Principles of Silviculture

A Walk-in-the-Woods
Familiarizing Ourselves with Silviculture Terminology & Stand Descriptions

Stand Description Exercise

The following are questions that you should ask yourself and answer to adequately describe a stand. Over time, these questions will become second nature and the answers will come much easier. The answers to these questions will help you communicate effectively with other professionals and the public. Knowledge and understanding of the forest ecology and silviculture terminology will aid in describing stands. Developing the ability to recognize these stand attributes and describing them so a third party can visualize the stand without visiting it is the objective of this exercise.

- What is the size of the stand?

- Describe the stand’s location on the landscape:
  
  Where are you?
  
  o Is it a cove site?
  o Is the stand on a bench?
  o Is the stand on a ridge?
  o What is the aspect?
  o Water features?

- Describe site productivity:
  
  o What is the estimated site index?
  o Is it a productive site?
  o Is the site mesic or xeric?

- What is the stand form?
  
  o Is it even-age, uneven-age, or two-age?
    ▪ Why?

- Describe the stand composition:
  
  o Is the stand pure?
  o Is the stand mixed?
    ▪ What is the dominant species?
    ▪ What are some of the associates?
    ▪ Tree sizes and terminology classification
- Describe stand density:
  o Is it fully stocked?
  o Is it overstocked?
  o Is it understocked?

- Describe the overstory:
  o What species are in the canopy?
    ▪ What species make up the dominant crown class?
    ▪ What species make up the co-dominant crown class?
    ▪ What species make up the intermediate crown class?
    ▪ What species make up the suppressed or overtopped crown class?

- Describe the midstory:
  o What species are in the midstory?
  o Are the species in the midstory shade-tolerant or shade-intolerant?
  o How does that compare to the shade-tolerance of the species in the overstory?

- What is in the understory?
  o Is there any advance regeneration?
    ▪ If so, what are the species?
    ▪ Is the regeneration the same species as found in the overstory?
  o Is there a shrub layer present?
  o Is there coarse woody debris on the ground?

- Describe structure of the stand. Structure is the vertical and horizontal arrangement of the vegetation (trees).
Assignment:

For lab periods on March 11/12.

Collect data on assigned stand and prepare a written Stand Description. The description should include:

a. Paragraph on physical location ---- roads, streams, other features ---- GPS coordinates

b. Paragraph on characterization of the site/substrate

   Landform, soils, water, slope, acres, geology, aspect, climate, special places (if known)

Familiarization with the Web Soil Survey on the Natural Resources Conservation Service (NRCS) Website will assist in describing soils and other site properties

c. Paragraph on history and disturbances

d. Paragraph on characterization of vegetation

   Stocking / density, structure (horizontal and vertical), age, size, species composition, forest type, canopy layers, regeneration potential, assessment of past disturbance, growth rates, fuels, snags/woody debris, habitat, T&E species, etc.

   Probably the best way to characterize the vegetation is by canopy level: overstory, midstory and understory. Use the tree size definitions to assist in your writing ---- seedling, sapling, poles, sawtimber in your writing

The data from your 10th-acre plot sample (present data on an acre basis) should provide you the tree information (species, diameter, crown class). Make sure to include stocking and site index in your description

The stand description should be at least 4 paragraphs, double-spaced, no more than 2 pages

Due: March 25/26 (after Spring Break)