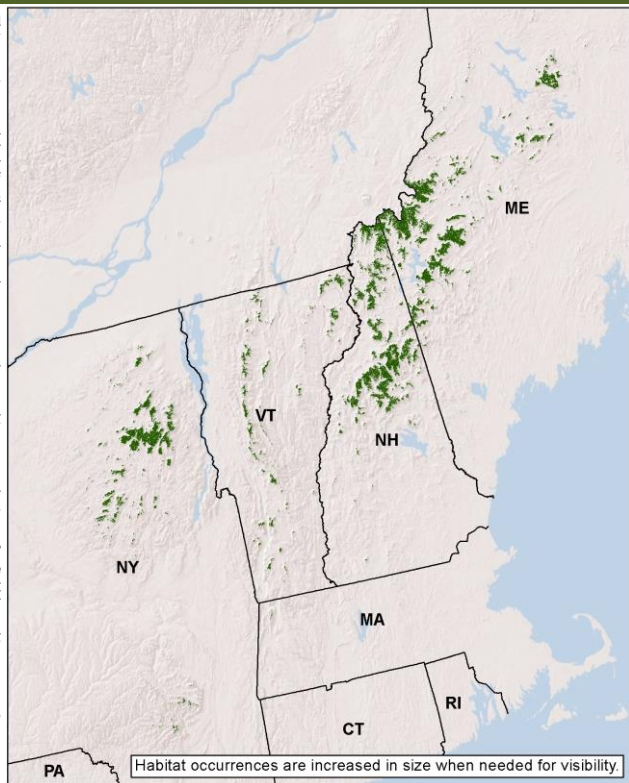




## Macrogroup: Boreal Upland Forest

This map is a modeled distribution based on current data and is not a substitute for field based inventory. Contact your State Natural Heritage Ecologist for more information about this habitat.



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### Description:

A high elevation conifer forest dominated by red spruce and balsam fir, and forming small to very large patches on the highest peaks of the northern Appalachian Mountains. Heart-leaved birch is a characteristic tree along with yellow birch, white birch, mountain maple, striped maple, mountains ash, and occasionally black spruce at upper patch edges. Canopy tree seedlings dominate the shrub layer, and small trees and shrubs are most prominent where landslides or fire have disturbed the system. Short, foggy summers, long and severe winters, and exposed locations define the ecology of this system. In this cold climate cloud forest, dense beds of sphagnum moss cover much of the forest floor, and lichens hang from the trees.

**State Distribution:** MA, ME, NH, NY, VT

**Total Habitat Acreage:** 1,084,359

**Percent Conserved:** 67.4%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	38%	417,246	64,633	88,367	264,246
NH	32%	351,405	230,356	81,711	39,338
NY	20%	213,409	192,358	11,773	9,278
VT	9%	101,695	34,688	26,735	40,272
MA	0%	605	595	10	0

### Ecological Setting and Natural Processes:

Soils are spodosols (acidic, leached out, and low nutrient), and are subject to disturbance from windthrow and mass downslope slippage. Gaps formed by wind, snow, and ice are the major replacement agents; fires may be important but only over a longer return interval. Acid rain deposition and climate change pose the primary threats to this mountain system.

### Similar Habitat Types:

Where mountains are high enough, krummholz and alpine tundra have formed above the spruce-fir. Northern hardwoods with a strong red spruce and yellow birch component are often just below.

### Crosswalk to State Name Examples:

High Elevation Spruce-Fir Forest/Woodland (MA), Fir - Heart-Leaved Birch Subalpine Forest (ME), High-Elevation Spruce - Fir Forest (NH), Mountain Spruce-Fir Forest (NY), Montane Spruce-Fir Forest (VT)

### Crosswalk to State Wildlife Action Plans:

Upland Forest (MA), Coniferous Forest (ME), High Elevation Spruce Fir Forests - High/Montane/Northern Hardwood (NH), Mountain Spruce-Fir Forests (NY), Spruce-Fir-Northern Hardwood Forest - Montane types (VT)

## Places to Visit this Habitat:

Baxter State Park | ME  
 White Mountain National Forest | NH  
 Dix/Giant Mountain Wilderness | NY  
 High Peaks Wilderness Area | NY  
 Green Mountain National Forest | VT

## Associated Species: *Appendix lists scientific names*

**BIRDS:** blackburnian warbler, blackpoll warbler, boreal chickadee, golden-crowned kinglet, gray jay, purple finch, spruce grouse, swainson's thrush, white-throated sparrow, yellow-bellied flycatcher, yellow-rumped warbler

**MAMMALS:** american marten, deer mouse, northern flying squirrel, porcupine, red squirrel

**PLANTS:** boreal bedstraw (*galium kamtschaticum*), bartram shadbush (*amelanchier bartramiana*), hornemann's willowherb (*epilobium hornemannii*), purple crowberry (*empetrum atropurpureum*), arctic bentgrass (*agrostis mertensii*), lapland diapensia (*diapensia lapponica*), black-fruited spike-rush (*luzula parviflora*), squashberry (*viburnum edule*), bearberry willow (*salix uva-ursi*), lesser wintergreen (*pyrola minor*), northern comandra (*geocaulon lividum*)

## Species of Concern (G1-G4): *Appendix lists scientific names*

**BIRDS:** Bicknell's thrush, cape may warbler, red crossbill

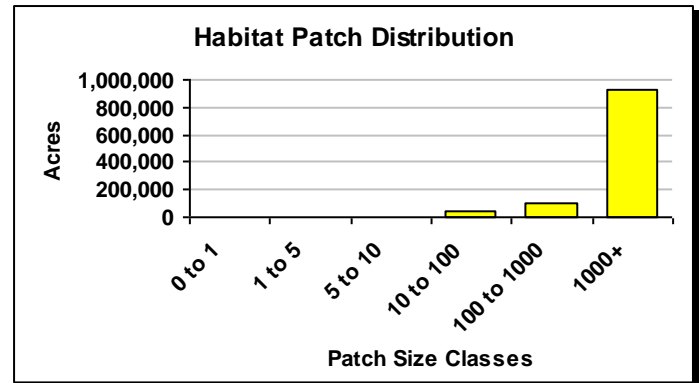
**MAMMALS:** long-tailed shrew

**INSECTS:** early hairstreak butterfly, katadin artic

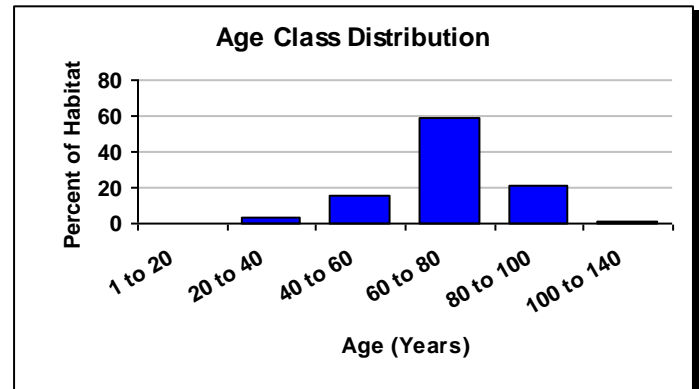
**PLANTS:** appalachian fir-clubmoss (*Huperzia appalachiana*), northern blueberry (*Vaccinium boreale*), northern mountain-ash (*Sorbus decora*), cutler's goldenrod (*Solidago cutleri*), dwarf white birch (*Betula minor*), mountain avens (*Geum peckii*), wavy bluegrass (*Poa laxa* ssp. *fFernaldiana*)



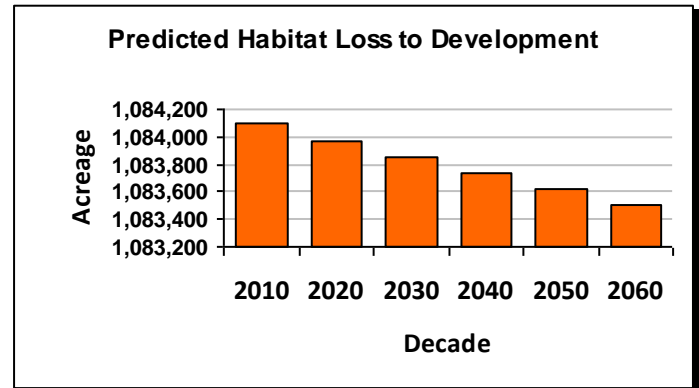
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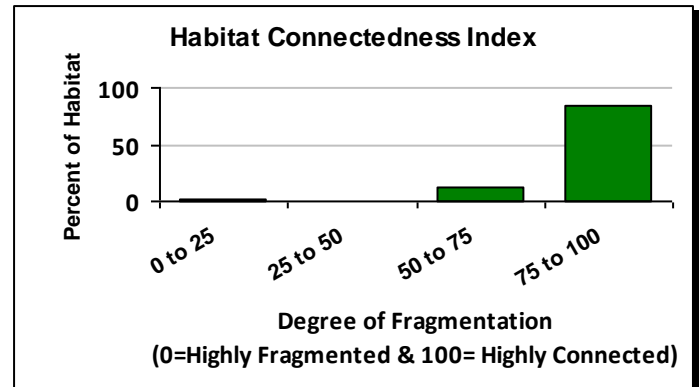
The average patch size for this habitat is 97 acres and the largest single patch is 61,167 acres. This chart shows the proportion of the habitat that is in each patch-size class.



This chart shows the average age of trees associated with this habitat based on forest inventory data. For non-forested systems or small habitats the average age is influenced by the surroundings.



This chart shows the predicted loss of habitat over the next five decades (598 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 12 acres per year.



This metric measures how connected or fragmented the land directly surrounding (18 square miles) the habitat is, this the chart shows the proportion of the habitat in each connectedness class.