

***Acer saccharum* - *Betula alleghaniensis* - *Fagus grandifolia* / *Viburnum lantanoides* Forest**

COMMON NAME Sugar Maple - Yellow Birch - American Beech / Hobblebush Forest  
SYNONYM Northern Hardwood Forest  
PHYSIOGNOMIC CLASS Forest (I)  
PHYSIOGNOMIC SUBCLASS Deciduous forest (I.B)  
PHYSIOGNOMIC GROUP Cold-deciduous forest (I.B.2)  
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (I.B.2.N)  
FORMATION Lowland or submontane cold-deciduous forest (I.B.2.N.a)  
ALLIANCE ACER SACCHARUM - BETULA ALLEGHANIENSIS - (FAGUS GRANDIFOLIA)  
FOREST ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM Terrestrial

RANGE

***Acadia National Park***

This association occurs in patches throughout the Park, in both the burned and unburned areas.

***Globally***

This association occurs in Connecticut, Massachusetts, Maine, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

ENVIRONMENTAL DESCRIPTION

***Acadia National Park***

Mixed deciduous forests typically occur at low to middle elevations (up to 150 m AMSL). They are found on the lower to middle portion of hillslopes (slopes generally 10-50%), facing north to southeast. The soils are generally sandy loams to loamy sands formed over glacial; some occur on stabilized talus. Soil pH is in the 5.0 - 5.6 range.

***Globally***

This forest occurs most commonly on acid, moderate to well-drained tills at elevations generally below 2500 feet.

MOST ABUNDANT SPECIES

***Acadia National Park***

<u>Stratum</u>	<u>Species</u>
Tree Canopy	<i>Fagus grandifolia</i> , <i>Acer saccharum</i> , <i>Betula alleghaniensis</i> , <i>Betula papyrifera</i> , <i>Picea rubens</i> , <i>Acer pensylvanicum</i> , <i>Tsuga canadensis</i>
Tree Subcanopy	<i>Fagus grandifolia</i> , <i>Acer pensylvanicum</i> , <i>Picea rubens</i>
Herbaceous	<i>Trientalis borealis</i> , <i>Carex gracilisillima</i> , <i>Carex lucorum</i>
Non-vascular	<i>Dicranum</i> spp., <i>Hypnum</i> spp., <i>Leucobryum glaucum</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Tree Canopy	<i>Acer saccharum</i> , <i>Fagus grandifolia</i> , <i>Betula alleghaniensis</i>
Tall Shrub	<i>Viburnum lantanoides</i> , <i>Acer spicatum</i> , <i>Acer pensylvanicum</i>
Herbaceous	<i>Dryopteris intermedia</i> , <i>Dryopteris campyloptera</i> , <i>Huperzia lucidula</i> , <i>Maianthemum canadense</i> , <i>Clintonia borealis</i> , <i>Oxalis montana</i> , <i>Trientalis borealis</i> , <i>Aster acuminatus</i> , <i>Uvularia sessilifolia</i>
Non-vascular	

CHARACTERISTIC SPECIES

***Acadia National Park***

Combination of *Fagus grandifolia* with *Acer saccharum* and/or *Betula alleghaniensis* (usually both); *Picea* spp. is minor.

***Globally***

VEGETATION DESCRIPTION

***Acadia National Park***

Closed-canopy forest dominated by a combination of *Fagus grandifolia* (usually prominent), *Betula alleghaniensis* and *Acer saccharum*. Early successional *Betula papyrifera* and *Acer rubrum* often present but at low cover. Conifers (*Picea rubens* and/or *Tsuga canadensis*) present in some samples, but forming < 25% of the canopy; *Quercus rubra* likewise. *Acer pensylvanicum* is a common subcanopy/understory species. The shrub layer is typically sparse and dominated by tree regeneration. Dwarf shrubs are almost absent (*Vaccinium angustifolium* occasional), and herbs sparse, up to 15% cover. Typical herbaceous species are *Trientalis borealis*, *Carex gracilisillima*, *C. lucorum*, *Epifagus virginiana*, and *Oclobomena acuminata*. The bryoid layer is

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**Acadia National Park**

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patchy, with cover usually less than 20%. *Dicranum* species and *Leucobryum glaucum* are the most common mosses.

The basal area ranged from 11 - 39 m<sup>2</sup>/ha. Canopy heights were 14 - 21 m (avg. 18 m).

**Globally**

The closed canopy is dominated by *Acer saccharum*, *Fagus grandifolia*, and *Betula alleghaniensis* with associated hardwood species including *Betula papyrifera* and *Fraxinus americana*. Conifers are usually present at low abundance. Characteristic species include *Pinus strobus*, *Tsuga canadensis*, and in the northern portion of the range, *Picea rubens*. Oaks are generally not present, although *Quercus rubra* and *Quercus alba* may be present in low numbers. Characteristic understory shrubs or subcanopy trees include *Viburnum lantanoides*, *Acer spicatum*, and *Acer pensylvanicum*. The patchy herbaceous layer is a mix of ferns, rhizomatous herbs and clubmosses. Characteristic species include *Dryopteris intermedia*, *Dryopteris campyloptera*, *Huperzia lucidula*, *Maianthemum canadense*, *Clintonia borealis*, *Oxalis montana* (= *Oxalis acetosella*), *Trientalis borealis*, *Aster acuminatus*, *Uvularia sessilifolia*. Occasional species include *Aralia nudicaulis*, *Trillium erectum*, *Trillium undulatum*, *Streptopus roseus*, *Cinna latifolia*, *Thelypteris noveboracensis*, *Solidago macrophylla*, and *Medeola virginiana*. The bryophyte layer is of variable cover and may include *Dicranum* spp. and *Leucobryum glaucum*. At higher elevations any of the understory herbs characteristic of montane spruce - fir forests may be present and abundant. Sugar maple leaf litter is high in nitrogen relative to lignin and thus decomposes rapidly increasing the nutrient pool in the soil organic layer. Structure and composition of the forest are maintained primarily by single small tree-fall gaps. Yellow birch is maintained in the system by mineral soils on "tip up mounds."

**OTHER NOTEWORTHY SPECIES**

CONSERVATION RANK      G3G5. Widespread throughout the state; a matrix-forming type in the northern two-thirds of the state.

DATABASE CODE              C EGL006252

**COMMENTS**

**Acadia National Park**

Two samples, on talus, grade to deciduous talus woodland.

Hemlock or green ash can be an important constituent in some stands.

This type can grade into Red Spruce - Hardwoods Forest (*Picea rubens* - *Betula alleghaniensis* / *Dryopteris campyloptera* Forest). Some stands on talus can grade Red Oak Talus Slope Woodland (*Betula alleghaniensis* - *Quercus rubra* / *Polypodium virginianum* Woodland). Some stands of Hemlock - Hardwood Forest (*Tsuga canadensis* - (*Betula alleghaniensis*) - *Picea rubens* / *Cornus canadensis* Forests) are strongly deciduous but will feature *Tsuga canadensis* as the most common conifer and will not have the beech-birch-maple combination of deciduous trees. *Betula papyrifera* can be an important tree both in this type and in the Early Successional Woodland/Forest {*Populus (tremuloides, grandidentata)* - *Betula (populifolia, papyrifera)* Woodland complex}.

**Globally**