Madalyn Letellier

From: Renee Scott [redacted]
Sent: Monday, March 25, 2024 12:09 PM
To: All City Council; City Clerk Contact
Subject: help in take action to mitigate the abundance of invasive plant species in our community

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Dear City Council:

As representatives of Green & Open Somerville and Earthwise Aware, we are writing to request your help in taking action to mitigate the abundance of invasive plant species in our community. We strongly support Order ID #24-1016, originally slated for discussion on the April 2, 2024 Open Space, Environment, and Energy committee meeting agenda, and to urge action on this increasingly serious issue. This item states "That the Director of the Office of Sustainability and Environment work with this Council and Green and Open Somerville to develop a job description for an Invasive Species position to spearhead outreach, education, and citywide invasive plant species removal and to allocate funding for such a position in the FY 2025 budget". Please know that this effort will be further supported through collaboration with Earthwise Aware.

The need to take action to mitigate the abundance of invasive plant species in our community is urgent and should be included in budget priorities for FY 2025. To assist in this conversation, we developed the Invasive Plant Species Management Initiative (IPSMI), a document that provides rationale for the requested action and approaches to solutions for management, and a drafted job description for a candidate who can provide expertise. In addition, we offer a list of Somerville residents and community groups who are in favor of this proposal.

Below is a summary of this initiative. Details of the initiative can be found here.

Invasive plants pose a unique problem
There is a profusion of invasive plant species in Somerville. We need professional assistance, in addition to a concerted city-led effort for community engagement, to create a management strategy and mitigate this problem. We are asking the city to tackle this because it is a difficult situation requiring dedicated attention, financing, and external expertise. Such action will provide necessary support for the Pollinator Action Plan, the Climate Forward Plan, and the Native Planting Ordinance.

Invasive plant species are coupled to economic and health concerns for homeowners
Invasive plants typically outcompete native plant species for resources, thereby negatively altering our ecosystem by reducing biodiversity. They spread readily, especially in disturbed areas that persist in an urban environment. Resulting biodiversity loss creates several downstream concerns. Disrupted native ecosystems cannot support the food web and this is unhealthy for our community. Reduced property values and owner enjoyability may occur when residences and businesses are overrun with unwanted plants because of aesthetic issues and remediation costs.

Consider an integrated approach for the management of invasive plants

- External expertise (proposed job description can be found here)
- Education and outreach: training community members to locate, identify, and appropriately remove plants
- Couple the removal of existing plants with the planting of native species
- Communicate ways that we can prevent these plants from entering our communities

Let's move forward, together
Serious and appropriate removal action of invasive plants from our public spaces coupled with community education and participation are key to returning the outdoor spaces of Somerville to a primarily native-planted space. Invasive species prevention is the best approach to management, but once that fails, we need to look at solutions for the removal of these plants. Subsequently, a maintenance goal of exclusion would be necessary. A multi-pronged approach, including expert(s) and dedicated personnel, can help us attain this goal.

In the spirit of taking a holistic approach toward making the city of Somerville a resilient city, in accordance with climate policy, the Pollinator Action Plan, the Native Planting Ordinance, and other community efforts, we strongly urge you to further this discussion.

Thank you for your time and consideration.

Sincerely,

Jennifer Clifford
Earthwise Aware

Claire O'Neill
Earthwise Aware

Renée Scott
Green & Open Somerville

Leigh Meunier
Green & Open Somerville

Community Support

Union Square Neighborhood Council

Friends of the Community Path

Urban Forestry Committee

Irene Heim

Melissa Heller

Alice C Mello da Fonseca

Sam Musher

Jon Woodward

David Booth

Melissa McWhinney

Sam Engelstad

Patricia Berman

Lynn Weissman

Faye Zhang

Morgan Pinney

Dawn Austin

Liza Kitchell

Kate Lila Wheeler

David Guss

Charan Devereaux

Ariana Bain

Roberto Lim

Jane Gillooly

Deb Pacini

Chris Dwan

Leah Grossman

Sarah White

Charlie Clifford

Jeff O'Neill

David Scott

Invasive Plant Species Management Initiative

The urgent need to take action to mitigate the abundance of invasive plant species in our community needs to be included in budget priorities for FY 2025. To assist in this conversation, we developed the Invasive Plant Species Management Initiative (IPSMI), a document that provides rationale for the requested action and approaches to solutions for management, and a drafted job description for a candidate who can provide expertise. In addition, we offer a list of Somerville residents and community groups who are in favor of this proposal.

We are pleased to provide this document as a starting point for this discussion and look forward to collaborating with the City of Somerville in developing this effort.

Invasive plants pose a unique problem

There is a profusion of invasive plant species in Somerville and we need external, professional help on a larger scale to create a management strategy and gain control over this problem. We are asking the city to tackle this because this is a difficult situation requiring dedicated attention, financing, and external expertise. Such action will provide critical support for the Climate Forward Plan, the Native Planting Ordinance, and the Pollinator Action Plan.

Invasive plants typically outcompete native plant species for resources, thereby negatively altering our ecosystem by reducing biodiversity. They spread readily, especially in disturbed areas that persist in an urban environment. As a consequence, there is no support for native wildlife species that rely on foliage, fruit, and/or seed for food and habitat. Additionally, there are few, if any, biological organisms that have evolved alongside these plants, like insects or pathogens, that serve to naturally keep plant growth in check.

Despite hyperlocal efforts to manage the spread of these persistent species, the quantity is difficult to cope with on a community level. This is due to the aggressive nature of the invasive plant life cycle, but also because small efforts, while important and welcome, are often not executed properly for successful long-term removal. Often, these invasive species will grow back more vigorously.

The Massachusetts Department of Agricultural Resources has a list of over 140 species that are "prohibited for importation, sale, propagation and related activities" (MDAR Prohibited Plant List). Many

of these plants are already widespread in our community, but it is critical to recognize the importance of making an effort to control further spread in areas where they are not yet observed and to halt continued introduction. Several of these invasive plant species cause concern in the City of Somerville. Aggregated data of the number of units observed in our area using EwA's Invasive Flora Patrol project demonstrates that the most abundant offenders are black swallowwort (*Vincetoxicum nigrum)*, Japanese knotweed (*Fallopia (Reynoutria) japonica*), and tree-of-heaven (*Ailanthus altissima*).

Invasive plant species are coupled to economic and health concerns for homeowners

Native plant and overall biodiversity loss as a result of the aggressive nature of invasive plants creates several downstream concerns. It is well known that a thriving and robust ecosystem is critical for overall health and well-being of urban residents. There is documented evidence that invading plants reduce native species richness and diversity (Hejda *et al*, 2009). Disruption of the ecosystem through reduction of native species and the wildlife they support is unhealthy for our communities. Interruption of natural succession of areas disturbed by construction and heavy land use also contribute to the displacement of native species.

Reduced property values may occur when properties are overrun with invasives. Apart from the obvious aesthetic issues and remediation costs, several media outlets in the United Kingdom have reported that Japanese knotweed creates problems with building foundations, negatively impacts home insurance premiums (Groundworks; Japanese knotweed Plus; Warren, 2019 and references therein). The mechanisms of structural damage by plant roots are fairly straightforward and are largely dependent on the physical growth of the plant roots, soil type, and soil water content. We recognize that all plants have the potential and capacity to incur this damage. Indeed, a peer-reviewed analysis in 2018 demonstrated that this invasive species does not incur damage any more than other plants that grow near our homes and businesses (Fennell *et al,* 2018). Nevertheless, because of the prolific (and undesirable) growth of plant species such as Japanese knotweed, we argue that these invasive plants do indeed pose a threat to the enjoyability and value of our homes and businesses.

The greatest economic impact of invasive plants is their removal. It can be expensive and is time-consuming. However, tackling this *now* is the best approach for saving costs in the future.

Consider an integrative approach for the management of invasive plant species

We want the city to consider an integrated approach for the management of invasive plants. Below is an outline of various strategies and ideas that can be used.

1. External expertise (see also 'Job description', included below)
    - To lead and help us understand a) invasive plant species ecology, b) options for mitigation that are appropriate and available in residential and urban setting areas, and c) how this overlaps and supports other municipal initiatives, specifically the Native Planting Ordinance and the Pollinator Action Plan.

2. Education and outreach: Public engagement is an important consideration. Training community members to *locate, identify, and appropriately remove* plants will be an integral component.

- Utilize the Invasive Flora Patrol project (and field app), an EwA protocol that allows participants to gather important data on the occurrence and extent of invasive species, to monitor existing invasions, and to assess control methods' effectiveness. This data allows us to record plant species, life stage, distribution, and coverage. The data is public/open-access and visualizable. *This will inform an appointed working group or external consultant on management strategies and control actions*.
- Continue and help expand G&OS initiatives to engage the community in actively removing plants
- Activate Somerville teens through:
    - the currently existing Climate Justice Jobs (CJJ) worksite, which is part of the Mayor's Summer Jobs Program
    - Groundwork Somerville's Green Team
    - Somerville High School and Full Circle green clubs and environmental science classes, offering community service hours as compensation
    - To-be-developed youth green job opportunities. Mechanisms for this could be:
        - Engage newly hired city staff dedicated to youth development – Youth Services director and coordinator
        - Create a CJJ worksite focused solely on invasives removal and native plantings
        - Model after and/or partner with existing local youth programs where teens do eco-restoration work (e.g. Meadowscaping for Biodiversity)

2. Removal of existing plants must be coupled with the planting of native species in the removal areas. Invasive species are particularly adept at thriving in bare and disturbed ground so simply removing invasives does not work; there must be native species planted to stabilize the area.

3. Communicate ways that we can exclude these plants from entering our communities (not moving germplasm and vegetative structures of plants, becoming familiar with invasive species and prohibited plant list, clean shoes after hiking, etc.).

Where do we stand? Evaluation of our current status is necessary

As an ongoing effort, we intend to determine what the city is currently doing to quantify the abundance of invasive plant species and how they are measuring the impact that these plants have on our ecosystem and standard of living. If outreach programs are utilized, we must know what our expectations are for these programs. Ultimately, we request that the city take a more active role in leading on outreach and education components for understanding the structure and outcomes of these programs, including using photos for identification, assessing control methods, and creating videos for guidance on removals.

Bottom line

It is incredibly discouraging and disheartening for many of us to see large areas in the City of Somerville, both public and private, where invasive species are pervasive. Serious and appropriate removal action from our public spaces coupled with community education and participation are key to returning the outdoor spaces of Somerville to a more native planted space. Invasive species prevention is the best approach to management, but once that fails, we need to look at solutions for the removal of these plants. Subsequently, a maintenance goal of exclusion would be necessary. Such actions will prevent further

spread and reduce damage, thereby maintaining local biodiversity, protecting native species, and improving the support of all forms of wildlife that rely on native plants for support. A multi-pronged approach, including the use of experts and dedicated personnel, can help us attain this goal.

In the spirit of taking a collective approach to moving the city of Somerville to a resilient city, in accordance with climate policy, the Pollinator Action Plan, the Native Planting Ordinance, and other community efforts, we strongly urge the OSEE committee to take on this responsibility and get it on their agenda for discussion.

Job description - expertise in invasive plant species management
We strongly urge the City of Somerville to make an investment in our community and provide leadership aimed at drastically reducing the amount of invasive plant species we currently have and building a pathway to maintain our natural spaces with plants that will support a healthy ecosystem.

One aspect of such a commitment is to create a position for an individual with expertise in the control of invasive plant species. This person will have the responsibility to research, develop, and maintain an Invasive Plant Species Management plan. This plan will be designed to remediate and protect our city from the rapid and aggressive colonization of invasive plant species using an integrated, multi-pronged approach.

Expertise in this area should encompass several topics, including knowledge of plant identification, an understanding of invasive species phenology, and capacity to evaluate species abundance, distribution, and potential for further invasion, especially in the context of a changing climate. Knowledge of control measures, specifically effective mechanical management is critical, as is the understanding of appropriate and targeted use of precise chemical applications and biological controls, with the understanding that these will be used only when absolutely necessary for difficult cases. An understanding of native plantings and local ecology is essential as this is very important for appropriate invasive removal and establishment of native species that support a healthy ecosystem.

The individual in this position will:

- possess the ability to collaborate with all relevant city staff and city committees. Commitment to adhere to guidelines of current municipal positions and procedures (Pollinator Action Plan and the Native Planting Ordinance)
- demonstrate a willingness to work with community advocacy groups that have a strong understanding of local ecology and native plants
- initiate outreach and education measures to be relayed through effective communication with Somerville residents and community groups are expected
- act as a liaison for evaluating effectiveness of removal campaigns (data collected, in part, by EwA Invasive Flora Patrol protocol)
- facilitate relationships and utilize knowledge from organizations that provide assistance to communities to control invasive species, such as the North American Invasive Species Management Association (NAISMA)

- explore the potential of initiating this process by developing a pilot program, perhaps by neighborhood, that can build over time. Research the efforts of other communities to see how they tackle the issue

References

Fennell, M., Wade, M. and Bacon K.L. 2018. *Japanese knotweed (Fallopia japonica): an analysis of capacity to cause structural damage (compared to other plants) and typical rhizome extension*, PeerJ Life and Environment (Plant Biology) 6:e5246; DOI 10.7717/peerj.5246

Hejda, M., Pysek, P. and Jarosík, V. 2009. *Impact of invasive plants on the species richness, diversity and composition of invaded communities*, Journal of Ecology, 97: 393–403 doi: 10.1111/j.1365-2745.2009.01480.x

Warren, Lynda M. 2019. *Is Japanese Knotweed inherently damaging? Network Rail Infrastructure Ltd v Williams and Waistell [2018] EWCA Civ 1514*. Environmental Law Review, 21(3): 226-234. DOI: 10.I 177/1461452919850309