



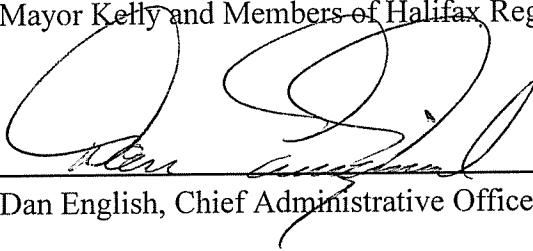
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11.1.4

Halifax Regional Council
July 31, 2007

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY:



Dan English, Chief Administrative Officer



Jim Bauld, Acting Director, Environmental Management Services

DATE: July 24, 2007

SUBJECT: Invasive plant species, Little Albro Lake

ORIGIN

Councillor Request for Staff Report, June 12, 2007.

RECOMMENDATION

It is recommended that Council direct staff to undertake public education efforts to alert residents to the problems posed by importation or spread of invasive aquatic plant species, and refer management of the invasive species Yellow Floating Heart at Little Albro Lake to the province, as a matter of provincial jurisdiction; and that the Mayor write to provincial Ministers of Environment & Labour, and Natural Resources, indicating HRM's concerns.

BACKGROUND

Over the past several years, a floating aquatic plant has been growing increasingly common in Little Albro Lake, Dartmouth, and has reached the point of being a nuisance to local residents. The plant was identified in 2006 by researchers at Saint Marys University (SMU) as Floating Yellow Heart (*Nymphoides peltata*), an invasive Asian species used as an ornamental pond plant. This species has become an invasive pest in several US states. It roots in bottom sediments, and produces surface leaves and yellow flowers which are similar in appearance to indigenous water lily species.

DISCUSSION

Waterbodies in Nova Scotia, including all lakes, are provincial property. Any intended control measures for an aquatic plant will depend upon the province to approve and initiate any actions.

Provincial staff of the Departments of Natural Resources (DNR) and Environment and Labour (DEL) have been consulted. They advise that the likely source of introduction of Yellow Floating Heart at Little Albro Lake was through use by local residents as an ornamental species, or by accidental introduction (eg. root fragments) accompanying another ornamental species. This plant has been in Little Albro Lake since at least 2002. This plant may be purchased in Canada through several suppliers, and it is not illegal to import or use it. DNR anticipate that this species may become a significant problem in Nova Scotia within the next few years (one other occurrence has been found to date in Cape Breton), as it tends to take over any lake in which it is introduced, and grows in water of up to 2 metres depth. The province is cooperating with federal authorities at the Canadian Food Inspection Agency (CFIA) in organising a workshop in Truro for September 2007, as a first step in creating an Atlantic Invasive Plants Council, similar to councils existing in other parts of Canada. The province of Nova Scotia will undertake preparation of a strategy on invasive species, and they do not recommend that any control or eradication efforts should be attempted on Yellow Floating Heart at Little Albro Lake until a provincial strategy and action plan are prepared. They are currently investigating experience in other jurisdictions with this species. Their advice is that the problem already exists at Little Albro Lake, and a delay of perhaps 1 year will not make this problem any worse. They do not recommend attempting any short-term control measures without adequate provincial research and preparation, involving a number of provincial and federal agencies with some responsibility or jurisdiction. The species will not migrate naturally to other lakes, as Little Albro drains directly to the harbour.

Once an invasive aquatic plant species is introduced, there are relatively few options for control or eradication. Chemical control is possible through the use of herbicides, and mechanical removal is also a possible option. Use of herbicides can present problems due to the non-specific nature of herbicidal action. Although approved for aquatic use in formulations lacking a surfactant (which can be toxic to non-plant species), herbicides are toxic to a range of plant species, and could upset the lake ecosystem to an undesirable extent. There is some evidence that some herbicides may be endocrine (hormone) mimics, with unknown risks to animal species. Little Albro Lake drains through the storm sewer system to Halifax Harbour, so any herbicide residue would ultimately be discharged

to the Harbour. Mechanical harvesting from the surface or through dredging is another option but will not likely be permanent, and would need to be repeated periodically if the Yellow Heart grows back. Experience in the UK with this same species, for example, has shown that mechanical harvesting and dredging do not provide a permanent solution, since the plant roots aggressively in up to 1.5-2 metres of water and will re-grow. Herbicides such as dichlobenil or glyphosate have provided some control, but the treatment must be repeated. It is recommended that only a portion of a lake be treated at one time. Glyphosate was found to be less effective.

It is worth noting that if the lake in question was a municipal property, the HRM Pesticide Bylaw would prohibit the use of a herbicide to control a nuisance plant species, according to Section 3: "No person shall carry out or permit or suffer to be carried out any pesticide application on property owned by the Municipality." The only exception would be to "destroy plants or insects if such plants or insects constitute a danger for human beings", which would not apply.

Any intended control measures would require provincial approval for watercourse alterations or application of chemical controls. Such approval would also involve Fisheries and Oceans Canada due to implications for fish species.

A species such as Yellow Floating Herat may be easily transported from lake to lake in the form of leaf or root fragments or flowers which will propagate, carried intentionally or unintentionally (for example on boats). DNR staff advise that it is important to educate the public on the dangers of invasive species; and in particular for residents around Little Albro Lake, on the importance of avoiding transferring this species to other lakes. Containment is the best option for the short term, and any residents who observe this species in additional locations should be encouraged to contact the local office of NS Department of Natural Resources immediately. HRM staff will continue to communicate with DNR and DEL as they develop provincial policy and a strategy on invasive species, and with SMU on education opportunities.

BUDGET IMPLICATIONS

HRM currently has no identified budget for aquatic plant control. Public education efforts, ie an article in the October edition of the Naturally Green, information on HRM's web page, and other communication opportunities, such as information through Councillors' newsletters, can be accommodated within the existing 07/08 Environmental Management Services operating budget.

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.

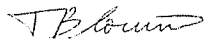
ALTERNATIVES

1. HRM could devote funds to attempt the mechanical or chemical removal of Yellow Floating Heart from Little Albro Lake (not recommended).
2. HRM could defer management of the invasive species Yellow Floating Heart at Little Albro Lake to the province, as a matter of provincial jurisdiction (recommended).

ATTACHMENTS

1. Draft Mayor's Letter to provincial Ministers.
2. Illustration, Yellow Floating Heart:
(*Nymphoides peltata*).

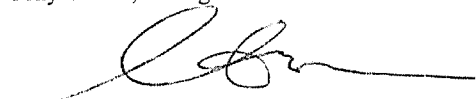
A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/agenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.



Report Prepared by:

Tony Blouin, Manager of Environmental Performance

Report Approved by:



Catherine Sanderson, Sr. Manager, Financial Services, 490-1562

Attachment 1

Attachment: Draft Mayor's Letter to Provincial Ministers.

Honourable Mark Parent
Minister of Environment & Labour

Honourable David Morse
Minister of Natural Resources

Dear Sirs:

Over the past several years, a floating aquatic plant has been growing increasingly common in Little Albro Lake, Dartmouth, and has reached the point of being a nuisance to local residents. The plant was identified in 2006 by researchers at Saint Marys University (SMU) as Floating Yellow Heart (*Nymphoides peltata*), an invasive Asian species used as an ornamental pond plant. This species has become an invasive pest in several US states. It roots in bottom sediments, and produces surface leaves and yellow flowers which are similar in appearance to indigenous water lily species.

Waterbodies in Nova Scotia, including all lakes, are provincial property. Any intended control measures for an aquatic plant will depend upon the province to approve and initiate any actions. HRM staff have conferred with staff of the Departments of Environment and Labour, and Natural Resources on this issue. DNR staff have indicated that they are concerned that this species may become a more wide-spread problem in Nova Scotia. They also indicated that the province will develop policy on invasive species, as a matter of provincial jurisdiction. On behalf of concerned HRM residents, I request that the province complete a policy on invasive species, and undertake any feasible actions as soon as possible to control and eliminate this invasive species from Little Albro Lake before it can become more prevalent.

Sincerely,

Peter Kelly
Mayor

Attachment 2

Illustration, Yellow Floating Heart:
(*Nymphoides peltata*).

