



**Nature Trail
Sign
Narrative**

Medford School Forest

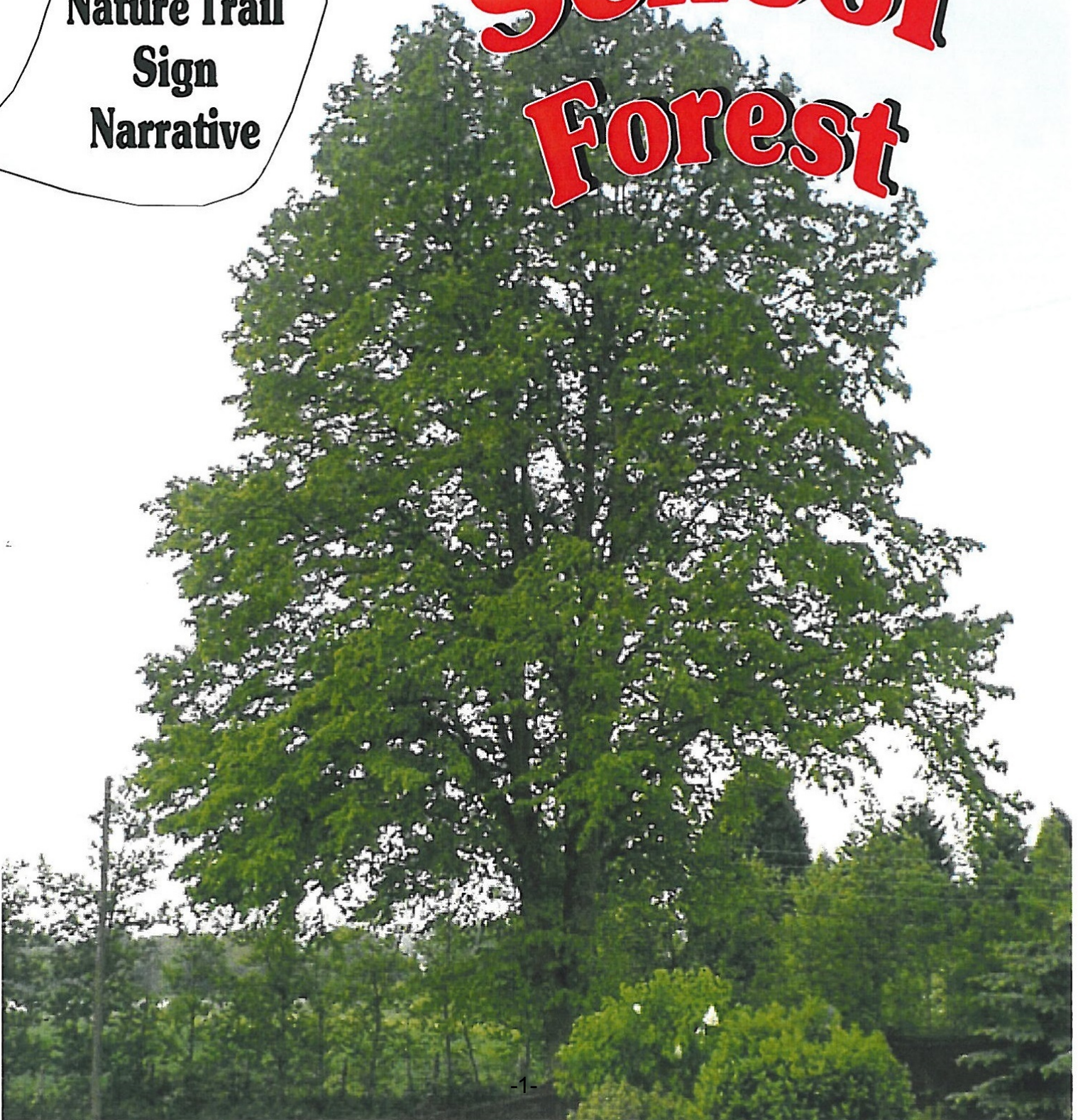


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FORWARD

I would like to extend a welcome to all the people who are interested in using the Medford School Forest.

The School Forest is a unique living, learning laboratory that is available to students and residents of the Medford Area Public School District. It provides many different settings and there are numerous activities and projects that are available for individuals and groups to accomplish while at School Forest.

We have a number of nature trails, wildlife clearing areas, a pond and other specialized areas for nature study as well as recreational endeavors like hiking, skiing, snowshoeing and orienteering. Work projects are also available for organizations.

We welcome your use of the School Forest. As you enjoy nature, learn about the forest, wildlife, or fauna, please enjoy the many opportunities available.

We appreciate the work of the Medford Kiwanis Club for their interest and support of the School Forest. We also recognize the many individuals, organizations and governmental agencies that have donated time, materials and funds to provide this opportunity for enjoyment. We thank all of them for their generosity as we utilize the Medford School Forest.

MEDFORD SCHOOL FOREST COMMITTEE

Jeanine Gelhaus, Grade 8 Science
Kris Gingras, High School Science
Laura Lundy, Director of Curriculum and Instruction
Judy Mader, Grade 4
Mark Mann, Grade 7 Science
Scott Mueller, Taylor County Private Land Forester
Dan Nelson, Grade 5
Tracy Swedlund, Biology

HISTORY OF THE MEDFORD SCHOOL FOREST

The Medford School Forest is located about eight miles east of Medford on Highway 64 in the Town of Goodrich. It is situated on the south side of the road and consists of 160 acres.

In 1952, Harry Hurd and his wife, Mary, bought and deeded to the City of Medford an 80 acre tract of land to be used for a school forest. At the time the land was purchased, the Rhyner Tie Company of Stetsonville had cut and removed hardwood timber to an eight-inch and softwood to a six-inch diameter. The School Forest was dedicated on September 18, 1952, at 1:30 p.m. The first year of new ownership saw the planting of about 3,000 conifers (mostly white pines), the erection of the School Forest sign and the establishment of a memorial plot.

In 1964, a pond, approximately one acre in area, was constructed with the help of the Soil Conservation Service (SCS). The pond drains about 38 acres of land. The cost of the project was \$2,294.63.

In 1967, Mr. Pflughoeft of Medford donated an additional 80 acres of land adjacent to the pond. This added parcel of land gives the School Forest an L-shape when added to the original 80 acres.

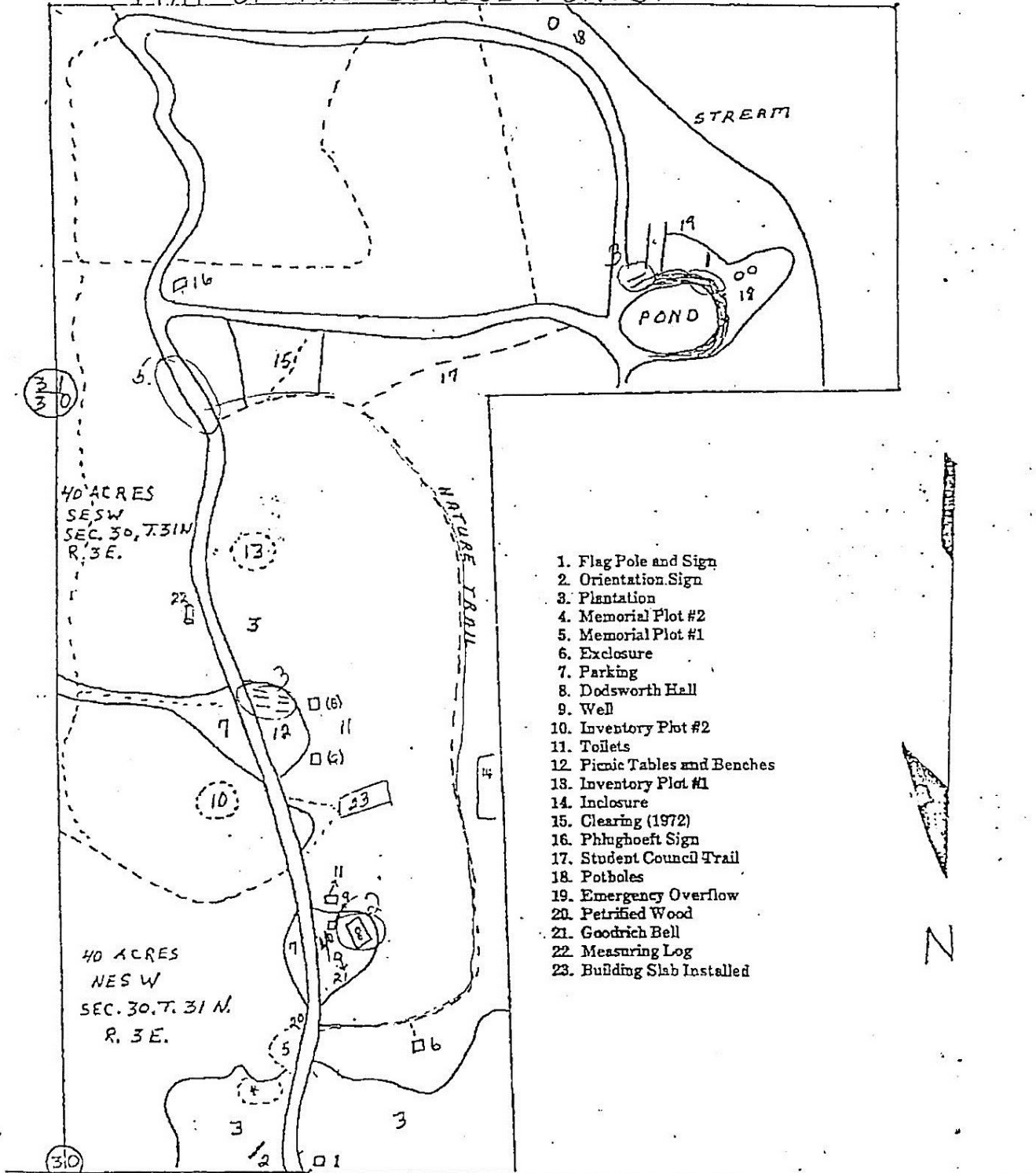
In 1971, the Green Thumb Organization began to construct an all purpose building. On May 9, 1973, the building was officially dedicated and named Dodsworth Hall in memory of Orvus Dodsworth who, for many years, was the Superintendent of Schools and an advocate for the School Forest.

In the summer of 1973, the bell which had been located at the old Goodrich School was installed outside Dodsworth Hall.

During 1952-73, there were many individuals, classes and clubs who contributed to the growth and improvement of the School Forest through their projects. Inspired by the efforts of these School Forest pioneers, It is with renewed vigor and enthusiasm the Medford Area Public School District sets its School Forest goals for the 21st century. Some of these goals are to update existing structures, to promote greater use and to integrate Wisconsin state standards to outdoor education. The Medford School District is grateful for the work that has been done and hopes that its efforts in the years to come will afford future generations the ability to learn in this outdoor classroom.

MAP OF SCHOOL FOREST

MAP OF THE SCHOOL FOREST



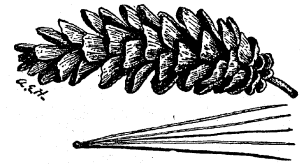
1. Flag Pole and Sign
2. Orientation Sign
3. Plantation
4. Memorial Plot #2
5. Memorial Plot #1
6. Exclosure
7. Parking
8. Dodsworth Hall
9. Well
10. Inventory Plot #2
11. Toilets
12. Picnic Tables and Benches
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14. Inclosure
15. Clearing (1972)
16. Phlughoeft Sign
17. Student Council Trail
18. Pot holes
19. Emergency Overflow
20. Petrified Wood
21. Goodrich Bell
22. Measuring Log
23. Building Slab Installed

← Hwy 64 → 10 mi. TO SCHOOL →

← Hwy 64 → 10 mi. TO SCHOOL →

1. WHITE PINE (*Pinus strobus*)

- ❖ Occurs naturally throughout nearly the entire state
- ❖ Grows in sandy soil, on rock ridges and bogs
- ❖ Prefers well-drained soil



FORM:

- Height - 80-100 feet
- Diameter - 2-3 feet
- Straight stem, regular pyramidal form and soft gray-green foliage

BARK:

- Thin, smooth, resinous and greenish-gray on young trees
- Thick, deeply fissured and grayish-brown on older trees

LEAF:

- Soft blue-green needles in clusters of five - 3-5 inches long

FRUIT:

- Cones are usually 5-8 inches long
- Long and narrow with thin and usually very resinous scales
- Each contains two small winged seeds
- Cones require two years to mature
- Matures in August or September

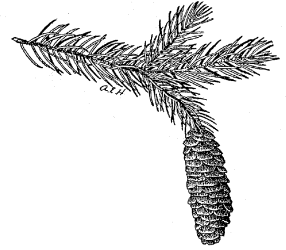
WOOD:

- Light, soft, not strong
- Light brown in color often tinged with red
- Easily worked
- Manufactured into matches, lumber and laths
- Used for construction purposes
- Cabinet and window making, interior finish of buildings, woodenware

- ❖ Appreciated as an ornamental tree but not adapted to city planting as it is very susceptible to air pollution damage
- ❖ White Pine Blister Rust, a fungus disease that spreads from currants and gooseberries, and White Pine Weevil continue to be problems in the state
- ❖ Called the “Homestead Tree” as it was here when this forest was once a farmland

2. GROVE OF WHITE SPRUCE (*Picea glauca*)

- ❖ Occurs naturally over the northern part of the state
- ❖ Grows on moist, well-drained soils and on banks of state streams
- ❖ Found associated with mixed hardwoods



FORM:

- Height - 60-80 feet, occasionally 100 feet or more
- Diameter - 2-2½ feet
- Crown - broad-based, open pyramid, rigid branches curving up
- Except in dense forests, crown extends well down trunk

BARK:

- Thin separating into light gray-brown scaly plates

LEAF:

- Needles - four-sided, incurved with sharp tips
- 1/3 - 3/4 inches in length
- Pale to dark bluish green in color
- Sharply pointed, having a slightly disagreeable odor when crushed
- Needles roll with the fingers

FRUIT:

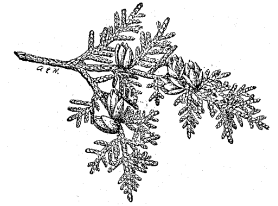
- Slender cone, about 2 inches
- Mature in one season
- Light red-brown when ripe
- Cones usually drop during winter after opening and shedding seeds
- Seed - ½ - 1/6 inches long, pale brown, winged

WOOD:

- Light, soft, durable, brittle, coarse-grained and fragrant
- Most commonly used for paper pulp
- Largest trees sawed into lumber, used for general construction, airplanes, furniture parts, canoe paddles and sounding boards for musical instruments
- Planted quite extensively for ornamental purposes, windbreaks, and shelter belts
- Ranks high as a Christmas tree

- ❖ Spruce budworm is causing extensive damage to this species in the state

3. ARBOR VITAE OR WHITE CEDAR (*Thuja occidentalis*)



- ❖ "Tree of Life" found throughout the state, except in the southwest portion
- ❖ Grows usually in moist places where it is often found in dense pure stands or on well-drained slopes farther north

FORM:

- Height - 40-60 feet
- Branches short and nearly horizontal
- Frequently divided into two or more direct stems
- Sometimes forms almost impenetrable thickets
- Trunk often loaded and buttressed, strongly tapered
- Diameter - 2-3 feet
- Compact pyramidal

BARK:

- Thin, gray to reddish brown, often tinged with orange
- Separated into flat connected ridges

LEAF:

- Light green, scale-like flattened into fan-like sprays
- Length - 1/8 - 1/4 inches arranged to make small branches
- Pleasant, aromatic scent when crushed
- Pungent to the taste

FRUIT:

- Small, oblong cone that matures in one season
- 1/3 - 1/2 inches in size, with six to twelve scales
- Borne singly or in large clusters on ends of branches
- Seeds - 1/8 inch long with two narrow wings almost circling the seed
- Yellowish-brown

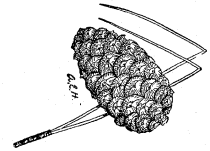
WOOD:

- Light, soft, brittle, coarse grained and durable
- Fragrant and pale brown in color
- Especially important for fence posts, rails, shingles, rot-resistant lumber and building poles

- ❖ Favorite source of browse for deer and rabbits in northern swamps in winter
- ❖ Many ornamental varieties of Arbor Vitae

4. RED PINE OR NORWAY PINE (*Pinus resinosa*)

- ❖ Found in pure stands throughout the northern part of the state, usually on more sandy loams than the white pine
- ❖ Increasing in popularity for forest planting because of its general freedom from disease and insect



FORM:

- Height - usually 80-90 feet, occasionally 120 feet
- Diameter - 2-3 feet
- Branches on mature trees form an open, rounded picturesque crown

BARK:

- On trunk of older trees 3/4 - 1-1/4 inches thick
- Divided into broad, flat ridges covered by thin, loose, light red-brown scales

LEAF:

- Needles in clusters of two
- Dark green
- 4-6 inches long falling during the fourth or fifth season

FRUIT:

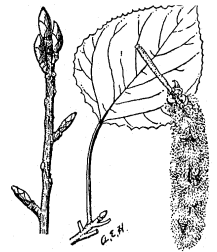
- Cone about 2 inches in length
- Thin, slightly concave cone scales
- Without spines or prickles and free from resin
- Requires two years for cones to mature
- Cones purplish in color
- When ripe, seeds small, length about 1/8 inch, dark or mottled brown, winged and widely scattered by the wind

WOOD:

- Light, hard, close grained
- Pale red with thin, nearly white sapwood
- Used mainly for pulpwood, construction timbers, pilings, pressure treated poles, Christmas trees

- ❖ Fast growing tree of many uses
- ❖ In greater demand than any other species grown in the state forest nurseries
- ❖ Browsed by deer only as the last resort

5. **QUAKING ASPEN OR “POPPLE”** (*Populus tremuloides*)



- ❖ One of the smaller poplars and one of the best known
- ❖ Common occurrence throughout the state but is most plentiful in the north on better sandy, gravelly soils to silt loams

FORM:

- Height - 20-70 feet
- Diameter - 12-20 inches
- Short lived, small to medium sized tree
- Slender branches form an open, round crown
- Stem of tree usually free of dead branches

BARK:

- Thin
- Pale greenish-white, almost smooth with black areas around base of limbs
- Bitter inner bark

LEAF:

- Alternate
- Small, broadly oval, short-pointed at end and finely toothed along margin
- Green and shiny above, dull green below
- Usually ranges in size from 1-2 inches
- Leaf stalks flattened at right angles to leaves causing leaves to quake or tremble in a very slight breeze

FRUIT:

- Male and female catkins on separate trees
- Fruit is a capsule, 1/4 inch long capsules borne on catkins 4-6 inches long
- Each capsule contains many seeds surrounded by long, white hairs, wind disseminated
- Ripens in late spring (May or June) before full expansion of leaves
- Regeneration mainly by root shoots following cutting of tree

WOOD:

- Soft, weak lumber
- Light brown
- Moderately low in shock resistance
- Used largely for boxes and crates, matches and pulpwood for book and magazine papers

- ❖ Also known as Trembling or American Aspen
- ❖ One of the first species to appear after cutting or fire
- ❖ Found commonly on cut-over land

6. FIRST MEMORIAL PLOT - NORWAY PINES

- ❖ Named first because of its location being a designated area where trees are planted in recognition of individuals who made significant contributions to the School Forest
- ❖ Small plaques located at the base of each tree indicate to whom the tree is dedicated
- ❖ Trees first dedicated in 1958 and thereafter
- ❖ Tree dedicated to the class of 1966 is a white pine; all remaining trees are Norway Pines

7. APPLE TREE (*Malus*)

- ❖ Familiar species native to Europe and Western Asia
- ❖ Seeds itself readily on this continent and hybridizes with our four native species all of which are crab apples
- ❖ Mainly found in old fields or edges of woods



FORM:

- Height - 25-35 feet
- Diameter - 5-12 inches

LEAF:

- Oval, with coarse teeth
- Dark green above, pale green below

FRUIT:

- Fruit oval
- Yellow-green or yellow tinged with red
- Seeds - small and brown when ripe
- Flowers - white or pink to white and fragrant

WOOD:

- Mainly used for firewood or for smoking meats

- ❖ Once planted for their tart fruit (an ingredient in jellies and jam)
- ❖ Now serve as ornamental trees

8. SECOND MEMORIAL PLOT - NORWAY PINES

- ❖ Named second because of its location
- ❖ Memorial Plot on the southeast side of the driveway consists of Norway (Red) Pine trees planted in recognition of individuals who made significant contributions to the School Forest dedicated in 1952
- ❖ Small plaques are located in the plot by each memorial tree to designate the honored individual
- ❖ First contributors were:
 - Harry and Mary Hurd who bought and deeded to the City of Medford an eighty acre tract of land to be used for a School Forest
 - Oscar Schield, Chairman of Kiwanis Conservation Committee
 - W.H. Conrad, late editor and publisher of the Star News
 - Roland Sacho, School Forest Director, active advocate for the School Forest and senior high science teacher
 - Hugo DeJong, senior high vocational agriculture teacher
 - Joe Tuss, county agent
 - Medford Kiwanis, instrumental in the development and guidance of the forest
- ❖ In 1954, many pines were replanted due to the original trees dying

9. PETRIFIED WOOD FROM FORT LEWIS, WASHINGTON

In 1961, the Medford National Guard was called to active service by President Kennedy during the Berlin Crisis. The National Guard unit was sent to Fort Lewis, Washington. However, they spent much of their time in the Yakima Desert located about midstate in Washington.

This specimen was obtained from the desert and mounted here in the School Forest in 1962 by the Wisconservationists. It serves as a memento of the event and in memory of the following teachers who served their country at that time: Captain Roland J. Sacho, Lt. Brian Kulas, Lt. Richard Duaine and Cpl. James Stewart.

A petrified tree is one which has turned to stone over thousands of years. Most petrified trees were formed when water seeped through dead, decomposing trees and deposited minerals inside the tree cells. Through the many years the mineral deposits replace the cells. The petrified tree is usually an exact replica of the original tree.

10. RED MAPLE (*Acer rubrum*)

- ❖ Occurs over the entire state
- ❖ Prefers moist soils, though it is common on drier sites in mixture with other trees



FORM:

- Height - 40-65 feet, medium sized
- Diameter - 10 inches-2 feet
- Sometimes larger, under ideal conditions could reach 120 feet in height and 5 feet in diameter
- Forms a narrow, rounded crown

BARK:

- Smooth, gray on young trees
- Thick, dark gray and rough on old tree
- Old bark divided by shallow fissures into flat scaly ridges at surface, making tree look shaggy

LEAF:

- Opposite
- Simple with 3-5 lobes with double-toothed margins
- Upper surface light green when mature; lower surface whitish and partially covered with pale down
- Winter buds small, red and somewhat rounded

FRUIT:

- Paired, winged fruit, reddish
- V-shaped
- Ripens in late spring or early summer on drooping stems 3-4 inches long and germinates immediately

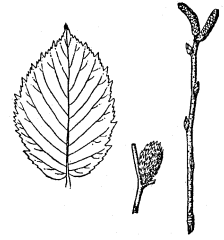
WOOD:

- Hard, strong, close grained, rather brittle
- Pale brown with thick lighter colored sapwood
- Used in the manufacture of furniture, wooden ware and fuel
- Sugar sometimes made from the sap

- ❖ Often planted as an ornamental tree
- ❖ Buds and samaras are a primary food source for gray squirrels in late winter and early spring
- ❖ Sprouts are a favorite deer browse

11. YELLOW BIRCH (*Betula allaghaniensis*)

- ❖ Found over the northern half of the state with scattered trees as far south as Sheboygan, Sauk and Grant Counties
- ❖ Found on rich, moist uplands



FORM:

- Height - 85-100 feet
- Diameter - 2-3 feet
- Developing a broad, rounded crown and typical drooping twigs

BARK:

- Yellow-gray or straw color
- Peeling freely into thin papery layers on younger trees
- Developing ragged, broken plates on mature trees
- Twigs light brown, lustrous and slightly aromatic with oil of wintergreen

LEAF:

- Alternate
- 3-4 inches long
- Oval to oblong, double-toothed margin
- Dull dark green on upper surface and paler beneath

FRUIT:

- Catkin about 1 inch in length
- Contains numerous minute winged seeds when mature
- Ripens in fall of first year

WOOD:

- Heavy, strong, hard, strong, stiff with very high shock resistance
 - Light brown with pale sapwood
 - Takes a good polish
 - Used for flooring, interior finish, veneers, wooden ware, furniture and small wooden novelties
 - Excellent for firewood
-
- ❖ Furnishes browse for deer and its buds and catkins are food for grouse and other wildlife
 - ❖ One of the principal woods used for distillation of wood alcohol, acetate of lime, charcoal, tar and oils

12. EASTERN HEMLOCK GROVE (*Tsuga canadensis*)

- ❖ Native to northeastern part of the state; isolated strands occur in cool north slopes in Columbia, Sauk and Vernon Counties
- ❖ Grow on the better and moister soils, often mixtures with hardwood



FORM:

- Height - 60-100 feet
- Diameter - 2-4 feet
- Branches spreading and nearly horizontal
- Pyramid-shaped, drooping top shoot in young trees and round top on large mature trees

BARK:

- 1/2 - 1 inch thick
- Deeply divided into narrow rounded ridges
- Covered with thick scales varying from cinnamon-red to gray tinged with purple
- Peeled for tan bark

LEAF:

- Needles 1/3 - 2/3 inches in length
- Flat, rounded to notched at tip
- Yellowish-green with two whitish bands underneath
- 2 rank arrangement
- Twigs roughened by woody, raised projections where needles attach to twigs
- Most buds are scaly, not resinous

FRUIT:

- Cones 1/2 - 3/4 inches long
- Scales thin and almost as broad as long
- Matures in one season
- Seeds winged, slightly resinous and about 1/16 inch long

WOOD:

- Soft, coarse, brittle splintering and not durable
- Light reddish-brown, not durable; cut for general construction lumber and paper pulp
- Cut for general construction lumber and paper pulp

- ❖ Heavily browsed by deer
- ❖ Inner bark once used for tanning leather
- ❖ Oil of hemlock is distilled from young branches

13. CLEAR CUT - PURPOSE: REGENERATE ASPEN TREES

This area was clear cut in 1991 to demonstrate the ability and manner in which woods regenerate. The aspen is one of the first and most successful trees to grow.

BRACKET FUNGI (*Polyporaceae and Ganodermataceae*)

There are many species of bracket fungi. They form shelflike protuberances on trees, stumps and logs. On the underside of the cap are pores similar in appearance and function (they produce spores) to the tubes of tube mushrooms. The pores vary greatly in size, some being visible only through a magnifying glass. Pore or bracket fungi are usually tough and woody, especially the older ones.

Many of the shelf fungi live only on dead wood and are an aid in reducing dead branches and stumps until they crumble and become again a part of the soil.

Several of the species attack living trees and do great damage. They can gain access to the living tree only through an injured place in the bark, a break caused by the wind, a bruise from a falling tree, an unhealed knothole or from the hack of a careless person. The wind may blow the spores of these fungi into the wound and mycelium threads grow from the spores weakening the tree. Later these parasitic threads may reach the cambium layer, the living ring of the tree trunk and kill the tree.

After these fungus threads grow in a tree they again seek a wound in the protecting bark where they may push out and build a fruiting organ, which we call the bracket. Each year the bracket is added to making it thicker and marking its upper surface with concentric rings around the point of attachment. Some species form new shelves every year which decay after the spores are ripened and shed. Bracket fungi can be from 2 to 20 inches wide in semicircular or fan-shaped with ridges and furrows.

Sometimes the bracket fungi is a media for artists. When fungus is young its underside is soft enough to draw on with a sharp instrument but slowly dries and hardens preserving the picture in the process. Scenic pictures can also be painted on the undersides of it. For this reason sometimes it is called "Artist's Fungi."

14. RED OAK (*Quercus borealis*)

- ❖ Common throughout the state on better sandy or gravelly clay soils



FORM:

- Height - 70-90 feet
- Diameter - 2-4 feet
- In dense forest, trunk is straight, clean and continuous and bears a small narrow crown

BARK:

- On young stems, smooth, dark brown
- On older trees, thick, gray to brown
- Broken by shallow fissures into regular, flat, smooth-surfaced, vertical plates

LEAF:

- Alternate
- 5-9 inches long
- Width - 4-6 inches, broader toward the top
- Divided into 7 to 9 lobes each, extends one-half way to the midriff
- Each lobe somewhat coarsely toothed and bristle-tipped
- Dull green above and paler below
- Buds thick and pointed

FRUIT:

- Large, bitter acorn
- Matures second year
- Length - 1-1½ inches
- Blunt topped, flat at base
- Enclosed in a very shallow dark-brown cup, velvety inside

WOOD:

- Ring porous, light
- Reddish brown heartwood
- Hard, strong and coarse
- Used for construction and finish of houses, furniture and fuel
- Best logs largely cut into veneer

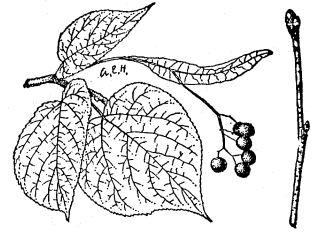
- ❖ Most rapid growing of all our oaks
- ❖ Most commercially important hardwood

15. TRILLIUM HILL (*Trillium grandiflorum*)

- ❖ Received name from trillium growing on it
- ❖ Trillium grow to a height of 2 to 18 inches
- ❖ These plants are arranged in threes — three leaves, three petals, three sepals, six stamens and one pistil in three parts
- ❖ Blossoms are waxy white, 1½ to 2 inches and flower from May to June; as they grow older, blossoms turn pink
- ❖ Flowers have no odor because its beauty attracts the bees and insures its fertilization
- ❖ Only large white flower in bloom at this time
- ❖ In times past, trillium was said to stop bleeding and was much used in poultices to heal tumors and ulcers

16. BASSWOOD (*Tilia glabra*)

- ❖ Also called “linden”
- ❖ Distributed over entire state
- ❖ Rich, well-drained loamy soils
- ❖ In mixture with other hardwoods



FORM:

- Height - 60-80 feet; often exceeds 100 feet or more
- Diameter - 1-3 feet
- Trunk often continues straight into top of dense rounded crown
- Stump sprouts readily
- Often seen as a group of 4 to 5 stems originating from an old stump

BARK:

- Dark gray
- Smooth with shallow furrows and vertical, scaly ridges on old trunks

LEAF:

- Alternate
- Length and width 4-6 inches
- Heart-shaped, margin coarsely toothed, sharp-pointed at tip
- At maturity, thick, shiny, green above, paler underneath

FRUIT:

- Round, hard, nut like a pea
- 1/4 inch in diameter
- Containing 1 to 2 seeds
- Covered with short, thick, brownish-red wool
- Attached in clusters to a leafy branch which later acts as a wing to disseminate seeds on wind
- Often hangs on tree long into winter
- Flowers appear in June or July and are yellowish-white and fragrant
- Choice grade honey made by bees from them

WOOD:

- Light, soft, tough, not durable
- Light brown with scarcely distinguishable sapwood
- Used in manufacture of paper pulp, woodenware, furniture, trunks, crating, drawing boards and lumber

- ❖ One of the more valuable hardwoods of Wisconsin
- ❖ Important tree of rapid growth
- ❖ Recommended for street and ornamental planting
- ❖ Beekeepers value its blossoms

17. EASTERN BLUEBIRD HOUSE (*Sialia sialis*)

The bluebird, a member of the thrush family, is welcomed as the first migrant of spring. The sweet chirp and the flash of blue in gardens, orchards or along a rural road and fence rows have made the eastern bluebird a special favorite.

The eastern bluebird is from 5 to 7 inches in length. The male is bright blue above with orange-red throat and white breast; the female is paler. Young are mostly gray spotted with white on back and breast. Female bluebirds lay 3 to 7 pale blue or white eggs at a time. They may have 2 to 3 broods a year. The babies are cared for by both parents and remain in the nest for 15 to 19 days.

For many years this much-admired bird has been in trouble because introduced house sparrows and starlings have taken over its preferred three holes. Fortunately, bluebirds will nest in birdhouses specially designed to keep out the alien intruders. This is the house that you see close to the sign. A number of houses have been situated between the boundary of the School Forest and a farmer's field. The bluebird prefers open areas for nesting. In many areas, hundreds of these houses have been set up along "bluebird trails." Ambitious projects have halted the species' decline and even reversed it in some places.

18. BITTERNUT HICKORY (*Carya cordiformis*)

- ❖ Found on well drained fertile soils in the southern part of the state extending northward to Langlade, Rusk and Polk Counties

FORM:

- Height - 50-75 feet
- Diameter - 1-2 inches
- Crown open and rounded at the top

BARK:

- Light granite-gray, faintly tinged with yellow
- Broken into thin, plate-like scales, not as rough as most hickories
- Bark does not strip off as that of shagbark hickory
- Winter buds bright yellow, compressed, scurfy, ½ inch or more in length

LEAF:

- Alternate
- Compound, 6-10 inches long
- 5 to 11 leaflets
- Thin with toothed margin
- Bright green above, paler beneath

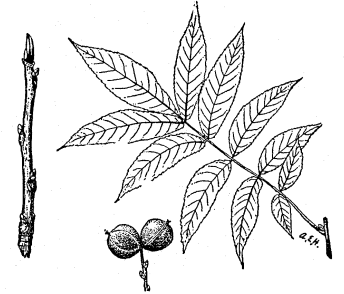
FRUIT:

- Nut smooth, thin shelled
- Bitter, non-edible kernel
- Covered with thin husk, usually splits only partly down side
- Nut is broader than long

WOOD:

- Hard, strong, heavy
- Reddish-brown
- Used for hoops, fuel and farm implements
- Considered somewhat inferior to shagbark hickory

- ❖ Sometimes called “swamp hickory” because of its preference for wet soils
- ❖ Occasionally hit quite hard by insects but increasing in number
- ❖ Particularly in lightly pasture woodland

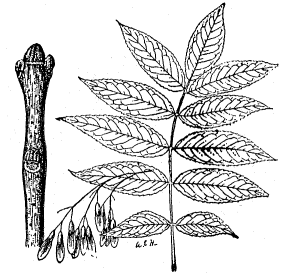


19. BLACK ASH (*Fraxinus nigra*)

- ❖ Distributed over entire state in swamps
- ❖ In cold, moist locations and along low banks of streams and lakes
- ❖ Usually found in association with black spruce, balsam fir, white cedar and tamarack

FORM:

- Height - 50-80 feet
- Diameter - 1-2 feet
- Medium sized slender tree
- Forms an open crown of narrow, upright branches in the forest



BARK:

- Thin, grayish on older portions of tree
- Furrowed and somewhat separated into thin scales which are easily rubbed off
- White lenticels appear on lower trunk and roots

LEAF:

- Opposite on stems
- Compound, consisting of 7 to 11 leaflets
- Leaflets oblong in shape, tapering to a point
- Not stalked except terminal leaflet
- Leaflets sharply toothed along edges
- Terminal bud is large and pointed

FRUIT:

- Wing of fruit broader than that of white and red ashes
- Apex of wing distinctly notched, completely surrounds flattened seed-bearing part
- Flowers - two kinds, may be borne on same or different trees
- Male flowers in dense dark purple clusters
- Female flowers in open drooping clusters
- Appear before the leaves

WOOD:

- Sapwood of lighter color, coarse grained
- Heavy, not as strong or valuable as green or white ash
- Dark brown
- Easily separated into thin layers which furnish excellent material for baskets, hoops, etc.
- Used in cabinet making and fence posts

- ❖ May be used for forest planting on wet locations

20. OAK STUMP DISEASED WITH CANKER

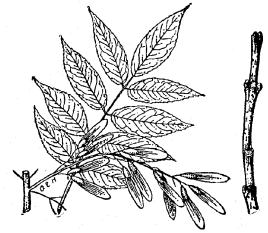
Canker causing diseases are common on trees, especially on weakened or stressed trees. Swollen dead spots or cankers are common on young and old trees but more abundant on young trees.

A fungus infects the weakened bark first, then the tree produces wedges of wood into the bark. The fungus later spreads around the wood wedge and the seesaw interaction continues until the tree is killed, cut down or the tree breaks at the canker. In some cases the tree walls off the fungus so effectively that the canker is stopped.

21. SUGAR MAPLE/UNDERSTORY

These young trees are under the shade of older trees; therefore, growth is slower. However, new growth will continue because of natural seeding processes.

22. WHITE ASH (*Fraxinus americana*)



- ❖ Found over the entire state
- ❖ Fertile, moist soils, but sometimes grows on rather dry hillsides

FORM:

- Height - 70-90 feet
- Diameter - 1-2 feet — many instances, larger trees are found
- Stout, upright branches form narrow crown in the forest
- Sufficient space, round-topped or pyramidal head

BARK:

- Grayish-brown
- Rather thick on mature trees
- Narrow ridges separated with marked regularities by deep diamond-shaped fissures

LEAF:

- Length - 8-10 inches
- Compound and opposite on stem
- Consists of 5 to 9 (usually 7) plainly, stalked, sharp-pointed leaflet
- Leaflets 3-5 inches long
- Smooth to rounded-tooth along margin
- Dark green, smooth above, pale green or whitish beneath
- Leaf scar crescent shaped, extends up sides of new bud

FRUIT:

- Samara, borne in clusters on tree
- Length - 1 - 1-1/4 inches
- Seed bearing portion rounded in cross section
- Wing does not extend along its side
- Seeds mature in autumn of first year
- Male and female flowers occur on different trees
- Male in dense reddish-purple clusters
- Female in more open branches
- Flowers open before the leaves in late spring

WOOD:

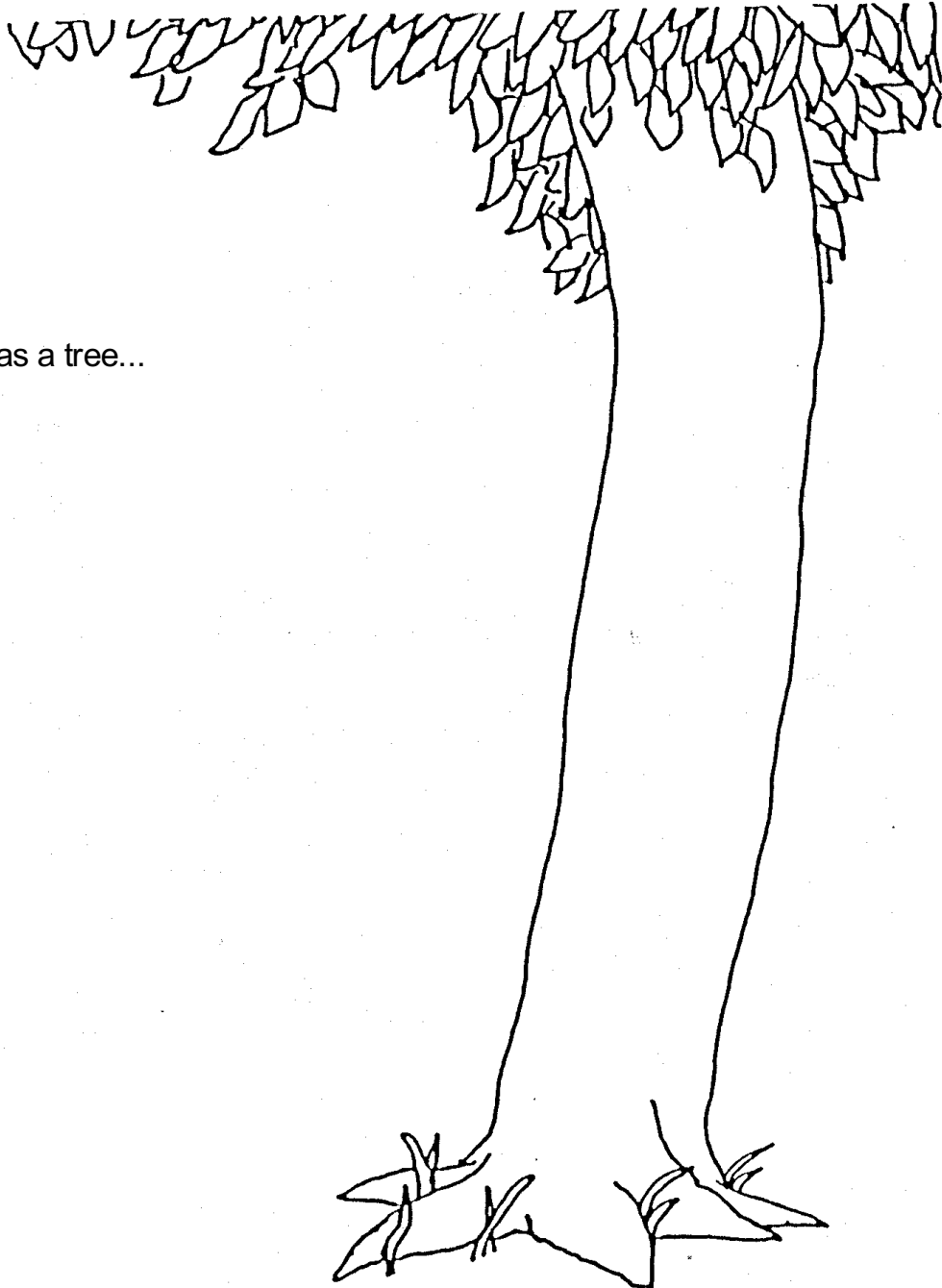
- Ring-porous, very heavy, strong, stiff and tough
- Brown with thick and much lighter colored sapwood
- Commercially valuable
- Used for making tool handles, athletic and sports equipment, agricultural implements, furniture, interior finishes, posts, ties, fuel and for ornamental purposes

- ❖ One of our more important forest trees because of its rapid growth, immunity from disease or insects and the many uses of its wood
- ❖ Largest and commonest of the ashes and the most useful

23. MYSTERY TREE

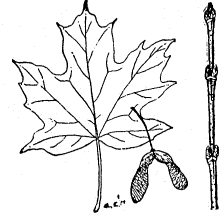
It's your turn now!

YOU NAME IT! (Answer - see #16)



Once there was a tree...

24. SUGAR MAPLE (*Acer saccharum*)



- ❖ Also called “hard maple”
- ❖ Found throughout the state
- ❖ Usually on better soils
- ❖ One of the largest and most important hardwoods of eastern forests

FORM:

- Height - 60-100 feet or more
- Diameter - 2-4 feet
- In forests, develops clean trunk to a good height
- Open grown trees form a dense, round-topped crown

BARK:

- On young trees, light gray to almost black
- Long irregular plates or scales
- Often loose on sides
- Twigs smooth, reddish-brown, sharp-pointed winter buds

LEAF:

- Opposite
- 3 to 5 inches long, usually 5-lobed
- Lobes wavy toothed
- Dark green on upper surface, paler green below
- In autumn turning brilliant shades of yellow, orange and red

FRUIT:

- Differs from other maples, it matures in fall and germinates next spring
- Pair of fused samaras or “key,” about 1 inch in length
- Flowers greenish and inconspicuous

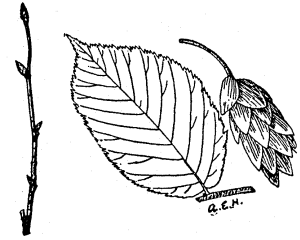
WOOD:

- Hard, strong, close-grained; known commercially as hard or rock maple
- Light brown
- Used in manufacture of floorings, especially suitable for bowling alleys and dance floors, furniture, maple syrup and fuel

- ❖ Should be extensively planted for timber, as a shade tree and for sugar production
- ❖ Is distilled to make acetic acid and wood alcohol
- ❖ Can also be used for an ornamental tree

25. IRONWOOD OR BRUSH TREE OR HORNBEAM (*Ostrya virginiana*)

- ❖ Found throughout the state
- ❖ Better well-drained soils or gravel ridges
- ❖ In mixture with other hardwoods
- ❖ Best development is along banks of streams, shores of lakes or open upland woods



FORM:

- Height - 20-40 feet
- Diameter - 5-12 inches
- Broad, rounded crown
- Branches long and slender, drooping at ends

BARK:

- Light gray-brown
- 1/4 inch thick
- Finely divided into narrow, thin scales, easily rubbed off

LEAF:

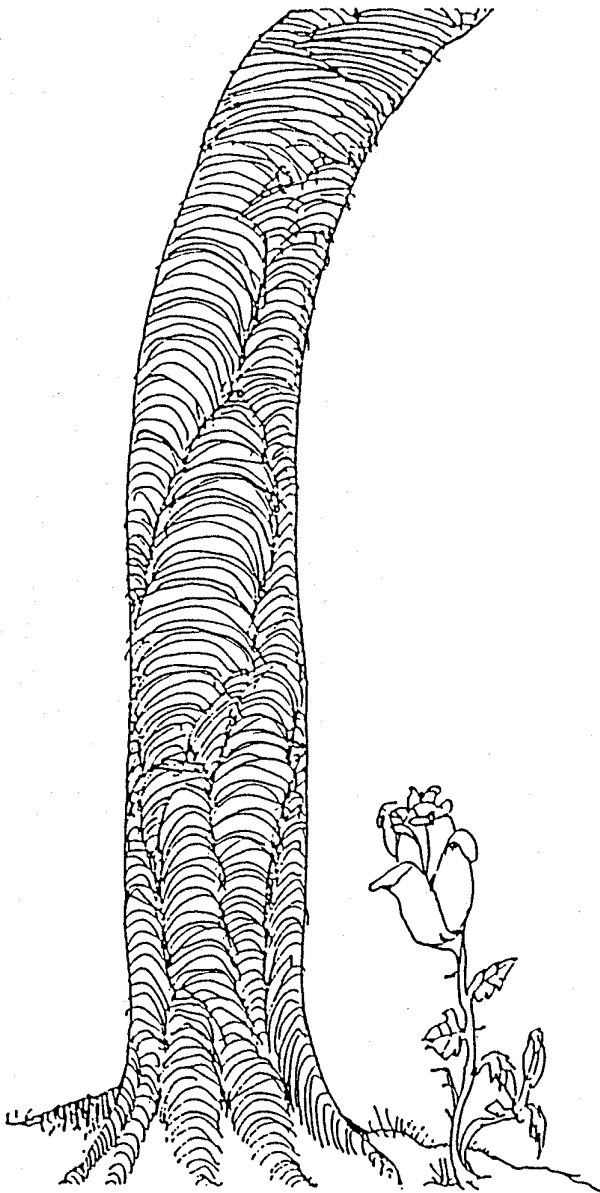
- Alternate ovate
- Oblong with narrow tips, doubly toothed along margins
- 2-4 inches in length
- Dark, dull yellow-green above and light yellow-green below

FRUIT:

- Resembles that of a common hop-vine
- Clusters of leafy bracts
- Each bract contains one flattened, ribbed, hard nutlet about 1/3 inch long and 1/8 inch wide
- Both male and female flowers found on same tree
- Blossoms in April and May
- Fruit ripens in July and August

WOOD:

- Very strong, hard, heavy, durable
 - Light brown to white, with thick, pale sapwood
 - Used for fence posts, tool handles, mallets and other small articles and fuel
-
- ❖ Still valuable because the buds are useful as winter food for ruffed grouse
 - ❖ Receives its common names from the quality of its wood and hop-like fruit
 - ❖ May be used for planting on lawns and parks



THE OAK AND THE ROSE

An oak tree and a rosebush grew,
Young and green together,
Talking the talk of growing things--
Wind and water and weather.
And while the rosebush sweetly bloomed
The oak tree grew so high
That now it spoke of newer things--
Eagles, mountain peaks and sky.
"I guess you think you're pretty great,"
The rose was heard to cry,
Screaming as loud as it possibly could
To the treetop in the sky.
"And you have no time for flower talk.
Now that you've grown so tall."
"It's not so much that I've grown," said the
tree,
"It's just that you've stayed so small."

--SHEL SILVERSTEIN

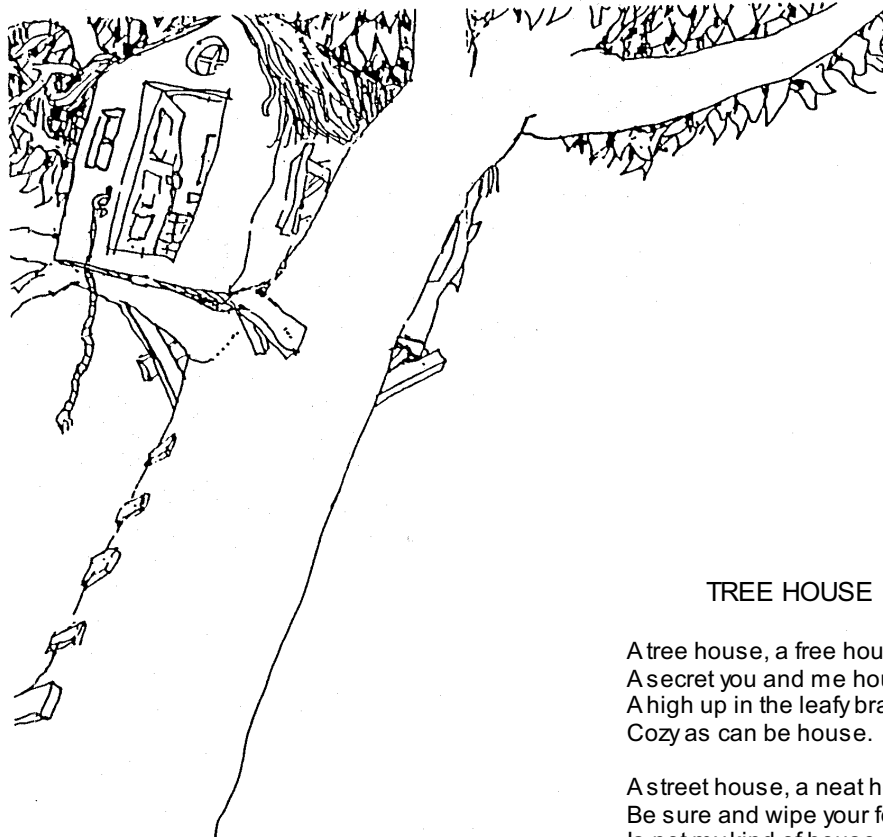
27. SUGAR MAPLE DEN TREE

There's life in dead trees!! Wildlife of all varieties need dead, hollow or fallen trees for food and family homes. In many managed forests, certain kinds of trees, both dead and alive, are reserved as homes for thousands of wildlife species. These are known as "den trees" or "animal inns."

Nearly a third of the birds, mammals, reptiles and amphibians in the nation's forests depend on animal dens to meet their life needs. Even fish, plants, insects, and fungi benefit from decaying wood for food or shelter. The insulation of a tree home allows many animal species to survive high summer and low winter temperature extremes.

Even as a tree dies, it continues to help sustain life to animal families and eventually to new plants and trees. Thus the cycle begins again.

28. CLUMP OF BASSWOOD/ORIGINATED FROM STUMP (See #16)



TREE HOUSE

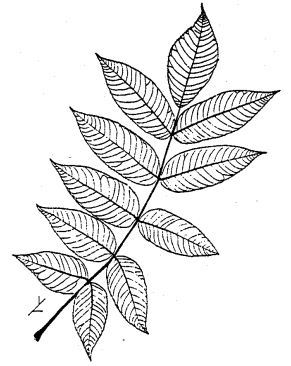
A tree house, a free house,
A secret you and me house,
A high up in the leafy branches
Cozy as can be house.

A street house, a neat house
Be sure and wipe your feet house
Is not my kind of house at all--
Let's go live in a tree house.

--SHEL SILVERSTEIN

29. BUTTERNUT (*Juglans cinerea*)

- ❖ Also called white walnut
- ❖ Is of common occurrence in the southern part of the state and is known to extend north into Langlade, Burnett and Ashland Counties
- ❖ Grows on better soils on streambanks and on well-drained soils but occurs most frequently in coves, on slopes and on terraces



FORM:

- Height - 40-80 feet
- Diameter - 2-3 feet
- Trunk usually short with broad, open, irregular crown
- May be distinguished from black walnut by velvet collars just above scars left by last year's leaves

BARK:

- Light gray to light brown
- Divided into broad, scaly intersecting ridges forming a rough diamond-shaped pattern

LEAF:

- Alternate compound leaves
- 15-30 inches long
- 11-17 sharply pointed, oblong, finely toothed leaflets about 2-3 inches long
- Yellowish-green above and hairy underneath
- Pitch in twigs, chambered and chocolate brown

FRUIT:

- Light brown nut
- Enclosed in oblong, somewhat pointed, sticky, yellowish-green husk
- About 2 inches long which is covered with short, rusty, sticky hairs
- Rough, grooved shell
- Oily, sweet edible kernel
- Flowers two kinds on the same tree
- Male in long yellowish-green catkins
- Female with conspicuous red-fringed stigmas

WOOD:

- Light color sapwood
- Takes good polish
- Used for interior finish for house and furniture

- ❖ Butternut canker has killed numerous trees throughout Wisconsin

30. HYBRID ASPEN GROVE/PLANTED BY NATIONAL HONOR SOCIETY STUDENTS

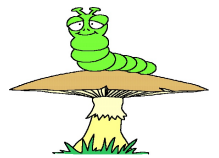
On May 5, 1973, the National Honor Society planted 225 hybrid aspen along the west edge of a then-cleared acre. This cleared area's purpose was to show aspen regeneration succession and an area in which to study the aspen's growth.

Also see #5

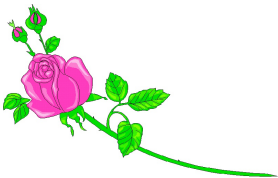


FORGOTTEN LANGUAGE

Once I spoke the language of the flowers,
Once I understood each word the caterpillar said,
Once I smiled in secret at the gossip of the starlings,
And shared a conversation with the housefly in my bed.
Once I heard and answered all the questions of the crickets,
And joined the crying of each falling dying flake of snow,
Once I spoke the language of the flowers...
How did it go?
How did it go?



--SHEL SILVERSTEIN



31. SUGAR MAPLE - HEART ROT

Heart rots which are caused by fungi that attack the wood of living trees are to blame for an estimated annual loss of 1.5 billion board feet in our commercial forests and an estimated 10 to 20 million dollars.

Every timber species in the United States is subject to attack by one or more species of the fungi; but a large part of the losses can be prevented by proper management.

Two parts of the trunk of a tree are sapwood which transport water up from the roots and heartwood which is aged sapwood. The two together form the xylem. Most of the trunk is heartwood. Heart rots are usually confined to the true heartwood. In some hardwoods normal heartwood forms irregularly and decays the inner sapwood. This is also called heart rot. The term "sap rot" is used for the dead or dying sapwood.

When a fungus that is decaying the heartwood of a tree develops for a number of years, often it produces a spore bearing structure like a mushroom or a bracket-shaped cone. Each year one structure can produce millions of tiny spores which are carried about by air currents. When a spore comes to rest upon exposed wood and conditions are suitable, it germinates and sends fungus filaments into the wood. The fungus spreads through the tree by means of these threads, feeding upon and rotting the heartwood as it goes. Entrance points for this fungi to cause heart rot usually are provided by the exposure of heartwood when the trunk, top, limbs or roots are wounded by fire, logging or storms.

32. MYSTERY TREE

It's your turn now!

YOU NAME IT! (Answer - see #24)

33. DEAD YELLOW BIRCH/RACCOON DEN TREE

See #27

34. YELLOW BIRCH (*Betula allaghaniensis*)

See #11

35. HEMLOCK (*Tsuga canadensis*)

See #12

36. QUAKING ASPEN CLONE (*Populus tremuloides*)

A clone refers to a specialized root system found in some types of trees. Instead of each tree having an individual root system, these trees share the same large common system.

See #5

37. RED PINE OR NORWAY PINE PLANTATION

These trees were planted by junior and senior high school students on their School Forest field trip days.

See #4

38. WILDLIFE CLEARING/DOWN TRAIL 300 FEET

In 1991, two acres were clear cut for a wildlife clearing. One of the two acres, all stumps and brush, was removed and a mixture of clover and other grass seeds was planted as a food source for the animals. The second acre remains as it was after the clear cut. This was done to show the steps of succession and to provide habitat for wildlife.

WILDLIFE NATURE TRAIL

This nature trail is well worth your time to investigate! Down the trail, through the wildlife clearing, is a quiet, secluded, woodchipped trail made in the summer of 1992 by the WCC (Wisconsin Conservation Corps.) Crew. Approximately 1/4 of a mile in length, this trail's end merges onto the main road behind the Pflughoeft sign designating the Pflughoeft Addition.

(See map)

39. YOUNG RED OAK

See #14

40. JACK PINE (*Pinus banksiana*)



- ❖ Commonly found on sandy soils of the northern half of the state and extending southward along the Wisconsin River to Iowa and Grant Counties

FORM:

- Height - 50-70 feet
- Diameter - rarely exceeds 2 feet
- Open conical shaped crown
- Often retaining dead branches on the trunk all the way to the ground

BARK:

- Thin, dark brown or gray
- Irregularly divided by furrows into small scales

LEAF:

- Needles light green at first, soon becoming darker
- Length about 1 inch
- Sharply pointed
- Two in a handle and slightly twisted

FRUIT:

- Cones length about 1½ inches
- 2 years to maturity
- Often strongly curved
- Brown when ripe, turning gray later
- Resinous
- Often remain on the trees for years without opening until heated by forest fires

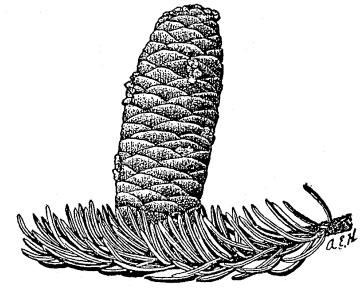
WOOD:

- Light, soft, not strong
- Close grained, clear pale brown with thick, nearly white sapwood
- Used for fuel, boxes and crates, paper and wallboard and for lumber

- ❖ Due to the resinous nature of its cones, is usually one of the first tree species to occupy a site after fire
- ❖ These pines were planted at this location by senior high students several years ago

41. BALSAM FIR (*Abies balsamea*)

- ❖ Found in forests of the northern half of Wisconsin; usually in association with white spruce from which it can be easily distinguished by its large upright cones and soft leaves
- ❖ Thrives in cool, moist or shaded places



FORM:

- Height - 40-60 feet
- Diameter - 1-2 feet
- Short spreading branches form handsome, symmetrical, spire-like crown

BARK:

- Thin, smooth
- Grayish, prominently marked by blisters filled with resin or balsam pitch

LEAF:

- Needles - ½ - 1 inch long
- Stalkless and flat
- Mostly 2 ranked (one row on each side of the branch)
- Dark green lustrous above and silvery white bands beneath
- Resinous and fragrant

FRUIT:

- Cones upright on branches
- Purple, oblong
- Length - 2-4 inches
- Becomes mature the first year
- When seeds ripen, they fall together with scales of cone, leaving hard central axis standing upright on the branch like a spike

WOOD:

- Soft, not strong or durable, and coarse grained
- Light brown
- Used mainly for paper pulp or Christmas trees
- Resin is used for mounting microscopic specimens in laboratories
- Also known as Canada Balsam

- ❖ Balsam boughs are used in making beds by many campers in the northwoods
- ❖ Two serious insect pests occur on balsam fir: the spruce budworm and balsam woody aphid

42. QUAKING ASPEN (*Populus tremuloides*)

See #5

43. WHITE SPRUCE (*Picea glauca*)

See #2

44. RED PINE/NORWAY PINE PLANTED BY THE SEVENTH GRADE IN THE BICENTENNIAL

It has been tradition since 1968 that one or two days during the month of May be designated as Seventh Grade School Forest Days. In May of 1976, two Norway or Red Pine trees were planted on the northeast side of Dodsworth Hall. These trees were dedicated in memory of the 200th year anniversary commemorating the signing of the Declaration of Independence, also known as the United States Bicentennial Year. The trees were planted and dedicated by two large groups of seventh grade students from the Medford Junior High School under the direction of their science teacher, Mrs. Delores Habeck.

