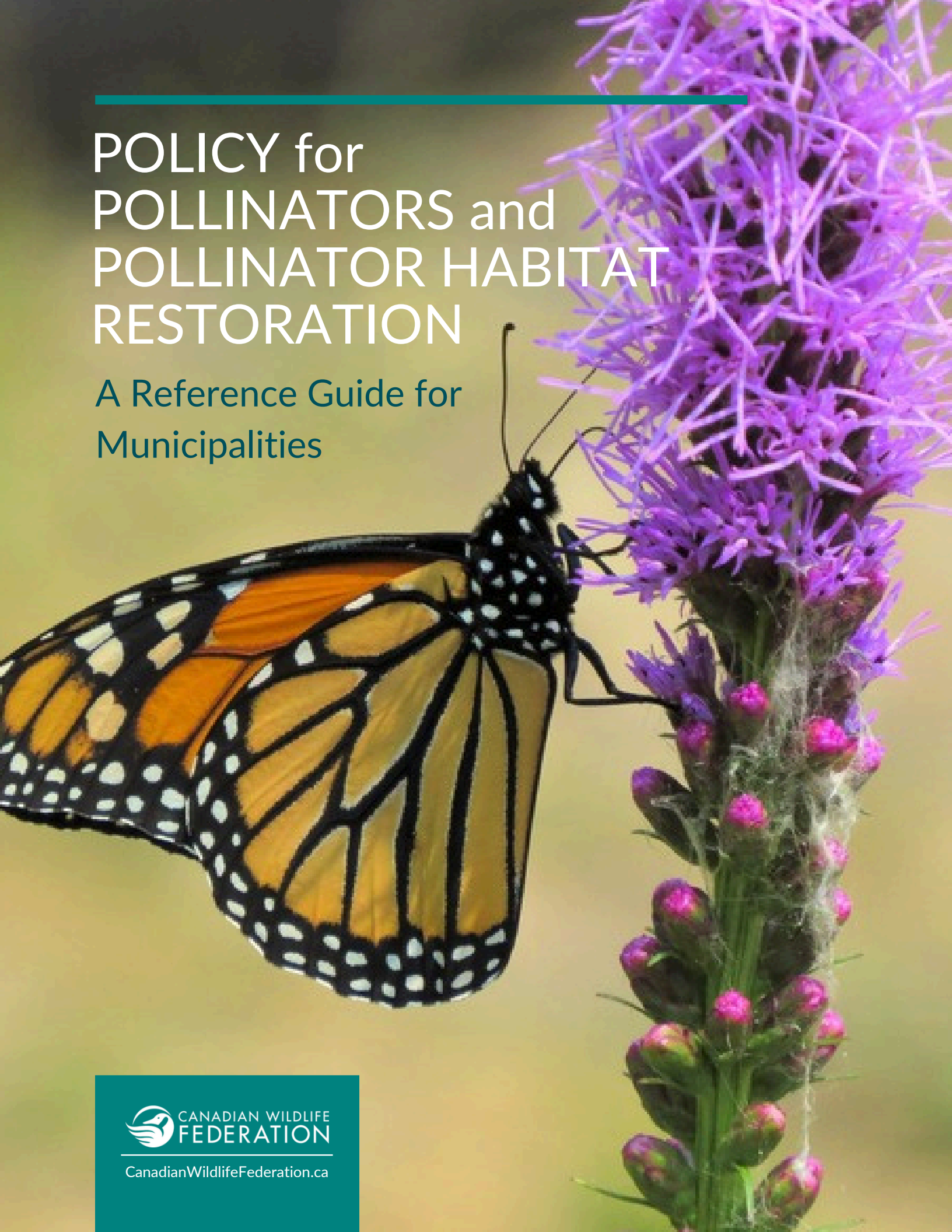

POLICY for POLLINATORS and POLLINATOR HABITAT RESTORATION

A Reference Guide for Municipalities

CANADIAN WILDLIFE FEDERATION

CanadianWildlifeFederation.ca

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Purpose of this Guide

The purpose of this guide is to outline the primary and significant benefits that pollinators and their native habitats provide to municipalities.

1. Viable pollinator populations improve food security.
2. Established native plant communities provide many natural services such as:
    - resiliency against invasive species
    - aiding storm response (reduce flooding)
    - increased carbon sequestration as a result of of their deep root networks
3. Rights-of-way with established native plant communities require less mowing than turf-grass, making native plants a climate-smart choice.

This guide also shows municipalities how pollinators can be a focus for greener policies and practices that reduce long-term operation costs and deliver biodiversity preservation goals for future generations.

Pollinator policy templates are provided for:

1. Official Plans
2. Biodiversity Plans
3. Climate Action Plans
4. Rights-of-Way Practices
5. Parks and Greenspace Plans
6. Development Policies
7. Sustainability Plans

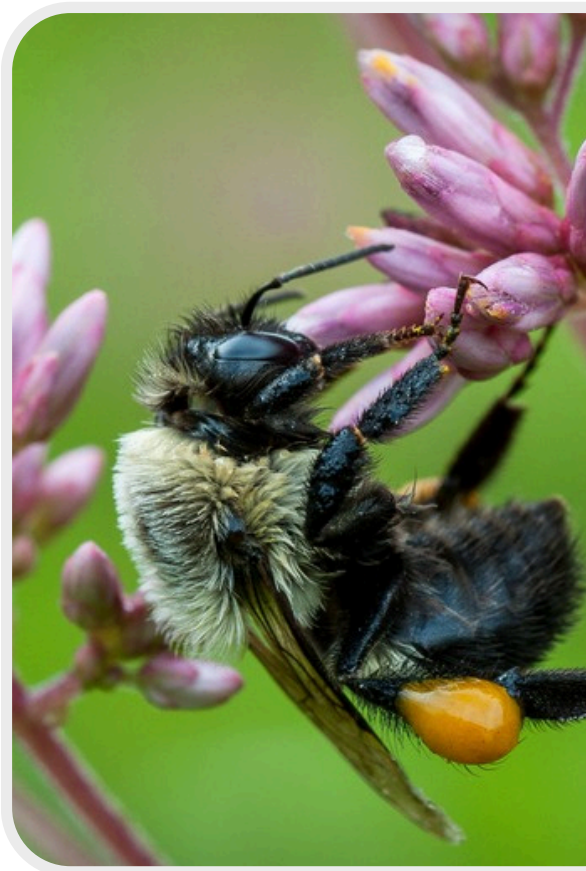
Adopting pollinator-conscious policies will help municipalities contribute to Canada's international commitments to preserve biodiversity and reduce carbon emissions.

Importance of Pollinators

Pollinators are essential to life on Earth.

This diverse group which includes bees, flower flies, butterflies, moths, wasps, beetles, hummingbirds and bats provides an irreplaceable natural service. The service of pollination occurs as pollen grains are transferred from one flower to another. Although some plants may self-pollinate or disperse their pollen in the wind, most seed and fruit-bearing plants require pollination assistance from animals — particularly insects — to reproduce.

Pollinators are equipped with specialized physical features that allow them to do this work. Some species can pollinate a variety of flowers, whereas others pollinate only certain plants. The plants and pollinators that form specialized relationships are more at risk of disappearing. Specialist pollinators can't access nectar and pollen from any other plants, and some plants also need a specific partner in order to produce seeds.



In addition to the reliance of natural habitats on pollinators for plant reproduction, humans rely on animal pollination to produce most of the fruits, vegetables and nuts that we consume. **Looking at the entirety of global food production, pollinators are essential for at least 35 per cent.** However, a full three-quarters of the plants that produce vitamin-rich crops like fruits, seeds, and vegetables all depend on pollinators to some extent. Pollinators also provide direct support to the meat and dairy industries because they pollinate key forages that are fed to livestock.

The full suite of pollination services needed by crops and ecosystems requires a diversity of pollinating species. Although honey bees are adapted to some of the crop pollination in agricultural areas, native pollinators are absolutely necessary for natural areas, native plants and home gardens.

Importance of Pollinators

Pollinator populations are declining significantly in Canada and around the world. **A full 20 per cent of North American pollinators are at risk of extinction.** This risk of extinction isn't just for rare species, and is highest among the bees. Loss of pollinators is part of the wider dramatic decline of insects which is having negative consequences for ecosystems and their services.



The main causes of their decline are habitat loss, pesticide use and climate change. It's imperative to support pollinators through collective action, because the loss of native pollinators will be seriously detrimental to ecosystems, food security, and industries that use plant materials.

Municipalities are on the front lines of native biodiversity protection.

How municipalities manage their lands and construct by-laws has significant impacts on pollinators.

By recognizing, protecting, restoring and promoting pollinator habitat on both public and private land, **municipalities can support long term positive effects on pollinators** and other wildlife present in their communities.

Such actions can decrease municipal costs while also increasing native biodiversity and supporting the goals of the federally adopted Global Biodiversity Framework.

Benefits of Pollinator Habitat

By restoring and creating pollinator habitat using native shrubs and wildflowers, municipalities can significantly enhance native biodiversity, reduce costs, and contribute to municipal carbon and climate change goals. Some examples of these benefits are listed below.



1.Viable pollinator populations are necessary for food security.

Native pollinators contribute to the pollination requirements of field and greenhouse crops. Providing nesting habitat and flowers for pollinating insects helps to ensure their survival between crop blooms, and in areas where food could be grown in the future.

2. Established native plant communities are more resilient against invasive species.

Invasive species often require ongoing control to prevent habitat damage. Municipalities can reduce their need to control invasive species populations, and the associated costs of management, by restoring native wildflowers and grasses.



Benefits of Pollinator Habitat

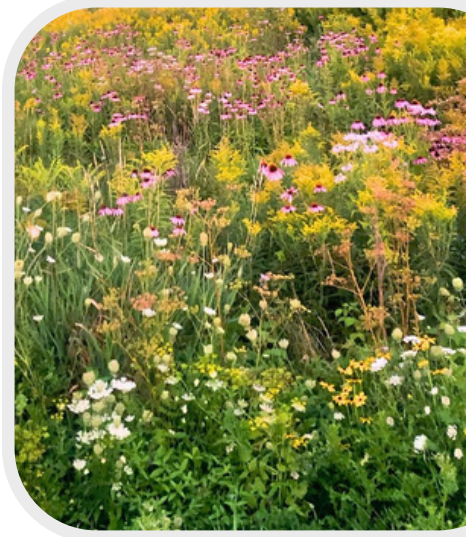
3. Established native plant communities can aid storm response.



Native grasses and herbaceous plants have deep roots. This helps them to hold soil, allowing them to reduce the erosion potential of an area. Native plants also aid storm response by capturing, slowing and filtering stormwater.

4. Established native plant communities sequester more carbon and require less mowing than turf grass—making them a climate-smart choice.

Native plants' deep root systems sequester more carbon in the soil than turf grass dominated areas, because of their deep roots. Areas with established native meadow species also require less mowing, thus reducing maintenance-related carbon emissions.



Benefits of Pollinator Habitat



5. Rights-of-Way with established native plant populations require less ongoing maintenance.

Native plants are slower growing than turf grass mixes, and so require less frequent mowing. Once established, native plants along rights-of-way (ROW) are also more resilient to drought and flooding than turf grass. This suggests that ROW seeded with native species may also be more resilient as climate changes.

6. Pollinator-conscious policy allows municipalities to contribute to Canada's international commitments.

On a federal level, Canada has committed to a number of biodiversity and restoration agreements such as the Kunming-Montreal Global Biodiversity Framework (2022) and the Bonn Challenge (2011). Enacting relevant policy on the municipal level can cumulatively make a big impact, and help Canada to meet and surpass its goals!



Benefits of Pollinator Habitat

7. Native plant communities help to support biodiversity and good functioning of ecosystems.

Plants, pollinators and soil microbes provide the essential basis of terrestrial food chains. As such, they are foundational to the health of ecosystems and their resilience against the effects of climate change. Urban and rural landscapes with well-established native plant communities provide habitat for thousands of species, including amphibians, birds, mammals, and other beneficial insects.

When biodiversity is lost, the consequences — such as reduced air and water quality, increased erosion, and invasive species proliferation — can be expensive and difficult to remediate.

Pollinators and their habitat are tremendously important for native biodiversity and the natural services of ecosystems that affect food security and the economy.



POLICY for POLLINATORS and POLLINATOR HABITAT RESTORATION

Recommended Templates

CANADIAN WILDLIFE FEDERATION

Policy Templates for Pollinators

By creating policies for pollinators, municipalities can help to recognize, protect, create, restore and promote pollinators and their habitat while also saving costs.

This section provides policy template examples that will help your municipality to support pollinators and pollinator habitat. Opportunities to build considerations for pollinators into policy may present themselves in a document or by-law different than our examples. However, your municipality can still use these templates and wording to create phrasing that is most appropriate for your respective policy!



Many towns and cities have incorporated policies for pollinators into their various municipal plans. Some have gone even further by writing strategies specific to pollinator conservation.

Examples in the following section are based on the Canadian Wildlife Federation's knowledge of native pollinators, native plants and pollinator policies throughout Ontario. If adopted, each policy excerpt will help to build a foundation for improving native plant and pollinator communities.

Why Official Plans?

Writing pollinator commitments into official plans is a great first step towards ensuring that pollinator abundance is addressed for a decade. Incorporating verbiage related to pollinators will help to direct and encourage various municipal departments and the public to think about pollinators in their daily actions.

Pollinators can be mentioned several times throughout an Official Plan and do not need to be limited to the Environmental section.

If your City/Township is reviewing its Official Plan, conducting consultations on future long-term policies or creating land use plans, use or suggest the following template.



Template for Official Plans:

The City/Township recognizes the importance of pollinators to ecosystem functioning, native biodiversity, food security, culture and the economy. The City/Township will thus support the recognition, conservation, creation, restoration and connectedness of pollinator habitat while also promoting the use of native plants, like wildflowers, the reduction of pesticide use or harm on public and private property, and the adoption of pollinator-conscious mowing and other landscaping practices to encourage pollinator health.

Biodiversity Plans



Native meadow habitat restored with assistance from the Canadian Wildlife Federation. Photo by Kathryn Arthur.

Why Biodiversity Plans?

Pollinators contribute to biodiversity and ecosystem functions in both urban and rural landscapes. Without pollinators, most flowering plants would be unable to reproduce. And thus, many other species would lose their food sources. Therefore, it is necessary to add measures for pollinators to Biodiversity Plans.

Biodiversity Plans



If your City/Township is reviewing its Biodiversity Plan, greenspace policy, open space policy, conservation policy, restoration policy, ecological land management policy, or habitat protection policy, use or suggest the following template.



Template for Biodiversity Plans:

Pollinators — including bees, flower flies, butterflies, moths, wasps, beetles and hummingbirds — are essential to ecosystem functioning, native biodiversity, food security, culture and the economy. The recent widespread decline of pollinator populations due to habitat loss, pesticide use, and climate change threatens all of the above. To encourage pollinator health and abundance, the City/Township will recognize, conserve, create, restore, connect, and promote pollinator habitat through the use of native plants; restoration and naturalization of lands in parks, open spaces and roadsides; reduction of pesticide use or harm; use of pollinator-conscious mowing and other landscaping practices; provision of pollinator related resources and training to relevant staff; and formation of internal and public pollinator awareness campaigns.

Why Climate Action Plans?

If municipalities are to meet ambitious greenhouse gas emission targets, changes to operations must be made. One change that could support pollinator populations would be to reduce or eliminate municipal mowing practices on rights-of-way, parks, green spaces, and other areas where appropriate. Doing so will reduce the emissions associated with mowing, and, where native plants replace turf grass, improve carbon sequestration.

If your City/Township is reviewing its Climate Action Policy, Climate Change Mitigation Plan, sustainable development policy, green infrastructure policy, carbon policy or Climate Adaptation Plan, use or suggest the following templates.





Template for Climate Action OPTION ONE:

The City/ Township will reduce mowing frequency and area while increasing mowing height when possible in rights-of-way, parks, greenspaces, and other appropriate lands to help support pollinator health and abundance while promoting native biodiversity, the use of native plants, reduced pesticide use or harm, and the creation and restoration of habitat for pollinators and other wildlife, in these areas.

If your City/Township does not have pollinators mentioned in any other policy use the template below.

Template for Climate Action OPTION TWO:

Pollinators — including bees, flower flies, butterflies, moths, wasps, beetles and hummingbirds — are essential to ecosystem functioning, native biodiversity, food security, culture and the economy. The recent widespread decline of pollinator populations due to habitat loss, pesticide use, and climate change threatens all of the above. To encourage pollinator health and abundance, the City/Township will recognize, conserve, create, restore, connect, and promote pollinator habitat through the use of native plants; restoration and naturalization of lands in parks, open spaces and roadsides; reduction of pesticide use or harm; use of pollinator-conscious mowing and other landscaping practices; provision of pollinator related resources and training to relevant staff; and formation of internal and public pollinator awareness campaigns. To reduce carbon emissions, enhance carbon sequestration and meet climate and biodiversity goals, the City/Township will also reduce mowing frequency and area while increasing mowing height, when possible, in rights-of-way, parks, greenspaces, and other appropriate lands.



Caterpillar on Blue Vervain. Photo by Vicky Papuga.

Why Integrated Pest & Integrated Vegetation Management Plans?

Pest and vegetation management protocols are often necessary to maintain the health and safety of residents. However, when inappropriately designed or implemented, they can have significant long-lasting negative impacts on native pollinators and other wildlife. When pesticides or herbicides are deemed necessary for the control of invasive species or to remove undesired vegetation prior to restoration with native plants, those chemicals should be chosen and used with care. Pest and Vegetation Management Plans should minimize harm to non-target plants and wildlife by including site-specific assessments, selective chemical application protocols, up-to-date training of staff, and ongoing site monitoring.

IPM & IVM Plans

If your City/Township is reviewing its Integrated Pest Management or Integrated Vegetation Management Plan or by-laws, or if chemical use concerns are being brought forth by communities, municipal discussions about pollinators are occurring, or out-sourced contracts are being renewed, use or suggest the following templates.



Template for IPM & IVM Plans:

The City/Township recognizes the importance of pollinators to ecosystem functioning, native biodiversity, food security, culture and the economy. The City/Township also acknowledges the harm that pesticide applications can cause to pollinator populations. To minimize the negative impacts on non-target species such as pollinators: pesticide applications or the harm done to non-target species will be reduced or ceased when possible, equipment will be cleaned before transfer between sites to reduce invasive species transmission, traditional and ecological management practices will be incorporated, and integrated pest management strategies will be utilized. IPM includes site-specific assessments of risk and alternative management practices to best tailor treatments; ongoing monitoring of application areas and others of concern; and selective spraying of harmful or invasive species versus broadcast applications. To ensure informed planning and implementation of the best alternative management practices, all involved staff will receive relevant internal and external educational materials, and training whenever possible.

Template for IPM & IVM Plans continued:

Removing undesired species through pesticide applications may not be sufficient to prevent them from returning.

Thus, the City/Township will also conduct habitat restoration on these lands, using native plants, to prevent greater establishment of invasive or harmful species and to benefit pollinator populations. Pesticide applications and invasive species sites will be documented and monitored continually to ensure the success of alternative management practices, invasive species control, and restoration. The City/Township will inform the public through letters to landowners and website notices about any pesticide applications and display interpretive signage for the public at restoration sites whenever possible.



Native meadow habitat on right-of-way restored with assistance from the Canadian Wildlife Federation. Photo by Aaron Root.

Clear incorporation of Rights-of-Way Best Practices is necessary in IPM and IVM Plans

Rights-of-way are traditionally heavily managed areas, but they have excellent potential to provide high quality pollinator habitat when managed appropriately.

Template for Rights-of-Way Practices:

Managing rights-of-way is important for safety and the control of invasive species, but many management practices can be harmful to pollinators and their habitats. The promotion of native plant establishment along roadsides has many benefits including the creation of pollinator habitat, enhanced habitat connectivity, improved soil health, reduced erosion, improved water quality, enhanced storm water response, improved drought resilience, reduced snow drift, increased native biodiversity, and competition against invasive species. Through alternative management practices, pollinator habitat can be protected, restored, connected or created while management costs and carbon emissions are reduced. The City/Township will use pollinator-conscious rights-of-way management practices such as reduced mowing; alternate mowing times that correspond with pollinator and native wildflower life cycles; avoidance of mowing before 9 a.m. and after 6 p.m. when pollinators are least active; mowing only the necessary area of roadsides to maintain safe wildlife sight lines; adjusting the height of mowing blades to provide higher clearance for native vegetation; seeding native plant species; and using pesticides selectively when necessary.

Why Parks Plans?

Municipal parks are one of the main ways that community members experience nature — especially with the rise in urbanization and population density. By incorporating pollinators and their habitat into Parks Plans, your municipality can ensure that the public becomes familiar with the look of natural pollinator habitat, and has valuable personal experiences with pollinators as wildlife.

If your City/Township is reviewing Parks or Greenspace policy, considering restoration activities in parks, planning and developing new parks, discussing habitat connectedness, or creating outdoor education programs, use or suggest the following template. To strengthen impact further, couple with the Pest and Vegetation Management templates.



Template for Parks and Greenspace:

The City/Township recognizes the importance of pollinators to ecosystem functioning, native biodiversity, food security, culture and the economy. The City/Township will thus support the recognition, protection, creation, restoration, and connection of pollinator habitat in municipal parks and greenspace while promoting the use of native plants, like wildflowers, the reduction of pesticide use or harm, the establishment of pollinator-friendly gardens, and the use of integrated pest management practices. The City/Township will support the installation of interpretive signage in pollinator habitat on municipal lands, when possible, to help the community learn about native plants and pollinators.

Development Policies



Native meadow habitat restored with assistance from the Canadian Wildlife Federation. Photo by Vicky Papuga.

Why Development Policies?

Habitat loss is one of the main causes of pollinator population decline globally, with land development being a predominant driver of habitat loss in municipalities. Although development is necessary to meet community demands like access to housing, it is imperative to minimize harm to native pollinators and other wildlife. Municipal development policy needs to incorporate habitat conservation, creation, and promote habitat connectedness to ensure healthy ecosystems for residents and future generations. New developments and redevelopments are excellent opportunities to use best practices for native plant and wildlife conscious landscaping.

If your City/Township is reviewing its Development Plans, Development proposals, Development by-laws, or Municipal and Road Construction Plans, use or suggest the following template. ***To increase the benefit of the template below you can also require developers to use a minimum percentage of native plants when landscaping (50%, 75%, or 100%).***



Template for Development Policies:

The City/Township recognizes that pollinators — including bees, flower flies, butterflies, moths, wasps, beetles and hummingbirds — are essential to ecosystem functioning, native biodiversity, food security, culture and the economy. The City/Township also recognizes that habitat loss, like that caused by development, is one of the main drivers of pollinator population decline. To minimize harm to pollinators and other wildlife caused by habitat loss, the City/Township will promote habitat connectedness in all its landscaping and will require new developments and re-developments on municipal property to use only native and locally appropriate seed and plants whenever possible. Development and redevelopment on private property will be strongly encouraged or incentivized to use native and locally appropriate seed and plants in all landscaping. Development and redevelopment proposals must include a list of the plants intended for landscaping to ensure that biodiversity is promoted and invasive or harmful species are excluded.

Along newly developed or disturbed roadsides the City/Township will restore rights-of-ways using locally relevant native seed mixes instead of turf grass whenever possible.

Sustainability Plans



Why Sustainability Plans?

Pollinators are greatly impacted by land use change and management practices such as development, mowing and pesticide/ herbicide applications. Remember that pollinators and their habitats provide considerable ecosystem services that help municipalities improve their sustainability, reach carbon targets and reduce their costs.

This is the most comprehensive template!

Sustainability Plans

If your City/Township is reviewing its Sustainability Plan, sustainability policy, green infrastructure policy, urban planning policy, storm water management policy, land management policy or procurement policy, use or suggest the following template.



Template for Sustainability Plans:

The City/Township recognizes that pollinators - including bees, flower flies, butterflies, moths, wasps, beetles, and hummingbirds - are essential to ecosystem functioning, native biodiversity, food security, culture and the economy. The recent widespread decline of pollinator populations due to habitat loss, pesticide use and climate change threatens all of the above. To ensure a sustainable future, viable pollinator populations are essential. To encourage pollinator health and abundance, the City/Township will recognize, conserve, create, restore, connect and promote pollinator habitat through the use of native plants; restoration and naturalization of lands in parks, open spaces, and roadsides; reduction of pesticide use or harm; use of pollinator-conscious mowing and other landscaping practices; provision of pollinator related resources and training to relevant staff; and formation of internal and public pollinator awareness campaigns.

Managing rights-of-way is important for safety and the control of invasive species, but many management practices can be harmful to pollinators and their habitats. The promotion of native plant establishment along roadsides has many benefits including the creation of pollinator habitat, enhanced habitat connectivity, improved soil health, reduced erosion, improved water quality, enhanced storm water response, improved drought resilience, reduced snow drift, increased native biodiversity, and competition against invasive species. Through alternative management practices, pollinator habitat can be protected, conserved, connected or created while management costs and carbon emissions are reduced.

Template for Sustainability Plans continued:

The City/Township will use pollinator-conscious rights-of-way management practices such as reduced mowing; alternate mowing times that correspond with pollinator and native wildflower life cycles; avoidance of mowing before 9 a.m. and after 6 p.m. when pollinators are least active; mowing only the necessary area of roadsides to maintain safe wildlife sight lines; adjusting the height of mowing blades to provide higher clearance for native vegetation; seeding native plant species; and using pesticides selectively when necessary.

Along newly developed or disturbed roadsides the City/Township will restore the rights-of-way area using locally relevant native seed mixes instead of turf grass whenever possible.

To aid in the establishment of pollinator-conscious management practices, pollinator habitat, strong pollinator populations and enhanced pollinator health, the City/Township will network and create partnerships with organizations and community groups that have pollinator expertise. The City/Township also will support the installation of interpretive signage in pollinator habitat on municipal lands, when possible, to help the community learn about native plants and pollinators.

To minimize harm to pollinators caused by habitat loss, the City/Township will promote habitat connectedness in its landscaping and will require new developments and re-developments on municipal property to use only native and locally appropriate seed and plants whenever possible. Development and redevelopment on private property will be strongly encouraged or incentivized to use native and locally appropriate seed and plants in all landscaping. Development and redevelopment proposals must include a list of the plants intended for landscaping to ensure that biodiversity is promoted and invasive or harmful species are excluded.



Embracing Milkweed

Removing native milkweed from noxious weed acts is a powerful example of how modern regulatory frameworks can be adjusted to better support pollinators.



Photo by Ashlee Marie (Unsplash)

For example, Ontario amended its Weed Control Act to remove Common Milkweed (*Asclepias syriaca*) from the official weed list. This action has allowed gardeners, municipalities, parks and conservation groups to cultivate native milkweeds without facing legal liability.

Whereas milkweed was once considered noxious or a problematic weed, it is now being re-planted and allowed to establish throughout North America to help recover declining Monarch butterfly populations.

Milkweed is a beneficial wildflower - a perennial herb that provides abundant nectar for pollinators and the sole food source for Monarch butterfly caterpillars. There are 14 species of milkweed found throughout Canada, in all provinces except Newfoundland and Labrador and the territories. Most milkweed species are currently classified as uncommon or rare, but they are starting to make a comeback through intentional planting efforts.

Planting milkweed is critical to supporting the Endangered Monarch butterfly.

Concluding Remarks

Municipalities are on the front lines of native pollinator and biodiversity protection.

Municipal policies directly affect the health of residents, pollinators, and other wildlife. By enacting pollinator-conscious policy, municipalities can help combat and reverse the drastic effects of habitat loss, pesticide use, and climate change on biodiversity.

Pollinators provide an invaluable and irreplaceable service that permits human survival. Their health and abundance is vital for functioning ecosystems, native biodiversity, food security, culture and the economy.

Protecting natural habitats and naturalizing green spaces is a key priority for improving pollinator populations. Planting native milkweeds in restored areas is necessary to help recover Endangered Monarch butterflies.

Together we can protect pollinator habitat and increase pollinator populations!

By incorporating these templates into your municipal policies, you can promote significant increases in the abundance of local pollinators and other wildlife! We've also included some additional resources to aid your efforts. If you have any questions or comments, contact us at **rownetwork@cwf-fcf.org**.





Glossary

Biodiversity: the variety of all life-forms on earth and the variability within them. Biodiversity encompasses the variation of genes within each life-form, the variety of life-forms within a natural region, and the variety of habitats within an area of land or water.

Carbon sequestration: the process by which carbon dioxide in the atmosphere is captured and stored. For example, plants absorb carbon dioxide through photosynthesis, and convert it to sugars for their own growth. Plants also secrete excess carbon from their roots into the soil, which is why soils are the second most significant carbon storage area on Earth.

Climate change: long-term alteration of temperature and weather patterns. Human industry and the use of fossil fuels have been the main driver of climate change since the 1800's.

Ecosystem: a network of living organisms interacting with each other and their physical environment. Examples: tall-grass prairie ecosystems, Carolinian forest ecosystems.

Ecosystem functioning: ecosystems are important in terms of the functions they carry out. The collective life activities of plants, animals, and microbes contribute to broader physical, chemical, and biological processes that occur within an ecosystem to cycle energy, nutrients, and organic matter. Terrestrial life is maintained through ecosystem functioning.

Ecosystem services: ecosystem functions that are directly linked to human well-being. Pollination is an ecosystem service that results from the life activities of pollinating organisms, which allow food crops to set seed and produce fruit. Ecosystem services can also be regulatory - wetlands absorbing and filtering pollutants from run-off, plant roots reducing soil erosion, dense dry plant stalks reducing snow drift, etc.

Greenhouse gas: gases such as carbon dioxide and methane that trap heat in the atmosphere, thereby raising the Earth's surface temperature.

Invasive species: a life-form that is not native or indigenous to a particular area, and that harms its new environment. For example, *Phragmites australis* subsp. *australis* (Common reed) is invasive in Ontario, as it grows in dense stands and crowds out other plants.

Native plant: a wild plant that is indigenous to a particular area or occurs naturally without the help of humans. As a result, native plants are well-adapted to their surrounding environmental conditions (temperature, moisture, soils).



Resources

Rights-of-Way Management and Habitat Restoration

- **MANAGING RIGHTS-OF-WAY FOR POLLINATORS: A Practical Guide for Managers** by the Canadian Wildlife Federation
- **Rights-of-Way Webinars** and **Annual Rights-of-Way Workshop Recordings** by the Canadian Wildlife Federation
- **Restoring Pollinator Habitat on Rights-of-Way Workshop Summary Report— Highlights and What We Heard** by the Canadian Wildlife Federation
- **Routes to Pollinator Habitat Restoration** by the Canadian Wildlife Federation
- **Creating Monarch and Pollinator Habitat** by the Canadian Wildlife Federation
- **Native Seed Selection** and **Native Seed Calculator and Companion Guide** by the Canadian Wildlife Federation
- **Organic Site Preparation Methods for Wildflower Establishment** by Xerces Society for Invertebrate Conservation
- **Roadside Best Management Practices that Benefit Pollinators** by the U.S. Department of Transportation Federal Highway Administration

Invasive Species Removal

- **Best Management Practices for Invasive Species Removal in Ontario** by the Ontario Invasive Plant Council
- **Creating an Invasive Plant Management Strategy: A Framework for Ontario Municipalities** by the Ontario Invasive Plant Council



Resources

Pest Management and Pesticides

- **Protecting Pollinators during Pesticide Spraying – Best Management Practices** by the Government of Canada
- **Smarter Pest Management: Pollinator Protection for Cities and Campuses** by Xerces Society for Invertebrate Conservation

Equipment Cleaning

- **Clean Equipment Protocol for Industry** by the Ontario Invasive Plant Council (full version)
- **Clean Equipment Protocol for Industry SUMMARY** by the Ontario Invasive Plant Council

International Commitments

- **The Bonn Challenge**
- **Kunming-Montreal Global Biodiversity Framework**
- **30 by 30 Nature Conservation Goals**

Native Plant Guides

- **Native Flowers of the St. Lawrence Lowlands Guide** by the Canadian Wildlife Federation
- **Canada Planting Guides** by the Pollinator Partnership Canada

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A Reference Guide for Municipalities

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