

## **REASONS FOR PLANTING TREES**

Shade from trees cools hot streets and parking lots and drive ways. Cities are "heat islands" that are 5-9 degrees hotter than surrounding areas.

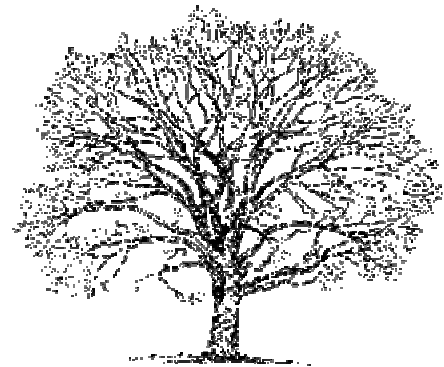
Trees and shrubs add beauty and grace to any community setting. They make life more enjoyable, peaceful, relaxing, and offer a rich inheritance for future generations.

Trees and shrubs give people a multitude of recreational opportunities and provide habitat for wildlife.

Trees and shrubs along rivers, streams, and lakes reduce water temperatures by their shade, prevent or reduce bank erosion and silt, and provide hiding places for improving fisheries habitat. Trees and shrubs along a shoreline are offer habitat for many species.

Trees help us experience connections with our natural heritage and with our most deeply held spiritual and cultural values.

Finally, many people enjoy planting and caring for trees and shrubs simply because they like to see them grow.



## **Why is Natural Shoreline So Important?**

The health of a lake or river hinges on the delicate shoreline - the "Ribbon of Life."

- Shorelines are breeding grounds, nurseries, food sources, shelter, and hiding places for many species.
- 90% of all living things in a lake or river are found along the shoreline.
- Shorelines are effective natural filters and buffer zones, acting as the "kidneys" for the watershed.
- Shorelines help to improve the quality and quantity of ground water.
- Polluted run-off is trapped and absorbed by the vegetation, thus protecting water quality.

The complex interplay of plants, animals, land, and water combine to make the shorelines the single most important part of the river ecosystem.

In addition to the ecological benefits of a healthy water system, Maple Lake and the Paw Paw River have the potential to provide many recreational opportunities such as canoeing, hiking, bird watching, and fishing. Right now, the river offers limited benefits to the community at large.



## **Shrubs and Trees along the Paw Paw River and Maple Lake**

Many property owners along the river choose to cut down all the trees and shrubs so they can have a better view of the river. This is very unhealthy for the river, however. Because the root systems of trees and shrubs are much more extensive than those of grass, they do a much better job of holding the soil in place and filtering out pollutants that wash downstream during rainstorms. Vegetation along the river also provides habitat for wildlife. Borders of trees and shrubs along streams and rivers are known as riparian buffers.

The goal is for landowners to grow lakeshore and river-friendly trees and shrubs on their riverfront properties and still have an attractive view of their property and the river. A demonstration project was set up. Using native trees and shrubs, two residential properties that had been cleared down to the riverbanks, were planted with native species to create an attractive vegetated border along the river. The trees and shrubs will develop extensive root systems as they grow, which will help hold the riverbanks in place and prevent erosion. The natural vegetation also provides wildlife habitat. To provide the landowners access to the river without trampling the vegetation and causing more erosion, we built a narrow rock stairway at each site.



**This residential property had been mowed to the edge of the riverbank. Attractive native trees and shrubs were planted along the riverbank. Their root systems will help protect the property and the river from the effects of erosion. The landowner has an attractive view of the river.**

Property owners are strongly encouraged to use native plants in their landscaping. These are better for protecting the ecology of the region than are plant species that grow naturally in other regions.

## Two Suggestions For Planting Along Maple Lake and the Paw Paw River Shorelines

### **Winterberry holly** (*Ilex verticillata*)

The glory of this shrub is its berries. They turn red in early fall and continue to provide cheer through most of the winter. An ideal shrub for pond-side plantings; winterberry loves wet soil, and it looks beautiful reflected on the water. Both male and female bushes are needed to get berries; one male is enough for half-a-dozen females. Unlike most hollies, winterberry is deciduous. Typically 6-10'. Moist to wet soil.



#### ● Habitat

- native to the eastern and central United States; parts of Canada
- zone 3 to 4
- often found at the edge of the woods or in swamps

#### ● Habit and Form

- a deciduous, multi-stemmed shrub
- generally 6' to 10' tall, but can get larger
- oval to rounded form
- upright and spreading
- tends to sucker and form large clumps

#### ● Summer Foliage

- deciduous with alternate leaf arrangement
- leaves are 1.5" to 3" long and 0.75" to 1.25" wide
- elliptical with an acute base and acute/acuminate apex
- color is green to dark green
- leaves vary from flat to shiny on the upper surface
- underside of leaf somewhat pubescent
- serrate leaf margins

#### ● Autumn Foliage

- not especially showy
- typically yellow-green with some purple tinges

### **Winterberry holly** (Cont'd.)

### ● Flowers

- dioeciously, with male and female plants
- male flowers in clusters
- female flowers solitary or in 2's or 3's
- small white flowers in early June
- not especially showy

### ● Fruit

- only present on female plant
- bright red and glossy, held well into winter
- held close to the stem, singly or in pairs
- green during the growing season, changing in October
- birds will eat fruit

### ● Bark

- dark gray to brown
- generally smooth with some lenticels



### ● Culture

- full sun to partial shade; more sun means more fruit on females
- easily transplanted from containers or B&B
- tolerant of poorly-drained soils
- prefers moist, acidic soils

### ● Landscape Use

- in native plantings
- for fruit display in fall and winter
- useful in wet soils
- in mass planting
- along water
- shrub border

### ● Cultivars/Varieties (some)

'**Afterglow**' - This form features glossy green leaves that are smaller than typical. It is compact growing (to 10' tall and wide) with large orange-red berries maturing to orange. It is best pollinated with 'Jim Dandy'.

'**Cacapon**' - This plant grows to 5' tall, possible more. It is similar to 'Afterglow', but more upright in growth. It is heavy-fruiting, with true red fruit, plus the leaves are textured and dark green and glossy. Use 'Jim Dandy' as a pollinator.

## Winterberry holly (Cont'd.)

'**Red Sprite**' - A very popular, award-winning form, this dwarf female clone matures at only 3' to 4' tall. The habit is pleasantly mounded. Early blooms produces numerous, very large red fruits which persist well in the winter. This USDA release is widely considered to be one of the best winterberries. Use 'Jim Dandy' to pollinate. '**Shortcake**' is similar, but larger (to 5' tall), with smaller fruit.

'**Winter Red**' (**Winter Red®**) - This popular form is widely accepted as one of the best winterberries. It forms an upright, rounded shrub to around 8' tall with dark green foliage. The bright red fruit are borne in profuse quantities and they persist into winter consistently.

'**Autumn Glow**' - A selection out of Rutgers University, this plant is dense-growing to 10' tall and wider. The red fruit persist well, but may discolor. Reports vary concerning fall color, which may include yellow and orange shades.

'**Sparkleberry**' - This award-winning, popular selection is common in the trade. It ultimately reaching 12' tall and can become somewhat leggy at the base due to its upright growth habit. The main attraction are the abundant red fruit that are medium-size and persist well, often until spring. Use 'Apollo' to pollinate this U.S. National Arboretum introduction.

## Red Chokeberry (Aronia arbutifolia, Photinia pyrifolia)

This is a quietly handsome shrub that thrives in a wide range of conditions. It has clusters of white flowers in the spring, followed by bright red berries that attract birds. Its brilliant red fall foliage ends the year with a bang. 5-10' tall. Dry to moist soils. (There is also a 'Black Chokeberry')

### ● Habitat

- native throughout most of the eastern United States and into parts of southern Canada
- zone 4
- found in various conditions from dry hillsides to wet, almost swampy areas

### ● Habit and Form

- 6' to 10' tall and 3' to 5' wide, deciduous
- a suckering, spreading, colonizing shrub with numerous, slender stems
- individual plants tend to have a very upright, narrow form and can be sparsely branched at the base
- texture is medium

## Red Chokeberry (Cont'd)

### Summer Foliage

- alternate leaves are obovate, 1.5" to 3.5" long and 0.5" to 0.75" wide
- shiny, dark green or medium green on upper surface and fuzzy gray-green on the underside
- fine, even serrations along leaf margin long the margin



### Autumn Foliage

- one of the best shrubs for brilliant fall color
- intense, shiny, raspberry to crimson, with purplish highlights. Can also have some orange mixed in, especially in shady sites

### Flowers

- many clusters of small, white flowers in early May
- bloom is not overwhelming, but add to the plant's multiseason interest
- flowers last about a week

### Fruit

- red pome, 0.25" diameter, in flat clusters
- effective from September into December
- birds will eat the fruit, but prefer other fruits first

### Bark

- brown, not important due to small stem diameter

### Culture

- full sun is needed for strong flowering, fruiting and intense red foliage color (good fall foliage in shade, but not as red)
- tolerant of partial shade
- soil adaptable; tolerates both dry and wet sites
- easily transplanted and established



### Landscape Use

- excellent for fall foliage effect
- multiseasonal (flowers, good summer foliage, fall foliage color, persistent fruit)
- best used in mass plantings or borders
- for naturalistic plantings
- useful for bank stabilization, colonization