

**Appendix L – Forest Cover Description**

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## Forest Cover Descriptions

There are several forest cover types on the UNC-CH property. The following community type descriptions are intended to generally describe various vegetation communities present on the site. Descriptions are taken from the Fourth Approximation Guide (NC Vegetation) by Mike Schafale found at <http://cvs.bio.unc.edu/pubs/piedmont.gd.doc> except where noted.

### MESIC MIXED HARDWOOD FOREST (PIEDMONT SUBTYPE)

Synonyms: *Fagus grandifolia-Quercus rubra/Cornus florida/Polystichum acrostichoides-Hexastylis virginica* Forest.

Concept: Type covers mesic hardwood forests of acidic bluffs and other fire-sheltered sites in the Piedmont and Coastal Plain, dominated by combinations of *Fagus grandifolia*, *Quercus nigra*, *Liriodendron tulipifera*, *Quercus rubra*, or species of similar moisture tolerance but lacking the more diverse components of Rich Cove Forest or Acidic Cove Forest. Some component of *Quercus alba*, *Quercus michauxii*, or other species of more dry or more wet sites may be intermixed. Subtype covers Piedmont examples, where *Quercus rubra* and other characteristic Piedmont species are present and characteristic Coastal Plain species are absent.

Distinguishing Features: The Mesic Mixed Hardwood Forest type is distinguished by a canopy dominated by mesic hardwoods while lacking indicators of higher pH soils and of flooding and lacking significant montane flora. *Fagus grandifolia* is nearly always present and distinguishes this forest type from all related communities except Basic Mesic Forest, Beech Bottoms, Acidic Cove Forest and Rich Cove Forest. Mesic Mixed Hardwood Forest may be distinguished from Beech Bottoms by lacking any significant component of floodplain species or indicators of flooding. It may be distinguished from Basic Mesic Forest by lower species richness and by lacking the species that in the Piedmont and Coastal Plain are indicators of higher pH soils. Such indicators are primarily herbs. Species include *Cimicifuga racemosa*, *Asarum canadense*, *Adiantum pedatum*, *Sanguinaria canadensis*, *Hybanthus concolor* and *Actaea pachypoda*. *Ostrya virginiana*, *Carpinus caroliniana*, *Fraxinus americana*, *Aesculus sylvatica* and *Aesculus pavia* tend to be common in Basic Mesic Forest and scarce in Mesic Mixed Hardwood Forest. Many of the same indicators are present in Rich Cove Forest, as well as a number of other montane species such as *Aesculus flava*, *Tilia americana* var. *heterophylla*, *Halesia tetraptera* and *Betula lenta*, and their absence distinguishes Mesic Mixed Hardwood Forest from that type. Mesic Mixed Hardwood Forest may be distinguished from Acidic Cove Forest by the absence of montane species, though the set of species is limited to the more acid tolerant ones such as *Betula lenta*, *Tsuga canadensis*, *Rhododendron maximum* and *Leucothoe fontanesiana*.

The Piedmont Subtype is distinguished from the Coastal Plain Subtype by flora, which includes a predominance of species typical of the Coastal Plain over those typical of the Piedmont, though many species are shared and some Piedmont species can occur within the Coastal Plain.

#### DRY-MESIC OAK–HICKORY FOREST (PIEDMONT SUBTYPE)

Synonyms: *Quercus alba*-*Quercus (rubra, coccinea)*-*Carya (glabra, alba)*/*Vaccinium (stamineum, pallidum)* Forest

Concept: Type covers dry-mesic forests of acidic upland slopes and somewhat sheltered ridges in the Piedmont and Coastal Plain, dominated by combinations of *Quercus alba*, *Quercus rubra*, *Quercus velutina*, *Carya alba*, *Carya glabra*, along with varying amounts of pine, maple, and poplar. Basic soil plants are absent or scarce, and acid tolerant species such as *Oxydendrum arboreum* and *Vaccinium* spp. are common. These forests cover the moisture range between that where *Fagus* becomes a significant component and that where *Quercus falcata*, *Quercus stellata*, *Quercus marilandica* or *Quercus montana* become significant components. Subtype covers Piedmont examples, which lack characteristic Coastal Plain species.

Distinguishing Features: The Dry-Mesic Oak–Hickory Forest type is distinguished from Basic Oak–Hickory Forests by having flora characteristic of acidic soils, such as *Oxydendrum arboreum*, *Vaccinium stamineum*, *Vaccinium pallidum*, *Vaccinium tenellum*, *Gaylussacia frondosa* and *Chimaphila maculata*. Species restricted to more basic soils, such as *Cercis canadensis*, *Fraxinus americana* and *Ostrya virginiana* are absent or scarce and low in diversity. *Viburnum rafinesquianum* and other *Viburnum* species may be present but are not dominant shrubs.

#### DRY OAK–HICKORY FOREST (PIEDMONT SUBTYPE)

Synonyms: *Quercus falcata*-*Quercus alba*-*Carya alba*/*Oxydendrum arboreum*/*Vaccinium stamineum* Forest

Concept: Type covers upland hardwood forests of acidic soils in the driest typical topographic positions, on south slopes and ridge tops where *Quercus alba*, *Q. stellata* and *Q. falcata* predominate in the canopy. They are less xeric in composition than the *Quercus stellata*-*Q. marilandica* forests that occur in specialized soil conditions such as clay hardpans, shallow rock, or very sandy soils. They contain acid-tolerant flora such as *Oxydendrum arboreum*, *Nyssa sylvatica*, *Vaccinium stamineum*, *Vaccinium pallidum* and *Vaccinium arboreum*, and lack more base-loving plants. Subtype covers typical examples of the Piedmont, which lack significant Coastal Plain flora.

#### DRY OAK–HICKORY FOREST (LOBLOLLY PINE SUBTYPE OR PHASE)

Synonyms: *Pinus taeda-Quercus (alba, falcata, stellata)* Forest

Concept: Pine-codominated Dry Oak–Hickory Forests occur in successional situations where pines became established in response to heavy cutting. Pine likely occurs naturally as a minority component in most Dry Oak–Hickory Forests. Natural pine-hardwood forests of this composition also occur in the Gulf Coastal Plain. It is unclear if natural forests codominated by pine would occur in the North Carolina Coastal Plain.

#### PIEDMONT SMALL STREAM FOREST

Synonyms: Piedmont/Mountain Alluvial Forest. *Liquidambar styraciflua/Lindera benzoin/Arisaema triphyllum* Forest

Concept: Type covers forests of floodplains of small to medium size Piedmont streams, where flooding and alluvial processes have some, but limited, influence on vegetation.

Distinguishing Features: Piedmont Small Stream Forests are distinguished from larger river floodplain forests by having a more limited diversity and dominance of floodplain species. Most of the canopy is of widespread species such as *Liquidambar styraciflua* and *Liriodendron tulipifera*, and upland species may be present as well as characteristic alluvial species such as *Platanus occidentalis* and *Betula nigra*. Piedmont Small Stream Forests are distinguished from Mesic Mixed Hardwood Forests by the presence of some alluvial and wetland species, such as *Platanus* and *Betula*. Species such as *Lindera benzoin* and *Aesculus sylvatica* may be shared with Basic Mesic Forests, but are present in the floodplains even in the absence of basic rock substrate.

#### NATURALLY REGENERATED PINE FOREST

This forest type is not included in the Fourth Approximation Guide. It consists of even-aged, naturally regenerated loblolly pine forest that is the result of natural forest re-growth after logging at an earlier time. The dominant species (~ 90% species frequency occurrence) is loblolly pine (*Pinus taeda*). The ages of the different areas of naturally regenerated pine forest within the project area varies somewhat, but is generally between 35-45 years old.