



ENHANCING BIODIVERSITY IN PRIVATE PROPERTY: A TOOLKIT FOR LOCAL GOVERNMENTS

In partnership with:





Purpose of the toolkit

This toolkit is intended to help local governments encourage and support biodiversity on both private property and on publicly-owned and privately-maintained property, such as right-of-ways. With private yards making up a significant portion of the urban environment, increasing their biodiversity from monocultures of turf grass to more varied and ecologically rich species offers many benefits. However, while many local governments have goals and objectives related to protecting the environment, many of these same local governments also have municipal codes and by-laws which inhibit the ability of individuals to grow plants other than clipped turf grass on their property. This toolkit provides examples of the many benefits that naturalized yards offer, and debunks and clarifies common concerns and misconceptions about biodiverse yards. This tool also includes a self-diagnosis survey that local governments can use to identify whether and how their own municipal codes and ordinances may prevent biodiverse naturalized property. The “Build-Your-Code” section of this toolkit provides examples of codes which allow for or promote naturalization. Finally, the toolkit provides examples of programs which both educate and provide incentives for the conversion of lawns from turf grass to biodiverse species, as well as some helpful resources for further viewing.

BENEFITS OF NATURALIZED YARDS

Replacing conventional turf grass with a naturalized lawn including an array of different plant species selected for their ecological richness helps produce many benefits! Some of these benefits include:

Increased pollinator habitat

Increasing pollinator-friendly plants provides habitat and food for pollinating insects, such as bees and butterflies. Pollinators are vital for the health of local ecosystems and even for the production of many edible crops [2][3].

Increased stormwater filtration & improved water quality

By planting species with deeper root systems, naturalized gardens can also aid in the filtration of stormwater and improve water quality [4].

Increased habitat corridors

Naturalized yards provide habitat for species to either migrate through cities, or access habitats across their ranges [5][6].

Increased biodiversity benefits

Increasing the biodiversity of urban ecosystems provides many benefits, including increased population resilience, increased ecosystem services, and even the potential for reduced zoonotic diseases transmitted by reducing the prevalence of host species [7][8].

Reduced use of fertilizers, insecticides, and herbicides

Conventional lawns require the use of fertilizers, insecticides, and herbicides to maintain their lush green appearance. Replacing turf lawns with a more naturalized yard can reduce the need for the chemical application, improve water quality and reduce the level of toxic chemicals in the environment [9][10].

Reduced water use

In the United States, lawns cover a total land mass three times larger than that of any irrigated crop, and watering the entire land mass of turf lawns would put enormous pressure on water resources. Switching to lower input species mixes would reduce the need to use water for irrigation [11].

Reduced greenhouse gas emissions

By requiring little to no mowing, naturalized yards require less use of gas-powered lawn mowers. This results in fewer greenhouse gas emissions [10][11].

Cost savings

Reduced use of lawn care resources not only benefits the environment, but can also result in cost savings over time [10][12]!

Role of Local Governments

Urbanization is attributed to harmful effects on biodiversity. Therefore, it is imperative for local governments to foster frameworks that support urban biodiversity and conservation practices. Urban biodiversity has many benefits such as ecosystem services, climate adaptation, stormwater management, and the improvement of human well being and experience [1].



SPECIAL CONSIDERATIONS



Legal considerations

The toolkit framework provides an idea on what could be implemented for your local government. Local governments should consult with their internal legal teams to identify the appropriateness of any code changes or updates.

Local and cultural considerations

It is imperative to consider the local population when implementing naturalized lawns in your municipal framework. Facilitating and incorporating multicultural ethnic and indigenous knowledge are essential in formulating an inclusive framework. This can be done by conducting public engagement and education opportunities to help communities understand the importance of biodiversity.

Environmental and safety considerations

Consider ways to harness additional benefits of biodiversity in government and community programs.

For example, certain plants and ground coverage are better at containing lead dust and limiting human exposure to lead. Lead poisoning is a serious health concern, particularly for children. Lead may be found in the soil surrounding the foundation of older buildings, from aging lead-based paints. Further resources on how plants can combat lead contamination can be found [here](#), [here](#) and [here](#).

Another example is well-designed rain gardens, which can gather stormwater that lands on impervious surfaces, such as an individual's roof or driveway, and aid in stormwater management. Resources on the benefits of rain gardens can be found [here](#).

CONCERNS & CLARIFICATIONS

Debunking the myths around naturalized gardens

Despite the benefits of natural yards discussed above, there are many myths and concerns that prevent or discourage local governments and residents from developing natural yards. Such concerns are often rooted in misinterpretation or can be easily mitigated. Below are some of the most commonly cited concerns against natural yards, along with clarifications for why each concern may not be such an issue after all. These concerns and clarifications are largely based on resources by Pennsylvania State University [13] and research by Bret Rappaport [14].

Concern	Clarification
Naturalized yards are fire hazards.	This concern stems from the belief that tall grasses and wildflower stems are flammable. However, according to the U.S. Forest Services, grass fires can only last for about 20 seconds. For a fire to damage a house, it must burn for 7.5 minutes, and has to be within 4 feet of the house. Usually, these fires would not have sufficient embers that could be carried by wind to cause any serious damage. Even in the arid west, native perennials are often still fire resistant as they remain mostly green all year.
Naturalized yards attract vermin.	While not a zoological term, “vermin” often refers to unwanted species which can be vectors of disease, such as rats, or can be potentially venomous, such as snakes. Rats are often attracted to sources of human-produced food like corn, grain, pet food, and food scraps, not necessarily the rich vegetation found in natural yards. Snakes may find habitat within both natural and monoculture turf yards, but can add value by eating other, true pests, such as mice, harmful insects, and slugs.
Naturalized yards host mosquitoes.	Mosquitoes are attracted to stagnant water, not naturalized yards. Stagnant water is actually more often a problem in monoculture turf grasses which are not as good at soaking up water during heavy rains as natural yards.
Naturalized lawns worsen seasonal allergies.	Hay fever is caused by wind-borne pollens, and some flowering plants are pollinated by insects, not wind. Although ragweed sometimes causes hay fever, other plants such as the ones utilized in monoculture turf lawns (Kentucky bluegrass, Bermuda grass, and Timothy) also cause allergies. Many native plant species such as perennials and other native grass species do not have wind-borne pollen, reducing their capacity to induce allergies.
Naturalized lawns may decrease property values if they are messy and unattractive.	This is not always the case. In fact, naturalized landscaping can sometimes even increase property values. Developers often highlight such landscaping in new developments, and will charge a premium for them. Woodland corridors can also increase the natural features of a community and make it unique. Given the ongoing housing crisis in multiple jurisdictions, the promotion of equitable housing access is also often a higher priority and differentiator than maintaining high property values.
Naturalized yards require too much time and maintenance.	All types of yards require time and maintenance, and any change requires an additional investment of time or money. In 2020, the average American spent an average of over 16 minutes a day on lawn and garden care from May to December ([3]). In some cases, alternatives to monoculture turf grass require less maintenance work. For instance, clover lawns can be a more sustainable option than monoculture turf grass but do not require the same amount of mowing or watering. Maintenance can also be a rewarding experience, and many people find pleasure in gardening.

SURVEY TOOL

The following code analysis survey was created based on research done in the 2021 report “Urban Biodiversity: Cultivating Support Through Municipal Code.” This report examined how municipal codes create barriers to achieving urban biodiversity on private property and how these barriers can be overcome. Specifically, it highlighted the complexity of codes in local government and the specific barriers each one must overcome to legally allow naturalized yards. Common themes were found amongst North American codes, but to properly create and implement policies and plans that support naturalized yards, individual research must be done on a government by government basis. This is why the code analysis survey tool has been created.

This survey is for local governments who are wanting to conduct a self-diagnosis on the barriers to biodiversity within their own codes. The survey has 26 questions that analyze seven key areas. These key areas include biodiversity strategies; grass and weeds codes; enforcement strategies; justification of codes; publicly-owned privately-maintained spaces strategies; condos, apartments and homeowner associations; and other impactful regulations.

After completing the survey, use the resources in the toolkit to reduce the barriers identified and take advantage of new opportunities.



BIODIVERSITY STRATEGY

1. Does your local government have any commitments, strategies, policies, or plans related to increasing biodiversity or ecological resilience within its jurisdiction?

YES

NO

a) If so, does the strategy, policy or plan include consultation with indigenous communities?

YES

NO

b) If so, does it outline how private property and private yards are part of the biodiversity strategy, policy, or plan?

YES

NO

2. Does your local government have any data, statistics, or estimates of how much total land mass is made of private yards, or publicly-owned privately-maintained spaces?

YES

NO

GRASS AND WEEDS CODE

3. Does your local government have any code provisions that address grass and weeds maintenance, or exterior property maintenance?

YES

NO

a) If so, do the provisions include a maximum height limit for grass and/or weeds? If so, are the provisions clear about what plants are included or exempted from this requirement?

YES

NO

4. Does the code use any of the following words or phrases: weeds, flower, shrub, garden, lawn, overgrowth, negligence, unkempt, adequately maintained, visual blight, or any other wording or phrase used to describe the state of homeowners' yards or vegetation?

a) If so, does the code provide specific definitions for each (e.g. plant species which are considered weeds)?

YES

NO

5. Under the provisions of this code, would a biodiverse naturalized yard be permitted (e.g. a yard with native plants, pollinator habitat, edible plants, or other plants other than turf grass)?

YES

NO

ENFORCEMENT

6. If your local government has a code that addresses grass and weeds or private property maintenance, does it specify how the code is enforced?

YES

NO

a) If yes, does the enforcement officer have specific training to: distinguish between different plant species (e.g. "weeds" that cause hay fever vs. native pollinator habitat on biodiverse lawns) and identify prohibited or noxious plants?

YES

NO

7. How is enforcement undertaken: proactive enforcement activity, complaints driven, or both?

PROACTIVE

COMPLAINTS

BOTH

NOTES

8. If enforcement is based fully or partially on complaints, are complainants required to show any due diligence or understanding of naturalized yards before submitting a complaint? For example, do you require complainants to specifically state the species of plants or type of growth that is the issue? Are complaints allowed to be filed based on aesthetic concerns alone?

YES

NO

9. How many violations per year do you have?

10. How are complaints, violations and enforcement actions tracked?

11. Has your local government ever conducted any reviews or analyses of complaints, violations, or enforcement data? Specifically, have any equity-based reviews been conducted to identify whether enforcement disproportionately impacts specific populations or communities?

YES

NO

12. Is enforcement data publicly available? If so, how can it be accessed?

YES

NO

JUSTIFICATIONS

13. Are aesthetic preferences used as a justification for code provisions that address grass and weeds maintenance, or exterior property maintenance (e.g. property value or maintaining a neighbourhood aesthetic)?

YES

NO

a) If so, does the assessment of aesthetics consider the local government's policy, plan or strategy for biodiversity (e.g. are naturalized properties considered acceptable)?

YES

NO

14. Are specific health and safety concerns used as a justification for code provisions that address grass and weeds maintenance, or exterior property maintenance?

YES

NO

a) If so, does the health and safety justification include preventing allergens?

YES

NO

i) If so, does it include a comprehensive list of all allergen causing plants? Do any of the identified plant species also support pollinators?

YES

NO

ii) If so, has your government conducted any assessments, research or reviews that concluded that removing these plants would affect allergy prevalence?

YES

NO

iii) If so, would removing these allergen causing plants have a negative impact on urban biodiversity?

YES

NO

b) If so, does the health and safety justification include preventing "vermin"?

YES

NO

i) If so, are "vermin" defined anywhere in the code?

YES

NO

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ii) If so, has your local government conducted any assessments, research or reviews that concluded different more biodiverse lawns would increase species considered to be “vermin”?

YES

NO

c) If so, does the health and safety justification include fire prevention?

YES

NO

i) If so, has your local government conducted any assessments or reviews that concluded different yard types increase fire risk?

YES

NO

PUBLICLY OWNED PRIVATELY MAINTAINED SPACES (POPMS)

15. Do your code provisions address property standards or landscaping requirements of publicly owned but privately maintained spaces (POPMS) (i.e. right-of-ways, medians)?

YES

NO

a) If so, do provisions that address POPMS have any plant height limits? Are they clear about which species are included or exempted from these limits?

YES

NO

16. Are any terms within POPMS provisions undefined (e.g. weeds, overgrown, or unkempt)?

YES

NO

17. Under the provisions of this code, could an individual plant biodiverse and naturalized species instead of a turf grass lawn on a POPMS?

YES

NO

NOTES

18. Under the provisions of this code, could an individual plant edible species instead of a turf grass lawn on a POPMS?

YES

NO

19. Can you think of any other ways in which your local governments' code encourages or inhibits local biodiversity in private spaces or on POPMS?

CONDOMINIUMS, APARTMENTS, AND HOMEOWNERS ASSOCIATIONS

20. Do code provisions regarding grass and weeds or private property maintenance apply to condominiums, apartments or homes within homeowners associations?

YES

NO

a) If not, what codes, guidelines, or provisions determine the exterior property maintenance of condominium, apartments, or home owner associations?

21. Under the provisions of the relevant code, could a biodiverse naturalized species instead of turf grass lawns be included in condominiums, apartments, or homes within a homeowner association?

YES

NO

NOTES

22. Under the provisions of this code, could an individual plant edible species instead of a turf grass lawn on a POPMS?

YES

NO

OTHER IMPACTFUL REGULATIONS

23. Do any code provisions limit the use of leaf blowers for the purpose of protecting local ecosystems?

YES

NO

24. Do any code provisions ban or limit invasive plant species for the purpose of protecting local ecosystems?

YES

NO

25. Do any code provisions ban or limit pesticides beyond state or federal regulation?

YES

NO

26. Do any code provisions ban or limit non-native tree species?

YES

NO







BUILD-A-CODE

This handy “Build-A-Code” tool can be used to identify potential wording to incorporate into municipal codes and by-laws to help promote biodiversity on private property and POPMS, such as right-of-ways or sidewalk medians. Because each jurisdiction has unique challenges and contexts, local governments should select options that work best for their unique circumstances.








If you want to...

Allow naturalized lawns with plants of any height

	Consider this...	Example city	Example code excerpt
	Don't include height limits in your code.	<u>Fredericton, NB</u> <u>(By-law No. R-2)</u>	"A yard shall (a) be properly graded to ensure rapid drainage of storm water therefrom to prevent ponding therein or the entry of water into a basement or cellar; (b) be kept reasonably clean and free from rubbish or other debris and from objects, holes, excavations or other conditions that might create a health, fire or accident hazard; and (c) be maintained free of rag weed, poison ivy, poison sumac and other noxious plants."
	Specify that height does not apply to plants other than grass.	<u>Fairfax County, VA,</u> <u>Code of Ordinances</u> <u>Chapter 119</u>	"Grass or Lawn Area: The words "grass or lawn area" shall include an area of ground covered with grass and/or associated growth. Trees, shrubs, cultivated areas, including, but not limited to beds of ornamental grasses, ferns, fruits, vegetables, herbs, spices, flowers, or wildflowers are specifically excluded from this definition."
	Allow exemptions to be granted for designated properties.	<u>Miami-Dade,</u> <u>FL. County Code</u> <u>Chapter 19-2</u>	"That portion of any lot or parcel is exempt from the vegetative provisions of this chapter where that lot, or parcel is designated as a Natural Forest Community, Environmental Endangered Land, Native Plant Community, Native Habitat, or a wetland as defined and described in Section 24-3(151) of the Code of Miami-Dade County or is owned by a governmental agency or not for profit company and is held, owned or maintained as a natural area."
	Apply height restrictions to all plants based on a subjective state.	<u>Pittsburgh, PA</u> <u>(Zoning Code, Title</u> <u>10)</u>	"All premises and exterior property, including but not limited to the lawn space adjacent to curb lines along the front, rear and side lot lines, shall be maintained free from weeds or plant growth in excess of ten (10) inches."




If you want to...

Manage plants considered weeds

	Consider this...	Example city	Example code excerpt
	Consider the fact that “weed” is not a botanical term and omit this vague word from your by-law.	Oakville, ON By-law 2017-008	<p>“Undesirable material” includes: [...]</p> <p>f) Growth of grass in excess of 20.33 cm (8”)</p> <p>g) Giant hogweed (<i>Heracleum mantegazzianum</i>);</p> <p>h) Ragweed (<i>Ambrosia</i> spp.);</p> <p>i) Poison ivy (<i>Rhus radicans</i> L.);</p> <p>j) Ground cover, hedges and bushes which overhang the sidewalk, impede pedestrian or vehicular traffic or cause a site obstruction; [...]</p>
	Omit naturalized yards from height restrictions.	Guelph, ON Yard Maintenance By-law	“Section 3.1.1 [height limits] of this By-law does not apply to a Naturalized Area.”
	Clarify that weeds or untended growth do not include certain plants, such as gardens or landscaped yards.	Washington DC, Property Maintenance Code, Chapter 3	<p>“Weeds shall be defined as all grasses, annual plants and vegetation other than trees or shrubs; provided, however, that this term shall not include cultivated flowers and gardens.”</p> <p>“Exceptions [to untended growth provisions:] Healthy plants, grasses, or shrubbery in tended grounds, gardens, or landscape designed yards, which exceed 8 inches (203 mm) in height”</p>
	Regulate weeds without clear definitions of what they are.	San Francisco CA, Health Code, Article 11, Section 581	<p>“The following conditions are hereby declared to be a public nuisance:</p> <p>(2) Any accumulation of hay, grass, straw, weeds, or vegetation overgrowth”</p>
	Regulate weeds with a subjective definition.	Phoenix AZ, City Code Chapter 39, Article 1 Definitions	“Weeds: A useless and troublesome plant generally accepted as having no value and frequently of uncontrolled growth.”

If you want to...




Prohibit noxious weeds

	Consider this...	Example city	Example code excerpt
	Refer to legislated noxious weed lists and have specific regulations related to them only.	<u>Portland, OR, City Code Chapter 29.20 Property Nuisances</u>	"G. Nuisance Plants. Eradication, as defined in 29.10.020 V., is required of all plants identified on the Nuisance Plants List."
	Include clear definitions of noxious weeds and clear definitions of other controlled plants.	<u>Toronto Municipal Code (Chapter 489)</u>	<p>"For the purposes of this section, the term "grass and weeds" refers to:</p> <p>(1) All noxious weeds and local weeds designated under the Weed Control Act; and</p> <p>(2) Any other vegetation growth that does not form part of a natural garden that has been deliberately implemented to produce ground cover, including one or more species of wildflowers, shrubs, perennials, grasses or combinations of them, whether native or non-native, consistent with a managed and natural landscape other than regularly mown grass."</p>
	Include noxious weeds and other undefined plants in the same requirement as each other.	<u>St. Louis MO, City Code Title 11, Chapter 11.04</u>	"Russian, Canadian, or common thistle, wild lettuce, wild mustard, wild parsley, ragweed, milkweed, ironweed, poisonous plants or shrubs, and all other unattended vegetation and noxious weeds which have attained a height of seven (7) inches or more growing or being upon any lot or lands within the City, and unattended growths of shrubs, trees, and seedlings, which in the opinion of the Commissioner of Forestry, are unsightly and which may impede the clearing of any lot or lands within the City contrary to the general purpose of this chapter, are hereby declared a public nuisance."



If you want to...

Encourage biodiverse habitats in Publicly Owned Privately Maintained Spaces (POPMS) (such as right-of-ways)

	Consider this...	Example city	Example code excerpt
	Encourage biodiverse plants on POPMS directly in your code.	Miami-Dade, Chapter 18B - County Right-of-Way Landscape Ordinance	<p>"It is the intent of this chapter to establish minimum landscape standards for public rights-of-way in incorporated and unincorporated Miami-Dade County that enhance, improve and maintain the quality of the landscape, and to:</p> <p>Promote Florida friendly principles through the use of drought-tolerant landscape species, grouping of plant material by water requirements, the use of irrigation systems that conserve the use of potable and nonpotable water supplies and restrictions on the amount of lawn areas.</p> <p>[...]</p> <p>Provide for the preservation of existing natural forest communities and specimen sized trees in conformance with Section 24-49, as may be amended from time to time; re-establish native habitat where appropriate, and encourage the appropriate use of native plant material in the landscape.</p> <p>Promote the use of trees and shrubs for energy conservation by encouraging cooling through the provision of shade and the channeling of breezes, thereby helping to offset global warming and local heat island effects through the added absorption of carbon dioxide and reduction of heat islands.</p> <p>[...]</p> <p>Reduce the negative impacts of exotic pest plant species and prohibit the use of noxious exotic plants which invade native plant communities.</p> <p>Promote the use of trees to protect and buffer the effects of high winds on structures.</p> <p>Promote the concept of planting the right tree or plant in the right place to avoid problems such as clogged sewers, cracked sidewalk and power services interruptions."</p>
	Allow native plants in POPMS to be exempted from height restrictions.	Saanich BC, Boulevard Regulation Bylaw	<p>"The obligations to maintain boulevards as specified in section 4.1 do not apply where, in the opinion of the Director of Engineering, the owner or occupier of a parcel is unable to access the boulevard due to steep grades, or the size of the boulevard is unreasonably large for the property owner to maintain, or the boulevard forms part of a protected watercourse or consists primarily of native vegetation, provided that the foregoing exception does not apply in circumstances where the owner or occupier of the parcel, or a previous owner or occupier, has altered the parcel or the boulevard to the detriment of the owner's or occupier's ability to access or maintain the boulevard."</p>

	Exempt all plants in POPMS to be exempted from height restrictions.	<u>County of Fairfax Code, Chapter 119, Section 119-3-1</u>	“Exemptions [of prohibited grass or lawn area height]: Detention ponds; rights-of-way through residential, commercial, and industrial properties; park lands; and conservation and scenic easements approved by Fairfax County are specifically exempted from the provisions of this Chapter. (35-91-119.)”
	Exempt healthy and tended plants in POPMS from height restrictions	<u>Washington, DC Code, Chapter 3, Section 302.4.1</u>	<p>“Exceptions:</p> <p>Weeds, grasses, or other vegetation planted for agricultural use, if such weeds, grasses or vegetation are located at least 150 feet (45.72 m) from property zoned for nonagricultural use.</p> <p>Healthy plants, grasses, or shrubbery in tended grounds, gardens, or landscape designed yards, which exceed 8 inches (203 mm) in height.”</p>
	Use vague or restrictive terminology regarding plants on POPMS.	<u>Norfolk, VA Code of Ordinances, Chapter 27, Sec. 27-9</u>	“It shall be the duty of the owner or occupant of any land or premises abutting upon any public right-of-way, including between the sidewalk and curb, whether paved or not, and the duty of the owner of any unoccupied land or premises abutting upon any public right-of-way, including between the sidewalk and curb, whether paved or not, to remove solid waste (as defined in chapter 14.5 of the City Code), therefrom and to have any grass, weeds, and other vegetable matter cut and removed, and at all times to prevent such area from becoming unsightly, impeded, or offensive by reason of failure to remove any such solid waste (as defined in chapter 14.5 of the City Code), or cut any such grass, weeds, and vegetable matter.”

Other code best practices...

	Consider this...	Example city	Example code excerpt
	Ban leaf blowers.	<u>Washington DC, District of Columbia B234 Leaf Blower Regulation</u>	"Except as provided under subparagraph (B) of this paragraph, effective January 1 , 2022, no person shall sell, offer for sale, or use a gasoline-powered leaf blower in the District of Columbia."
	Allow gardens to include logs and debris as habitats.	<u>Portland, OR, City Code Chapter 29.20 Property Nuisances</u>	<p>"Remove, and keep removed, unless specifically authorized by ordinance to do otherwise:</p> <p>[...]</p> <p>3. All dead bushes, dead trees, and stumps with the exception of such material which:</p> <p>a. Is being maintained as part of a naturescaped property;"</p>



BEST PRACTICES

Codes that support biodiverse landscaping



Fredericton, New Brunswick, Canada

Description: The City of Fredericton, N.B. “Residential Properties Maintenance and Occupancy Code” specifies the following: “A yard shall be: maintained free of ragweed, poison ivy, poison sumac and other noxious plants.” There is no mention of a height requirement and does not include any language pertaining to aesthetics or health and safety (City of Fredericton, 2005).

Solution: Removes regulatory factors by completely eliminating any mention of height requirements or other legal controls.



Washington, D.C., United States

Description: The Washington, D.C. Sustainability D.C. Action Plan has implemented a program that conducts a review of conflicting laws. This is done through Action Number GV 1.3 which states that they will “identify existing laws, regulations, and policies that conflict with sustainability goals and areas where new authority is required.” The review shows that Washington, D.C. is already aware of the conflicts between different branches and laws of the municipality, much like the Network.

Solution: Seeks to affect the regulatory factors by identifying and removing legislative barriers within their own by-laws/codes.



State of Minnesota, United States

Description: New legislation that will require all local governments to permit native landscaping.

Solution: Removes the issue of policies that encourage naturalized lawns and ordinances that foster the monoculture turf lawn.

Education about the benefits of biodiverse landscaping

National Wildlife Federation, multiple locations



Description: The National Wildlife Federation has a program where residents can have their yard designated as a “Certified Wildlife Habitat”. Residents receive signage to post on their lawns. The signage helps to communicate the benefits of the yard and its intention of creating habitat for birds, butterflies and other wildlife.

Solution: Seeks to influence the societal understanding of the benefits of providing a habitat in yards.

The Pollination Pledge, Edinburgh, United Kingdom



Description: Participants in the Edinburgh Living Landscape may choose to take a “Pollination Pledge.” The pledge is three simple actions that individuals can pledge to do to improve the network of pollinating landscapes in Edinburgh:

- Plant for pollinators using the programs’ resources on which plants are helpful to pollinators
- Make space for nature by planting wildflowers, reducing or stopping mowing, or, creating a bee hotel
- Expand the program network by sharing photographs and engaging on social media.

Once a resident has made the pledge, they send photos of their naturalized gardens along with emails and addresses to be added to the Edinburgh Pollinator Map.

Solution: Seeks to affect the societal factors that impact the understanding of the benefits of providing pollinating habitats. Through the map, the initiative also provides a spatial understanding of where residents are developing their own pollinating landscape.

Incentives to convert turf grass into more biodiverse yards

Lawn Conversion, Pennsylvania, United States

Description: The Lawn Conversion program through the State of Pennsylvania offers technical assistance to convert lawns into woods or meadows. State funding is available to those that have more than ¼ acre or, combined with neighbours, have ¼ acre. The funding provided is intended to be used towards the planning and planting of a meadow or wood lot on the property.

Solution: Seeks to affect the societal factors by providing financial incentives and education services to residents looking to develop a naturalized property.

SoCal Water Smart, Southern California, United States

Description: The SoCal Water Smart initiative provides a rebate if residents replace their turf grass with “organic, drought tolerant landscaping.” This program was created by the Metropolitan Water District of Southern California. Water conservation rebates are not taxable by the State of California as per Californian state law.

Solution: Seeks to affect the climate impacts by financially incentivizing replacing turf grass with landscaping that will limit water use.

Lawns to Legumes Program, Minnesota, United States

Description: The Lawns to Legumes Program organizes workshops, coaching, planting guides and cost-share funding (individual support grants) to help support the installation of pollinator gardens. Demonstration neighbourhoods (pollinator programs run by local governments) are used to support public education campaigns.

Solution: Seeks to affect the societal factors by providing both education and funding in order to encourage the implementation of pollinator gardens on residents private lawns.



HELPFUL RESOURCES

Resources for applied biodiversity-rich landscaping

Pollinator Guides

This website provides information on local pollinators based on American zip codes or canadian postal codes.

[Learn more](#)

Planting For Pollinators

This guide, created by the Minnesota Board of Water and Soil Resources, helps people plan, implement, and maintain pollinator projects.

[Learn more](#)

Ontario Grow Me Instead

This list from the Ontario Invasive Plant Council outlines invasive species, as well as alternative plants, to use in Ontario gardens.

[Learn more](#)





Get to Know Goldenrod

This City of Toronto resource includes information on a local species often thought to cause hayfever, but actually provides ample habitat for local pollinators.

[Learn more](#)

Healthy Yards

This website features information about healthy biodiverse yards for both professionals and landowners.

[Learn more](#)

Gardening for Pollinators

This U.S. Forest Service site includes information to help create pollinator supportive landscapes healthy biodiverse yards for both professionals and landowners.

[Learn more](#)



Academic papers for in-depth knowledge gathering



“As Natural Landscaping Takes Root We Must Weed Out the Bad Laws - How Natural Landscaping and Leopold’s Land Ethic Collide with Unenlightened Weed Laws and What Must Be Done about It” by Bret Rappaport (1993)

[Learn more](#)

“Toward Sustainable Landscapes: Restoring the Right NOT to Mow” by Yale’s Environmental Protection Clinic in collaboration with the Natural Resources Defense Council (2016)

[Learn more](#)

“By-laws for Biodiversity: Re-Modelling City of Toronto’s Municipal Code Chapter 489, Grass and Weeds. A Master’s Research Project” by Carly Murphy (2021)



[Learn more](#)

REFERENCES

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