

Indiana Dunes National Lakeshore Flowers and Plants

Introduction

As a homeowner who lives within the boundaries of the Indiana Dunes National Lakeshore it is important to understand the flowers and plants that grow within your yard. This paper will explore how a homeowner can maintain and enhance the natural beauty of the Indiana Dunes National Lakeshore (IDNL) with flowers and plants that are native and yet non-invasive. Personally, I will seek to show that I “can use public or private institutions as resources for learning”, in particular one of the U.S. National Parks.

There are many areas that need to be understood including the soil conditions, the rules and regulations of the IDNL, as well as the town of Beverly Shores, the flowers and plants that grow well and those that are considered invasive and should be avoided or eradicated. One must also take into consideration the barriers that may stand in the way, including climate, animals, and insects. Ultimately it is the author’s intent to consider how to care for the natural beauty of her own yard while learning as much as possible about all of the different varieties of trees, flowers, plants, and ground cover that already exist within the property.

Conditions

The Indiana Dunes National Lakeshore sits along the southern end of Lake Michigan, approximately 15 miles along the shoreline, in Lake, Porter, and LaPorte Counties in Indiana. There are 15,000 acres and over 45 hiking trails over terrain as diverse

as marsh, rugged dunes, prairies, and forests (National Park Service-NPS). The IDNL ranks fourth in plant diversity of all the National Parks with over 1,100 flower and plant species including ferns and orchids, many of them quite rare (NPS). According to the USDA Agriculture Research Service on the US Plant Hardiness scale a good portion of the INDL is considered to be Zone 6a – as noted by the green in Figure 1 - though most of



Figure 1: USDA Plant Hardiness Zone Map - Indiana

Porter County and the nearby Chicago metropolitan area is Zone 5b. This has to do with the proximity to Lake Michigan and how that affects the air temperature (USDA). The lower the number the harder it is for plants to grow. Climate and soil greatly affect the variety of vegetation (Ruhl).

To have a successful garden or landscape there are many factors to consider such as average temperature, length of growing season, wind, snow, winter sunshine, soil type, soil moisture, and humidity just to name a few (USDA). It is important to understand if the soil is more acidic or alkaline. Clay has more alkaline, but with sand the moisture leeches out so what you put in goes away quicker. This means that the soil is dryer at times and can cause more erosion (Ruhl). Within the INDL the soil is obviously sandier so this has to be factored in when planting any garden or landscape in the area.

Rules & Regulations

The town of Beverly Shores, in the heart of the IDNL, has guidelines to help residents preserve the natural beauty and follow the rules and regulations established by the National Park Service. There is an active Building Commission that approves all new

construction, demolition, and major renovation projects to ensure compliance with National Lakeshore and town guidelines. Every May, the town of Beverly Shores holds a Garlic Mustard pull in an effort to keep this invasive plant at bay. In the month of May the distinctive white heads start to form and make them easy to pull out – roots and all. A picture of this can be found on page 2 of the attached photograph document.

Ecological Regions

To understand the diversity of the flowers, plants, and trees of the Indiana Dunes National Lakeshore it is important to note the various ecological regions. It begins at the beach along the southern shore of Lake Michigan and moves inland to the hardwood forest and the marsh. The plants and even animal communities get more complex through a process called succession as you move inland (Chaddock 2). In this region there are many dune types, such as the fore dunes, low dune, moving dunes, stable dunes, and high dune ridges (Schoon 25). Some common beach plants are Sea Rocket, Tumbleweed, Seaside Spurge or Russian Thistle. These annuals start from seed each year because the winter winds and high waves wash them away (Chaddock 6).

Next up are the Foredunes, formed nearest the beach and they run parallel to the shoreline. Foredunes have hardy plants that are able to withstand the blowing winds and dryness. These plants include Marram Grass, Sand Reed, Little Bluestem as well as Eastern Cottonwood, Sand Cherry, Beach Wormwood, Sand Cress, Common Milkweed, Tall Goldenrod, Wild Mint, and many other interesting varieties of plants (Daniel 23-24). These plants help to anchor the dune, but they also provide shade for less resilient plants (Chaddock 11). Marram Grass is considered to be the most important because of “its underground rhizomes and its roots that sew the dunes together” (Engel 36). Rhizomes

grow horizontally “just below the soil’s surface” and are prevalent with aquatic plants (Hollingsworth 69).

There are also areas called “blowouts” where all vegetation has been eroded by wind. The natural process of succession begins here when pioneer plants are colonized beginning with the small plants, grasses, and shrubs to stabilize the dune (Chaddock 34). Several plant varieties are found in these blowouts including Sandbar Willow, Red Osier Dogwood, Flowering Spurge, Tall Scouring Rush, Sand Thistle, Bearberry, and Wild Lupine (Chaddock 35-40).

Interdunal Ponds are found between the dunes in low lying areas. There is a layer of clay and it holds the moisture, but the soil is not rich in nutrients so there are only a small number of plants that survive. They include the Fringed Gentian, Common Spiderwort, Swamp Milkweed, Butterfly Weed, and Common St. John’s Wort (Chaddock 42-47).

Beyond the Interdunal Ponds you will find the Hardwood Dunes, sometimes called the Woodlands. The Hardwood Dunes are able to support more varieties of trees and plants due to increased nutrients. There are many more oak and ash trees as well as beech-maple and the Woodlands are home to the white-tailed deer (Schoon 27). The wildflowers in this area that really thrive are those that bloom in the spring and early summer. These wildflowers grow best at this time of year as they receive more sunlight before the leaves obscure it (Chaddock 48). Some of them include Bloodroot, Yellow Trout Lilly, Round-lobed Hepatica, Spring Beauty, Rue Anemone, Dutchman’s Breeches, Wild Ginger, Common Blue Violet, Large Flowered Trillium, Smooth Solomon’s Seal,

Dwarf Ginseng, Blue Phlox, and Wild Geranium (Chaddock 49-64). Another beautiful indication of spring is the abundance of Daffodils in many landscapes, including mine.

Just passed the Hardwood Dunes are the Swamps and Bogs wetlands which have their own unique variety of plant life. A few of the flowering plants found there are the Blue Flag Iris, the Skunk Cabbage, and the Marsh Marigold (Chaddock 84-87). In the wetland area there are numerous, rare varieties of orchids including Pink Lady's Slippers, Grass Pink, Rose Pogonia, and other more delicate-looking orchids (Daniel 121). That is a topic for further research at another time.

Flowers and Plants

According to the National Park Service website, there are approximately 1130 native plants and wildflowers within the IDNL (NPS). With that in mind, there is much to be considered by the homeowner wishing to have a successful garden or landscape.

Some questions to ask include:

- What hardy plants grow in this area with minimal attention?
- Are there vegetables or fruit plants that grow well in these conditions?
- What ground cover or ferns works well here?
- What invasive plants should be avoided?

A little bit of research can go a long way in avoiding frustration or having a failed garden. As noted by the 1130 native plants and wildflowers, there are many plants that grow in this area with minimal attention. It just takes a little effort to determine which ones you like and then figure out how, when, and where to plant them in your own yard. Yes, there are vegetables and fruit plants that would grow well in these conditions with sandy soil. They include blueberries, strawberries, black raspberries, rhubarb, asparagus,

onions, carrots and potatoes. Due to the mixture of the loam of the soil combined with sand, it is well-drained and suitable soil for root vegetables (Ruhl). There is a multitude of ground cover that grows well here. It can be seen by just taking notice during any walk through the National Lakeshore area. Even in the cold of winter, there is much green ground cover such as various types of ferns, pachysandra, and several varieties of ivy. The varieties of ferns that work best in these conditions would be bract, wood and Christmas (Ruhl).

Some of my favorite plants in the IDNL are not necessarily native and they can be invasive. One of those is Vince Minor Periwinkle. It blooms from April to June and has lovely purple flowers. It is, however, difficult to eradicate once it is established and can choke out other native plants (Wagner 3). It is similar to the Wild Geranium which blooms about the same time of year. It is a common plant in the spring and can blanket large areas. It is not like the common garden plant with the same name which is actually Pelargonium (Wagner 6).

Another similar native wildflower is the Blue Wood Phlox, although it can also be white. This is founded in wooded habitats and is abundant in early spring through late June (Chaddock 68). The Common Blue Violet is visible in disturbed wooded areas. It can grow up to 8" tall which makes it distinctive from the other violet color plants listed above (Wagner 13). In the purple family are also lupines with flowers on tall stalks that resemble a snap dragon (Laber-Warren 25). Probably my favorite wildflower in the blue/violet family would be the Cylindric or Rough Blazingstar which blooms from mid-July to late September. It stands up to five feet tall and is prominent on the foredunes right at the edge of the beach (Wagner 47). The invasive aquatic plant, Purple

Loosestrife, resembles the Blazing Star, but it outcompetes and can replace other plants and native grasses, making it an invader. It can damage hundreds of thousands of acres of wetland habitat each year (Hollingsworth 78-79). Photos of many of these flowers are included in the attached document.

Also, in early spring a myriad of Daffodils and Trilliums poke their heads through the downed leaves all throughout the town of Beverly Shores. It is a beautiful site and gives hope for the end of winter. Another May wildflower is the Mayapple with its large leaves, white flower and lemony, edible fruit (Chaddock 61). At many times throughout the spring, summer and fall various wildflowers don't look like anything special. When not in bloom you look around and see a lot of green and some things that people might mistake as weeds. However, as the buds arrive and blooms pop open it's a whole different story. The color variations one can see range from whites, yellows, pinks, blues, purples, reds, oranges and even combinations of colors. Taking the time to stop and look can be quite rewarding when you find hidden treasures tucked in amongst other plants and ground cover.

One of those gems is the flower seen in Figure 2. It is a beautiful flower with yellow petals and brown center, which is either an Annual Sunflower (Ruhl) or a Brown-Eyed Susan. It can be seen late May to late October. This photo was taken in September 2015. I will have to wait until it blooms again next spring to check it out more closely to determine which one it is.

Another beauty in the yellow family is the Common Evening Primrose with its delicate, yellow bloom that opens in the evening from June through November (Wagner



39). A gem that is truly hidden is the Prickly Pear Cactus with its flat, fleshy pads and yellow and orange blooms in late spring (Schoon 13). At other times of year it is well hidden below other plants. The Aster is another common wildflower, mostly seen in white with yellow center or lavender with orange center. It is similar in appearance to the daisy but with smaller petals. It also blooms in the fall (Wagner 53).

Barriers

What barriers are there to a successful landscape? There are weather related barriers such as snow, rain, drought, wind, and temperature. There are animals that can damage plants. Deer are particularly fond of Hostas and Tulips and deer can also rub the bark off of trees and break plants. When planning a landscape, it is important to look for plants proven to be deer resistant. Chipmunks eat the roots and dig holes and squirrels, raccoons and rabbits can also be a nuisance (Ruhl). Insects are another problem that can affect any garden or landscape. The leaf of a Lemon plant can act as a repellent for certain insects and is helpful (Ruhl).

Invasive plants are another barrier. They include Bush Honeysuckle, Oriental Bittersweet vines, Autumn Olive trees, Multiflora Rose vines, Sumac (even non-poisonous), Willow, and Tree of Heaven (Wilkinson). In particular, the Tree of Heaven grows vigorously and can release toxins into the soil which could prevent other seeds from sprouting. The Environmental Restoration Group (ERG) of the town of Beverly Shores is working to control the spread of Trees of Heaven. After cutting down the trees it is necessary to paint the stump with an herbicide to prevent it from growing back. Residents are urged to do the same in their own yards (Lagoni). The ERG also worked this fall to eliminate non-native trees along the lakefront. This included Black Locust and

Lombardy Poplar trees (Young). There are invasive plants as listed above, but also Poison Ivy, Poison Oak or Poison Sumac that should be eradicated. It is important to know and identify invasive plants that can choke out other native plants in and around one's yard.

Wildfires are another risk for homeowners and the habitat within the IDNL. Prescribed burns are strategically planned as a way to naturally restore an area (Schoon 270). The National Park Service uses them as tools for habitat restoration along with other techniques to control the invasive plants (U.S. NPCA 102).

For Further Information

The Porter County website has quite a lot of information for residents in the County as well as the IDNL. The Indiana Dunes National Lakeshore Visitor Center located on Highway 49 just north of I-94 in Chesterton is a great source of further information as they have interactive displays, scheduled training workshops, and a bookstore with many local reference guides. The Indiana Dunes State Park Nature Center has similar resources to the National Lakeshore Visitor Center.

There are recognized local experts including Katie Rizer, Chuck Roth at the Chesterton Feed & Garden, Rafi Wilkinson at the Coffee Creek Watershed Conservancy and Beverly Shores resident, Geof Benson. There are also numerous locally written books such as "The Nature Conservancy's Guide to Indiana Preserves", "A Beginner's Guide to the Plants of the Indiana Dunes" and "Wild Flowers of the Dunes" - written for the lay person with limited knowledge of the plant life of the dunes (Chaddock ii).

My Yard

Now comes the “fun” part. Since my yard had not received much attention in the past decade there is much work to be done to clean it up and beautify it. First question: what flowers/plants already exist in my yard and of those, which do I want to keep and which need to be eradicated? While not addressing it directly in this paper, we also have a multitude of trees in our yard and have had a professional arborist come and check them and remove those at risk of falling or considered invasive. We have lots of Witch Hazel, Sassafras, White Oak, Black Oak and White Pine. To determine the difference in the White, Black or even Red Oak, it is necessary to look at how thick or thin the leaves are if they have pointed or rounded tips on the end (Theilgaard 56-58). We have also eliminated much of the invasive Garlic Mustard as well as some Poison Ivy and Virginia Creeper.

If I had my choice, what flowers/plants would I choose to plant in my yard? Will those work in these conditions? If the answer is yes, then it's time to determine when to plant them and where. Once planted there will be maintenance, weeding, and watering. There are many flowers that I love that would not work well to plant here. One of those would be tulips, since deer are attracted to them. Planting tulips would only work if they are planted high up on the balcony in planter boxes (Ruhl). We might just need to try that. There are varieties of ferns which I like very much, and we have already planted a small patch of Christmas fern near the front door of the house. It is best to avoid Multirosa, Virginia Creeper and Ostrich Fern as they can be quite invasive and take over any landscape (Ruhl).

It would also be nice to have a few vegetable or fruit plants. The sandy soil makes asparagus a good choice. Other options that grow well in sandy soil and are resistant to deer include strawberries, blueberries, raspberries or rhubarb and are some of the fruits that I would like to grow. It is necessary to figure out the best place to plant them in order to get sufficient sunlight, as they need sun to sweeten up. They also need the acidity in the soil to flourish (Ruhl). Being a responsible homeowner within the boundaries of any National Park takes effort and care. We have started to clean up unwanted plants and have some hardy perennials planted such as daffodils, ferns and pachysandra but there is so much more to be done.

Conclusion

During this research project I have just scratched the surface of all there is to learn within the boundaries of the Indiana Dunes National Lakeshore. While focusing primarily on the wildflowers and other plants found here I have discovered a myriad of other things to study. There are trees and shrubs, birds, and marine life and of course the entire great marsh swamp area. This project has forced me to look up and around when I am out hiking, as I discover so much more than I ever dreamed. I have definitely learned to appreciate and “use a public or private institution as a resource for learning” and will continue to do so for years to come. I now notice all the vegetation each time I am out walking and riding in the neighborhood and it is ever changing and always interesting.

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