

# Forestry - Division B & C

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# Forestry Event Basics

- Will follow (mostly) the official state list, eastern region – see handout/website for posting of any changes, updates
- Changes to list (next page)
- Event will have 20 stations with either actual samples of leaves/twigs and/or pictures. May also include samples/pictures of twigs, bark, seeds, flowers, fruit, cones
- Stations will be timed
- Students are allowed up to two tabbed field guides (one should be the National Audubon Society Field Guide to Trees, Eastern Region), one copy of the National/State tree list, and one two-sided, 8.5” x 11” sheet of notes

# Changes to Tree List

- See posted state list for most changes
- Additional changes (also posted on website list):
  - Division B
    - Add Common Hoptree (*Ptelea trifoliata*; 534E)
  - Division C
    - Add Common Prickly-ash (*Zanthoxylum americanum*; 535E)
    - Add Poison Sumac (*Toxicodendron vernix*; 552E)
  - Both Divisions
    - Add Glossy Buckthorn (*Rhamnus frangula*; 595E)

# Forestry Question Types

- Sample identification – students will write (with correct capitalization and spelling) genus and species for each
- Additional questions (true/false, multiple choice or short answer) will include:
  - Tree structure – leaves in other seasons, bark, twigs, buds, flowers, seeds/cones/fruit; general tree shape
  - Leaf characteristics – terms for leaf types, shapes, margins, venation, arrangement on stem
  - Ecological characteristics – habitat, adaptations, succession, symbiotic relationships (e.g., butterfly/moth larval food plants; galls (no ID needed); importance of mycorrhizal fungi (see resources for more information); legumes and nitrogen-fixing bacteria) and competition/allelopathy (e.g., walnut)
  - Economic importance – uses (current and historical; food, medicine, building materials, etc.) and non-native/nuisance species
  - State status (endangered, threatened, special concern)

# Forestry Response Formats

- Common name and scientific name
  - Spelling, punctuation and capitalization count!
  - As per the national list
- True/False Questions:
  - Response (True or False) **MUST** be spelled out
- Multiple Choice Questions:
  - Response must include, clearly written, the letter of the chosen answer and the first few words of the answer (to avoid any ambiguity)
- Short Answer:
  - Clearly written, one to three word answers
- **NOTE:** Tie-breakers will be random questions selected before the event

# Suggestions for Event Preparation

- At least one side of the note paper should be a student-developed key, based on the list of trees. It might be easiest to start with leaf shapes/arrangements. It should include reference page numbers to the texts for quick reference. This is a good practice tool – students may not even need it for the event!
- Know very easy to identify trees (such as tulip tree) and be able to distinguish among confusing species (such as oaks and many of the pinnately compound species).
- Tab the field guides for quick reference, including diagrams and glossary.
- Practice!!

# Other Things to Know

- Many of our native trees have suffered from introduced disease and pests. Students should know about:
  - Dutch elm disease
  - Chestnut blight
  - Emerald ash borer
  - Gypsy moth
  - Hemlock woolly adelgid
- What to know about them:
  - Trees most affected
  - Transmission
  - Symptoms/identifying characteristics
  - General results
  - Potential prevention/treatment

# Sites/Resources with Sample Keys and Other Information

- ★ **Barnes & Wagner. Michigan Trees (ID, ecology, uses)**
- Petrides, G. Field Guide to Trees and Shrubs (has shrubs and vines; good for distinguishing among similar species)
- Tekiela, Stan. Trees of Michigan (good pictures, Michigan-related information)
- Smith, N. Trees of Michigan and the Upper Great Lakes (ID, photos, ecology, uses)
- Identifying Trees of Michigan (key, diagrams, photos):  
<http://www.for.msu.edu/extension/extdocs/idents.htm>
- More pictures, informational websites:
  - <http://www.ag.ndsu.edu/trees/>
  - <http://plants.usda.gov/java/> (type in name of plant and search)
  - Trees of the Northwoods: <http://www.rook.org/earl/bwca/nature/trees/>
- Mycorrhizae:
  - [http://www.ehow.com/facts\\_5903420\\_relationship-between-mycorrhiza-trees.html](http://www.ehow.com/facts_5903420_relationship-between-mycorrhiza-trees.html)
  - <http://herbarium.usu.edu/fungi/funfacts/Mycorhiz.htm>
- ★ **Check the Science Olympiad website postings**



# Practice Event

- Sunday, February 19, at 1:00 pm, Metro Beach Nature Center. Map: [http://www.metroparks.com/images/maps/metro\\_beach\\_park.pdf](http://www.metroparks.com/images/maps/metro_beach_park.pdf)
- Pre-registration is required. Registration begins February 5<sup>th</sup>.
- Call (586) 463-4332 to register. All that is required for registration is the number of students and adults that will be attending, school name and contact phone number.
- The fee is \$3.00 per student, no charge for adults.
- Park entry requires either a Metroparks annual pass or a \$5.00 daily pass. Both can be obtained from the toll booth.
- Program will be about 1.5 to 2 hours long and will include tips and hints and a mock test. Students are encouraged to bring their materials.

# Sample Test Questions

## Station #1

1. Write the common name and scientific name
2. True or False: This plant is native to Michigan
3. One of the historical uses of this plant is:
  - a. cough medicine
  - b. live fencing
  - c. timber for houses
  - d. honey production



# Sample Test Questions

## Station #1

1. Osage-orange; *Maclura pomifera*
2. False. (This plant is native to Texas area)
3. One of the historical uses of this plant is:
  - b. live fencing





# Sample Test Questions

## Station #2

1. Write the common name and scientific name
2. True or False: This plant is mostly found in moist lowland habitats.
3. The population of this tree in the Michigan has been decimated by what pest or disease?



# Sample Test Questions

## Station #2

1. Green Ash; *Fraxinus pennsylvanica*
2. True : This plant is mostly found in moist lowland habitats.
3. The population of this tree in the Michigan has been decimated by what pest or disease?

Emerald Ash Borer

