

6 NATURAL LANDSCAPING



Background

The predominant landscaping material of the Chicago region is the turf grass lawn. The lawn is borrowed from the heavily grazed, short grass pastures and formal gardens of Europe, and provide not only aesthetic appeal but recreational space as well.

Despite the popularity of today's heavily manicured landscapes, ecologists have described them as virtual deserts with respect to biodiversity. A monoculture of turf grass precludes native plant species. It also offers little habitat for indigenous birds and butterflies that are desired by many urban residents. Introduced grasses, such as Kentucky bluegrass, also do not thrive as well-kept lawns without considerable effort, because they prefer the cool, damp climate of their origin. Turf grass requires irrigation, frequent mowing, fertilizer, pesticides, and herbicides. This maintenance is not only expensive but also contributes to

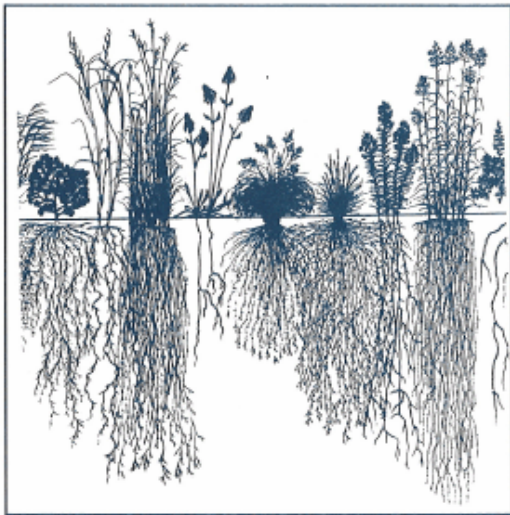
adverse environmental impacts, including air and water pollution.

This modern landscape contrasts sharply with the predominant landscape prior to European settlement. Then, prairies were interspersed with woodland, savannas, and wetlands. Hundreds of species of plants could be found on every acre of land.

Now there is a growing interest in the use of native plants in landscaping. Known as *natural landscaping*, this movement is fueled in part by concerns over the high costs and environmental impacts of the modern landscape. Natural landscaping offers particular benefits in protecting and restoring biodiversity, because it attracts native animals, including colorful butterflies and moths and an array of songbirds. It also can serve as a buffer for sensitive natural areas and can be used to connect adjacent habitat areas via vegetated greenways.

"Indigenous plants are a significant part of a region's geographic context. In fact, they help define it. They have proven themselves capable of surviving in a landscape for millennia. What better plants can there be, if not the natives, to confront the soil conditions, climate, pests, and diseases of the local areas?" - Michael Homoya, Indiana Department of Natural Resources Division of Nature Preserves

Another value of natural landscaping is the protection of downstream wetlands and waterbodies. This is accomplished, in part, by the deep, extensive root systems of native plants that (1) improve the infiltration and filtering of precipitation and stormwater runoff, and (2) hold soil in place, thus greatly reducing erosion and siltation of waterbodies. Stands of native vegetation also require relatively low inputs of chemical control agents—no fertilizers or pesticides, and minimal herbicide once established. Thus natural landscaping leads to improved water quality and the stabilization of runoff in comparison to conventional landscapes.



Deep prairie plant root systems.

Recommended Approaches

Local governments can do a number of things to promote natural landscaping. Potential local actions range from encouraging the use of native plants for landscaping private properties and new development, to protecting existing native vegetation and trees, to utilizing natural landscapes on public properties.

Encourage the Use of Native Plants for Private Landscaping

In many communities, the conventional turf grass landscape has been virtually mandated by local weed and landscaping ordinances. Even where residents desire to implement more natural landscapes, they are discouraged or prohibited. In these circumstances, the first step is to revise the community's weed ordinance to allow natural landscaping.

Natural landscaping also can be encouraged or required for certain components of new development or redevelopment. In particular, natural landscaping should be required in drainage swales, around detention basins, and along the edges of streams, lakes, and wetlands.

Other potentially important sites for the establishment of natural landscapes and habitats are institutional sites (such as hospital grounds), commercial and industrial sites (especially industrial and office parks), houses of worship, and senior housing complexes. Privately owned golf courses and parks also should be encouraged to use natural landscaping. Agricultural land also can benefit from natural landscaping for windbreaks, swales and other uses.

Protect Existing Native Trees and Other Native Vegetation

A number of communities have instituted tree protection ordinances that require certain species of trees and/or trees larger than a specified size to be protected by property owners and developers. Such ordinances could be further tailored to biodiversity protection purposes by specifying native trees for preservation. They also can provide for the control of invasive tree species in the restoration and management of natural oak woodland, wetland, and prairie habitats.

Some communities require broad protection of other native plant communities for their habitat and biodiversity values. Such requirements stipulate that native prairies, wetlands, and woodlands must be preserved and managed to retain their plant diversity. Additional discussion of this approach is presented in the chapter on stream and wetland protection.

Utilize Natural Landscapes on Public Properties

Local governments can effectively promote the use of natural landscaping by using it on public properties. This can be done by municipalities, school districts, park districts, and highway departments.

Municipalities can use native vegetation around buildings and parking lots to enhance aesthetics, reduce maintenance costs, and reduce stormwater runoff. Municipalities also can use native vegetation to remediate landscaping and erosion problems along stream channels and detention basins, as well as along highway and road parkways, ditches, medians, and vacant meadows and open areas. The various types of rights-of-way, such as utility corridors, provide

good locations for the use of native landscapes. Using natural landscaping in these corridors can help provide habitat continuity and linkages important for species propagation and survival.

School districts and park districts are increasingly incorporating natural landscaping into their properties. In addition to aesthetic and maintenance benefits, establishing prairies and wetlands provides a unique educational vehicle to convey ecological and natural history concepts. Maintenance of natural landscapes also provides a hands-on opportunity for students and volunteers to interact with natural processes.



Large-scale natural landscaping may occasionally require a controlled burn for proper maintenance of the habitat.

Provide for Maintenance

Natural landscapes require much less maintenance than conventional lawns. Once established, natural landscapes do not require regular mowing, watering, fertilizer, or pesticides. Prairie or wetland landscapes are best managed by prescribed burning, typically every one to three years, which controls most

invasive weeds and stimulates native plant diversity. The services of a qualified professional should be sought for burning and permitting may be required as well. Fire-breaks and setbacks from buildings are important to ensure safety. With these precautions, prescribed burning is now a commonly applied technique throughout the region. Where natural landscaping is applied on very small sites, such as residential lawns, burning may not be appropriate. In these settings, infrequent mowing and hand weeding are recommended.

Provide Public Education

Local governments should provide information about natural landscaping to citizens, business owners, developers, and civic organizations. Important topics include environmental benefits, landscape setbacks at property lines, and prescribed burning. The educational effort also can include demonstration projects.

Establish a Sense of Place

Many municipalities in the region are named after specific natural features that either used to exist or still exist in the landscape of northwestern Indiana. For example, Cedar Lake and Boone Grove, Indiana, were presumably named for landscape features with which early residents identified. These place names provided an identity and a sense of place for the towns and villages that grew up near these features, an identity that today is possibly less evident. Such names could be used as the impetus to reestablish the native landscape as a unique amenity for the community.

Summary of Benefits

- *Low maintenance cost.* Natural landscapes require much less time, money and effort to maintain once they are established. Long term needs for irrigation, fertilizers, pesticides and herbicides are virtually eliminated. Instead, controlled burning or mowing may be needed every one to three years.
- *Wildlife habitat and biodiversity protection and restoration.* Natural landscaping protects and restores habitats for wildlife. The introduction of native plants can enhance the populations of birds, insects, and animals which are essential components of healthy ecosystems.
- *Conservation education and scientific study.* Natural landscaping puts people in touch with nature close to home, work, and other nearby locations. Municipalities, school districts, park districts, and forest preserve and conservation districts can use natural landscaping as an educational and environmental monitoring tool.
- *Beautification and property enhancement.* Natural landscaping provides aesthetic richness with seasonally changing color and texture that significantly contributes to the beauty of sites and communities.
- *Creation of a distinctive community image.* High quality natural features such as river corridors and woodlands strengthen the identity of a community or neighborhood. Distinctive natural landscaping that preserves the unique characteristics of a community is a unique community asset.
- *Reduced cost of stormwater management.* Natural landscaping slows and reduces the amount of stormwater runoff and enhances

infiltration. This helps reduce infrastructure costs and downstream flooding, and replenishes groundwater. Stormwater conveyance and detention facilities that replicate natural systems are generally less expensive to build and almost always more economical to maintain.

- *Reduced soil erosion.* Native plants appropriately used on sloped sites, stream banks, drainageways, and shorelines can effectively hold the soil and reduce erosion due to their deep and fibrous root systems. The initial cost and long term maintenance costs are less expensive than traditional hard engineered structures such as rip rap.
- *Improved water quality.* Native vegetation in drainageways enhances the infiltration of contaminated stormwater. Vegetated buffers along streambanks and shorelines intercept surface runoff and subsurface water pollutants. The reduced use of fertilizers and other chemicals is also an important factor in protecting water quality and public health.
- *Passive recreation.* Natural landscapes are ideal locations for bird watching, photography, walking and hiking, and simply enjoying the quiet and beauty of nature.
- *Other environmental benefits.* Due to greatly reduced reliance on lawn mowers for maintenance, natural landscapes can reduce noise pollution and air pollution, including greenhouse gases.

Local Examples

❖ *Indiana Native Plant and Wildflower Society*



The Indiana Native Plant and Wildflower Society, or INPAWS, includes more than 600 members who promote the appreciation, preservation, conservation, utilization, and scientific study of the flora native to Indiana and educate the public about the values, beauty, diversity, and environmental importance of indigenous vegetation.

The society has a West Central chapter in Indiana which includes the counties of Lake, Porter, and LaPorte in northwest Indiana. Members of INPAWS can:

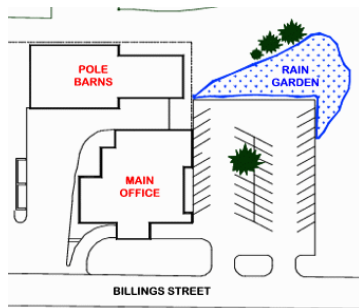
- learn why native plants are important
- find out how to use native plants in your landscape
- learn how to protect habitats for native flora and fauna, and how to rescue those doomed by habitat destruction
- come to our native plant and seed auctions and sales
- learn how to establish a prairie or meadow
- participate in slide shows, field trips to spectacular Indiana sites, and other activities with like-minded people

Through their website, which can be accessed at www.inpaws.org/landscaping.html,

visitors can download the PDF file, “Landscaping with Plants Native to Indiana.” This useful document provides a listing of plants recommended for landscape design, and it also outlines numerous sources throughout Indiana and surrounding states which carry native plants.

❖ *Valparaiso Department of Water Works Rain Garden*

Water Works, with the assistance of JFNEW, Ecological Consultants & Environmental Engineers, has constructed a “rain garden” using native plant species in Valparaiso, Indiana, next to their main office.



A rain garden is a man-made depression in the ground (usually in a low-lying area) that is used to improve water quality and stormwater management. The rain garden creates a “bioretention area” by collecting water runoff and storing it, which allows the water to filter slowly into the soil. The native species, many of which have deep root systems, promote groundwater infiltration by absorbing much of the water. This lessens the risk of flooding.

Rain gardens can be conveniently placed in close proximity to impervious surfaces such as parking lots, driveways, and sidewalks to provide a location for water to collect and absorb. Pollutants which runoff these surfaces

are also filtered by the plants’ root systems, which improves water quality.

A single family can plant a rain garden on their own property. Just choose a depressed spot in the yard and plant hardy native species—certain types of shrubs, wildflowers, and grasses—that do not require chemical pesticides or regular fertilization. Refer to www.inpaws.org/landscaping.html for a list of native species and locations where they can be purchased. Your local nursery can also help with the project.

The Valparaiso Water Department and Stormwater Management Board hope that this project will set an example of viable water collection and treatment system for residential as well as commercial or industrial facilities throughout the community.

(Source: www.valparaisoutilities.org/water/raingarden/raingarden.htm)



Moss Lake Vegetated Buffer Strip

❖ *Valparaiso Lakes Area Watershed*

The Valparaiso Lakes Diagnostic Study, completed in 2003, identified phosphorus as the limiting nutrient for water quality improvements in the 10 glacial lakes situated north of Valparaiso. Recommendations for water quality improvement projects included vegetated buffer strips along several lakeshores to replace grassed areas. Deep-rooted native plantings were incorporated into the landscape to stabilize the shoreline, absorb excess nutrients from runoff and to discourage Canada geese from residing in and around the lakes.

These unique glacial lakes have been greatly altered by humans to meet water supply needs and for housing and recreational purposes, including a golf course on Mink Lake; many of the lakes have manicured grass lawns running to the lake edge, permitting runoff to flow directly into the lake unimpeded. By incorporating native planting buffer strips to these lakeshores, the Valparaiso Lakes Area Conservation District has helped restore the lakes area's original natural beauty while improving water quality for residents.

Suggested Reading

Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois. U.S. Department of Agriculture Natural Resources Conservation Service, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers. 1997.

Natural Landscaping for Public Officials: A Sourcebook. Richard Mariner, et al. 1997. Northeastern Illinois Planning Commission.

Tallgrass Restoration Handbook. S. Packard, and C.F. Mutel, eds. 1997. Island Press, Washington, D.C.

Tool Kit on Natural Landscaping. Northeastern Illinois Planning Commission. Chicago. (The *Tool Kit* contains a poster brochure and slide collection, in addition to the *Sourcebook* listed above.)

United States Environmental Protection Agency Website: www.epa.gov/greenacres.

Wild Ones Handbook. Wild Ones—Natural Landscapers, Ltd. 1998. Appleton, Wisconsin.

Wild Ones New Member Handbook. Wild Ones—Natural Landscapers, Ltd. 1999. Appleton, Wisconsin.

Wild Ones—Natural Landscapers, Ltd. Website: www.for-wild.org.