

**Environment and Sustainability Standing Committee
October 6, 2011**

TO: Chair and Members of Environment and Sustainability Standing Committee

SUBMITTED BY:



Phillip Townsend, Director, Infrastructure and Asset Management

DATE: September 2, 2011

SUBJECT: Invasive Species: Japanese Knotweed and Flea Beetles

ORIGIN

- Community Customer Service Requests
- Regional Council, April 19, 2011: Invasive Species
- Chebucto Community Council, August 8, 2011: Beech Tree Infestation

RECOMMENDATION

It is recommended that:

1. The Environment and Sustainability Standing Committee request that Regional Council endorse the recommended Municipal Service Standard outlined within this report.
2. Authorize staff to seek project or other external funding/programs to:
 - a. Map infestations of invasive species on Municipal Property; and
 - b. Develop a corporate management plan for invasive species.
3. Authorize the Mayor to send a letter to the Minister of Natural Resources requesting:
 - a. The Province of Nova Scotia take the lead on Invasive Species Management;
 - b. Assist Halifax Regional Municipality (HRM) with the development of a municipal invasive species management plan; and
 - c. The Province of Nova Scotia to develop legislation respecting the importation and distribution of invasive plant species.

BACKGROUND

Despite the Regional Council approved service delivery standard for invasive species response in 2011/2012, impacts from public pressure on the organization to respond to invasive species continues to grow.

DISCUSSION

The following is a brief summary of the Invasive Species that are currently impacting municipal service delivery:

Species	Summary	Resource implications
Giant Hogweed	Only one patch identified on HRM property this year. Numerous instances of miss-identified, non-toxic plants reported.	Manageable budget pressure; Staff respond to reports of possible identifications.
Black Legged Ticks	Minimal HRM service delivery. Assisted Capital Health with distribution of tick educational information and participating in Federal Government study on efficacy of Deer Bait Stations.	No budget pressure in 2011/2012; Staff
European Fire Ants	A growing problem. Emerging information on the species is showing that it is more resilient than originally thought, and the infestation is growing in the municipality. Numerous calls on European Fire Ants.	This is a frequent topic for residents calling Sustainable Environment Management Office (SEMO) staff
Japanese Knotweed	Emerging challenge in 2011/2012. Currently, approximately \$50,000 per year operational cost, staff anticipates potential for hitting a \$100,000 annual cost in the next couple of years.	This is a major budget concern. Thickets are cut down, only to return in larger thickets in following years.
Beech Tree Flea Beetle	Media reported infestations in tree stands in Halifax and Dartmouth, following which staff received a number of residential calls identifying possible infestations. Staff working with Canadian Forestry Service for positive identification of species.	Staff has yet to identify the budget implications or potential management solutions to the beetle. Tree Spraying of insecticidal soap could have a cost in the tens of thousands.
Lake Banook / MicMac weed growth	A continuing problem requiring remediation.	Local Councillors used District Funding to supply some management equipment. Staff responded for some assistance with waste removal due to safety concerns. There is an operating pressure here.

HRM has a history of a number of other invasive species as well: Floating Yellow Heart, Brown Spruce Long Horn Beetle, to name a couple.

Invasive species management is becoming an increasingly difficult challenge for municipal staff. With a climate that appears to be conducive for the proliferation of new invasive species, the pressures to both manage infestations on HRM property and find solutions for residents, is growing.

The observation that staff has is that the current ad hoc response into current and emerging identified invasive species are not financially, nor environmentally sustainable. Typically, regardless the species, as soon as an invasive is identified in the community there is wide spread concern and zealotry to eradicate or manage it. That zeal often results in the usage of chemicals or the expensive manual control of infestations – and often those initial actions are not in the long term, best interest of the community or the municipality. An invasive species management strategy would provide best long term value to HRM financially, environmentally, and socially.

Staff recommends that HRM seek assistance from the Provincial departments in addressing this challenge that is facing municipalities across Nova Scotia. As part of the Nova Scotia Natural Resource Strategy, the Biodiversity Panel submitted a paper at: <http://www.gov.ns.ca/natr/strategy/pdf/phase2-reports/biodiversity.pdf>, which recommends a variety of Provincial actions, including development of a BioDiversity Act. Many of these recommendations would provide tools and assistance to municipalities in an effort to serve citizen expectations around the management of invasive species. The Natural Resources Strategy was released this August (2011).

The current budgetary pressure on operations is in the order of approximately \$100,000 to \$200,000 per year and growing. Budgetary implications of implementing remediation and management operations, both corporately and in the community, for species identified in this report could easily broach a \$1 million per year budget.

Recommended Service Standard for Remediating or Managing Invasive Species on HRM property: Halifax Regional Municipality will manage invasive plant and insect species only on HRM property which are causing either threat to human health, safety, or loss of use of municipal infrastructure. Impacts related to aesthetics are not covered under this policy.

Japanese Knotweed

Japanese Knotweed was originally introduced from Asia as an ornamental plant and is still sometimes used in gardens. This highly invasive plant is found along roadsides and wetland areas where it competes with native vegetation and is extremely difficult to control once established. Dense stands are capable of crowding out all other vegetation and degrade native plant communities. It spreads quickly, is extremely aggressive and persistent and able to survive severe flooding. It poses a significant threat to areas adjacent to rivers, streams and other shore-lines where it can cause bank erosion, clog waterways and lower the quality of habitat for wildlife and fish. During its dormant growth stages, Japanese knotweed dries and can create a fire hazard.



Control

An integrated approach is required to manage and eradicate Japanese Knotweed. Control and Management is not an easy task, but persistent effort will yield results. The most important action is removing the rhizomes (root systems) underground.



Japanese knotweed rarely achieves eradication without mechanical disturbance, thus control methods should include digging and pulling along with cutting and mowing during the blooming period. Any control method must target the rhizome or root system, even when the top growth is removed. It is very important to carefully dispose of any stem or root material when controlling this plant manually. Hand-pulling is best done when the soil is soft, plants are young and there are only a few plants. The effort must be persistent and ongoing for an extended period of time. The plant must be pulled by the root crown, trying to remove as much as possible of the rhizomes. Tarping the area of removed Japanese Knotweed is an effective way to smother the rhizomes after the initial plant removal. One should continue to monitor the site and continue to pull any re-sprouting plants.

Note: Using Glyphosate Spray or Glyphosate Injections is prohibited in Halifax Regional Municipality under By-Law P-800 - Respecting the Regulation of Pesticides, Herbicides and Insecticides.

Municipal impact: We are dealing with Japanese knotweed at virtually every major park in HRM. It is also in numerous locations in right-of-ways and along trails and paths. Current efforts have been to simply cut back each year. This effort results in simply an exponentially growing problem.

SEMO and Municipal Operations are proposing the need for a management plan for Japanese Knotweed. It is anticipated that in 2012/2013, the focus will be on mapping infestation locations and continuing to cut back; then, beginning in 2013/2014, implementing a managed reduction process which will include tarping and/or other manual/mechanical controls for a three year period.

Beech Tree Defoliating Species/Pest

This summer, an infestation impacting stands of Beech Trees was identified in Fairmount Subdivision, as well as in Dartmouth.

Currently, staff is working with the Canadian Forestry Service to positively identify the species, develop a management plan, alternatives, and a budget to remedy the infestation. Initial identification was that it is a Flea Beetle; currently, subject matter experts believe it to be a type of saw fly. Identification will enable identifying control alternatives.

Staff has an outstanding report to Chebucto Community Council on the identification of the pest, potential control alternatives and budget, to test trail an alternative on the stand in Fairmount.

While waiting on final confirmation of the identity of the species by the Canadian Forestry Service, it appears the recommended actions for residents wishing to protect their own Beech Trees include:

- Quickly raking up and disposing of leaves in the fall, where the species live in the summer, before they migrate back to the soil for the winter;
- Applying permitted pesticide products: Insecticidal Soap in the spring when the leaves come out and then a follow up application approximately one month later. Insecticidal Soap appears to be a recommended control product for the different species that experts are working on confirming identity. Pyrethrins, another permitted pesticide, may also be effective.

This would likely need to be repeated for a couple of seasons to eradicate the infestation. Depending on the size and height of the tree stand, this may or may not be achievable for residents to perform themselves, and contracting of an arborist may be ideal.

BUDGET IMPLICATIONS

The recommendations of this report protect and maintain the existing and budgeted service delivery. Pressures related to delivering service to remedy impacts of invasive species pose an extreme risk financially, potentially hundreds of thousands of dollars.

It is expected that the additional cost of the anticipated Japanese Knotweed Management Plan would be approximately \$20,000 per year starting in 2013/2014. It is the hope of staff that the mapping in 2012/2013 can be cost shared through a project (such as a Nova Scotia Youth Conservation Corps project) and the municipal portion would be captured within existing budget.

staff does not yet have the budgeted costs for management of the flea beetle infestations. It is expected that a trial project would fall within the \$10,000 to \$50,000 range. Costs to manage the beetles throughout trees across the entire municipality, could easily exceed \$100,000.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

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

COMMUNITY ENGAGEMENT

There was no Community Engagement executed for this report.

ALTERNATIVES

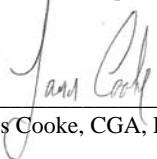
Council could direct staff to adopt a higher service standard related to invasive species management. This is not recommended as the financial implications are costly.

ATTACHMENTS

None

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

Report Prepared by: Richard MacLellan, Manager, SEMO, 490-6056
Wendy Lines, Superintendent, MOPS
Brian Phelan, Superintendent, MOPS
Rob Mullane, Superintendent, MOPS

Financial Approval by: 
James Cooke, CGA, Director of Finance/CFO, 490-6308
