

Landscape Design



What's the Problem?

An improperly designed landscape can result in a landscape that requires large amounts of fertilizer, pesticides, water, and time to maintain. Pesticides and fertilizers pollute our rivers and lakes if they enter nearby storm drains or ditches.

Low-cost solutions

Following the basics of landscape design improves the chance of balancing the need for a low maintenance landscape and the vision of the community.

Landscape Design – The Basics

There are some basic principles to landscape design that may assist in developing a community's project.

- **Unity.** Unity is created in a landscape through the use of repetition of plants, plant groups, or décor. (Overall diversity is important to consider however, to reduce the likelihood of pests and disease). Creating a theme garden is one way to create unity.
- **Simplicity.** Simplicity is especially important to new landscapes. Simplicity in planting can involve choosing two or three plant/flower colors and repeat them throughout the landscape.
- **Balance.** Balance is a sense of equality in the landscape and can be symmetrical or asymmetrical. Symmetrical balance is where there are more or less equally spaced matching elements. This is often associated with a more formal garden. Asymmetrical balance may have similar colors and textures, but the shapes and hardscapes are random.
- **Color.** Color adds the dimension of interest to the landscape. Colors can also be used to direct attention toward a specific area of the landscape.
- **Line.** Line is a more structural principle and relates to the way beds, walkways, and entryways move and flow. Straight lines are forceful and often provide a more formal look. Curved lines have a more natural, informal look.

SEMCOG

Our Water. Our Future.



Ours to Protect



Source: Carlisle Wortman Associates

The Connection of Landscape Design and IPM

Landscape design is a critical component when developing an Integrated Pest Management (IPM) program. For example, an informal or naturalistic design approach requires less general maintenance (e.g., pruning, weeding, pest control) than formal landscapes. See the fact sheets on IPM for more information.

Some important considerations for designing a low-maintenance, minimum pesticide use landscape include: proper plant selection and planting design; plant placement (e.g., spacing between plants and buildings); and use of geotextiles (landscape fabric) for weed control, surface stabilization, and material separation.

Consider Lawn Alternatives

Many of the turf grasses used today require a lot of maintenance to look good. Consider replacing some lawn area with low maintenance plants. This can reduce the amount of time, money, and energy spent maintaining turf.

Lawn alternatives include Buffalo Grass, Pennsylvania Sedge, and Wild Strawberry. Also, some nurseries sell "no mow" lawn mix that reduces the need for mowing and fertilizing. These are all low growing plants that can tolerate some foot traffic.

- **Planting selection and design.** Planting design is a broad term that refers primarily to the selection and arrangement of plants to serve one or more purposes. When minimizing maintenance requirements and pesticide use are included in the objectives of landscape design, emphasis should be placed on 1) matching plants to their site conditions, 2) choosing plants that have few cultural and physical maintenance requirements, both generally and in the specific context of the design, 3) choosing plants that are tolerant of local pests, and 4) situating plants to facilitate maintenance treatments.
- **Plant placement.** It is very important that plants be placed appropriately in the landscape - not only to achieve aesthetic and functional goals, but also to ensure healthy plants by siting them in the appropriate microclimatic conditions, and to facilitate effective and efficient maintenance.
- **Geotextiles.** Geotextiles (landscape fabric) can play a valuable role in designing low-maintenance landscapes that require only minimal or no use of herbicides. They can be used for weed control, material separation, and stabilization purposes.

Special Features Gardens

Besides adding beauty to a landscape, gardens that are creatively designed can provide habitat for important Michigan wildlife. Following is a list of specific gardens that could be developed for butterflies and hummingbirds and other birds.

Attracting Butterflies

A butterfly garden can become a prize feature in your community. There are four key factors to creating a successful butterfly garden: location, nectar sources for adult butterflies, caterpillar habitat, and avoiding pesticide use.

- **Chose a sunny location.** Butterflies need sun to keep their bodies warm enough so they can fly. The best location is one that receives sun from mid-morning to mid-afternoon. Consider adding rocks in sunny areas. The rocks will absorb the heat and butterflies can perch on them to bask, warm up, and start flying again.
- **Grow nectar plants.** The main food for adult butterflies is nectar from flowers. Group plants together. Butterflies generally choose a mass of flowers, rather than one or two appealing flowers. Top nectar plants include: Allium, Bee Balm, Blazing Star, Coreopsis, Purple Coneflower, Aster, Black-eyed Susan, Butterfly Weed, Blanket Flower, and Yarrow.
- **Caterpillar habitat.** To produce even more butterflies, provide food for caterpillars. Caterpillars eat the leaves and sometimes flowers of certain select plants. These plants include: Aster, Dogwood, Elm, False Indigo, Marigold, Snapdragon, Thistle, Tulip Poplar, and Milkweed.

Special Features Gardens (continued)

- **Avoid pesticides.** Most pesticides are lethal to butterflies. Avoid using pesticides near butterfly gardens or caterpillar habitat.

Hummingbird gardens

Hummingbirds pollinate more than 160 native North American plants. Because of their high metabolism, hummingbirds consume daily up to half their body weight in food and as much as eight times their body weight in fluids. Usually attracted to red, tubular flowers, hummingbirds also use a wide variety of other flowers.

Plant species for Butterfly and Hummingbird Gardens

Name	Type	Sunlight	Butterfly/ Hummingbird	Height	Blooming
American Columbine	P	F/P	B/H	1-2 ft	May-June
Bee Balm	P	F/P	H	3 ft	June-July
Blazing Star	P	F/P	B/H	2-4 ft	July-Sept
Bonset	P	F/P	B	3-4 ft	July-Aug
Butterflybush	P	F/P	B	3-8 ft	June-Aug
Butterflyweed	P	F/P	B	2-3 ft	July-Aug
Cardinal Flower	P	F/P	H	3 ft	July-Sept
Coral Bells	P	F/P	H	2.5 ft	May-July
Coralberry	S	F/P	B/H	3 ft	
Fireweed	P	F/P	B/H	2-4 ft	July-Aug
Gaillardia	P	F	B/H	3 ft	June-Aug
Hollyhock	P	F/P	B/H	5-8 ft	June-Aug
Joe-pye-weed	P	F/P	B	2-6 ft	July-Sept
Leadplant	P	F	B/H	2-4 ft	June-July
Lupine	P	F/P	B/H	2 ft	June-July
Maximillian Sunflower	P	F	B/H	5 ft	Aug-Sept
Narrowleaf meadowsweet	S	F	B/H	4 ft	June-July
Oxeye Sunflower	P	F	B/H	2.5-3 ft	July-Sept
Purple Coneflower	P	F/P	B/H	2-4 ft	July-Aug
Scarlet Petunia	A	F/P	H	1 ft	Through summer
Scarlet Sage	A	F/P	H	2.5 ft	Until frost
Swamp Milkweed	P	F/P	B	2-4 ft	June-Aug
Tobacco Flower	A	F	H	1-2 ft	Through summer
Trumpet Creeper	V	F/P	H	Climbing	July-Aug
Turk's Cap Lily	P	F/P	H	3 ft	July-Aug
Western Sunflower	P	F	B/H	2 ft	July-Aug
Wild Bergamot	P	F	B/H	2 ft	June-July
Yarrow	P	F	B	2 ft	June-Aug

A=annual; P=perennial; S=shrub; V=vine; F=full sun; P=partial sun
B=butterflies; H=hummingbirds



Source: Carlisle Wortman Associates

Cover photo: Courtesy of St. Clair County. Curved lines in the landscape have a more natural, informal look.

Top right photo: Creating a theme garden, such as this butterfly garden, is one way to create unity in the landscape.

Back page photo: Consider solving landscape problems, such as wet areas, by installing a rain garden.

Avoiding the "Wild Look"

One of the reasons communities may avoid using more natural landscaping methods is that residents may think the areas are unkept vs. natural landscaping. Following are a few methods to assist in promoting the native look:

- **Create borders.** A fence, mowed path, or other border can create a feeling of order to a naturalized landscape.
- **Promote native landscaping.** Inform residents through community web sites, newsletters, newspapers and signage about the benefits of the native landscaping.
- **Add human touches.** Consider putting in benches and other touches that invite people into the garden to enjoy the plants.



Source: City of Farmington Hills

Solving Landscape Problems

There are many areas in a community where traditional landscaping will not work. These include: extreme shade; wet, compacted or droughty soils; saline, acid or alkaline soils; and highly erodible sites. When working in these problem areas:

- Consider using ground-covering plants for areas with highly erodible soils (e.g., steep slopes) and extreme shade.
- Utilize salt-tolerant plants when planting near roads and sidewalks. (See fact sheet on plant selection for a list of salt-tolerant plants.)
- If possible, amend the soil to ensure the proper pH level for your plants.
- Consider adding compost to reduce compaction of soils.
- For wet areas, consider installing a rain garden. A rain garden consists of plants adapted to wet conditions.

Landscape Design

Resources

Landscape Design Site. www.the-landscape-design-site.com.

Michigan Department of Natural Resources.
Managing Michigan's Wildlife: A Landowners Guide.

Michigan State University Extension. Attracting Birds. Wildlife Series. 1999.

Michigan State University Extension. Attracting Butterflies. Wildlife Series. 1999.

Michigan State University Extension. Working with Wet Areas in the Landscape.

Springfield Township. Environmentally-Sound Landscape Maintenance.
Going Native Series.

Voigt, Tom. Solving Landscape Problems with Grasses and Ground Covers.
University of Illinois.

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