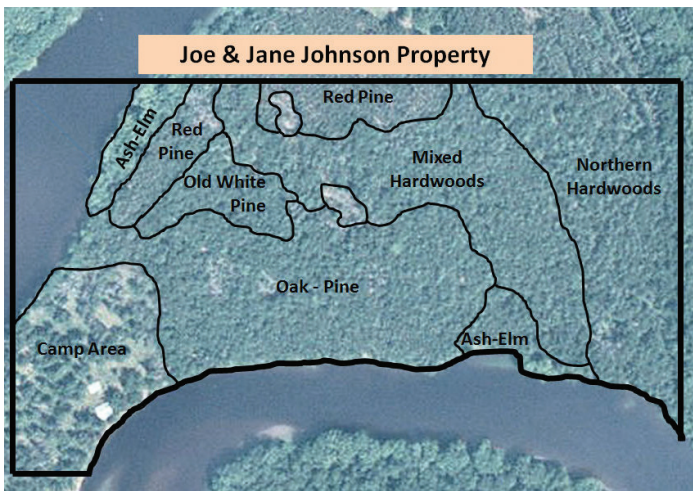


## Forest Types of Michigan

# What is a Forest Type?

MSU Forestry Extension Team

People like to classify all sorts of things into categories that make sense to them. Sport fans talk about leagues and tournaments; car enthusiasts discuss sedans, SUVs and pickups; music lovers discriminate between genres. Foresters are no different. They talk about forest types, such as northern hardwoods, swamp conifers, oak-hickory and aspen.



An example of an aerial photograph outlining the different forest types on Joe and Jane Johnson's property.

A forest type is a distinct association of tree species distributed across a wide geographical range. The particular associated species are fairly predictable for a given area.

A forest type is usually associated with the dominant tree species characteristic of that type, though other species often occur in lesser numbers. For instance, the aspen type will be dominated by quaking aspen and/or bigtooth aspen but will include other species such as red maple, white pine and balsam fir. The northern hardwood type

will be dominated by sugar maple but will also include other species such as red maple, hemlock, basswood, yellow birch and beech.

A forest stand is a specific geographical unit that has boundaries on the ground. It is the most basic unit of a forest management plan. Stands are often numbered in a management plan for easy reference, but they are also given forest type descriptions. These descriptions often include a letter code for the forest type and a number code to indicate average tree size and stand density. In a management plan, stands are usually portrayed in a type map and described in detail in the plan.

Foresters and forest ecologists use a variety of methods to categorize forest systems on the basis of a number of weighted factors, such as stand composition, understory plants, soil types and landforms. Various classification systems have been developed by the USDA Forest Service, the Society of American Foresters, state natural resources agencies, corporate forest owners and many other groups. Therefore, any given stand may have different labels depending on the classification system used. For example, a stand with a few mature oaks with an understory of sapling white pine would be called an oak stand by those who favor the mature trees or a white pine stand by those who favor the regenerating species. Both would be correct labels. Classification can sometimes be tricky.

## Michigan Forest Types

The USDA Forest Service identifies more than 50 forest types in Michigan on the basis of its classification system. Only 23 of those forest types occupy more than 1 percent of the total forest area.

Some of the forest types can be lumped into a group of similar types. For example, there are 10 oak forest types that might be lumped into a single oak category.

Forest owners looking for a more straightforward way to recognize forest type variation in their woodlands and guidance in managing those woodlands in an appropriate manner would be well-advised to work with a forestry consultant. The forester will perform a woodland inventory and identify forest types that make sense for the owner's planned use of the property, and then develop a forest management plan. The management plan will include a map of various forest stands, each with a forest type label. The forester will recommend a set of management practices for each stand. These recommendations will identify ways to achieve the goals of the forest owner. (MSU Extension bulletin E-3188 addresses working with consulting foresters.)

**Table 1. Forest Type Bulletins in the Series**

Michigan Forest Types	Percent by Area	Percent by Volume	#Tree Species
Northern Hardwoods	25	31	51
Aspen	13	10	44
Mixed Upland Hardwoods	13	11	59
Oak-Hickory	12	13	57
Swamp Hardwoods	12	10	55
Cedar	7	8	22
Swamp Conifer	5	3	24
Red Pine	4	6	30
Mesic Conifers	3	4	34
Jack Pine	3	2	20
Minor Types (not in bulletins)	3	2	47
Hybrid Poplar & Hybrid Willow	-	-	-
All Forest	100	100	97

Source: USDA Forest Service Forest Inventory & Analysis, 2009

**Table 2. Related Bulletins in the Series**

Silvicultural Systems	Silviculture is the science of growing trees for particular purposes and involves regeneration, tending, improvement, and harvest.
Forest Health	Focused mostly on issues affecting trees but also talks about forests as systems.
Forest Ownership	Ownership determines management goals. Michigan has different categories of both public and private ownership.
Forest Products & Prices	These cut products are what logging contractors manufacture from standing trees. The price paid for the trees is most relevant to the forest owner.
Management Plans	This is a fundamental first step in managing a forest and getting the most out of ownership.
Common Pitfalls	Managing a forest involves specialized knowledge not common among most owners. Here are a few tips to avoid.
Tree Planting	A popular activity among forest owners. Success depends upon site preparation and post-planting monitoring, as much as it does the actual planting of trees.

## The Forest Type Fact Sheets

This forest type series of bulletins focuses on 10 forest types (condensed from USDA Forest Service inventory data<sup>1</sup>) that commonly occur in Michigan forests, plus a bulletin on hybrid poplar and hybrid willow. Fact sheets describe the composition, distribution and ecology of each forest type, and then highlight management, forest health and wildlife habitat issues. The series also includes fact sheets about several forest management topics of interest to forest owners.

The tree species composition of each forest type will vary considerably across the geography of Michigan. A mixed upland hardwood stand in Gogebic County will look different from one in Monroe County. A northern hardwood stand will always have a sugar maple component, but the stands in southern Michigan will usually have more associated tree species than stands in the

<sup>1</sup> Forest types based on data reported by the USDA Forest Service, Forest Inventory and Analysis Unit [[www.fia.fs.fed.us/tools-data](http://www.fia.fs.fed.us/tools-data)].

Upper Peninsula. Any particular forest stand will have substantially fewer tree species than Table 1 indicates.

Forest types change over time, not only in size, age and structure but also in composition. A mixed hardwood stand with a strong white pine understory will probably become a white pine stand in the future. Forest management can slow or accelerate forest change.

### A Note About Information Resources

A wealth of forest and forestry information is available through the Internet. A variety of organizations provide programs and services to forest owners.

Table 3 directs forest owners to some of the resources readily available. This brief description is not a complete listing of programs and services.

See <http://michigansaf.org> for Forest Management Guidelines from the Michigan Society of American Foresters.

**Table 3. Forestry Contacts**

Organization	Contact Points	Brief Description
Consulting Foresters	Various directories and referral services. Michigan Association of Consulting Foresters, Conservation Districts, MSU Extension, Michigan Forest Association, others.	These professional foresters can be hired by forest owners and work only for forest owners. They provide the widest range of services. Consultants are available in every Michigan county.
Conservation Districts	County-based.	Often a good first point of contact. Provide different sets of land management services, sometimes including forestry.
Michigan Forest Association	<a href="http://www.michiganforests.com">http://www.michiganforests.com</a>	Membership of forest owners and others interested in good forest management. Newsletters. Magazine. Field days.
Michigan Society of American Foresters	<a href="http://michigansaf.org">http://michigansaf.org</a>	Mostly a professional organization for foresters. Writes "Forest Management Guidelines for Michigan" bulletin. National organization has the Certified Forester® program.
MSU Extension	<a href="http://msue.anr.msu.edu/">http://msue.anr.msu.edu/</a>	A handful of extension foresters. Consulting forester directory. Ties to the Land program. Michigan Forests Forever resource. UP Tree Identification website. Various bulletins and publications.
USDA Natural Resources Conservation Service	<a href="http://www.mi.nrcs.usda.gov/">http://www.mi.nrcs.usda.gov/</a>	Administers cost-share programs such as CSP, EQIP, and WHIP. More agriculture oriented than forestry.
Michigan DNR	<a href="http://www.michigan.gov/dnr">http://www.michigan.gov/dnr</a>	Administers forest property tax programs, Forest Stewardship Program, Forest Legacy Program, others. Main focus is on managing state-owned parks and forestlands.
Tree Farm Program	<a href="http://www.treefarmssystem.org/">http://www.treefarmssystem.org/</a>	Part of the American Forest Foundation, specific program where forest owners can enroll eligible land. Tree Farm "Groups" can provide forest certification services. Field days.
Land Conservancies	Various access points by conservancy.	Some conservancies have forestry expertise; most can assist forest owners with long-term protection of natural resource assets. Land eligibility is often limited.
Universities	MSU: <a href="http://www.for.msu.edu/">http://www.for.msu.edu/</a> MTU: <a href="http://www.mtu.edu/forest/">http://www.mtu.edu/forest/</a>	Michigan has two undergraduate forestry schools, one at Michigan State and a second at Michigan Tech. Each has limited sets of services to forest owners.
USDA Forest Service	Websites, local offices.	Main focus is national forest management. Few programs directly useful to private forest owners. Three national forests in Michigan: Ottawa, Hiawatha, and Huron-Manistee.