



Planting Trees for Clean Water

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Michigan Lakes and Streams Association Seminar

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WHO WE ARE

YOUR LOCAL CONSERVATION ORGANIZATION

Our mission is to promote the conservation of natural resources through partnerships, providing public education, demonstrations, and technical assistance while working together for future generations.



advocates neighbors
advisors technicians partners
specialists farmers stewards
educators gardeners biologists

Our vision

thriving communities; sustainable farms; stewarded natural resources; and healthy, connected people.

WHAT WE DO

PROGRAMS | SERVICES | EVENTS

forests



preparing our forests for the future

habitat



managing invasive species

education & demonstrations



providing education to our community

soil

building healthier soil



farms

building stronger, healthier farms



recycling

providing & expanding services



When rain falls...

It can **infiltrate**
into the ground,
evaporate...OR
it can **run off**

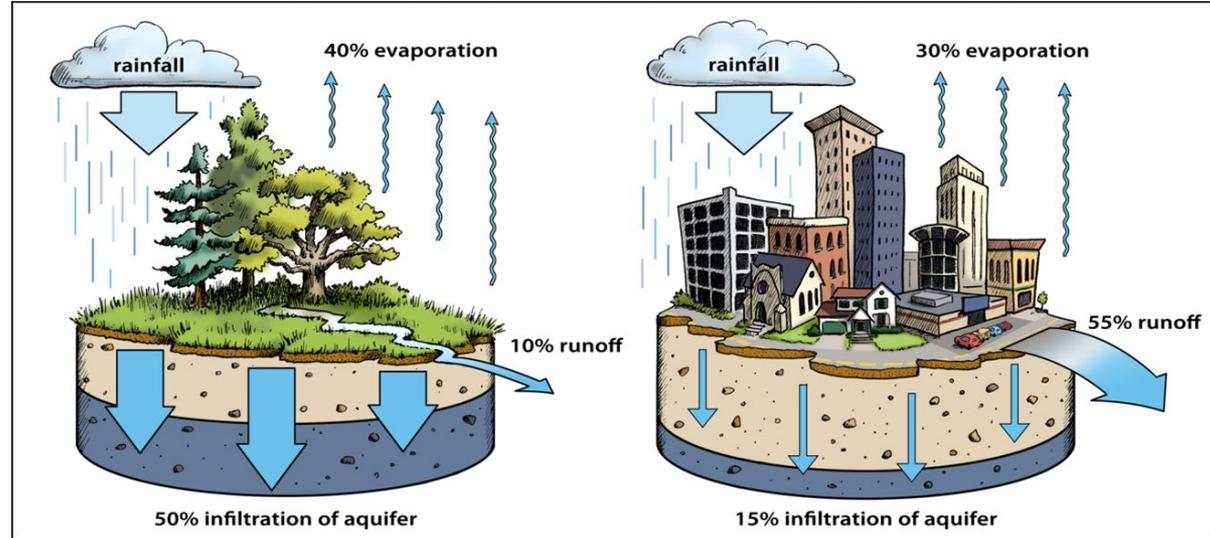


Illustration by Amelia Hansen



**1" rainstorm:
13,000 gallons falls on a typical
½ acre residential lot
About 55% runs off (7,150 gallons!)**

What can run off into the lake?

- Soil/sediment
- Pet waste
- Fertilizers
- Oil and other vehicle fluids
- Grass clippings, leaves, and other yard waste
- Trash



Landscaping to Protect Our Lakes

- Reduce flooding
- Prevent erosion
- Filter pollutants
- Reduce polluted runoff
- Provide habitat



Landscaping to Protect Our Lakes

- Landscaping that mimics natural conditions
- Designed for how we use it (swimming, boating, etc.)



What Does the Lake Need?

Clean water

Erosion control

Habitat



What Do I Need?

A place to swim

A dock

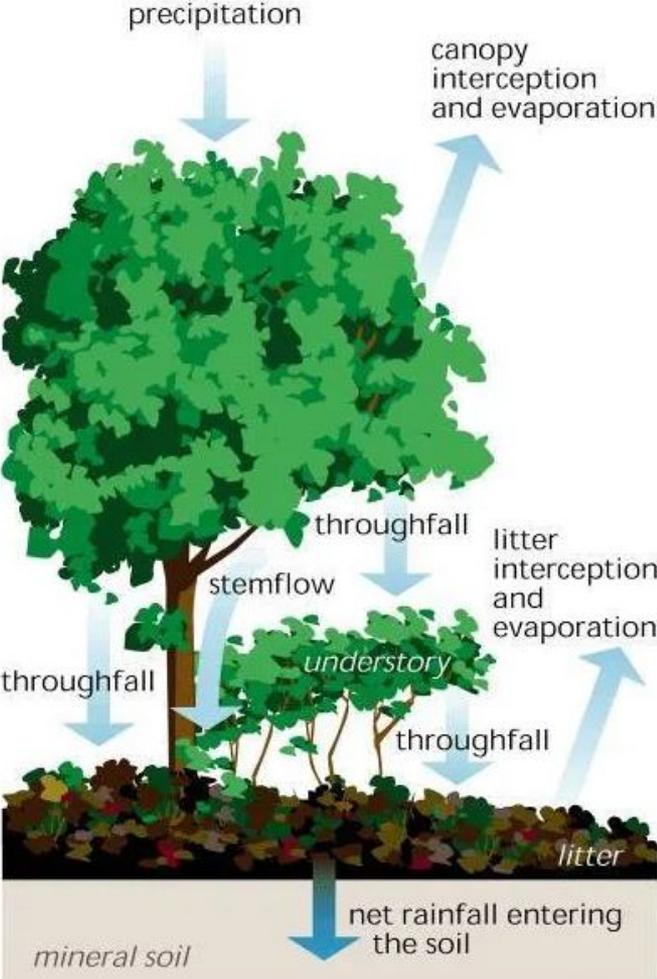
Seating area to enjoy the water

A place to pull the boat up



Photos: Allegan Conservation District and Jane Herbert

Canopy Interception and Infiltration



Infographic: PennState Extension

Free Trees program

Cass County Lakes

Harwood Lake

Birch Lake

Baldwin Lake



Van Buren County Lakes

Round Lake

Gravel Lake

Eagle Lake

Why plant trees around your lake?

Beauty

Shade

Wildlife habitat

Infiltrate rain water and snow melt

Prevent erosion

Reduce flooding

Filter and absorb pollutants

Fish habitat



Why plant trees around your lake?



This project will plant **4,900 trees** and shrubs and reduce **440,000 gallons** of runoff annually

A young, 1" diameter tree can prevent **200 gallons** of runoff per year

A mature deciduous tree can prevent over **1,000 gallons** of runoff per year

How to choose a tree

What do you want?

- Screening
- Aesthetics
- Wildlife - blooms for pollinators, berries for birds, nuts for squirrels, etc.
- Shade
- View



What does the tree want?

- Sun - Do you need a shady species or a sun-loving species?
- Water - how wet is your soil?
- Soil Type - sand, loam, clay

Trees & Shrubs available* (all are native to Michigan)

Trees

- Black Willow
- Hackberry
- Redbud
- Red Maple
- Speckled Alder
- Sycamore
- Tulip Poplar
- White Oak
- Yellow Birch

Shrubs

- Highbush Cranberry
- Nannyberry
- Ninebark
- Red Osier Dogwood
- Spicebush

***Nursery availability TBD**



Black Willow

Salix nigra

Light



Growth Rate



FAST

Height



30 TO 80

Width



30 TO 60

Black willow is a fast growing large sized tree found in full sun on moist sites often along rivers and streams. Flowers are dioecious with male and female occurring on separate plants. Black willow attracts pollinators in spring, various caterpillars throughout the growing season, and songbirds. Like other fast growing trees, woody is weak and prone to cracking and/or breaking.



Hackberry

Celtis occidentalis

Light



Growth Rate



FAST,
MODERATE

Height



40 TO 80

Width



30 TO 60

Wildlife



A great and adaptable tree suitable for both naturalized areas and street tree plants alike. Look for the warty smooth gray bark and “elm like” leaves. The drupe is edible imparting a fig flavor. Witch’s broom is relatively common from a fungus and mite causing deformed growth.

Tree information courtesy of woodywarehouse.com



Redbud

Cercis canadensis

Light



Growth Rate



MODERATE

Height



25 TO 35

Width



20 TO 30

Wildlife



A true beacon of spring with lavender-pink flowers ushering in warmer temperatures. Branching is relatively weak and performs best as an understory tree with protection. Seeding can sometimes be prolific.



Red Maple

Acer rubrum

Light



Growth Rate



FAST

Height



40 TO 80

Width



30 TO 50

Wildlife



This is the go-to native maple revered for its brilliant fall red color. Cultivars are far more common in the nursery industry relative to the wildtype. It is a moderate to fast grower somewhere between the fast silver maple and the slow sugar maple. While adaptable, red maples prefer acidic, loamy soils. On compacted clay soils, surface roots and leaf chlorosis (yellowing) can occur.

Tree information courtesy of woodywarehouse.com



Speckled Alder

Alnus rugosa

Light



Growth Rate



Height



15 TO 25

Width



15 TO 25

Wildlife



Got a wet site in full sun? Tag alder will is a perfect choice when looking for a natural, thicket forming erosion control. Birds will utilize for nesting and seed.



Sycamore

Platanus occidentalis

Light



Growth Rate



FAST

Height



75 TO 125

Width



50 TO 75

American sycamore is a beautiful, stately tree with exfoliating bark and large leaves. It prefers wet to medium rich soils but is somewhat tolerant of drier sites in the urban landscape. This is a large sized tree at maturity with prolific seed that is often taken by water birds. Anthracnose can be a problematic disease leading to defoliation and loss of vigor in subsequent years.



Tulip Poplar

Liriodendron tulipifera

Light



Growth Rate



Height



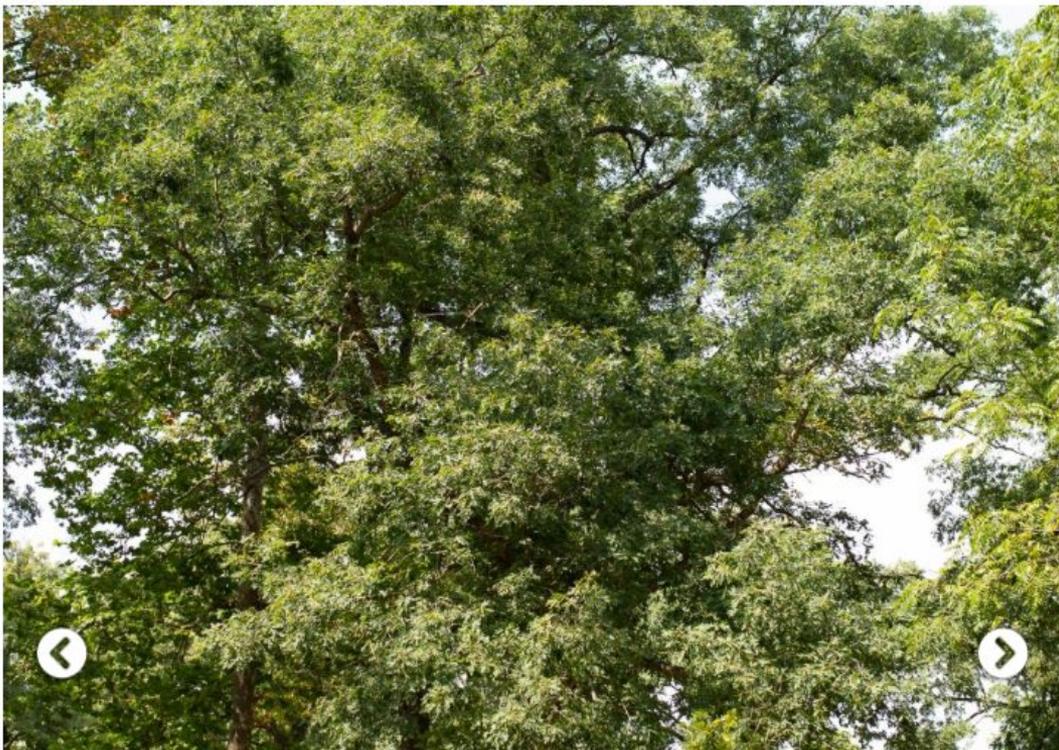
Width



30 TO 60

Tuliptree is one of the largest deciduous trees of the eastern United States growing relatively fast and straight. This tree is highly adaptable but prefers full sun in rich well drained soils. The magnolia-like flowers are often missed as they hang upright in late spring with a gradient of green and yellow with orange inside. Tulip tree is a great option for the urban landscape and for homeowners looking for a fast shade tree.

Tree information courtesy of woodywarehouse.com



White Oak

Quercus alba

Light



Growth Rate



SLOW

Height



50 TO 120

Width



50 TO 80

White oak is large, majestic canopy in the white oak group. Growth is slow with preference for full sun and mesic, moist, acidic soils. White oak is quite drought tolerant once established and can handle heavy clay.



Yellow Birch

Betula alleghaniensis

Light



Growth Rate



MODERATE,
SLOW

Height



60 TO 80

Width



60 TO 80

Wildlife



Like most birches, yellow birch is a species of the northern, cooler states. The bark is a showy, flaky bronze color and the twigs have a hint of wintergreen flavor when chewed. While not as susceptible to borers, be on the look out especially when stressed by heat and drought.



American Cranberry Bush

Viburnum trilobum

Light



Growth Rate



MODERATE

Height



8 TO 12

Width



8 TO 12

Highbush cranberry is a large viburnum with cranberry red like drupes. This shrub prefers full to partial sun in wet to medium soils. It is easy to distinguish from other viburnums with its tan colored branches that have large red buds. It is very difficult to separate from the commonly planted and naturalized European Cranberry bush which exceedingly more common. The flowers are unique in that floral bracts are also present creating quite the ornamental look.

Tree information courtesy of woodywarehouse.com



Nannyberry

Viburnum lentago

Light



Growth Rate



MODERATE

Height



10 TO 20

Width



5 TO 15

Nannyberry is very similar to its drier cousin, blackhaw viburnum but the former prefers wet to medium sites. Growth is optimal in full sun. The leaves develop a glossy sheen which is quite attractive. Flowers are magnets for pollinators. Seeds are larger in size which excludes smaller songbirds.



Common Ninebark

Physocarpus opulifolius

Light



Growth Rate



FAST

Height



5 TO 10

Width



5 TO 10

Ninebark is a medium sized shrub tolerate of wet to dry, well drained soils. Showy flowers will cover every inch of this shrub in late spring attracting various pollinators. Ninbark can be used in native hedges with viburnums and dogwoods to attract birds.



Red Osier Dogwood

Cornus sericea (stolonifera)

Light



Growth Rate



MODERATE

Height



5 TO 10

Width



5 TO 10

Wildlife



A winter wonder with fire engine red stems. This medium shrub prefers wet sites in full sun but is highly adaptable. Good air circulation is needed or fungal diseases can be problematic.



Spicebush

Lindera benzoin

Light



Growth Rate



MODERATE

Height



5 TO 15

Width



5 TO 15

Spicebush is a wonderful woodland shrub that is underutilized in the landscape. Early spring yellow flowers are reminiscent of the nonnative forsythia. This highly fragrant plant is rarely bothered by deer and is the larval host of the spicebush swallowtail caterpillar. Plants are dioecious and both flowers are required for the red drupe that songbirds favor. Site preference is for full sun to full shade in moist, well drained soils. This plant will not thrive in full sun exposed to drought and heavy clay.

Tree information courtesy of woodywarehouse.com

The Process: The Landowners' Jobs

1. Pick which trees you'd like
2. Fill out the interest form
3. Stake or flag where you want the trees planted (avoid utilities and septic fields)
4. Sign a brief contract
5. Post a yard sign temporarily
6. Water the trees regularly
7. Mulch the trees as needed

**WE PLANTED
TREES
FOR
CLEAN WATER**



All partners are equal opportunity employers and providers.

The Process: Van Buren Conservation District's Jobs

1. Order the trees from a nursery
2. Coordinate the contractor to plant them
3. Notify you of the general time in which the contractor will be planting
4. Send out watering reminders
5. Next year: spot check trees for mortality (tell us if your trees die!)



The Process: The Contractor's Jobs

1. Notify MISS DIG to flag public utilities on your property so they aren't disturbed
2. Transport the trees from the nursery to the planting sites
3. Plant the trees with hand tools
4. Install tree protectors to prevent damage from animals or mowers





Your Lake's Watershed

- We will plant seedlings on large properties within the lake's watershed
- Contact us if you have a larger property where we could plant seedling trees and shrubs



A photograph of three children splashing in a lake. The child on the left is a girl with blonde hair, wearing a colorful bikini top, with her arms raised. The child in the middle is a girl with dark hair, smiling with her hands out. The child on the right is a boy with dark hair, smiling with his hands out. The water is splashing around them, and the background shows a shoreline with trees. The text 'Thank you!' is overlaid in large blue font.

**Thank
you!**

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