Tsuga canadensis / Rhododendron maximum - Leucothoe fontanesiana Forest

COMMON NAME	Eastern Hemlock / Great Rhododendron - Mountain Doghobble Forest
SYNONYM	Southern Appalachian Eastern Hemlock Forest (Typic Type)
PHYSIOGNOMIC CLASS	Forest (I)
PHYSIOGNOMIC SUBCLASS	Evergreen forest (I.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar needle-leaved evergreen forest (I.A.8)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (I.A.8.N)
FORMATION	Conical-crowned temperate or subpolar needle-leaved evergreen forest (I.A.8.N.c.)
ALLIANCE	*Tsuga canadensis* Forest Alliance
CLASSIFICATION CONFIDENCE LEVEL	2
USFWS WETLAND SYSTEM	Upland

RANGE

Globally

This community occurs in the mountains of Georgia, North Carolina, South Carolina, and Tennessee, and the Cumberland Plateau of Kentucky, and may range into Virginia.

Great Smoky Mountains National Park

This community was sampled on the Cades Cove quadrangle. It is unlikely to occur on the Mount Le Conte quadrangle but may occur elsewhere in the Park. This community was sampled in two locations on the Cades Cove quadrangle; in the northwest along More Licker Branch and in the central portion of the quadrangle along Tipton's Sugar Cove Branch.

ENVIRONMENTAL DESCRIPTION

Globally

This forests occurs on lower or protected slopes and terraces at elevations greater than 1800 feet.

Great Smoky Mountains National Park

This forest is found in association with streams on low slopes with north aspects. Samples were from 1705 and 2277 feet elevation, but this forest is likely to occur at higher elevations.

MOST ABUNDANT SPECIES

Globally

Stratum	Species
Tree canopy	*Tsuga canadensis*
Tall Shrub	*Rhododendron maximum*
Short shrub	*Leucothoe fontanesiana*

Great Smoky Mountains National Park

Stratum	Species
See above	

CHARACTERISTIC SPECIES

Globally

Tsuga canadensis, Rhododendron maximum, Leucothoe fontanesiana

Great Smoky Mountains National Park

See above.

VEGETATION DESCRIPTION

Globally

Forests of lower or protected slopes and terraces with *Tsuga canadensis* occurring over a dense to patchy shrub stratum of *Rhododendron maximum*. Other canopy species of minor importance may include *Liriodendron tulipifera, Tilia americana* var. *heterophylla, Pinus strobus, Betula lenta, Magnolia fraseri, Acer rubrum,* and *Fraxinus americana,* and total less than 25 percent of the canopy cover. *Leucothoe fontanesiana* is often a shrub component and sometimes occurs densely. Other typical shrubs include *Ilex opaca, Clethra acuminata*, and *Kalmia latifolia*. Herbs are sparse to moderate, depending on the shrub cover. Typical herbs include *Chimaphila maculata, Goodyera pubescens, Medeola virginiana, Hexastylis shuttleworthii, Mitchella*

repens, Polystichum acrostichoides, and *Galax urceolata.* Bryophyte cover is often dense.

Great Smoky Mountains National Park
The canopy of this community is strongly dominated by *Tsuga canadensis.* Other species that have minor coverage in the canopy and subcanopy include *Betula lenta, Magnolia fraseri*, and *Liriodendron tulipifera*. The dominant shrubs are *Rhododendron maximum* and *Leucothoe fontanesiana*. Other shrubs include *Hamamelis virginiana, Halesia tetraptera* var. *monticola, Clethra acuminata*, and *Oxydendrum arboreum*. Herbs are sparse; typical species include *Dryopteris intermedia, Goodyera pubescens, Medeola virginiana, Mitchella repens, Mitchella repens, Polystichum acrostichoides*, and *Thelypteris noveboracensis*.

OTHER NOTEWORTHY SPECIES
No information

CONSERVATION RANK G3G4

RANK JUSTIFICATION

DATABASE CODE CEGL007136

COMMENTS
Globally
In Kentucky, this association occurs the eastern part of the state (Appalachian Plateaus, Cumberland Mountains), and may occur disjunct in the Shawnee Hills. In Kentucky, disturbed areas may have abundant *Betula lenta* and *Betula alleghaniensis* in the subcanopy.

Great Smoky Mountains National Park
This association can occur adjacent to and grade in and out of *Tsuga canadensis - Liriodendron tulipifera / Rhododendron maximum / Tiarella cordifolia* Forest (CEGL007543). It is unclear if there is an environmental factor that distinguishes forests codominated by *Tsuga canadensis* and *Pinus strobus* and those dominated by only *Tsuga canadensis*. It is possible that those codominated by *Pinus strobus* occur on drier, more westerly exposed sites or perhaps on previously disturbed sites. It is unlikely that the signature of this association can be distinguished from that of *Pinus strobus - Tsuga canadensis / Rhododendron maximum - Leucothoe fontanesiana* Forest (CEGL007102).

REFERENCES
Evans 1991, Eyre 1980, Golden 1974, Golden 1981, Lorimer 1980, McLeod 1988, Newell et al. 1997, Oosting and Bourdeau 1955, Patterson 1994, Racine and Hardin 1975, Schafale and Weakley 1990, Whittaker 1956