



# **LOW INTENSITY TURF MAINTENANCE – INTERIM UPDATE**

## Naturalized Meadows Update and 2021 Plan

Regular Park Board Meeting  
Monday, April 26, 2021





Provide staff updates on the low-intensity turf maintenance motion:

- To present the alternative maintenance plan for select sites in 2021
- To share the tracking and documenting plan

## THEREFORE BE IT RESOLVED:

- A. THAT the Vancouver Park Board direct staff to establish incremental targets and develop an implementation plan, including any new equipment required, to defer and/or alter mowing regimes on appropriate turf surfaces maintained by Park Board staff, with consideration to park typologies and usage intensity;
- B. THAT the current temporary changes in mowing practices (COVID-19-related pilot) be tracked and documented as to quantify and qualify their effect on biodiversity, ecological benefits, operational efficiency/ diversification, emission comparability, and financial sustainability; and
- C. FURTHER that staff to report back to the Board with their findings.





## Nature N.3.6

Provide access to a **naturally managed area** of at least 0.2 ha within a 10 minute walk of all residents.



## Diversity P.5.5

Exhibit ornamental native species, bird and pollinator friendly gardening, and appropriate and beautiful naturally managed areas in parks by expanding public education and outreach campaigns such as demonstration gardens.



## Groundwork

G 6.1 Instill the Mission, Vision and Values of Park Board Reconciliation and Decolonisation into the Park Board's organizational culture of learning, respect and truth telling.



## Nature N.4.1

Engage residents in fun and easy environmental monitoring, citizen science and environmental education programs to demonstrate the benefits of an ecological approach to horticulture and naturally managed spaces in parks.





# Implementation Plan



# Pilot Site Selection - Turf Typologies



New Brighton Park

## LEGEND

- PINK** - Sports Fields
- BLUE** - High Use Passive
- YELLOW** - Less Frequently Passive Use
- RED** - Mowing Hazard

# Pilot Site Mapping – New Brighton Park



# 2021 Pilot Sites

## MEADOW SITES

### 2020 Park Board Meadows

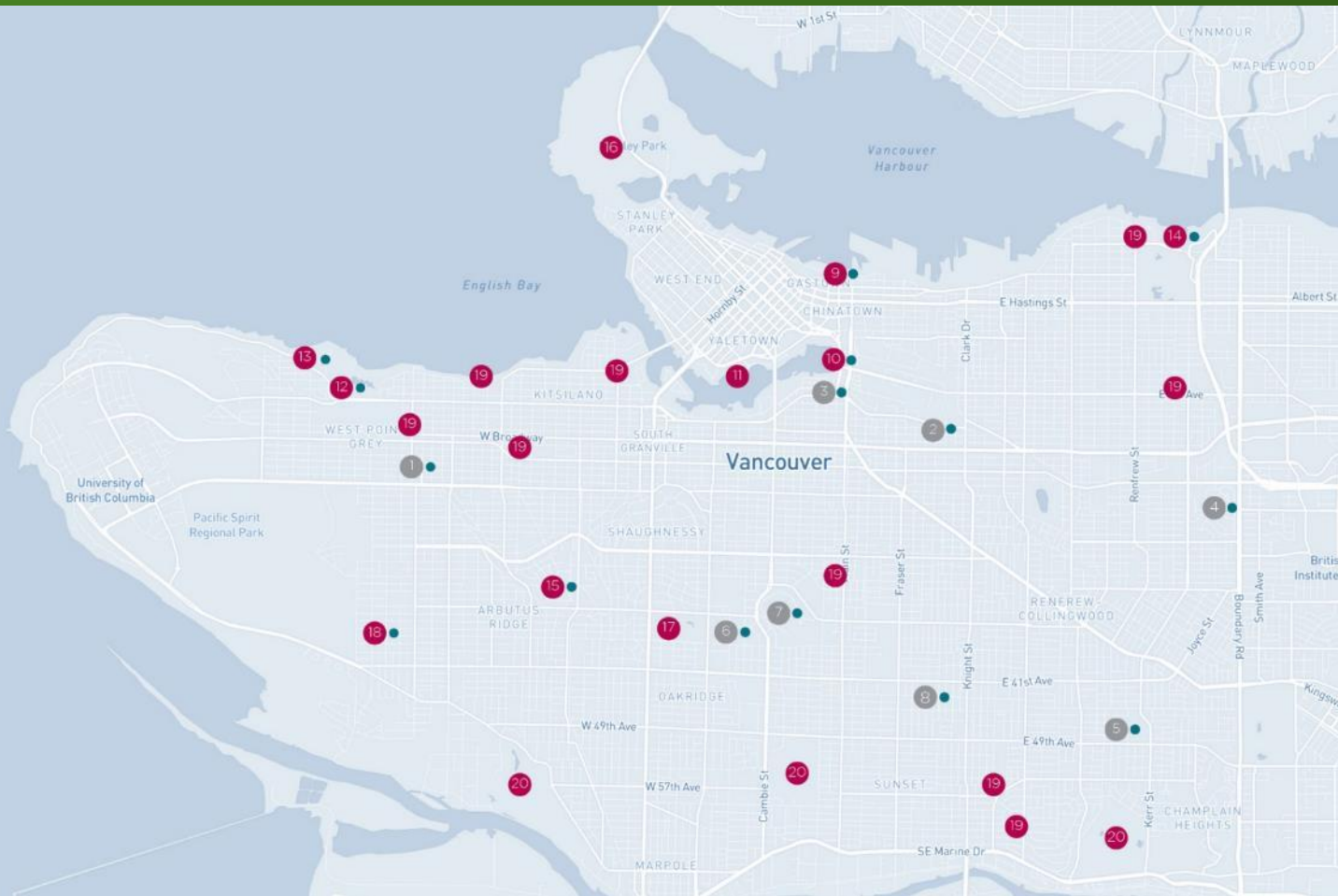
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### 2021 New Meadows

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| 19. Road Boulevards      | 1.29 |
| 20. Golf Courses         | 9.6  |

**TOTAL 37.3Ha**

● Research Sites





- **No Mow Meadows**  
Managed for invasive plants, as needed
- **Low Mow Meadows**  
Mown up to twice annually
- **Enhanced Low Mow Meadows**  
Over-seeded & mown up to twice annually
- **Wildflower Meadows**  
Seeded on bare soil & mown up to twice annually

# Internal Resources



**DEFINITION**  
A 'No Mow' Meadow is an area of existing lawn that is no longer mowed, so a meadow of encouraging native and naturalized wildflower species to germinate, bloom and self seed. Minimal maintenance is required to control invasive plants and weeds.

**KEY POINTS**

- Spill new weeds & tree saplings
- Only requires mowing during extreme fire risk
- Mow a perimeter lawn edge (1.2m) around meadow
- Mow public trails through meadows
- Sow wildflower seed to encourage species diversity
- Perfect for difficult to mow sites
- Supports native species of flora and fauna
- Reduces maintenance demands and costs
- Improves soil health & hydrology

**APPLICATIONS AND LIMITATIONS**  
Naturalized meadows should be grown in areas of parks and landscapes that are away from heavy foot traffic, ideally grown around the bases of trees or on steep grasses. Successful meadows can be difficult to mow in areas of trees and add the reduction of regular maintenance.

**Soil Maintenance** - Weeds are aggressive, opportunistic species and should be expedient within any meadow, green. To limit the impact these weeds have, ensure they are regularly removed prior to setting seed or spreading tap roots, at which point they will multiply considerably. Depending upon the species, this can be done with weed whackers, digging up by hand, or treated with a soil herbicide (approved by a qualified manager or staff).

**MAINTENANCE**  
**Fire Prevention** - Mid summer fires are acceptable if there is an extreme risk of fire. In some cases, this mid year mow can encourage a secondary fall bloom. A GEP should assess the risks for nesting species before any mowing commences.

Heavily dead matter and cuttings should be left on site for up to one week after cutting, allowing seeds to drop and native species to engage within the cuttings or erosion should they be tracked. These cuttings should then be removed and composted as grassland meadows benefit from low nutrient soils which restricts weed growth. The removal of cuttings limits the return of nutrients to the soil.



**DEFINITION**  
A 'low mow' meadow is an existing meadow use turf areas that has its maintenance reduced to once or twice per year, to allow native and naturalized plant species to bloom and establish.

**KEY POINTS**

- Mow once twice year (spring and/or summer)
- Mow a perimeter lawn edge (1.2m) around meadow
- Mow public trails through meadows
- Overseed wildflower seed to encourage species diversity
- Improves ecological value of a site
- Supports native species of flora and fauna
- Reduces maintenance demands and costs
- Improves soil health & hydrology

**APPLICATIONS AND LIMITATIONS**  
After assessing the site, to see whether it can support the reduced maintenance needed and avoid conflict with existing uses, 'low mow' meadows can be planned on the fringes of busy landscapes to provide interesting and diverse aesthetics to a space.

**Mowing** - Regular inspections should be performed to control excessive site litter and observe any unpopulated areas that may arise.

The perimeter edge and pathways can be mowed on a regular basis, however, avoid mowing the larger meadows during May - August 15th as birds and mammals may be nesting within the vegetation.

**MAINTENANCE**  
**Perimeter Mow** - Ensure meadows have a mown 1.2m lawn edge around the perimeter to inhibit ongoing care and maintenance. Mow with the same regularity as adjacent lawns.

**Soil** - All staff expected to maintain the grassland should be properly trained and well coordinated with the site maintenance plan.



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**DEFINITION**  
Wildflower meadows are an incredibly valuable habitat for native beneficial species of flora and fauna. Enjoyed by many, the flower spots encourage public interaction and observation throughout the year, and offers visual stimulation to park spaces.

**KEY POINTS**

- Mow once twice year (spring and/or summer)
- Mow a perimeter lawn edge (1.2m) around meadow
- Mow public trails through meadows
- Overseed every third year (approx)
- Can be mown during extreme risk of fire
- Reduces mowing requirements
- Supports native species of flora and fauna
- Improves soil health & hydrology

**APPLICATIONS AND LIMITATIONS**  
To establish wildflower meadows, the lawn should be allowed back to bare soil and treated with a safe herbicide. Wildflower seeds prefer low nutrient soils so avoid adding any fertilizer to the site for the duration of the wildflower meadow.

Use either a site-seeder to apply seed, after which it needs to be lightly spread into the soil (with a roller or beak) and seed trays for the duration of the establishment period. Native evergreen grass seed (clump forming) should also be incorporated into the meadow to stabilize the soil (25% minimum of the wildflower mix).

**MAINTENANCE**  
**Mow** - Mow meadows in spring before the growing season, or with summer cut before the fall rains allowing time for some growth prior to the first winter frosts.

**Weed** - Spot weed any invasive weeds or tree saplings before they have time to spread and before setting seed to increase future maintenance.

**Seed** - Spread additional seed every three years to top up the wildflower species and ensure the meadow look appealing to the public. Seed can be distributed in spring or fall using methods of site prep and will need additional irrigation in dry periods during establishment (depending on a drier year).

**Community Events** - Consider partnerships with community groups, schools etc. to spread the seed and care for meadows. Seed bags can be created with a seed/trackered mix, produced and distributed by community groups. Scatter into meadow sites in spring to germinate and establish before summer drought/winter frosts.

examples of information sheets prepared for Operations staff for each maintenance strategies.

## MEADOW QUICK FACTS



**INCREASED ACCESS TO NATURE**  
The park board are growing these meadows across the city to increase biodiversity in landscapes and provide interesting and playful landscapes.

During the public engagement for VanPlay, there was significant calls from the public for increased access to nature. These meadows are one simple but incredibly beneficial element to this.

**HABITAT FOR WILDLIFE**  
Everything from pollinating insects to birds and mammals use the meadows to forage for food and raise their young.

**SEES AND BUTTERFLIES**  
Our data shows, the simple reduction in mowing significantly increased the pollinator count in our parks within a matter of weeks.

Flower mixes, more flowers, more wildlife.

**ITS GOOD FOR OUR TREES**  
Meadows are shown to hold more moisture within soils and reduce temperatures compared to lawns, which helps sustain our trees during the hotter months.


Tree roots are very delicate and can suffer in hot soils. The reduced temperatures and increase moisture in meadow soils support healthier tree roots.

**REGULAR MAINTENANCE**  
The meadows will be regularly maintained and assessed throughout the year, ensuring they are a consistent element of our diverse park landscapes.

**ONGOING RESEARCH**  
We are striving to further understand our urban ecology and are partnering with many research members and institutions to study these meadows. We will release all the data as it is collected.

**CONTACT**  
The public can send their emails to: [parkboards@vancouver.ca](mailto:parkboards@vancouver.ca)

## DESIGN & LAYOUT



**IMPROVE TREE HEALTH**  
Consider growing meadows around the base of trees to increase regular contact between tree roots and flower. Meadows have been shown to both retain moisture and cool temperatures at the soils to the benefit of trees.

**PUBLIC INTEREST**  
Encourage the public to interact with the naturalized areas by mowing footpaths and seating areas in the middle of meadows. These can be complemented with firebreaks and debris lines. Minimum 2m width paths.

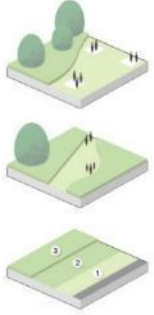
**FERTILIZER TREATMENT**  
Consider phased mowing regimes around roadways and high visibility areas to exhibit to the public control and intentional meadow growth.

**Zone 1** Adjacent to roadways, drives and footpaths, regular mow (see first zone as per standard lawn practices).

**Zone 2** (Optional) Mow at 50% regularity of zone 1, to allow some additional growth and flowering.

**Zone 3** Treat as per the chosen meadow (0%).

**SIGNAGE**  
Ensure signs are placed at all meadow sites to inform the public about Park Board initiatives and provide feedback in the meadows. Signs should encourage public participation and provide contact details for any comments.



examples of information sheets prepared for Operations staff





# Tracking & Documentation



# Select Research Sites

## MEADOW RESEARCH SITES

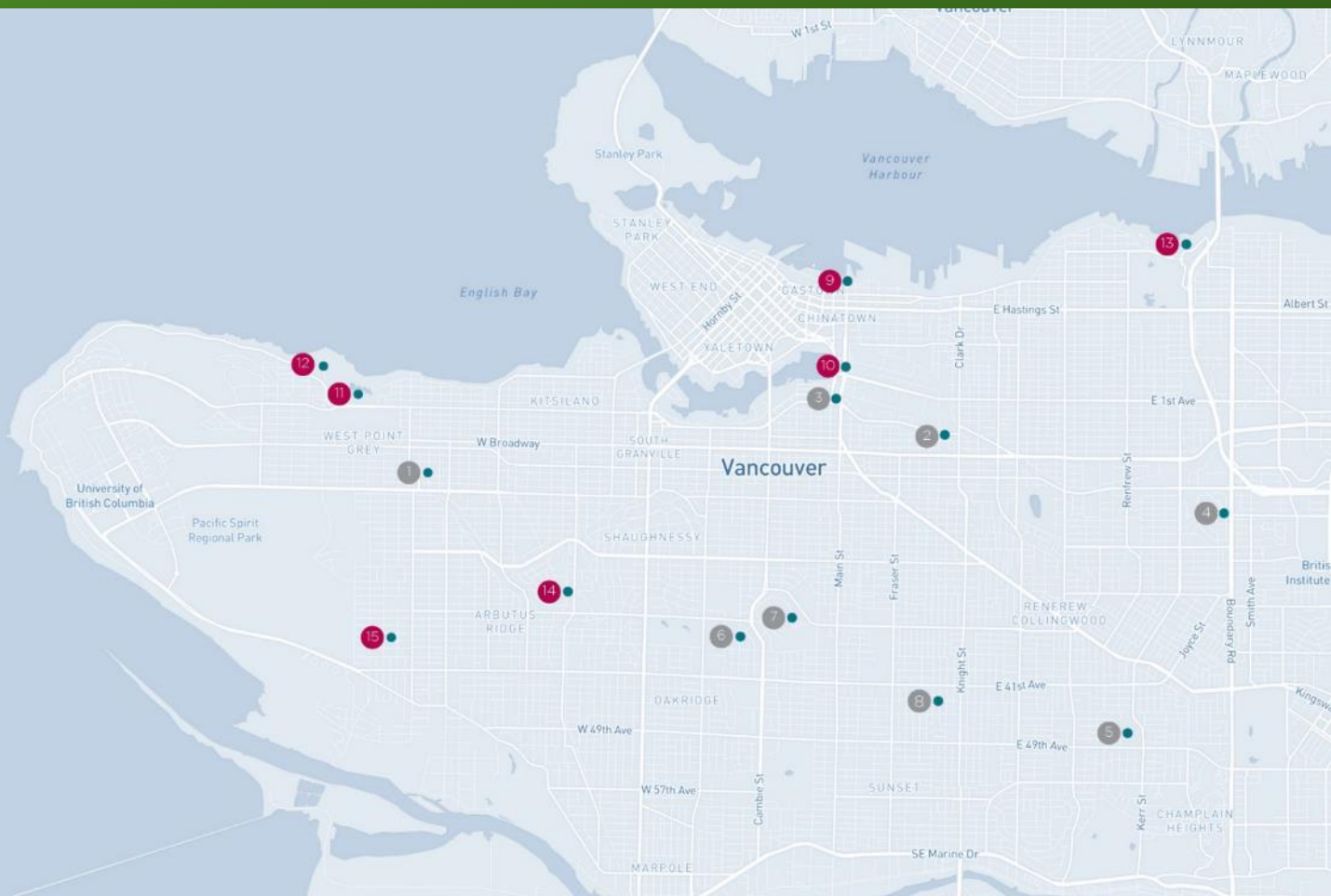
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### Research Sites



# Select Research Sites

## 2020 Research Sites:

- 6 Meadow Research Sites
- Visited every week between June & August
- Weekly data collected: Pollinator counts, Flowering species and bloom abundance, Soil temperatures moisture. Plus, any additional field notes of importance.



### POLLINATOR RESEARCH AREA



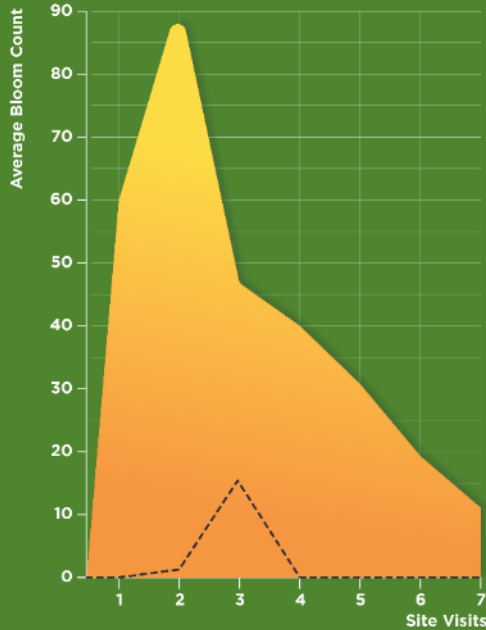
#### We are studying urban pollinators

Native, wild bees play an important role in urban ecosystems, providing essential pollination services for our gardens and wild plants.

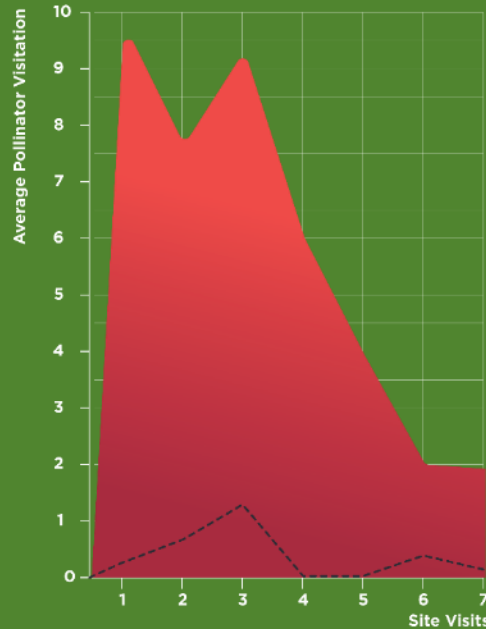
This enclosure protects nesting habitat for native mason bees (aboveground tubes) and native sweat bees (soil bins). To help us better understand their needs, we will monitor the health and activity of these native bees throughout the spring and summer. Please do not disturb them or the enclosure.

To learn more, please contact [parksteward@vancouver.ca](mailto:parksteward@vancouver.ca) or visit [risasargent.landfood.ubcc.ca](http://risasargent.landfood.ubcc.ca)

# Biodiversity Benefits



Average Bloom



Average Pollinators

\*mowed lawn comparison represented with the black dashed line.

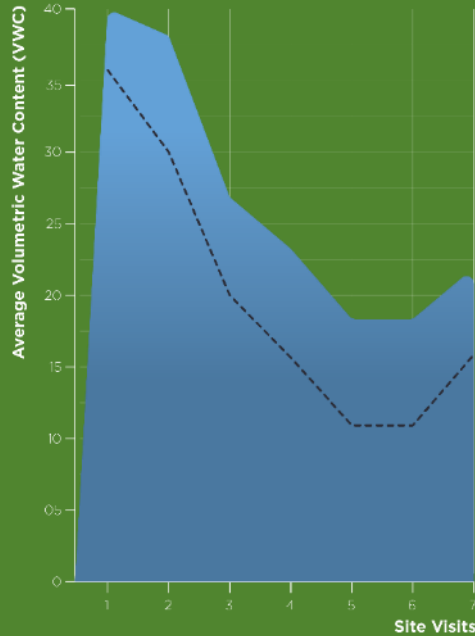
## 2020 Biodiversity data (6 sites):

- The reduction in mowing saw dramatic increases in bloom count and subsequently pollinators. An increase in birds sightings was also noted.

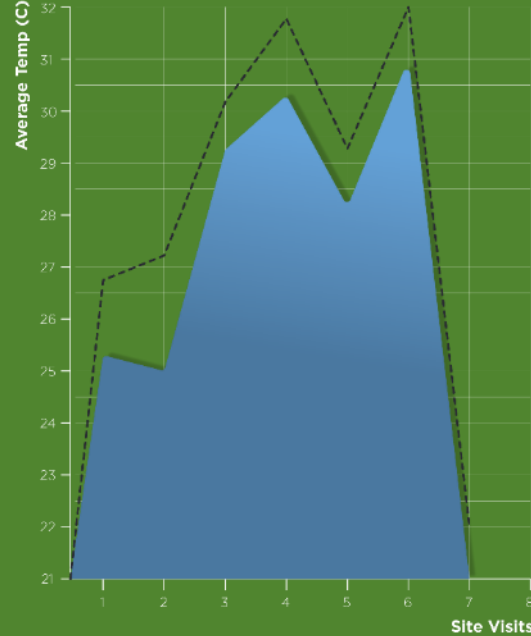
## 2021 Biodiversity Research:

- Additional Blooms & pollinators data will be collected, as well as insectivores (bats & swallows) (5 sites)

# Ecological Benefits



Average Moisture



Average Temp

## 2020 Ecological data (8 sites):

- Increased soil moisture
- Decreased soil temperature

## 2021 Ecological Research:

- Soil moisture & temperature
- Soil microbes & fungi

\*mowed lawn comparison represented with the black dashed line.



Staff will complete an evaluation of existing equipment to assess:

- Which equipment currently owned can be repurposed
- What preparation is required
- Is any additional equipment needed?



Media outreach will be a key component to the meadow sites in 2021.

- Vancouver.ca updates, dedicated page
- Press release, to encourage residents to do same in May
- Interactive social media campaign, with images
- Improved explanatory signage



- Implement pilot projects
- Expand social media campaign, site signage & public education
- Track environmental metrics and data
- Report back to Board in Q3 – 2021 results and proposed further incremental targets going forward



# 2021 Pilot Sites

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