

Forestry Learning Objectives and Resources

1. Identify common trees without a key and identify specific or unusual species of trees or shrubs through the use of a key.
 - ★ *Identifying Trees of Michigan* – MSU Extension
<http://forestry.msu.edu/extension/ExtDocs/idents.htm>
2. Understand forest ecology concepts and factors affecting them, including the relationship between soil and forest types, tree communities, regeneration, competition, disturbance and succession.
 - ★ Forest Ecology Management Series – MSU Extension
 - Unit One: Forest Terminology and Ecological Systems*
<http://web2.msue.msu.edu/bulletins/Bulletin/PDF/E2635.pdf>
Provided on the 2010 Michigan Envirothon Resource CD.
 - Unit Two: Site Conditions and Forest Cover*
<http://web2.msue.msu.edu/bulletins/Bulletin/PDF/E2636.pdf>
Provided on the 2010 Michigan Envirothon Resource CD.
 - Unit Three: Soils and Site Productivity*
<http://web2.msue.msu.edu/bulletins/Bulletin/PDF/E2637.pdf>
Provided on the 2010 Michigan Envirothon Resource CD.
 - Unit Four: Nutrients, Cycling and Tree Growth*
Provided on the 2010 Michigan Envirothon Resource CD.
 - Unit Five: Measuring Site Quality*
<http://web2.msue.msu.edu/bulletins/Bulletin/PDF/E2639.pdf>
Provided on the 2010 Michigan Envirothon Resource CD.
 - Unit Six: Tree Parts and Functions*
Provided on the 2010 Michigan Envirothon Resource CD.
 - Unit Seven: Continuous Change in the Forest*
<http://web2.msue.msu.edu/bulletins/Bulletin/PDF/E2641.pdf>
Provided on the 2010 Michigan Envirothon Resource CD.
3. Understand the cause/effect relationship of factors affecting tree growth and forest development (climate, insects, soils, microorganisms, etc.).
 - ★ *Forest Soils* – Temperate Forest Foundation
<http://www.forestinfo.org/Discover/soil.htm>
4. Understand how wildlife habitat relates to forest communities, forest species, forest age structure, snags and den trees, availability of food, and riparian zones.
 - ★ *Managing Michigan's Wildlife* – Michigan United Conservation Clubs
Introduction to Forest Management
http://www.michigandnr.com/publications/pdfs/huntingwildlifehabitat/Landowners_Guide/Resource_Dir/Acrobat/Introduction_and_Overview.PDF
Provided on the 2010 Michigan Envirothon Resource CD.

Timber Harvesting

http://www.michigandnr.com/publications/pdfs/huntingwildlifehabitat/Landowners_Guide/Resource_Dir/Acrobat/Timber_Harvesting.PDF

Provided on the 2010 Michigan Envirothon Resource CD.

Forest Openings

http://www.michigandnr.com/publications/pdfs/huntingwildlifehabitat/Landowners_Guide/Resource_Dir/Acrobat/Forest_Openings.PDF

Provided on the 2010 Michigan Envirothon Resource CD.

- * *Forest Management Guidelines for Michigan: Wildlife Habitat* – Michigan Society of American Foresters

<http://michigansaf.org/Business/MSAFguide/Wildlife.htm>

5. Understand the value of trees in urban and suburban settings and factors affecting their health and survival.

- * *Working Trees for Communities* – USDA Forest Service

<http://www.unl.edu/nac/brochures/wtc/wtc.pdf>

Provided on the 2010 Michigan Envirothon Resource CD.

- * *The Right Tree for the Right Place* – Tree City USA

http://www.na.fs.fed.us/SPFO/pubs/uf/sotuf/chapter_3/appendix_a/appendix_a.htm

- * *Livable Communities and Urban Forests* – Local Government Commission

http://www.lgc.org/freepub/docs/community_design/fact_sheets/livcomm_urban_forests.pdf

Provided on the 2010 Michigan Envirothon Resource CD.

6. Understand how the following issues are affected by forest health and management: biological diversity, forest fragmentation, air quality, rural development, fire and recreation.

7. Understand basic forest management concepts and tools such as: how various silvicultural practices are utilized, the use of tree measuring devices, use of technology, and best management practices.

- * *Forest Resource Management Terminology* – MSU Extension

<http://forestry.msu.edu/extension/ExtDocs/NCR478.pdf>

Provided on the 2010 Michigan Envirothon Resource CD.

- * *Tree Measurement Types & Methods*

Provided on the 2010 Michigan Envirothon Resource CD.

- * *How Much Lumber in that Tree?* – MSU Extension

<http://web2.msue.msu.edu/bulletins/Bulletin/PDF/E2915.pdf>

Provided on the 2010 Michigan Envirothon Resource CD.

- * *Water Quality Best Management Practices on Forest Lands* – MSU Extension

<http://web2.msue.msu.edu/bulletins/Bulletin/PDF/E2770.pdf>

Provided on the 2010 Michigan Envirothon Resource CD.

- * *Forest Management Guidelines for Michigan* - MI Society of American Foresters

<http://michigansaf.org/Business/MSAFguide/MainPage.htm>

8. Identify complex factors which influence forest management decisions (economical, social, ecological and urban interface).

9. Apply silviculture concepts and methods to develop general management recommendations for a particular situation and management goals.
 - * *A Quick Lesson in Silvics and Silviculture* – Maryland Forests Association
<http://iaa.umd.edu/mfa/silvics.htm>
 - * *Forest Management Guidelines for Michigan: Silvicultural Systems* – Michigan Society of American Foresters
<http://michigansaf.org/Business/MSAFguide/SilvSystems.htm>
 - * *Reforestation* – Temperate Forest Foundation
<http://www.forestinfo.org/Discover/reforest.htm>

Additional Internet Resources for Forestry

Michigan Forests Forever Teachers Guide – Michigan Forest Resource Alliance
<http://www.dsisd.k12.mi.us/mff/>

Links to the different sections of the teachers guide on right side of the webpage.

Tree Products - Trees provide material for products you use every day.
Provided on the 2010 Michigan Envirothon Resource CD.