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OTHER OPTIONS



# Green Infrastructure Project Guidance

Stakeholder Informed





# Introduction

Green infrastructure is an approach to mitigating environmental challenges using vegetation, soils and natural processes as part of a living engineered solution.

There are many opportunities to implement green infrastructure projects on sites to help solve environmental challenges. Living engineered solutions can provide a broad range of benefits at the site and beyond – including biodiversity, sustainability and cost savings, as well as the mitigation of environmental challenges.

For the purposes of WHC Conservation Certification, green infrastructure projects will consist of living engineered and constructed solutions that incorporate direct benefits to biodiversity. This may involve the use of native vegetation that will benefit a target species or group of species in the area. *Please note that projects that provide only indirect benefits to biodiversity will not be considered for WHC Conservation Certification.*

# Building Your Program

Projects are divided into four categories: **Habitat**, **Species Management**, **Education and Awareness** and **Other Options**. You can build a program with more than one of each category but you must associate your program with at least one habitat. This Green Infrastructure Project Guidance is in the **Other Options** category. Green infrastructure projects will most likely be associated with an artificial landscaped or wetlands habitat, as well as with **Education and Awareness** projects or **Species Management** projects, depending on your objective.



**Habitat** – Projects that focus on conservation actions to protect, restore and manage different habitats.



**Species Management** – Projects addressing the conservation needs of targeted wildlife species or groups of species.



**Education and Awareness** – Projects to improve awareness, understanding and skills relating to conservation and the environment.



**Other Options** – Specialized projects that add value to your conservation efforts.

Browse the Project Guidance library at [wildlifehc.org/pg](https://wildlifehc.org/pg).

# What Do Green Infrastructure Projects Look Like?

Green infrastructure projects can be constructed as a new installation, or an existing structure that is retrofitted. The most common types of green infrastructure projects include:

- Stormwater management strategies
  - Strategic tree planting
  - Rain gardens and other types of bioretention cells
  - Bioswales
  - Stormwater planters
- Living roofs and walls
  - Plants for water retention and reducing energy costs for heating and cooling
  - Gravel to provide habitat for birds, such as nesting habitat
- Mitigate and replace impervious surface
  - Tree planting
  - Removing impervious land and replacing with landscaping and meadows

- Covering impervious surface with soil and vegetation in brownfields or other areas where infiltration is not desirable

- Wildlife corridors to provide safe passage between habitat areas fragmented by roads or other developments

It will be important for applicants to justify why a particular green infrastructure solution was employed, as well as how biodiversity benefits were taken into consideration during the planning and implementation of the project.

# Considerations for Corporate Lands

Projects implemented on corporate-owned lands have different circumstances and challenges to those on public lands, protected lands or wild lands.

## **Which types of corporate lands are best suited for green infrastructure projects?**

Green infrastructure projects can be appropriate for a wide variety of corporate property types and sizes. However, they will likely be most common on corporate properties in urban and suburban settings, where the impervious surface area will be higher and the subsequent need for management of stormwater, building insulation from heating and cooling, etc., will be more prominent.

## Addressing challenges

The corporate context presents certain challenges for implementing green infrastructure projects. Understanding these concerns and potential ways to overcome them can help your pollinator project succeed in the long term.

Concern	Response
In some cases, aesthetic concerns may be expressed due to perceptions that native plants appear plain or weedy.	<p><i>WHC or other partners can work with the site to help develop an aesthetically-pleasing plant mixture with blooms across many seasons and help create a more structured design.</i></p> <p><i>Making the project look more intentional and cared for with features like informational signage can help allay concerns about appearance.</i></p> <p><i>Outreach efforts can also help educate the community about the value of the project.</i></p>
Green infrastructure projects can be highly site-specific, depending on factors such as soil, hydrology, the local ecosystem and its species composition, and maintenance needed.	<p><i>Teams should call upon local expertise and reference information to assess the site conditions and determine the project design, planting list, maintenance regime, etc.</i></p>

Concern	Response
<p>Employees may have limited resources or time to dedicate to green infrastructure projects.</p>	<p><i>Build support from senior management through education on the environmental importance of the project, cost savings, public relations and community benefits.</i></p> <p><i>Partner organizations can often provide assistance with implementing, maintaining and monitoring of projects.</i></p>
<p>Maintenance or landscaping crews and other site staff may not be familiar with how to properly maintain green infrastructure over the long term.</p>	<p><i>Maintenance or landscaping crews and other involved employees can be trained in proper maintenance of green infrastructure by a local expert.</i></p>
<p>Some green infrastructure projects are required by local or regional regulation; there may be resistance to designed to beyond these requirements.</p>	<p><i>Most regulated green infrastructure regulations do not contain requirements for biodiversity. Including biodiversity in your design may help your project exceed regulatory requirements.</i></p>

# Getting Started with Green Infrastructure Projects

**For a project to qualify toward Conservation Certification, you must be able to answer “yes” to five questions.**

1. Is the project locally appropriate?
2. Does it have a stated conservation or education objective?
3. Does it provide value or benefit to the natural community?
4. Have outcomes been measured and is there supporting documentation?
5. Does it exceed any pertinent regulatory requirements?

## **Conservation and education objectives**

It is a requirement of Conservation Certification that green infrastructure projects be designed to meet one or more conservation objectives. Objectives can guide the direction of the project, help motivate others to participate and provide a basis for evaluation.

The following are suggested objectives for green infrastructure projects. Your team may choose one or more of these objectives, or develop your own relevant objectives.

- Creating or retrofitting green infrastructure that provides habitat:
  - for a specific/rare species
  - for a group of species such as pollinators or songbirds
  - for an ecological community
  - to address a local conservation or social need
  - that connects to other habitats – inside or outside the property boundaries, along migratory corridors, and across international borders
- Addressing one or more scientific questions or research topics related to green infrastructure
- Using green infrastructure to facilitate conservation education



### **The following strategy is required for green infrastructure projects:**

- The project contains one or more elements that directly benefit biodiversity

### **The following strategies are recommended to strengthen the conservation impact of your project:**

- Develop and implement a plan for the project's design, maintenance and monitoring using the appropriate technical and interdisciplinary expertise
- Demonstrate an understanding of why each species was chosen for the planting list, including wildlife benefit, soil and light requirements
- Include plant species that complement nearby and adjacent habitats, either on- or off-site, to increase connectivity
- Include credible monitoring that contributes to a citizen science project
- Engage employees or community members in all aspects of the project
- Be meticulous about sourcing native plants and other engineering materials

- Align with local, regional or landscape-scale priorities or initiatives for green infrastructure and biodiversity conservation, such as the state wildlife action plan, watershed or urban forestry plan, local or regional green infrastructure initiative, etc.
- Utilize peer-to-peer education such as conferences and publications to share knowledge about green infrastructure
- Incorporate green infrastructure topics into STEM (Science, Technology, Engineering and Math) education efforts
- Incorporate structures or non-vegetative components that fulfill a conservation or education outcome
- Evaluate progress and successes or failures of the project since its inception, using information such as the baseline data and monitoring data
- Communicate or demonstrate the purpose and the outcomes of the project to the community
- Contain a diversity of plants

- Extend the positive impact of the project by partnering with neighboring landowners to connect green infrastructure efforts across multiple locations
- Provide opportunities for credible, scientifically rigorous research or monitoring by college students, professors and other scientific professionals
- Be implemented as part of a corporate-wide initiative for green infrastructure and biodiversity

## Partnerships

Green infrastructure projects implemented on corporate lands will benefit from partnerships with groups that have established conservation or education objectives. A team may use such a partnership to help design, create or monitor its green infrastructure project and provide educational opportunities for employees and community members. Partners may also be able to assist the team with obtaining funding for the project, and identify learning links to other conservation priorities in the region.

## Resources

Your project may benefit from online or printed resources available for your region to support the design, delivery, maintenance and monitoring of green infrastructure projects.

A search for “rain garden,” the most commonly implemented form of green infrastructure, in the Conservation Registry returns about 20 projects implemented through WHC’s certification program. This is a great place to find inspiration for your project and see what others are doing in and around your location.

The following terms, in any combination, may be useful when searching online for items related to this theme:

<b>green infrastructure</b>	<b>stormwater planter</b>
<b>low impact development</b>	<b>wildlife corridors</b>
<b>bioretention</b>	<b>green roof</b>
<b>bioretention cell</b>	<b>living roof</b>
<b>rain garden</b>	<b>green wall</b>
<b>bioswale</b>	<b>living wall</b>
	<b>native plants</b>

# Understanding the Application Process

## Documentation

When applying for Conservation Certification, you will provide documentation of the planning, implementation, maintenance and monitoring of your green infrastructure project. The following is required documentation for green infrastructure projects; however, you may also submit additional supporting materials.

**Design plans/planting lists** that show the project has been designed for success. Recommended items to include in the design plan are:

- Planting list with information about its origins and biodiversity benefits:
  - Name of plant species (common and scientific names)
  - Blooming time
  - If the species is native to the region; if not, please provide reasoning for choosing it
    - + Whether the species is a cultivar
    - + Whether the species is a local genotype
    - + What habitat/life cycle needs it provides,

such as berries or seeds for forage, larval host for butterflies, etc.

- Planting or landscaping plan that shows appropriate siting of the project, clumping and spacing, plants and other materials sourced in conscientious manner, etc.
- Any additional steps taken to ensure success of the implementation, including irrigation, soil tests, soil prep or revision of the plant list by a technical expert

**Photographs and videos** that depict the progress of the project implementation and management.

**Maintenance plans** that demonstrate appropriate activities that meet the needs of the habitat to fully support the target species and support the conservation and education objectives.

**Baseline data** that provides a biological baseline upon which post-implementation monitoring can be based and used to evaluate the progress of the project and determine next steps.

**Monitoring logs** that show the frequency, type, and results of monitoring of the project, whether in an informal manner or a scientifically rigorous manner.

**Examples of technical advice** utilized in the project, such as consultants, guidebooks, websites, journal articles, etc.



## Application questions

As you complete the application online, you will be asked the following questions about your green infrastructure project. These questions will help us understand and evaluate your project.

	Question	Why this question is important
<b>Objective and Overview</b>	Does your green infrastructure project also provide direct biodiversity value?	<i>For green infrastructure programs to be recognized, they must have a biodiversity component and a biodiversity objective.</i>  <i>These questions provide us with a description of the program to help us review the application.</i>
	What is the biodiversity objective of your green infrastructure project?	
	Identify the phase of the green infrastructure project at the time of application for Conservation Certification: under construction or established	
	What type of green infrastructure installation does your project include?	
	What environmental challenge was the project engineered to address?	
	Briefly describe the engineered features and their functions.	
<b>Biodiversity Consideration</b>	Describe the biodiversity considerations incorporated into the green infrastructure project to meet the biodiversity objective.	<i>Details of the biodiversity component will be sought in the associated habitat or species project description.</i>
	Upload any plans that specifically address the biodiversity components of the project.	
	Describe any adaptive management implemented to address or improve biodiversity post-construction.	

	Question	Why this question is important
<b>Design Considerations</b>	Were technical resources consulted to develop the green infrastructure to ensure the biodiversity benefits?	<i>Successful green infrastructure projects require professional design and adherence to best practices.</i>
	Have established green infrastructure best practices been used to enhance biodiversity benefits?	
	List the best practices used, the source of the best practice, and provide website links if available.	
	Describe any other technical resources and how the information was used to ensure biodiversity benefits.	
<b>Knowledge Sharing</b>	Does your site participate in any efforts to share the biodiversity benefits of green infrastructure?	<i>Knowledge sharing drives change and increases adoption of new approaches.</i>
	List the efforts including dates, descriptions of how the information was conveyed, and the targeted audience.	
	Upload documentation of presentations, papers or other publications.	
<b>Corporate Commitment</b>	Is the project part of a corporate level commitment to biodiversity through green infrastructure?	<i>A commitment across corporate landholdings can strengthen a project's biodiversity outcomes.</i>
	Upload documentation of your corporate commitment to green infrastructure and biodiversity.	

	Question	Why this question is important
<b>Regulatory Requirements</b>	Are any aspects of the project done in relation to regulatory requirements (e.g. remediation, mitigation, water regulations, etc.)?	<i>Going beyond compliance is a requirement for certification.</i>
	Please describe how the project exceeds requirements or how its components were voluntarily included into permits.	
<b>Existing Certifications</b>	Does this project have third party related certification for this biodiversity component?	<i>Other certifications or recognitions illustrate strong efforts and commitments.</i>
	List the certifications and provide a website link if available.	

## Content development for Conservation Certification

To inform the development of Conservation Certification, WHC analyzed the projects it was recognizing through its certification program to assess whether they were aligned with contemporary conservation and education priorities.

Following this assessment and using information from it, WHC convened Advisory Committees around conservation and education themes to develop the content that would guide practitioners and applicants in the future. This content is the basis for the Project Guidance and the online application process.

The following provided feedback on the initial draft of the Green Infrastructure Project Guidance:

**Will Allen**, The Conservation Fund  
**Joel Baldin**, Hitchcock Design Group  
**Robert Goo**, U.S. Environmental Protection Agency  
**Danielle Green**, U.S. Environmental Protection Agency  
**Lauren Hoffman**, Environmental Consulting & Technology, Inc.  
**Tom Liptan**, FASLA, Urban Greenspaces Institute  
**Kathy Luther**, Northwest Indiana Regional Planning Commission  
**Jim Ridgway**, Environmental Consulting & Technology, Inc.  
**Kathryn Sommo**, Roux Associates

More information can be found about this process in the “Our Impact” section of [wildlifehc.org](http://wildlifehc.org) under “Commitment to Transparency.”





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The WHC Strategy and Planning team can help you build a successful project by identifying needs, making connections with partners and resources, and providing strategies that meet business and conservation goals. Contact us today.

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Every act of conservation matters.

