

HALIFAX

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Item No. 15.1.2
Halifax Regional Council
March 10, 2020

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY: Original Signed by 
Jacques Dubé, Chief Administrative Officer

DATE: January 22, 2020

SUBJECT: **Integrated Pest Management Strategy**

ORIGIN

On July 17, 2018 the following motion of Halifax Regional Council regarding Item No. 17.3 was put and passed:

“THAT Halifax Regional Council request a staff report on developing an Integrated Pest Management strategy for the municipality.”

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter, Section 2 - Purpose of Act

The purpose of this Act is to:

- (a) give broad authority to the Council, including broad authority to pass by-laws, and respect its right to govern the Municipality in whatever ways the Council considers appropriate within the jurisdiction given to it;
- (b) enhance the ability of the Council to respond to present and future issues in the Municipality; and
- (c) recognize that the functions of the Municipality are to
 - (i) provide good government,
 - (ii) provide services, facilities and other things that, in the opinion of the Council, are necessary or desirable for all or part of the Municipality, and
 - (iii) develop and maintain safe and viable communities.

Policies

59 (2) The Council may adopt different policies for different areas of the Municipality.

(3) In addition to matters specified in this Act or another Act of the Legislature, the Council may adopt policies on any matter that the Council considers conducive to the effective management of the Municipality. 2008, c. 39, s. 59.

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RECOMMENDATION

It is recommended that Halifax Regional Council direct the Chief Administrative Officer to:

1. Develop an Integrated Pest Management Strategy as outlined in the Discussion section of this report;
2. Initiate the process to repeal By-law P-800, Respecting the Regulation of Pesticides, Herbicides and Insecticides.

BACKGROUND

Introduction

Integrated Pest Management (IPM) is a holistic, ecological decision-making model to help prevent and manage pest damage. This is done by using a combination of preventative practices and carefully selected control strategies and treatments to reduce impact of pests on people, property, and the environment. The goals of an IPM Plan include using effective, economical, and environmentally sound methods to keep pests at acceptable levels with an ongoing emphasis to reduce pesticide use, implement preventative measures, and utilize alternative control measures. The principles of an IPM Plan would promote using a combination of appropriate strategies to address the pest problem and apply pesticides only when necessary according to set pest thresholds. As outlined by NS Environment and other jurisdictions that have implemented IPMs, typical components of an IPM plan include establishing criteria, identification, thresholds, monitoring, treatment, and evaluation of the program.

An IPM Plan minimizes risks and hazards to humans and the environment by using an integrated approach for preventative and corrective measures, reducing problems caused by pests and the risks related to pesticide use. An IPM approach includes many benefits such as:

- Promotion of healthy plants and plant structures
- Promotion of alternative pest management strategies that are sustainable
- Reduction of environmental risk associated with pest management
- Reduction of contaminated air and ground water
- Protection of non-target species
- Reduction of pesticide use
- Reduction of issues related to pesticide residuals
- Reduction of exposure to pesticides
- Increase the cost-effectiveness of pest management programs

Although HRM does not have a formal IPM strategy, components of a strategy are in place. Gaps in current practices can be addressed in the development of an overarching IPM strategy. An IPM strategy would assist in communicating municipal roles, responsibilities and initiatives for pest management to the public.

HRM History: Pesticide By-law

In 1997, Council began discussing a municipal pesticide By-Law in response to concerns relating to human health and the environment. Enabling legislation for the municipality to regulate pesticide use was granted by the Province in 1999. However, this authority was restricted to applications for the maintenance of outdoor plants and turf on property used for residential properties and was primarily a response to health and environmental concerns related to products for the management of weeds that contained 2, 4-Dichlorophenoxyacetic acid. Pests such as ants, spiders, and ticks did not fall under the jurisdiction of the *Halifax Charter*. By August 2000, By-law P-800, the Pesticide By-law was approved by Regional Council with the intent to protect the health of humans and the environment. Administrative Order 23, the Exclusion List to the Pesticide By-law was also approved in August 2000. At that time, the use of pesticides was not regulated by the Province.

A permit program as well as an extensive education and awareness campaign was implemented when the Pesticide By-law was adopted. Efforts included fact sheets, brochures, television ads, a website, newsletters, a telephone information line, seminars and presentations. This led to a decrease in the use of pesticides. An enforcement strategy was also in place between 2001 and 2009. By 2010, the number of applications and permits for pesticides dropped from 3,500 in the first year of the program to 47 applications due to the availability of acceptable alternative products.

A 2014 supplementary staff report¹ noted that the availability of products containing 2,4-D (2, 4-Dichlorophenoxyacetic acid) was commercially reduced starting in 2003 due to the HRM permitting operations. By 2010, the Provincial *Non-essential Pesticides Control Act* prevented the sale of 2,4-D products. The only exception is for the management of invasive species which include Giant Hogweed and Japanese Knotweed. The 2014 staff report suggested that By-law P-800 achieved the desired outcomes of having industry change product offerings, industry changing lawn care practices, and the Province of Nova Scotia enacting legislation to remove consumer products from the shelf. As a result, the by-law no longer offered any practical protection for residents with respect to the environment or human health. It further suggested that the provincial legislation made the by-law redundant and unnecessary. Inquiries related to pesticides were referred to the Department of Environment.

As an IPM strategy is contemplated, it is important to note that the Pesticide By-law is redundant and pesticide use has significantly dropped since the implementation of the by-law, which is no longer enforced due to the provincial legislation. Pesticide use is restricted and controlled by Provincial regulation which reduces Halifax Regional Municipality's ability to use pesticides in practice.

DISCUSSION

Currently Parks and Recreation, Transportation and Public Works (TPW), and Planning and Development play a role in the control of problematic species. Although establishing criteria has not occurred on a formalized basis through policy, the Municipality has focused on controlling species that are threats to human health and recreational safety (i.e., aquatic plants impacting competitive boating in Lake Banook and Lake Micmac), property damage, and damage/death of green infrastructure (i.e. urban forest). Species of interest expanded in the discussion section below include giant hogweed, wild parsnip, European Fire ants, ticks, aquatic plants, rodents and Emerald Ash Borer.

Human and Recreational Safety

Species such as Giant Hogweed, Wild Parsnip, European Fire ants, and ticks are human health and safety risks. For example, Giant Hogweed has toxins contained within the sap that can cause severe burns, blisters, and potentially temporary or permanent blindness in humans. The sap of wild parsnip can also cause severe burns. Currently these pests are controlled through mechanical removal and is a safety hazard.

Aquatic plants have emerged as nuisances in several Dartmouth-area lakes over the past several years. These include native species in Lake Banook and Lake Micmac (*Potamogeton perfoliatus*, *Potamogeton foliosus*, and *Elodea canadensis*). Their abundant growth and broad distribution in the lakes over recent years has posed a threat as both a nuisance and a hazard to boaters and swimmers in Lake Banook and Lake Micmac that has been managed through weed harvesting activities. Yellow Floating Heart has also become an issue as an invasive species at Little Albro Lake. On July 30, 2019, Regional Council passed a motion to pilot the use of benthic mats to control the Yellow Floating Heart infestation, contingent on regulatory approval from the Province of Nova Scotia and Government of Canada.

¹ Supplementary Information Report. Repeal of By-law P-800.

<http://legacycontent.halifax.ca/council/agendasc/documents/140415rc1119ii.pdf>

Property Damage

In recent years, nuisance wildlife such as rodents have been problematic in various areas of HRM. As identified in the January 17, 2017 staff report (*Rodent Control*)², since 2016 the rodent population in the Halifax region appears to be increasing and is becoming more visible. As development occurs, rodents can become displaced and cause extensive damage to surrounding areas. The report identified that the Municipality does not have the jurisdiction to bait on private property.

Green Infrastructure

From an urban forestry perspective, species that are threatening or may threaten the urban forest include Emerald Ash Borer (EAB), Dutch elm disease, beech leaf mining weevil, and Asian Long Horned beetle. The benefits of urban forests have been well documented (e.g. improving air quality, increasing biodiversity, sequestration of carbon, economic benefits, decreasing energy use, health benefits, and hydrological benefits for storm water management) however, the overall health and sustainability of the urban forest is being threatened by the abovementioned species. Given the many benefits of the urban forest, being prepared for these threats is important, to help make informed decisions, to maintain tree health, and to develop resiliency.

HRM Treatment Practices

Parks and Recreation and TPW

With respect to Wild Parsnip and Giant Hogweed, the treatment approach has been primarily reactive in nature. Mechanical methods of removal in the past have not been entirely successful as the equipment may leave traces of the plants behind or improper sterilization techniques may cause further spreading. Contracts using manual approaches are expensive and limits the ability to control plant populations. For the species that have severe human impacts (i.e. burns and blindness), pesticides may be considered to control populations. However, if a pesticide is to be utilized, in addition to label directions and compliance with provincial pesticide application regulations, a protocol for Wild Parsnip and Giant Hogweed could be incorporated in an IPM to determine the amount, timing, and conditions for pesticide use on these species. Japanese knotweed has been dealt with in a mechanical way and mowed if it impacts infrastructure (i.e. encroaching into a right-of-way or blocking sightlines). In parks areas with tall grasses, mowing is prescribed to reduce the risk of ticks in areas frequented by humans. Parks and Recreation also mechanically removal of Multiflora Rosa. Although not a human health threat, the species is invasive and can quickly spread and overtake other vegetation on properties.

In rare occurrences, in park areas frequented by humans and pets where European Fire Ants have been identified, Parks hires a licensed contractor to administer a regulated foam treatment to the site. If there are adjacent private properties, Parks and Recreation has invited private property owners to coordinate timing of treatment of their own properties to help optimize results for the season. The number of sites each year is small, usually one to two sites.

Urban Forestry

HRM's Urban Forestry team is currently developing a management strategy for Emerald Ash Borer.³ This management plan will include a street tree inventory, treatment options as well as public education. The Emerald Ash Borer management plan can form a section of a larger, overall IPM strategy.

² Staff Report. Rodent Control (dated January 18, 2017).

<https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/170207rc1441.pdf>

³Staff Report. Emerald Ash Borer – Next Steps (dated November 12, 2018).

<https://www.halifax.ca/sites/default/files/documents/city-hall/standing-committees/181206esscInfo2.pdf>

Planning and Development

Aquatic weeds

The abundant growth and broad distribution of aquatic plants in recent years has posed a threat as both a nuisance and a hazard to boaters and swimmers in Lake Banook and Lake Micmac. Currently, the plants are being managed through weed harvesting activities. The existing protocol for the management of aquatic weeds could also be incorporated into an overall Integrated Pest Management Strategy.

Rodents

As noted in the 2017 *Rodent Control* staff report, the Municipality has rodent control practices in place related to municipal services, rights-of-ways (related to municipal construction projects), parks and sports fields, municipal buildings, and unsightly private properties. Practices are also in place for storm drains related to Halifax Water construction projects. This report identified that rodent control is a shared responsibility and a coordinated approach across municipal departments would be key to formulate a robust, adaptable, responsive management plan for rodent control.

In February 2017, Regional Council provided direction to continue to bait for rodent control on municipal property and to amend Administrative Order 2016-003-ADM (Respecting Construction Site Management) to include pre-baiting for a 10 to 14-day period prior to demolition or major construction. The Construction Mitigation Administrative Order is currently under review to add a section regarding rodent control associated with demolition and major construction. Amongst other requirements, as part of this amendment, a rodent control plan must be developed such that the plan is safe, effective, and environmentally responsible.

For pests like rodents, as recognized by the 2017 *Rodent Control* staff report, consultation and coordination of various departments is important. This type of approach would need to be adaptable and focus on the root causes of major pests and what triggers the populations to become problematic. A rodent management plan could be incorporated under a larger Integrated Pest Management strategy.

Next Steps

In order to address gaps in current practice an overall Integrated Pest Management Strategy could provide a formalized structure to manage pests using a holistic, ecological approach to limit the use of pesticides and approach pest management with defined protocols. The overall IPM strategy would provide the basic structure and management plans for individual pests and can be developed by the business units that are already dealing with them. The following steps are recommended:

- Develop individual management plans that allow for flexible, adaptable approaches. These management plans will form part the larger, integrated strategy;
- Formalize and prioritize criteria for pests that are currently problematic; additional pests may be added over time;
- Strengthen identification of pests through field identification guides and further educate staff on pest identification as required;
- Formally identify problematic locations and monitor species within those locations; add to the locations as the pests are identified;
- Establish pest thresholds and formalize strategies to treat pests;
- Create a central location on Halifax.ca to house the IPM and communicate through the municipality's social media and other corporate communication channels;
- Establish a timeline to evaluate the IPM to ensure the program is effective; and
- Establish an implementation strategy to assign roles to responsible Business Units.

An IPM strategy seeks to reduce the amount of pesticides being used and increase health of the environment. However, it must be recognized that under certain circumstances and conditions, controlled use of pesticides should be considered. Individual management plans for specific pests can be assigned to various business units and form part of the larger IPM strategy. Allowing individual management plans under an overall strategy would allow business units to be responsive and adaptive to specific issues. Some of these strategies, such as rodent control, may also require jurisdictional coordination.

FINANCIAL IMPLICATIONS

The development of an overall IPM strategy can be handled within the existing budget envelope for D935 and will be a flexible strategy to allow the development of species-specific management plans. Additional costs will be associated with the development and implementation of individual species management plans for the various Business Units. As the species-specific plans are developed, the costs for these plans will be identified and addressed in future staff reports to be considered by Council.

RISK CONSIDERATION

There are no significant risks associated with the recommendations in this report. Environmental, human health, and operational risks will decrease with the implementation of strategic approach to pest management in the form of an IPM strategy. The alternative option of continuing with the current informal HRM practices to deal with pests may have higher financial, operational, health, and environmental risks due to an uncoordinated approach to dealing with pest species. Important to note is that the overall strategy is to deal with public lands and not private lands. As invasive species exist on private land, public land can continue to be threatened by species existing on private land that can spread and reduce the effectiveness of an IPM strategy that is focused on public land.

COMMUNITY ENGAGEMENT

Community engagement has not been carried out in the preparation of this report. If the recommendations contained in this report are approved by Council, community and stakeholder engagement will be conducted during the development of an Integrated Pest Management Strategy, as well as during the repeal of By-law P-800.

ENVIRONMENTAL IMPLICATIONS

An IPM Plan minimizes risk and hazards to human health and the environment by taking an integrated approach for preventative and corrective measures to reduce problems caused by pests while reducing the risks related to pesticide use. These implications are discussed in further detail within this report.

ALTERNATIVES

1. Continue with current pest management practices without a formalized IPM Strategy.

ATTACHMENTS

None

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

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