Prioritizing Pollinators in Corporate America

How Companies Can Align Their Business Needs with the *National Strategy to Promote the Health of Honey Bees and Other Pollinators*

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Corporate lands of all sizes and scopes can have the potential to implement pollinator projects and contribute to the goals of the National Strategy. *With thoughtful design, pollinator projects can meet business needs for site maintenance, employee and community engagement, and corporate goals for sustainability reporting.*

Contents

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Introduction

The White House's *National Strategy to Promote the Health of Honey Bees and Other Pollinators* (*National Strategy*), released on May 19, 2015, contains three overarching goals: the reduction in honey-bee colony loss during winter, the recovery of the monarch population to 225 million butterflies on wintering grounds in Mexico, and the restoration or enhancement of 7 million acres of land for pollinators.

The *National Strategy* contains items of research and best practices for land management on federal and non-federal lands, with particular interest in utilizing public-private partnerships to further the three goals. It also contains actions for education and outreach.

Recognizing that the federal government cannot achieve the goals of the *National Strategy* alone, public-private partnerships are highlighted as an important tool, and a commitment was made for the development of a public-private partnership plan.

The Wildlife Habitat Council (WHC) has been working with businesses of all types for over 25 years, facilitating and recognizing implementation of high-quality pollinator conservation projects on corporate lands. WHC understands the challenges and opportunities for creating high-quality pollinator habitat on lands whose primary purpose is not habitat, and recognizes the key role business can play to meet the goals of the *National Strategy.*

In this white paper, WHC will provide examples of how companies have taken action to protect pollinators, increase public awareness around the issue, and create pollinator-friendly habitat.

These examples are intended to provide inspiration and guidance for other landowners seeking to take actions to meet the goals of the *National Strategy.*

Why pollinators and their decline matters

Pollinators are species that feed upon the nectar and pollen provided by flowering plants, helping plants reproduce by moving pollen between flowers in the process of feeding. There are approximately 200,000 species of animals that act as pollinators, including bees, butterflies, moths, hummingbirds, beetles, wasps and flies. In some regions, vertebrates such as bats and other mammals, honeyeaters, sunbirds, snakes and lizards also serve as pollinators.

Pollinators are vital to the health and economy of the world, propagating wild flowering plants as well as many crops. Insect pollination is vital to food security, contributing to at least 35% of the world's food production and pollinating many other plants needed for beverages, fibers, medicines and spices. The value of their pollinating services, as well as the value of products like honey produced directly by pollinators, is estimated in the billions, with the value provided by insect pollination in the U.S. alone estimated at $40 billion.[1]

Across the globe, pollinator species are in decline due to a decrease in habitat available to them,[2] degradation and fragmentation of much of the remaining habitat,[3] reductions in floral diversity,[4,5] the effects of pesticide misuse, and a movement away from pollinator-friendly practices on both small, local scales and large, regional scales.[6] Not only does this trend impact the U.S. and global economy, pollinator declines are indicative of stresses to, and overall declines in, the health of the environment.[7] The loss of butterflies also impacts native bird populations, because 96% of North American bird species rely on insects — mainly caterpillars — to feed their young.[8]

Because of pollinators' links to food production in the U.S. and the associated impact of the loss of pollinators on the economy, President Barack Obama issued a memo establishing a joint task force on pollinators in June 2014. In May 2015, the joint task force released the *National Strategy*.

In the U.S., concern is for two types of pollinators: native pollinators like butterfly and native bee species, and cultivated pollinators like European honeybees whose importation into the U.S. helped establish its current system of food production. In the *National Strategy*, the monarch butterfly has been singled out for special attention due to a recent and rapid decline in the number of monarchs overwintering in Mexico.

The *National Strategy* outlines three overarching goals for action by federal departments and agencies in collaboration with public and private partners:

1. Reduce honeybee colony losses during winter (overwintering mortality) to no more than 15% within 10 years. This goal is informed by the previously released Bee Informed Partnership surveys and the newly-established quarterly and annual surveys by the United States Department of Agriculture (USDA) National Agricultural Statistics Service (NASS). Based on the robust data anticipated from the national, statistically-based NASS surveys of beekeepers, the Task Force will develop baseline data and additional goal metrics for winter, summer and total annual colony loss.

2. Increase the Eastern population of the monarch butterfly to 225 million butterflies occupying an area of approximately 15 acres (6 hectares) in their overwintering grounds in Mexico, through domestic and international actions, and public-private partnerships, by 2020.

3. Restore or enhance 7 million acres of land for pollinators over the next 5 years through federal actions and public-private partnerships.

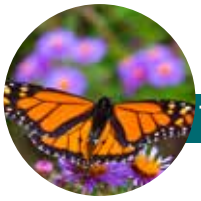
Becoming part of the solution: pollinator conservation on corporate lands

The simple act of installing pollinator-friendly habitat is at the core of the *National Strategy* and, unlike for other declining species of wildlife, this installation need be neither complex nor costly. Given the fact that pollinators do not require large acreages of undisturbed wilderness and that small patches of habitat can produce beneficial results, corporate lands of all sizes and scopes can have the potential to implement pollinator projects and contribute, in a meaningful way, to the goals of the *National Strategy*. With thoughtful design, pollinator projects can meet business needs for site maintenance, employee and community engagement, and corporate goals for sustainability reporting. In addition, education and outreach to communities can have a huge impact on personal actions outside of the corporate landscape, increasing the benefits to pollinators.

Following are examples of the variety of projects for pollinators that businesses can implement on their lands to meet the goals of the *National Strategy*, with examples of successful corporate conservation programs.

Small-scale pollinator gardens

Rights-of-Way as pollinator habitat



Targeting pollinator species of concern

Pollinator-friendly remediation

Pollinator education

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Small-scale pollinator gardens

The *National Strategy* pushes for improvements to the quantity and quality of overall acreage for pollinators. Among the many habitat types it discusses, the strategy includes support for the creation or enhancement, on both public and private lands, of pollinator gardens that target monarch butterflies.

One of the most common projects for pollinators in the portfolio of WHC Conservation Certification programs, i.e., programs that have passed a stringent review to receive Conservation Certification, is the pollinator garden. Pollinator gardens are usually small in scale but still of real value to pollinators. They demonstrate how small areas can provide usable habitat for pollinators, which being generally small, winged and highly mobile, are able to use small patches of habitat within their flying ranges to piece together a complete habitat.[9] Bees seem particularly willing to use small patches of habitat.[10] The natural behavior of many pollinators includes traveling frequently between feeding and nesting sites.

Even gardens in more developed areas, such as corporate sites in urban settings, can help boost pollinator diversity and population size. When gardens in these settings incorporate plants that target bees, for example, they can predictably increase bee diversity and abundance.[11] Gardens planted with milkweed have been shown to be effective in helping monarch populations, and may even be preferred over natural areas as egg-laying sites by female monarchs.[12]

As with all programs that have achieved WHC Conservation Certification, PPG's Monroeville Business & Technology Center in Monroeville, Pennsylvania went through a stringent certification process.[13] This program's pollinator projects meet two of the goals set forth in the *National Strategy*, namely increasing pollinator habitat and conserving monarch butterfly populations:

At the Monroeville Business & Technology Center, a long-standing program certified with WHC since 2000, a pollinator garden and a patch of milkweed planted along a nature trail provide valuable pollinator habitat and educational opportunities in an outdoor classroom setting for employees and community members. The pollinators supported by these habitats in turn provide food for eastern bluebirds, which utilize the nest boxes surrounding the garden. One of the

program's ongoing challenges is the dry, poor quality soil, which makes it difficult to maintain a thriving garden. Instead of constantly replacing the plantings, the team tries to address this problem by reducing other factors that limit plant growth, focusing on weeding, cutting back the previous year's growth each spring, and letting vegetation grow naturally. The positive impacts to pollinators are enhanced by educating the community about these species, with lessons for students about the life cycle and migration of monarch butterflies, celebrations for National Pollinator Week, and a "lunch and learn" workshop about butterfly identification for employees.

The ITC Corporate Headquarters near Detroit, Michigan is an award-winning model of pollinator gardens that also meets both of these goals:

At the ITC Corporate Headquarters, certified with WHC since 2010, the program's team has maintained several garden projects targeting pollinators, with over 1,000 native plants installed in these gardens since 2009. One of the projects is a butterfly garden that includes milkweed plantings for monarchs and is a registered Monarch Waystation. The team also installed bee blocks to provide nesting habitat for wild bees and signage to educate employees and community members visiting the garden. Reduced chemical usage throughout the site further benefits pollinators. Leading to the success of these gardens was a well thought-out planning process that took into account the ecology and habitat needs of local pollinators and integration with other projects on-site, as well as regular follow-up monitoring to assess the gardens' success and benefit to pollinators. Working with knowledgeable contractors further aided the gardens' success. When time constraints and low availability of ITC employees turned garden maintenance into a challenge, the team hired outside contractors to maintain the gardens to ensure they continued to provide value, though employees are still encouraged to help with weeding on regularly scheduled workdays.

Rights-of-Way as pollinator habitat

On the opposite end of pollinator projects from pollinator gardens are those that restore pollinator habitat on a large scale, such as conversion of rights-of-way (ROWs) to pollinator habitat. ROWs are an ideal industrial application for creating pollinator habitat. It is not surprising, then, that the *National Strategy* places particular importance on the potential of ROWs for expansion of pollinator habitat because "they constitute large land acreage on a cumulative basis, are generally maintained in sunny areas with low vegetation height (ideal pollinator habitat), and often extend for considerable distances, thereby potentially acting as corridors for species movement and adaptation to climate change."[14] Powerline ROWs alone have the potential to provide 5 million acres of bee-friendly habitat in the U.S., given appropriate management,[15] and when managed correctly can support rare and unique bee species that heavily-reforested areas cannot.[16]

ROWs managed for pollinators enhance habitat connectivity in areas with limited amounts of available pollinator habitat. Habitats connected by ROW corridors have been shown to support greater densities of butterflies than isolated habitat patches.[17]

WHC works with a number of companies that maintain ROWs as corridors for electrical transmission, natural gas pipelines, railroads and other purposes.

Exelon's BGE Rights-of-Way Environmental Stewardship Program in Howard County, Maryland has used research to show that native bees respond positively to the use of Integrated Vegetation Management (IVM) as a habitat management strategy on ROWs:

For Exelon's BGE Rights-of-Way Environmental Stewardship Program, two locations served as pilot sites for IVM implementation, with the positive results leading to implementation of IVM on other rights-of-way within BGE's network. This program, certified with WHC since 2011, focuses on the use of IVM to control invasive species and restore native early-successional plant communities. These restored communities provide valuable habitat for a variety of native bees, butterflies, birds and other wildlife. Research conducted with the help of the United States Geological Survey (USGS) demonstrated the value that restored native communities provided to native bees. The use of knowledgeable partners and contractors for project implementation, as well as the application of follow-up monitoring on the response of plant and animal communities to IVM, helped this program overcome the challenges of maintaining low-growing vegetative communities along BGE's ROWs and ensure it succeeds in providing conservation value over the long term. Building support within the local community by holding meetings and giving presentations about the program further contributed to its success as a pilot program by addressing local concerns about tree removal.

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Targeting pollinator species of concern

Conservation efforts to protect species of concern (species designated as threatened or facing decline) and their habitats are of particular importance because these species face high risk of further population losses or extinction. Extinction is defined as a permanent loss of biodiversity and any aesthetic, ecological, educational, historical, recreational and scientific value that species provided to natural and human systems. The loss of species also causes an imbalance in the ecosystems where they lived, particularly if that species was highly specialized, and its ecological role cannot be filled by another species.

Half of the species listed as endangered or threatened under the U.S. Endangered Species Act maintain at least 80% of their habitat on private lands. Businesses with, or the potential of, pollinator species of concern occurring on their lands, can play a significant role in the conservation and recovery of these species.

Conservation of the monarch butterfly is singled out in the *National Strategy* as one of the three goals for pollinator conservation efforts, due in large part to the significant and rapid decline this species has experienced over the past decade. In the past two winters, the monarch butterfly migration sank to the lowest recorded levels, with an imminent risk of population failure.[18] Corporate lands of all types can help support breeding and migrating monarchs; even small pollinator gardens planted with milkweed can play a viable role in monarch conservation.[19]

The General Motors Detroit-Hamtramck Assembly Center, located in urban southeast Michigan, is an example of a typical corporate conservation program that includes a project targeting monarchs and that has successfully moved through WHC's rigorous Conservation Certification process:

Certified with WHC since 2006, the GM Detroit-Hamtramck Assembly Center program includes a 20-acre grassland that specifically targets monarch butterflies and other pollinators with plantings of milkweed and other nectar-bearing plants, as well as native warm-season grasses, and control of invasive species. In addition to pollinator habitat, it provides other benefits such as habitat for birds and bats, improved aesthetics for the property, and improved water quality and stormwater infiltration. The grassland habitat was installed to replace turf grass, not only to benefit pollinators but to also help address stormwater management issues experienced on-site. Several factors contributed to its success as a valuable pollinator habitat, including the exclusive use of native

species in plantings, the elimination of insecticide use in the area, and working with knowledgeable contractors who could effectively implement project activities. The team also took advantage of an opportunity to expand the grassland from 16.5 to 20 acres in 2011-2013 when soil from a parking lot expansion became available for use in grading the remaining 3.5 acres. This team's efforts meet the National Strategy's *goals to conserve monarchs and increase pollinator habitat.*

The program at Pacific Gas & Electric (PG&E) Tulare Hill Safe Harbor Agreement Habitat Restoration Site in Santa Clara County, California is working to conserve the endangered Bay checkerspot butterfly and its habitat, utilizing partnerships with other local private and public entities working toward the same goal:

PG&E's Tulare Hill Safe Harbor Agreement Habitat Restoration Site, certified with WHC since 2002, has largely been successful due to its use of a voluntary Safe Harbor Agreement (SHA) and collaboration to protect and restore an endangered pollinator species and its habitat while also ensuring the continued safe transmission of electricity. When grazing on the property was halted in the early 2000s, PG&E discovered that invasive grasses began proliferating on-site, impacting the federally-threatened Bay checkerspot butterfly and the California serpentine grassland it relies upon. Collaboration with the U.S. Fish and Wildlife Service (USFWS) and other organizations in the area led to the development of the SHA, making it possible for the team to continue maintaining the transmission towers on site while also protecting and restoring habitat for the Bay checkerspot butterfly. As part of the SHA, grazing was reinstated on the property in a more restricted fashion to help control invasive grasses and promote the growth of native plants. In addition to benefitting biodiversity, this arrangement benefits the local cattle rancher and the local economy by increasing cattle grazing opportunities. With the renewal of the SHA in 2013, the team expanded its conservation efforts by collaborating with local entities such as the Waste Management Kirby Canyon Recycling and Disposal Facility – another WHC-certified program with California serpentine grassland and a thriving population of Bay checkerspot butterflies – to translocate 5,000 larvae and 60 adults from the Kirby Canyon site to the serpentine grassland at the Tulare Hill site and a neighboring property, greatly enhancing connectivity among the three sites. PG&E then provided a grant to the Silicon Valley Land Conservancy to support follow-up monitoring of the reintroduced butterflies.

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Pollinator-friendly remediation

Among the many approaches for public-private partnerships discussed in the *National Strategy*, implementing more pollinator-friendly practices on cleanup sites is noted as an important route. The U.S. Environmental Protection Agency (USEPA) has already issued new "green remediation" guidelines that include considerations for land management and ecosystems protection in remediation or site cleanup projects. The *National Strategy* notes that remediation, as well as other related actions such as green infrastructure installation and landfill capping, offers an opportunity to benefit pollinators. Using pollinator-friendly plantings as part of remediation will align with the USEPA's new guidelines, save land managers on long-term maintenance costs, and support beneficial reuse of the property.

A number of corporate conservation and education programs with pollinator projects are implemented on cleanup sites. For the Boeing Company's Pollinator Prairie, this former Superfund site in northeastern Kansas was transitioned into a community asset that provides recreational opportunities, pollinator habitat, and pollinator education opportunities:

Certified with WHC since 2011, the Boeing Company's Pollinator Prairie engages community members of all ages in pollinator education. The pollinator gardens on-site, which are maintained entirely by local Master Gardeners and other volunteers, provide the community with a working example of pollinator habitat and demonstrate the importance of pollinators. Transition of this former Superfund site into reuses for pollinator habitat, recreation and education meets the post-remediation needs for the property and enhances community support for the site. Partnerships and community volunteers are a cornerstone of this program, which has no on-site employees to implement or maintain projects. A local Master Gardener organizes all of the volunteers for garden maintenance and other workdays, as well as for educational events like National Pollinator Week and the monarch migration celebration. Experts from the Pollinator Partnership and Monarch Watch also assisted with development and implementation of the program, helping with activities such as design of educational signage, plant selection and development of the site's management plan.

Pollinator education

The *National Strategy* recognizes the importance of education and outreach in pollinator conservation. Such efforts help to increase awareness of the importance of pollinators, educate on how to help their declining populations, and generate an understanding that pollinator conservation is a shared responsibility of every person in the nation.

Among the education and outreach approaches discussed by the *National Strategy* are those commonly integrated into WHC Conservation Certification programs including hosting National Pollinator Week and National Public Lands Day events for the local community, working with schools to provide pollinator education activities that link to the school's learning standards and goals, engaging youth and families in informal pollinator education activities, training employees on the use of pollinator-friendly practices in land management, and preparing future pollinator scientists through STEM-based education initiatives.

Education about pollinators and other conservation topics feature prominently in pollinator projects at the Waste Management Bucks County Landfills in Bucks County, Pennsylvania:

At the heart of the success for the Bucks County Landfills Intergenerational Pollinator Partnership Project is a strong partnership between the program (certified with WHC since 2001), schools in the Pennsbury School District, and the Falls Township Senior Center. The partners constructed pollinator gardens at the Waste Management facility, at Pen Ryn School, and at the Falls Township Senior Center. Installation of these gardens was met with many challenges, including the loss of trees and delays of installation due to Hurricane Sandy and other severe weather, and receipt of an incorrect seed mix that included several aggressive and invasive species. The team and partners met these challenges well, replanting trees at the site and hand-pulling the unwanted species from the gardens. These gardens now provide participants with hands-on learning opportunities that correlate with learning standards for students and opportunities for day-to-day interaction with nature, as well as creating pollinator habitat connected by similar conservation objectives. In addition, the garden (or "learning laboratory") at the Bucks County Landfills meets Americans with Disabilities Act (ADA) standards, ensuring that students, employees and visitors of all abilities can enjoy the gardens.

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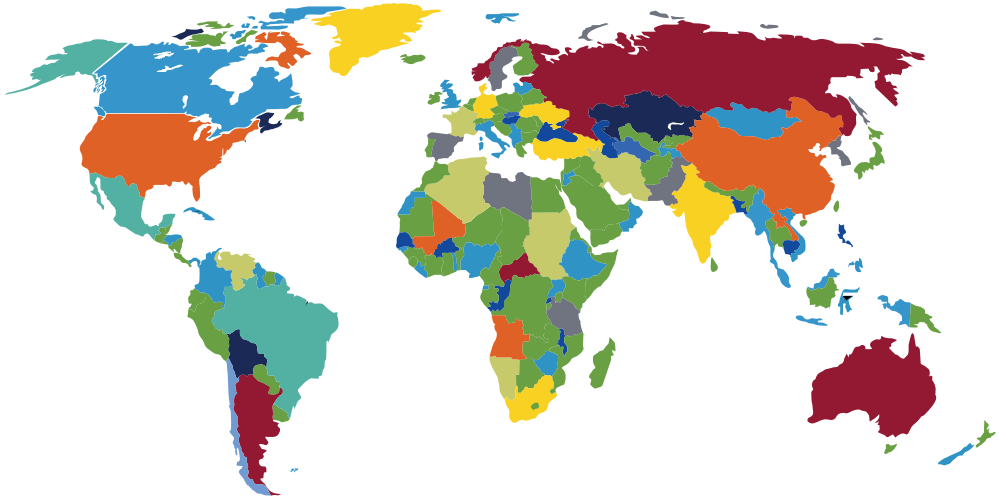

Corporate pollinator projects outside the U.S.

While the strategies outlined in this white paper and the *National Strategy* are targeted to facilities in the U.S., many of them are applicable for implementation outside the U.S. Corporations working outside of the U.S. can also refer to pollinator strategies and initiatives created for their particular nation or region, such as Australia's Pollinator Protection Initiative, the United Kingdom's *The National Pollinator Strategy: For Bees and Other Pollinators in England*, the pan-European SUPER-B initiative, or the African Pollinator Initiative. The profusion of pollinator conservation organizations and initiatives around the world signify the urgency of creating more pollinator habitat on corporate landscapes.

A call to action for corporate landowners

The *National Strategy* establishes a clear expectation that corporate landowners will participate in the "'all hands/all lands" approach to effectively manage pollinator health. The goal of restoring 7 million acres of land for pollinators over the next 5 years cannot be met without the participation of corporate lands. The examples in this white paper show that pollinator conservation programs can be as varied as the lands available for implementation.

The following are first steps a landowner can take to contribute to the *National Strategy* and increase habitat for pollinators:

- Assess the size and location of the land available for pollinator projects. Whether it is a small rain garden or a large prairie, size is not an issue as pollinators can thrive in a wide range of habitat sizes.
- Determine what regulatory or operating restrictions may impact your ability to plant pollinator-friendly species and attract pollinators to your lands.
- Download the free WHC Pollinator Project Guidance to assist you in designing a project that will have a meaningful impact on pollinators. The Project Guidance describes how to build a sound pollinator project and describes strategies to strengthen programs for greater outcomes.

In addition, by seeking WHC Conservation Certification for a program, a corporate landowner will demonstrate that their efforts have met third-party standards and can be counted toward the 7 million acre goal.

Pollinator projects need not be complex or expensive, and in this critical case of pollinator species with rapidly declining populations, every act of conservation matters, and every act will make a difference.

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Endnotes

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How Companies Can Align Their Business Needs with the *National Strategy to Promote the Health of Honey Bees and Other Pollinators*

WHC can help identify opportunities for pollinator projects on corporate lands and develop strategies that will mainstream biodiversity into operations. If you're interested in exploring these opportunities, please contact us at strategyandplanning@wildlifehc.org.

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