Physiography and Plant Communities of Maywoods Environmental and Educational Laboratory

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Maywoods covers 1700 acres, and is a research forest owned by Eastern Kentucky University and managed by EKU Division of Natural Areas; which is located in Garrard County, Kentucky southeast of Lancaster, the county seat. Several studies of plants, reptiles, and mammals have been conducted at Maywoods and I had the chance to examine the vegetation as part of “The Vascular Flora of Garrard County, Kentucky” which was the subject of my Master of Science thesis research at EKU. The financial support of the KNPS for this project is gratefully acknowledged.

Maywoods is within the Knobs Norman Upland physiographic region of Kentucky. The Knobs Region is characterized by Devonian shale outcrops capped by Mississippian limestone and bounded by the Cumberland Plateau to the east and the Bluegrass Basin to the west. This area is covered by a mosaic of plant communities depending on local soil conditions, aspect, and disturbance history.

The Knobs region is dominated by deciduous forest, which varies in composition according to the acidic or basic nature of the soil, moisture and light availability, and fertility. The area of Maywoods can be divided into several major habitat types consisting of rock outcrops, south slopes, north slopes, ephemeral streams, stream terraces, perennial streams, lake shores, emergent and aquatic habitats. Past disturbance history such as water scouring, burning, logging, succession, and forest canopy gap dynamics can influence contemporary species associations.

South facing slopes at Maywoods are very dry and can be classified as Pine-Oak communities. *Pinus virginiana* (Virginia pine) is abundant along with *Quercus coc-
cinea (scarlet oak), Quercus montana (chestnut oak), and Quercus marilandica (blackjack oak). Various other trees form a component of this dry-mesic forest such as Acer rubrum (red maple), Carya ovata (shagbark hickory), Carya glabra (pignut hickory) and Carya tomentosa (mockernut hickory). Rock outcrops have a similar tree canopy with the above mentioned species, especially chestnut oak, and sometimes Quercus stellata (post oak) and Quercus velutina (black oak) or sometimes Quercus falcata (southern red oak). Several “barrens” are historically known from Maywoods, associating with the dry white oak woods on Mississippian limestone. A planted prairie near the entrance represents the only viable example of this community type, although many remnant shale barrens species persist along the trails on ridgetops and natural openings.

North facing slopes have the most well developed forests at Maywoods and can be classified as Mixed Mesophytic or Hemlock-Mixed Mesophytic. Tsuga canadensis (eastern hemlock) is a distinctive evergreen tree in this community, but is absent from much of Maywoods and will need to be monitored in future years to prevent decline from the invasive insect Hemlock Woolly Adelgid, which has been killing hemlocks in the Southern Appalachian Mountains, already. Other species that associate on the north slopes include Quercus alba (white oak), Quercus rubra (northern red oak), Carya cordiformis (bitternut hickory), Liriodendron tulipifera (tulip poplar), Tilia americana (basswood), Fraxinus americana (white ash), and Acer saccharum (sugar maple).

Watercourses at Maywoods provide wetland habitats for a very different association of plants. Streams are dominated by Platanus occidentalis (sycamore), Acer saccharinum (silver maple), Acer negundo (boxelder maple), Fraxinus pennsylvanica (green ash), Liquidambar styraciflua (sweet gum), Carya lanciniosa (shellbark hickory), Aesculus flava (yellow buckeye) and Quercus imbricaria (shingle oak). Betula nigra (river birch) and Acer rubrum can be found dominating lake margins along with abundant sphagnum moss and many interesting wetland ferns. Maywoods is a great place to visit so please get a map and start to explore!