



Welcome to the Sam Graham Trees Trail

at the University of Michigan Matthaei Botanical Gardens

You are about to begin a journey through
woodland, savanna, floodplain and fen.

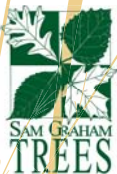
Along the way you will discover fun facts
about Michigan trees and where they grow.



Follow the map and hike the “Sam
Graham Trees Trail.” Search for
markers that help you to know
the trees you see in this book.

Match the marker to the page in
the book that describes it. Use the
open spaces on each page to
make rubbings from the markers.

**Can you find all
the markers?**



M UNIVERSITY OF MICHIGAN
Matthaei Botanical **gardens**
and Nichols **arboretum**

Wait a Minute!

Why is it called the Sam Graham Trees Trail?
Who was Sam Graham?

Sam Graham loved bugs and trees!

He knew a ton about the forest and

he taught at the University of Michigan.

He said that everything - from the trembling
aspen trees to the pine weevils - has a
special job to do for the forest community.



Sam Graham (1891-1967)

We thank Sam Graham's family for making this project possible!

Also thanks to Suzanne Perry, U-M graduate student, who
conceived of and created the leaf rubbings and interpretive
materials for the Sam Graham Trees Trail.

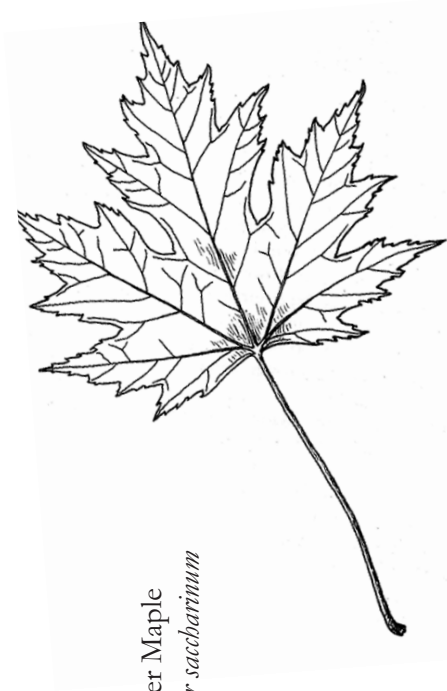


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Pages printed on 100% recycled fiber, with 100% post consumer content

Processed chlorine free, using non-oil-based inks

Hello, I'm Silver Maple!



Silver Maple
Acer saccharinum

Silty Bottom Silver Maple

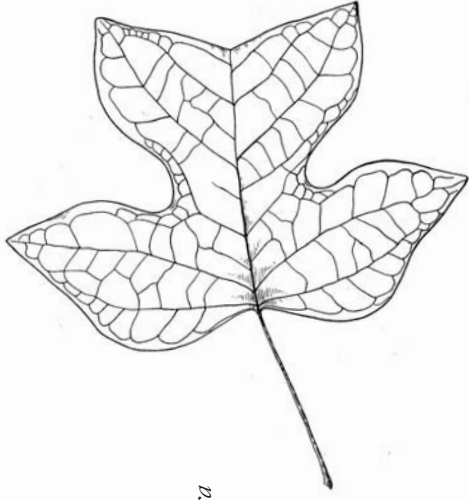
Do you see how the earth dips down just a bit on the side of the trail where I grow? You are looking at the soggy bottom of the Fleming Creek Floodplain and I like to grow just above it. This spot can get wet and soggy and then dry out. Wet and dry, wet and dry. I can handle it.



Tall-Growing Tuliptree

Tuliptree

Liriodendron tulipifera



Greetings, I'm Tuliptree!



Look at my huge leaves - they are shaped like a saddle. I don't like the shade so I grow very quickly

to reach the sunlight. My trunk is straight and tall. Do you see the white stripes in my bark?

It stretches as

I grow in the

rich fertile soil

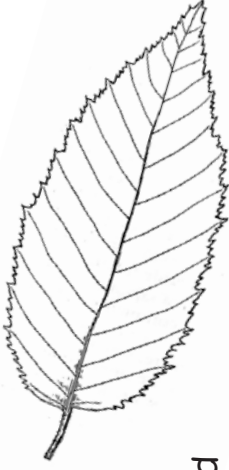


make your rubbing in this space!

Moist and Mighty Musclemwood

Musclemwood

Carpinus caroliniana



Look at my smooth and stoney bark. It looks like carved stone muscles!

That's why I'm called Musclemwood.

I may be short, but I'm tough! I don't mind growing in the shade of other trees.

I can't stand drought! That's why I love it in this moist soil near the creek.

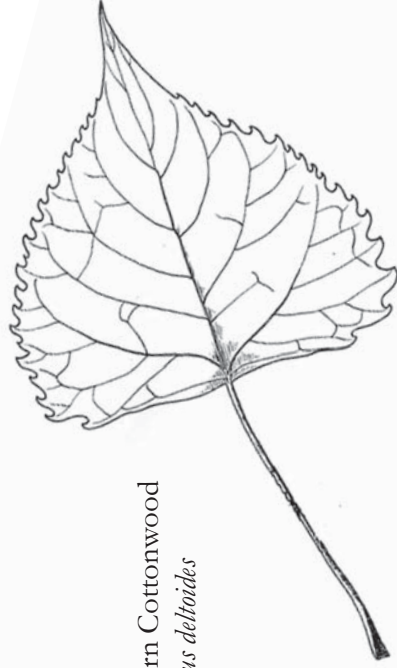
I have more than one name-

besides Musclemwood

I'm also called

American Hornbeam and Blue Beech.

Hi, I'm Eastern Cottonwood!



Eastern Cottonwood
Populus deltoides

Don't crowd a Cottonwood!

I hate the shade! I like open sunny spots where I can grow tall and strong.

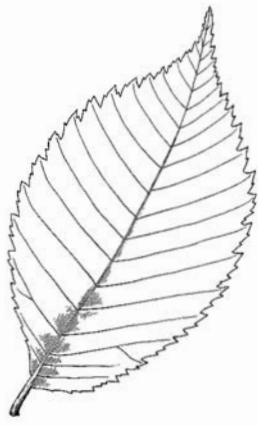
My seeds are attached to cottony fluff that helps them to travel on the wind. The wind sends them in all directions! I hope they find nice sunny spots to grow!

Just look at all that fluff!



Engulfed Elm

American Elm
Ulmus americana



Hi! I'm American Elm.

Look - I am practically growing in the creek! Do you think this spot ever gets flooded? You bet it does! Just like my friend, Silver Maple, I can survive in wet soil.



Many American Elms have had a rough time surviving a fungus called Dutch Elm Disease. New varieties that resist the disease are planted all around here.



make your rubbing in this space!



European Elm
Bark Beetle
Scolytus multistriatus

Beetle Battle

Bon jour!

I am European Elm Bark Beetle.

When I enter an elm to feed and lay

eggs, I carry a

fungus named

Ophiostoma ulmi.



This fungus clogs the flow of water through the elm causing Dutch Elm Disease and eventually killing the tree.

As I bore into elm trees, I leave strange swiggly designs in the bark called galleries.

I am really very small, just 3 millimeters!

 3 millimeters

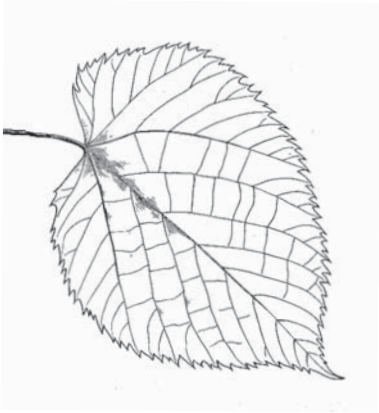
 10 millimeters

 20 millimeters

make your rubbing in this space!

Bottom land Basswood

Basswood
Tilia americana

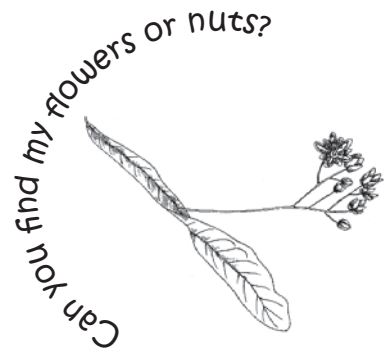


Stop and listen.
Do you hear the flowing water?

I'm Basswood!

I love it here in the bottom lands -
the low-lying areas near the creek.
The soil is rich and moist.

My small flowers appear in
June and turn into tiny nuts
in October.



make your rubbing in this space!

Wild and Wonderful Walnut

Black Walnut

Juglans nigra



Welcome, I am Black Walnut!

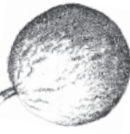
I am growing on a site called a levee.

A levee is a wee bit higher and drier than the bottom of the floodplain.

It's perfect for me here -

not too wet and not too dry.

Plus, the rich soil is full of nutrients deposited by the creek!



If you want to snack on my nuts- You'll have to be fast- squirrels love them.

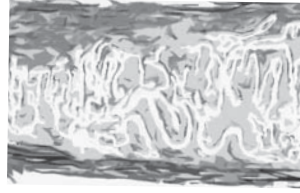


Emerald Eradicator

Emerald Ash Borer
Agrilus planipennis



Look closely at the huge logs and stumps around you. These were magnificent ash trees. Do you see the curving designs etched into the wood? Trace your finger over these designs called galleries. Who or what did this?



The invasive, exotic, pest called the Emerald Ash Borer- That's who did it!



Young borers feed on the living tissue under the bark. Eventually the weakened tree dies. This pest is responsible for the loss of millions of ash trees in Michigan.

Nuts over Hazelnut

American Hazelnut
Corylus americana



Howdy!
I'm Hazelnut.

Even though I am growing on the floodplain, I prefer sandy soil that is not too wet. So why am I growing here?

When the creek floods it deposits sand and some gravel on its banks, forming the levee that you are standing on right now. Since the soil here is sandy, water drains quickly - creating a great home for me!



Dogwood of the Damp

Silky Dogwood
Cornus amomum



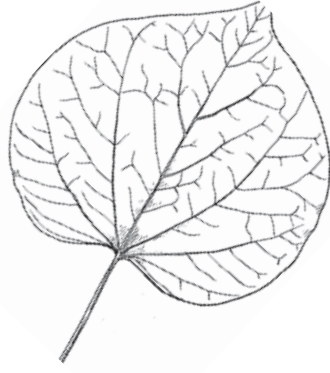
Hello, my name is
Silky Dogwood!

I like it in low-lying, damp places near
streams and swamps.

Do you think this is a good spot for me to grow?
It sure is!

You can find my fruit in July and August.
It looks like a tiny bluish-white ball and it
grows in clusters.

Rapturous Redbud



Redbud
Cercis canadensis

Shhhh... Don't you just love the sound of water falling over rocks? I do.

My name is Redbud.

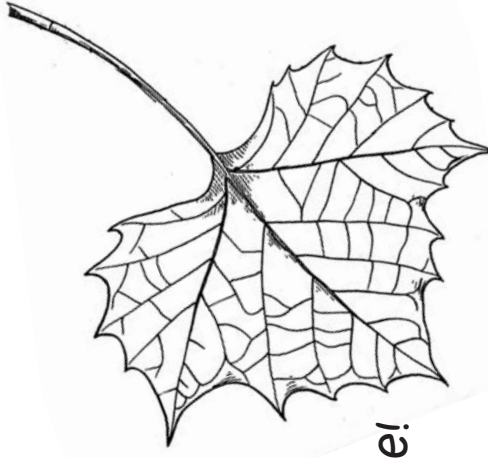
This is a perfect home for me. The soil is rich with minerals deposited by the creek. I don't mind growing in the shade of other trees - but it's nice to be on this open, sunny site.

People like to plant me in their yards because I have heart-shaped leaves.

In spring I have pretty pink flowers!

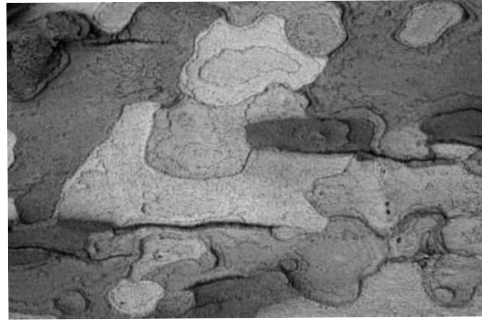


Sycamore
Platanus occidentalis



Hi, I'm Sycamore!

Along with my good friends, Silver Maple, Eastern Cottonwood, and American Elm, I'm a big deal here on the floodplain.



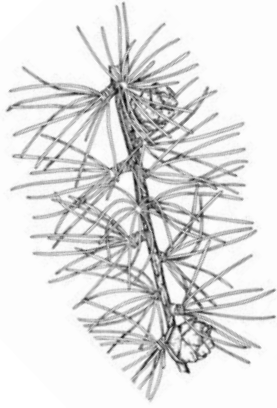
If this place flooded for a long time as it has in the past, some plants would have a difficult time surviving. But not me! I can survive in super saturated soil - so bring on the flood!

Can you see why some think my bark looks like camouflage?

Saturated Sycamore

make your rubbing in this space!

Tamarack
Larix laricina



Terrific Tamarack

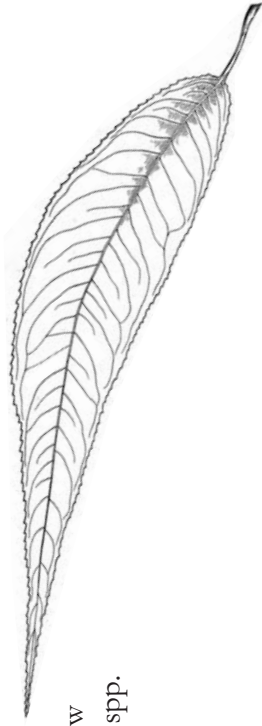
Glad to meet you! I'm Tamarack.

I look like an evergreen tree don't I? Fooled you!
Every winter I lose all of my needles so that I can
save up energy during those cold, dark months.

Why do you think this boardwalk is here? That's right
- It's because the soil is sopping wet. I like to grow
in spots where few other trees grow - open, cold,
mucky swamps and bogs.

In 1987, the Larch Casebearer Moth killed many
tamarack trees on the Fleming Creek floodplain.
Young tamaracks have been planted to replace the
dead trees.

Wet Willow



Willow
Salix spp.

Hey there! I'm Willow.

I have many members in my family. Some willows are HUGE and some are shrubby and small, like me.

You are standing on the boardwalk, and you know what that means... This spot is so wet, you might sink to your knees if you stepped down! I love it here.

Just like Tamarack over there, I hate the shade! So I have adapted to grow in places where few trees and shrubs can grow - super-wet sites!

Don't get stuck in the mud!



One Whopper of a White Oak



White Oak
Quercus alba

Look at how huge and beautiful I am!

I'm White Oak!

I can live to be 600 years old! If you'd like to give me a hug, I don't mind!

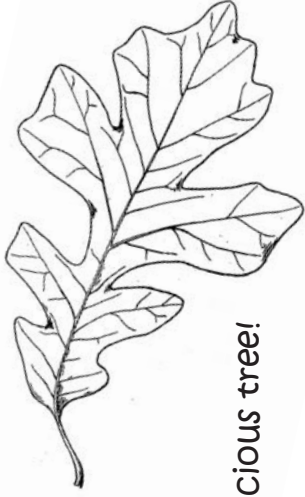
Notice the light color of my blocky bark. If you walk out on the boardwalk you can take a close look at my leaves. Do you see their smooth and rounded edges?

I don't like it down in the wet muck near the creek. That's why you have not met me until now-- I like places that are higher and drier!

Big, Bodacious Bur Oak

Bur Oak

Quercus macrocarpa

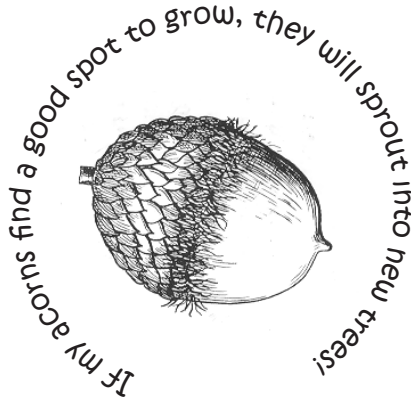


Another big, bodacious tree!
I'm Bur Oak.

Feel the ridges on my thick bark. It's like armor
- it protects me from fungus, fire, and almost
anything else!

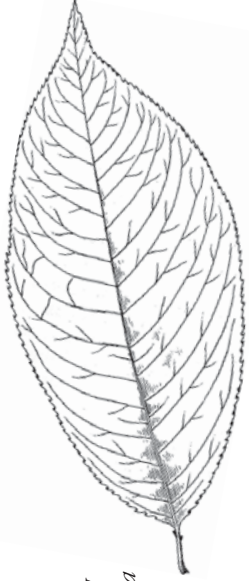
I hate it when my roots get soaked for too long.
I like sandy soil where the water drains well.
Did you notice me down on the levee? The
savanna is more my style.

In the autumn,
search for my acorns.
They have a fun,
fringed cap.



Don't Bathe a Black Cherry

Black Cherry
Prunus serotina



Hi, I'm Black Cherry.

Look at my dark, rough, peeling bark. Some people say that it looks like burnt potato chips!

Did you notice that little by little you are entering higher ground? You did not meet me down in the floodplain because I can't handle such wet soil. I hate it when water soaks my roots.

My fruit is a small juicy, slightly bitter cherry. Birds really like it.



Burn, Baby Burn!

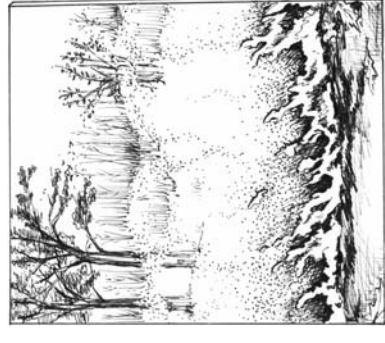
How do trees adapt to fire?

Forest fires are bad, right?

Think again...fire is an essential part of healthy Michigan prairies, savannas and woodlands. Land managers and others use fire as a tool that helps to preserve native ecosystems. If a fire is prescribed for an area, trained staff and volunteers conduct a controlled burn.

How does fire help?

Fire opens the vegetation and stimulates growth in our native grasses and wildflowers. It enriches the soil and creates perfect conditions for many of our native trees to germinate.



Deep Roots

Protected deep underground, the root systems of oaks and pines remain largely unharmed when a fire burns the landscape.

Root Sprouts

Fire stimulates aspens, oaks and hickories to send up new shoots at the base of the tree.

Thick Bark

Many species of oak and pine have thick bark which forms a protective layer, shielding the tree from fire.

Can you find evidence that this area has burned recently?

Burnin' Black Oak



Black Oak
Quercus velutina

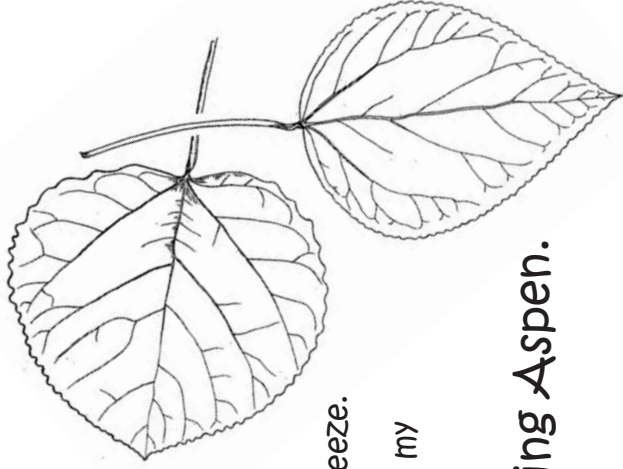
Hi, I'm Black Oak.

I have thick bark that protects me from fire. I survive and thrive when everything is burning up!

We have emerged from the bottom lands of the floodplain. We are entering an area that is higher and drier called the upland terrace. The trees up here can not handle flooding and swampy soil like the trees in the bottom lands. Instead, we have adapted to drought and fire.

Quick-Growth Quaking Aspen

Quaking Aspen
Populus tremuloides



Look up and wait for a breeze.

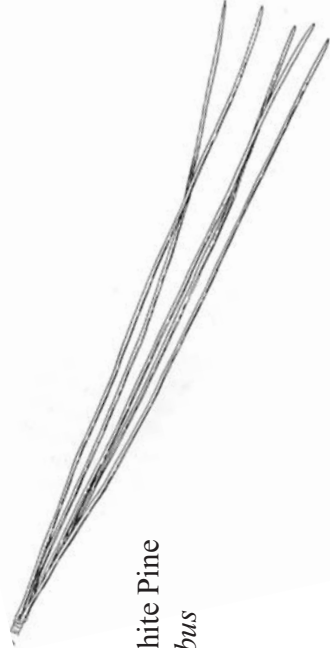
Do you see how delicately my leaves quake in the wind?

My name is Quaking Aspen.

Look at my smooth whitish-green bark. In winter I can use my bark to make food for myself.

Just like my cousins, the Willows, I hate the shade! My strategy is to wait until the forest has been opened by a fire and then...BOOM! I shoot up a new tree trunk from my huge underground root system! I grow fast so that I can reach the sunlight before the other trees.

Easy-going Eastern White Pine

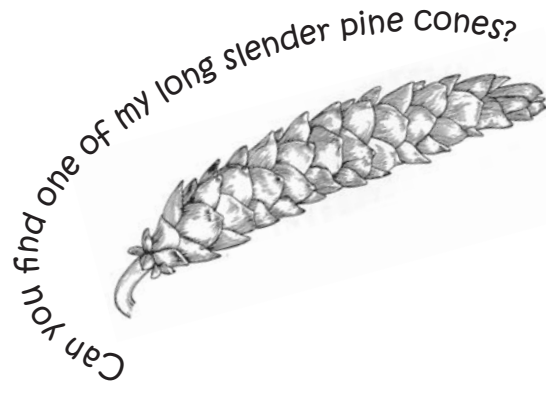


Eastern White Pine
Pinus strobus

Greetings! I am Eastern White Pine,
Michigan's state tree!

I'm pretty easy-going. I'll grow in all sorts of places. You can find me up where it's high and dry and you can find me down where it's swampy and soggy.

I grow well in places that have burned recently. Yep, folks often say that Pines follow fire!



Bursting Bigtooth Aspen

Bigtooth Aspen
Populus grandidentata



Do you remember
my sister, Quaking Aspen?
Well I'm Bigtooth Aspen.
Do you see the family resemblance?



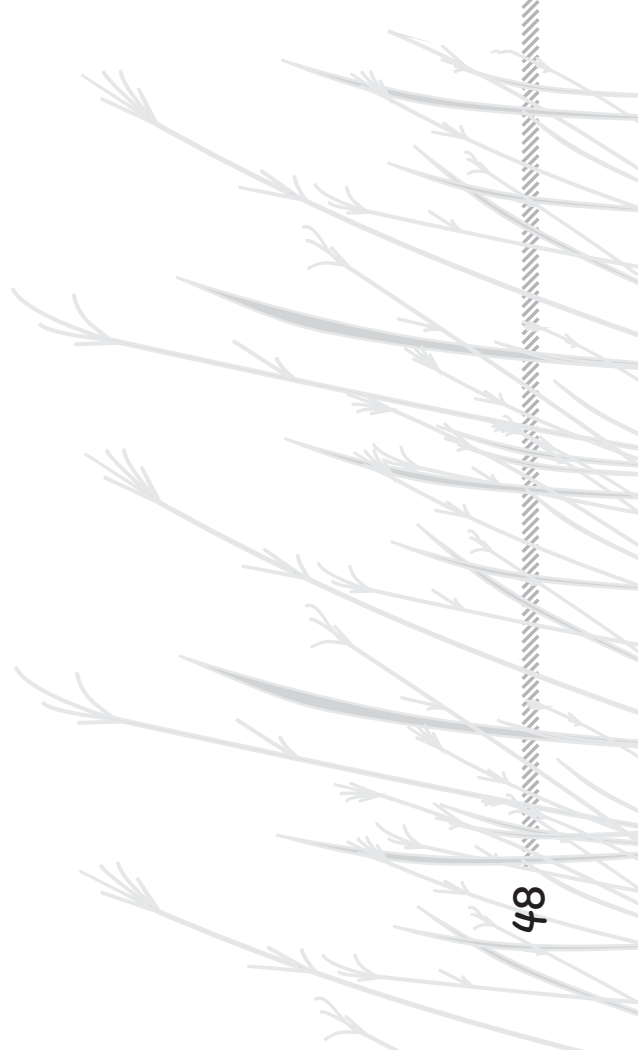
Can you guess how I got my name?
No, I don't have teeth like yours!
It's because of the big 'teeth' on the
edges of my leaves.

I grow best in dry sandy areas. You didn't see
me down on the floodplain because I hate all of
that water! I usually grow with pines and oaks.
Just like my sister Quaking Aspen, I prefer the
sun! After a fire, I burst out with growth so that I
can win the race for sunlight!



make your rubbing in this space!

Notes



Treasure Map

Find all the Trees!

Practice good trail stewardship

- Please, no picking or collecting
- Don't tease or touch wildlife
- Stay on the trails
- Don't climb on the trees



- Floodplain forests
- Tamarack swamp
- Oak savanna / oak-hickory woods
- Helen V. Smith Woodland Wildflower Garden

- Sam Graham Trees trail**
Trail length 0.6 miles (1.0 km)
Follow red trail marks
- Sue Reichert Discovery trail**
- Leaf rubbing stations**