

PAS QUICKNOTES

Climate-Resilient Pollinator Gardens

Climate is changing at a faster pace than expected and many species are at risk of becoming extinct. At the same time, many communities around the country have unused, unkept open spaces. Planners can address all of these issues by incorporating pollinator gardens in open space planning and design, especially when working on community greening and green infrastructure (GI) projects.

Installing pollinator gardens along with traditional GI strategies such as bioswales, permeable pavements, and green roofs creates additional benefits for ecosystems. Planners should treat the unused open spaces in their communities as assets and convert them into climate-resilient pollinator gardens to combat climate change and provide crucial habitat to wildlife.

BACKGROUND

A pollinator garden supports plants that supply nectar and pollen to a wide range of pollinators, including insects such as bees and butterflies and certain birds and animals. [Eighty percent of crop plants](#), including fruits and vegetables, rely on pollinators to produce fruit and seeds. Plants that are native to a specific geographic area are often the best choice for pollinator gardens as they support native insects and pollinators. Native plants also have deeper root systems than nonnative plants, which allows them to provide additional stormwater management and water quality benefits.

In May 2021, the U.S. Environmental Protection Agency released updated [climate change indicators](#) that show that climate change is happening faster and becoming more extreme than 2016 metrics had estimated. A 2019 United Nations [global assessment of biodiversity and ecosystem services](#) found that as many as one million plant and animal species are near extinction due to human activity. Planners across the country are using GI strategies to manage floods, prepare for drought, reduce the urban heat island effect, lower energy demands, and protect the natural environment. The use of native pollinator gardens in this work would enable them to provide a safe habitat for wildlife species, two-thirds of which reside in metropolitan areas.

BENEFITS OF POLLINATOR GARDENS

In addition to the primary function that pollinator gardens perform—supporting the pollinators that are essential to our survival—they offer the following benefits:

- **Climate resiliency:** They enhance stormwater management with increased infiltration compared to other pervious surfaces. They also absorb heat and thus help to reduce the heat island effect.
- **Ecological health:** They provide habitat to wildlife by providing food, water, shelter, and places to raise young, sustaining biodiversity in urban areas, which is critical to our food web.
- **Mental health:** They provide nearby access to nature, which has a direct association with better mental health outcomes.
- **Environmental health:** They help purify the air and water, improving air and water quality.
- **Aesthetics:** They beautify the neighborhood as aesthetically pleasing places with flowering plants that bloom spring through fall.

USE OF NATIVE PLANTS

Gardens should contain a diversity of native plants for optimal environmental and wildlife benefits. Because these plants have co-evolved along with other native insects and animals, there is a mutually beneficial relationship. Native plants also require less water for long-term maintenance, require no pesticides or fertilizers that could damage pollinator populations, and are better adapted to local contexts than nonnative plants used in traditional landscaping practices.

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*Pollinator gardens increase climate resiliency and provide ecological, environmental, and health benefits.
Credit: Sagar Shah*



American Planning Association
Planning Advisory Service
Creating Great Communities for All

This PAS QuickNotes is made possible by a grant from Wildlife Conservation Society through the Climate Adaptation Fund. Support for the Climate Adaptation Fund was provided through a grant to Wildlife Conservation Society from the Doris Duke Charitable Foundation.

Despite these benefits, native species are seldom included in GI practices. Planners can educate public- and private-sector actors about using native plants to maximize the benefits of open space. Use National Wildlife Federation's [Native Plant Finder](#) to search for the best native plants by zip code.

SITING POLLINATOR GARDENS

To maximize the ecological and biodiversity benefits of large areas of existing habitat, these areas must be connected by smaller areas of land that can support pollinators and wildlife. Planners can help create these wildlife/pollinator corridors by using spaces of any size in urban areas for pollinator gardens.

Pollinator-friendly flowers and grasses can be planted at a range of scales, from small containers on a balcony to larger vacant lots. Curbsides and roadsides are other places where pollinator gardens can provide wildlife habitat. In recent years, the departments of transportation in several states have changed their [roadside right-of-way management practices](#) to encourage native plants along roadways. Similarly, [curbside habitat](#) should be encouraged in street design and standards.

Other urban areas where planners can encourage or require pollinator gardens are private yards, parks, public spaces, rooftops, schoolyards, community gardens, and other places where GI strategies are used. By using these spaces, planners can create continuous corridors of habitat.

ROLE OF PLANNERS

There are several actions that planners can take to promote pollinator gardens and native species in their work.

- Integrate pollinator gardens in GI solutions and projects.
- Include [native plan ordinances](#) as part of subdivision regulations and local ordinances. Lower Makefield, Pennsylvania, amended [subdivision regulations](#) to require landscaping with 100 percent native plant species.
- Amend landscape ordinances controlling weeds and vegetation to support pollinator meadows or prairie habitat. Austin, Texas, amended its [landscape ordinance](#) to support wildlife habitats.
- Work with the appropriate municipal and county departments to identify and implement no-mow policies that restrict mowing in certain designated zones. Greeley, Colorado, adopted a [no-mow](#) policy to protect native grasses and natural areas.
- Encourage wildlife/pollinator habitats in curbsides, roadsides, and yards through design guidelines, street regulations, site planning, and development review. Seattle has specific [design guidelines](#) for gardening in the planting strip and encourages pollinators in those gardens.
- Support executive actions that mandate native plants. In Delaware, the New Castle County Executive signed an [executive order](#) requiring the use of only native plant species in new or rehabilitated landscaped areas on county property, including parks and buildings.
- Promote policies and strategies that support pollinator gardens and native plants in comprehensive, functional, and subarea plans.
- Educate elected officials, decision makers, and allied professionals about the benefits of planting native species and collaborate with them to enhance biodiversity.

CONCLUSION

Combating climate change is essential, and using pollinator gardens to do so provides life-sustaining benefits in addition to ecological, environmental, and health benefits. Planners should actively consider pollinator gardens and native plants when working on GI-related projects, open space planning, site planning, landscape ordinances, and other plans, policies, and regulations. Pollinator gardens are an important tool that planners can easily adopt to enhance their communities, increase climate resiliency by reducing extreme heat and flooding risks, and achieve the GI goals of protecting natural ecosystems and conserving biodiversity.

PAS QuickNotes (ISSN 2169-1940) is a publication of the American Planning Association's Planning Advisory Service (PAS). Joel Albizo, FASAE, CAE, Chief Executive Officer; Petra Hurtado, PhD, Research Director; Ann Dillemath, AICP, Editor. © 2021 American Planning Association, 205 N. Michigan Ave., Suite 1200, Chicago, IL 60601-5927; [planning.org](#). All rights reserved. APA permits the reproduction and distribution of PAS QuickNotes to educate and inform public officials and others about important planning-related topics. Visit PAS online at [planning.org/pas](#) to find out how PAS can work for you.

FURTHER READING

Published by the American Planning Association

Shah, Sagar. 2021. "Combating Climate Change Through Vacant Lot Restoration." *APA Blog*, July 9.

Shah, Sagar, Jen Mihills, and Samir Dalal. 2021. "Philadelphia Is Transforming Vacant Lots into Climate-Resilient Pollinator Gardens." *APA Podcast*, July.

Shah, Sagar, Jo Pena, Jen Mihills, and Samir Dalal. 2021. "Nature-Based Solutions for Creating Climate Resilient Communities." Webinar, *APA Learn*.

Other Resources

Aberg-Riger, Ariel. 2019. "What Cities Can Do to Help Birds and Bees Survive." *CityLab*, June 21.

Wilk, Bettina, Veronica Rebollo, and Serene Hanania. 2019. *A Guide for Pollinator-Friendly Cities: How Can Spatial Planners and Land-Use Managers Create Favourable Urban Environments for Pollinators?* Guidance prepared by ICLEI Europe for the European Commission.