



Bee City Canada Application

A) City or Community Information

Municipality/First Nation The City of Calgary

Province/Territory Alberta

Mayor, Chief or Chair of Commission

Name & Title Naheed Nenshi, Mayor

Name of Applicant & Title Kyle Ripley, Director Calgary Parks

Organization or Department Calgary Parks

Address P.O. Box 2100, Stn M, Mail Code 54

City/First Nation Calgary Province/Territory Alberta

Postal Code T2P 2M5

Email _____ Phone _____

Bee City Liaison & Title (if not Applicant) Chris Manderson,

Organization or Department Calgary Parks, Urban Conservation Lead

Address P.O. Box 2100, Stn M, Mail Code 54

City/First Nation Calgary Province/Territory Alberta

Postal Code T2P 2M5

Email _____ Phone _____

Please list the members of your community's **Bee City Pollinator Team**. This group will oversee the Bee City program. (Expand or reduce table as required)

Name	Affiliation	Email
Laura Smith	Calgary Parks, Environment and Education Initiatives Lead	
Patricia Striker	Calgary Parks, Parks Ecologist	
Tim Walls	Calgary Parks, Wetland and Capital Planning Supervisor	
Tracey Etwell	Calgary Parks, Parks Ecologist	
Steven Snell	Calgary Parks, Conservation Policy Supervisor	
Andrew Phelps	Calgary Parks, Parks Ecologist	
Jason Weiler	Calgary Parks, Parks Ecologist	
Chris Manderson	Calgary Parks, Urban Conservation Lead	
Jenna Cross	Calgary Parks, Urban Conservation Parks Ecologist	
Ben Wineberger	Roads, Planning and Infrastructure Senior Engineer	
Ethan Askey	Transportation GM's Office, Sustainability Strategy, Manager	
Harpreet Sandhu	Water Resources, Resource Strategy Team Lead	

Media Contact (if not Applicant)

Name & Title Chris Manderson (or designate)

Department Calgary Parks

Email Chris.Manderson@calgary.ca Phone 403-268-5212

Tell us about any initiatives currently taking place in your city, community or region which aim to help pollinators. These may include existing pollinator gardens, habitat restoration projects, efforts to reduce or eliminate the use of pesticides and public education activities to raise awareness about pollinators.

Highlights of Habitat Restoration within The City of Calgary

- The ***Bee Boulevard*** in Canyon Meadows, also called the ***City of Calgary Native Bee Project*** runs along Canyon Meadows Drive SE from Bow Bottom Trail SE to Macleod Trail SE. Medians were seeded with a mix of salt and drought tolerant native wildflowers and agronomic species. Bee nesting structures were installed along with interpretive signage. A main flower bed is central to the project and contains native plants, nesting structures, habitat types and displays. Sandstone flower beds full of native wildflowers line the adjacent pathway. Pollinator experts from the University of Calgary and Mount Royal University have been studying bee biodiversity and floral preferences on the site. In 2018, the Species at Risk-Schedule 1, Gypsy Cuckoo Bumblebee was discovered on the site.
- The ***Coventry Hills Bee Boulevard*** is similar to the Canyon Meadows Bee Boulevard except that the majority of the maintenance done through volunteers. The community raised money to replicate the Canyon Meadows Bee Boulevard in their own community.
- More than half of the ***Guru Nanuk Municipal Reserve*** in NE Calgary has been approved to be naturalized with native wildflowers. Pollinator habitat enhancements will also be installed that include nesting logs, nest boxes, sandy soil plots and a water source. There is a proposed interpretive trail and pathway with interpretive signage leading to a playground feature
- The ***Naturalization Program*** is a City-wide restoration program that is funded through capital budget sources. In addition to restoration, this project also provides eco-literacy to citizens through communications that discuss the benefits of restoration.
 - The Bridgeland escarpment, east of Edmonton Trail, contained by 5 Avenue and 4A Street NE, was restored in 2017. The slope required additional stabilization due to the usage of the hill for bike racing and jumping. The invasive shrubs that were planted in the 1990s to control erosion were causing issues with illegal activity as they had grown into a dense thicket. The invasive Caragana was removed and a mix of native grasses and forbs were seeded. Native forbs and shrubs were also planted to replace the Caragana and provide slope stabilization and add floral diversity. The escarpment is now a feature of the community, both for its aesthetic appeal and for its biodiversity.

- The north boulevard of Memorial Drive east of 14 Street NW, including the area between the circular Memorial Drive merge lane, was successfully restored in early spring 2019. Struggling turf grasses were replaced with salt tolerant native grasses, forbs and shrubs. The plant selection allows for a variety of floral resources to be available to pollinators throughout the growing season. The new Crowchild interchange was seeded with the same native grass and forb mixture to increase the connectivity and biodiversity of this road right-of-way.

- A shrub bed in North Glenmore Park provides a visual landmark prior to the descent down the regional pathway into Weaselhead Flats, a Natural Environment Park located along the Elbow River. Formerly, this shrub bed contained non-native horticultural species. Recently, this shrub bed has been transformed into a pollinator garden using native wildflowers. In addition to helping pollinators, this garden educates park users about the importance of native flowering plants and pollinator conservation. This project also created another partnership between the Weaselhead Preservation Society and The City of Calgary as the Weaselhead Preservation Society maintains the bed for The City. This work created opportunities that further engage and educate citizens.

Programs, Projects, Strategic Plans and Education

- ***Our BiodiverCity: Calgary's 10-year biodiversity strategic plan*** was created to foster resilient, biologically diverse, open spaces and neighbourhoods for Calgarians, visitors, plants and wildlife. One of the main targets of this plan is to restore 20% of the Calgary's 2014 open space by 2025 which correlates to 832 ha.
- The ***Corporate Habitat Restoration Program*** was initiated in Q2 2019 and is leveraging expertise and various budget sources to consistently restore city lands and track these areas in order to meet our target of 20% of Calgary's land base being restored by 2025. It is also looking at how to align restoration areas with corporate wide priorities so that restored areas will function to satisfy numerous objectives of various business units.
- ***Biodiverse Communities*** is a project that involves reaching out to communities to offer other alternative services such as naturalization and pollinator gardens. The restoration process is also being mapped out in order to create efficiencies and guide other restoration projects. This information will be used in the *Corporate Habitat Restoration Program* to frame conversations with other Business Units. The project also contains a significant eco-literacy deliverable which involves the development of templated public-friendly messaging about naturalization/restoration.
- The ***Centre City Plan Refresh*** is being updated and will focus more on improving the urban ecosystem. Activities that The City is advocating for include adding additional pollinator habitat to our built environment in the form of native plants, more sustainable plantings, habitat features and maintenance designed to provide pollinator overwintering habitat (e.g., leaving dead standing vegetation for nesting, etc.).
- The ***Calgary Transportation Plan*** guides the design, construction and operation of The City's transportation system by Transportation Infrastructure, Roads and Calgary Transit. This plan provides goals that work towards advancing environmental stability. In order to support a resilient and stable ecosystem, the *Calgary Transportation Plan* indicates that The City will, "Preserve and enhance biodiversity to support the natural environment in and around mobility corridors." Additionally, policies within this plan include:
 - All new and retrofit road and street designs should incorporate green infrastructure strategies to contribute to the environmental health and visual aesthetics of the urban fabric.
 - In all designs, natural processes should be maintained and re-established by conserving, protecting and restoring habitat quantity and quality. Watersheds should be protected by filtering roadway run-off.
 - Native vegetation and a layered tree canopy should be incorporated within corridors to reduce the urban heat island effect and improve air quality.

The implementation of this policy includes naturalizing a portion of 17 Ave SW with native wildflowers, shrubs and grasses that promote pollinator conservation.

The most recent translation of this policy into action is in the current formulation of a pilot project for boulevard naturalization, depending on capital funding approval. This pilot project estimates that it will naturalize approximately 40 ha of boulevard to provide forage and habitat to pollinators.

- The ***Riparian Action Program: A blueprint for resilience*** focuses on an integrated approach to watershed protection and management, including a significant overlap with the maintenance of healthy riparian areas and pollinator conservation. Native plants, especially willows, bind soils to prevent erosion and protect shorelines during high water events. Those same willows are also very important early sources of forage for pollinators in the spring. Healthy riparian areas, both through land management and restoration, are biodiverse and as such, contribute to the conservation of pollinators.
- The ***Resilient Calgary*** strategy provides four (4) pillars that highlight Calgary's collective interests along with associated goals to improve The City's resilience. Pillar 3: The Future of Calgary's Natural Infrastructure is focused around three themes: learning and awareness of key natural infrastructure and how it contributes to City resilience, valuing the services and benefits of natural infrastructure to inform decision-making and the integration of the importance of natural infrastructure into regional policy and implementation projects.

Placing value on natural infrastructure in an urban environment generally improves the ecosystem services that these areas provide. In addition to flood resilience, appropriate management of natural infrastructure has the potential to make a significant difference in pollinator habitat protection, restoration and enhancement (e.g., bee hotels). As many rural areas have been converted to agricultural lands, urban areas are able to contribute significantly to pollinator conservation and biodiversity.

- The initial research as part of the *Native Calgary Bee Project* has expanded into a **city-wide research project**. **Floral preferences** are going to be examined in locations across Calgary to inform future restoration plans. This work is especially important in the case of native specialist bees that may only forage on one species of native plant.
- Calgary Parks' **Environmental Education** portfolio regularly provides education on pollinators through a diverse array of learning opportunities that may target:
 - a specific community;
 - users of a certain park; or,
 - students of a particular age (e.g., Mayor's Environment Expo, Eco-leaders, etc.).

Educational outreach activities also complement existing Calgary Parks initiatives and events. Programming is also available through school programs and day camps that provide information on pollination, plant reproduction and the importance of pollinators.

Highlights of Bee Habitat Enhancement within The City of Calgary

- An area under a **downtown road overpass** was a common place for illegal activities to occur and vegetation was difficult to establish due to the dry and shady conditions. This area was fitted with a seating area that contained bee habitat enhancements such as drilled out logs. This work helped alleviate the safety issues and invigorated the space, while at the same time promoting pollinators.
- **Bumblebee boxes** have been installed in various locations around The City and are being monitored by the bumblebee expert from Mount Royal University, in partnership with the Alberta Native Bee Council. A noteworthy site includes the installations at Reader Rock Garden as there is a heavy human presence. This allows the researchers to see what disturbances may affect bumblebee nesting.
- **Bee hotels**, a type of nesting structure designed for the more solitary bees (versus bumblebees), have been installed both by The City and private citizens. The City is supporting this activity and have shared their most successful design specifications based on the research that occurred as part of the *Calgary Native Bee Project*.

B) Yearly Renewal Fees

There are no fees on the initial application. The fees below apply on the yearly renewal.

Less than 1000 population	FREE
5000 – 10,000 population	\$150
10,001 – 25,000 population	\$200
25,001 – 50,000 population	\$300
50,0001 – 100,000 population	\$400
100,001 – 250,000 population	\$500
250,001 – 500,000 population	\$750
500,001 – 1,000,000 population	\$1000
+ 1,000,000 – population	\$1500

C) Commitments and Actions

I/we, the undersigned, understand that the Bee City Canada program consists of three commitments, and that we will take the indicated actions to support those commitments:

1. ***Creating Healthy Pollinator Habitat:*** Describe your plans to create, improve and maintain pollinator habitat, while reducing or eliminating pesticide use.

The City of Calgary's Urban Conservation Portfolio is responsible for corporate-wide pest control. The *Pest Management Policy* (The City of Calgary forthcoming) guides the management of invasive species on municipal lands. This plan reflects current risks regarding invasive species and challenges in pest management.

The Policy further directs the expansion of non-chemical approach to pest management including mechanical removal, sheep and goat grazing, and biocontrol. The feasibility of controlled burns is also being researched as another tool to control invasive species within Calgary.

Human health and safety is an essential component of any pest management plan. Generally, reducing chemical use improves human health and in turn, improves ecological health. The City of Calgary limits pesticide application to essential use (non-cosmetic). This allows for compliance to senior legislation and protects municipal infrastructure while minimizing risks to human health and safety. In turn, the limited use of pesticides reduces exposure risk to pollinators. The City of Calgary sets an example for other municipalities by standing behind best practices that include not treating weeds for aesthetic purposes. These principles and best practices are reflected in the no-spray/treat areas, *Early Detection/Rapid Response Program* (EDRR), *Biocontrol Program*, *Grazing Program*, steam treatment, educational outreach and integrated approach.

In March 2015, Council approved Calgary's 10-year strategic plan titled *Our BiodiverCity* (The City of Calgary Parks 2015) and the Biodiversity Policy. Within the strategic plan, one of the objectives is to improve the city of Calgary's ecological functions through the restoration of degraded habitats. Various documents have been created to support the strategic plan and improve restoration work within Calgary. These include the overarching *Habitat Restoration Project Framework* (The City of Calgary Parks 2014) and the supplemental documents: *City of Calgary Seed Mixes* (The City of Calgary Parks 2018), *Climate Resilience Strategy Mitigation and Adaptation Action Plans* (The City of Calgary 2018), *Soil Handling Recommendations* (The City of Calgary Parks 2019), forthcoming *City of Calgary Planting Lists* (The City of Calgary Parks 2020) and the forthcoming *Biodiversity Action Plan* (The City of Calgary Parks 2020).

The aforementioned documents address land management practices and restoration practices. Restoring degraded lands benefits native pollinators. *Our BiodiverCity* commits The City to restoring 20% of the City's land base by 2025. Progress is being documented and tracked through a Restoration Application that was developed through Urban Conservation.

A *Corporate Habitat Restoration Program* is being developed to look at efficiencies, funding opportunities and align business units in restoration work. Restoration is also occurring in various other capacities and may not be recognized as such in restoration due to development (e.g., road interchanges) and maintenance activities (e.g., stormpond repairs). The ability to leverage corporate-wide expertise and align priorities will have a large impact on ecosystem health and native pollinator conservation. For example, a new roadway development was able to align with another adjacent

restoration project in Calgary so that a more connected corridor of floral resources was constructed. Aligning corporate-wide restoration priorities and consolidating resources will allow for The City to maximize its positive impact on ecosystem health and pollinator habitat.

Biodiverse Communities is feeding up into the *Corporate Habitat Restoration Program* by standardizing restoration work, using Calgary Parks' process as a guide. This project is also examining community maintenance and looking at opportunities to increase naturalized areas/pollinator habitat. Communications around restoration are being developed for the public to promote restoration options versus more manicured landscapes.

The *Calgary Transportation Plan* indicates how Calgary's transportation network should be designed, maintained and constructed with the goal of biodiversity conservation. The *Centre City Plan Refresh* is looking at how to increase the urban ecosystem health of the existing built environment in downtown Calgary. The proposed pilot capital boulevard naturalization project, the *Centre City Plan Refresh* and the 17th Ave SW median naturalization project support the *Calgary Transportation Plan* and will help inform the *Corporate Habitat Restoration Program*.

The *Calgary Native Bee Project* has expanded its research to look at floral preferences of native pollinators within Calgary. This information can then be utilized during restoration work to provide specific pollinator forage to more specialized species.

The *Biodiversity Action Plan*, which explains how we will implement the Biodiversity strategic plan, provides results based accountability measures in order to ensure that we achieve our biodiversity goals. Through identifying, conserving and restoring areas, especially important ecological cores and corridors, we are able to protect and reconnect ecological networks which leads to greater biodiversity and helps our native pollinators. Preliminary data analysis has indicated that herbicide use has gone down while other forms of invasive species control have increased with time. This aligns with principles in the revised *Integrated Pest Management Plan*.

The *Biodiversity Action Plan* is also looking at how underutilized green spaces may positively contribute to biodiversity and in turn, help pollinators. Areas such as schoolyards can contribute positively to the environment when they are restored to vegetation palettes other than maintained turf grass.

2. ***Educating the public about the importance of pollinators:*** Describe how you plan to educate residents, city staff and others about the importance of pollinators and what people can do to protect them.

The City of Calgary website includes photographs that illustrate how native plants can make an aesthetically pleasing landscape. Citizens may use this information in order to naturalize their own yards. These changes in land management result in the conservation of pollinators. Many small efforts tend to make a large cumulative impact.

Projects that have a restoration component include educational signage that informs the public of the benefits of restoration. The signage also advises on appropriate park usage that does not negatively impact the restoration.

Environmental Education assists in educating the public about the importance of pollinators and their conservation through display tables that align with various City initiatives. For example, these tables are set up in a location where a publically visible restoration has taken place. Alternatively, they may be set up in communities where the biocontrol program has been implemented. The educators then speak to the public about the benefits of the work, with a focus on how The City's initiatives protect and conserve native bee populations.

The media attention has provided opportunities to educate the public about the small changes that they can make to protect pollinators. In addition to radio and television interviews, The City has been involved in various communities discussing pollinator habitat enhancement options and yard naturalization, both through printed material and in the form of presentations. Webinars have also been broadcast through Bee City Canada to promote pollinator conservation using the results from the *Calgary Native Bee Project*.

Environmental Education has many educational opportunities available for citizens of all ages to learn about local pollinators, the importance of pollination and pollinator conservation. In addition to the routine communications that accompany City-based initiatives, these educational events include school programming, day camps and expos. Example programs include Curious Critters and Become a Botanist.

The City of Calgary is also accountable through the BiodiverCity Advisory Committee and the Biodiversity Action Plan. The Committee reviews empirical data based on measurable indicators of how The City has implemented its biodiversity strategic plan. Included in this is the target of 832 ha of restored area by 2025.

The City of Calgary intends to maintain all existing education initiatives that focus on pollinator conservation. Additionally, The City promotes pollinator awareness and protection each year by tying this messaging to a number of park restoration activities and educational events.

A pilot project has already been initiated to use engaging bee-themed signage and displays to encourage communications and discussion about restoration work. Both Canyon Meadows Drive SE and Memorial Drive NW have been indicated as proposed locations due to their proximity to pollinator-friendly restoration work.

3. ***A yearly commitment to celebrate:*** Describe how you plan to celebrate pollinators during international Pollinator Week (third week of June) or at another more convenient time.

The City of Calgary commits to providing approximately three (3) yearly hands-on educational opportunities focused on native pollinator conservation that involve the public. If there is media interest, The City will provide a media spokesperson and associated media support.

Ongoing research collaboration is continuing with Mount Royal University and the University of Calgary. These projects and their associated results will likely be used either to frame the celebration or as part of the celebration content.

D) Other Requirements

I/we, the undersigned agree to:

- 1. Publicly acknowledge Bee City Canada designation through publicly displayed signage, city/region/community website and other means.*
- 2. Annually re-apply for Bee City Canada designation. A renewal application will be sent to you and a fee will apply.*

E) Requested Attachments

With your completed application, please provide:

- 1. A short 50-100 word write-up of what it means to your city to become a Bee City. Include photos if possible. This will help us share the exciting news through our social media outlets.*
- 2. Your city, region or First Nation logo (png format) and any usage guidelines.*

F) Signatures

Applicant

Signature

Director, Calgary Parks
Title

Kyle Ripley
Print Name

December 19, 2019
Date

Bee City Canada Liaison (if not Applicant)

Signature

Urban Conservation Lead
Title

Chris Manderson
Print Name

December 19, 2019
Date

G) Next Steps

1. *(Applicant) Email completed application and resolution (in PDF format) with requested attachments to applications@beecitycanada.org with "APPLICATION" in the subject line.*
2. *(Bee City Canada) Your application will be reviewed within three business days. We will notify you as soon as your application has been approved or promptly request any clarification, if necessary.*

H) Bee City Canada's Commitment

Bee City Canada is committed to publicizing your designation as a Bee City through our website, social media and other channels. In addition, our "Bee City Welcome Package" will be sent to you and will include among other things an official Declaration, recognizing your city or First Nation as a Bee City.

Bee City Canada is grateful for your commitment to take positive actions to help pollinators and for being a role model for other communities across Canada.