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Minnesota's Native Big tree Registry



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Program Information and Application Form

Minnesota Department of Natural Resources
Division of Forestry

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Minnesota's Native Big Tree Registry

About the Program

Since 1962, the Minnesota Department of Natural Resources (DNR) has located and identified the state's largest native trees. There have been a lot of ups and downs for this program through the years, but now it has been revitalized.

"Champion big trees" have been revisited and their measurements verified. Some were found to have grown even bigger, others were reported to have fallen to disease, flood, lightning, or some other mishap. Nomination rules have been tightened and measurement instructions have been clarified. Read on to learn the details of this program.

Minnesota's 52 native tree species are listed in the Big Tree Registry. A nominee for species championship is judged on three measurements:

The circumference in inches of its trunk 4½ feet above the ground, its height in feet, and one-quarter of its crown spread in feet.

The total of these measurements is the points awarded to that particular tree. A champion is one that has accumulated the most points. If two trees of the same species have identical scores, the tree with the largest trunk circumference becomes champion.

Example:

Red Pine (*Pinus resinosa*)

Measurements:

Circumference	120 inches
Height	126 feet
Crown Spread	48 feet

Points:

Circumference	120
Height	126
Crown Spread	12

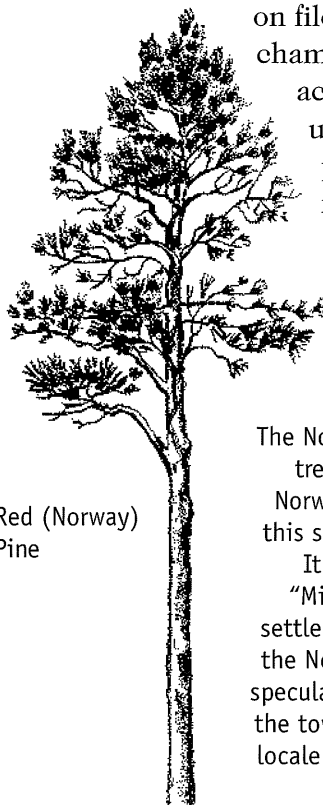
Total Points 258

Did you know there is also a *National Register of Big Trees* that recognizes champion trees of 823 species and varieties? Minnesota has three national champions included on this list—the jack pine, red pine, and white spruce. In fact, Minnesota's program is set up using much of the same criteria as this national program. For more information on the National Register of Big Trees, contact American Forests, P.O. Box 2000, Washington, DC 20013; (202) 955-4500; <http://www.amfor.org>.

Everyone is invited to join the search for Minnesota's champion big trees. There are many unreported giants just waiting to be found. To nominate a champion big tree, just fill out the application form. Your nomination must be one of the tree species listed in the registry. All

categories of information must be completed for your application form to be accepted. Local federal, state, county, or city foresters can help you verify your tree's species and measurements. Try a local nursery or tree care company for help, too.

You will be notified in writing within four weeks of receiving your application if your tree is the new champion. Nominated trees that do not surpass the recorded champion are filed as "contenders." When a champion falls, the largest contender of that tree species on file becomes the new champion. Nominations are accepted year-round but an updated big tree list is printed once-a-year in the fall.



Red (Norway) Pine

Fun Fact

The Norway pine, Minnesota's state tree, has nothing to do with Norway—in fact, in most places this species is called the red pine. It may have been given its "Minnesota" name by English settlers, who thought it resembled the Norwegian scotch pine. Others speculate that it took its name from the town of Norway, Maine, another locale where red pine was observed by early settlers.

Minnesota's List of Native Big Trees

Species	Circumference at 4½ feet (in inches)	Height (in feet)	Crown Spread (in feet)	*Total Points	County	Ownership	Location	Nominator	Year Champion
Conifers (Softwoods)									
Cedar, eastern red (also called juniper) <i>Juniperus virginiana</i>	95	62	39	167	Faribault	Private	Winnebago, MN	James Wallin	1999
Cedar, northern white <i>Thuja occidentalis</i>	141	86	31	235	Cook	Private	Grand Marais, MN	Larry Dewester	1999
Fir, balsam <i>Abies balsamea</i>	Need New Champion								
Hemlock <i>Tsuga canadensis</i>	52	65	25	123	Mille Lacs	Private	Isle, MN	Mark Anderson, Larry Long DNR-Forestry	1997
Pine, eastern white <i>Pinus strobus</i>	180	131	51	324	Itasca	Public (state of MN)	Deer River, MN	Gerald Stangland	1983
Pine, jack <i>Pinus banksiana</i> NATIONAL CHAMPION	116	56	61	187	Kittson	Public (state of MN)	Lake Bronson, MN	Steve Morgan, Rick Olson DNR-Forestry	1979
Pine, red (also called Norway pine) <i>Pinus resinosa</i> NATIONAL CO-CHAMPION	120	126	48	258	Clearwater	Public (state of MN)	Lake Itasca, MN	Sidney Frissell, Stephen McCool University of MN	1967
Spruce, black <i>Picea mariana</i>	Need New Champion								
Spruce, white <i>Picea glauca</i> NATIONAL CHAMPION	125	130	28	262	Koochiching	Public (state of MN)	Littlefork, MN	Richard Stapleton	1974
Tamarack (also called eastern or American larch) <i>Larix laricina</i>	112	76	43	199	Carlton	Public (University of MN)	Cloquet, MN	Ron Severs University of MN	1978
Deciduous (Hardwoods)									
Ash, American mountain <i>Sorbus americana</i>	Need New Champion								
Ash, black <i>Fraxinus nigra</i>	117	87	64	220	Washington	Private	Forest Lake, MN	Len Moraca	1998
Ash, green (also called red ash) <i>Fraxinus pennsylvanica</i>	180	91	67	288	Nicollet	Private	Fairfax, MN	Randy Schindler DNR-Forestry	1998
Ash, northern mountain <i>Sorbus decora</i>	Need New Champion								
Ash, white <i>Fraxinus americana</i>	151	85	79	256	Steele	Private	Owatonna, MN	Gary Westby	1987
Aspen, bigtooth (also called largetooth aspen, poplar, popple) <i>Populus grandidentata</i>	Need New Champion								
Aspen, quaking (also called trembling aspen, poplar, popple) <i>Populus tremuloides</i>	Need New Champion								
Basswood, American <i>Tilia americana</i>	207	89	42	307	Washington	Private	Marine on St. Croix, MN	Walter Kirn, Michael Strand	1974
Birch, paper <i>Betula papyrifera</i>	127	52	54	193	Blue Earth	Private	Rapidan, MN	Ray Thorson	1999
Birch, river <i>Betula nigra</i>	Need New Champion								
Birch, yellow <i>Betula alleghaniensis</i>	157	93	34	259	Itasca	Private	Grand Rapids, MN	John Hanson Blandin Paper Co.	1994
Box Elder <i>Acer negundo</i>	186	56	65	258	Ramsey	Private	St. Paul, MN	James Wallin	1999
Butternut <i>Juglans cinerea</i>	128	69	73	215	Scott	Private	Belle Plaine, MN	Alan Hennen	1988
Cherry, black <i>Prunus serotina</i>	117	75	65	208	Olmsted	Private	Eyota, MN	Lance Sorensen DNR-Forestry	1998
Cherry pin <i>Prunus pensylvanica</i>	26	63	34	98	Douglas	Private	Alexandria, MN	Calvin Sperling ND State University, John Krantz, DNR-Forestry	1978

Species	Circumference at 4 1/2 feet (in inches)	Height (in feet)	Crown Spread (in feet)	*Total Points	County	Ownership	Location	Nominator	Year Champion
Coffeetree, Kentucky <i>Gymnocladus dioica</i>	131	68	60	214	Dakota	Public (state of MN)	St. Paul, MN	Larry Westerberg, Bob Tennant DNR-Forestry	1976
Cottonwood, eastern <i>Populus deltoides</i>	344	124	106	495	Nicollet	Private	Nicollet, MN	Mike Stevenson	1998
Elm, American <i>Ulmus americana</i>	149	85	87	256	Nicollet	Private	North Mankato, MN	Stan Neubert	1998
Elm, rock <i>Ulmus thomasii</i>	Need New Champion								
Elm, slippery (also called red elm) <i>Ulmus rubra</i>	Need New Champion								
Hackberry <i>Celtis occidentalis</i>	153	80	46	245	Ramsey	Private	St. Paul, MN	James Wallin	1998
Hickory, bitternut <i>Carya cordiformis</i>	56	95	44	162	Hennepin	Public (state of MN)	Long Lake, MN	Jerry Jensen DNR-Parks	1978
Hickory, shagbark <i>Carya ovata</i>	Need New Champion								
Honeylocust <i>Gleditsia triacanthos</i>	144	63	71	225	Martin	Public (city of Fairmont)	Fairmont, MN	James Wallin	1999
Hophornbeam, eastern (also called ironwood) <i>Ostrya virginiana</i>	103	40	58	158	Faribault	Private	Wells, MN	James Wallin	1998
Hornbeam, American (also called blue beech) <i>Carpinus caroliniana</i>	Need New Champion								
Maple, black <i>Acer nigrum</i>	73	73	44	157	Olmsted	Private	Oronoco, MN	Lance Sorensen DNR-Forestry	1998
Maple, mountain <i>Acer spicatum</i>	Need New Champion								
Maple, red <i>Acer rubrum</i>	Need New Champion								
Maple, silver <i>Acer saccharinum</i>	272	90	118	392	Houston	Private	Spring Grove, MN	Milford Landsom	1988
Maple, sugar <i>Acer saccharum</i>	127	97	67	241	Dodge	Private	Kasson, MN	Ken Anderson	1999
Mulberry, red <i>Morus rubra</i>	121	63	54	198	Hennepin	Private	Minneapolis, MN	James Wallin	1999
Oak, black <i>Quercus velutina</i>	Need New Champion								
Oak, bur <i>Quercus macrocarpa</i>	248	82	85	351	Nicollet	Private	St. Peter, MN	Brian Eversman	1988
Oak, chinkapin (also called yellow chestnut oak) <i>Quercus muehlenbergii</i>	Need New Champion								
Oak, northern pin (also called Jack oak, Hill oak) <i>Quercus ellipsoidalis</i>	Need New Champion								
Oak, northern red <i>Quercus rubra</i>	190	93	68	300	Houston	Private	Houston, MN	Ervin Barth	1988
Oak, swamp white <i>Quercus bicolor</i>	Need New Champion								
Oak, white <i>Quercus alba</i>	138	87	77	244	Steele	Public (city of Owatonna)	Owatonna, MN	Lance Sorensen DNR-Forestry	1997
Poplar, balsam (also called balm-of-gilead) <i>Populus balsamifera</i>	Need New Champion								
Walnut, black <i>Juglans nigra</i>	184	89	110	301	Olmsted	Private	Oronoco, MN	Lloyd Boe, Mark Wurdeman DNR-Forestry	1981
Willow <i>Salix species</i>									
Peachleaf willow	221	52	57	287	Clay	Public (city of Moorhead)	Moorhead, MN	Bob Kloubec	1997

*Total Points=Circumference in inches + height in feet + one-quarter of the crown spread in feet.

Fall 1999

What Is a Tree?

A tree is any woody plant that can reach a height of 15 feet or more at maturity and that usually is single-stemmed and has a crown, or branched-out area at the top. That distinguishes trees from shrubs, which are woody but short and multi-stemmed, and from vines, which may be long and woody but lack a crown.

Minnesota's Own

To the 52 species of trees listed in the Big Tree Registry, Minnesota is home. These "native" species (also called indigenous species) grew naturally or spontaneously in the undisturbed forest vegetation before the arrival of Columbus or other Europeans.

Down to Basics

All of Minnesota's native species belong to one of two basic categories: gymnosperms or angiosperms.

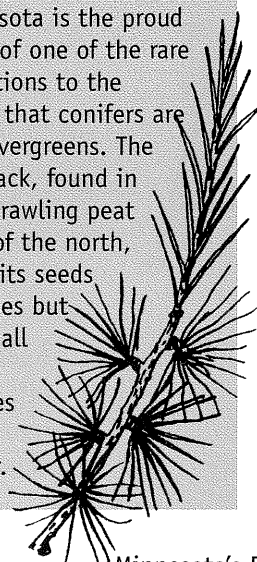
Gymnosperms are trees whose seeds are not encased in a structure such as a fruit or nut. Most gymnosperms bear their seeds in cones, so they are also called conifers ("conebearers"), and have thin needlelike leaves that sometimes earn them the name needleleaf. Virtually all are evergreen, meaning they shed only a portion of their needles each year. People in the wood

products industry often refer to coniferous trees as softwoods.

The second major kind of tree, the angiosperms, has covered seeds. Also known as deciduous or broadleaf trees, trees in this category drop their leaves each autumn. They are the ones that make the forest so colorful each fall. These trees are sometimes referred to as hardwoods (even though their wood is not necessarily harder than that of softwoods!).

Fun Fact

Minnesota is the proud home of one of the rare exceptions to the "rule" that conifers are also evergreens. The tamarack, found in the sprawling peat bogs of the north, bears its seeds in cones but sheds all of its needles in the winter.



References

To obtain more information about trees and their identification and care, try these places:

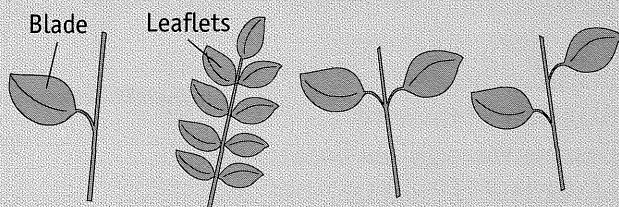
Minnesota's Bookstore
117 University Avenue
St. Paul, MN 55155
(651) 297-3000 (Metro)
(800) 657-3757 (Toll Free)

Trees of Minnesota, stock number 9-1, is a pocket-size, spiral-bound field guide to Minnesota's native tree species.

Minnesota Extension Service
Distribution Center
University of Minnesota
Room 20, Coffey Hall
1420 Eckles Avenue
St. Paul, MN 55108-6069
(612) 625-8173

A Beginners' Guide to Minnesota Trees, BU-6593 and *Minnesota Trees*, BU-0486 are also excellent resources for identifying Minnesota trees.

A Quick Guide to Leaf Types



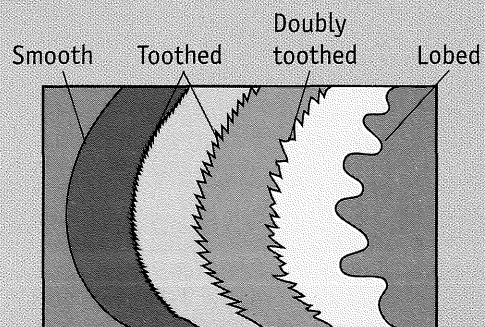
Simple
leaves have only one leaf blade.

Compound
leaves have many leaflets.

Opposite
leaves grow directly across from one another, in pairs.

Alternate
leaves grow singly along a branch, with space between each leaf.

Leaf Edges



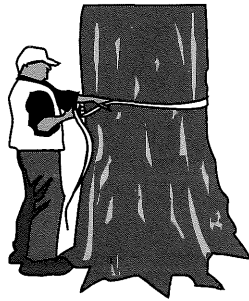
Smooth leaves have smooth edges. Toothed leaves have jagged edges. Lobed leaves have rounded sections.

Sizing Up a Minnesota Tree

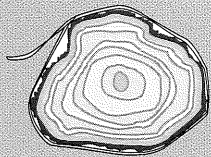
Trees submitted as nominees for the Big Tree Registry must be measured with circumference in inches, and height and crown spread to the nearest foot. Follow these guidelines for measuring:

Around the Middle

Measure, to the nearest inch, the distance around the tree at a point 4½ feet up from the ground to get the circumference. A flexible tape measure is a good tool to use.

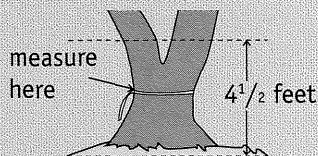


Here's how to find the circumference of hard-to-measure trees:

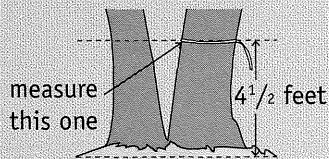


1. When a tree has deep convolutions or indentations, measure without pressing into the indentations.

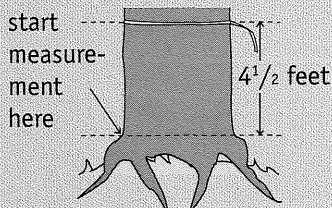
2. If a single tree has a double stem that forks below 4½ feet above the ground, measure at the narrowest place below the fork.



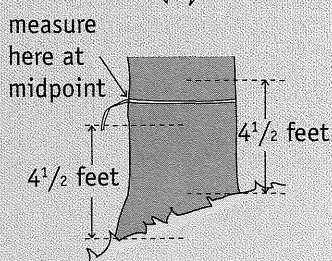
If the tree forks at ground level, measure the largest stem at 4½ feet.



3. When the base of a tree is "heaved" (tree roots exposed usually due to the effects of erosion, along with tree movement and growth patterns), the measuring point begins where the root mass ends and the tree trunk begins.



4. If a tree is growing on a slope, measure 4½ feet above the midpoint of the different ground levels.

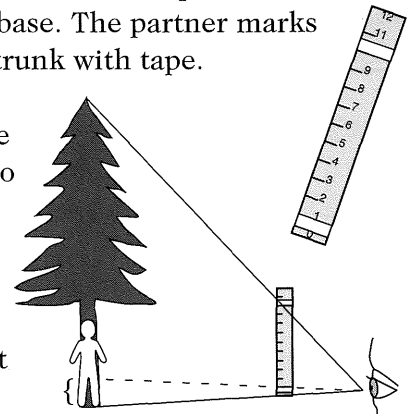


How High

Height is the hardest measurement to obtain. The most reliable method uses a hand level or hypsometer. If these instruments are unavailable, use a ruler.

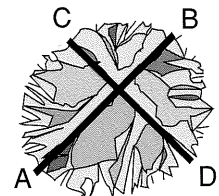
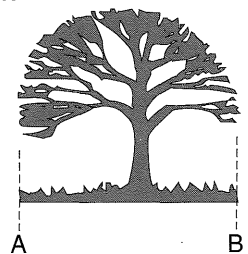
Take a 12-inch ruler and mark the 1-inch and 10-inch lines on the ruler with tape. Work in pairs. One person stands at the base of the tree. The other holds the ruler up in front of his or her own eyes at arm length and moves back until he or she can see the whole tree from top to bottom between the 0-inch and the 10-inch mark on the ruler. He or she then moves the ruler until the base of the tree is exactly at 0 inches and the top of the tree is sighted exactly at 10 inches. Then he or she sights out from the 1-inch mark to a point on the trunk above the base. The partner marks this spot on the trunk with tape.

Measure the distance from the base of the tree to the 1-inch mark. Multiply by 10 to get an approximate idea of the height of the tree.



Crown Size

Set a stake directly under the outside edge of the crown farthest from the trunk (A) and another directly opposite it at the outer edge of the crown (B) on a line passing through the center of the tree. Next, set stakes marking the shortest diameter of the crown passing through the center of the tree (C and D). Measure both distances to the nearest foot with a tape measure. Add the two measurements together and divide the sum by two to find the average crown spread.



Minnesota's Big Tree Registry Application Form

Species: _____

(Please supply full name. For example, it must be sugar maple, red maple, etc., not just maple.)

County where found: _____

Condition of tree: Good Fair Poor

Comments: _____

Legal description or
address where tree is located: _____ Section: _____
_____ Township: _____
_____ Range: _____

Directions to tree *(be as specific as possible)*: _____

Circumference of the tree in inches at 4½ feet above the ground: _____

Vertical height of the tree to the nearest foot: _____

Crown spread of the tree to the nearest foot: _____ divided by four: _____

(See page 6 for instructions on how to measure circumference, height, and crown spread.)

Owner: _____

Address: _____

Nominator: _____

Address: _____

Date measured: _____

Send to: Minnesota's Native Big Tree Registry
DNR Forestry
500 Lafayette Road
St. Paul, Minnesota 55155-4044

If you have questions or need additional information, write to the above address or call (651) 296-5958. You may also fax your application or inquiry to (651) 296-5954.

All categories of information must be completed for your application form to be accepted. Please allow four weeks for accepted applications to be processed.



For more information, contact:

Department of Natural Resources
500 Lafayette Road
St. Paul, MN 55155-4040
(651) 296-6157 (Metro Area)
888-MINNDNR (646-6367) (MN Toll Free)
www.dnr.state.mn.us

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