

DANDELION CONTROL ON CITY PROPERTY

EXECUTIVE SUMMARY

At the 2015 June 15 meeting, Council directed Administration to prepare a report on effective dandelion control (NM2015-12). This report provides an overview of the regulations that govern dandelion and weed control, an overview of the current integrated pest management practices at The City, and an analysis of citizen concerns around dandelion and weed populations.

Based on the analysis, this report proposes both a short-term and long-term strategy for dandelion control. The proposed short-term strategy is for a dandelion control suppression program, improving The City's ability to respond to citizen concerns, and providing a short-term solution to maintain park and boulevard aesthetics. A one-time operating budget adjustment of \$1.7 million is proposed for the suppression program.

While the proposed suppression program will enhance aesthetics, Administration recognizes that a long-term strategy is required to ensure turf health and to develop preventative measures for dandelion and weed control. The long-term strategy for dandelion and weed control will include a review of benchmark approaches and City pilot projects, along with a review of the existing *Integrated Pest Management Plan*. It would also include engaging with internal and external stakeholders and the public on their perceptions and expectations for dandelion and weed control on City property.

For additional information on the regulatory context, management practices, and citizen concerns around dandelions, please see the attachments.

ADMINISTRATION RECOMMENDATION(S)

That the SPC on Community and Protective Services recommends that:

1. This report be forwarded to the 2015 September 28 Council meeting to be considered at the same time as the 2016 Resilience Budget; and
2. Direct Administration to report back through the Standing Policy Committee on Community and Protective Services no later than October 2016 on the short-term suppression program's effectiveness and costs, and on long-term recommendations for best practices on pest management including weed and dandelion control.

PREVIOUS COUNCIL DIRECTION / POLICY

On 2015 June 15, Council adopted NM2015-12 (Dandelion Control on City Property) and directed Administration to "prepare a report on effective dandelion control for the entire City including financial ramifications and return to Council through the Standing Policy Committee on Community and Protective Service no later than October 05, 2015."

BACKGROUND

Both The Province and The City provide policy and regulation for weed control. The Province regulates weeds through the *Alberta Weed Control Act* (2010), whereas The City manages dandelions and weeds through the *Integrated Pest Management Plan* (1998) on City property. The City also enforces weed control on private property through the *Community Standards Bylaw* (5M2004). Below is a short review of how each document refers to the management of dandelions; see Attachment 1 for more details.

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Alberta Weed Control Act

Weed control in Alberta is outlined in the *Alberta Weed Control Act*. The City of Calgary must adhere to provincial legislative requirements for prohibited noxious weeds and noxious weeds as defined in the *Alberta Weed Control Act*. Presently, there are no provincial requirements to control dandelions, as dandelions do not meet the criteria associated for either noxious or prohibited noxious weeds.

Integrated Pest Management Plan

The *Integrated Pest Management Plan (IPM)* provides the direction for weed management at The City. As outlined in the plan, The City takes an integrated pest management approach to manage weeds (including dandelions) and defines this approach as: “[a]n ecological approach to suppressing pest populations (i.e. weeds, insects, diseases, etc) in which all necessary techniques are consolidated in a unified program, so that pests are kept at acceptable levels in effective, economical, and environmentally sound methods” (*Integrated Pest Management Plan*, 1998).

Three techniques for weed management are outlined in the *Integrated Pest Management Plan*: (1) cultural techniques, including routine irrigation, fertilizing and topdressing; (2) mechanical techniques including manual weeding, trimming and mowing; and (3) chemical techniques including herbicides or alternative “green” pesticides.

Using the integrated pest management approach, The City considers all three of the techniques for managing dandelion and weed populations. A unified program (which may include all three techniques) is developed according to site and pest characteristics. However, each technique has a different associated cost and legislative requirement through the *Alberta Weed Control Act*.

Where plant eradication is required, particularly for prohibited noxious weeds, chemical and mechanical techniques are used to control them. However, chemical and mechanical techniques do not have the ecological benefits on overall turf health that the cultural techniques provide. With dandelions, as they are not considered either prohibited noxious or noxious weeds, chemical techniques are often not used, as there are additional options that may have more longer-term benefits for the turf health.

Community Standards Bylaw

The *Community Standards Bylaw* (5M2004) provides the bylaws for all community standards including standards for grass and herbaceous plants. The standards for herbaceous plants only reference a specific height requirement and do not reference any particular plant species. Additionally, the standards do not apply to parks and natural areas under the control of Calgary Parks or areas under the direction and control of Calgary Roads, as City property is managed in accordance with the *Integrated Pest Management Plan*.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

In response to NM2015-12 (Dandelion Control on City Property), this report provides an overview of the current pest management practices and an analysis of citizen concerns in

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regards to dandelion and weed populations on City property. Based on this analysis, the report proposes both a short-term and long-term strategy for dandelion and weed control.

City of Calgary Dandelion and Weed Control Practices

The City of Calgary has established levels of service for different asset categories (i.e. community, regional and natural environment parks). For example, a sport field with a high level of use is provided a premium level of service meaning that it will be maintained at a five to ten per cent weed coverage and will be mowed weekly. For a breakdown of the maintenance practices by asset type please see Attachment 2.

In addition to mowing, to maintain a sport field at a five to ten per cent weed coverage, other techniques of a cultural or mechanical nature are often applied. This is done on a site-by-site basis across the city and can include fertilizing, topdressing, as well as chemical means. Parks manages this monthly, by reporting on the number of sites where chemical weed control techniques have been applied and the total percentage reduction of weed coverage by site.

In alignment with the *Integrated Pest Management Plan*, herbicides are not used for aesthetic concerns. The City will only use herbicides in the following circumstances (and most often in combination with other cultural or mechanical techniques):

- When noxious weeds are present (as defined by the Alberta Weed Control Act);
- On sport fields where there is a public safety risk; and
- Where weed density threatens the turf or natural area asset.

Since the adoption of IPM, Parks continues to evaluate alternatives to traditional herbicides for non-noxious weeds and other pests like dandelions. Pilot programs using various “green” herbicides have been tested. To date, success has varied by site and costs have tended to be greater than “traditional” herbicide treatment. However, new methods continue to emerge and should be evaluated for their potential environmental and economical benefit. For additional information on the treatments used to date, see Attachment 2.

Citizen Concerns for Dandelion and Weed Populations

Each year The City receives 311 Service Requests (SRs) from the public to address dandelion and weed concerns. In total over the last five years, The City has received over 29,000 SRs for long grass and weed concerns (which includes dandelions), a majority of which are grass and weed concerns on private property (approximately 70 per cent).

Every year for the past five years, for the months of May through September, June has been the highest month for service requests for grass and weed concerns, averaging 877 service requests. Over the past five years, July has been the second highest month for service requests averaging 411 over the month. May and August have comparable statistics. September has been the month with the least number of citizen concerns for grass and weeds. For additional information on concerns received from citizens, see Attachment 3.

Dandelions are a highly adaptable species that can thrive in a variety of conditions. Flowering is generally regulated by temperature and daylength, giving a characteristic flowering pattern in late spring and early fall, though this can vary significantly with local climate. The time required between initial blooming to seed set is typically about 9-12 days. They are relatively more

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drought tolerant and can grow better than turf grasses in dry years. Dandelion flowering tends to peak during the height of the growing season, which may explain the surge of complaints that The City receives in June.

The City does not have statistics that show a clear consensus among Calgarians regarding tolerance for and opinions of dandelions. Citizen surveys are required to determine how Calgarians view this issue and what weed and turf management techniques they would support.

Short-Term Strategy

Administration is proposing a dandelion control suppression program using a one-time 2016 operating budget adjustment of \$1.7 million that will be allocated between Parks and Roads business units. The program costs are comprised of analytic work completed by Administration including number of hectares of open space assets (see tables below); current asset maintenance levels; and business unit mowing practices and costs. This short-term 1-year initiative will address dandelion and weed concerns through increased frequency of mowing. Increasing the frequency of mowing during the growing season will address the visual impacts of dandelions, while staff can evaluate the success of additional mowing as well as implement long-term strategies.

Parks' mowing program

Asset owner	Open Space Area (ha)	Exclusions / Inclusions
Parks	3,047 ha	Exclusion: Level 1 parks and natural areas
Water Services	52 ha	Inclusion: select storm pond mowing
Water Services	30 ha	Inclusion: Ralph Klein Park spillway canal
Total	3,129 ha	

Roads' mowing program

Asset Owner	Open Space Area (ha)	Exclusions / Inclusions
Roads	782 ha	Exclusion: Natural slopes and dry ponds
Total	782 ha	

Note: Roads performs five cuts per year (three in spring/two in fall)

Long-term Strategy

Administration recognizes that a long-term strategy is required to ensure turf health and to develop preventative strategies for dandelion and weed control. Administration will initiate a review of the current *Integrated Pest Management Plan* to ensure its alignment with international best practices and the *Alberta Weed Control Act*, and provide further review of alternative techniques. Additionally, Administration will engage with citizens to better understand their preferences and expectations, and conduct a gap analysis, to anticipate and prevent

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dandelion spreading. Administration will report back with long-term recommendations by October 2016.

Stakeholder Engagement, Research and Communication

Internal stakeholders including business units from Community Services & Protective Services, Transportation, and Utilities & Environmental Protection were engaged to develop the recommendations found in this report. Engagement with internal stakeholders will continue through the development of long-term recommendations for dandelion and weed control. Engagement with external stakeholders, including the public, will take place to understand citizen expectations and preferences in terms of the aesthetic tolerance of dandelions and weeds in parks, open spaces and boulevards, and to gather input on the appropriate techniques to use for dandelion and weed management.

Strategic Alignment

Dandelion and weed control on City property aligns with the Council Priorities of a city of inspiring neighbourhoods as well as a healthy and green city. Administration will use citizen feedback to drive service improvements to weed management, enhancing the aesthetic and environmental qualities of the public realm.

Social, Environmental, Economic (External)

Social

The short-term and long-term strategies will reduce visual signs and presence of dandelions in parks, open space, and roadways, supporting the use of public space, urban vitality and citizen connection.

Environmental

Dandelions and weeds are often a sign of stressed or unhealthy turf conditions, as they as they have evolved to exploit disturbance conditions. Continuing to develop solutions to plan and manage open space will help to prevent dandelions and weeds, and improve overall environmental health.

Economic (external)

This initiative will help maintain the aesthetics in parks, open spaces and boulevards, partially addressing citizens' concerns and The City's image.

Financial Capacity

Current and Future Operating Budget:

The short-term dandelion and weed control suppression program, if directed by Council, could be funded through a one-time operating budget adjustment in the amount of \$1.7 million (\$1.1 million to Parks Program 445 and \$0.6 million to Roads Program 132).

Current and Future Capital Budget:

No impact on current and future capital budget.

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Risk Assessment

Dandelions are adaptable and the flowering period varies depending on conditions. To optimize the success of the suppression program, the program must be flexible enough to respond during high flowering periods, before dandelions go to seed.

REASON(S) FOR RECOMMENDATION(S):

The recommendations align with the Council Notion of Motion (NM2015-12) in that the proposed short-term program will have an immediate impact on the visual presence of dandelions in the 2016 season. Long-term recommendations will come forward to Council by October 2016 and will provide further opportunity to assess and improve dandelion and weed control practices in Calgary.

ATTACHMENT(S)

1. Policy and Regulations that Govern Dandelion Control
2. Current City of Calgary Dandelion and Weed Control Practices on City Property
3. Summary of Citizen Dandelion and Weed Concerns (2011-2015)