Landscaping for Water Quality

Garden Designs for Homeowners 3rd Edition

Landscaping for Water Quality

Garden Designs for Homeowners

3rd Edition

Contact Information

1035 E Michigan Ave
Paw Paw, MI 49079
(269) 657-4030
www.vanburencd.org

This publication was produced by the Van Buren Conservation District with funding by the United States Environmental Protection Agency through the Michigan Dept. of Environmental Quality Non-point Source Program with technical review from the Michigan Natural Shoreline Partnership.

www.michigan.gov/nps

www.mishorelinepartnership.org

3rd Edition, 2nd printing; April 2014

Printed in the United States

Materials adapted from *Landscaping for Water Quality*; 2nd Edition; Oct. 2004; edited by Jane Secord; Center for Environmental Studies.

Contents

Overview

Michigan is fortunate to have an abundance of high quality lakes and streams that everyone can benefit from for swimming, boating, fishing, drinking water or simply enjoying. When rainwater falls on a natural site, the vegetation and soils absorb and collect it. When rainwater falls on a man-made surface like a parking lot or roof top, it quickly runs off of it into storm drains and drainage ditches.

Illustration by Amelia Hansen

While proper drainage is needed to protect your home from water damage, the water picks up fertilizer, sediment, pesticides, and other pollutants, rapidly carrying them into waterways as it runs off of your property. Eventually, these waterways connect to lakes, streams, wetlands, rivers, and other bodies of water that can be harmed by these pollutants.

Photo by Patricia Pennell

Water quality in the lakes and streams in your area can be improved by incorporating simple landscape features designed to collect and treat run-off water.

Improve Water Quality
Prevent Erosion
Reduce Flooding
Save Water
Provide Habitat

Rain Gardens

A rain garden is an area created to collect run-off water with a coarse or porous soil mixture of sand or gravel beneath a bed of native plants. Run-off water collects in the rain garden, soaks quickly into the soils, or is absorbed by the plants in the garden.

Illustration by Glenn Wolf

- As run-off water soaks into the ground, pollutants like sediment, fertilizer, and oil/grease are filtered out
- When groundwater reaches a lake or stream it is cleaner
- Information on rain gardens: www.raingardens.org

Buffers

Buffers are areas of property that are not mowed or gardens of densely planted native species placed between your lawn, house, or driveway, and the location where run-off water leaves your property. Like a rain garden, they are designed to filter sediment, fertilizer, and pollutants from the water before it runs into a lake or stream.

Illustration by Amelia Hansen

- Shade from buffers also cools your yard during hot summer days
- Run-off that passes through a buffer is cleaner

Did You Know?

One pound of phosphorus fertilizer can produce 500 pounds of algae!

Improve Water Quality
Prevent Erosion
Reduce Flooding
Save Water
Provide Habitat

Landscape features with native vegetation help prevent erosion from run-off by increasing the infiltration of water into the soils, slowing water flow, and cushioning the force of falling raindrops.

Buffers & Rain Gardens

- Collect and hold run-off water
- Spread out run-off water
- Slow the speed of the water flow

Photo by Jim Brueck

As water flows over your property, these landscape features are designed to decrease the speed of water flow and reduce its ability to erode soil and sediment. They either collect and stop the water flow, or the leaves and stems spread run-off out over a larger area to slow it down and reduce its scouring capacity.

Illustration by Glenn Wolf

Native Vegetation

- Leaves and branches cushion falling rain
- Deep roots hold the soil in place
- Root channels allow water to soak into soil

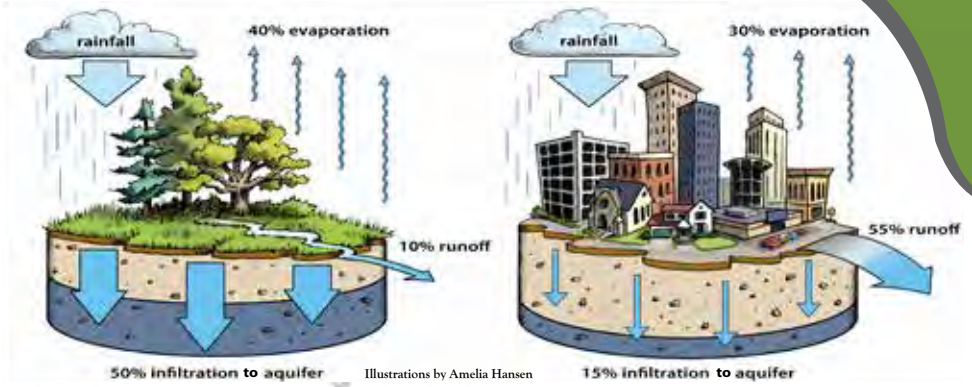
Do You Own Waterfront Property?

If you own property along the shoreline of a lake or river, buffer strips with native vegetation can prevent loss of valuable property. Native vegetation along the shoreline absorbs the energy of waves and wind to prevent shoreline erosion. Lawn at the water's edge is a common cause of property loss, because the roots are too shallow to hold the soil when water splashes on the shore.

Improve Water Quality
Prevent Erosion
Reduce Flooding
Save Water
Provide Habitat

As a Great Lakes state, Michigan receives a large amount of precipitation. We have over 36,000 miles of streams, 11,000 lakes, and more Great Lakes coastline than any other state in the US. Michigan's waterbodies make our state a great place to live, but also make our homes frequently near water, and subject to flooding.

Vegetation

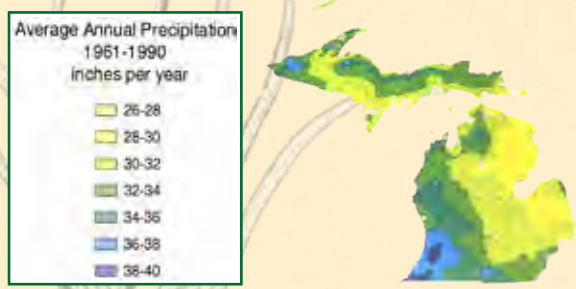


Illustrations by Amelia Hansen

On a half acre property, 13,500 gallons of water – or about 225 bathtubs worth – falls in a 1 inch rainstorm. Most of the rain that falls on driveways, roofs, decks, and lawns runs off of your property into streams, ditches, and storm sewers. A fully vegetated lot discharges only about ¼ of the run-off of the typical residential property.

Rivers and Streams

Landscape features, like buffers and gardens, can lessen run-off from your property, and reduce water levels in rivers and streams during flood events.



Did You Know?

We receive between 2 and 3 feet of precipitation each year in Michigan!

Improve Water Quality
Prevent Erosion
Reduce Flooding
Save Water
Provide Habitat

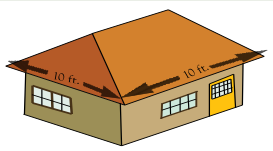
Like rain gardens and buffers, rain barrels can also reduce run-off from your property. They collect run-off from your roof and store it. This water can be used for watering during dry periods, reducing your water usage.

Rain barrels are connected to the downspout from your roof. They have an overflow hose connected near the top. They also have a soaker hose connected to a valve near the base to release water slowly to irrigate your landscaping or water quality garden.

Rain Barrels

- Store run-off from your roof
- Prevent erosion from gutter downspouts
- Reduce your water bill during dry periods
- Irrigate your gardens with minimal effort

How Big Does My Rain Barrel Need To Be?



Length x Width = Roof ft.^{2}
(Applies to All Roof Types & Slopes)

The size of your roof determines the size of the rain barrel needed. One inch of rainfall on 100 ft^2 (10 ft x 10 ft) roof yields 60 gallons of water. In Michigan, you can expect approx. 5-7 rainfalls of 1 inch in a year with average rainfall.

Roof Square Footage x 0.6 = Rain Barrel Size in Gallons

Improve Water Quality
Prevent Erosion
Reduce Flooding
Save Water
Provide Habitat

Recent studies by the Michigan DNR and the US EPA have identified development of shoreline property as the most critical threat to wildlife and water quality of lakes in Michigan. Using native plants in buffers and gardens can provide habitat for wildlife.

Songbirds

Planting trees and shrubs can provide food, shelter, and nesting habitat for songbirds.

Butterflies and Hummingbirds

Nectar gardens for butterflies and hummingbirds can be created by planting native species from which these animals feed. The first Sunny Garden Layout provided in the "Designing Your Garden" section on page 15 can also be used to attract butterflies.

Frogs and Dragonflies

Wet gardens that use native plants can provide breeding and nursery habitats for wetland wildlife like frogs and dragonflies. Since dragonflies eat mosquito larvae, they can help control pests.

Fish

Riparian buffers along lakeshores and streams provide spawning and nursery habitats for fish. Sixty-five native species of fish are known to use near shore areas in Michigan.

Want to Know More?

Check out the Minnesota DNR guide-book *Lakescaping for Wildlife and Water Quality* at:
www.dnr.state.mn.us/publications

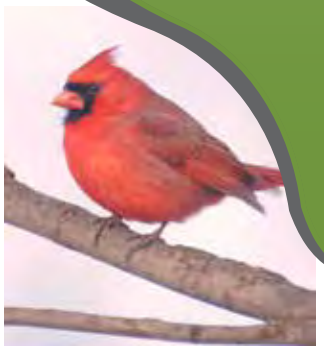


Photo by Amy Peterson

Photo by Amy Peterson

Photo by Amy Peterson

Photo by In Fisherman

Section 2:
Designing Your Garden
Sample Designs

This section is designed to help you plan a simple and effective water quality garden. These steps can help you to rethink the landscaping on your entire property, or just incorporate a garden into the existing landscape.

Planning Your Garden

- Assess your property to determine the existing conditions and how water flows over it.
- Draw a base map to assist with identifying an appropriate location for a water quality garden.
- Consider alternative designs and materials to encourage rain water infiltration and reduce run-off.
- Design your garden with plants that are appropriate for the conditions on your property.

A few simple concepts are central to all water quality gardens. Actively encourage filtration, storage, or infiltration of water into the ground. Water quality gardens can include prairie areas, wetland areas, and very wet areas depending on the amount of surface water available on your property. They can also incorporate rock gardens, patios, pathways and other landscape features provided the run-off that comes from them is captured.

Ideas to Consider

- If you are starting from scratch with new construction, incorporate water quality gardens in low areas where water ponds or accumulates.
- Minimize hard surfaces, use porous materials, or use water quality gardens to capture water from these surfaces.
- Replace turf grass with trees, shrubs, and ground cover to intercept and disperse rainfall, and create shade.

Assess Your Property

Review your property to identify existing structures, landscaping, water flow patterns, and sun and shade areas. Identify hard surfaces that will encourage run-off, and landscape features that will disperse or direct the flow of rainfall.

Identifying Water Flow Patterns

- Go outside immediately after a big rainstorm and follow the path of water flow.

- Look for leaves, pine needles, twigs, and soil patterns created by the movement of water.
- Follow the water pathways uphill to their source and downhill to the storm sewer, ditch, or low areas on your property.

Develop a Base Map

A useful tool for assessing your property is a base map. Your base map helps you visualize the location of important features on your property. A good base map can help you identify the location, size, and type of changes to make to improve the quality of water coming from your property.

- Include existing hard structures, like buildings, drives, walkways, patios and decks.
- Identify existing trees, shrubs, lawns and gardens that create shady and sunny areas.
- Illustrate the water pathways with arrows, and identify areas where water collects.

Consider Your Property Needs

Consider landscape features that will collect, store, and disperse rainfall that falls on your property. To do this minimize hard surfaces and lawn. Divide areas of lawn and hard surfaces with native plants or gardens. Plant trees, shrubs and ground cover at run-off sources such as buildings, drives, and walkways.

Desired Uses and Needs

When deciding how much space can be dedicated to water quality features, consider your desired uses and needs for the property.

- How much area is needed for play, relaxing, storage or septic fields?
- Is privacy needed from adjacent properties?
- Is attracting wildlife important?
- What restrictions do city, township, or subdivision associations put on landscaping features?

Property Before Landscaping

Illustration by MSU Extension

Property After Landscaping

Illustration by MSU Extension

Do You Have Problems With Wash-outs or Erosion?

On gently sloping areas, strategically placed rocks mixed with plants to hold the soils in place can be very effective.

Examples of plants that could work well in these areas: Cord Grass (*Spartina pectinata*), Sedges (*Carex sp.*), or Canada Wild Rye (*Elymus canadensis*).

Encourage Infiltration

A properly designed water quality garden captures run-off water and holds it long enough for it to soak into the ground. This is known as run-off infiltration. If the site you select for your garden has too much clay in the soil, it is necessary to modify the soils with a gravel base or underdrain to ensure infiltration.

Identifying Soils

Soils usually have varying amounts of sand, loam, or clay in them. Determine what type of soil you have and modify the soil, as appropriate, to ensure infiltration.

Soil Type	Ribbon Length	Type of Garden
Sand	0-1/2 in.	Use the existing Soil
Sandy Loam	1/2-1.0 in.	Use the existing soil
Clay Loam	1.0-1.5 in.	Use the existing soil
Clay	> 1.5 in.	Use Gravel Base or Underdrain

- Collect a handful of soil and moisten it.
- Make a small ball in your hand, and create a ribbon of soil by pushing part of it between your thumb and forefinger.
- Measure the length of the ribbon that stands up above your thumb and forefinger without falling apart to determine what type of soil you have.


Gravel Base and Underdrain

Consider Porous Pavement

When constructing pathways consider using porous alternatives like stepping stones, porous pavers, or porous concrete that allow water to infiltrate into the ground.


Stepping Stones

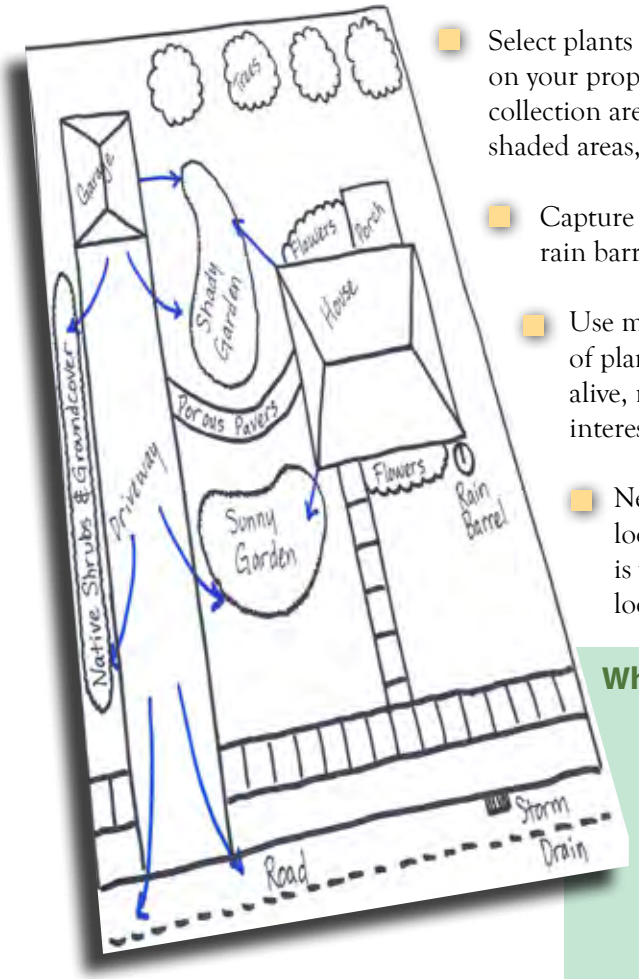

Porous Pavers


Porous Concrete

Create A Plan

Once you have considered all of your design needs, use your original base map to create a plan. Place water quality gardens strategically in low areas and at the ends of water flow pathways to capture and store run-off. Break up run-off from water flow sources with regular gardens, trees and groundcover. Incorporate your property needs creatively into the design.

Things to Keep in Mind



- Select plants that fit the conditions on your property: wet species in water collection areas, sunny species for non-shaded areas, and so forth.
- Capture rainwater from roofs in rain barrels.
- Use multiple species and a blend of plant heights to keep color alive, maintenance down, and interest year round.
- Neat edges and fences instill a look of care; remember, this is your property - make sure it looks good!

What is Groundcover?

Groundcover is vegetation that has short height and spreads easily with runners and rhizomes, like Wild Ginger or Violets in shade, and Wild Strawberry or Yarrow in sun.

Installing Your Garden

Preparing the Site

It is important to start by removing or killing the existing sod. In flat, upland areas, simply cut the sod away. In sloped, wet areas, or along the shoreline of lakes or streams, it is better to kill the grass with an appropriate herbicide to minimize erosion into the waterbody. Make sure you seek the assistance of a licensed herbicide applicator, if you use this approach.

If planting a buffer along a lake or stream, use the existing contour of the shoreline. If creating an upland water quality garden, create a depressional area at the center about 4"-5" deep, with gradually sloping sides.

Planting

- Choose plants that best fit the sun/shade and water conditions indicated in the plant list.
- If purchasing plant plugs of native species, plan for 1 plant for every square foot of garden.
- Planting can occur from spring to fall, but for best results plant during the spring.
- Water generously when planting and for the first 2-3 years while plants become established.
- If using native species that fit the conditions on-site, watering is not usually needed after 1-2 years, and fertilizer is not needed at all!

Finishing and Maintenance

- To minimize weeds, consider groundcover species to spread out between wildflowers, grasses, trees and shrubs.
- Initially use coarse chopped wood chip mulch to stabilize soils and prevent unwanted plants and weeds.
- Before plant shoots come up in the spring, cut and remove dead foliage to a height of 6 inches.

Shoreline Garden Layouts

SUNNY, TALL
GARDEN: MOIST SHORELINES

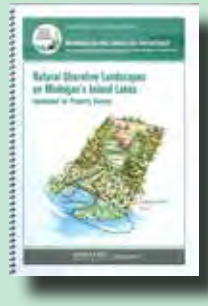
- LAKE SEDGE *(Carex lacustris)*
- GREEN BULRUSH *(Scirpus atrovirens)*
- MARSH MILKWEED *(Asclepias incarnata)*
- SWAMP ASTER *(Aster puniceus)*
- LANCE-LEAVED COREOPSIS *(Coreopsis lanceolata)*
- BONESET *(Eupatorium perfoliatum)*
- GREAT BLUE LOBELIA *(Lobelia siphilitica)*

SUNNY, MEDIUM
GARDEN: DRY TO MOIST SHORELINES

- SOFT RUSH *(Juncus effusus)*
- BLUE FLAG IRIS *(Iris versicolor)*
- FOWL MANNA GRASS *(Glyceria striata)*
- GOLDEN ALEXANDERS *(Zizia aurea)*
- CANADA ANEMONE *(Anemone canadensis)*
- MARSH BLAZING STAR *(Liatris spicata)*
- NODDING ONION *(Allium cernuum)*

Illustrations by Bob Dompierre

Do You Have Waterfront Property?

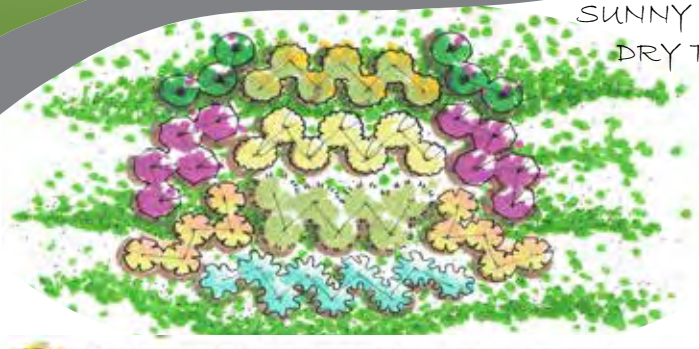


Check out *Natural Shoreline Landscapes on Michigan's Inland Lakes: A Guidebook for Property Owners.*

To order, go to: www.mishorelinepartnership.org

Sunny Garden Layouts

SUNNY SLOPES: DRY TOP; WET BOTTOM



- BUTTERFLY WEED *(Asclepias tuberosa)*
- MAY NIGHT SALVIA *(Salvia x superba)*
- PURPLE CONEFLOWER *(Echinacea purpurea)*
- TALL COREOPSIS *(Coreopsis tripteris)*
- FIREWEED *(Epilobium angustifolium)*
- PURPLE JOE PYE WEED *(Eupatorium purpureum)*
- BONESET *(Eupatorium perfoliatum)*

SUNNY, WET AREAS

- MISSOURI IRONWEED *(Vernonia missurica)*
- BLUE FLAG IRIS *(Iris virginica)*
- CARDINAL FLOWER *(Lobelia cardinalis)*
- LITTLE BLUESTEM *(Schizachyrium scoparium)*
- BLAZING STAR *(Liatris spicata)*
- GREAT BLUE LOBELIA *(Lobelia siphilitica)*
- GOLDEN ALEXANDERS *(Zizia aurea)*

Illustrations by Bob Dompierre

Shady Garden Layouts

SHRUB GARDEN: MOIST AREAS

- LARGE CRANBERRY BUSH *(Vaccinium macrocarpon)*
- CULVERS ROOT *(Veronicastrum virginicum)*
- MAPLE LEAF VIBURNUM *(Viburnum acerifolium)*
- HAPPY RETURNS DAYLILY *(Hemerocallis 'Happy Returns')*
- BLANKET FLOWER *(Gaillardia pulchella)*
- MEADOWSWEET *(Spiraea alba)*

WOODLAND GARDEN: DRY AREAS

- JACK IN THE PULPIT *(Arisaema triphyllum)*
- WHITE BANEBERRY *(Actaea pachypoda)*
- WOOD POPPY *(Stylophorum diphyllum)*
- TALL BELLFLOWER *(Campanula americana)*
- WILD GINGER *(Asarum canadense)*
- MAIDEN HAIR FERN *(Adiantum pedatum)*
- GOLDEN EDGED HOSTA *(Hosta fortunei)*
- WILD GERANIUM *(Geranium maculatum)*

Illustrations by Bob Dompierre

Section 3:
Plant List

Using the Plant List

The following plant list has been developed to help make plant selection a little easier. The majority of the plants included in this list are native to Michigan though there are a few non-native plants included. For most of the non-native species there is also a native plant that would be a good substitute. There are many more Michigan native plants than what has been included on this list. The plants on this list were chosen because, in general, they are fairly easily found on the market and have a broad distribution across the state. Plants that are typically difficult to grow or are on the state threatened or endangered list were left off though they may be available through a reputable native plant grower.

Choosing the Right Plant

Choosing the right plant for the location can make establishing a garden easier. It reduces the amount of maintenance and watering necessary, and can eliminate the need to augment the soil to start your garden. This list is divided into categories that will help you to choose the right plant.

- Watering can be reduced by choosing native species and planting them in accordance with the "water needs" category on the list.
- Choosing the proper plant height ensures that the plants do not over-grow the space that they are intended to occupy.
- A diversity of plants with bloom times that occur throughout the year enables you to enjoy the garden in each season.
- The notes column of the list can be very useful for selecting soil types, choosing plants that attract wildlife, and plants with attractive foliage.
- Foliage can be used to add color and texture to any garden, especially, grasses, sedges, and rushes.
- Don't forget to use your Base Map and Site Plan to assist you in selecting plants with the right characteristics!

Legend

Plant Names

Common names of plants are not standardized, so it is possible when purchasing plants that they will be listed under another name. To be certain that you are purchasing the correct plant, look at the tag for the botanical name. This will ensure that you find the plant that is listed, and may also help you to find good substitutions.

Plant Height

Plant height ranges are given, because plants can vary in height based upon the influence of water, sun exposure, and proximity to other plants. Note, however, that plant heights can often be limited by pruning, expecially grasses, sedges, shrubs and trees.

Light Preferences

○ = Full Sun ◐ = Partial Sun ● = Shade

Native vs. Non-Native

In most instances, there is a native species that can substitute for a non-native species. Native species tend to have deeper root systems, require less fertilizer and water, and provide better habitat.

The (★) column indicates a species native to Michigan.

Plant List

Plant Names		Height (ft)	Bloom Time	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Achillea filipendula	Moonshine Yarrow	2-4	June-Sept	*Yellow*	*Med*	○		Resistant to deer; aromatic leaves; use in dried flower arrangements
Achillea millefolium	Yarrow	1-4	June-Sept	*White*	*Med-Dry*	○	★	Can be aggressive; drought tolerant
Actaea pachypoda	White Baneberry	1-2	May	*White*	*Med*	◐●	★	Woodland plant with showy white flowers followed by white berries
Actaea rubra	Red Baneberry	1-2	May	*White*	*Med*	◐	★	Woodland flower with textured foliage; red berries; native *Astilbe* substitute
Alchemilla mollis	Lady's Mantle	1-2	May-Aug	*Yellow*	*Med*	○◐		Attractive groundcover; dried flower arrangements; clump-forming
Alisma subcordatum	Water Plantain	2-3	June-Sept	*White*	*Wet*	○	★	Must be kept in moist to flooded areas; waterfowl food; fast growing
Allium cernuum	Nodding Onion	1-2	May-Aug	*Pink*	*Med-Dry*	○◐	★	Best in sandy soils; clump-forming; attractive garden plant
Amorpha canescens	Lead Plant	2-3	May-Aug	*Purple*	*Med-Dry*	○◐	★	Attracts butterflies; spike flowers; drought tolerant; long-lived
Anemone canadensis	Canada Anemone	1-2	May-July	*White*	*Med-Wet*	○◐	★	Spreads aggressively; delicate 1-2" flower, deep green leaves
Anemonella thalictroides	Rue Anemone	½-1	April-June	*White*	*Med*	◐●	★	Long-lasting spring blooms; native to southern Michigan; groundcover
Aquilegia canadensis	Columbine	2-3	May-July	*Red*	*Med*	○◐●	★	Deer deterrent; attracts hummingbirds; best in partial shade gardens
Arisaema tryphyllum	Jack-in-the-Pulpit	1-2	April-June	*Purple*	*Med-Wet*	◐●	★	Attractive shade plant; bright red fall fruit; easily grown from seed
Asarum canadense	Wild Ginger	½-1	April-May	*Red*	*Med-Wet*	◐●	★	Medicinal uses; satiny, deep-green, heartshaped leaves; groundcover
Asclepias incarnata	Marsh Milkweed	1-2	June-Sept	*Pink*	*Med-Wet*	○	★	Deep root; clump-forming; attracts butterflies; attractive garden plant
Asclepias tuberosa	Butterfly Weed	1-3	June-Aug	*Orange*	*Dry*	○◐	★	Gorgeous bed plant; attracts butterflies; medicinal uses; poisonous
Aster laevis	Smooth Aster	2-4	Aug-Oct	*Variable*	*Med-Dry*	○	★	Grows well in sand; blooms late; attracts butterflies
Aster novae-angliae	New England Aster	3-6	Aug-Oct	*Purple*	*Med*	○◐	★	Medicinal uses; attracts butterflies; rabbit deterrent; prefers sand
Aster puniceus	Swamp Aster	3-6	Aug-Oct	*Lav/White*	*Wet*	○◐	★	Spreads opportunistically from rhizomes
Aster umbellatus	Tall Flat Top White Aster	3-7	Aug-Sept.	*White*	*Med-Wet*	○◐	★	Attracts butterflies and birds; wonderful garden plant
Astilbe arendsii	Pink Astilbe	3-5	June-July	*Pink*	*Med-Wet*	◐●		Gorgeous floral spike; dark green foliage; great addition to shade bed
Belamcanda chinensis	Blackberry Lily	1-2	Aug-Sept	*Orange*	*Dry*	○		Delicate flowers followed by blackberry seeds; drought tolerant
Caltha palustris	Marsh Marigold (Cowslip)	½-2	March-May	*Yellow*	*Wet*	○◐	★	Attracts butterflies; soft spongy roots; best along stream banks; early bloom
Campanula americana	Tall Bellflower	2-6	July-Oct	*Blue*	*Med*	○◐●	★	Fabulous star shaped flowers; easily grown
Campanula rotundifolia	Harebell	1-1½	July-Sept	*Blue*	*Med-Dry*	○◐	★	Attracts butterflies; fond of sandy soil; gorgeous garden plant

Plant List

Plant Names		Height (ft)	Bloom Time	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Cassia hebecarpa	Wild Senna	4-6	July-Aug	*Yellow*	*Med-Wet*	○	★	Attracts butterflies; fond of sandy soil; gorgeous garden plant
Chelone glabra	Turtlehead	1-3	July-Oct	*Variable*	*Med-Wet*	○◑	★	Unique flower; prefers compost mulch
Coreopsis lanceolata	Lance-leaved Coreopsis	2	June-July	*Yellow*	*Dry*	○	★	Grows in sandy or loam soils; readily re-seeds; attracts birds and butterflies
Coreopsis tripteris	Tall Coreopsis	3-6	July-Sept	*Yellow*	*Med-Dry*	○	★	Tolerant to heat, humidity and drought; a colorful addition to a bed
Coreopsis verticillata	Moonbeam Coreopsis	1-3	June-Sept	*Yellow*	*Med-Dry*	○		Delicate foliage; low maintenance; drought tolerant; tolerates poor soils
Echinacea purpurea	Purple Coneflower	2-3	June-Aug	*Purple*	*Med-Dry*	○◑		Non-native in Michigan; medicinal uses; popular, easy to grow garden plant
Epilobium angustifolium	Fireweed	2-6	June-Aug	*Pink*	*Med-Wet*	○◑	★	Attracts butterflies; striking flower; aggressive in wet, disturbed areas
Eupatorium maculatum	Joe-Pye Weed	4-6	July-Sept	*Pale Pink*	*Med-Wet*	○	★	Flower clusters up to 6" across; attracts butterflies
Eupatorium perfoliatum	Boneset	4-6	Aug-Oct	*White*	*Med-Wet*	○◑	★	Tolerant of sandy and clay soils; clump-forming; fuzzy cluster blossoms
Eupatorium purpureum	Purple Joe-Pye Weed	5-7	Aug-Sept	*Pink*	*Med*	○	★	Clump-forming; fragrant; attracts butterflies; attractive addition for a garden
Eupatorium rugosum	White Snakeroot	1-5	July-Oct	*White*	*Dry*	○◑●	★	Beautiful cut flower; poisonous if ingested
Fragaria virginiana	Wild Strawberry	½	April-June	*White*	*Med-Dry*	○◑	★	Groundcover; beneficial to wildlife; edible fruit
Gaillardia pulchella	Blanket Flower	1-2½	May-Sept	*Red/Yellow*	*Med-Dry*	○◑		Daisy-like red and yellow blossoms; Dense colonies; easily grown from seed
Geranium himalayanse	Johnson's Blue Geranium	1-2	May-June	*Blue*	*Med*	○◑		Easy to grow; also called Cranesbill; clump-forming
Geranium maculatum	Wild Geranium	1-2	April-May	*Pink*	*Med*	○◑●	★	Clump-forming; great addition to shade beds
Helenium autumnale	Sneezeweed	2-5	July-Oct	*Yellow*	*Med-Wet*	○◑	★	Avoid fertilizer; bright yellow daisy-like flowers
Helianthus giganteus	Tall Sunflower	3-12	July-Oct	*Yellow*	*Med-Wet*	○◑	★	Tall, bright addition to a partial shade garden, 4" wide flower
Heliopsis helianthoides	Oxeye or False Sunflower	2-5	June-Sept	*Yellow*	*Med-Dry*	○◑	★	Easily grown; native to Eastern US; grows well in clay
Hemerocallis "Happy Returns"	Happy Returns Daylily	½-2	May-Aug	*Yellow*	*Med*	○◑		Heat tolerant; long flower season; gorgeous addition to any bed
Hepatica americana	Round-Lobed Hepatica	½-1	April-May	*Blue/White*	*Med-Dry*	◑●		Delicate 1" star-shaped flower; great ground cover in shade garden
Hosta fortunei	Golden-Edged Hosta	1-2	June-Aug	*Purple*	*Med*	◑●		Beautiful foliage; great addition to shade gardens; mass for groundcover
Hosta plantaginea	August Lily Hosta	2	Aug	*White*	*Med*	◑●		Shiny foliage; fragrant flowers; great planted close together as groundcover
Hydrophyllum virginianum	Virginia Waterleaf	1-3	May-Aug	*White*	*Med-Wet*	◑●	★	Medicinal properties
Iris virginica	Blue Flag Iris	2-3	May-July	*Blue*	*Med-Wet*	○◑	★	Gorgeous perennial; attracts butterflies; does well in shallow water

Plant List

Plant Names		Height (ft)	Bloom Time	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Liatris aspera	Rough Blazing Star	2-5	Aug-Sept	*Purple*	*Med-Dry*	○	★	Drought tolerant; attracts butterflies; blooms late in season
Liatris spicata	Dense or Marsh Blazing Star	1-3	July-Sept	*Purple*	*Med*	○◑	★	Drought tolerant; used in cut flower arrangements; feathery plume
Lobelia cardinalis	Cardinal Flower	2-6	July-Oct	*Red*	*Med-Wet*	○◑●	★	Bright red flower attracts hummingbirds/butterflies; replant with seedlings
Lobelia siphilitica	Great Blue Lobelia	1-4	July-Sept	*Blue*	*Med-Wet*	○◑	★	Easily grown; attracts hummingbirds; grows well in a variety of soils
Mimulus ringens	Monkeyflower	1-3	June-Sept	*Purple*	*Med-Wet*	○◑	★	Great for wet areas; interesting flower shape
Mitchella repens	Partridgeberry	<1	June-Sept	*Pink*	*Med-Dry*	●	★	Produces red fruit; medicinal uses; food source for wildlife; groundcover
Monarda fistulosa	Wild Bergamot; Bee Balm	2-4	June-Sept	*Purple*	*Med-Dry*	○◑	★	Aromatic; attracts butterflies/hummingbirds; medicinal uses; can be aggressive
Monarda punctata	Horsemint	1-3	July-Sept	*Yellow*	*Med-Dry*	○	★	Attracts hummingbirds; likes sandy soil
Nymphaea tuberosa	White Water Lily	1-5	July-Aug	*White*	*Dry*	○◑	★	Beautiful aquatic plant; tuber; floating leaves/flowers; beneficial to wildlife
Oenothera biennis	Common Evening Primrose	2-5	June-Oct	*Yellow*	*Med*	○	★	Opens in evening; used in dried flower arrangements; can be aggressive
Peltandra virginica	Arrow Arum	1-2	May-July	*Yellow*	*Wet*	○◑●	★	Salt /pH tolerant; grows in water; used in buffer zones; beneficial to wildlife
Penstemon digitalis	Foxglove Beard Tongue	3-4	May-June	*White*	*Med-Dry*	○◑●	★	Ornamental; beautiful flower and foliage; attracts butterflies/hummingbirds
Penstemon hirsutus	Hairy Beard Tongue	1-3	May-July	*Purple*	*Med-Dry*	○◑	★	Versatile plant; low growing; early summer bloom; likes sandy soil
Phlox divaricata	Woodland Phlox	1-3	April-June	*Blue*	*Med*	○◑●	★	Can be aggressive; gorgeous 1½" flower; Caution - No invasive *Phlox paniculata*
Phlox pilosa	Sand Prairie Phlox	1-2	May-June	*Pink*	*Med-Dry*	○◑	★	Early flowering prairie plant; ornamental
Physostegia virginiana	Obedient Plant	2-5	Aug-Oct	*Pink*	*Med*	○◑●	★	Nectar source; spreads by small rhizomes to carpet area
Podophyllum peltatum	May Apple	1-2	April-May	*White*	*Med*	◑●	★	Medicinal uses; dormant in summer; early bloom; produces yellow fruit
Polygonatum biflorum	True Solomon Seal	1-3	May-June	*Yellow*	*Med-Wet*	◑●	★	Bell-shaped flowers; black berries in fall; beneficial to wildlife
Pontederia cordata	Pickerelweed	2-4	May-Oct	*Blue*	*Wet*	○◑	★	Provides wave buffering along shoreline; wildlife benefits; grows in water
Potentilla simplex	Common Cinquefoil	½-1½	April-June	*Yellow*	*Wet*	○◑●	★	Groundcover; dainty flower; attracts buttterflies; early bloomer
Ratibida pinnata	Yellow Coneflower	3-5	July-Sept	*Yellow*	*Med-Dry*	○	★	Long, drooping petals; wildlife benefits; long-lived; prefers sandy/clay soils
Rudbeckia hirta	Black-Eyed Susan	1-3	Aug-Sept	*Yellow*	*Med-Dry*	○◑	★	Erosion control plant; wildlife benefits; biennial; does well in sandy soils
Rudbeckia laciniata	Cut-Leaved Coneflower	3-10	Aug-Sept	*Yellow*	*Med-Wet*	○◑	★	Easily grow; great for wet areas; grows well in variety of soils
Rudbeckia triloba	Three-Lobed Coneflower	2-5	July-Oct	*Yellow*	*Med*	○◑	★	Thick, low, wet, woods, rocky slopes; long blooming season; attracts butterflies

Plant List

Plant Names		Height (ft)	Bloom Time	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Sagittaria latifolia	Arrowhead	1-4	July-Sept	*White*	*Wet*	○◐	★	Aquatic plant; edible root; wildlife food source; great for water gardens
Salvia X superba	May Night Salvia	1-1½	April-June	*Deep Blue*	*Med*	○◐		Very showy; wrinkled foliage; best in poor soil
Sedum "Autumn Joy"	Autumn Joy Sedum	1-2	Sept	*Pink*	*Med-Dry*	○◐		Also called Stonecrop; succulent; drought tolerant; does not like clay
Sedum "Vera Jameson"	Purple Leaf Sedum	1	Aug-Sept	*Pink*	*Med-Dry*	○		Ornamental foliage; succulent; drought resistant; clump-forming
Sisyrinchium angustifolium	Blue-Eyed Grass	½-2	May-July	*Deep Blue*	*Med*	○◐	★	Low growing; clump-forming; grass-like foliage
Sium suave	Water Parsnip	2-6	July-Sept	*White*	*Wet*	○◐	★	Aquatic plant; showy in bloom
Solidago caesia	Blue-Stemmed Goldenrod	2-3	Sept-Oct	*Yellow*	*Med-Dry*	○◐●	★	Readily re-seeds; provides nectar for butterflies
Solidago patula	Roundleaf Goldenrod	3-6	Aug-Oct	*Yellow*	*Med-Wet*	○◐	★	Provides nectar for butterflies
Solidago speciosa	Showy Goldenrod	1-4	July-Oct	*Yellow*	*Dry*	○◐	★	Tall and wild; a true prairie species; nectar source
Stachys lanata	Lamb's Ear	½-2	June-July	*Purple*	*Med-Dry*	○◐●		Furry leaves; drought resistant; can be aggressive; attracts butterflies
Stylophorum diphyllum	Wood Poppy	1-2	May-June	*Yellow*	*Med-Wet*	◐●	★	Woodland; requires consistantly moist soil; blooms repeatedly
Thalictrum dasycarpum	Purple Meadow Rue	3-6	June-July	*White*	*Med-Wet*	○◐	★	Attractive foliage and flowers; early summer bloom; may need staking
Thalictrum dioicum	Early Meadow Rue	1-2	April-June	*Green*	*Med*	○◐●	★	Female and male plants; female plants seed
Tiarella cordifolia	Foamflower	1-2	May-June	*White*	*Med*	◐●	★	Spike of tiny flowers; attractive foliage turning bronze in autumn
Tradescantia ohiensis	Spiderwort	2-4	June-July	*Blue*	*Med-Dry*	○◐	★	Aggressive; each tri-petalled blossom lasts one day
Verbena hastata	Blue Vervain	3-6	July-Sept	*Blue*	*Med-Wet*	○	★	Attracts butterflies; wonderful for cut flower arrangements; can be aggressive
Verbena stricta	Hoary Vervain	2-4	July-Sept	*Blue*	*Med-Dry*	○	★	Attracts butterflies; great for cut flower arrangements; drought resistant
Vernonia missurica	Missouri Ironweed	3-10	Aug-Oct	*Purple*	*Med*	○◐	★	Easily grown; attracts butterflies; aggressive; late summer blooms
Veronicastrum virginicum	Culver's Root	2-6	June-Sept	*Pink*	*Med*	○◐●	★	Small dense flower on tall spike; great for cut flower arrangements
Zizia aurea	Golden Alexanders	1-3	April-June	*Yellow*	*Wet*	○◐	★	Can be aggressive; interesting addition to gardens

Plant List

Grasses, Sedges, Rushes

Plant Names		Height (ft)	Bloom Time	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Acorus calamus	Sweet Flag	2-5	May-July	*Yellow*	*Wet*	○◐	★	Wildlife benefits; medicinal uses
Andropogon gerardii	Big Blue Stem	4-8	July-Sept	*Purple*	*Med-Dry*	○◐	★	Erosion control use; preferred by livestock; beneficial to birds
Calamagrostis canadensis	Canada Blue-Joint Grass	2-4	June	*Brown*	*Med-Wet*	○◐	★	Spreads opportunistically by rhizomes
Carex comosa	Bristly Sedge	2-3	May-June	*Green*	*Med-Wet*	○◐	★	Waterfowl food source; long-lived; rhizomes form dense clumps
Carex crinita	Fringed Sedge	2-5	May	*Green*	*Med-Wet*	○◐●	★	Likes semi-shade; forms dense clumps
Carex grayii	Gray's Sedge	1-2	May-June	*Green*	*Med-Wet*	○◐	★	Ornamemtal grass; interesting flower form; easily grown
Carex hystericina	Porcupine Sedge	2-3	May-June	*Green*	*Wet*	○◐	★	Long-lived; clump-forming; tufted
Carex lacustris	Lake Sedge	2-4	May-June	*Green*	*Wet*	○◐	★	Can grow in shallow standing water; adds color to waters edge
Carex lupulina	Hop Sedge	2-4	May-June	*Green*	*Med-Wet*	○◐●	★	Grows well in shade but does well in sun, too
Carex muskingumensis	Muskingum Sedge	2-3	May-June	*Green*	*Wet*	○◐●	★	Grows well in shade
Carex pensylvanica	Penn Sedge	½-1	April-June	*Green*	*Med-Dry*	○◐	★	Good groundcover
Carex stricta	Tussock Sedge	1-3	April-June	*Brown*	*Wet*	○◐	★	Forms blue-green tussocks/hummocks; slow spreading with dense roots
Carex vulpinoidea	Fox Sedge	2-3	May-June	*Brown*	*Med-Wet*	○◐	★	Rhizomes form dense clumps
Elymus canadensis	Canada Wild Rye	2-5	June-Aug	*Green*	*Med-Dry*	○◐	★	Ornamental grass; rye-like spikes persist in winter; groundcover for dry slopes
Elymus hystrix	Bottle Brush Grass	2-3	May-June	*Green*	*Med-Dry*	○◐	★	Ornamental grass; bristly flowerheads resemble bottle brush
Elymus riparius	Riverbank Wild Rye	2-4	July-Aug	*Green*	*Med-Wet*	○◐●	★	Slightly nodding; long, wide, wheat-like spikes; beneficial to butterflies
Elymus virginicus	Virginia Wild Rye	2-5	June	*Green*	*Med*	○◐●	★	Mixes well with Bottle Brush grass and woodland flowers; grows in forest edges
Glyceria striata	Fowl Manna Grass	1-5	May-June	*Green*	*Med-Wet*	○◐●	★	Bunch-forming; cool-season grass with dense roots
Juncus effusus	Soft Rush	1-4	July	*Brown*	*Wet*	○◐	★	Easily grown in wet/saturated soils; corkscrew stems good in arrangements
Juncus tenuis	Path Rush	1-2	June-Sept	*Brown*	*Med-Dry*	○◐	★	Tolerates drought, compacted soil; may be used as groundcover
Juncus torreyi	Torrey's Rush	1-2	June-Sept	*Brown*	*Med-Wet*	○	★	Tolerates drought; has interesting "seed balls" at tips of stems
Koeleria macrantha	June Grass	1-2	May-June	*Green*	*Med-Dry*	○◐	★	Grows well in clay soils; woodlands; tolerates some flooding
Panicum virgatum	Switchgrass	3-6	Aug-Oct	*Green*	*Med-Wet*	○◐	★	Clump-forming ornamental grass; erosion control; establishes from seed
Schizachyrium scoparium	Little Bluestem	2-4	Aug	*Green*	*Med-Dry*	○	★	Ornamental grass; distinctive blue coloration on stems; attractive fall color

Plant List

Grasses, Sedges, Rushes

Plant Names		Height (ft)	Bloom Time	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Scirpus atrovirens	Green Bulrush	3-5	June-Aug	*Brown*	*Wet*	○	★	Soil stabilizer; tolerates flood or drought for short periods; can be invasive
Scirpus cyperinus	Wool Grass	3-5	June-Sept	*Tan*	*Wet*	○	★	Strong fibrous roots form clumps in high water
Sorghastrum nutans	Indian Grass	3-4	Aug	*Green*	*Med-Dry*	○◐	★	Showy; clump forming; often used in wind erosion control; tolerates salt
Spartina pectinata	Prairie Cord Grass	3-7	July Aug	*Green*	*Med-Wet*	○	★	Aquatic grass that tolerates draining; attractive fall yellow color; great plumes

Plant List

Ferns

Plant Names		Height (ft)	Bloom Time	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Adiantum pedatum	Maidenhair Fern	1-2			*Med-Wet*	◐●	★	Clump-forming; ornamental fern; good for landscape borders
Athyrium filix-femina	Lady Fern	1-3			*Med*	◐●	★	Attractive in shade beds
Dryopteris marginalis	Marginal Wood Fern	2-3			*Med-Wet*	◐●	★	Woodland landscape; non-aggressive
Dryopteris goldiana	Goldie Fern	3-5			*Med*	◐●	★	Large fern; attractive in shady garden borders
Onoclea sensibilis	Sensitive Fern	3-4			*Med-Wet*	◐●	★	Aggressive in optimum conditions; bright green color; frost sensitive
Osmunda cinnamomea	Cinnamon Fern	2-3			*Med-Wet*	◐●	★	Excellent for wet areas; yellow in autumn
Osmunda claytoniana	Interrupted Fern	3-4			*Med-Wet*	◐●	★	Easily grown; use in borders and along streams
Osmunda regalis	Royal Fern	2-4			*Med-Wet*	◐●	★	Clump-forming; yellow in autumn; needs wet areas
Polystrichum acrostichoides	Christmas Fern	1-2			*Med-Dry*	◐●	★	Grows in fountain-like clumps; utilized for erosion control
Thelypteris noveboracensis	New York Fern	1-2			*Med*	◐●	★	Hardy; easy to grow; aggressive

Plant List

Vines

Plant Names		Height (ft)	Bloom Time	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Amphicarpa bracteata	Hog Peanut	2-8	Aug-Sept	*Pink*	*Med*	◐●	★	Pea-like flowers; delicate twining vine
Clematis virginiana	Virgins' Bower	10-20	July-Sept	*White*	*Med*	○◐	★	Aggressive; fragrant; needs support
Menispermum canadense	Moonseed	8-10	May-July	*White*	*Med-Wet*	○◐	★	Medicinal uses; poisonous if ingested; forms black berries
Parthenocissus quinquefolia	Virginia Creeper	1-60	May-June	*Green*	*Med-Dry*	○◐●	★	Useful in erosion control; beneficial to wildlife; ornamental vine; salt tolerant

Plant List

Shrubs

Plant Names		Height (ft)	Growth Rate	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Alnus rugosa	Speckled Alder	15-25	Med	*Brown*	*Med*	○◐	★	Soil stabilizer; acid to neutral pH; fixes nitrogen
Amelanchier laevis	Smooth Serviceberry	25	Med	*White*	*Med-Dry*	○◐	★	Excellent landscape plant with dark green foliage; blooms in spring
Ceanothus americanus	New Jersey Tea	3-4	Slow	*White*	*Dry*	○◐	★	Has a tap root; do not try to transplant; drought tolerant
Celtis occidentalis	Hackberry	25	Med	*Green*	*Med-Dry*	○◐	★	Easily transplanted; can grow in dry soils; withstands grime of cities
Cephalanthus occidentalis	Buttonbush	5-12	Med	*White*	*Med-Wet*	○◐	★	Used in wetland restoration; great wildlife benefit; best in wet conditions
Cornus amomum	Silky Dogwood	7-15	Med	*White*	*Wet*	○◐	★	Used for windbreaks, wildlife borders, streambank restorations; colorful stems
Cornus racemosa	Grey Dogwood	6-15	Med	*White*	*Med-Wet*	○◐	★	Utilized by several birds; not typically stocked in nurseries
Cornus stolonifera	Red-Osier Dogwood	6-9	Med	*White*	*Wet*	○◐	★	Streambank/slope protection and stabilization; good habitat; plant in masses
Corylus americana	Hazelnut	3-13	Med	*Brown*	*Med-Dry*	○◐	★	Beneficial to a variety of wildlife; medicinal uses; ornamental shrub
Hydrangea arborescens	Annabelle Hydrangea	3-6	Fast	*White*	*Wet*	○◐		Best in parial shade; clump-forming; deciduous shrub; medicinal uses

Shrubs

Plant List

Plant Names		Height (ft)	Growth Rate	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
Lindera benzoin	Spicebush	3-16	Slow	*Yellow*	*Med-Wet*	○◐	★	Beneficial to wildlife; in partial shade leaves turn bright yellow in autumn
Physocarpus opulifolius	Eastern Ninebark	3-10	Slow	*White*	*Med*	○◐	★	Ornamental shrub; beneficial to wildlife; used for erosion control on banks
Prunus virginiana	Chokecherry	20-30	Fast	*White*	*Med*	○◐	★	Can grow in acidic to alkaline soils; ornamental small tree or shrub
Ptelea trifoliata	Hop Tree	20	Slow		*Wet*	○◐	★	Shade tolerant; seeds and foliage have a unpleasant odor
Ribes americana	Wild Black Currant	3-5	Med	*Yellow*	*Med-Wet*	○◐	★	Can be invasive; wildlife food source; ornamental shrub
Rosa carolina	Carolina Rose	3-6	Med	*Pink*	*Med-Dry*	○	★	Better resistance to disease than most hybrid roses
Rosa palustris	Swamp Rose	3-7	Med	*Pink*	*Med-Wet*	○◐	★	Attractive throughout the year; food source for wildlife
Salix interior	Sandbar Willow	6-20	Med-Fast	*Brown*	*Med-Wet*	○	★	Short-lived; forms colonies; does well in flooded areas
Sambucus canadensis	American Elderberry	6-26	Fast	*White*	*Med-Wet*	○	★	Edible fruit; medicinal uses; beneficial to wildlife; blue-black berry
Sambucus racemosa	Red-Berried Elderberry	8-20	Fast	*White*	*Med-Wet*	○	★	Red berries; raw fruits are toxic
Spiraea alba	Meadowsweet	2-5	Med	*White*	*Wet*	○◐	★	Fragrant; good in low spots or boggy areas
Spiraea bumalda	Anthony Waterer Spirea	2-3	Fast	*White*	*Med*	○◐		Showy autumn foliage; ornamental value; showy flowers
Spiraea tomentosa	Steeplebush	2-5	Med-Fast	*Pink*	*Med*	○◐	★	Showy pink flower spires; blooms in Aug-Sept; good for hedges; rich soils
Staphylea trifolia	American Bladdernut	10-15	Fast	*White*	*Med-Wet*	◐●	★	Easily grown; seed capsules used in dried flower arrangements
Vaccinium macrocarpon	Large Cranberry	2-6	Slow	*Pink*	*Med-Wet*	○◐	★	Grows in acidic soils; leaves become purple in winter
Viburnum acerifolium	Maple-Leaf Viburnum	2-6	Slow	*White*	*Med-Dry*	○◐●	★	Reddish-purple fall color; black fruit; develops large colonies; acidic soils
Viburnum dentatum	Arrowwood	3-10	Med	*White*	*Med*	○◐	★	Medicinal uses; bird food source
Viburnum lentago	Nannyberry	14-16	Slow	*White*	*Med*	○◐●	★	Good seasonal color; food source for wildlife
Viburnum prunifolium	Blackhaw	12-15	Slow	*White*	*Med-Dry*	○◐	★	Special concern plant in Michigan; attracts birds; adaptable
Viburnum opulus (var. americanum)	Highbush Cranberry	6-10	Med	*White*	*Med-Wet*	○◐	★	Beneficial to wildlife; good windbreak; red fruit; ornamental shrub

Plant List

Trees

Plant Names		Height (ft) (at maturity)	Growth Rate	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
EVERGREEN TREES								
Abies balsamea	Balsam Fir	50-75	Slow		*Med-Wet*	○◑●	★	Readily transplanted; prefers acidic soils; tolerates wide range of soils
Juniperus virginiana	Eastern Red Cedar	25-50	Slow		*Dry*	○◑	★	Used for windbreaks
Picea glauca	White Spruce	40-60	Slow		*Med*	○◑	★	Used for windbreaks; adaptable to wide range of conditions
Picea mariana	Black Spruce	25-50	Slow		*Med-Wet*	○◑●	★	Interesting irregular form; tolerant of nutrient poor soils; prefer acidic soils
Pinus resinosa	Red Pine	40-80	Fast		*Med-Dry*	○	★	Prefers dry, sandy, acidic soils; found in low fertility areas; susceptible to salt
Pinus strobus	Eastern White Pine	70-100	Fast		*Med-Dry*	○◑	★	Tolerates many soil types; intolerant to air pollutants; used for windbreaks
Thuja occidentalis	Northern White Cedar	30-50	Slow		*Med-Wet*	○◑	★	Prefers neutral soil; adapted for nutrient poor soils
DECIDUOUS TREES								
Acer rubrum	Red Maple	40-60	Med-Fast	*Red*	*Med*	○◑	★	Gorgeous red fall color; fragrant blossoms March-Apr; intolerant to pollution
Acer saccharinum	Silver Maple	75-100	Fast		*Med*	○◑	★	Easily transplanted; one of the best trees for poor soils
Acer saccharum	Sugar Maple	50-70	Slow		*Med*	○◑●	★	Best in slightly acidic soils; great shade tree; used for maple syrup
Aesculus glabra	Ohio Buckeye	25-40	Med	*White*	*Med-Wet*	○◑		Leaves shaped like a hand; wonderfull color spring-fall; attracts hummingbirds
Betula alleghaniensis	Yellow Birch	50-70	Fast		*Med*	○◑	★	Good lawn tree; providing relatively light shade; showy golden bark
Betula nigra	River Birch	40-70	Fast	*Yellow*	*Wet*	○	★	Very attractive ornamental tree; very good for erosion control
Betula papyrifera	Paper Birch	40-60	Fast	*Yellow*	*Wet*	○◑	★	Striking coloration with white bark and yellow fall color; good riparian buffer
Carpinus caroliniana	American Hornbeam	15-25	Slow	*Green*	*Med*	○◑●	★	Beautiful understory tree; difficult to transplant; unique fruit; good fall color
Carya cordiformis	Bitternut Hickory	50-100	Med-Slow		*Med-Wet*	○◑	★	Large tap-root makes transplanting difficult; unique bark and fruit
Carya ovata	Shagbark Hickory	40-60	Fast		*Med-Dry*	○◑	★	Edible fruit; adaptable to wide range of soils; bark has culinary use
Cercis canadensis	Redbud	15-25	Slow	*Purple*	*Dry*	○◑●	★	Flowers bloom early spring; will grow taller in shade conditions
Cornus florida	Flowering Dogwood	25	Med	*White*	*Dry*	○◑		Excellent ornamental tree; striking display in full bloom
Fagus grandifolia	American Beech	60-80	Slow		*Med*	○◑●	★	Prefers acidc soils; excellent shade providing tree for large open areas
Liriodendron tulipifera	Tulip Tree	50-100	Fast	*Yellow*	*Med*	○	★	Great ornamental tree; unusual flowers; yellow fall color; disease resistant
Malus coronaria	Sweet Crab Apple	10-20	Slow	*Pink*	*Med*	○◑	★	Native to lower Michigan only, ornamental tree; edible fruit

Plant List

Trees

Plant Names		Height (ft) (at maturity)	Growth Rate	Flower Color	Water Needs	Sun	★	Notes
Botanical	Common							
DECIDUOUS TREES								
Nyssa sylvatica	Black Gum	50-70	Med		*Med*	○◑●	★	Provides erosion control; attractive dense autumn foliage
Ostrya virginiana	Ironwood	20-40	Med		*Med*	○◑	★	Shade tolerant; dark green foliage; attractive cluster of nuts
Platanus occidentalis	Sycamore	60-90	Fast		*Wet*	○◑	★	Disease resistant; tolerant to air pollution; rehabilitates mining sites
Populus tremuloides	Trembling Aspen	40-70	Fast		*Med*	○	★	Beautiful clear yellow fall color; smooth bark; spreads rapidly
Prunus serotina	Black Cherry	50-75	Fast		*Med*	○	★	Fast growing shade tree; leaves may be toxic
Quercus alba	White Oak	50-70	Slow		*Med*	○◑	★	Excellent residential tree; large crown; red fall color; dense foliage
Quercus bicolor	Swamp White Oak	40-60	Fast		*Wet*	○◑	★	Grows well in compacted soils; drought tolerant; tolerant to flooding
Quercus macrocarpa	Bur Oak	50-80	Slow		*Med*	○◑	★	Tolerant to compacted, or sandy soils; deep tap-root facilitates infiltration
Quercus rubra	Red Oak	50-70	Med		*Med*	○◑	★	Easily transplanted; tolerant to air pollution and dry soils; shade tolerant
Salix nigra	Black Willow	40-60	Fast		*Wet*	○	★	Thrives in wet areas; weak branches; encourages evapotranspiration
Tilia americana	Basswood	50-70	Med	*Yellow*	*Med*	○◑●	★	Shade providing tree; soil-enriching