

Branching Out: Maryland's Forest Stewardship Educator

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Branching Out is published quarterly and distributed to 8,300 woodland owners, resource professionals, and others interested in forest stewardship. Calendar and news items are welcome. Comments and suggestions are always welcome by phone: (410) 827-8056; fax: (410-827-9039; or e-mail rtjaden@umd.edu. Deadlines are the 10th of January, April, July, and October. The sponsoring agencies' programs are open to all citizens without regard to race, color, sex, or physical ability.

Supported by the Maryland Tree Farm System

Cutting Through the Confusion of Forest Terms

Mature, climax, old growth, virgin forest -- these terms appear frequently in newspaper and magazine articles and on television and radio news. What do they mean? Are they interchangeable? Well, yes, no, and maybe. Old growth, mature, climax, and virgin forests draw overlapping pictures in different people's minds. They reflect quite complex concepts that even natural resource professionals debate. There are, however, some generally accepted definitions.

Virgin Forest

The term virgin forest refers to a forest that has never been cut or otherwise affected by human activity. It is a forest that has achieved a "steady state." In Maryland, tracts of undisturbed virgin forest existed until the late 1800s. Around the turn of the century, these "primordial" forests were cut to supply the wood demands of expanding eastern seaboard cities.

Consequently, Maryland now has almost no virgin forest. Two "possible" exceptions may be Belt Woods in Prince George's County and the Hemlock Grove in Swallow Falls State Park.

Mature vs. Climax

The terms mature and climax are often used interchangeably. They may or may not be the same depending on context and specific site.

A forest is considered to be mature when a majority of the trees have attained maximum height and/or diameter and produce seed reliably. The net annual rate of growth has peaked. The trees tend to have straight trunks with the lowest branches located fairly far up. There is a well defined canopy and understory with both standing and fallen dead wood. It may be said that a forest just reaching its climax stage is at peak maturity.

Maturity is often viewed in terms of forest management and economics. It describes the stage when the forest best supplies a specified product, would provide the maximum income if harvested, or is capable

of producing seed.

Ecologically, a climax forest is the final, stable stage in forest succession. The canopy is very dense and trees that require shaded conditions to begin growth, such as hemlocks, beech, and hickory, gain prominence in the canopy. The soils deepen, achieving an equilibrium between organic accumulation and erosion. A climax forest is highly stable and undergoes change slowly, although a disturbance such as fire can cause the forest to revert to an earlier stage at any point in the succession process.

Old Growth Forest

"Old growth" describes a more fully developed, more complex climax forest. It includes some trees of great age and size, a complex canopy, large amounts of dead wood both standing and down, a thick organic layer, pit and mound topography, randomly scattered light gaps, low annual increase in growth, nutrient inputs roughly equal to nutrient outputs, the presence of specific wildlife, and exceptional aesthetic value.

Sisters Named Outstanding Tree Farmers

The 1997 Outstanding Tree Farmers for the state of Maryland are sisters Vera Mae Schultz and Betty Bauer. Their farm, near Clear Spring in Washington County, has been owned by their family for 53 years. The 333-acre farm includes 31 acres of woodland. Much of the remaining acreage is cattle pasture. The wooded portions of the farm are managed for forest products, wildlife, recreation, aesthetics, and water quality with a professional forestry management plan first implemented in 1960, says Andy Smogor, Maryland Forest Service cooperating forester. Recently the property was enrolled in the Forest Stewardship Program.

Because Mrs. Bauer resides in Kansas, Mrs. Schultz, a resident of Germantown, MD, has been responsible for overseeing work done on the farm. Along with her husband, she accomplished a group selection harvest under the supervision of a consulting forester in 1991. This harvest resulted in abundant new hardwood regeneration and the removal of undesirable species, especially *Ailanthus*. Income from the timber sale was used to refurbish a pond, erect wildlife nesting boxes, plant some open areas with trees, fence off streams, and stabilize cattle crossings to prevent soil erosion.

Mrs. Schultz promotes good management of forests and other natural resources through tours of her property, including a recent visit by congressional staffers. She is a member of the Maryland Forest Association, the Walnut Council, and the Coverts Program.

The Tree Farm program is a cooperative effort of the Maryland Forest Service and Forest Industries. For information about tree farming, contact your local Forest Service forester.

What Are Demonstration Forests?

In Maryland there are several "demonstration" forests. These come under the jurisdiction of the Department of Natural Resources (DNR) Forest Service and are managed for experimental, demonstration, educational, and recreational purposes. Research is conducted by DNR personnel and scientists from universities and other state agencies. Combined forestry inventories, insect and disease studies, wildlife food plots, bird counts, fire analysis, and habitat improvement for various woodland

species are among the research projects conducted in the demonstration forests.

Forestry management techniques demonstrated at these sites include strip cuts, hardwood to pine conversions, site preparation, shelter wood harvests, seed tree cuts, and burning. Outdoor education programs include the Envirothon, farm and forestry tours, and training sessions on topics such as ecology and wetland delineation. Visitors are invited to hike, bike, bird watch, and observe good forestry practices.

The largest of Maryland's demonstration forests is the 1,477-acre Doncaster Demonstration Forest in Charles County. The smallest, with 125 acres, is the Seth Demonstration Forest near Easton in Talbot County. For information about the research projects and forest management techniques conducted at these or other Maryland demonstration forests, contact your local office of the DNR Forest Service.

Featured Tree: White Pine (*Pinus strobus*)

As a group, pines are the world's most valuable conifers (cone-bearing trees). Like oaks, pines are divided into two groups: the hard (or pitch) pines and the soft (or white) pines.

The needles of hard pines grow in clusters, called bundles, of two to three and are enclosed at the base by a sheath that remains on the mature bundle. The cones grow close to the branch and the end of each cone scale has a spiny tip. The hard, coarse-grained, generally darker colored wood is used for turpentine production, rough construction and pulp wood.

The needles of soft pines generally grow in bundles of five. The sheath at the base of each bundle falls away when the needles are mature. The cones are usually stalked and their scales are not armed with spiny tips. The soft, light-colored, straight-grained wood cuts easily, polishes well, and warps very little when seasoned. Because of this versatility, white pine is used for doors, windows, patterns, models, cabinet work, matches, and many other consumer goods.

The only soft pine in the eastern United States is the white pine (*Pinus strobus*). The acronym to remember is five needles equals five letters: **w, h, i, t, e**. A graceful tree with soft bluish-green, flexible needles, the white pine is native to the Northeast and mountainous regions south to Georgia. It has been and still is often used for windbreaks in suburbs and on farms outside of its natural range and is now "naturalized" over much of the East Coast.

The white pine is used often in landscaping. It transplants easily, thanks to a wide-spreading and moderately deep root system that has only a vestigial tap root. Large pines can be planted and the desired effects achieved quickly. Many different horticultural forms, including dwarf, weeping, and columnar, are available to fill different purposes. The major drawback of white pines is that they are not tolerant of air pollution or salt-spray from highways or seashores.

Each spring new growth on the lower branches produce the staminate (male), pollen-releasing flowers. At the same time, the new growth on the upper branches bears small, bright pink conebearing pistillate (female) flowers. After releasing their pollen to the wind, the staminate blossoms wither and fall off. The pollinated pistillate flowers develop into small green, upright cones by the end of the first growing season. During the second year of their growth, the cones enlarge and bend downward. At maturity they are four to six inches long, fairly narrow, and slightly curved. The cones dry and turn brown, releasing small, reddish, winged seeds to the wind. Seed production begins when a tree is between 20 and 30 years old.

Eastern white pine grows best on deep, sandy loam soils but is quite adaptable as long as there is adequate moisture available. It grows in almost pure stands or mixed with other hardwoods. The age of younger trees, under about 20 years, can be estimated by counting the number of whorls of branches. In the original forests of the eastern United States, white pines grew to be 200 to 300-and sometimes even 400-years old, with trunk diameters approaching 6 feet and heights of 250 feet. Because of their economic importance, most white pines are currently cut at 60 to 80 years of age, when they are 80 to 100 feet tall and their trunks measure 12 to 17 inches in diameter. The largest eastern white pine in Maryland grows in the town of Ruxton in Baltimore County.

Take Note ...

Deer Management Plan Meetings - Attention landowners and deer hunters, the Wildlife and Heritage Division of Maryland's Department of Natural Resources is developing a long-term deer management plan, and they want your participation! The plan will address such issues as hunting license fees, seasons and bag limits, deer harvests, and target population levels. Four discussion sessions will be held throughout Maryland:

- January 14: John Hanson High School, Waldorf, 6:30-8:30 p.m.
- January 16- Dulany High School, Timonium, 7-9 p.m.
- January 22: Bennett Middle School, Salisbury, 7-9 p.m.
- January 23: Frank Jan-non Post #36 American Legion, Chestertown, 7-9 p.m.

For information, contact Ken D'Loughy, (301) 258-0817.

New Urban Wildlife Program - Applications are now being accepted from Maryland residents for a Master Wildlife Habitat Naturalist program. Designed to increase wildlife habitat in urban areas, the program was created by the WindStar Wildlife Institute, a national non-profit conservation organization, and is sponsored by the USDA Forest Service and the Maryland Cooperative Extension Service.

Thirty urban property owners with backyard wildlife habitats, will be selected in February for the 1997 program. The 3 1/2-day pilot workshop is scheduled for May 1-4 at the Patuxent River 4-H Center in Prince George's County.

Following the training, participants will create a wildlife habitat enhancement plan for their own property and will make a committed effort to share forestry and wildlife conservation information with others.

For more information or to apply, call the WindStar Wildlife Institute at (301) 834-9238. The deadline for applications is January 31.