3700 blk wants - ask tree replacement ASAP. Stop wasting our money on spraying anymore. Replace them with our new plum tree.
- I am a resident of the 3700 Block. We have unresolved issues regarding the trees on our block. We have 2 petitions before Council that clearly state our desire to have the remaining oak trees removed and replaced without future experimentation or delay. [referring to the statement on survey that feedback will be reported to the Environment Committee and Council] This has never happened in the past. Why start now?
- 3700 Block wants tree replaced ASAP. Stop wasting our money on spraying any more. Replace them with our new plum tree.
- Replace the present trees with the maple trees.
- Tough decision but living with the pest is not an option in my mind. I do like the idea of replacing the trees gradually over time, 5 years for example.
- In today's world, with so many people who have allergies/sensitivities chemical solutions should not be a consideration. The trees are unsightly and messy when they are fully leaved and should be removed and replaced in our opinion.
- We can't leave it the way it is. The little green worms end up on our clothes line in the back of the house, etc. Cannot walk around the front without having to wave hands in front of your face. It's gross. No chemicals please! The trees must go!
- *Note: 3856 Cambridge returned 2 surveys* [From 1st Survey:] I do not trust soap treatment and I do not trust chemicals. [From 2nd Survey:] I find these pests very frustrating. As a taxpayer I would like the option of parking/walking in front of my property without feeling "infested" (for 6-8 weeks of the year). These bugs have moved into our back yard plants. It is impossible to cut the front lawn - these bugs hang everywhere. If your research shows that nothing can really be done to eliminate the problem - I'd like to see new uninfested trees planted.
- We love trees. But when it affects our living negatively we have to look at it the other way. Over the past few years, in order to stay away from the annoying "silky-worms" hanging all over the place: (1) My kids have to walk along the centre of the street (it is dangerous for them but they said it got a little less worms there between the trees); (2) Mowing lawn has become a painful thing to me because I have to work under the trees where the worms keep landing on my face, my head, and my body; (3) It's even more terrible when parking a car in front of the house. You will find your car covered by thousands of worms which are very hard to get them off. Eventually we got a lot less visitings; (4) The whole area is disgusting. Everywhere seems to be covered by living and dead worms and web. Before the pest problems, this neighbourhood is a very nice place to live. If all possible treatments have failed to control the pest, we don't mind to cut the trees down and replaced by other healthy ones.
- The best is to replace the trees, because the chemicals kills as you sprayed for so many years and did not help. You just wasting the tax payers money. How much already you spend on the chemicals and the people who do the research and nothing the pest or bugs are still here. So don't spend any more on chemicals and people who do the job. Put new trees and healthy ones, and save the tax payers money.

Survey Comments Cont.

- Since chemical treatment results are not "encouraging", why waste money with this option? The pest problem is bad and getting worse. The wind can blow them on their streamers over my house onto the back sundeck. A more suitable tree would be one much smaller in size.
- I firmly believe that the time to remove these problem Red Oak Trees from the boulevard has long since passed! The attempts over the years have clearly been a failure and has resulted in the frittering away of valuable revenue. It is clearly time to cut the losses, and do the right thing by implementing a removal plan before the onslaught of this pest due this summer. If and when the trees are replaced, due diligence should be conducted beforehand to ensure we do not endure a similar problem with yet the replacement species. It should also be borne in mind that the heavier leaf canopy of the replacement trees, the less light is derived from the Light Standards also on the boulevard. Certainly a big consideration for an area that has seen recent increases in crime.
- I attended the meeting on Feb 18. I found you ill-prepared for it, and all I got out of it was that it would take 6-10 years for research. It's not good enough as we have to deal with the problem now, which is serious as the trees in our back yard are infected now as well.
[from a letter attached to the survey]:
I would and you should remove all trees and replace them. Other areas have had them removed and replaced. The problem we have is no less severe than the areas that the trees have been removed. As a tax payer and resident of Burnaby 3930 Cambridge for 40 years have a right to have our concerns met. Our problem is no less severe than the areas that have had their trees removed. The trees in our back yard are infected as well. We do not want another hot summer of misery with the worms.
- I would like to see the trees removed and replaced with different trees.
- Ever since we moved in, we notice worms hanging down the tree in front of our house. It would be nice to remove it and replace new tree. Thanks.
- Why not replant with the type of trees already lining the 4200 and 4300 blocks (of Cambridge)?

Comments in Favour of Tree Removal/Replacement, But With Qualified Responses:

- Trees on our street are very desirable but not this species. Apart from the pests they drip sap and encourage squirrels who dig up gardens, attack bird nests and cause damage to roots. A slightly smaller species of tree would also be better. But I would rather live with this than have no trees.
- I would prefer to remove and replace only if the replacement trees are planted in a timely manner.
- If you are removing the trees - you must ensure that they are properly removed (i.e. don't leave the stumps in the ground as eyesores).

General Comments (No Preference Noted Regarding Treatment Action):

- The worms are so stringy and it stuck to our hair. My kids are screaming going in and out of the house. Worms stayed on the car. What a nuisance. Worms goes into face when walking!
- There has to be a solution to this "pesty" problem. The worms are so bad on this street they find their way into every available area in my van. When we go for walks we have to "dodge" the worms. It's nice to see something will be done!
- The worms in these trees make Cambridge Street unusable for a number of months each year. This is both extremely unpleasant and a major inconvenience. Something must be done.
- Thank you for recognizing this issue, something permanent must be done. Generally the chemical treatments are not a sufficient result. Even when the "worms" are not active, we see the constant reminder infested in our vehicles. Being told to park off the street is not the answer.

Survey Comments Cont.

- We are tired of walking through worms each year for two months.
- The City has tried treating the red oak trees with chemicals etc for as long as we have lived here and the problem keeps coming back. The larvae and insects get onto our cars, clothes, hair, and front door and a real nuisance to get off. For at least 2-3 months we have to use the back door, which is really an inconvenience to the seniors who live here. Not to mention slippery when walked on.
- The "pest" problem (little white worms) swing on to my front two trees:
1. Tree of Heaven 2. Rhododendron.
Walking under these trees #1 leaves worms in your hair. They stick like glue to guests cars parked near the trees. Get rid of them.
- Either stop the pest or replace the trees.
- Is it possible to do a combination of safer or more environmentally friendly products and then add chemicals? Would this result in a difference for the pest? We want to have the trees remain!
- We love this neighbourhood. It's unfortunate that we can't walk the kids to school when the pests are out...only three blocks and we drive. Our vehicles are infested. We are thankful that our concerns are being taken seriously. Good luck.
- Taxes are too high already.

HE:jl

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