Envirothon Forestry Station

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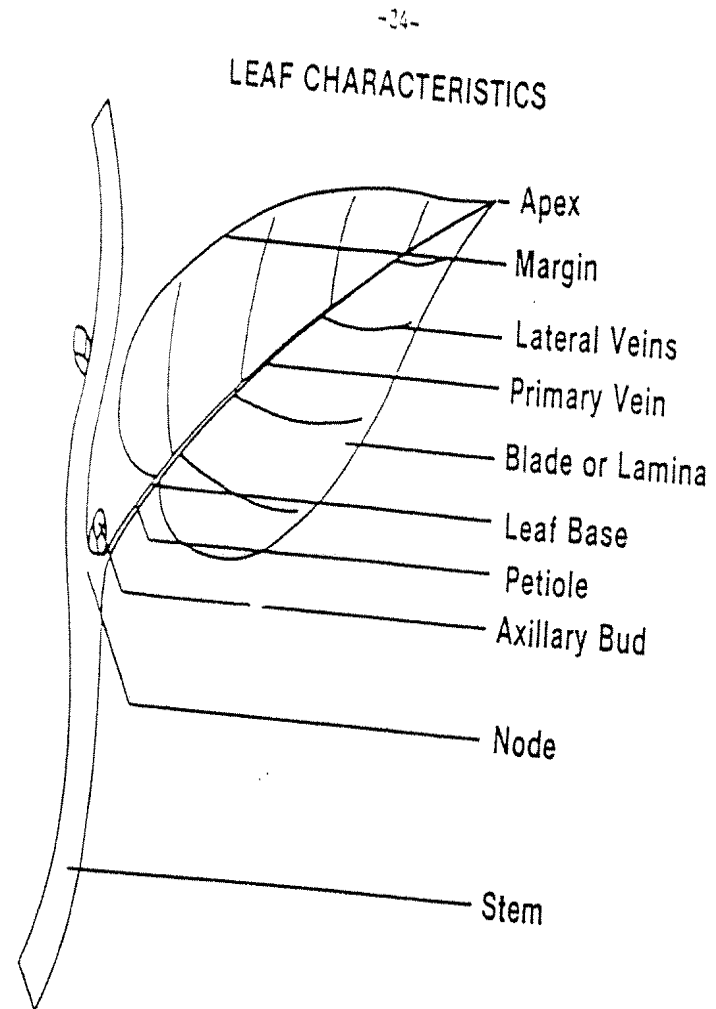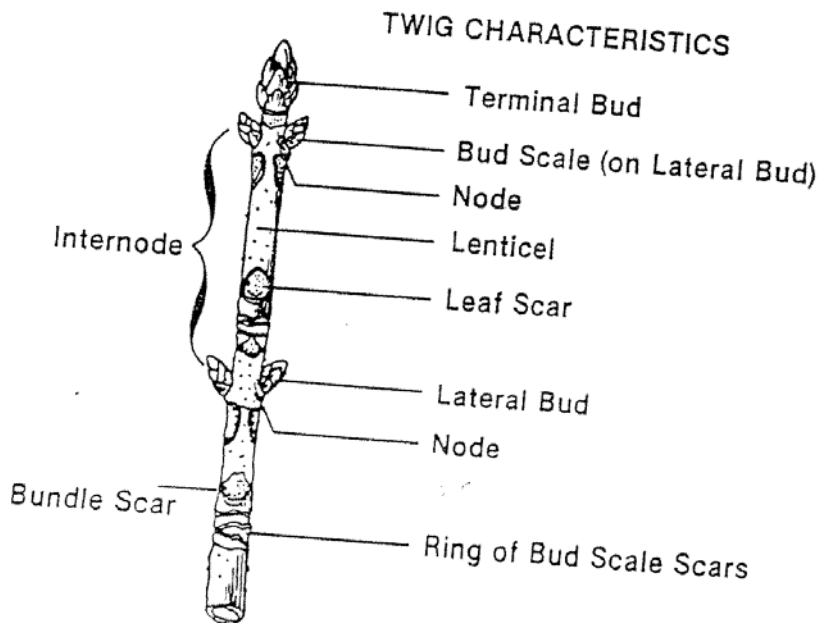
Learning Objectives

- Identify common SC trees without a key
- Identify specific species using a dichotomous key
- Understand how wildlife relates to: forest species, age, structure and other aspects of forest communities
- Understand basic forest management concepts such as: harvesting techniques, regeneration methods, and insect and disease control

Learning Objectives

- Be familiar with the use of a Biltmore stick/cruisers stick, compass and other forestry tools

- Understand the value of trees in the urban/suburban settings and the factors affecting their health and survival

- Understand how following Best Management Practices will help protect soil and water quality

Tree Identification

- Knowing the parts of a leaf and twig is paramount

TWIG CHARACTERISTICS

- Terminal Bud
- Bud Scale (on Lateral Bud)
- Node
- Lenticel
- Leaf Scar
- Lateral Bud
- Node
- Ring of Bud Scale Scars

Internode

Bundle Scar

-24-

LEAF CHARACTERISTICS

- Apex
- Margin
- Lateral Veins
- Primary Vein
- Blade or Lamina
- Leaf Base
- Petiole
- Axillary Bud
- Node
- Stem

A Dichotomous Key

1.Trees with needlelike or scalelike leaves (conifers) *2*

1. Trees with broad flat leaves of many shapes and patterns (broadleaves) *9*

2. Leaves needlelike *3*

2. Leaves scalelike, sometimes prickly on young trees Eastern redcedar

3. Leaves in bundles (fascicles) of 5 or fewer (pines) *4*

3. Leaves not in bundles or clusters 8

4. Leaves in bundles of 2 and 3 *5*

4. Leaves in bundles of 3 *6*

5. Leaves short (2-4 inches), cone small (2-3 inches) Shortleaf pine

5. Leaves long (6-10 inches), cone large (4-6 inches) Slash pine

6. Leaves medium (5-9 inches) *7*

6. Leaves very long (10- 14 inches), cone very large (8-10 inches) Longleaf pine

7. Cones small (2-3 inches) Pond pine

7. Cones medium (4-6 inches) Loblolly pine

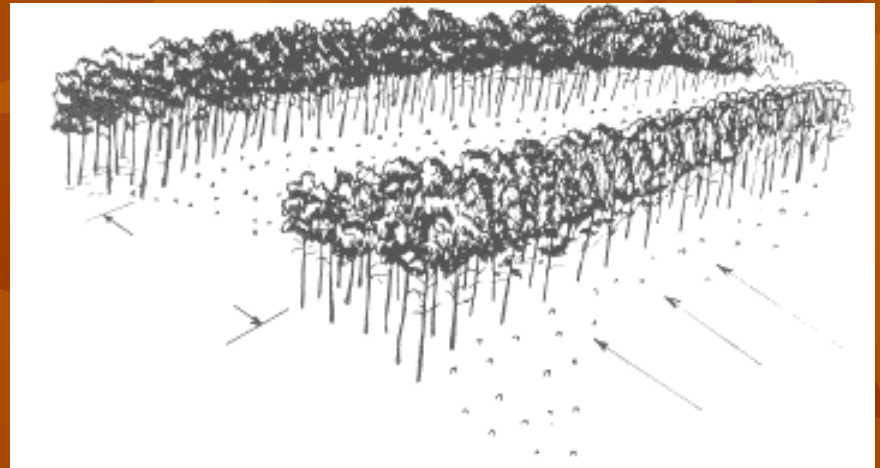# Silvicultural Practices
Final Harvesting Techniques

Seed Tree

Shelter Wood

Silvicultural Practices
Final Harvesting Techniques

Clear Cut in Strips

Silvicultural Practices
Regeneration Techniques

Natural Regeneration

Seed-in-place

Seedlings-in-place

Artificial Regeneration

Planting seedlings in rows using a set spacing (8'x8')

Silvicultural Practices
Fire

- Prescribed Fire is the most cost effective tool a forest manager has
- Controls fuel buildups
- Supports fire depended ecosystems (longleaf/ wiregrass)
- Promotes new growth on the forest floor
- Wildfires can cause lose of timber value

- Smoke can cause health concerns
- Uncontrolled fires can threaten the wildland urban interface

SC Best Management Practices BMPs

- Main focus is to reduce erosion that affects water quality

- Stream Side Management Zone (SMZs) are a buffer around streams, ponds or lakes that help reduce the amount of pollutants entering an aquatic system

- Primary and Secondary SMZs

- Stream Crossings

Forestry and Wildlife

- Different silvicultural treatments change the habitat available for forest wildlife
- Wildlife species have different habitat requirements
- A forest can be managed to promote or deter specific species of wildlife

- e.g. Wild Turkeys like a open mature forest. A forest can be thinned down to 40-30 mature trees/acre to promote turkey habitat
- Turkeys like an open forest due to more sunlight hitting the ground promoting growth of seed producing grasses

The Urban Forest

- Urban trees provide more benefits than just the value of the tree

- Urban trees shade houses and streets

- All trees, including those in the urban forest help fight the effects of global warming

Current Topic

References

- <u>Managing the Family Forest in the South</u>

- <u>Tree Identification for South Carolina</u>
  <u>http://www.state.sc.us/forest/reftree.htm</u>

References

- South Carolina's Best Management Practices
http://www.state.sc.us/forest/rbfrc.htm

- Natural Role of Fire
http://www.fldof.com/publications/fires_natural_role.html

References

- [Making and Using Your Own Cruiser Stick](#)
- [Envirothon Training Tree Identification/ Tree Key](#)
- [Urban Tree Information](#)
- [Forest Management and Wildlife](#)