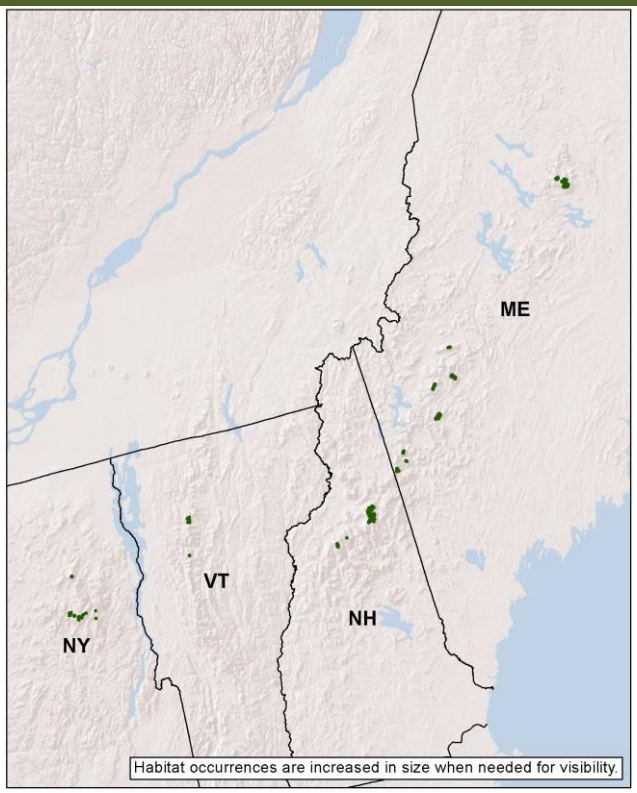
Acadian-Appalachian Alpine Tundra

Macrogroup: Alpine



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.

State Distribution: ME, NH, NY, VT

Total Habitat Acreage: 8,185

Percent Conserved: 98.1%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NH	51%	4,160	4,126	0	34
ME	44%	3,624	2,510	1,082	33
NY	3%	285	194	0	91
VT	1%	115	115	0	0

Crosswalk to State Name Examples:

Spruce - Fir - Birch Krummholz (ME), Black Spruce - Balsam Fir Krummholz (NH), Alpine Krummholz (NY), Spruce-Fir-Northern Hardwood Forest - Subalpine Krummholz (VT)

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Description:

A sparsely vegetated system near or above treeline in the Northern Appalachian Mountains, dominated by lichens, dwarf-shrubland, and sedges. At the highest elevations, the dominant plants are dwarf heaths such as alpine bilberry and cushion-plants such as diapensia. Bigelow's sedge is characteristic. Wetland depressions, such as small alpine bogs and rare sloping fens, may be found within the surrounding upland matrix. In the lower subalpine zone, deciduous shrubs such as nannyberry provide cover in somewhat protected areas; dwarf heaths including crowberry, Labrador tea, sheep laurel, and lowbush blueberry, are typical. Nearer treeline, spruce and fir that have become progressively more stunted as exposure increases may form nearly impenetrable krummholz.

Ecological Setting and Natural Processes:

High winds, snow and ice, cloud-cover fog, and intense summer sun exposure are common and control ecosystem dynamics. Found mostly above 4000' in the northern part of our region, alpine tundra may also occur in small patches on lower ridgelines and summits and at lower elevations near the Atlantic coast.

Similar Habitat Types:

Acadian-Appalachian Montane Spruce-Fir-Hardwood Forests typically occur downslope. Similar to Southern Appalachian Shrub and Grass Balds, and less obviously to systems like Northern Atlantic Coastal Plain Heathland and Grassland and glade and barrens systems to the south, in that extreme environmental conditions make it very difficult for even small trees to develop.

Crosswalk to State Wildlife Action Plans:

Alpine (ME), Alpine (NH), Alpine (NY), Outcrops and Upland Meadows - Alpine Meadows (VT), Open Peatlands - Alpine Peatland (VT), Spruce-Fir-Northern Hardwood Forest - Subalpine Krummholz (VT)

Places to Visit this Habitat:

Baxter State Park | ME
Mahoosucs | ME
Tumbledown Mount Blue | ME
White Mountain National Forest | NH
High Peaks Wilderness Area | NY

Associated Species: *Appendix lists scientific names*

BIRDS: blackpoll warbler, common raven, dark-eyed junco, golden eagle, red-breasted nuthatch, white-throated sparrow, yellow-rumped warbler

MAMMALS: northern red-backed vole

INSECTS: katahdin arctic butterfly, crowberry blue butterfly

PLANTS: Alpine-azalea (Loiseleuria procumbens), alpine blueberry (Vaccinium uliginosum), alpine bittercress (Cardamine bellidifolia), alpine sweet grass (Hierochloe alpina), balsam willow (Salix pyrifolia), bearberry willow (Salix uva-ursi), black crowberry (Empetrum nigrum), highland rush (Juncus trifidus), lapland diapensia (Diapensia lapponica), lapland azalea (Rhododendron lapponicum), mountain cranberry (Vaccinium vitis-idaea), mountain sandwort (Minuartia groenlandica), mountain timothy (Phleum alpinum)

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

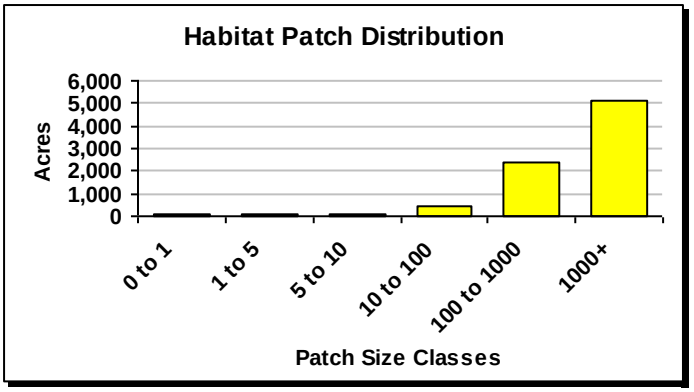
BIRDS: Bicknell's thrush, american pipit

MAMMALS: northern bog lemming

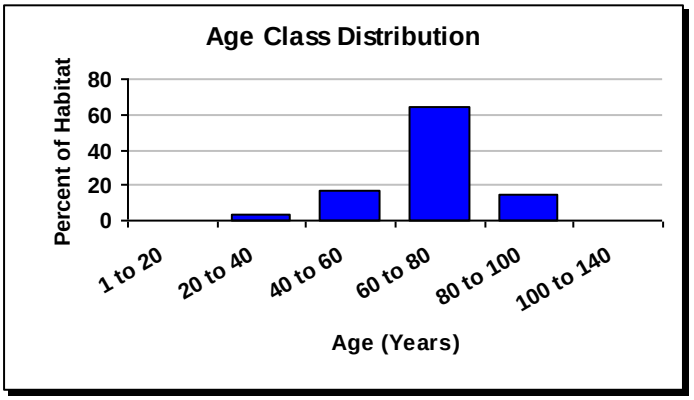
INSECTS: Katahdin arctic butterfly, crowberry blue butterfly

PLANTS: alpine goldenrod (Solidago multiradiata), Appalachian fir-clubmoss (Huperzia appalachiana), Bigelow's sedge (Carex bigelowii), capitate Sedge (Carex capitata), Cutler's Goldenrod (Solidago cutleri), dwarf White Birch (Betula minor), lapland diapensia (Diapensia lapponica), mountain avens (Geum peckii), northern blueberry (Vaccinium boreale), Pickering's reed bentgrass (Calamagrostis pickeringii), Robbins' cinquefoil (Potentilla robbinsiana), silverling (Paronychia argyrocoma)

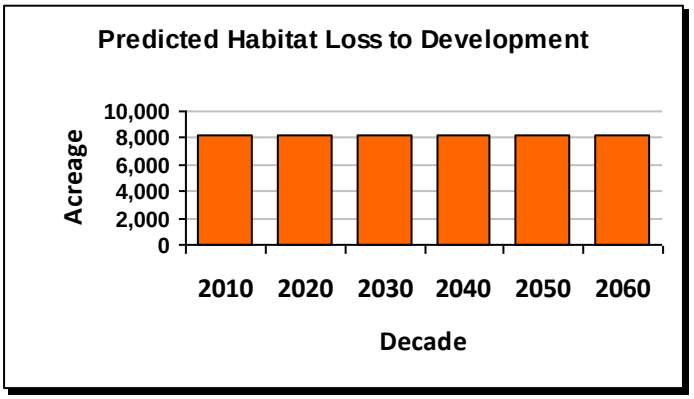
© Josh Royte (The Nature Conservancy, Maine)



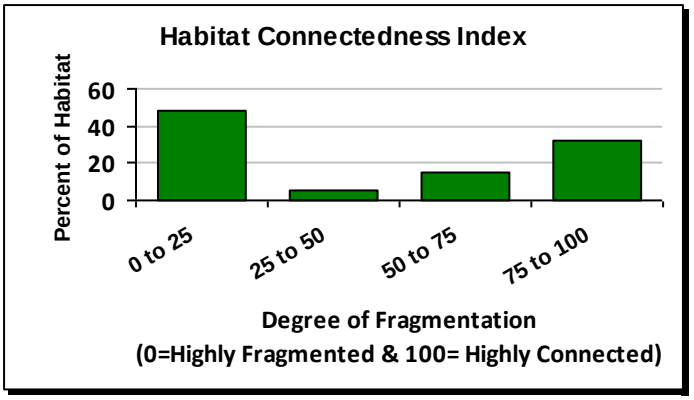
The average patch size for this habitat is 38 acres and the largest single patch is 3,949 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



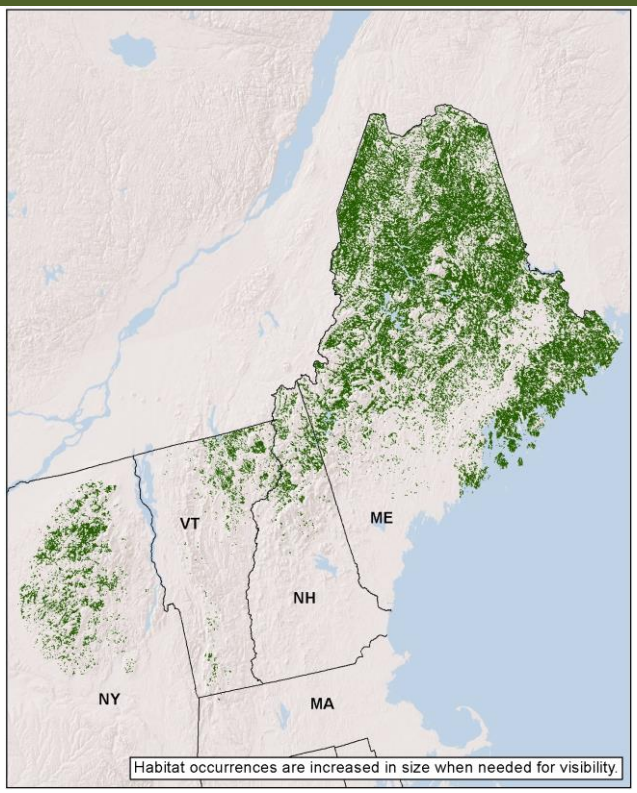
This chart shows the predicted loss of habitat over the next five decades (acres) if loss continues at the same rate as 1990-2000. The average rate of loss is acres per year.



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.

Acadian Sub-boreal Spruce Flat

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.

© Andy Cutco (Maine Natural Areas Program)

Description:

A conifer or mixed forest forming extensive flats on areas of imperfectly drained soils. Black spruce, red spruce, and balsam fir dominate a mostly closed canopy; yellow birch, hemlock, black cherry, and red maple are sometimes present in smaller numbers. Bryophytes and low herbs are abundant in the ground layer; the shrub layers are typically sparse and made up principally of heath species. This forest is characteristic of colder regions of the northern Appalachians-Acadian region, where it often forms long narrow patches along riverside flats in valley bottoms.

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

Total Habitat Acreage: 1,513,068

Percent Conserved: 30.1%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	88%	1,324,567	56,684	298,210	969,674
NY	7%	98,494	55,943	16,206	26,345
VT	3%	45,979	4,907	7,189	33,883
NH	3%	43,937	4,291	11,379	28,267
MA	0%	91	0	3	88

Ecological Setting and Natural Processes:

Often in low flats along streams and lakes, this type is transitional between wetland and upland. The loamy to sandy, nutrient-poor mineral soils are typically saturated at snowmelt but are moderately well-drained for much of the growing season and may be reasonably dry at the soil surface.

Similar Habitat Types:

Similar to Laurentian-Acadian Conifer-Hardwood Acid Swamp, but colder and not so consistently on saturated soils; might be considered as a component of Acadian Low-Elevation Spruce-Fir-Hardwood Forest except for its upland-wetland, usually river-associated hydrology and more boreal character.

Crosswalk to State Name Examples:

Spruce - Fir - Cinnamon Fern Forest (ME), Lowland Spruce Forest (NH), Spruce Flats (NY), Spruce-Fir-Northern Hardwood Forest - Lowland Spruce-Fir Forest (VT), Red Spruce Swamp (MA)

Crosswalk to State Wildlife Action Plans:

Coniferous Forest (ME), Lowland Spruce Forest (NH), Spruce-Fir-Northern Hardwood Forest - Lowland Spruce-Fir Forest (VT)

Places to Visit this Habitat:

Allagash Wilderness Waterway State Park | ME
Baxter State Park | ME
Lake Umbagog National Wildlife Refuge | NH
Debar Mountain Wild Forest | NY
Green Mountain National Forest | VT

Associated Species: *Appendix lists scientific names*

BIRDS: black-backed woodpecker, blackburnian warbler, golden-crowned kinglet, northern waterthrush, palm warbler, ruby-crowned kinglet, spruce grouse, swainson's thrush, white-throated sparrow, wilson's warbler, yellow-bellied flycatcher

MAMMALS: pine marten, canada lynx

PLANTS: mountain fly-honeysuckle (lonicera villosa), carolina grass-of-parnassus (parnassia glauca), sheathed sedge (carex vaginata)

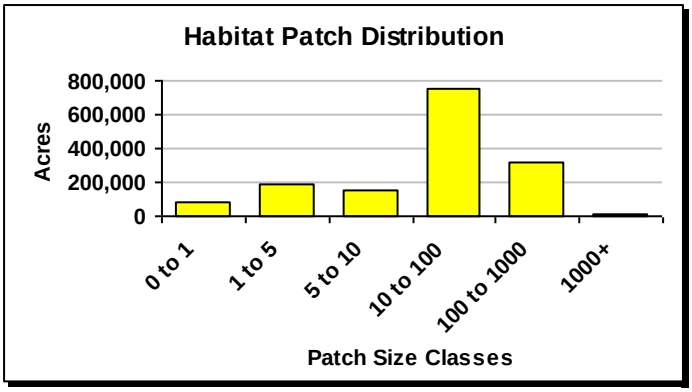
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: american three-toed woodpecker, bay-breasted warbler, gray jay, Lincoln's sparrow, rusty blackbird, red crossbill

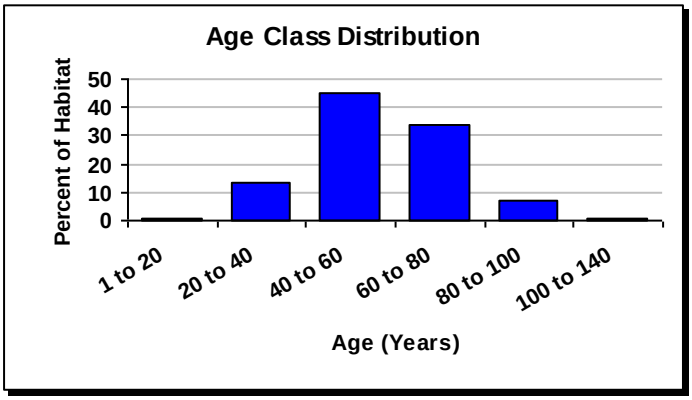
MAMMALS: northern bog lemming

INSECTS: purple lesser fritillary butterfly

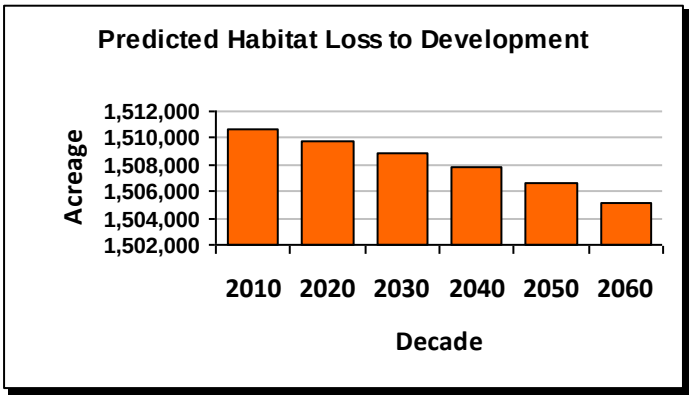
PLANTS: Canada mountain ricegrass (Piptatherum canadense)



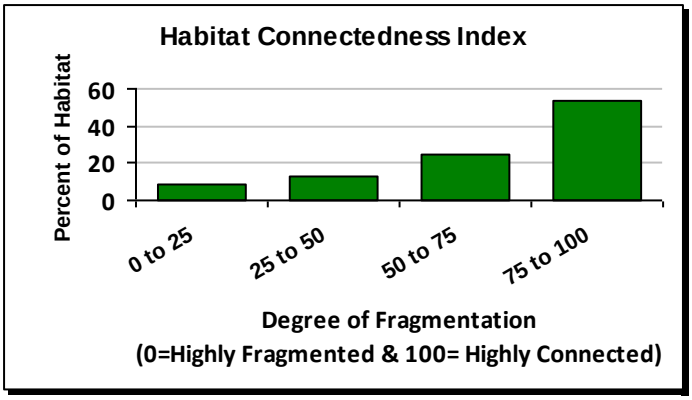
The average patch size for this habitat is 4 acres and the largest single patch is 1,193 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



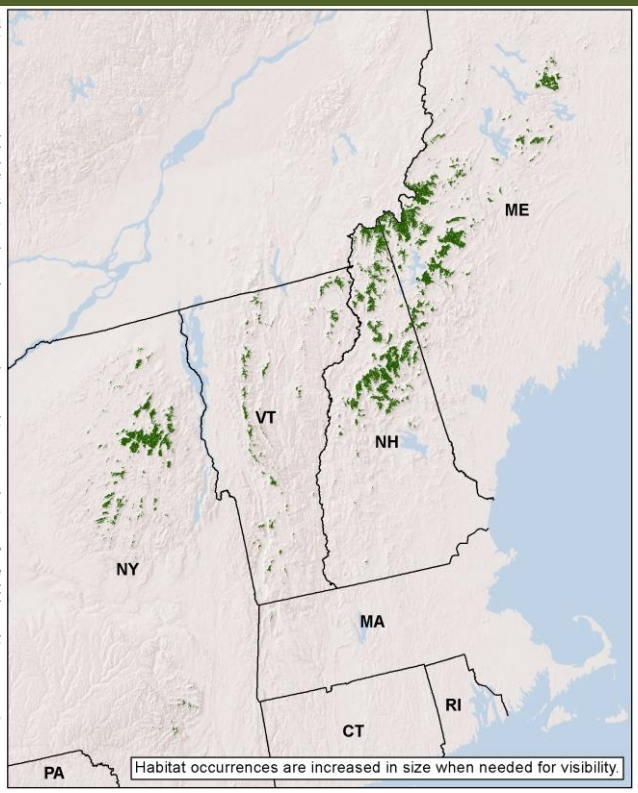
This chart shows the predicted loss of habitat over the next five decades (5,389 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 108 acres per year.



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.

Acadian-Appalachian Montane Spruce-Fir-Hardwood Forest

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.

© Maine Natural Areas Program

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

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.

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)

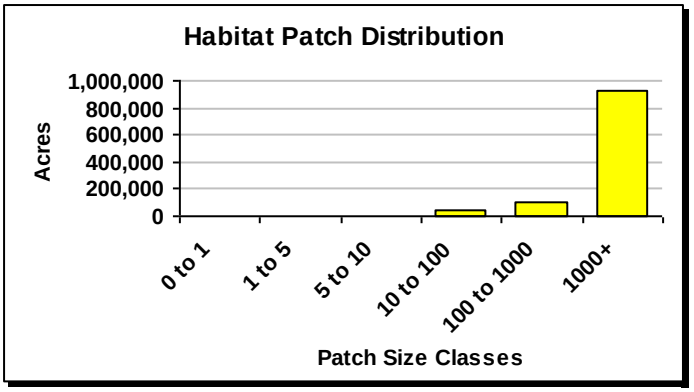
Species of Concern (G1-G4): *Appendix lists scientific names*

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

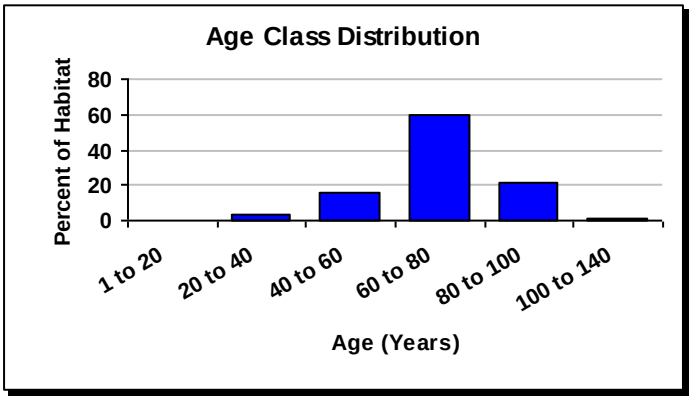
MAMMALS: long-tailed shrew

INSECTS: early hairstreak butterfly, katadin artic

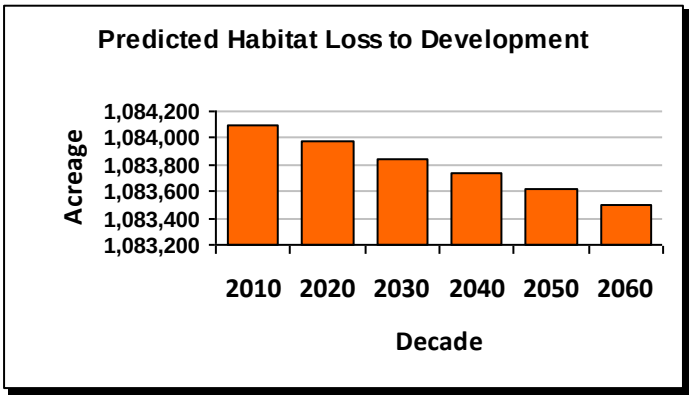
PLANTS: appalachian fir-clubmoss (Huperzia appalachiana), northern blueberry (Vaccinium boreale), northern mountain-ash (Sorbus decora), cutler's goldenrod (Solidago cutleri), dwarf white birch (Betula minor), mountain avens (Geum peckii), wavy bluegrass (Poa laxa ssp. fFernaldiana



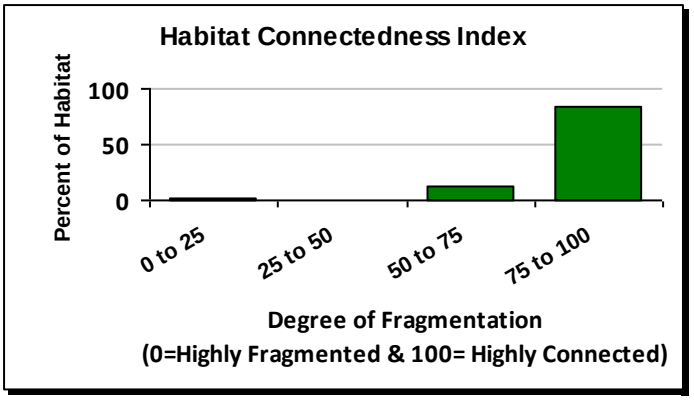
The average patch size for this habitat is 97 acres and the largest single patch is 61,167 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



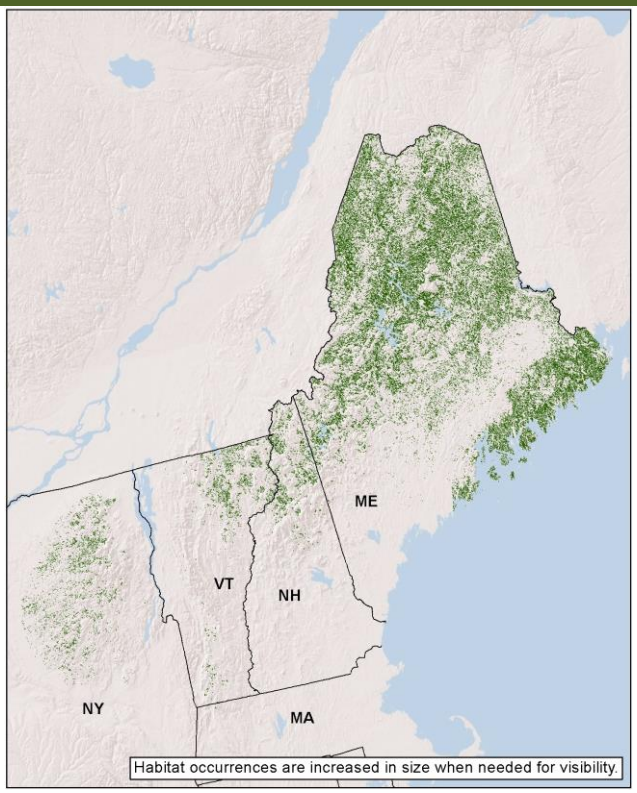
This chart shows the predicted loss of habitat over the next five decades (598 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 12 acres per year.



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.

Acadian Low Elevation Spruce-Fir-Hardwood Forest

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.

© Andy Cutco (Maine Natural Areas Program)

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

Total Habitat Acreage: 5,522,851

Percent Conserved: 27.2%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	87%	4,818,649	225,935	956,191	3,636,523
NY	6%	306,622	172,371	45,501	88,751
VT	4%	219,479	13,586	27,397	178,496
NH	3%	177,546	18,525	44,769	114,253
MA	0%	554	0	80	473

Description:

A low elevation conifer forest dominated by red spruce and balsam fir, often forming the matrix forest in colder parts of the Acadian and northern Appalachian region. Black and white spruce are sometimes present, along with yellow birch, paper birch, beech, and red or sugar maple, and northern white cedar in moister, richer locations. The shrub layer is sparse, and consists primarily of seedlings of principal tree species. Bryophytes are dominant in a dense herb layer. This habitat includes both cold pockets and depressions in hardwood mountains and large areas of seasonally wet flats, but not saturated conifer swamps. In successional patches, paper birch, aspen, and larch are mixed in with the spruce and fir.

Ecological Setting and Natural Processes:

Found at elevations up to 2000' in the northern part of its range. Occurs on acidic, rocky, well- to moderately well-drained soils, with pockets of somewhat poorly drained areas in depressions and slope bottoms. Blowdowns and gap regeneration are the most frequent form of natural disturbance, with large-scale fires at longer return intervals important in drier areas.

Similar Habitat Types:

Upland from (and often adjacent to) the Sub-boreal Spruce Flats system, generally with more hardwoods and less black spruce. Various wetland habitat types are commonly embedded in low elevation spruce-fir landscapes. Montane Spruce-Fir Forests occur at higher elevation, in more rugged terrain.

Crosswalk to State Name Examples:

Spruce - Fir - Broom-Moss Forest (ME), Lowland Spruce - Fir Forest (NH), Balsam Flats (NY), Lowland Spruce-Fir Forest (VT), Spruce-Fir-Northern Hardwoods Forest (MA)

Crosswalk to State Wildlife Action Plans:

Coniferous Forest (ME), Lowland Spruce Forest (NH), Spruce Fir-Forests and Flats (NY), Spruce-Fir-Northern Hardwood Forest - Lowland Spruce-Fir Forest (VT)

Places to Visit this Habitat:

Acadia National Park | ME
Baxter State Park | ME
Upper St. John River (The Nature Conservancy) | ME
White Mountain National Forest | NH
Green Mountain National Forest | VT

Associated Species: *Appendix lists scientific names*

BIRDS: blackburnian warbler, ruby-crowned kinglet, spruce grouse, swainson's thrush, yellow-bellied flycatcher, yellow-rumped warbler, white-throated sparrow

MAMMALS: deer mouse, fisher, moose, porcupine, red fox, red squirrel, southern red-backed vole

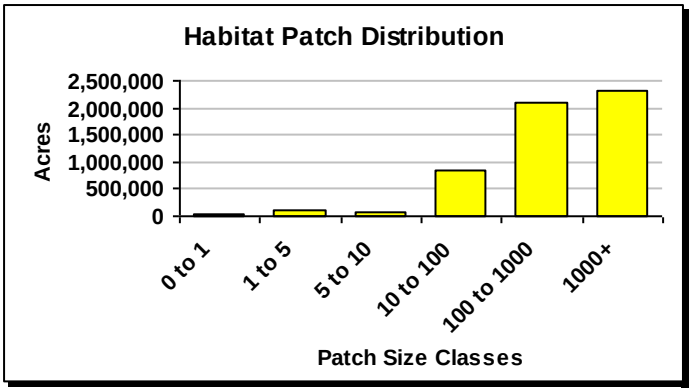
PLANTS: alpine sweet-vetch (Hedysarum alpinum), Carolina grass-of-parnassus (Parnassia glauca), mountain cranberry (Vaccinium vitis-idaea), moose dung moss (Splachnum ampullaceum), giant rattlesnake-plantain (Goodyera oblongifolia), white adder's-mouth (Malaxis monophyllos)

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

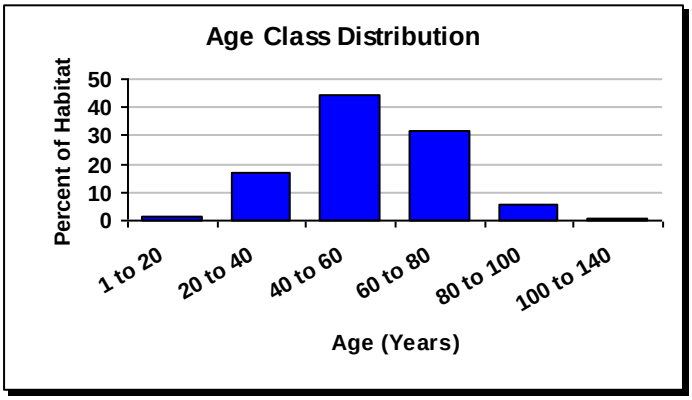
BIRDS: american three-toed woodpecker, bay-breasted warbler, black-backed woodpecker, boreal chickadee, cape may warbler, gray jay, olive-sided flycatcher, red crossbill

INSECTS: early hairstreak butterfly

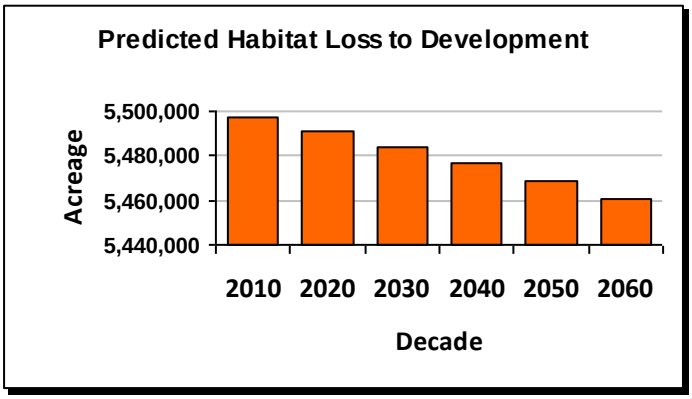
PLANTS: Dudley's rush (Juncus dudleyi), glaucous rattlesnake-root (Prenanthes racemosa), arnica (Arnica lanceolata), auricled twayblade (Listera auriculata), furbish lousewort (Pedicularis furbishiae), orono sedge (Carex oronensis), Wiegand's sedge (Carex wiegandii)



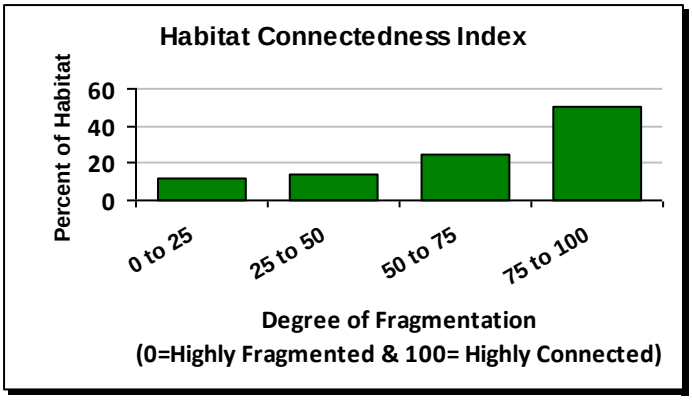
The average patch size for this habitat is 18 acres and the largest single patch is 22,000 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



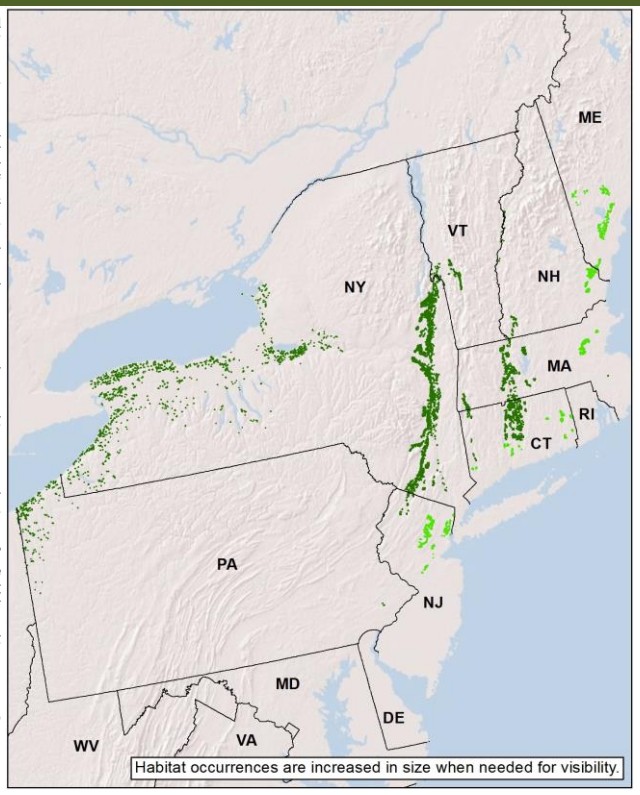
This chart shows the predicted loss of habitat over the next five decades (36,864 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 737 acres per year.



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.

North-Central Interior Wet Flatwoods

Macrogroup: Central Hardwood Swamp



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.

© Patricia Swain (Massachusetts Division of Fisheries & Wildlife/Natural Heritage & Endangered Species Program)

State Distribution: CT, MA, ME, NH, NJ, NY, PA, RI, VT

Total Habitat Acreage: 81,802

Percent Conserved: 7.5%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	60%	49,028	868	825	47,335
MA	12%	9,632	454	1,410	7,769
CT	11%	9,283	310	1,141	7,832
NJ	8%	6,289	337	232	5,719
ME	3%	2,790	30	10	2,751
NH	2%	1,964	70	332	1,562
VT	2%	1,766	47	36	1,683
PA	1%	1,049	1	11	1,037
RI	0%	0	0	0	0

Crosswalk to State Name Examples:

Forested Inland Wetland - Unspecified (CT), Black Gum-Pin Oak-Swamp White Oak "Perched" Swamp (MA), Wetlands - Forested Wetlands And Bogs (PA), Oak-Pine-Northern Hardwood Forest - Valley Clayplain Forest (VT), Red Maple - Elm - Lady Fern Silt Forest (NH)

Description:

A hardwood forest of upland and wetland species occurring in depressions or poorly drained lowlands throughout the northern glaciated Midwest and Lower New England. Pin oak dominates in many areas; other common (sometimes dominant) trees include swamp white oak, bur oak, black gum, sweet gum, and red maple. Areas with more dense tree cover have less shrub and herbaceous cover then the dense understory associated with more open canopies. Buttonbush, winterberry, and alder are typical shrubs; various sedges and cinnamon fern are common in the herb layer. Composition changes with fluctuating moisture levels. It is not known how modeled examples in coastal areas from New Jersey to southern Maine (light green) may differ from those in interior valleys and depressions (dark green).

Ecological Setting and Natural Processes:

Occurs on poorly drained uplands or in depressions associated with glacial features such as tillplains, lakeplains or outwash plains. Soils often have an impermeable clay layer that can create a shallow, perched water table. Saturation periods vary, and seasonal drought is possible. Flooding, drought and fire can influence system dynamics.

Similar Habitat Types:

Vegetation and topographic setting of this small patch wetland system, which has its core distribution in the glaciated Midwest, is similar to that of the Glacial Marine & Lake Wet Clayplain Forest, which was the dominant pre-settlement forest of the Champlain Valley and northwestern NY.

Crosswalk to State Wildlife Action Plans:

Forested Inland Wetland - unspecified (CT), Forested Swamps (MA), Hardwood Swamp (NY), Wetlands - Forested Wetlands and Bogs (PA), Oak-Pine-Northern Hardwood Forest - Valley Clayplain Forest (VT)

Places to Visit this Habitat:

Saratoga National Historical Park | NY
Overpeck County Park | NJ
Great Meadows National Wildlife Refuge | MA
Rogers Island Wildlife Management Area | NY

Associated Species: *Appendix lists scientific names*

BIRDS: barred owl, great crested flycatcher, northern waterthrush, veery, wood duck

HERPTILES: eastern hog-nosed snake, northern leopard frog, black racer

PLANTS: black maple (Acer nigrum), canada moonseed (Menispermum canadense), climbing fern (Lygodium palmatum), common hackberry (Celtis occidentalis), common sneezeweed (Helenium autumnale), cut-leaved evening-primrose (Oenothera laciniata), foxtail sedge (Carex alopecoidea), frank's sedge (Carex frankii), georgia bulrush (Scirpus georgianus), hairy wild rye (Elymus villosus), narrowleaf springbeauty (Claytonia virginica), purple cress (Cardamine douglassii), swamp agrimony (Agrimonia parviflora)

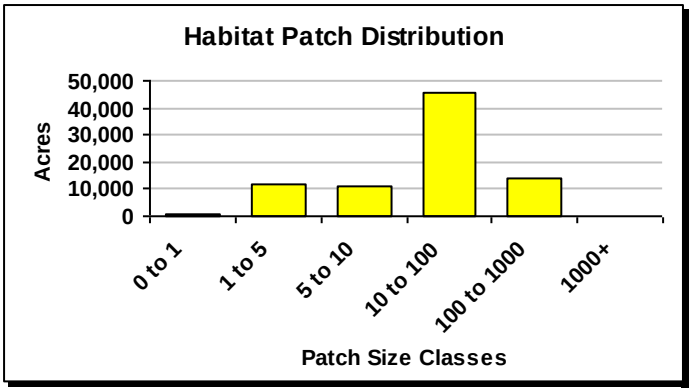
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: American bittern, bald eagle, black rail, cerulean warbler

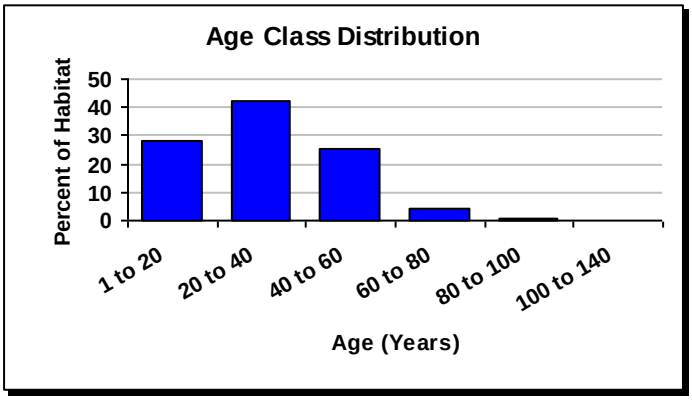
INSECTS: Brook Snaketail

PLANTS: Culver's-root (Veronicastrum virginicum), many-fruit false-loosestrife (Ludwigia polycarpa)

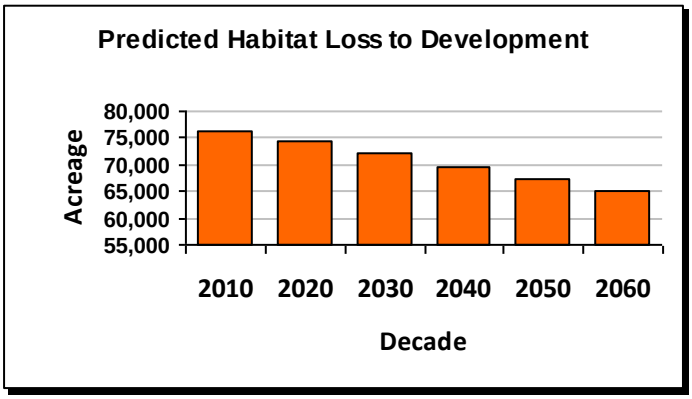
© D.J. Evans (New York Natural Heritage Program)



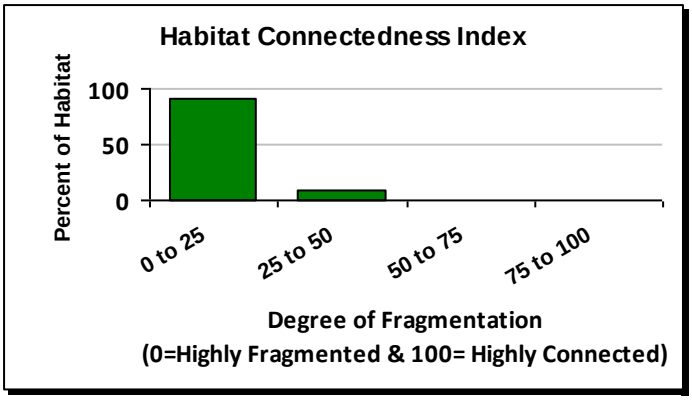
The average patch size for this habitat is 8 acres and the largest single patch is 219 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



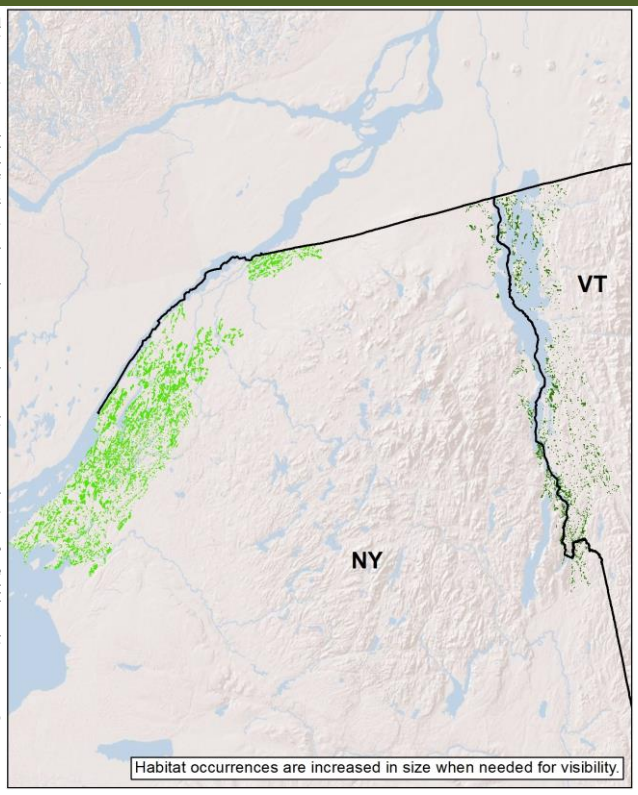
This chart shows the predicted loss of habitat over the next five decades (11,076 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 222 acres per year.



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.

Glacial Marine & Lake Wet Clayplain Forest

Macrogroup: Central Hardwood Swamp



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.

© Eric Sorenson (Vermont Fish & Wildlife)

State Distribution: NY, VT

Total Habitat Acreage: 88,168

Percent Conserved: 9.3%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	84%	74,082	467	6,128	67,488
VT	16%	14,086	488	1,116	12,481

Crosswalk to State Name Examples:

Valley Clayplain Forest (VT)

Description:

A wetland variant of the mesic clayplain forest system, and like that system dominated by a shifting mix of oaks and maples, a number of hardwood associates, and hemlock and white pine. The two types occur in a tight mosaic on the landscape. Swamp white oak, green ash, red maple, black ash, and musclewood tend to be more common in these forests due to the high water table. Moisture-loving sedges and wetland plants such as sensitive fern and water hemlock are characteristic. The shrub layer can be dense, and often includes non-native invasives like buckthorns, honeysuckles, and Japanese barberry. It is not known to what extent occurrences mapped in northwestern New York (light green) may differ in ecological character from those in the Champlain Valley (dark green).

Ecological Setting and Natural Processes:

Common in presettlement clayplain landscapes, but very rare today. These diverse wet woods occur as small to medium sized inclusions in more mesic clayplain forests, in deep, fine-grained soils with impeded drainage in low relief lake and marine plains. Vernal pools are common in the forest, with their high diversity of amphibians and macroinvertebrates. Trees are typically shallow-rooted, and wind is the primary disturbance factor.

Similar Habitat Types:

Could be viewed as a sub-type of the more generally defined North-Central Interior and Appalachian Rich Swamp. Similar to the North-Central Interior Wet Flatwoods system; it also often forms in clayey soils, but as a small basin wetland with its core distribution in the glaciated landscapes of the northern Midwest, and has a somewhat different suite of species.

Crosswalk to State Wildlife Action Plans:

Places to Visit this Habitat:

Beaver Creek State Forest | NY
Pulpit Rock State Forest | NY
Upper and Lower Lakes Wildlife Management Area | NY
East Creek Natural Area | VT
Hubbardton River Clayplain Preserve | VT

Associated Species: *Appendix lists scientific names*

BIRDS: wood thrush, eastern wood pewee, ovenbird, northern oriole, downy woodpecker

MAMMALS: gray squirrel, beaver, raccoon

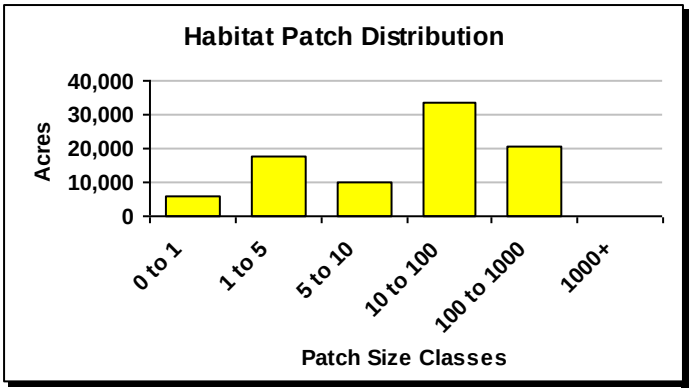
HERPTILES: blue spotted salamander, american toad, wood frog, grey treefrog

PLANTS: american hazelnut (Corylus americana) broad beech fern (Phegopteris hexagonoptera), buxbaum's sedge (Carex buxbaumii), drooping bluegrass (Poa saltuensis), folliculate sedge (Carex folliculate), fragrant sumac (Rhus aromatic), grove sandwort (Arenaria lateriflora), harsh sunflower (Helianthus strumosus), leafy bulrush (Scirpus polyphyllus), rough avens (Geum laciniatum), spicebush (Lindera benzoin), stout woodreed (Cinna arundinacea), umbellate sedge (Carex umbellate), yellow bartonia (Bartonia virginica)

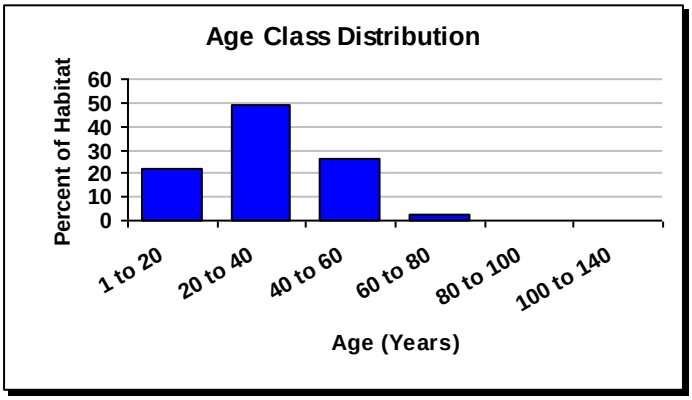
Species of Concern (G1-G4): *Appendix lists scientific names*

PLANTS: Handsome sedge (Carex Formosa)

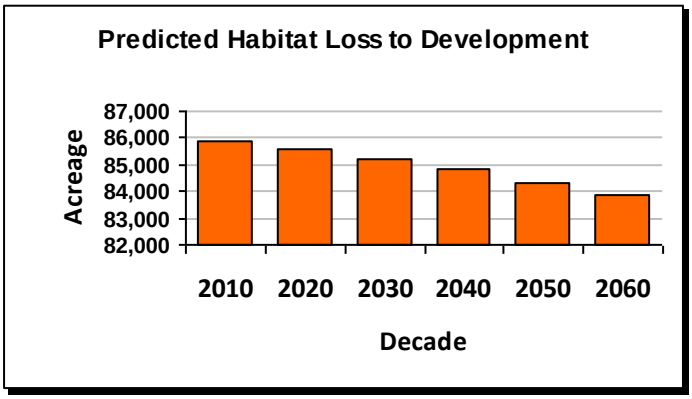
© Elizabeth Thompson (Vermont Land Trust)



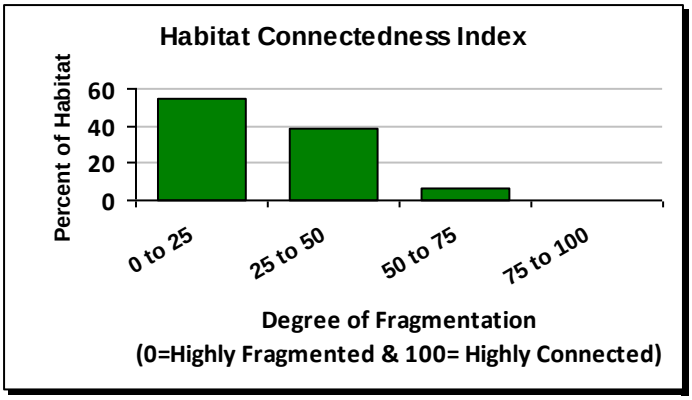
The average patch size for this habitat is 3 acres and the largest single patch is 617 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



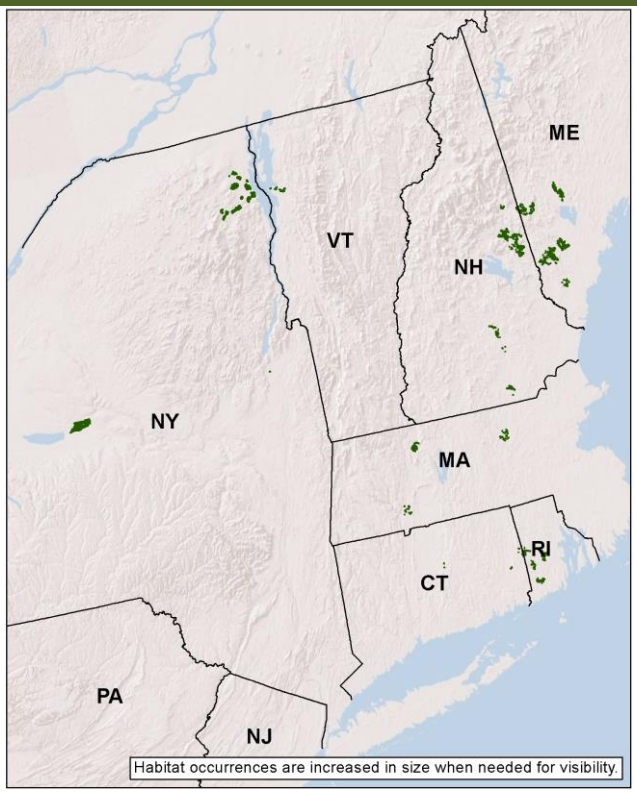
This chart shows the predicted loss of habitat over the next five decades (2,003 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 40 acres per year.



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.

Northeastern Interior Pine Barrens

Macrogroup: Central Oak-Pine



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.

© Jennifer Case (The Nature Conservancy, Pennsylvania)

State Distribution: CT, MA, ME, NH, NY, RI, VT

Total Habitat Acreage: 42,742

Percent Conserved: 28.4%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	54%	22,911	2,732	1,641	18,538
ME	21%	9,151	762	2,573	5,816
NH	13%	5,722	703	1,266	3,753
RI	5%	2,228	9	1,523	696
MA	5%	2,049	0	762	1,287
VT	1%	534	0	79	454
CT	0%	147	43	38	65

Crosswalk to State Name Examples:

Upland Woodland And Shrub - Pitch Pine/Scrub Oak Woodlands (CT), Pitch-Pine Scrub Oak Community (MA), Pitch Pine - Scrub Oak Barren (ME), Pitch Pine - Scrub Oak Woodland (NH), Pitch Pine-Heath Barrens (NY), Pitch Pine Communities - Evergreen Forest Pitch Pine-Oak Barren (RI), Pine-Oak-Heath Sandplain Forest (VT)

Description:

A fire-adapted system of Northeast glacial sandplains, typically an open woodland but sometimes including patches of closed-canopy forest and herbaceous openings. Pitch pine is the usual dominant; red oak, white pine, and gray birch are common associates. A tall-shrub layer of scrub oak or dwarf chinkapin oak is characteristic, as is a low-shrub layer of heath and sweetfern. Small changes in elevation create pockets with saturated soil, where shrubs such as hazelnut, buttonbush, highbush blueberry, and alder form dense cover. Grassy areas dominated by little bluestem, native lupine, and other forbs, provide habitat for rare invertebrates like the frosted elfin. Black racer and eastern ribbon snake are associated with this habitat.

Ecological Setting and Natural Processes:

Occurs on outwash plains, stabilized sand dunes, and glacial till. Soils are coarse-textured, acidic, well-drained to xeric, and low in nutrients. These barrens always have a history of recurrent fires, and fire is required to maintain them. Favorable sites tend to be ideal for development, and because of this and the suppression of fire, high quality remnant patches of any size are rare. Largest remaining patches are a few hundred to about 1000 acres.

Similar Habitat Types:

With similar ecological dynamics, this system could be regarded as an inland version of the North Atlantic Coastal Plain Pitch Pine Barrens.

Crosswalk to State Wildlife Action Plans:

Upland Woodland and Shrub - Pitch Pine/Scrub Oak Woodlands (CT), Pitch Pine/Scrub Oak (MA), Dry Woodlands and Barrens (ME), Pine Barrens (NH), Pine Barrens (NY), Thicket/Shrub Habitats - Naturally occurring barrens (PA), Pitch Pine Communities - Evergreen Forest Pitch Pine-Oak Barren (RI), Oak-Pine-Northern Hardwood Forest - Pine-Oak-Heath Sandplain Forest (VT)

Places to Visit this Habitat:

Waterboro Barrens Preserve | ME
White Lake State Park | NH
Macomb State Forest | NY
Rome Sand Plains Preserve | NY
Arcadia Management Area | RI

Associated Species: *Appendix lists scientific names*

BIRDS: american woodcock, blue jay, common nighthawk, common yellowthroat, eastern towhee, field sparrow, pileated woodpecker, pine warbler, prairie warbler, ruffed grouse, whip-poor-will

HERPTILES: blanding's turtle, eastern box turtle, eastern ribbonsnake, northern black racer

INSECTS: big sand tiger beetle (Cicindela formosa), inland barrens buckmoth (Hemileuca maia), midland clubtail (Gomphus fraternus), pine woods underwing (Catocala sp.), similar underwing (Catocala similis), sleepy duskywing (Erynnis brizo)

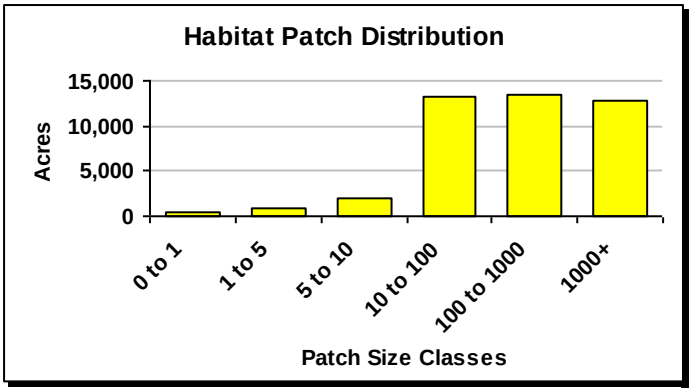
PLANTS: Canada frostweed (Helianthemum canadense), hairy lettuce (Lactuca hirsuta), large whorled pogonia (Isotria verticillata, plains frostweed (Helianthemum bicknellii), racemed milkwort (Polygala polygama), Wild lupine (Lupinus perennis)

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

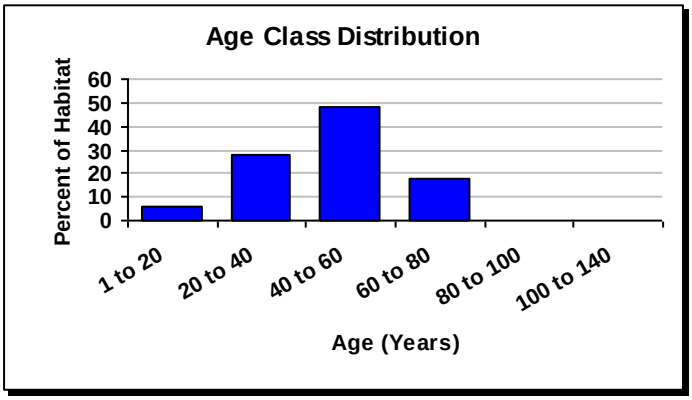
BIRDS: whip-poor-will

INSECTS: barrens daggermoth, barrens metarranthis moth, blueberry sallow, chain dot geometer, coastal barrens buckmoth, coastal heathland cutworm, Edward's hairstreak, Gerhard's underwing, imperial moth, melsheimer's sack bearer, noctuid moth, oblique zale, pine barrens itame, pine barrens lycia, pine barrens zale, pine barrens zanclognatha, pine pinion, pine-devil moth, pink sallow, similar underwing, southern pine sphinx, spiny oakworm, the buckmoth, twilight moth

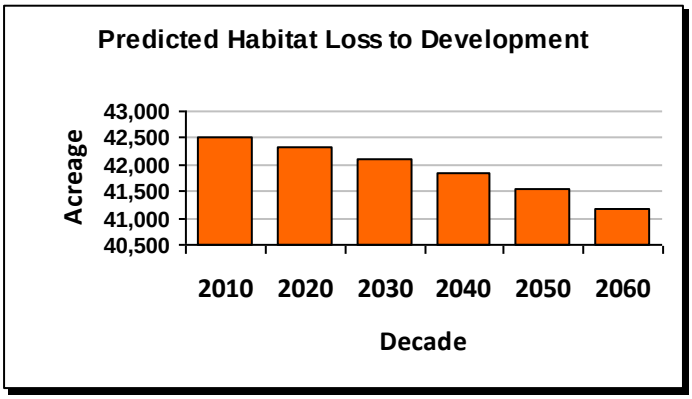
PLANTS: low bindweed (Calystegia spithamaea), broom crowberry (Corema conradii)



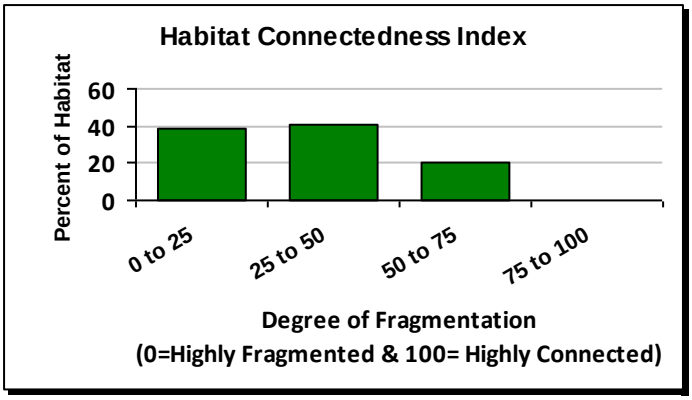
The average patch size for this habitat is 14 acres and the largest single patch is 1,247 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



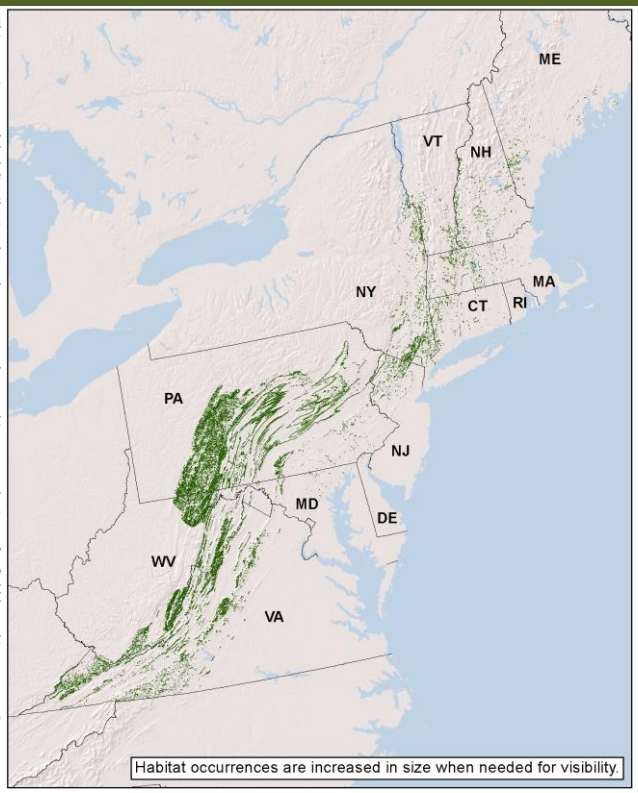
This chart shows the predicted loss of habitat over the next five decades (1,328 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 27 acres per year.



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.

Central Appalachian Pine-Oak Rocky Woodland

Macrogroup: Central Oak-Pine



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.

© Elizabeth Thompson (Vermont Land Trust)

State Distribution: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Total Habitat Acreage: 566,276

Percent Conserved: 38.4%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
PA	55%	310,493	14,587	101,740	194,166
VA	17%	93,666	25,531	25,815	42,321
WV	12%	70,182	3,064	17,481	49,637
MD	5%	28,081	1,416	6,178	20,488
NY	4%	24,145	2,574	6,526	15,045
MA	2%	8,545	463	2,840	5,241
NJ	1%	8,243	3,245	1,440	3,558
NH	1%	7,739	286	1,353	6,099
VT	1%	6,188	192	377	5,619
CT	1%	4,918	653	957	3,309
ME	1%	4,009	321	233	3,455
RI	0%	38	0	5	33
DE	0%	24	1	10	14
DC	0%	4	0	0	4

Crosswalk to State Name Examples:

Subacidic Rocky Summit/Outcrop (CT), Ridgetop Pitch Pine/Scrub Oak (MA), Montane Pine - Oak Woodland (MD), Oak - Pine Woodland (ME), Appalachian Oak - Pine Rocky Ridge (NH), Ridgetop Pitch Pine-Scrub Oak Forest (NJ), Pitch Pine-Oak-Heath Rocky Summit (NY), Pitch Pine - Scrub Oak Woodland (PA), Central Appalachian Xeric Chestnut Oak - Virginia Pine Woodland (VA), Pitch Pine-Oak-Heath Rocky Summit (VT), Dry Rocky Pine/Oak Forests And Woodlands (WV)

Description:

A mixed forest or woodland of pitch pine and/or Virginia pine mixed with dry-site oaks (primarily scrub oak, scarlet oak, and chestnut oak). Red pine and shortleaf pine may also occur. Some areas have a fairly well-developed heath shrub layer; a graminoid herb layer dominated by Pennsylvania sedge, poverty grass, and common hairgrass may be more prominent in others. The vegetation is patchy, with woodland as well as open portions, or even sparse cover on dry rocky hilltops and outcrops.

Ecological Setting and Natural Processes:

This forest occurs as relatively small patches on exposed ridgetops, hilltops and outcrops, at elevations ranging up to about 4000 feet. The substrate rock is granitic or other acidic lithology, including traprock in New England. Conditions are dry, and soils are thin and nutrient-poor. This system experiences moderately intense fires naturally every 5 to 25 years; fire history largely determines the vegetation character of individual occurrences.

Similar Habitat Types:

Patches of this habitat are most often on exposed sites within larger occurrences of Central Appalachian Dry Oak-Pine Forest. Overlaps with Northern Appalachian-Acadian Rocky Heath Outcrop at the northern end of its range, but lacks spruce and some other northern species. Oakier than Southern Appalachian Montane Pine Forest and Woodland, and without table mountain pine.

Crosswalk to State Wildlife Action Plans:

Unique and Man-Made - Traprock Ridges (CT), Rocky Cliffs, Ridgetops, Talus Slopes, and Other Similar Habitats (MA), Early Successional Forests - Shrub-dominated natural communities (MD), Dry Woodlands and Barrens (ME), Talus Slopes and Rocky Ridges - Rocky Ridges (NH), Upland forests - mixed deciduous-coniferous forest (NJ), Oak-Pine Forest (NY), Deciduous/Mixed Forest (upland) (PA), Thicket/Shrub Habitats - Naturally occurring barrens (PA), Forest Habitat - Mixed Forest (VA), Oak-Pine-Northern Hardwood Forest - Pitch Pine-Oak-Heath Rocky Summit (VT), Dry Rocky Pine/Oak Forests and Woodlands (WV)

Places to Visit this Habitat:

Savage River State Forest | MD
Harriman State Park | NY
Bald Eagle State Forest | PA
George Washington and Jefferson National Forest | VA
Monongahela National Forest | WV

Associated Species: *Appendix lists scientific names*

BIRDS: black-and-white warbler, broad-winged hawk, ovenbird, pine warbler, prairie warbler, scarlet tanager, summer tanager (south), wood thrush, worm-eating warbler

MAMMALS: bobcat

HERPTILES: blue-spotted salamander, coal skink, black-bellied salamander, eastern box turtle, eastern hog-nosed snake, eastern rat snake, fence lizard, five-lined skink, four-toed salamander, marbled salamander, northern copperhead

PLANTS: ledge spike-moss (Selaginella rupestris), mountain laurel (Kalmia latifolia), mountain sandwort (Minuartia groenlandica), new jersey tea (Ceanothus americanus), northern blazingstar (Liatris scariosa), purple clematis (Clematis occidentalis), scarlet oak (Quercus coccinea, scrub oak (Quercus ilicifolia), yellow false foxglove (Aureolaria pedicularia)

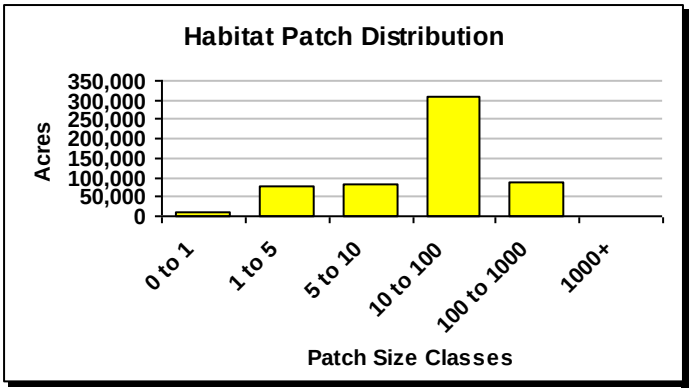
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: cerulean warbler, peregrine falcon, eastern whip-poor-will

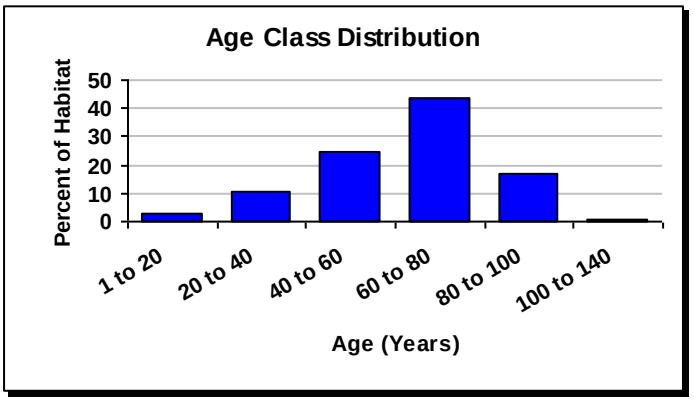
MAMMALS: allegheny woodrat, appalachian cottontail, eastern small-footed myotis, kittatiny red-backed vole, long-tailed shrew, northern myotis, southern flying squirrel

HERPTILES: big levels salamander, green salamander, jefferson salamander, timber rattlesnake, white-spotted salamander

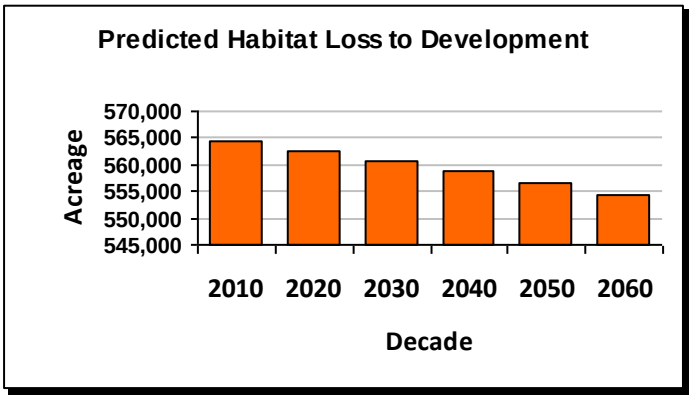
INSECTS: aureolaria seed borer, barrens chaetaglaea, barrens itame, barrens xylotype, blueberry sallow, edward's hairstreak, Gerhard's underwing moth, northern barrens tiger beetle, oblique zale, pine-devil moth, pink sallow, red-winged sallow, similar underwing, sleepy duskywing, southern pine sphinx, the buckmoth



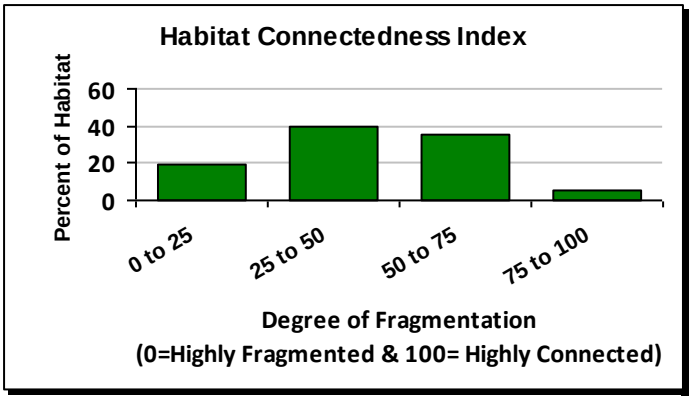
The average patch size for this habitat is 7 acres and the largest single patch is 1,202 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



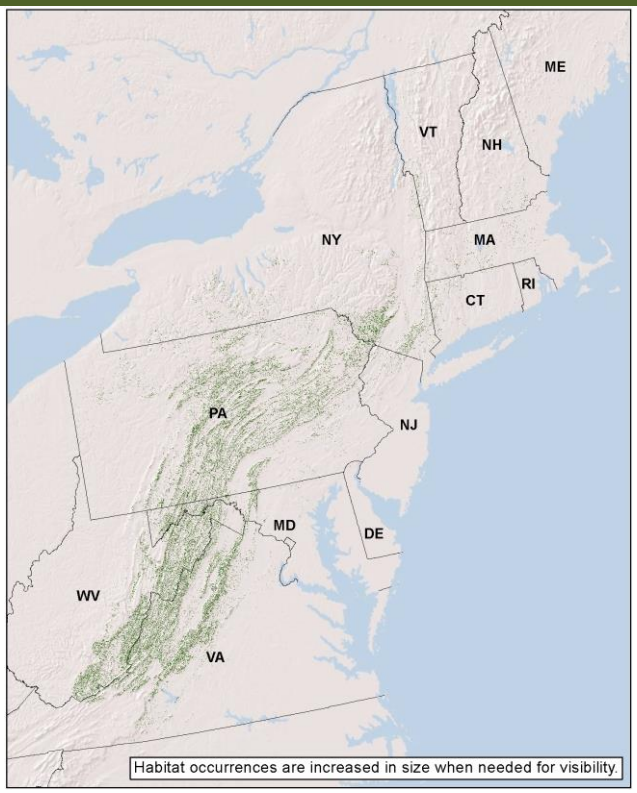
This chart shows the predicted loss of habitat over the next five decades (9,984 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 200 acres per year.



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.

Central Appalachian Dry Oak-Pine Forest

Macrogroup: Central Oak-Pine



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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State Distribution: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Total Habitat Acreage: 3,845,317

Percent Conserved: 34.1%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
PA	39%	1,496,364	72,782	473,996	949,587
VA	26%	982,148	193,537	237,912	550,699
WV	20%	777,259	19,512	163,916	593,831
NY	8%	316,571	14,301	42,043	260,226
MD	3%	127,564	18,158	29,060	80,346
MA	1%	48,100	2,590	14,475	31,035
CT	1%	27,933	3,177	5,067	19,688
VT	1%	25,031	874	1,934	22,223
NJ	1%	23,303	9,633	3,516	10,154
NH	0%	15,155	270	2,413	12,472
ME	0%	4,783	156	398	4,229
RI	0%	938	16	124	799
DE	0%	164	2	33	129
DC	0%	4	0	0	4

Crosswalk to State Name Examples:

Dry Acidic Oak Forest On Stratified Sand And Gravel (CT), Central Appalachian/Northern Piedmont Chestnut Oak Forest (DE), Mixed Oak Forest (MA), Mixed Oak - Heath Forest (MD), Oak - Pine Forest (ME), Dry Red Oak - White Pine Forest (NH), Upland Forests - Mixed Deciduous-Coniferous Forest (NJ), Allegheny Oak Forest (NY), Dry Oak - Heath Woodland (PA), Deciduous Forests - Deciduous Forest Oak/Heath (RI), Central Appalachian / Piedmont White Pine - Xeric Oak Forest (VA), Dry Oak Forest (VT), Oak/Heath And Oak/White Pine Forests (WV)

Description:

An oak or oak-pine forest of dry sites, characterized by a variable mixture of drought tolerant oaks (chestnut oak, white oak, red oak, black oak, scarlet oak) and pines (pitch, white, Virginia). It occurs broadly in the Central Appalachians and northern Piedmont ecoregions, most commonly as a large (to very large) patch habitat. It has a much more limited range in New England, where hickories may be present. Community structure ranges from open woodlands to closed forest. Heath shrubs are common in the understory; the herb layer is often sparse and lacks diversity. In the absence of fire this system may tend to succeed to hemlock and locally common hardwoods.

Ecological Setting and Natural Processes:

A habitat of dry rolling hills, high sunny slopes and ridgetops, where soils are often thin, well-drained, and nutrient-poor. Bedrock substrates are variable, and can influence herb diversity. Disturbance agents include fire, windthrow, and ice damage, and gypsy moths can wreak havoc in the oak overstory periodically.

Similar Habitat Types:

Drier than, and often found upslope from the Northeast Interior Dry-Mesic Oak Forest system. Drier and more oaky, and again upslope from the Appalachian (Hemlock-)Northern Hardwood system. A more moderate and less exposed habitat than Central Appalachian Pine-Oak Rocky Woodland, which most often occurs as a small patch within it.

Crosswalk to State Wildlife Action Plans:

Upland Forest - Dry Oak Forests (CT), Hardwood Forest - Chestnut oak forests (DC), Upland Forest (MA), Dry Oak-Pine Forests (MD), Deciduous and Mixed Forest (ME), Appalachian Oak Pine Forest (NH), Upland forests - mixed deciduous-coniferous forest (NJ), Oak-Pine Forest (NY), Deciduous/Mixed Forest (upland) (PA), Deciduous Forests - Deciduous Forest Oak/Heath (RI), Forest Habitat - Mixed Forest (VA), Oak-Pine-Northern Hardwood Forest - Dry Oak Forest (VT), Oak/Heath and Oak/White Pine Forests (WV)

Places to Visit this Habitat:

Savage River State Forest | MD
Delaware Water Gap | NJ
Bald Eagle State Forest | PA
George Washington and Jefferson National Forest | VA
Monongahela National Forest | WV

Associated Species: *Appendix lists scientific names*

BIRDS: black-and-white warbler, eastern wood-pewee, ovenbird, pine warbler, prairie warbler, scarlet tanager, summer tanager (south), eastern whip-poor-will, worm-eating warbler

MAMMALS: black bear, red-backed vole, short-tailed shrew, southern flying squirrel, white footed mouse

HERPTILES: black racer, northern redback salamander, redbelly snake, ringneck snake, ring-neck snake, spotted salamander

PLANTS: allegheny crowfoot (Ranunculus allegheniensis), chestnut oak (Quercus prinus), deerberry (Vaccinium stamineum), downy arrowwood (Viburnum rafinesquianum), hound's tongue (Cynoglossum boreale), mountain laurel (Kalmia latifolia), rattlesnake-weed (Hieracium venosum), scarlet oak (Quercus coccinea), spotted wintergreen (Chimaphila maculate)

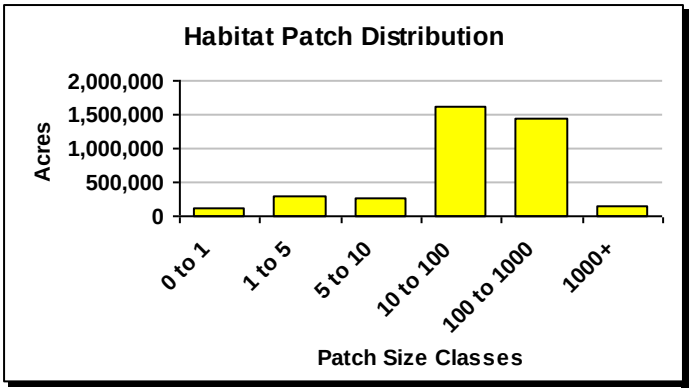
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: cerulean warbler, golden-winged warbler

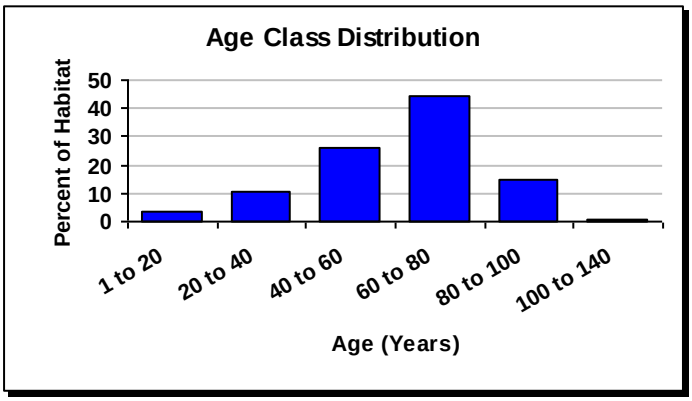
HERPTILES: black rat snake, five-lined skink, timber rattlesnake

INSECTS: New Jersey tea inchworm, orange sallow mothred-winged sallow moth, early hairstreak, red-winged sallow

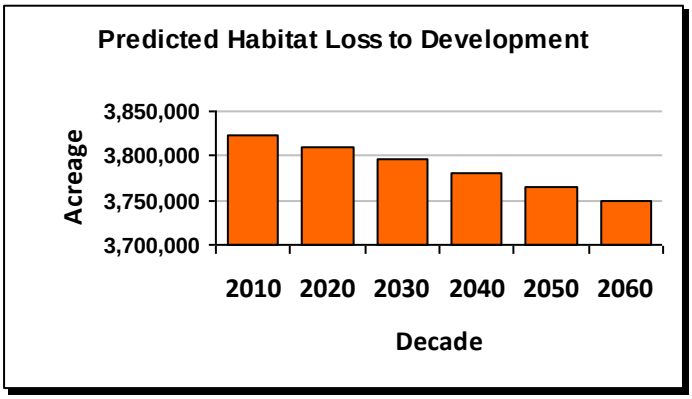
PLANTS: Kate's mountain clover (Trifolium virginicum), white alumroot (Heuchera alba), sword-leaved phlox (Phlox buckleyi), mountain parsley (Taenidia montana), climbing fumitory (Adlumia fungosa)



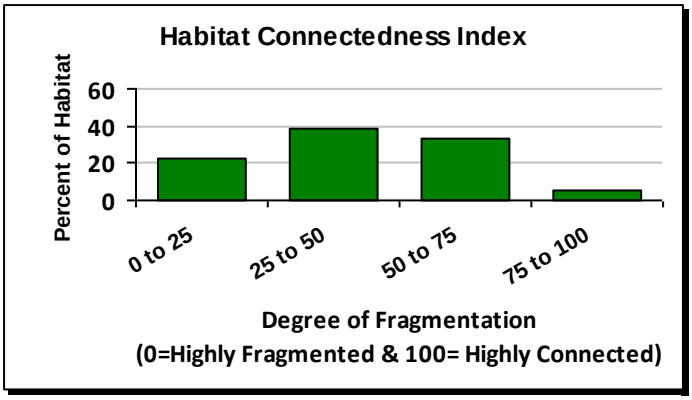
The average patch size for this habitat is 7 acres and the largest single patch is 4,519 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



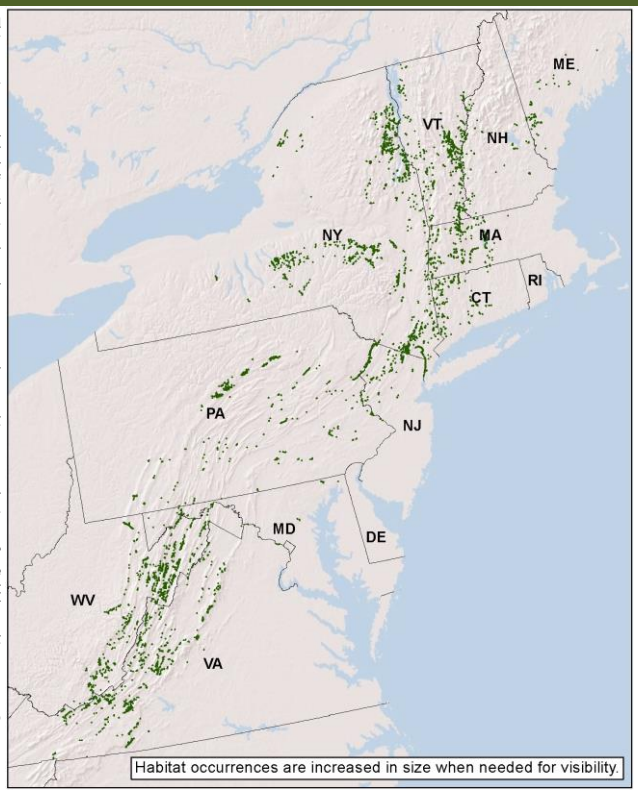
This chart shows the predicted loss of habitat over the next five decades (74,813 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 1,496 acres per year.



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.

Circumneutral Cliff and Talus

Macrogroup: Cliff and Talus



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.

© West Virginia Division of Natural Resources

State Distribution: CT, MA, MD, ME, NH, NJ, NY, PA, VA, VT, WV

Total Habitat Acreage: 56,454

Percent Conserved: 35.7%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	27%	15,195	3,598	2,068	9,528
PA	17%	9,864	512	4,339	5,013
WV	15%	8,404	301	1,969	6,133
VA	13%	7,441	1,501	1,187	4,752
VT	11%	6,359	206	565	5,589
MA	7%	3,683	470	1,276	1,937
CT	3%	1,842	296	233	1,313
NJ	2%	1,389	740	129	520
NH	2%	1,010	58	263	689
ME	2%	858	246	49	563
MD	1%	409	150	6	252

Crosswalk to State Name Examples:

Circumneutral Cliffs (CT), Circumneutral Rock Cliff Community (MA), Basic Cliff (MD), Cliffs (NH), Traprock Glade/Rock Outcrop Community (NJ), Talus Cave Community (NY), Calcareous Opening/Cliff (PA), Northern White-Cedar Cliff Woodland (VA), Cliffs And Talus Slopes - Temperate Calcareous Cliff (VT), Rock Outcrops/Cliffs/Talus (WV)

Description:

A sparsely vegetated cliff or steep talus slope formed on calcareous sandstone or shale or other moderately calcareous bedrock. The vegetation varies from sparse to patchy as the lack of soil and constant erosion restricts vegetation growth to rock crevices or soil pockets. Trees are typically present and may form woodland or even forest vegetation. Basswood, ash, and bladdernut are woody indicators of the enriched setting; northern white cedar is sometimes present. The herb layer is typically not extensive but includes at least some species that are indicators of high nutrient conditions.

Ecological Setting and Natural Processes:

Vertical or near-vertical cliffs and steep talus slopes where weathering and/or bedrock lithology produce circumneutral to calcareous pH and heightened nutrient availability. Substrates include calcareous sandstone, calcareous shale, or other sedimentary mixtures containing limestone or dolomite. This system occurs at low to mid elevations from central New England south to Virginia and West Virginia.

Similar Habitat Types:

Cliff and talus systems have also been modeled for those steep landforms on other (calcareous and acidic) lithologies.

Crosswalk to State Wildlife Action Plans:

Rocky Cliffs, Ridgetops, Talus Slopes, and Other Similar Habitats (MA), Rock Outcrops and Cliffs (MD), Cliffs (NH), Cliff and Talus (NY), Rock Habitats (PA), Forest Habitat - Mixed Forest (VA), Cliffs and Talus Slopes - Temperate Calcareous Cliff (VT), Rock Outcrops/Cliffs/Talus (WV)

Places to Visit this Habitat:

Kaaterskill Forest| NY
Sproul State Forest | PA
George Washington and Jefferson National Forest | VA
Bald Mountain Natural Area | VT
Monongahela National Forest | WV

Associated Species: *Appendix lists scientific names*

BIRDS: bank swallow, eastern phoebe, raven, turkey vulture

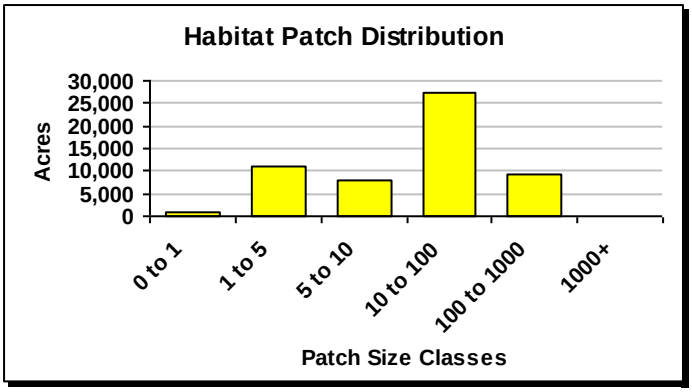
MAMMALS: bobcat, porcupine, red-backed vole, rock vole, short-tailed shrew

HERPTILES: black rat snake, copperhead, fence lizard, five-lined skink, timber rattlesnake

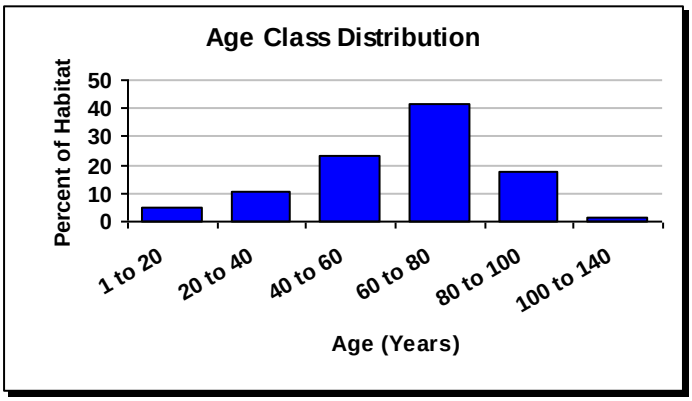
PLANTS: cliff muhly (Muhlenbergia sobolifera), climbing fumitory (Adlumia fungosa), downy arrow-wood (Viburnum rafinesquianum), glade fern (Diplazium pycnocarpon), ledge spike-moss (Selaginella rupestris), linear-leaved milkweed (Asclepias verticillata), michaux's stitchwort (Minuartia michauxii), narrowleaf vervain (Verbena simplex), northern stickseed (Hackelia deflexa), purple clematis (Clematis occidentalis), rock crowfoot (Ranunculus micranthus), upland boneset (Eupatorium sessilifolium), wallrue spleenwort (Asplenium ruta-muraria)

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

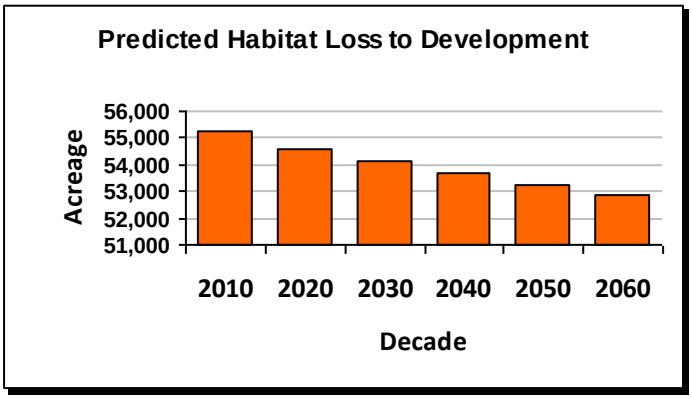
PLANTS: back's sedge (Carex backii), black maple (Acer nigrum), goldie's wood fern (Dryopteris goldiana)



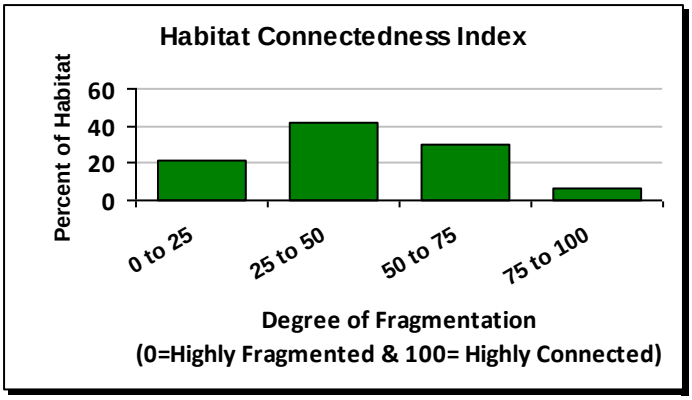
The average patch size for this habitat is 6 acres and the largest single patch is 408 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



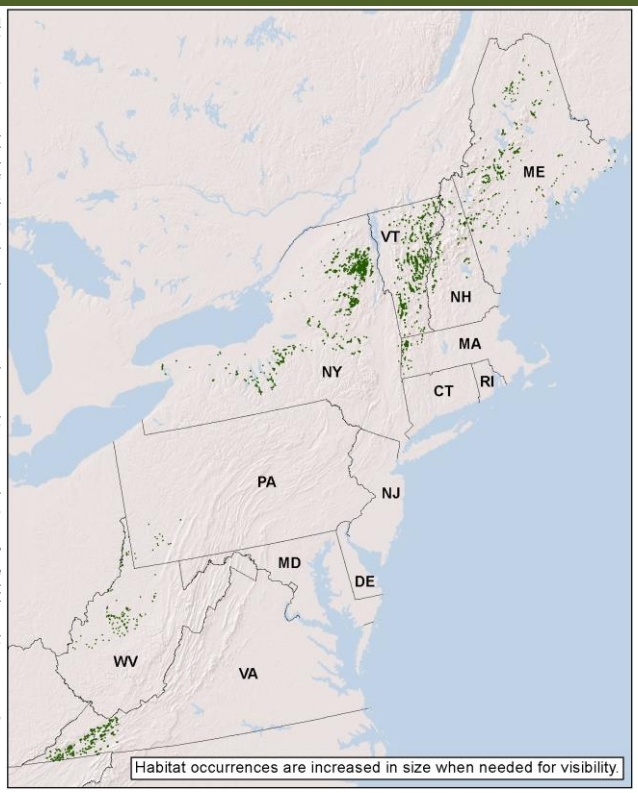
This chart shows the predicted loss of habitat over the next five decades (2,372 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 47 acres per year.



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.

Calcareous Cliff and Talus

Macrogroup: Cliff and Talus



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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State Distribution: MA, ME, NH, NY, PA, VA, VT, WV

Total Habitat Acreage: 56,251

Percent Conserved: 48.2%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	39%	21,973	14,474	2,291	5,208
VT	28%	15,736	1,169	3,588	10,979
ME	14%	7,886	1,108	1,286	5,492
VA	7%	3,892	272	380	3,240
NH	7%	3,757	748	586	2,423
MA	3%	1,868	895	267	706
WV	2%	1,020	6	1	1,013
PA	0%	118	7	8	103

Crosswalk to State Name Examples:

Calcareous Rock Cliff Community (MA), Cliff Face And Rocky Outcrops (ME), Montane - Subalpine Circumneutral Cliff (NH), Calcareous Cliff Community (NY), Rock Habitats (PA), Appalachian Xeric Calcareous Cliff (VA), Boreal/Temperate Calcareous Cliff (VT)

Description:

A sparsely vegetated cliff or talus slope formed on limestone, dolomite, dolostone, or other calcareous bedrock. The high alkalinity (pH>7) increases nutrient availability, but the lack of soil, constant erosion, and harsh edaphic conditions limits vegetation to herbs, ferns, and sparse trees growing in rock crevices or soil pockets. Northern white cedar is characteristic and may dominate on some cliffs, sometimes reaching ages upwards of 800-1000 years. Ash and basswood and bladdernut are other woody indicators of the enriched setting, as are ferns like spleenwort and cliffbrake, and wiry herbs such as rock whiltow grass. This system includes the narrow zone of vegetation at the horizontal clifftop where growing conditions are harsh and often gladelike or grassy.

Ecological Setting and Natural Processes:

Near-vertical cliffs and talus slopes occurring on limestone or other calcareous rock, associated with steep hill slopes, bluffs, and river gorges. Wind and water erosion, mass movement, and fire are primary system dynamics. Harsh edaphic conditions limit the vegetation cover. Occurs widely with distinct variants in the Appalachians, Ridge and Valley Province and adjacent Cumberland Plateau, and the north-central interior west of the Appalachians.

Similar Habitat Types:

Cliff and talus systems have also been modeled for those steep landforms on other (acidic and circumneutral) lithologies.

Crosswalk to State Wildlife Action Plans:

Cliff Face and Rocky Outcrops (ME), Cliffs (NH), Cliff and Talus (NY), Rock Habitats (PA), Barren Habitat - Balds (VA), Cliffs and Talus Slopes - Boreal Calcareous Cliff (VT)

Places to Visit this Habitat:

Mount Greylock State Reservation | MA
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: eastern phoebe, golden eagle, raven, turkey vulture

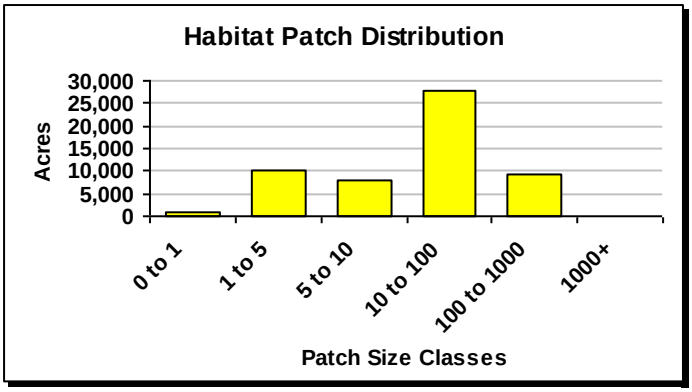
PLANTS: birds-eye primrose (Primula mistassinica), blake's milk-vetch (Astragalus robbinsii var. minor), braya (Braya humilis), bulrush sedge (Carex scirpoidea), butterwort (Pinguicula vulgaris), few-flowered spikerush (Eleocharis pauciflora), fragile rock-brake (Cryptogramma stelleri), fragrant cliff woodfern (Dryopteris fragrans), hyssop-leaved fleabane (Erigeron hyssopifolius), lyre-leaved rock-cress (Arabis lyrata), roseroot (Sedum rosea), smooth cliff brake (Pellaea glabella), smooth rock-cress (Arabis laevigata), smooth woodsia (Woodsia glabella), supple panic grass (Panicum flexile), wall-rue (Asplenium rutamuraria), yellow mountain saxifrage (Saxifraga aizoides)

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

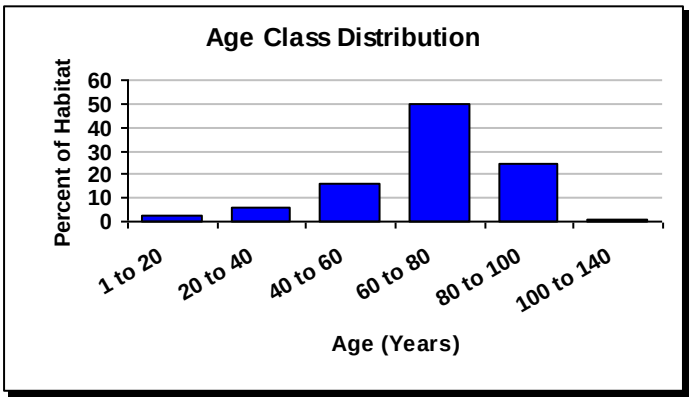
BIRDS: pergrine falcon

PLANTS: Drummond's rock-cress (Arabis drummondii), green spleenwort (Asplenium trichomanes ramosum), purple mountain saxifrage (Saxifraga oppositifolia), rock whitlow-grass (Draba arabisans)

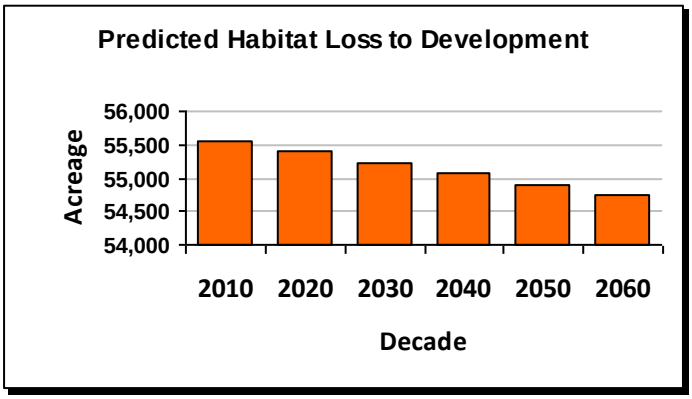
© Eric Sorenson (Vermont Fish & Wildlife)



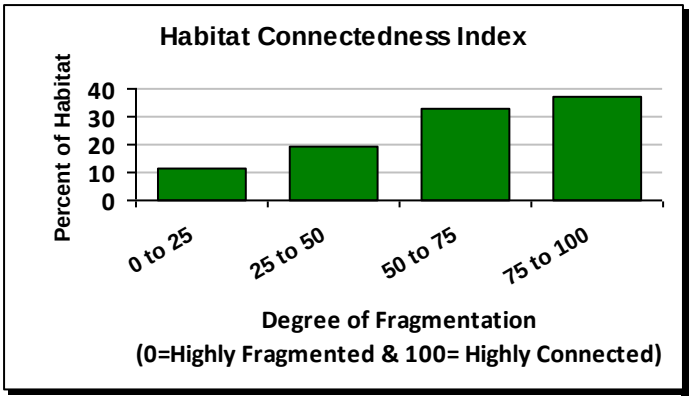
The average patch size for this habitat is 6 acres and the largest single patch is 612 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



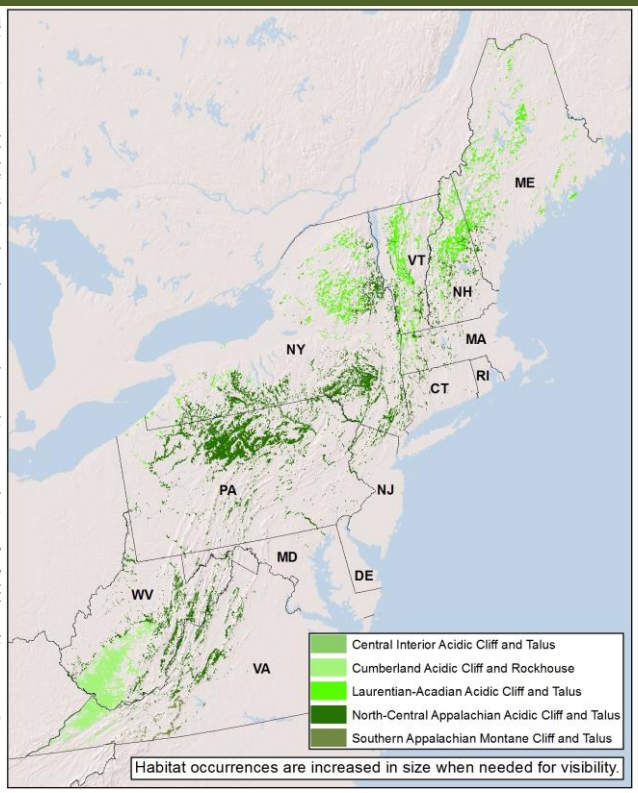
This chart shows the predicted loss of habitat over the next five decades (824 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 16 acres per year.



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.

Acidic Cliff and Talus

Macrogroup: Cliff and Talus



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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State Distribution: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Total Habitat Acreage: 561,802

Percent Conserved: 48.2%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
PA	36%	204,775	28,707	101,430	74,638
NY	19%	107,441	35,533	15,398	56,510
WV	16%	90,419	3,952	8,344	78,122
VA	8%	43,020	6,885	7,542	28,592
NH	6%	35,115	17,793	7,648	9,674
ME	6%	35,028	14,019	4,641	16,368
VT	6%	34,675	6,169	7,047	21,459
MA	1%	6,149	1,715	1,313	3,121
NJ	0%	2,675	1,324	531	820
CT	0%	2,061	300	457	1,303
MD	0%	437	72	180	185
DE	0%	4	0	0	4
RI	0%	3	0	0	3
DC	0%	1	0	0	1

Crosswalk to State Name Examples:

Acidic Cliffs/Talus (CT), Acidic Rock Cliff Community (MA), Acidic Cliff And Bluff (MD), Acidic Cliff - Gorge/Spruce Talus Woodland (ME), Boreal/Temperate Acidic Cliff (NH), Silicaceous Rock Outcrop Community (NJ), Cliff Community/Acidic Talus Woodland (NY), Birch (Black-Gum) Rocky Slope Woodland (PA), Central Appalachian / Piedmont Acidic Cliff (VA), Boreal/Temperate Acidic Cliff (VT), Rock Outcrops/Cliffs/Talus (WV)

Description:

A sparsely vegetated cliff or talus slope formed on granitic, sandstone, or other acidic bedrock. The lack of soil, highly acidic bedrock, and constant erosion, limits the vegetation to mosses, lichens, and herbs growing on bare rock or crevices, and to sparse trees and shrubs rooted in deeper soil pockets. Lichen cover may be extensive. In the Central Appalachians, red-cedar trees, poison ivy vines and rock polypody ferns are characteristic. Birch or spruce replaces red cedar in the north, where a shrubland of heaths and reindeer lichen may develop where cold air accumulates at the sheltered bottom of slopes. Areas of concentrated seepage are sometimes present. In the Cumberland region, a mosaic of cavelike "rockhouses" and associated sandstone box canyons are typical.

Ecological Setting and Natural Processes:

Landforms in this system are associated with steeper mountains and hills, river bluffs, and gorges. In some cases this system may take the form of upper-slope boulderfields without adjacent cliffs, where talus forms from freeze/thaw action on the bedrock. This system is prone to harsh climatic conditions; frequent disturbances include drought stress and wind and storm damage. Mass movement of rocks can also reset the ecological clock.

Similar Habitat Types:

Cliff and talus systems have also been modeled for those steep landforms on other (calcareous and circumneutral) lithologies.

Crosswalk to State Wildlife Action Plans:

Unique and Man-Made - Traprock Ridges (CT), Rocky Cliffs, Ridgetops, Talus Slopes, and Other Similar Habitats (MA), Rock Outcrops and Cliffs (MD), Cliff Face and Rocky Outcrops (ME), Cliffs (NH), Cliff and Talus (NY), Cliff and Talus (NY), Rock Habitats (PA), Barren Habitat - Balds (VA), Cliffs and Talus Slopes - Boreal Acidic Cliff (VT), Cliffs and Talus Slopes - Open Talus (VT), Cliffs and Talus Slopes - Temperate Acidic Cliff (VT), Rock Outcrops/Cliffs/Talus (WV)

Places to Visit this Habitat:

Baxter State Park | ME
White Mountain National Forest | NH
Slide Mountain | NY
Elk State Forest | PA
Monongahela National Forest | WV

Associated Species: *Appendix lists scientific names*

BIRDS: golden eagle, common raven, turkey vulture

MAMMALS: bobcat, eastern pipistrelle, porcupine

HERPTILES: broad-headed skink, eastern wormsnake, fence lizard, five-lined skink

PLANTS: boreal stitchwort (minuartia rubella), Carolina leaf-flower (phyllanthus caroliniensis), common butterwort (pinguicula vulgaris), fragrant cliff woodfern (dryopteris fragrans), Goldie's woodfern (dryopteris goldiana) hoary draba (draba cana), robbins' milkvetch (astragalus robbinsii var. minor), rock sandwort (minuartia stricta), small-flower bittercress (cardamine parviflora), smooth yellow false foxglove (aureolaria flava), summer grape (vitis aestivalis var. bicolor), white mountain saxifrage (saxifraga paniculata)

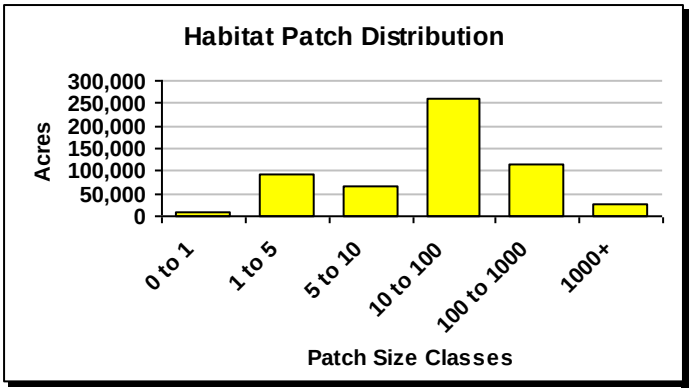
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: peregrine falcon

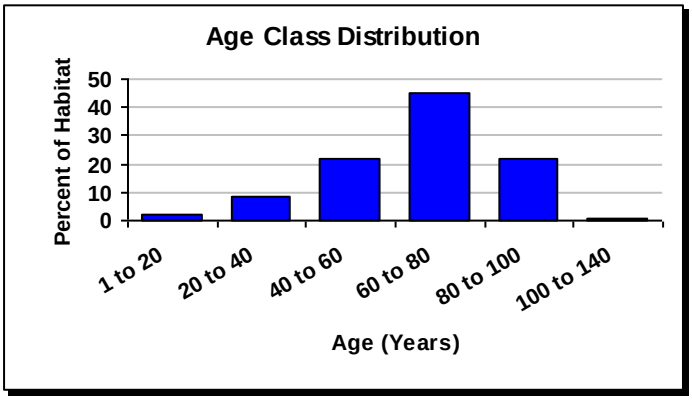
MAMMALS: alleghenny woodrat, rock vole

HERPTILES: northern coppperhead, timber rattlesnake

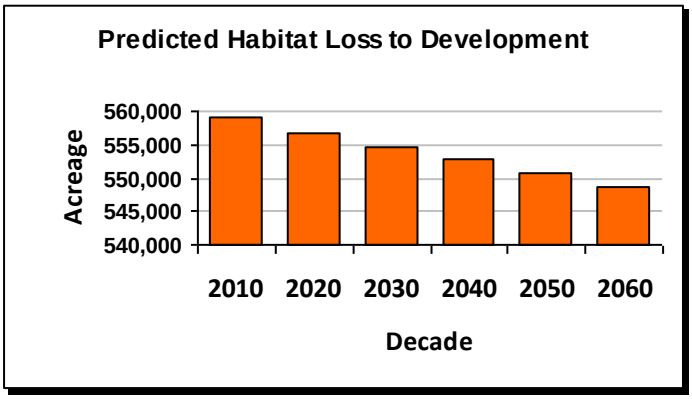
PLANTS: green spleenwort (Asplenium trichomanes-ramosum), Alabama lipfern (Cheilanthes alabamensis), silverling (Paronychia argyrocoma)



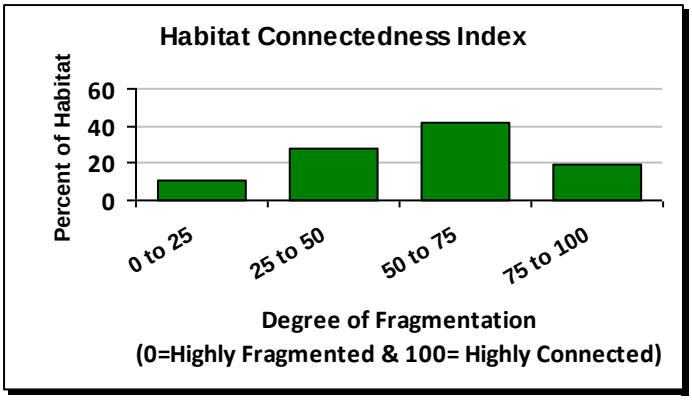
The average patch size for this habitat is 7 acres and the largest single patch is 2,038 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



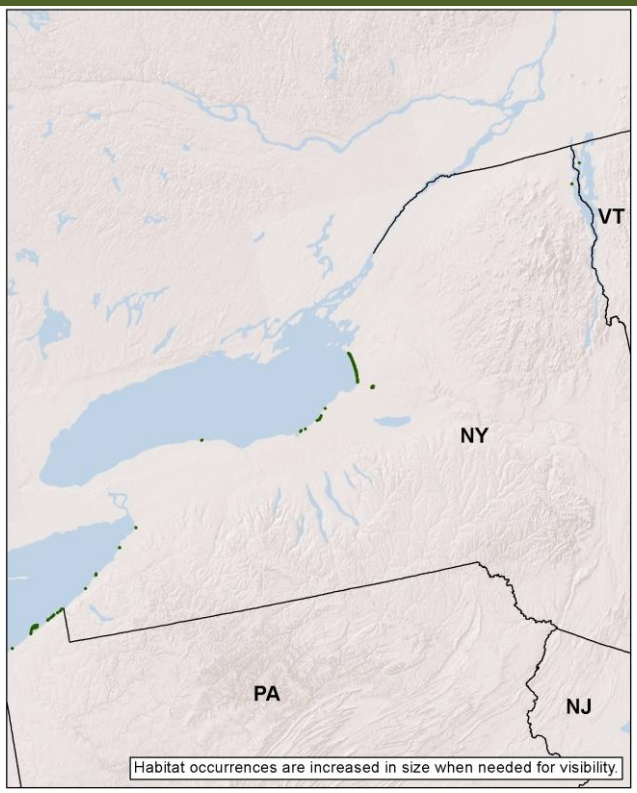
This chart shows the predicted loss of habitat over the next five decades (10,430 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 209 acres per year.



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.

Great Lakes Dune and Swale

Macrogroup: Coastal Grassland & Shrubland



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.

© Adele Tomaino (New York Natural Heritage Program)

State Distribution: NY, PA, VT

Total Habitat Acreage: 1,805

Percent Conserved: 62.5%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	74%	1,337	20	812	505
PA	26%	461	290	3	168
VT	0%	6	0	3	3

Crosswalk to State Name Examples:

Great Lakes Dunes (NY), Great Lakes Region Dry Sandplain (PA), Lake Sand Beach (VT)

Description:

A sparsely vegetated dune complex on unconsolidated sand and shell sediments on the shores of the Great Lakes. Plant cover varies from sparse on active dunes to moderate depending on the degree of sand deposition, sand erosion, and distance from the lake. Beachgrass dominates the most active areas; on more stable portions, low shrubs including beach heather, juniper, and sand cherry predominate. Backdunes may grade into wooded cover of pines and other sandy soil trees. Jack pine, white pine, and red pine often form a scattered overstory canopy, and juniper and bearberry form a dwarf shrub layer. Wet swales are usually graminoid-dominated, but partly forested swales of red maple, alder, willow, and northern white cedar, may be interspersed with the back-dune ridges.

Ecological Setting and Natural Processes:

This vegetated dune system. limited in the Northeast to the shores of Lake Ontario, Lake Erie, and Lake Champlain, consists of a foredune and a series of low to high backdunes and low swales, and is best developed where post-glacial streams entered an embayment, providing a dependable sand source. Along-shore currents, waves, and winds sustain the foredunes. High quality examples of any size are very rare in our region.

Similar Habitat Types:

Its maritime cousin, Northern Atlantic Coastal Plain Dune and Swale, is subject to different and probably more extreme stresses, and consequently has different form and vegetation. Usually in areas of residential development and agriculture, and high quality examples of any size are very rare in our region.

Crosswalk to State Wildlife Action Plans:

Great Lakes Dune and Swale (NY), Sandy Beach Habitats (PA), Upland Shores - Sand dune (VT)

Places to Visit this Habitat:

Altmar State Forest | NY
Black Pond Wildlife Management Area | NY
Lakeview Wildlife Management Area | NY
Sandy Island Beach | NY
Presque Isle State Park | PA

Associated Species: *Appendix lists scientific names*

BIRDS: backbacked gull, herring gull, spotted sandpiper

MAMMALS: raccoon

PLANTS: Beach pea (Lathyrus maritimus), beach heather (Hudsonia tomentosa), beach wormwood (Artemisia campestris ssp. caudate), creeping love grass (Eragrostis hypnoides), matted spikerush (Eleocharis intermedia), ovate spikerush (Eleocharis ovata), sand dropseed (sporobolus cryptandrus), vetchling peavine (Lathyrus palustris), umbrella flatsedge (Cyperus diandrus)

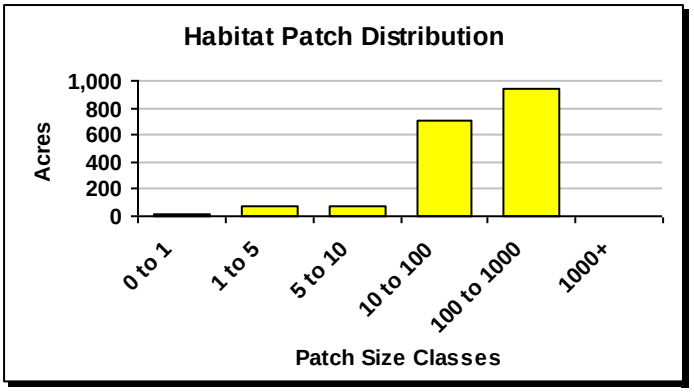
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: piping plover

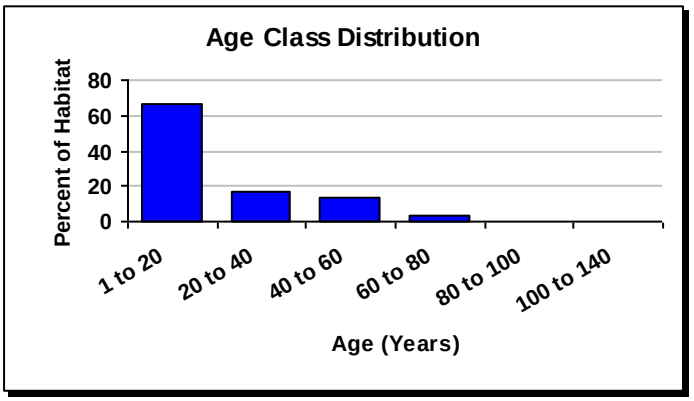
INSECTS: A notcuid moth (Euxoa pleuritica), tiger beetle (Cicindela hirticollis)

PLANTS: Champlain beachgrass (Ammophila breviligulata var. champlainensis)

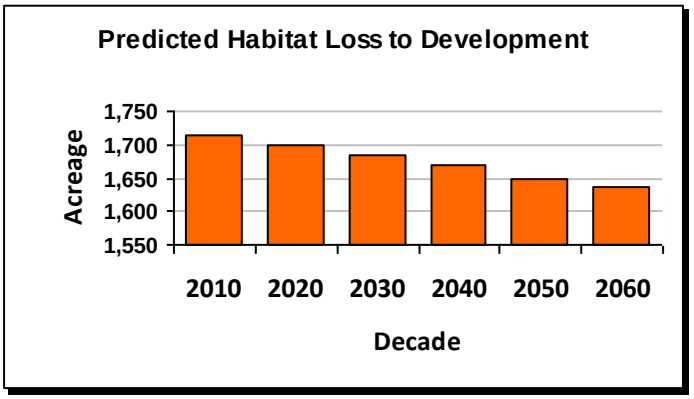
© Adele Tomaino (New York Natural Heritage Program)



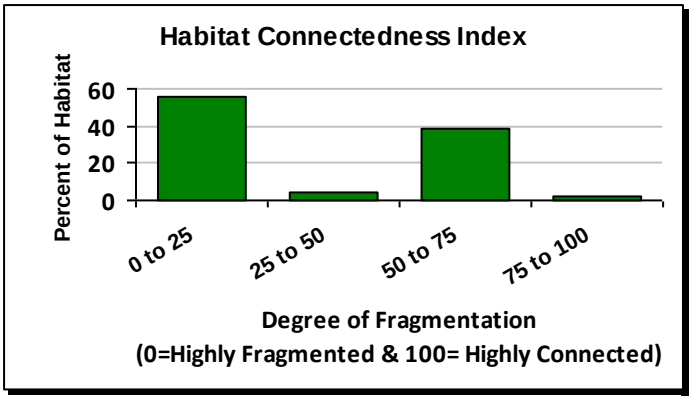
The average patch size for this habitat is 10 acres and the largest single patch is 224 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



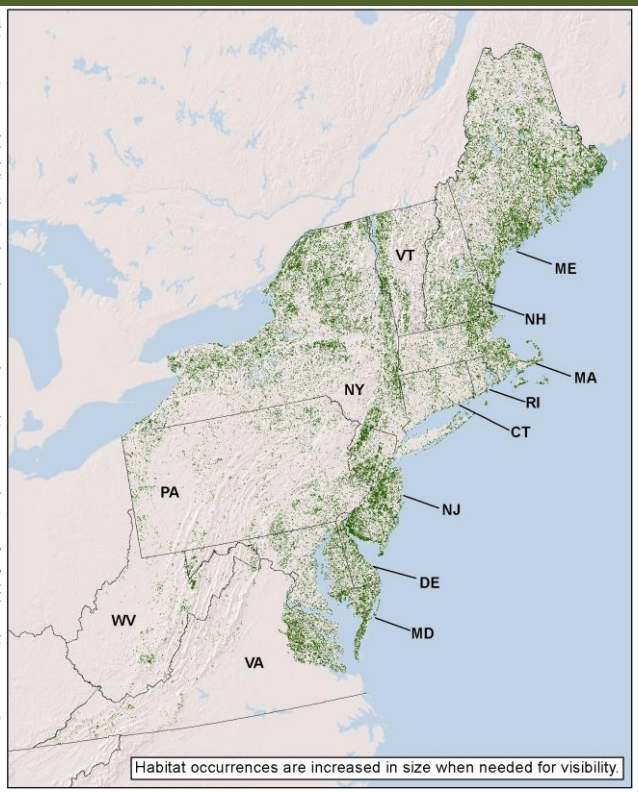
This chart shows the predicted loss of habitat over the next five decades (77 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 2 acres per year.



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.

Laurentian-Acadian Freshwater Marsh

Macrogroup: Emergent Marsh



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.

© Maine Natural Areas Program

State Distribution: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Total Habitat Acreage: 906,723

Percent Conserved: 21.6%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	25%	225,999	13,432	26,406	186,161
NY	25%	224,007	25,309	27,887	170,811
NJ	11%	98,802	17,497	9,039	72,265
VA	7%	61,229	1,285	3,949	55,995
MA	6%	57,011	4,217	12,825	39,969
MD	6%	52,867	2,802	10,177	39,888
PA	5%	48,783	3,585	4,395	40,802
NH	5%	48,642	2,373	10,747	35,523
VT	4%	39,373	2,385	5,542	31,445
DE	2%	21,773	1,518	3,960	16,294
CT	2%	16,321	1,506	2,964	11,851
WV	1%	6,766	156	244	6,366
RI	1%	5,089	413	1,010	3,666
DC	0%	61	0	0	61

Crosswalk to State Name Examples:

Herbaceous Inland Wetland - Freshwater Marshes (CT), Bulrush Deepwater Marsh (DE), Deep Emergent Marsh (MA), Cattail Marsh (ME), Emergent Marsh (NH), Robust Emergent Marsh (NJ), Deep Emergent Marsh/Backwater Slough (NY), Cat-Tail Marsh (PA), Emergent Marsh (RI), American Lotus Aquatic Bed (VA), Cattail Marsh (VT), Emergent Marsh (MD)

Description:

A freshwater emergent or submergent marsh dominated by herbaceous vegetation and associated with isolated basins, edges of streamways, and seepage slopes. Typical plants include cattails, marsh fern, touch-me-not, pondweeds, water lilies, pickerelweed, and tall rushes, species that tolerate sustained inundations and do not persist through the winter. Scattered shrubs are often present and usually total less than 25% cover. Trees are generally absent and, if present, are scattered. Zonation within a marsh is associated with water depth and length of inundation. This is a very broadly defined system, with many variants distributed widely in the Northeast.

Ecological Setting and Natural Processes:

Freshwater marshes are associated with lakes, ponds, headwater basins and slow-moving streams, impoundments, ditches, or any low lying basin that collects water. Such basins are often flat-bottomed and shallow, or marsh vegetation forms a ring around the edge of deeper basins. They typically occur on muck over mineral soil, and as part of a larger wetland complex that may include forested or shrubby swamps, peatlands, and/or open water.

Similar Habitat Types:

Very often occurs with Laurentian-Acadian Wet Meadow-Shrub Swamp, acidic or circumneutral forested swamps, peatlands, and floodplain vegetation in large, diverse complexes.

Crosswalk to State Wildlife Action Plans:

Herbaceous Inland Wetland - Freshwater Marshes (CT), Marshes and Wet Meadows - Deep Emergent Marsh (MA), Emergent Marsh and Wet Meadows (ME), Marsh and Shrub Wetlands (NH), Freshwater Marsh (NY), Wetlands - Emergent Freshwater (PA), Emergent Wetlands - Freshwater Wetland Unspecified (RI), Marshes and Sedge Meadows - Cattail Marsh (VT)

Places to Visit this Habitat:

Moosehorn National Wildlife Refuge | ME
Wharton State Forest | NJ
Five Ponds Wilderness Area | NY
Green Mountain National Forest | VT
Canaan Valley National Wildlife Refuge | WV

Associated Species: *Appendix lists scientific names*

BIRDS: american bittern, american black duck, blue-winged teal, common gallinule, great blue heron, least bittern, marsh wren, pied-billed grebe, sora, swamp sparrow, virginia rail, wood duck

MAMMALS: eastern cottontail, meadow jumping mouse, mink, moose, muskrat, raccoon, southern bog lemming, virginia possum, water shrew

HERPTILES: blue-spotted salamander, northern leopard frog, northern spring peeper, red-spotted newt, spotted turtle

INSECTS: bar-winged Skimmer, ringed emerald, spatterdock darner

PLANTS: autumnal water-starwort (Callitriche hermaphroditica), floating pennywort (Hydrocotyle ranunculoides), hardstem bulrush (Schoenoplectus acutus), marsh felwort (Lomatogonium rotatum), marsh hedge-nettle (Stachys pilosa),whorled pennywort (Hydrocotyle verticillata)

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

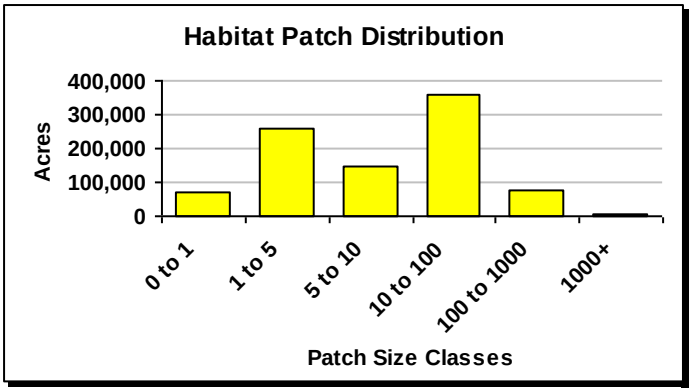
BIRDS: black tern, king rail, northern harrier

MAMMALS: water shrew

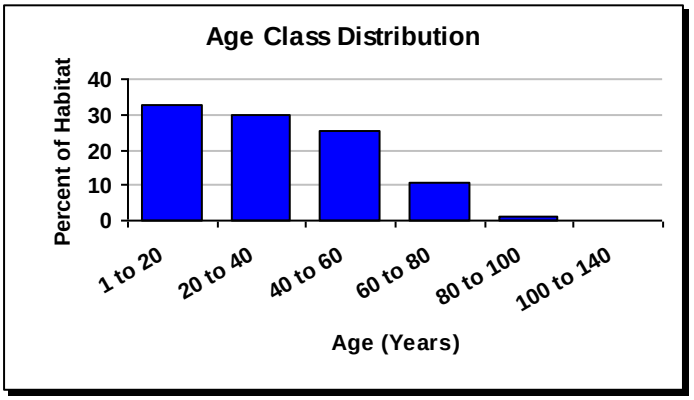
HERPTILES: wood turtle, blanding's turtle

INSECTS: bogbean buckmoth, broadtailed shadowdragon, eyed brown, granitosa fern moth, little bluet, Martha's pennant, scarlet bluet, spatterdock darner, two-spotted skipper

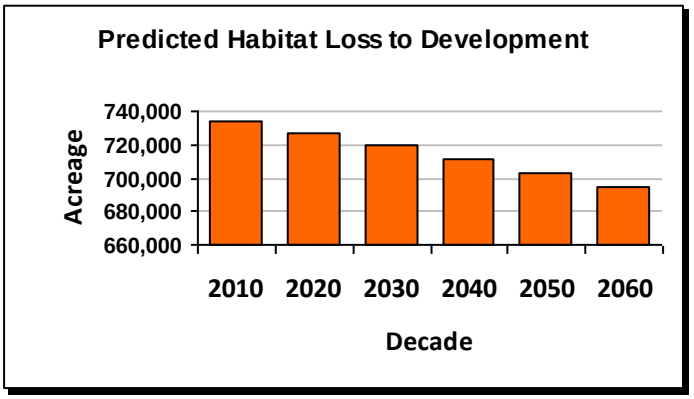
PLANTS: blue maiden-cane (Amphicarpum purshii), fly-poison (Amianthium muscitoxicum), northeastern bladderwort (Utricularia resupinata), ohio goldenrod (Oligoneuron ohioense), Robbins' spikerush (Eleocharis robbinsii), sago pondweed (Potamogeton pectinatus), Sartwell's sedge (Carex sartwellii), slender arrowhead (Sagittaria teres), Walter's sedge (Carex striata), watermeal (Wolffia papulifera)



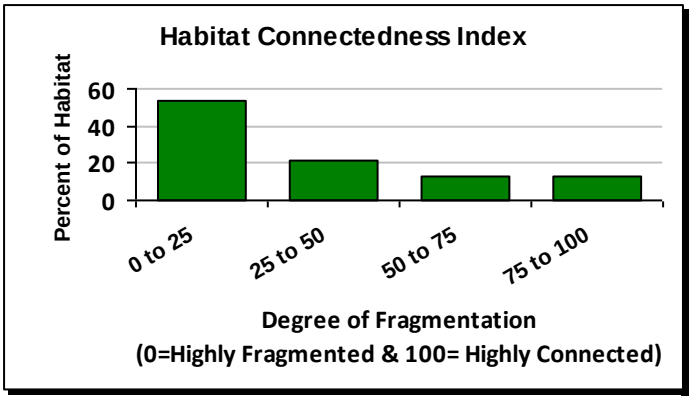
The average patch size for this habitat is 3 acres and the largest single patch is 1,258 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



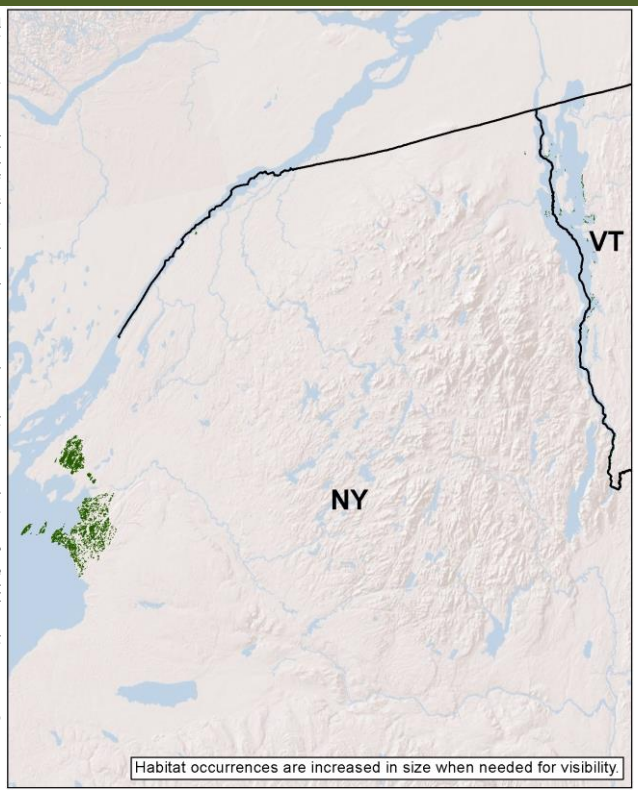
This chart shows the predicted loss of habitat over the next five decades (39,208 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 784 acres per year.



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.

Great Lakes Alvar

Macrogroup: Glade, Barren and Savanna



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.

© Eric Sorenson (Vermont Fish & Wildlife)

State Distribution: NY, VT

Total Habitat Acreage: 27,656

Percent Conserved: 12.3%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	96%	26,657	2,388	930	23,339
VT	4%	998	7	77	913

Crosswalk to State Name Examples:

Alvar Pavement-Grassland (NY), Limestone Bluff Cedar-Pine Forest (VT)

Description:

A mosaic of grassland, savanna and sparsely vegetated rock barrens occurring on horizontal limestone or dolomite bedrock with a discontinuous thin soil mantle. Eastern red cedar, jack pine, northern white cedar, and a few stunted hardwoods are sometimes present, but never at a canopy cover that exceeds 60%. The dominant herbs are graminoids such as tufted hairgrass and prairie dropseed. Other characteristic plants are sedges, forbs such as white camas, Indian paintbrush, and upland white aster, and distinctive assemblages of mosses, lichens, and small herbs associated with rock outcrops. Alvar communities support several globally rare plant species, and provide habitat for grassland birds whose habitat is declining elsewhere. Most types are globally imperiled.

Ecological Setting and Natural Processes:

Almost all of North America's alvars occur within the Great Lakes basin; a disjunct variant occupies limestone ledges on or near shores of Lake Champlain, with a less open cedar-pine canopy. Most alvars experience flooding in spring or after a heavy rain, then a moderate to severe summer drought. Fire may help to maintain alvars in some cases; some don't seem to have a fire history at all. Threats to system integrity include grazing and exotic plants.

Similar Habitat Types:

Similar systems are ones that are distinct because of their association with particular bedrock lithologies and atypical moisture regimes: Appalachian Shale Barrens, Southern Ridge and Valley Calcareous Glade and Woodland, and Eastern Serpentine Woodland, among others.

Crosswalk to State Wildlife Action Plans:

Native Barrens and Savanna (NY)

Places to Visit this Habitat:

Chaumont Barrens Preserve | NY
El Dorado Beach Preserve | NY
Lakeview Wildlife Management Area | NY
Robert Wehle State Park | NY
Southwick Beach | NY

Associated Species: *Appendix lists scientific names*

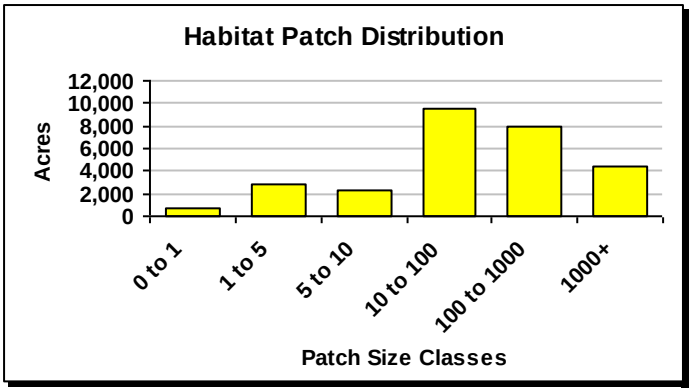
BIRDS: brown thrasher, grasshopper sparrow, savannah sparrow, upland sandpiper, prairie warbler

PLANTS: American dragonhead (Dracocephalum parviflorum), golden corydalis (Corydalis aurea), greenish sedge (Carex viridula), hornemann's willowherb (Epilobium hornemannii), limestone rockcress (Arabis divaricarpa), long-stalked stitchwort (Stellaria longipes), northern dropseed (Sporobolus heterolepis), northern stickseed (Hackelia deflexa), pointed blue-eyed-grass (Sisyrinchium angustifolium), prairie redroot (Ceanothus herbaceus), prairie-smoke (Geum triflorum), rock elm (Ulmus thomasii), spreading-pod rockcress (Boechera grahamii), white camas (Zigadenus elegans ssp. glaucus), yellow pimpernel (Taenidia integerrima)

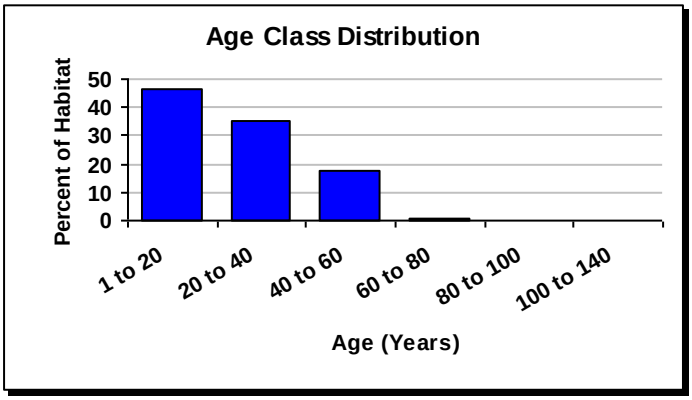
Species of Concern (G1-G4): *Appendix lists scientific names*

INSECTS: Rare geometric and noctuid moths (Chytonix ruperti, Digrammia denticulata, Digrammia mellistrigata, Grammia anna, Orthodes obscura)

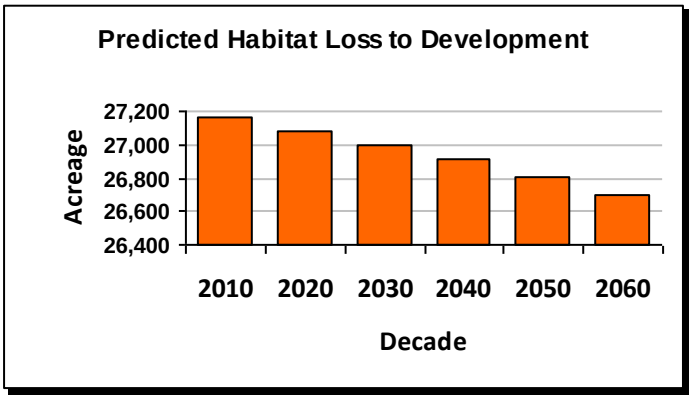
PLANTS: carolina crane's-bill (Geranium carolinianum var. sphaerosper), loeske pseudocalliergon moss (Pseudocalliergon turgescens), rough-fruit amaranth (Amaranthus tuberculatus), seneca snakeroot (Polygala senega), small skullcap (Scutellaria parvula var. parvula), troublesome sedge (Carex molesta)



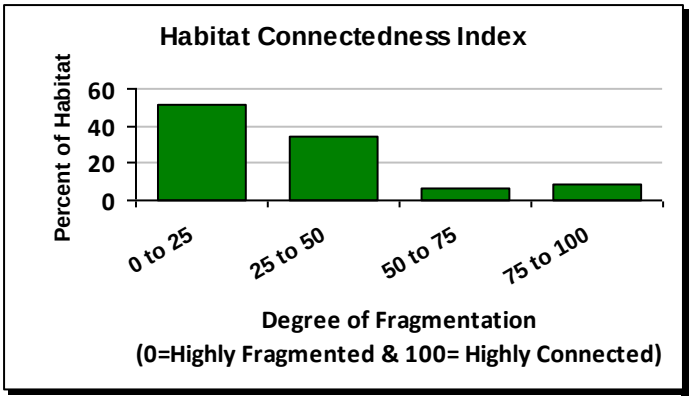
The average patch size for this habitat is 6 acres and the largest single patch is 2,141 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



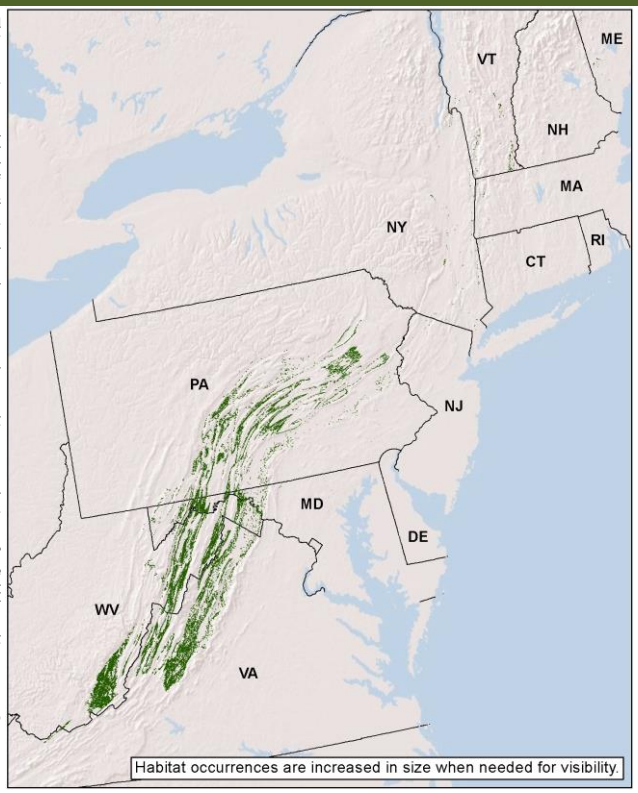
This chart shows the predicted loss of habitat over the next five decades (466 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 9 acres per year.



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.

Central Appalachian Alkaline Glade and Woodland

Macrogroup: Glade, Barren and Savanna



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.

© West Virginia Division of Natural Resources

State Distribution: CT, MA, MD, ME, NH, NJ, NY, PA, VA, VT, WV

Total Habitat Acreage: 413,498

Percent Conserved: 11.6%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
WV	37%	154,340	2,525	9,145	142,669
PA	29%	118,776	1,377	7,485	109,914
VA	27%	110,933	6,795	15,842	88,296
MD	6%	25,052	2,341	1,489	21,222
VT	1%	2,464	221	214	2,029
NY	0%	1,297	107	157	1,033
MA	0%	202	57	0	145
ME	0%	183	1	28	154
NJ	0%	144	28	0	115
CT	0%	92	1	0	91
NH	0%	15	2	2	12

Crosswalk to State Name Examples:

Upland Woodland And Shrub - Red Cedar Glades (CT), Yellow Oak Dry Calcareous Forest (MA), Montane Dry Calcareous Forest And Woodland (MD), Limestone Glade (NJ), Limestone Woodland/Red Cedar Rocky Summit (NY), Yellow Oak - Redbud Woodland (PA), Ridge And Valley Dolomite Woodland (VA), Limestone Barrens And Glades (WV)

Description:

A mosaic of woodlands and open glades on thin soils over limestone, dolostone or similar calcareous rock with its core distribution in the Central Appalachians, but extending well up into New England. In some cases, the woodlands grade into closed-canopy forests. Eastern red-cedar is a common tree, filling in in the absence of fire, and chinquapin oak is indicative of the limestone substrate. In the northern part of its range, northern white cedar may replace red cedar. Other locally occurring trees and shrubs are sugar maple, red and white oak, pignut hickory, eastern redbud, and hackberry. Prairie grasses are often dominant in the herb layer, and forb richness is often high, supporting species such as tall larkspur, american harebell, columbine, and four-leafed milkweed.

Ecological Setting and Natural Processes:

A moderately dry patch community that forms in shallow soils at high landscape positions (upper slopes, ridgetops), at elevations up to about 2500 feet. It is known widely through the region. Fire is sometimes an important natural disturbance vector, but open physiognomies may also be maintained by drought and landslides. Lower elevation examples are often in highly fragmented agricultural landscapes.

Similar Habitat Types:

Similar to Southern Ridge and Valley Calcareous Glade and Woodland, but on higher and more convex landforms, and farther north. As conditions become less dry, soil deepens, and the canopy closes, this system usually grades into Northeast Interior Dry-Mesic Oak Forest, or Appalachian or (farthest north) Laurentian-Acadian Northern Hardwoods.

Crosswalk to State Wildlife Action Plans:

Upland Forest - Calcareous Forests (CT), Upland Woodland and Shrub - Red Cedar Glades (CT), Rocky Cliffs, Ridgetops, Talus Slopes, and Other Similar Habitats (MA), Barrens and Dry Glades (MD), Grassland Habitats - Naturally occurring barrens (PA), Forest Habitat - Mixed Forest (VA), Calcareous Forests and Woodlands (WV), Limestone Barrens and Glades (WV)

Places to Visit this Habitat:

Green Ridge State Forest | MD
Nescopeck State Park | PA
George Washington and Jefferson National Forest | VA
George Washington National Forest | WV
Monongahela National Forest | WV

Associated Species: *Appendix lists scientific names*

BIRDS: cerulean warbler, eastern whip-poor-will, golden-winged warbler, prairie warbler, yellow-breasted chat

INSECTS: compton tortoiseshell

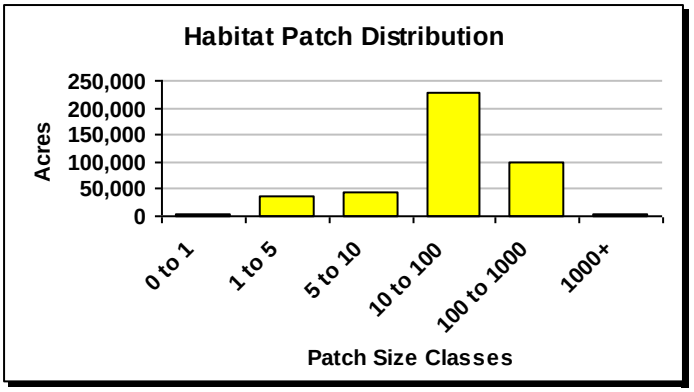
PLANTS: barren strawberry (Waldsteinia fragarioides), downy arrow-wood (Viburnum rafinesquianum), chinquapin oak (Quercus muehlenbergii), glade flax (Linum sulcatum var. sulcatum), hairy beardtongue (Penstemon hirsutus), hairy pinweed (Lechea mucronata), orange-grass st. john's-wort (Hypericum gentianoides), prairie ragwort (Packera plattensis), running serviceberry (Amelanchier humilis), smoke hole bergamot (Monarda fistulosa ssp. 1), violet bushclover (Lespedeza violacea), western hairy rockcress (Arabis hirsuta), western wallflower (Erysimum capitatum)

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

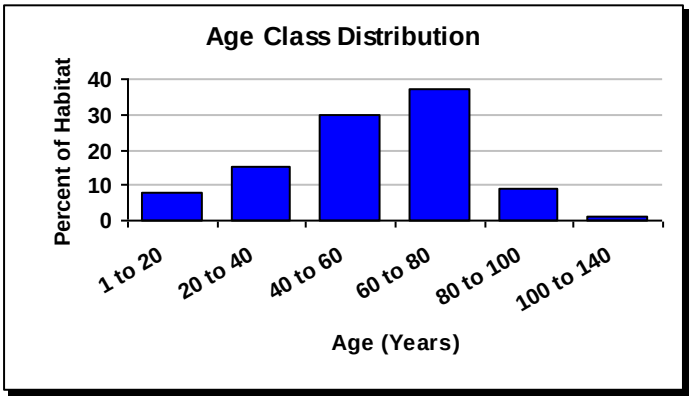
HERPTILES: Wehrle's salamander, west virginia spring salamander

INSECTS: Carolyn's cave springtail, cavern sheet-web Spider, Hubbard's cave beetle, Maddens cave beetle, natural bridge cave beetle, Seneca cave beetle, and many other cave beetle, mites, springtails and spiders

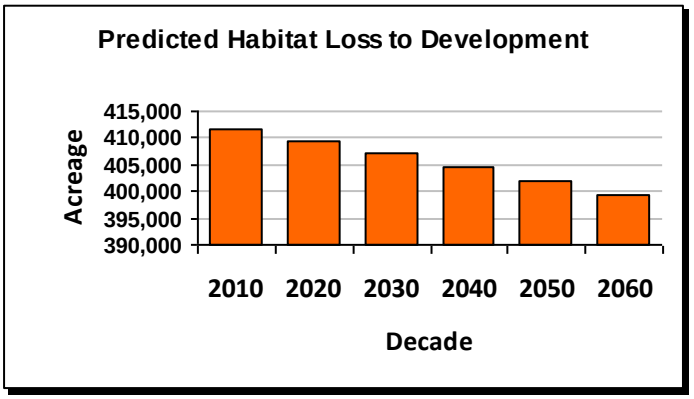
PLANTS: cliff stonecrop (Sedum glaucophyllum), hidden spike-moss (Selaginella eclipes), tall larkspur (Delphinium exaltatum), three-lobed violet (Viola triloba)



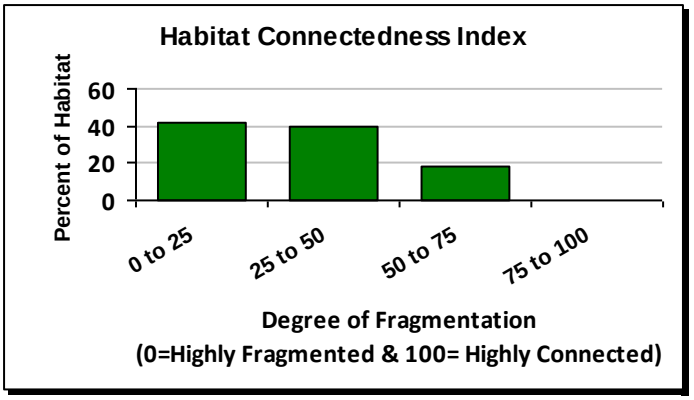
The average patch size for this habitat is 9 acres and the largest single patch is 1,190 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



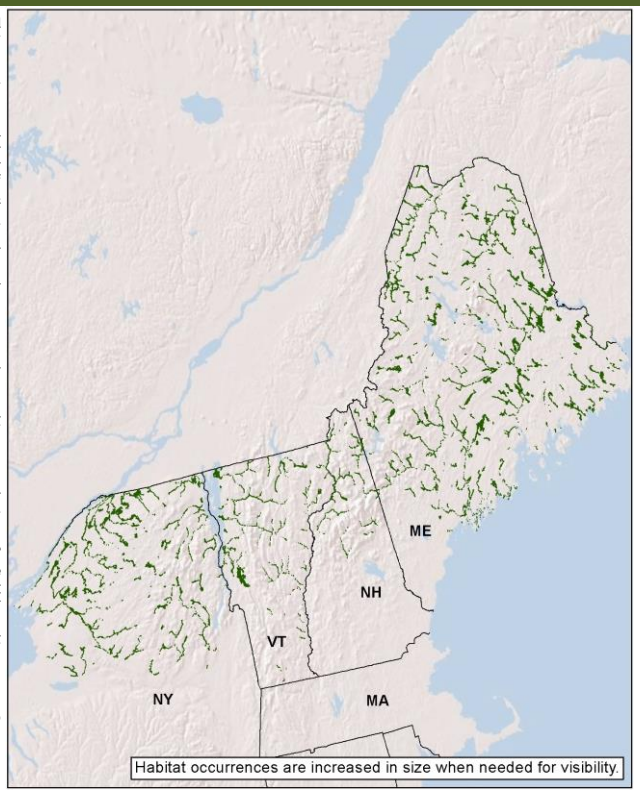
This chart shows the predicted loss of habitat over the next five decades (12,363 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 247 acres per year.



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.

Laurentian-Acadian Large River Floodplain

Macrogroup: Large River Floodplain



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.

© Elizabeth Thompson (Vermont Land Trust)

State Distribution: ME, NH, NY, VT

Total Habitat Acreage: 431,558

Percent Conserved: 24.5%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	59%	253,552	12,000	40,531	201,020
NY	27%	116,558	18,971	17,416	80,171
VT	11%	49,267	6,293	6,673	36,300
NH	3%	12,181	1,263	2,719	8,198

Description:

A complex of wetland and upland vegetation on floodplains of medium to large rivers in the northeastern US and adjacent Canada, north of the range of sycamore. Vegetation includes silver maple floodplain forests as well as herbaceous sloughs and shrub wetlands. Green ash, American elm, red maple and musclewood are typical associates, and black willow is characteristic of levees adjacent to the channel. On terraces, sugar maple, red oak or ash may be locally prominent. The herb layer includes abundant spring ephemerals, often giving way to fern dominance by mid-summer. In the far north, this system includes ice-scour rivershores dominated by herb and shrubs, and boreal floodplain forests characterized by balsam poplar.

Ecological Setting and Natural Processes:

Occurs along medium to large rivers where topography and process have resulted in the development of a complex of upland and wetland vegetation. Variable alluvial soils. Most areas are underwater each spring, the length of inundation dependent on both overall water level and local microtopography. Dam operations alter flooding regimes and pose significant threats, and invasive plants often degrade floodplain communities.

Similar Habitat Types:

Has many plant species, landforms, and active river area processes in common with other floodplain systems, like Central Appalachian River Floodplain. And like other floodplains, has to a large extent been converted to agriculture and other human uses.

Crosswalk to State Name Examples:

Silver Maple Floodplain Forest (ME), Silver Maple - False Nettle - Sensitive Fern Floodplain Forest (NH), Floodplain Forest (NY), Silver Maple-Sensitive Fern Riverine Floodplain Forest (VT)

Crosswalk to State Wildlife Action Plans:

Forested Wetland (ME), Floodplains - Major river silver maple floodplains (NH), Floodplain Forests (NY), Floodplain Forests - Silver Maple-Ostrich Fern Riverine Floodplain Forest (VT), Floodplain Forests - Silver Maple-Sensitive Fern Riverine Floodplain Forest (VT)

Places to Visit this Habitat:

Allagash Wilderness Waterway State Park | ME
Lake Umbagog National Wildlife Refuge | NH
Brasher Falls State Forest | NY
Deer River State Forest | NY
Otter Creek Swamps (The Nature Conservancy) | VT

Associated Species: *Appendix lists scientific names*

BIRDS: alder flycatcher, bald eagle, barred owl, green heron, northern waterthrush, warbling vireo, willow flycatcher, wood duck, yellow warbler, yellow-throated vireo

MAMMALS: mink, racoon, river otter, silver-haired bat

HERPTILES: fowler's toad, green frog, northern dusky salamander, northern two-lined salamander, blanding's turtle, eastern spiny softshell, ribbon snake

INSECTS: jutta arctic

PLANTS: bottlebrush grass (Elymus hystrix), green dragon (Arisaema dracontium), hare figwort (Scrophularia lanceolata), hudson bay anemone (Anemone multifida), lance-leaved loosestrife (Lythrum alatum), mild water-pepper (Polygonum hydropiperoides), purple clematis (Clematis occidentalis), virginia bugleweed (Lycopus virginicus), yellow water-crowfoot (Ranunculus flabellaris)

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

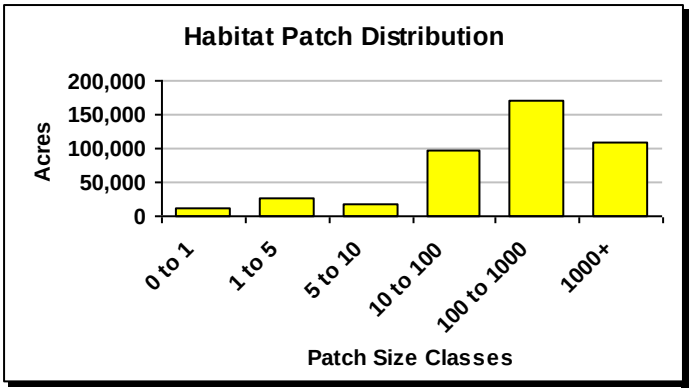
BIRDS: american bittern, black tern, cerulean warbler, Wilson's warbler, yellow rail

HERPTILES: Blanding's turtle, wood turtle

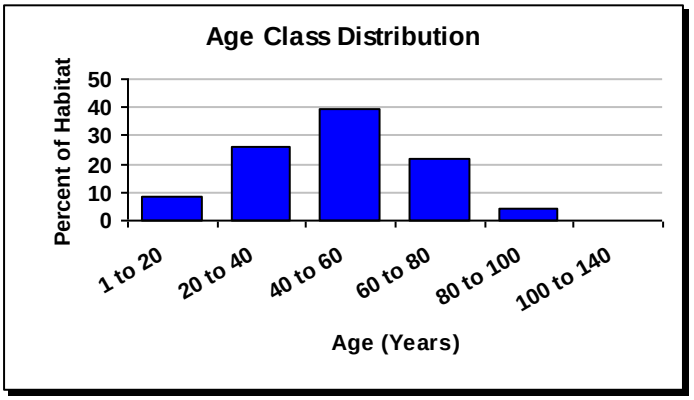
INSECTS: Clayton's copper butterfly, tomah mayfly, pygmy snaketail

PLANTS: creeping rush (Juncus subtilis), Eaton's beggarticks (Bidens eatonii), furbish lousewort (Pedicularis furbishiae), New England violet (Viola novae-angliae), rough-fruit amaranth (Amaranthus tuberculatus), Wiegand's wild rye (Elymus wiegandii)

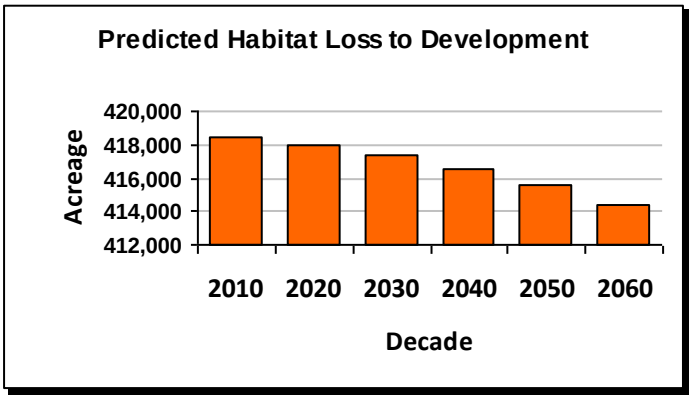
© Elizabeth Thompson (Vermont Land Trust)



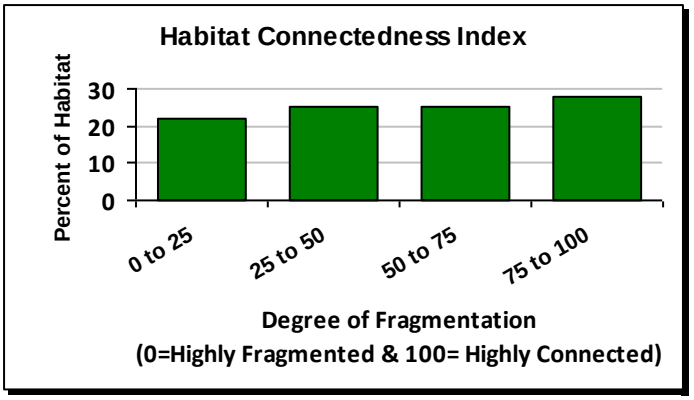
The average patch size for this habitat is 8 acres and the largest single patch is 4,151 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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 (4,041 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 81 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.

North-Central Appalachian Large River Floodplain

Macrogroup: Large River Floodplain

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.

© Bruce A. Sorrie (Massachusetts Division of Fisheries & Wildlife/Natural Heritage & Endangered Species Program)

State Distribution: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Total Habitat Acreage: 254,862

Percent Conserved: 19.8%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	56%	142,677	10,582	15,936	116,158
PA	24%	59,967	2,733	5,826	51,409
ME	4%	11,047	479	2,413	8,155
MA	4%	10,054	1,693	2,251	6,110
NJ	4%	9,846	4,177	520	5,149
NH	2%	4,646	131	778	3,737
CT	2%	4,024	251	980	2,793
MD	1%	3,708	708	298	2,702
VT	1%	3,430	199	324	2,906
VA	1%	3,290	56	131	3,103
WV	1%	1,982	9	70	1,903
DC	0%	90	1	0	89
DE	0%	82	10	30	42
RI	0%	19	0	2	17

Crosswalk to State Name Examples:

Floodplain Forest (CT), Silver Maple-Elm Floodplain Forest (DE), Major-River Floodplain Forest (MA), Montane - Piedmont Bottomland Forest (MD), Silver maple-wood nettle-ostrich fern floodplain forest (NH), Floodplain Forest (NJ), Floodplain Forest (NY), Silver Maple Floodplain Forest (PA), Silver Maple/Sycamore Floodplain Forest (RI), Piedmont / Central Appalachian Floodplain Swamp (VA), Silver Maple-Ostrich Fern Riverine Floodplain Forest (VT), Floodplain Forests And Swamps (WV)

Description:

A complex of wetland and upland vegetation on floodplains of medium to large rivers in Atlantic drainages. They are typical of larger rivers but they can occur on smaller rivers where the stream gradient is low and a broad floodplain develops. The vegetation complex includes floodplain forests in which silver maple, sycamore, box elder, and cottonwood are characteristic, as well as herbaceous sloughs, shrub wetlands, ice scours, riverside prairies, and woodlands. Most areas are underwater each spring; microtopography determining how long the various habitats are inundated. Depositional and erosional features may both be present depending on the particular floodplain.

Ecological Setting and Natural Processes:

Floodplains form on land adjacent to a stream or river that experiences periodic flooding when the river overflows its banks. A variety of microtopographic features form as a result of annual river activity. This broadly-defined system includes vegetation on deep alluvial deposits, on depositional levees and bars, in backwater sloughs, and (rarely) on bedrock where rivers cut through resistant geology.

Similar Habitat Types:

Shares dynamic processes with all other large river floodplain systems. Most similar to the silver maple-dominated Northern Appalachian-Acadian Large River type. Human impacts on this and other floodplain habitats regionally have made large, high quality occurrences rare.

Crosswalk to State Wildlife Action Plans:

Forested Inland Wetland - Floodplain Forests (CT), Floodplains (DC), Riparian Forests (MA), Floodplain Forests (MD), Floodplains - Major river silver maple floodplains (NH), Floodplains (NJ), Floodplain Forests (NY), Riparian Thickets/Forests (PA), Wetland Habitat - Forested (VA), Floodplain Forests - Silver Maple-Sensitive Fern Riverine Floodplain Forest (VT), Floodplain Forests and Swamps (WV)

Places to Visit this Habitat:

Rachel Carson National Wildlife Refuge | ME
Iroquois National Wildlife Refuge | NY
Allegheny National Forest Non-Reserved | PA
George Washington and Jefferson National Forest | VA
Bald Mountain Natural Area | VT

Associated Species: *Appendix lists scientific names*

BIRDS: alder flycatcher, bald eagle, cerulean warbler, northern waterthrush, red-shouldered hawk, veery, warbling vireo, willow flycatcher, wood duck, yellow warbler, yellow-throated vireo

MAMMALS: big brown bat, eastern pipistrelle, little brown myotis, long-tailed weasel, mink, moose, northern long-eared bat, northern short-tailed shrew, raccoon, red bat, river otter, silver-haired bat, virginia possum

HERPTILES: copperhead, leopard frog, northern water snake, marbled salamander, mole salamander, pickerel frog

INSECTS: brook snaketail, lake emerald, riffle snaketail, riverine clubtail

PLANTS: basil beebalm (Monarda clinopodia), green dragon (Arisaema dracontium), canada moonseed (Menispermum canadense), nodding trillium (Trillium flexipes), smooth bur-marigold (Bidens laevis)

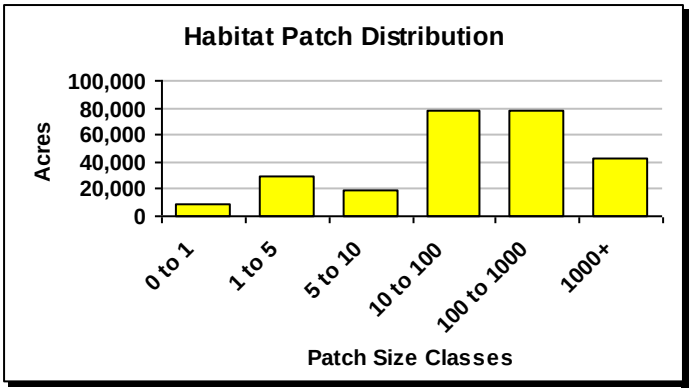
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: american bittern, prothonotary warbler

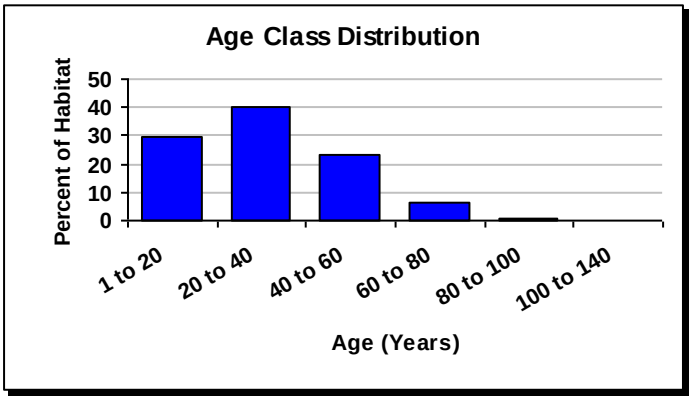
HERPTILES: blandings turtle, jefferson salamander, wood turtle

INSECTS: cobblestone tiger beetle, Newman's brocade, A ground beetle, little bluet, Maine snaketail, riverine clubtail

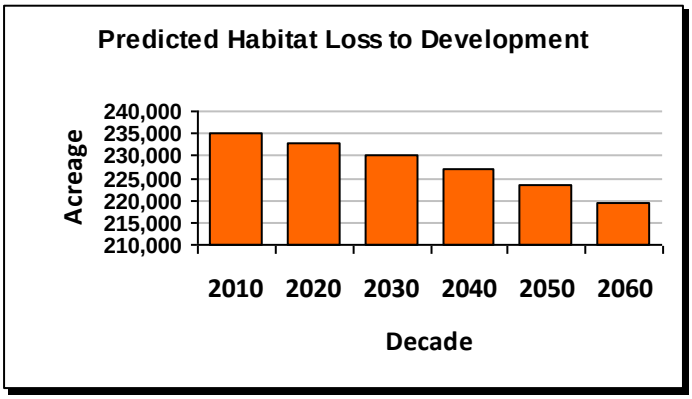
PLANTS: american lotus (Nelumbo lutea), coast violet (Viola brittoniana), eastern prairie white-fringed orchid (Platanthera leucophaea), heartleaf plantain (Plantago cordata), limestone wild petunia (Ruellia strepens), long's bulrush (Scirpus longii), maryland bur-marigold (Bidens bidentoides), navel-shape corn-salad (Valerianella umbilicata), stalked bulrush (Scirpus pedicellatus), tidal spikerush (Eleocharis aestuum)



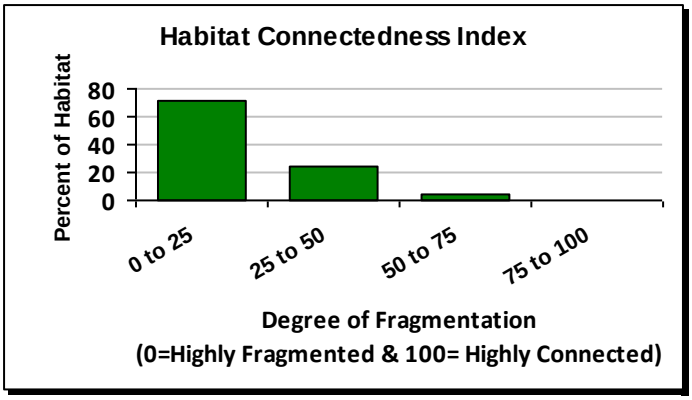
The average patch size for this habitat is 5 acres and the largest single patch is 3,512 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



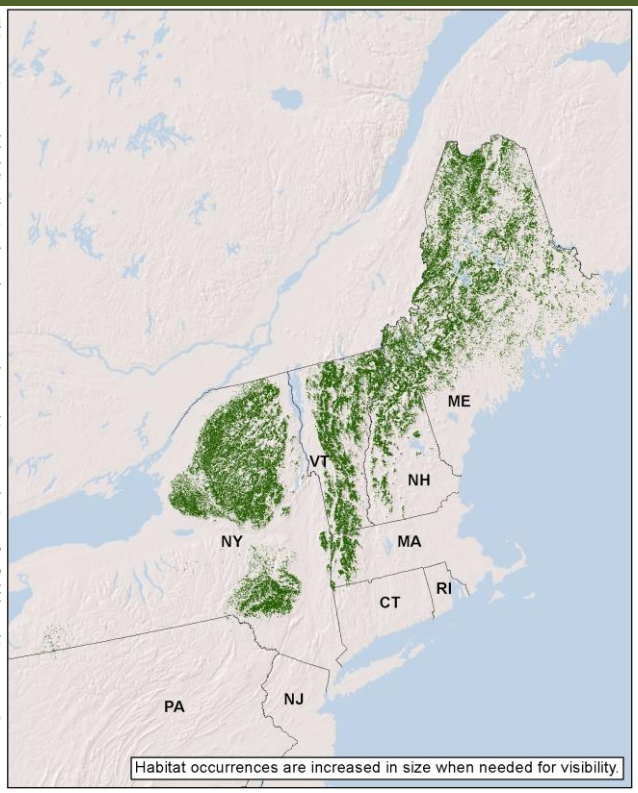
This chart shows the predicted loss of habitat over the next five decades (15,637 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 313 acres per year.



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.

Laurentian-Acadian Northern Hardwood Forest

Macrogroup: Northern Hardwood & Conifer



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.

© Elizabeth Thompson (Vermont Land Trust)

State Distribution: CT, MA, ME, NH, NJ, NY, PA, VT

Total Habitat Acreage: 12,740,118

Percent Conserved: 37.8%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	37%	4,652,650	149,125	908,508	3,595,017
NY	35%	4,476,027	1,668,902	750,974	2,056,151
VT	17%	2,147,101	142,060	437,587	1,567,455
NH	9%	1,148,087	173,100	446,228	528,759
MA	2%	304,979	36,880	100,186	167,913
PA	0%	6,236	276	1,672	4,287
CT	0%	4,924	441	662	3,822
NJ	0%	114	51	28	35

Crosswalk to State Name Examples:

Spruce Fir Northern Hardwoods Forest (MA), Beech - Birch - Maple Forest (ME), Sugar Maple - Beech - Yellow Birch Forest (NH), Beech-Maple Mesic Forest (NY), Deciduous/Mixed Forest (Upland) (PA), Northern Hardwood Forest (VT)

Description:

A hardwood forest dominated by sugar maple, American beech, and yellow birch; white ash is common on some sites, and hemlock and red spruce are frequent but minor canopy associates. Paper birch, red maple, aspen, and white pine are common in successional stands. This is the "matrix" forest in the northern part of our region, within which upland and wetland systems that occur at smaller scale are embedded. Rich expressions of this habitat type, with herb, shrub, and canopy layers of high diversity, occur over areas of calcium-rich bedrock and in cool, moist sites; forests on acidic till or in areas of granitic (or similar) bedrock are relatively poor floristically. Variability in climate, substrate, and exposure, can lead to stands proportionally higher in conifers or red oak.

Ecological Setting and Natural Processes:

A broadly defined ecological generalist, this system is found on slopes, hills, and flats, on a wide variety of bedrocks and tills. It occurs at low to moderate elevations that vary with latitude, but generally from 800 to 2200 feet. Blowdowns of small and relatively large scale, or snow and ice loading, are the most frequent forms of natural disturbance; these forests do not easily ignite easily and burn. Old growth examples are rare in the Northeast.

Similar Habitat Types:

Grades into Laurentian-Acadian Pine-Hemlock-Hardwood Forest or Appalachian (Hemlock-)Northern Hardwoods at lower elevation; and into a yellow birch-red spruce variant, then Acadian-Appalachian Montane Spruce-Fir-Hardwood Forest, on slopes and ridges above. Red Oak-Northern Hardwood Forests are sometimes in small to large patches in warmer settings within this system.

Crosswalk to State Wildlife Action Plans:

Upland Forest (MA), Deciduous and Mixed Forest (ME), Northern Hardwood – Conifer Forest (NH), Mixed Northern Hardwoods (NY), Deciduous/Mixed Forest (upland) (PA), Northern Hardwood Forest - Northern Hardwood Forest (VT)

Places to Visit this Habitat:

October Mountain State Forest | MA
Baxter State Park | ME
White Mountain National Forest | NH
Ferris Lake | NY
Green Mountain National Forest | VT

Associated Species: *Appendix lists scientific names*

BIRDS: black-and-white warbler, blackburnian warbler, black-throated blue warbler, black- throated green warbler, eastern wood pewee, hermit thrush, northern saw-whet owl, ovenbird, pine warbler, ruffed grouse, scarlet tanager, veery, wood thrush

MAMMALS: black bear, fisher, gray fox, northern flying squirrel, porcupine, smoky shrew, southern flying squirrel, white-footed mouse, woodland jumping mouse

HERPTILES: northern red-bellied snake, smooth greensnake, spring salamander

PLANTS: bristly black currant (Ribes lacustre), broad beech fern (Phegopteris hexagonoptera), mountain woodfern (Dryopteris campyloptera), pale jewel-weed (Impatiens pallida), squirrel-corn (Dicentra canadensis), swamp red currant (Ribes triste), twinflower (Linnaea borealis)

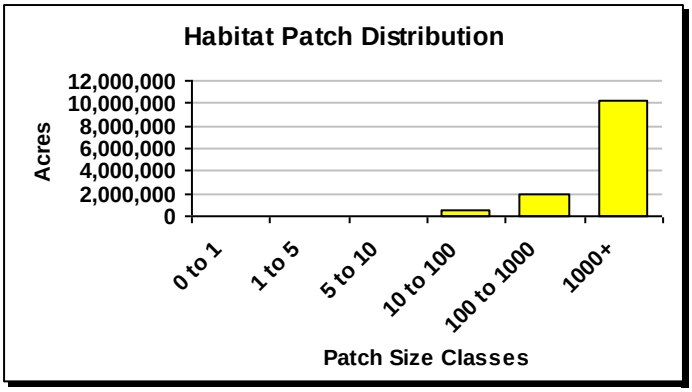
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: olive-sided flycatcher

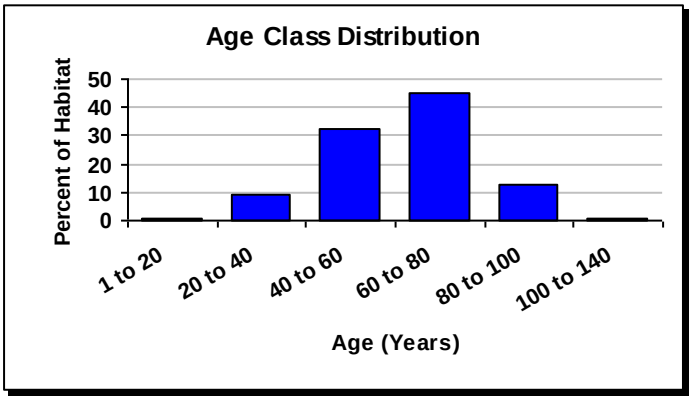
HERPTILES: jefferson salamander, wood turtle

INSECTS: early hairstreak (Erora laeta), eastern veined white (Pieris oleracea)

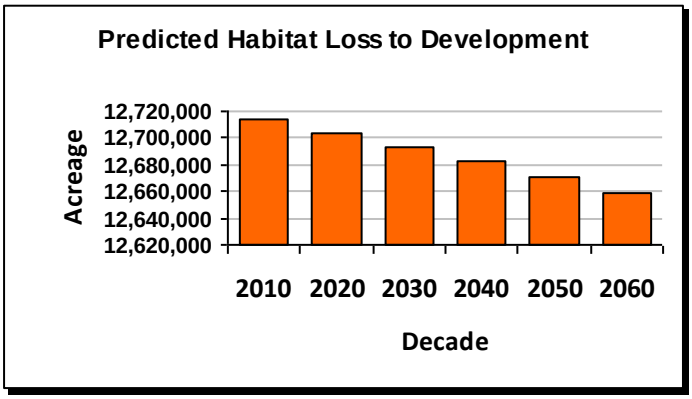
PLANTS: American ginseng (Panax quinquefolius), bailey's sedge (Carex baileyi), climbing fumitory (Adlumia fungosa), Goldie's woodfern (Dryopteris goldiana), hooker's orchis (Platanthera hookeri), nodding pogonia (Triphora trianthophora), northern mountain-ash (Sorbus decora), northern wild monkshood (Aconitum noveboracense), summer sedge (Carex aestivalis), tinged sedge (Carex tincta)



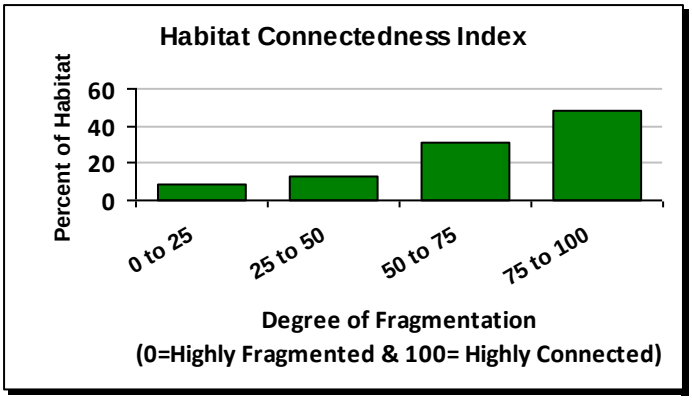
The average patch size for this habitat is 72 acres and the largest single patch is 176,448 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



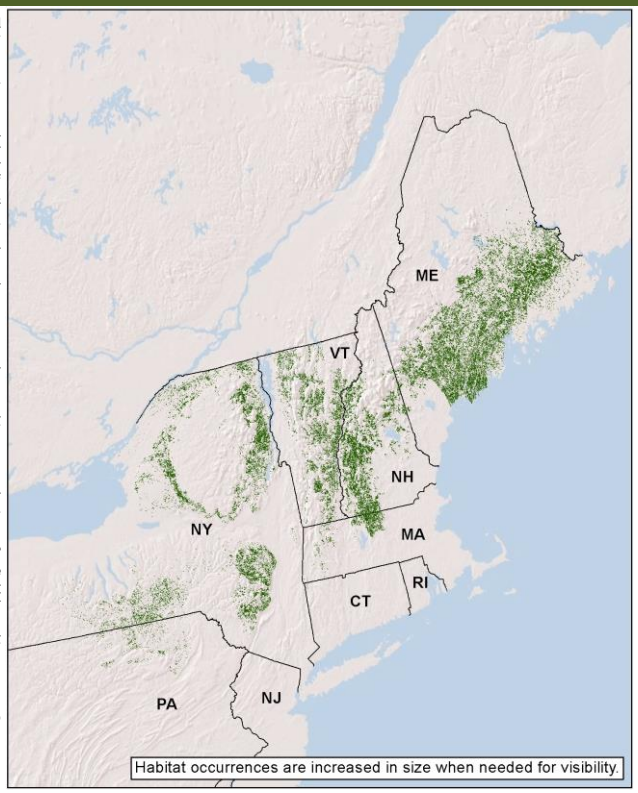
This chart shows the predicted loss of habitat over the next five decades (54,514 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 1,090 acres per year.



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.

Laurentian-Acadian Pine-Hemlock-Hardwood Forest

Macrogroup: Northern Hardwood & Conifer



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.

© Josh Royte (The Nature Conservancy, Maine)

State Distribution: CT, MA, ME, NH, NY, PA, VT

Total Habitat Acreage: 6,105,581

Percent Conserved: 15.0%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	44%	2,683,518	35,067	237,066	2,411,385
NY	25%	1,543,290	166,321	197,226	1,179,743
NH	14%	846,541	30,795	149,807	665,939
VT	13%	771,594	4,499	38,207	728,889
MA	3%	158,279	6,922	46,208	105,149
PA	2%	102,354	536	2,242	99,576
CT	0%	4	0	0	4

Crosswalk to State Name Examples:

Hemlock Forest (ME), Hemlock - White Pine Forest (NH), Pine-Northern Hardwood Forest (NY), Deciduous/Mixed Forest (Upland) (PA), Hemlock-Northern Hardwood Forest (VT), Northern Hardwoods-Hemlock-White Pine forest (MA)

Description:

A coniferous or mixed forest widespread in the glaciated northeast. White pine, hemlock, and red oak are typical canopy dominants. Red maple is common, and other hardwoods like sugar maple, beech, and birch also occur. Red spruce and balsam fir are uncommon associates, and oaks besides red oak are essentially absent from these forests. This forest system may be considered transitional between northern hardwood forests at higher elevations and to the north, and the warmer Appalachian hemlock-hardwoods and oak-pine forests at lower elevations and to the south. It ranges from the northeastern U.S. to adjacent Canada, and westward to the Great Lakes and upper Midwest. These forests are early and mid-successional in many areas, and often reflect an agricultural history.

Ecological Setting and Natural Processes:

These dry to mesic forests usually occur on low-nutrient loamy-to-sandy soils on a wide range of landforms at lower elevations, mostly below about 2000'. As with most other forest types in the region, single tree blowdowns and gap replacement are the most common disturbance/regeneration event. Fire is infrequent.

Similar Habitat Types:

Hardwoods dominate in Northern Hardwood Forests, which are often adjacent to this system in cooler settings. Pine is less important than hemlock in the Appalachian (Hemlock-)Northern Hardwood Forest, which also has a wider variety of oaks and other hardwoods. Red pines are characteristic and often dominant in the drier Laurentian-Acadian Northern Pine(-Oak) system.

Crosswalk to State Wildlife Action Plans:

Coniferous Forest (ME), Hemlock Hardwood Pine Forests (NH), Mixed Northern Hardwoods (NY), Deciduous/Mixed Forest (upland) (PA), Northern Hardwood Forest - Hemlock Forest (VT)

Places to Visit this Habitat:

Warwick State Forest | MA
Sunkhaze Meadows National Wildlife Refuge | ME
White Mountain National Forest | NH
Wilcox Lake | NY
Green Mountain National Forest | VT

Associated Species: *Appendix lists scientific names*

BIRDS: black-and-white warbler, blackburnian warbler, black-throated blue warbler, eastern wood-pewee, hermit thrush, northern saw-whet owl, northern waterthrush, ovenbird, pine warbler, ruffed grouse, scarlet tanager, veery, wood thrush, yellow-bellied sapsucker

MAMMALS: deer mouse, red squirrel, southern red-backed vole

HERPTILES: northern redbelly snake

PLANTS: barren strawberry (Waldsteinia fragarioides), mountain laurel (Kalmia latifolia), giant pinedrops (Pterospora andromedea), green adder's-mouth (Malaxis unifolia), loesel's twayblade (Liparis loeselii), sand violet (Viola adunca), scarlet oak (Quercus coccinea), slender mountain-ricegrass (Piptatherum pungens), spotted wintergreen (Chimaphila maculata), spreading-pod rockcress (Boechera grahamii)

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

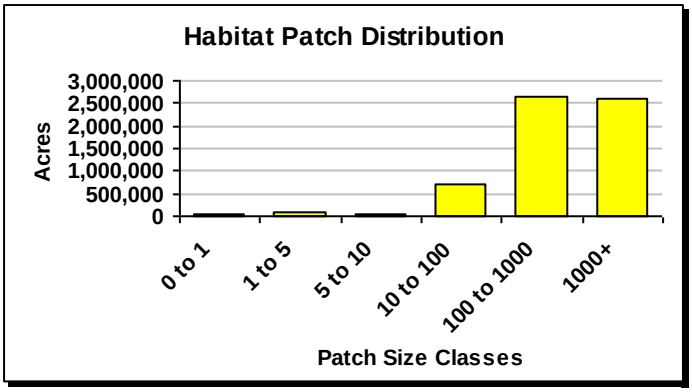
BIRDS: olive-sided flycatcher, eastern whip-poor-will, northern goshawk

MAMMALS: american pygmy shrew, eastern small-footed myotis, indiana myotis, new england cottontail

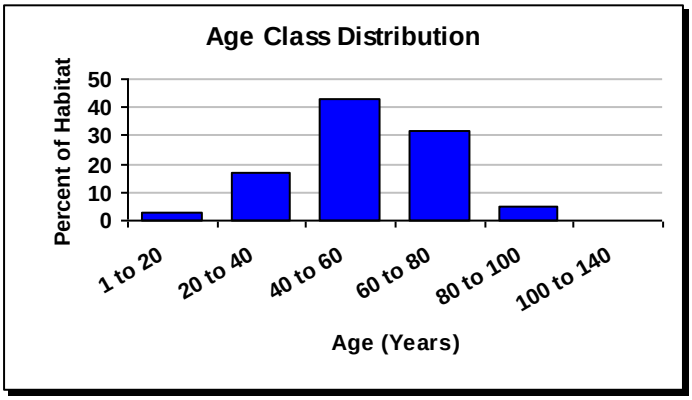
HERPTILES: Blanding's turtle, bog turtle, timber rattlesnake, wood turtle

INSECTS: early hairstreak, red-winged sallow

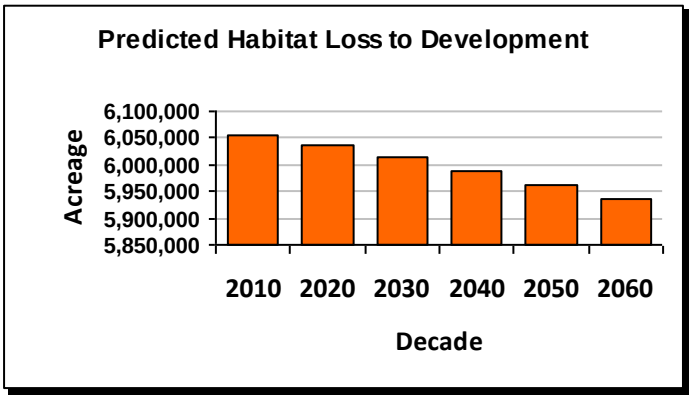
PLANTS: american chestnut (Castanea dentata), variable sedge (Carex polymorpha)



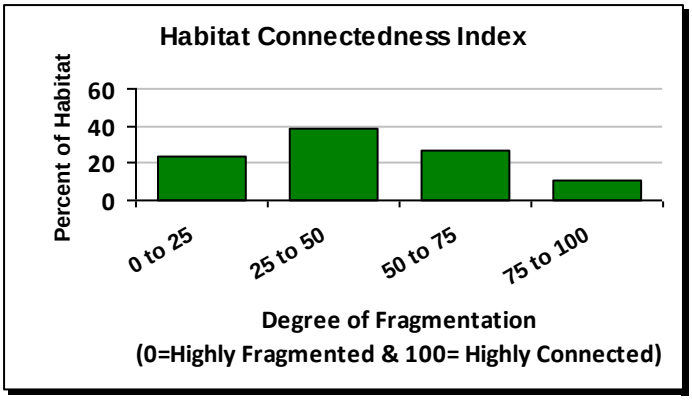
The average patch size for this habitat is 30 acres and the largest single patch is 28,879 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



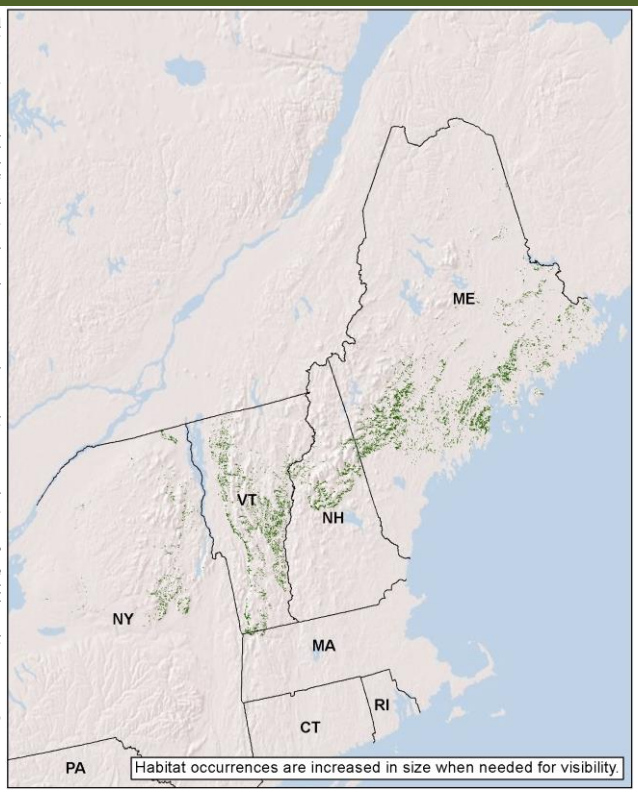
This chart shows the predicted loss of habitat over the next five decades (120,555 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 2,411 acres per year.



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.

Laurentian-Acadian Red Oak-Northern Hardwood Forest

Macrogroup: Northern Hardwood & Conifer



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

Total Habitat Acreage: 1,168,801

Percent Conserved: 19.2%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	51%	601,523	17,069	45,495	538,959
VT	30%	349,340	6,275	42,459	300,606
NH	10%	114,399	21,009	40,696	52,694
NY	8%	96,970	38,790	9,808	48,372
MA	1%	6,569	622	2,249	3,698

Crosswalk to State Name Examples:

Red-Oak Sugar Maple Transition Forest (MA), Mesic Red Oak-Northern Hardwood Forest (VT)

Description:

A closed canopy forest of low to moderate moisture in which a significant component of red oak is present along with the normal suite of northern hardwoods, primarily sugar maple, beech, and yellow birch. Red maple, hemlock, and white pine are common associates. It is most common across the southern part of the northern hardwood forest's range, where it is transitional to oak or oak-pine forests, but also develops in warm, sunny locations in northern hardwood forest stands farther north. Diversity is lower than in most northern hardwoods; the shrub layer tends to be sparse, as is the fern and forb herb layer. Downslope movement of acorns from dry oaky ridges above may help account for persistence of this habitat type. These forests can be very productive on the best sites.

Ecological Setting and Natural Processes:

This system is found at low to mid elevations, on convex landforms and slopes with strong insolation. Highest elevations are about 1500' in the north, 2500' in the south. It generally favors sites with acidic bedrock and well drained soils derived from glacial till. Fire promotes regeneration of the oak, and is probably more common in these stands than in northern hardwoods without oaks. Wildlife browsing (deer in particular) can severely inhibit it.

Similar Habitat Types:

Often embedded within or adjacent to Laurentian-Acadian Northern Hardwood Forests, which lack the red oak component. Laurentian-Acadian Pine-Hemlock-Hardwood Forest is a similar system, but with more conifers, lower land position, and more moderate climate. Appalachian (Hemlock-)Northern Hardwood Forest has a broader range of southern species, and may include white oak.

Crosswalk to State Wildlife Action Plans:

Places to Visit this Habitat:

Clarksburg State Forest | MA
Acadia National Park | ME
White Mountain National Forest | NH
Wilcox Lake | NY
Green Mountain National Forest | VT

Associated Species: *Appendix lists scientific names*

BIRDS: similiar to northern hardwood: black-and-white warbler, blackburnian warbler, black-throated blue warbler, black-throated green warbler, eastern wood pewee, hermit thrush, northern saw-whet owl, ovenbird, pine warbler, ruffed grouse, scarlet tanager, veery, wood thrush

MAMMALS: black bear, fisher, gray fox, northern flying squirrel, porcupine, smoky shrew, southern flying squirrel, white-footed mouse, woodland jumping mouse

PLANTS: broad beech fern (Phegopteris hexagonoptera), flowering dogwood (Cornus florida), american squawroot (Conopholis americana)

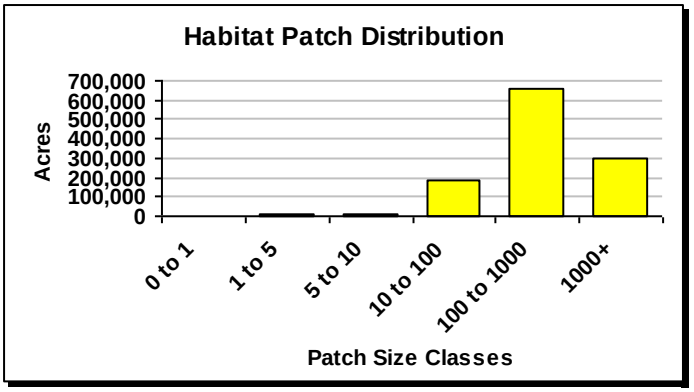
Species of Concern (G1-G4): *Appendix lists scientific names*

MAMMALS: eastern pipistrelle, eastern small-footed myotis, indiana myotis

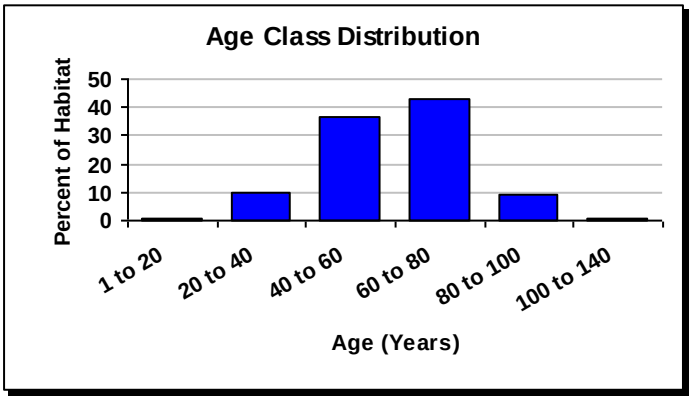
HERPTILES: blue-spotted salamander, brownsnake, eastern box turtle, jefferson salamander, spotted turtle, spring salamander

INSECTS: Carolina saddlebags, columbine duskywing, ocellated darner, swamp darner, tule bluet

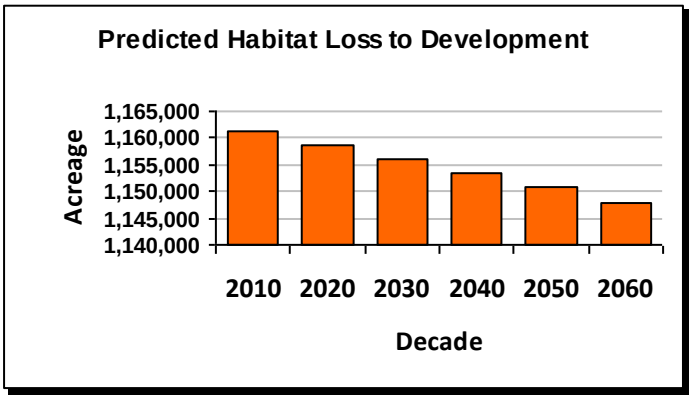
PLANTS: appalachian sandwort (Minuartia glabra), american ginseng (Panax quinquefolius), large whorled pogonia (Isotria verticillata), summer sedge (Carex aestivalis)



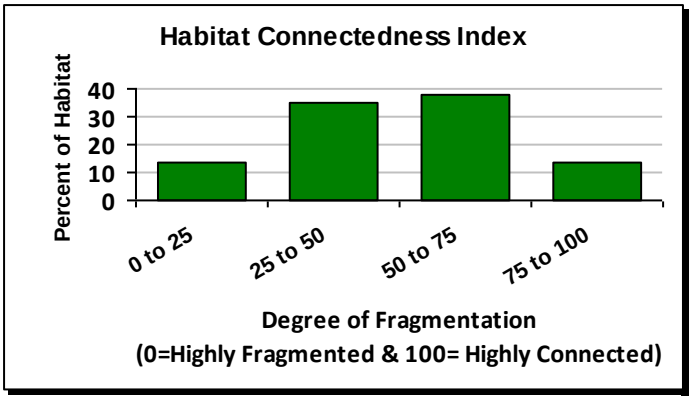
The average patch size for this habitat is 35 acres and the largest single patch is 5,050 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



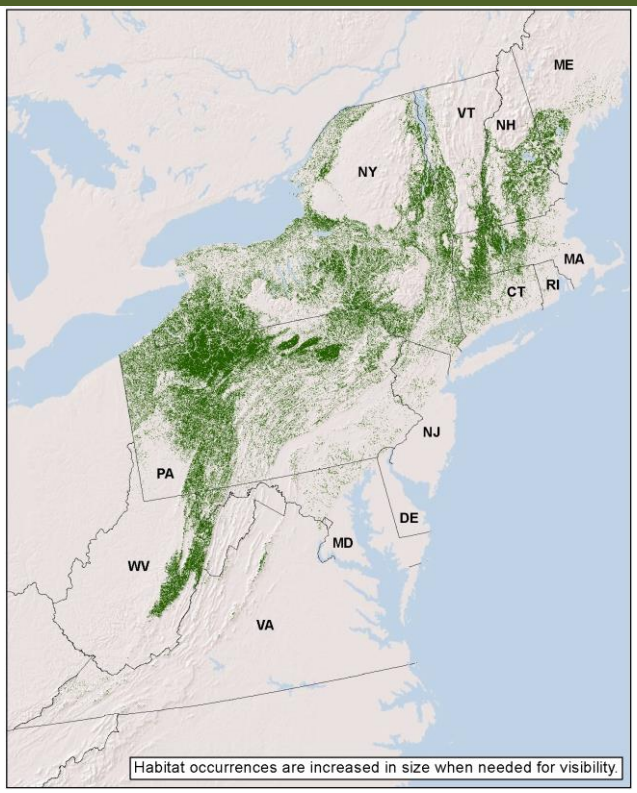
This chart shows the predicted loss of habitat over the next five decades (13,459 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 269 acres per year.



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.

Appalachian (Hemlock)-Northern Hardwood Forest

Macrogroup: Northern Hardwood & Conifer



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.

© Maine Natural Areas Program

State Distribution: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Total Habitat Acreage: 20,995,362

Percent Conserved: 20.1%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
PA	39%	8,222,612	277,012	1,806,913	6,138,687
NY	34%	7,076,972	152,324	658,583	6,266,065
NH	6%	1,198,529	27,144	159,115	1,012,270
MA	5%	1,146,700	28,973	293,801	823,926
WV	5%	1,124,973	87,413	350,843	686,717
VT	3%	618,372	11,962	31,754	574,655
CT	3%	584,654	33,138	82,288	469,229
ME	2%	458,159	4,591	19,974	433,594
MD	1%	282,180	22,613	51,901	207,666
VA	1%	137,971	46,141	23,812	68,018
NJ	1%	127,379	35,274	8,106	84,000
RI	0%	11,945	435	4,496	7,014
DE	0%	3,633	40	1,308	2,285
DC	0%	1,283	0	0	1,283

Crosswalk to State Name Examples:

Cove Forest (CT), Northern Hardwoods-Hemlock-White Pine Forest (MA), Eastern Hemlock - Hardwood Forest (MD), Hemlock Forest (ME), Hemlock - Oak - Northern Hardwood Forest (NH), Mesic Hemlock-Hardwood Forest (NJ), Hemlock-Northern Hardwood Forest (NY), Hemlock (White Pine) - Northern Hardwood Forest (PA), Appalachian Hemlock - Northern Hardwood Forest (VA), Northern Hardwood Forest - Hemlock-Northern Hardwood Forest (VT), Hemlock Forests (WV)

Description:

A hardwood forest of sugar maple, american beech, and yellow birch, sometimes mixed with, and sometimes dominated by, eastern hemlock. Northern red oak and white oak occur commonly, but do not dominate. Black cherry, black birch, white pine, and tuliptree are typical on nutrient rich or historically disturbed sites. This forest system is broadly defined, and is the only one to occur in at least parts of all 13 states of the Northeast and Mid-Atlantic. It is the dominant forest type in the central and northern part of its range (Allegheny Mountains northward through central New England), and occurs as smaller patches in more protected locations to the south.

Ecological Setting and Natural Processes:

This habitat type is an ecological generalist in much of its range, occupying low to mid-elevations on a variety of landforms and bedrock types. Drier, typic, and moist/cool variants occur along a gradient from higher, more exposed sites to lower, more protected ones. To the south, the hemlock wooly adelgid and a warming climate may push this system to more closely resemble Southern Appalachian Oak Forests.

Similar Habitat Types:

The hardwood mix in this system has a more Appalachian character than those found in cooler Laurentian-Acadian Northern Hardwood Forests. The L-A Pine-Hemlock-Hardwood Forest is similar to this system, but also favors cooler settings. Northeastern Coastal and Interior Pine-Oak Forest replaces it in lower relief areas on the coastal plain, and is more pine-rich.

Crosswalk to State Wildlife Action Plans:

Upland Forest - Coniferous Forests (CT), Upland Forest (MA), Northern Conifer – Hardwood Forests (MD), Deciduous and Mixed Forest (ME), Hemlock Hardwood Pine Forests (NH), Upland forests - mixed deciduous-coniferous forest (NJ), Mixed Northern Hardwoods (NY), Deciduous/Mixed Forest (upland) (PA), Deciduous Forests - Deciduous Forest Beech-Maple (RI), Forest Habitat - Mixed Forest (VA), Northern Hardwood Forest - Hemlock-Northern Hardwood Forest (VT), Hemlock forests (WV)

Places to Visit this Habitat:

Tunxis State Forest | CT
Savage River State Forest | MD
Allegany State Park | NY
Allegheny National Forest Non-Reserved | PA
Monongahela National Forest | WV

Associated Species: *Appendix lists scientific names*

BIRDS: barred owl, blackburnian warbler, black-throated blue warbler, black-throated green warbler, chesnut-sided warbler, eastern wood-pewee, hermit thrush, louisiana waterthrush, ovenbird, ruffed grouse, scarlet tanager, wood thrush

MAMMALS: black bear, fisher, gray fox, northern flying squirrel, porcupine, smoky shrew, southern flying squirrel, white-footed mouse, woodland jumping mouse

HERPTILES: northern redbelly snake

PLANTS: broad beech fern (Thelypteris hexagonoptera), flowering dogwood (Cornus florida), four-leaved milkweed (Asclepias quadrifolia), perfoliate bellwort (Uvularia perfoliata), round-leaved tick trefoil (Desmodium rotundifolium), spicebush (Lindera benzoin), squawroot (Conopholis americana), pinedrops (Pterospora andromedea)

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

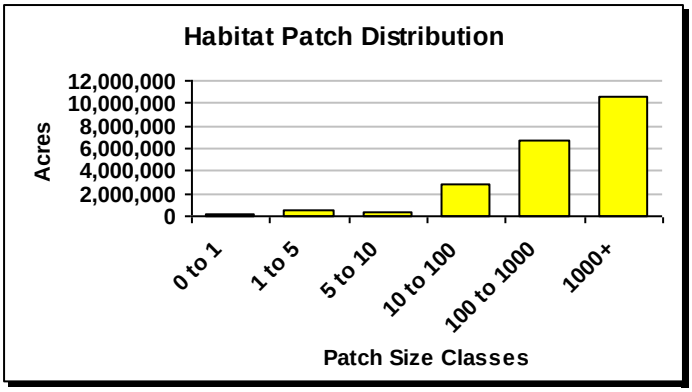
BIRDS: brown creeper, canada warbler, northern goshawk

MAMMALS: allegheny woodrat, indiana myotis, southern rock vole, southern water shrew, virginia northern flying squirrel

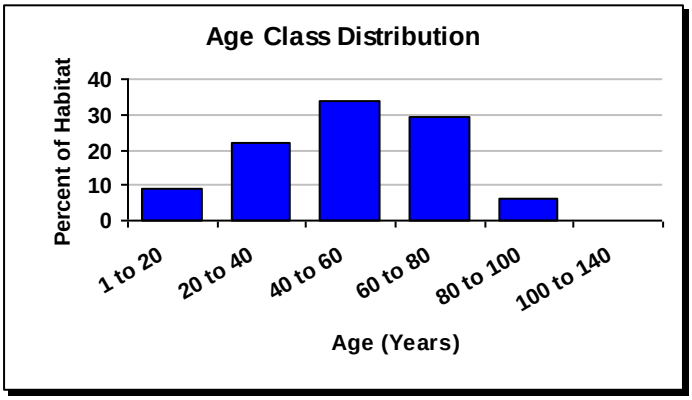
HERPTILES: cheat mountain salamander, eastern massasauga, green salamander, mountain earth snake, northern spring salamander

INSECTS: early hairstreak butterfly, spicebush swallowtail butterfly, west virginia white

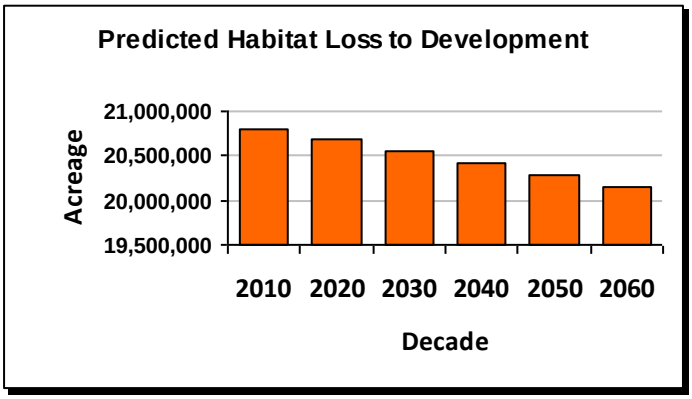
PLANTS: American ginseng (Panax quinquefolius), appalachian blue violet (Viola appalachiensis), black bugbane (Actaea racemosa), Case's ladies'-tresses (Spiranthes casei), hairy beardtongue (Penstemon hirsutus), laurentian bladder fern (Cystopteris laurentiana), mountain bugbane (Actaea podocarpa), small skullcap (Scutellaria parvula)



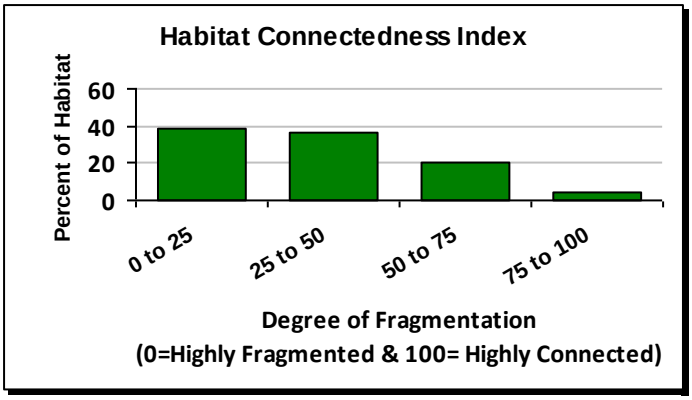
The average patch size for this habitat is 19 acres and the largest single patch is 39,064 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



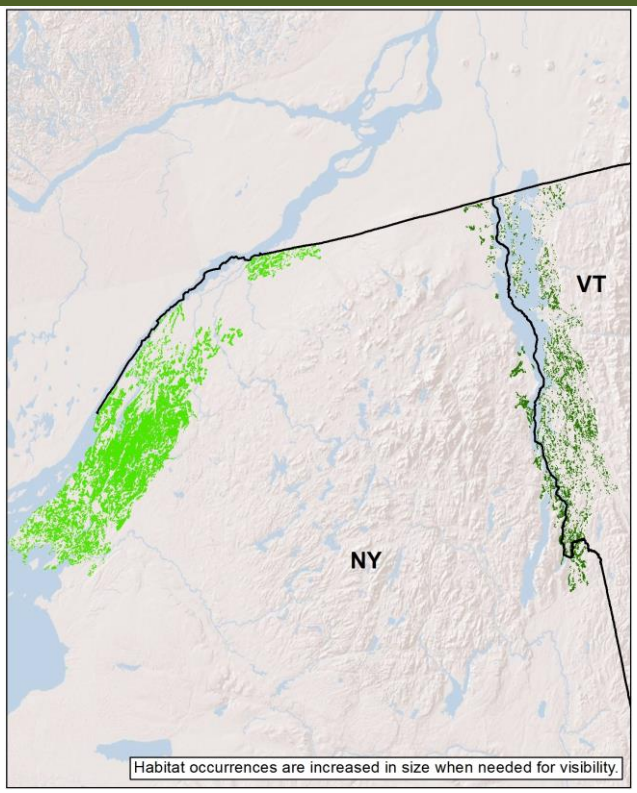
This chart shows the predicted loss of habitat over the next five decades (667,316 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 13,346 acres per year.



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.

Glacial Marine & Lake Mesic Clayplain Forest

Macrogroup: Northern Hardwood & Conifer



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.

© Eric Sorenson (Vermont Fish & Wildlife)

State Distribution: NY, VT

Total Habitat Acreage: 236,851

Percent Conserved: 8.0%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	86%	204,873	1,471	15,417	187,985
VT	14%	31,978	1,004	994	29,980

Description:

A hardwood forest of northern clayplains dominated by a shifting balance of oaks (white, red, swamp white, bur), maples (red and sugar), hemlock and white pine, ash and shagbark hickory, and other associates. The understory herb layer is distinctive and rich, and native and non-native shrubs can be dense. These forests developed on deep clay and silt soils deposited in proglacial lakes and inland seas during late stages of the Northeast's last glaciation. Formerly the dominant ("matrix") forest of the clayplain landscape, the few large tracts of it that survived human settlement are still notably diverse. It is not known to what extent occurrences mapped in northwestern New York (light green) may differ in ecological character from those in the Champlain Valley (dark green).

Ecological Setting and Natural Processes:

Occurs in deep, fertile, fine-grained soils with impeded drainage on gently convex landforms in low relief lake and marine plains. In some areas thin lenses of sand overlay the clay soils. Root systems are often shallow in the moist soils and blowdowns are common; resulting fine-scaled variation in microtopography and soil drainage can lead to high diversity in the shrub and herb layers in drier hummocks and wetter hollows.

Similar Habitat Types:

Clayplain forests could be seen as a moist subset of those in the much more broadly defined Appalachian (Hemlock-)Northern Hardwood system. Some ecologists recognize lower (up to 300') and higher elevation (300-600') variants. Forms a patchy mosaic with Glacial Marine & Lake Wet Clayplain Forests, a wetland variant in slight depressions with more poorly drained soils.

Crosswalk to State Name Examples:

Crosswalk to State Wildlife Action Plans:

Places to Visit this Habitat:

Beaver Creek State Forest | NY
Pulpit Rock State Forest | NY
South Hammond State Forest | NY
Upper and Lower Lakes Wildlife Management Area | NY
Bald Mountain Natural Area | VT

Associated Species: *Appendix lists scientific names*

BIRDS: wood thrush, eastern wood pewee, ovenbird, northern oriole, downy woodpecker

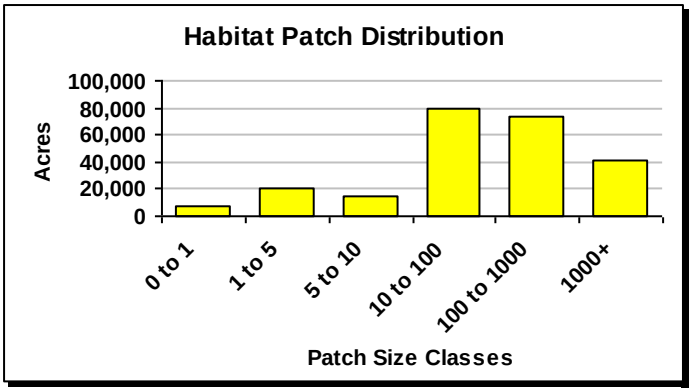
MAMMALS: gray squirrel, beaver, raccoon

HERPTILES: blue spotted salamander, american toad, wood frog, grey treefrog

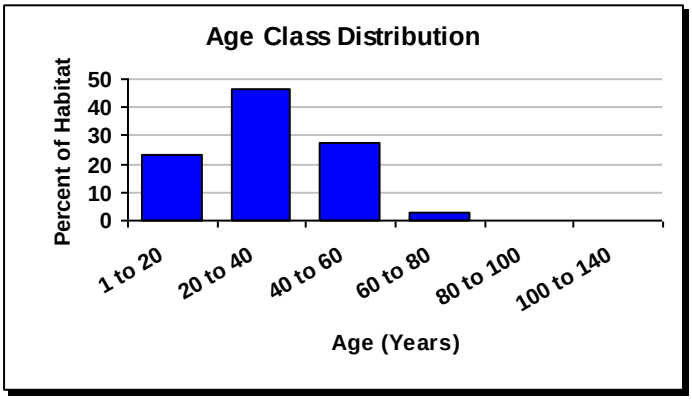
PLANTS: American hazelnut (Corylus americana), broad beech fern (Phegopteris hexagonoptera), drooping bluegrass (Poa saltuensis), leafy bulrush (Scirpus polyphyllus), rough avens (Geum laciniatum), short-styled snakeroot (Sanicula canadensis)

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

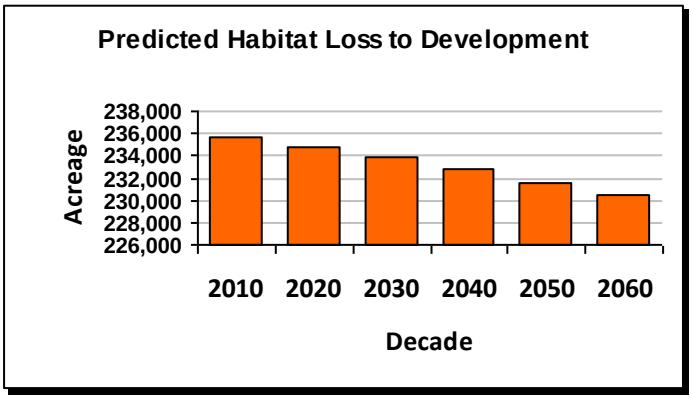
© Eric Sorenson (Vermont Fish & Wildlife)



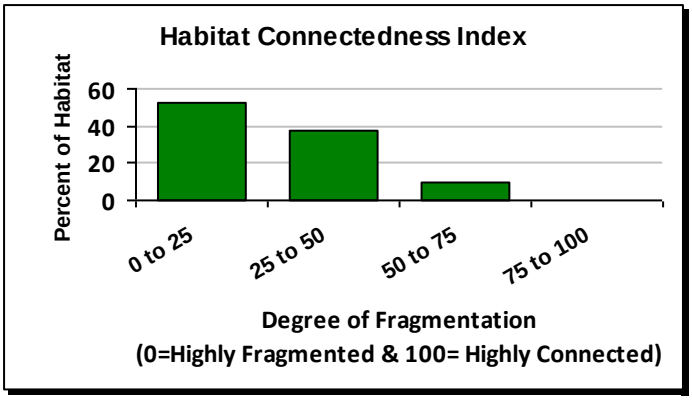
The average patch size for this habitat is 6 acres and the largest single patch is 4,192 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



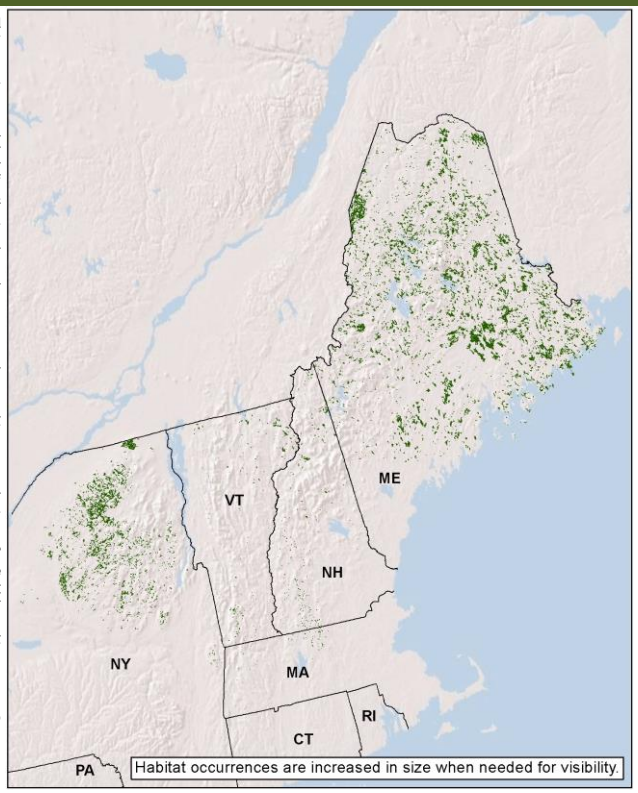
This chart shows the predicted loss of habitat over the next five decades (5,277 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 106 acres per year.



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.

Boreal-Laurentian-Acadian Acidic Basin Fen

Macrogroup: Northern Peatland



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.

© Elizabeth Thompson (Vermont Land Trust)

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

Total Habitat Acreage: 401,390

Percent Conserved: 34.0%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	78%	313,420	23,052	57,326	233,042
NY	18%	73,477	29,463	18,215	25,799
NH	2%	7,333	2,247	1,539	3,546
VT	2%	6,443	1,583	2,616	2,243
MA	0%	717	57	206	454

Crosswalk to State Name Examples:

Acidic Graminoid Fen (MA), Leatherleaf Boggy Fen (ME), Bog Rosemary - Sedge Fen (NH), Inland Poor Fen (NY), Poor Fen (VT)

Description:

A sedge, grass, and dwarf-shrub dominated peatland of the northern part of the glaciated Northeast. Almost intermediate between a marsh and a bog, these fens develop in relatively shallow basins with nutrient-poor and acidic conditions, and may form a floating peat-based mat over water. The substrate is (generally deep) peat moss, and vegetation typically includes patches of graminoid herbs: coast sedge, American woollyfruit sedge, tussock sedge, Billings' sedge, tawny cotton-grass. Dwarf-shrubs such as leatherleaf often dominate; stunted black spruce and larch may be present. Northernmost examples may show a distinctive pattern of ribbed fens, narrow low ridges with wetter pools or depressions between the ridges.

Ecological Setting and Natural Processes:

These occur in a variety of physical settings, from small isolated basins ("kettleholes") in glacial deposits to large wetland complexes that may be associated with lakes or streams. They often have well-developed microtopography, and despite the system name, bedrock or groundwater influence can create locally more calcareous conditions.

Similar Habitat Types:

Commonly grades into North-Central Appalachian Acidic Swamp. More widespread than the cooler climate Boreal-Laurentian Bog, and differs from that system in that peat surface is not often raised beyond the influence of surface or groundwater.

Crosswalk to State Wildlife Action Plans:

Marshes and Wet Meadows - Acidic Graminoid Fen (MA), Peatlands (ME), Peatlands - Open Peatlands (NH), Open Acidic Peatlands (NY), Open Peatlands - Poor Fen (VT)

Places to Visit this Habitat:

Sunkhaze Meadows National Wildlife Refuge | ME
Upper St. John River (The Nature Conservancy) | ME
Lake Umbagog National Wildlife Refuge | NH
Debar Mountain Wild Forest | NY
Independence River State Forest | NY

Associated Species: *Appendix lists scientific names*

BIRDS: alder flycatcher, wilson's snipe, lincoln's sparrow, northern waterthrush, palm warbler, spruce grouse, tennessee warbler, white-throated sparrow, wilson's warbler

MAMMALS: masked shrew, meadow jumping mouse, southern bog lemming, southern red-backed vole

HERPTILES: four-toed salamander, pickerel frog, red-bellied snake, spotted salamander, ribbon snake

INSECTS: bog elfin, lake emerald, pitcher plant borer moth, ringed boghaunter

PLANTS: bog aster (Oclemena nemoralis), bog bedstraw (Galium labradoricum), boreal bog sedge (Carex magellanica), bog willow (Salix pedicellaris), dwarf water-lily (Nymphaea leibergii), ink-berry (Ilex glabra), bog bedstraw (Galium labradoricum), mud sedge (Carex limosa), prickly bog sedge (Carex atlantica), swamp birch (Betula pumila)

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

BIRDS: rusty blackbird, yellow rail

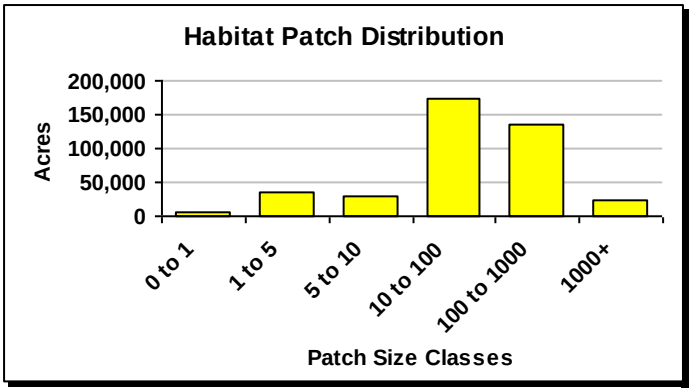
MAMMALS: southern bog lemming

HERPTILES: blanding's turtle

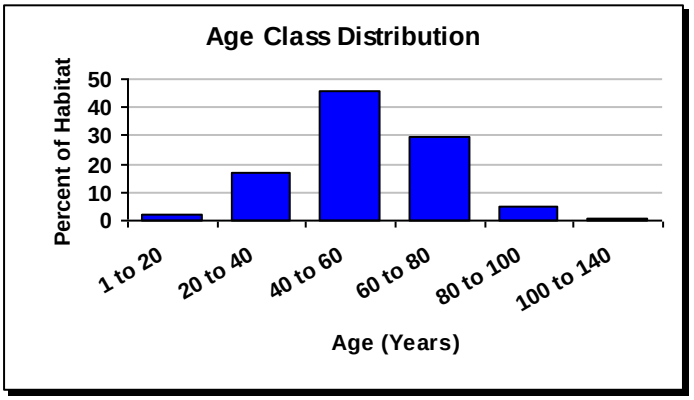
INSECTS: broadtailed shadowdragon, Canada whiteface, Clayton's copper butterfly, crowberry blue, incurvate emerald, Quebec emerald

PLANTS: long's bulrush (Scirpus longii), Sphagnum andersonianum, swamp-pink (Arethusa bulbosa)

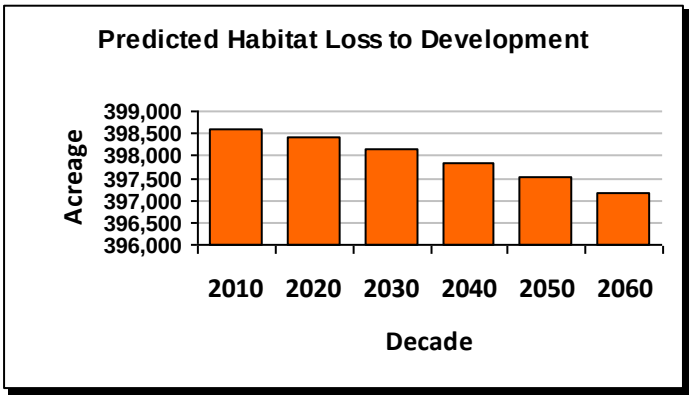
© Eric Sorenson (Vermont Fish & Wildlife)



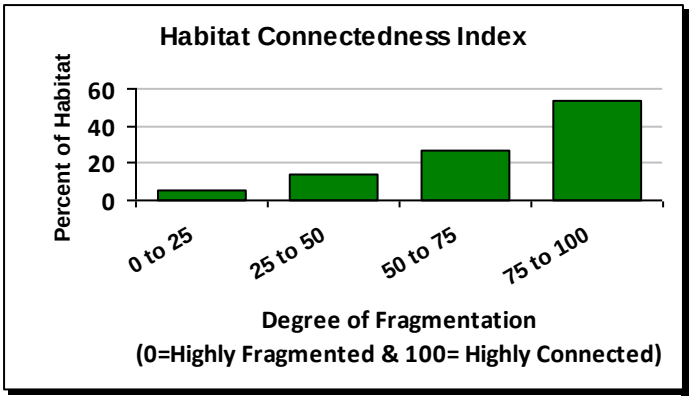
The average patch size for this habitat is 10 acres and the largest single patch is 3,118 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



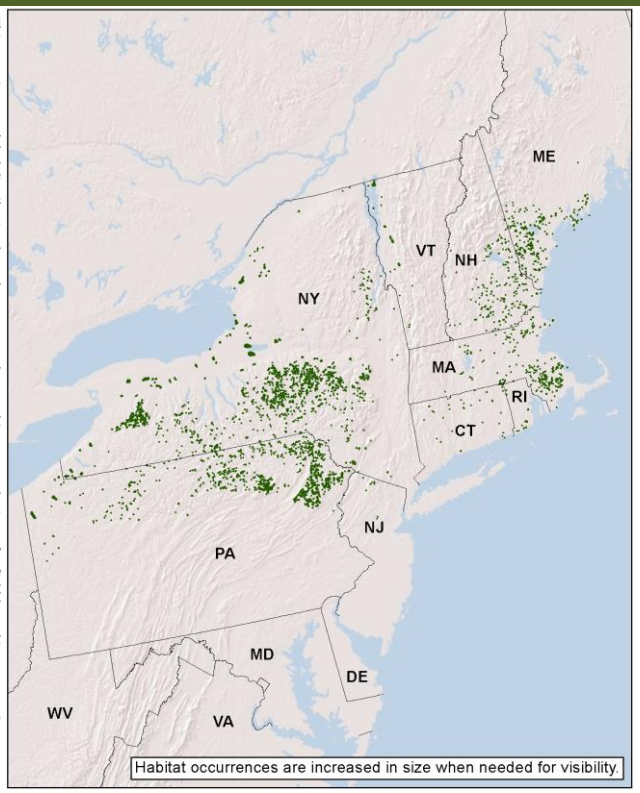
This chart shows the predicted loss of habitat over the next five decades (1,451 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 29 acres per year.



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.

North-Central Interior and Appalachian Acidic Peatland

Macrogroup: Northern Peatland



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.

© Pennsylvania Natural Heritage Program

State Distribution: CT, MA, ME, NH, NJ, NY, PA, RI, VT

Total Habitat Acreage: 83,789

Percent Conserved: 38.1%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	45%	38,102	439	10,217	27,447
PA	36%	30,168	6,235	9,630	14,303
ME	6%	4,844	92	539	4,212
MA	5%	4,208	232	1,307	2,670
NH	3%	2,896	124	946	1,827
VT	3%	2,452	1,525	36	891
CT	1%	598	91	90	417
RI	0%	355	36	210	109
NJ	0%	164	141	17	7

Crosswalk to State Name Examples:

Shrub Inland Wetland - Bogs: (CT), Level Bog (MA), Leatherleaf Boggy Fen (ME), Highbush blueberry - mountain holly wooded fen (NH), Glacial Bog (NJ), Black Spruce-Tamarack Bog (NY), Leatherleaf – Bog-Rosemary Bog (PA), Dwarf Shrub Fen/Bog (RI), Open Peatlands - Dwarf Shrub Bog (VT)

Description:

A dwarf-shrub peatland of small basins south of the coldest regions of the Northeast down to near the glacial boundary, where stagnated ice left coarse deposits and glacial depressions. Vegetation is dominated by heath shrubs and dwarf-shrubs (e.g., leatherleaf), with patches of sedges and forbs. . Some peatlands may have a sparse tree layer (black spruce, larch, pitch pine). Although these are often called bogs, because the glacial "kettleholes" and small basins they form in are generally closed (i.e., without inlets or outlets of surface water), in most cases they should technically be called fens (albeit nutrient-poor ones) because the vegetation remains in contact with the groundwater.

Ecological Setting and Natural Processes:

The nutrient-poor substrate and the reduced throughflow of water create conditions fostering the development of peat and peatland vegetation. In deeper basins, the vascular vegetation grows on a peat mat over water, with no mineral soil development.

Similar Habitat Types:

Occur mostly south of the range of Boreal-Laurentian-Acadian Acidic Basin Fen. Similar to Laurentian-Acadian Conifer-Hardwood Acid Swamp, though with basin-associated landscape settings and vegetation typical of a more temperate climate.

Crosswalk to State Wildlife Action Plans:

Shrub Inland Wetland - Bogs: (CT), Peatlands - Fens (MA), Peatlands (ME), Peatlands - Open Peatlands (NH), Open Acidic Peatlands (NY), Wetlands - Forested Wetlands and Bogs (PA), Shrub Wetlands - Shrub Bog Unspecified (RI), Open Peatlands - Dwarf Shrub Bog (VT)

Places to Visit this Habitat:

Waterboro Barrens Preserve | ME
Hickory Lake State Forest | NY
Delaware State Forest | PA
Erie National Wildlife Refuge - Seneca Division | PA
Pymatuning State Park | PA

Associated Species: *Appendix lists scientific names*

BIRDS: alder flycatcher, blue-winged teal, Wilson's snipe, northern harrier, northern waterthrush, swamp sparrow, white-throated sparrow, willow flycatcher, yellow-bellied flycatcher

MAMMALS: meadow jumping mouse, masked shrew, snowshoe hare, southern red-backed vole

HERPTILES: queen snake, ribbon snake

INSECTS: azure bluet, green-striped darner, Henry's elfin, lilypad clubtail, northern bluet, petite emerald, ski-tipped emerald, sweetflag spreadwing

PLANTS: bog goldenrod (Solidago uliginosa), bog rosemary (Andromeda polifolia), boreal bog sedge (Carex magellanica), flatleaf bladderwort (Utricularia intermedia), common labrador tea (Ledum groenlandicum), northern comandra (Geocaulon lividum), northern green orchid (Platanthera aquilonis), pod grass (Scheuchzeria palustris), sword bogmat (Wolffiella gladiata), twig-rush (Cladium mariscoides)

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

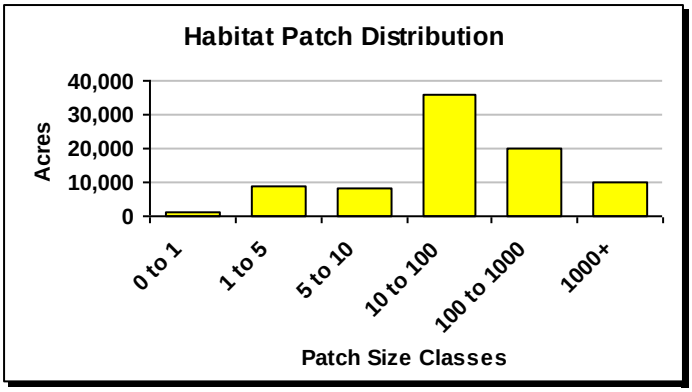
BIRDS: olive-sided flycatcher, rusty blackbird

MAMMALS: snowshoe hare

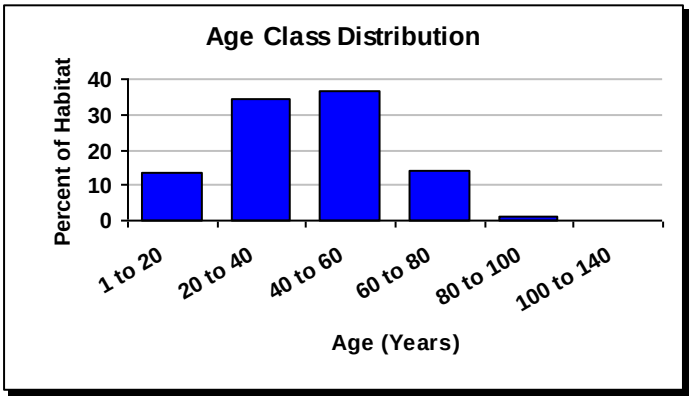
HERPTILES: Blanding's turtle, jefferson salamander

INSECTS: Appalachian eyed brown, attenuated bluet, black dash, bog copper, bog elfin, bogbean buckmoth, bronze copper, chain fern corer moth, coastal bog metarranthis, dusky azure, ebony boghaunter, elfin skimmer, four-lined chocolate moth, Harris's checkerspot, Hessel's hairstreak, incurvate emerald, mottled darner, new England bluet, pitcher plant borer moth, pitcher plant moth, ringed boghaunter, sundew cutworm Moth

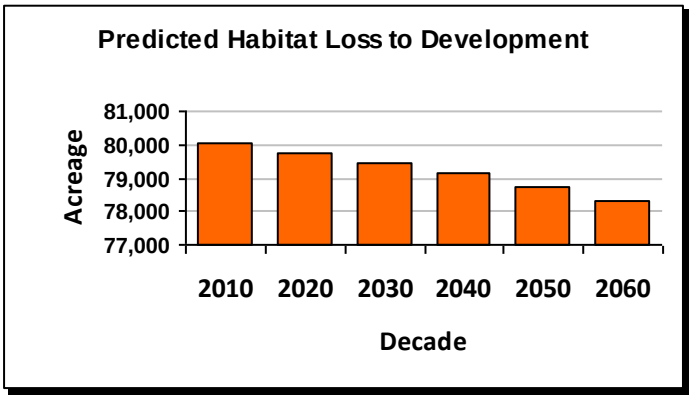
PLANTS: swamp-pink (Arethusa bulbosa), white-fringe orchis (Platanthera blephariglottis)



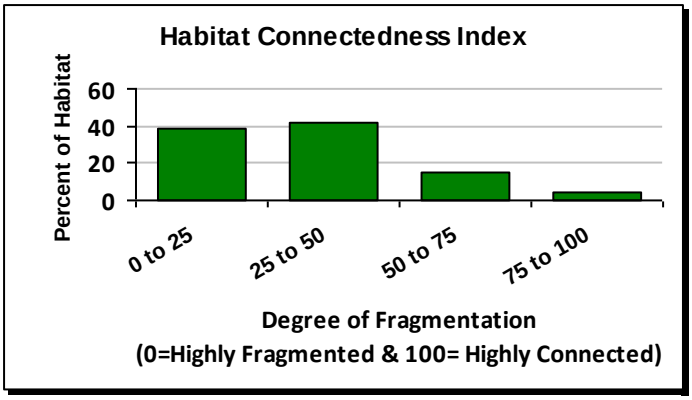
The average patch size for this habitat is 9 acres and the largest single patch is 2,839 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



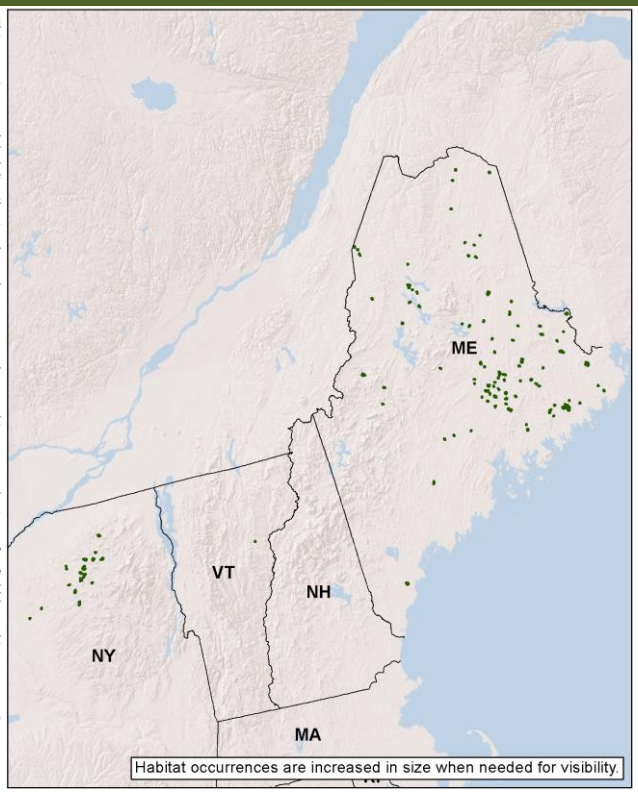
This chart shows the predicted loss of habitat over the next five decades (1,711 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 34 acres per year.



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.

Boreal-Laurentian Bog

Macrogroup: Northern Peatland



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.

© Andy Cutco (Maine Natural Areas Program)

State Distribution: ME, NY, VT

Total Habitat Acreage: 45,394

Percent Conserved: 40.6%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	82%	37,385	7,667	4,629	25,089
NY	17%	7,856	3,251	2,708	1,897
VT	0%	153	0	153	0

Crosswalk to State Name Examples:

Sheep Laurel Dwarf Shrub Bog (ME), Dwarf Shrub Bog (NY), Black Spruce Woodland Bog (VT)

Description:

A raised peatland of near-boreal latitudes of the glaciated northeastern and north-central United States and adjacent Canada. Often more than 500 meters in diameter, they are dominated by low heath shrubs (sheep laurel, bog laurel, Labrador tea, leatherleaf) and patches of sedge and bryophyte lawns. Sparse to patchy black spruce and larch are also characteristic, with tree cover usually less than 25%. Typical forbs include sundews, pitcher plants, and several orchids. The accumulated peat forms a central surface that typically is over the water table (ombrotrophic) and displays concentric patterning. While the raised portion defines these bogs, fen vegetation is often present along the wetter perimeter.

Ecological Setting and Natural Processes:

Raised peatlands are found at northern latitudes, where climate allows the rate of peat accumulation to exceed its decomposition. They are acidic and nutrient poor. Their remoteness ensures that most examples are in intact landscapes, but a changing climate threatens their longer term viability.

Similar Habitat Types:

Nutrient poor fens, marshes, and acidic swamps often occur as inclusions within or adjacent to these bogs. Their distance from the coast, morphology, and peat depth distinguish them from Acadian Maritime Bogs.

Crosswalk to State Wildlife Action Plans:

Peatlands (ME), Open Acidic Peatlands (NY), Open Peatlands - Black Spruce Woodland Bog (VT), Open Peatlands - Dwarf Shrub Bog (VT)

Places to Visit this Habitat:

Great Heath Public Reserved Land | ME
Saco Heath Preserve | ME
Sunkhaze Meadows National Wildlife Refuge | ME
Debar Mountain Wild Forest | NY
Frank E. Jadwin Memorial State Forest | NY

Associated Species: *Appendix lists scientific names*

BIRDS: boreal chickadee, canada warbler, lincoln's sparrow, mourning warbler, nashville warbler, olive-sided flycatcher, palm warbler, spruce grouse, american three-toed woodpecker, yellow-bellied flycatcher

MAMMALS: big brown bat, eastern pipistrelle, little brown myotis, masked shrew, northern bog lemming, northern long-eared bat, raccoon, red bat, silver-haired bat, smoky shrew, snowshoe hare, water shrew

HERPTILES: four-toed salamander

INSECTS: jutta Arctic, mantled Baskettail, ringed boghaunter

PLANTS: bog aster (Oclemena nemoralis), boreal bog sedge (Carex magellanica), ink-berry (Ilex glabra), livid sedge (Carex livida), mountain alder (Alnus viridis), mountain cranberry (Vaccinium vitis-idaea), twining bartonia (Bartonia paniculata), swamp birch (Betula pumila)

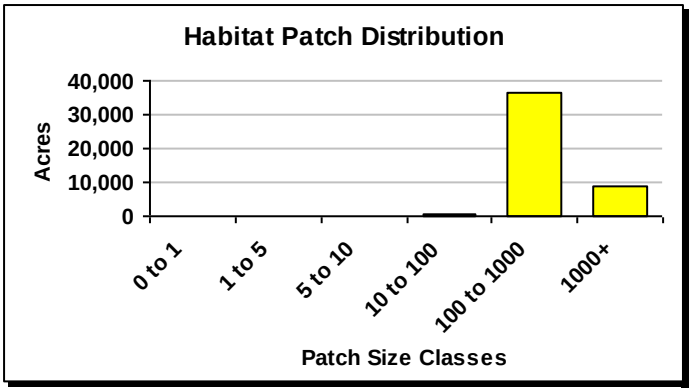
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: black-backed woodpecker, rusty blackbird

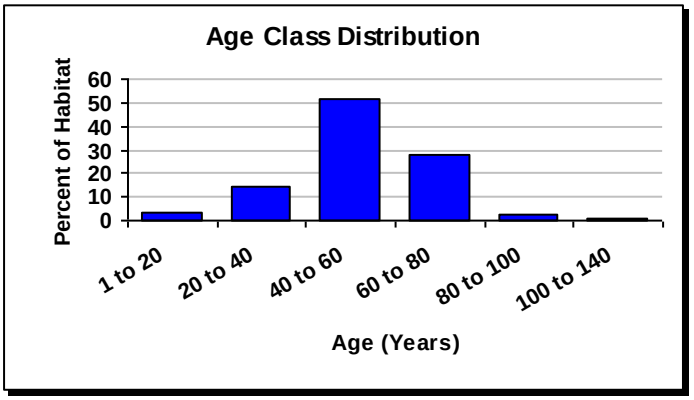
HERPTILES: bog turtle

INSECTS: bog elfin, incurvate emerald, Quebec emerald

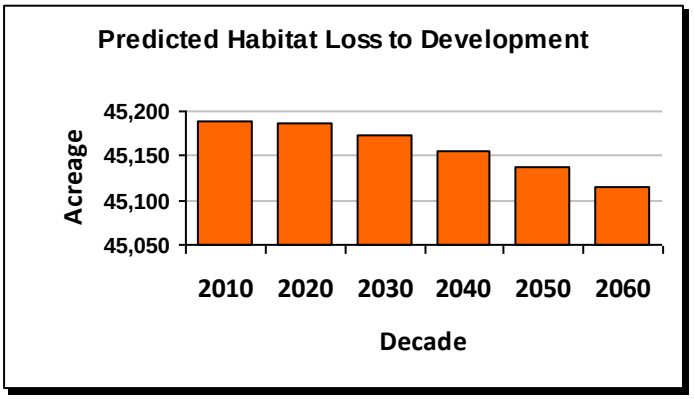
PLANTS: long's bulrush (Scirpus longii), slenderleaf sundew (Drosera linearis), southern twayblade (Listera australis), swamp-pink (Arethusa bulbosa)



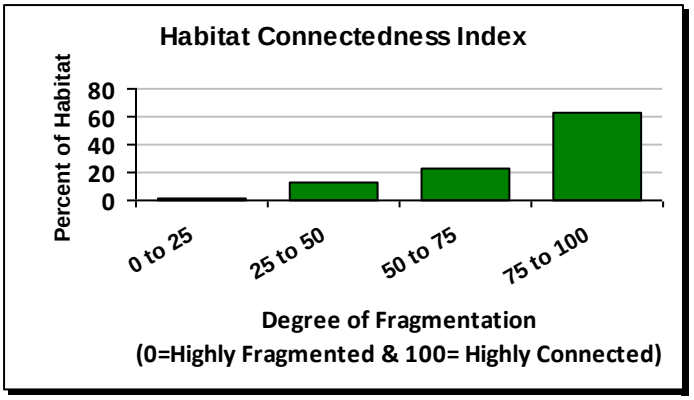
The average patch size for this habitat is 219 acres and the largest single patch is 3,173 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



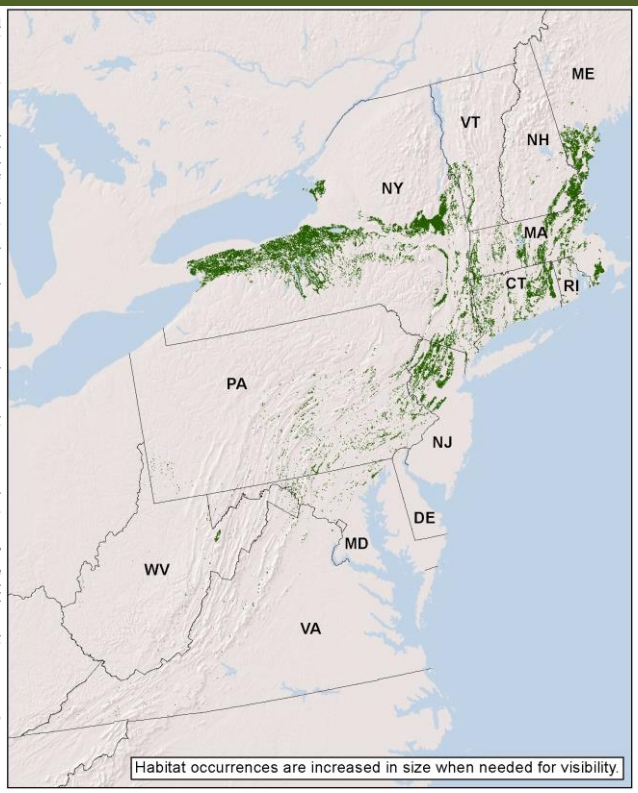
This chart shows the predicted loss of habitat over the next five decades (73 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 1 acres per year.



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.

North-Central Interior and Appalachian Rich Swamp

Macrogroup: Northern Swamp



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.

© Elizabeth Thompson (Vermont Land Trust)

State Distribution: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Total Habitat Acreage: 830,818

Percent Conserved: 12.0%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	57%	477,197	8,788	23,091	445,318
MA	12%	97,085	3,219	20,942	72,924
NJ	8%	65,853	14,570	3,360	47,923
CT	7%	61,367	3,321	7,547	50,499
ME	6%	50,962	1,159	2,184	47,618
NH	3%	28,320	1,780	4,476	22,064
PA	3%	28,125	1,271	1,786	25,068
VT	1%	8,935	118	649	8,167
RI	1%	5,679	255	737	4,687
MD	1%	4,219	298	270	3,651
VA	0%	1,932	79	49	1,804
WV	0%	1,096	46	45	1,006
DE	0%	28	0	4	25
DC	0%	19	0	0	19

Crosswalk to State Name Examples:

Circumneutral Maple/Ash Basin Swamp (CT), Central Appalachian Basic Seepage Swamp (DE), Red Maple-Black Ash Swamp (MA), Montane Basic Seepage Swamp (MD), Red Maple - Black Ash Swamp (NH), Calcareous Seepage Swamp (NJ), Red Maple-Tamarack Peat Swamp (NY), Red Maple - Black Ash Palustrine Forest (PA), Red Maple/Ash Swamp (RI), Central Appalachian Basic Seepage Swamp (VA), Hardwood Swamps - Calcareous Red Maple-Tamarack Swamp (VT), Wetlands - Scrub/Shrub Swamps (PA)

Description:

A hardwood or occasionally mixed swamp of alkaline wetlands associated with limestone or other calcareous substrate in the southern portion of the region. Red maple and black ash are the dominant deciduous trees in most examples. Conifers may include larch, but typically not northern white cedar, which is characteristic of more northern wetlands. The canopy can be variable, as there may be shrubby or herbaceous openings within the swamp. A diverse ground cover is made up of some combination of herbs indicative of nutrient-rich conditions, ferns, and bryophytes characteristic of fens.

Ecological Setting and Natural Processes:

This forested wetland occurs at low to mid elevations. They are found in poorly drained depressions or at the margins of stream valley bottoms, where higher pH and/or nutrient levels are associated with a rich flora. The substrate is primarily mineral soil, but there may be some peat development. Basin settings may still be hydrologically connected to nearby streams.

Similar Habitat Types:

Similar to Laurentian-Acadian Alkaline Conifer-Hardwood Swamp, but with vegetation characteristic of a warmer climate. North-Central Appalachian Acidic Swamps include mixed swamps in the same part of the Northeast, but in less enriched settings, with different tree dominance and a less rich flora. Small patch rich fens may be embedded within the larger swamp complex.

Crosswalk to State Wildlife Action Plans:

Forested Inland Wetland - unspecified (CT), Forested Swamps (MA), Forested Seepage Wetlands (MD), Mixed Hardwood Swamp (NY), Wetlands - Forested Wetlands and Bogs (PA), Wetlands - Scrub/Shrub Swamps (PA), Forested Wetlands - Forested Deciduous Wetland Unspecified (RI), Hardwood Swamps - Calcareous Red Maple-Tamarack Swamp (VT)

Places to Visit this Habitat:

Salmon River State Forest | CT
Willowdale State Forest | MA
Wallkill River National Wildlife Refuge | NJ
Montezuma National Wildlife Refuge | NY
Canaan Valley National Wildlife Refuge | WV

Associated Species: *Appendix lists scientific names*

BIRDS: alder flycatcher, american black duck, blue-winged teal, least flycatcher, northern waterthrush, red-shouldered hawk, swamp sparrow, willow flycatcher, wood duck

MAMMALS: beaver

HERPTILES: four-toed salamander, longtail salamander, northern cricket frog, red-eyed slider, southern leopard frog, spotted salamander

INSECTS: Acadian hairstreak, bog tiger moth, frosted whiteface, Kennedy's emerald

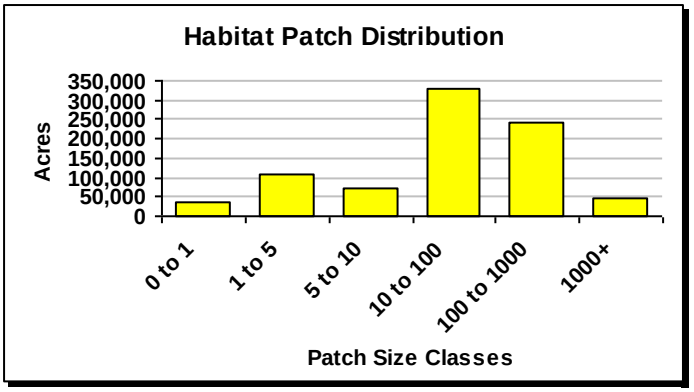
PLANTS: big shellbark hickory (Carya laciniosa), bitternut hickory (Carya cordiformis), dwarf dogwood (Cornus canadensis), four-flower loosestrife (Lysimachia quadriflora), naked bishop's-cap (Mitella nuda), pumpkin ash (Fraxinus profunda), purple avens (Geum rivale), roundleaf goldenrod (Solidago patula), showy lady's-slipper (Cypripedium reginae), yellow sedge (Carex flava)

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

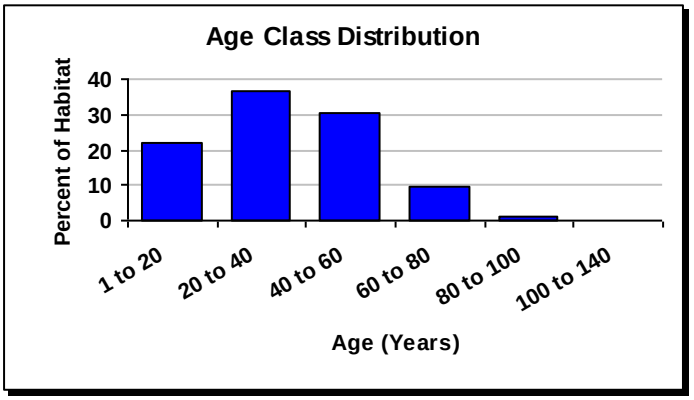
INSECTS: sable clubtail (Gomphus rogersii)

PLANTS: autumn willow (Salix serissima), Engelmann's spikerush (Eleocharis engelmannii), Hill's pondweed (Potamogeton hillii), many-headed sedge (Carex sychnocephala), prairie straw sedge (Carex suberecta), short-fruit rush (Juncus brachycarpus), spreading globeflower (Trollius laxus), weak stellate sedge (Carex seorsa)

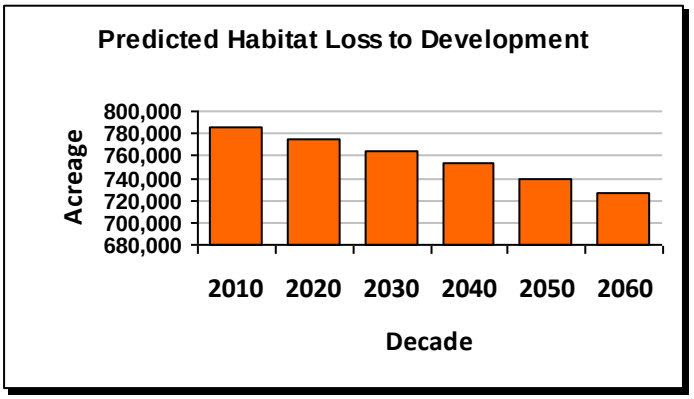
© Elizabeth Thompson (Vermont Land Trust)



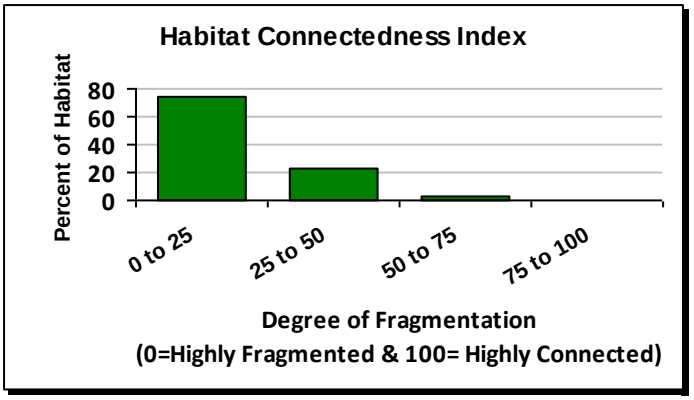
The average patch size for this habitat is 5 acres and the largest single patch is 3,380 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



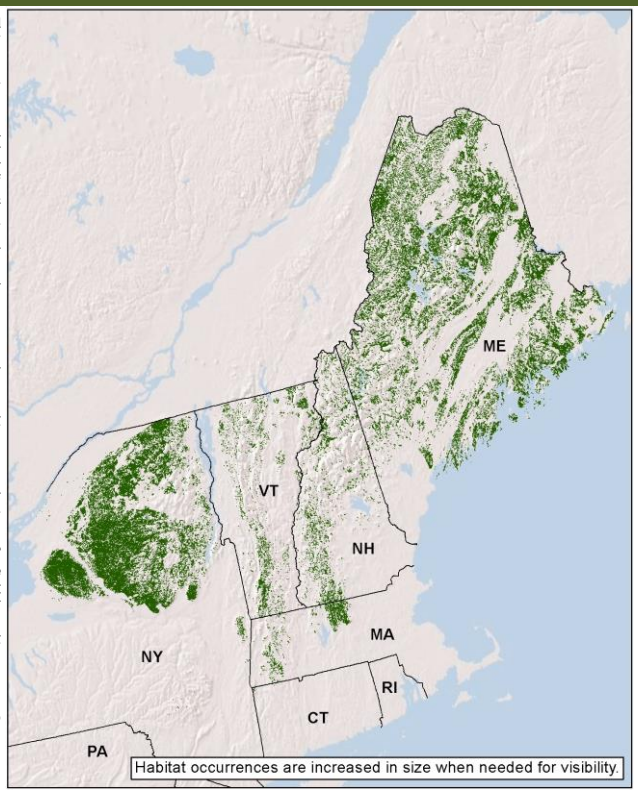
This chart shows the predicted loss of habitat over the next five decades (58,581 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 1,172 acres per year.



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.

Northern Appalachian-Acadian Conifer-Hardwood Acidic Swamp

Macrogroup: Northern Swamp



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.

© Elizabeth Thompson (Vermont Land Trust)

State Distribution: CT, MA, ME, NH, NY, PA, VT

Total Habitat Acreage: 1,311,922

Percent Conserved: 38.0%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	49%	640,892	25,658	112,701	502,534
NY	42%	549,248	208,194	105,359	235,695
VT	4%	48,793	6,774	14,499	27,520
NH	3%	45,828	4,220	10,134	31,474
MA	2%	26,938	2,217	9,049	15,672
CT	0%	220	1	14	205
PA	0%	2	0	0	2

Crosswalk to State Name Examples:

Forested Inland Wetland - Red/Black Spruce Swamps (CT), Red Spruce Swamp (MA), Hemlock - Hardwood Pocket Swamp (ME), Black Spruce Swamp (NH), Spruce-Fir Swamp (NY), Red Maple - Mixed Shrub Palustrine Woodland (PA), Spruce-Fir-Tamarack Swamp (VT)

Description:

A conifer or mixed forested swamp of permanently saturated basins with seasonal standing water. Characteristic of the glaciated Northeast, this habitat may develop in peat moss or mineral soil. In peat, trees form a partial to full cover and stunted to well-developed black spruce and larch are dominant. Heath shrubs and sedges are common in the understory, although the dwarf-shrub layer is less well-developed than in open acidic peatlands. In mineral soil, red maple, red spruce, and balsam fir are the most typical trees; ash may be common in some locations. The herbaceous and shrub layers tend to be fairly species-poor; catberry, tall ferns (cinnamon, interrupted, sensitive), and wetland sedges are typical.

Ecological Setting and Natural Processes:

Occurs in permanently saturated basins and depressions that may have standing water seasonally. Peat moss or mineral soil is the primary substrate, but many examples are associated with streamways, and the more minerotrophic conditions (groundwater contact) yield nutrient levels somewhat higher than in a true bog.

Similar Habitat Types:

Similar to North-Central Appalachian Acidic Swamp, but with a flora characteristic of a cooler climate. Occurs in much of the same area as Laurentian-Acadian Alkaline Conifer-Hardwood Swamp, but experiences less groundwater nutrient enrichment and a generally less diverse flora. Small patch poor fens are often embedded within the larger swamp complex.

Crosswalk to State Wildlife Action Plans:

Forested Inland Wetland - Red/Black Spruce Swamps (CT), Forested Swamps (MA), Forested Wetland (ME), Peatlands - Forested Peatlands (NH), Mixed Hardwood Swamp (NY), Wetlands - Forested Wetlands and Bogs (PA), Hardwood Swamps - Red Maple-Sphagnum Acidic Basin Swamp (VT)

Places to Visit this Habitat:

October Mountain State Forest | MA
Acadia National Park | ME
White Mountain National Forest | NH
Debar Mountain Wild Forest | NY
Green Mountain National Forest | VT

Associated Species: *Appendix lists scientific names*

BIRDS: black-backed woodpecker, blackburnian warbler, blackpoll warbler, gray jay, green heron, lincoln's sparrow, nashville warbler, northern parula, northern waterthrush, swamp sparrow, wilson's warbler, wood duck

MAMMALS: canada lynx, masked shrew, red-backed vole, silver-haired bat

HERPTILES: blue-spotted salamander, spotted salamander

INSECTS: hoary comma, spicebush swallowtail butterfly, water-willow stem borer

PLANTS: large water-starwort (Callitriche heterophylla), largeleaf avens (Geum macrophyllum), spicebush (Lindera benzoin), swamp lousewort (Pedicularis lanceolata), swamp saxifrage (Saxifraga pensylvanica), swamp white oak (Quercus bicolor)

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

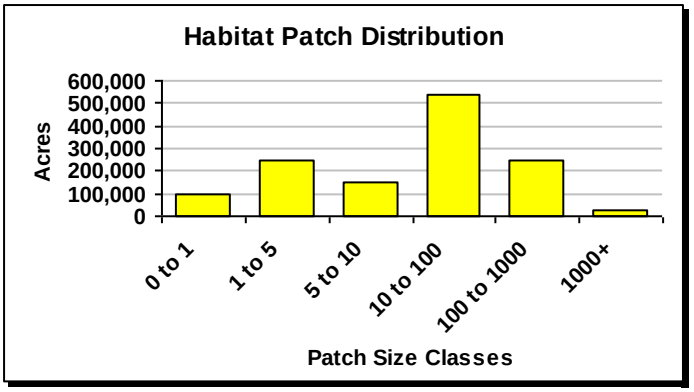
BIRDS: olive-sided flycatcher, rusty blackbird, american three-toed woodpecker

MAMMALS: water shrew

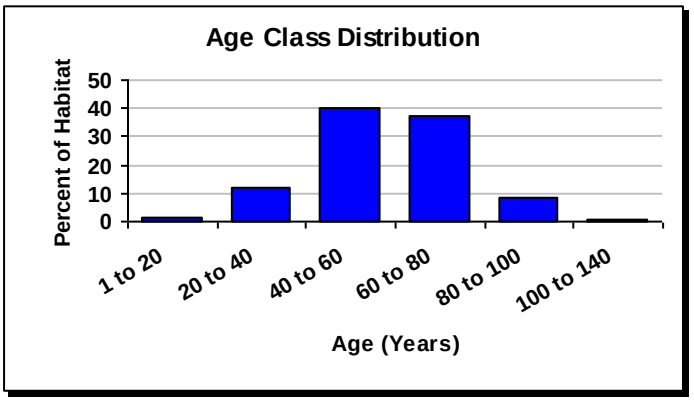
HERPTILES: Blanding's turtle, bog turtle, jefferson salamander, spring salamander, wood turtle

INSECTS: beaverpond clubtail, bird dropping moth, bog elfin, Clayton's copper butterfly, pygmy snaketail, twilight moth

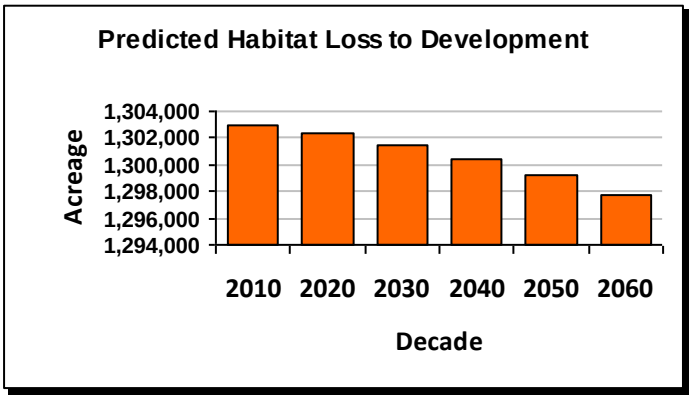
PLANTS: mosses (Calliergon obtusifolium, Calliergon richardsonii), creeping rush (Juncus subtilis), marsh valerian (Valeriana uliginosa), nova scotia false foxglove (Agalinis neoscotica), slender spikerush (Eleocharis nitida)



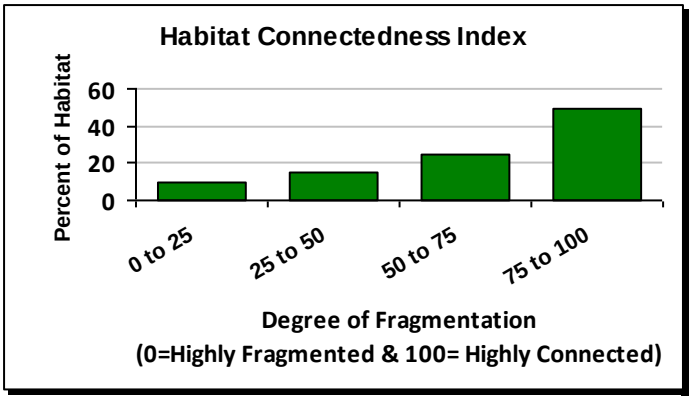
The average patch size for this habitat is 3 acres and the largest single patch is 1,976 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



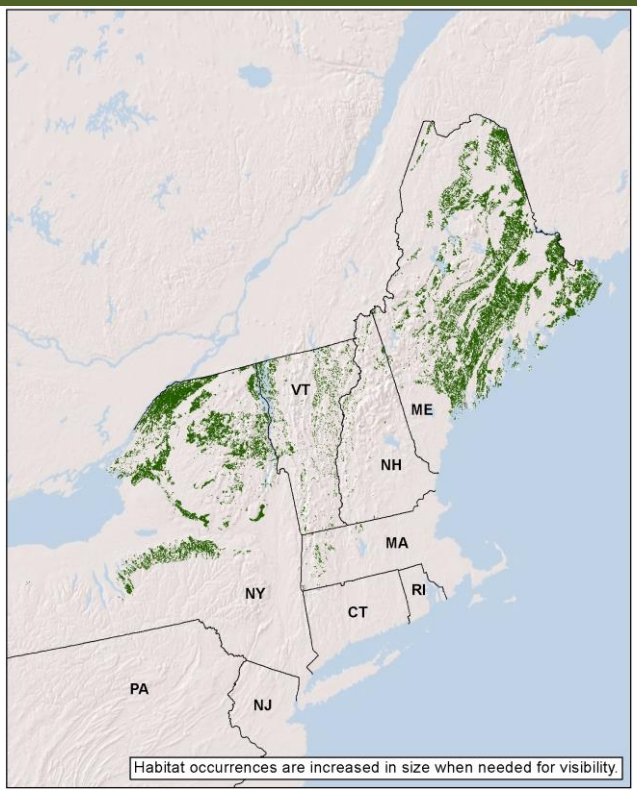
This chart shows the predicted loss of habitat over the next five decades (5,190 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 104 acres per year.



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.

Laurentian-Acadian Alkaline Conifer-Hardwood Swamp

Macrogroup: Northern Swamp



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.

© Elizabeth Thompson (Vermont Land Trust)

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

Total Habitat Acreage: 921,478

Percent Conserved: 19.5%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	56%	520,121	14,203	60,307	445,611
NY	38%	345,750	49,536	44,764	251,450
VT	5%	43,899	1,177	4,786	37,935
NH	1%	7,363	2,054	1,013	4,295
MA	0%	4,261	643	1,267	2,350
CT	0%	86	0	0	86

Crosswalk to State Name Examples:

Forested Inland Wetland - Northern White Cedar Swamps (CT), Black Ash Red-Maple-Tamarack Calcareous Seepage Swamp (MA), Northern White Cedar Swamp (ME), Northern White Cedar - Balsam Fir Swamp (NH), Northern White Cedar Swamp (NY), Red Maple-Northern White Cedar Swamp (VT)

Description:

A forested swamp of alkaline wetlands associated with limestone or other calcareous substrate in the northern part of the glaciated northeast. Northern white cedar is often present and may dominate the canopy or be mixed with other conifers or with deciduous trees, most commonly red maple or black ash. Some examples can be almost entirely deciduous and dominated by black ash. Red-osier dogwood is a common shrub. The herb layer tends to be more diverse than in acidic swamps, due to higher pH and nutrient level. Small open fenny areas may occur within the wetland. The moss layer is often extensive and diverse. Seepage may influence parts of the wetland, but the hydrology is dominated by the basin setting.

Ecological Setting and Natural Processes:

These forested wetlands are uncommon in the glaciated northeast except in areas with extensive limestone or similar substrate. The substrate is typically mineral soil, but there may be some peat, and there is often direct contact with alkaline groundwater.

Similar Habitat Types:

Similar to North-Central Interior and Appalachian Rich Swamp, but with a flora characteristic of a cooler climate. Northern Appalachian-Acadian Conifer-Hardwood Acidic Swamp occupy the same part of the region, but are found in less enriched settings. Small patch Laurentian-Acadian Alkaline Fens are often embedded within the larger swamp complex.

Crosswalk to State Wildlife Action Plans:

Forested Inland Wetland - Northern White Cedar Swamps (CT), Forested Wetland (ME), Northern White Cedar Swamp (NY), Hardwood Swamps - Red Maple-Black Ash Seepage Swamp (VT)

Places to Visit this Habitat:

Moosehorn National Wildlife Refuge | ME
Sunkhaze Meadows National Wildlife Refuge | ME
Lake Umbagog National Wildlife Refuge | NH
High Peaks Wilderness Area | NY
Saranac Lakes | NY

Associated Species: *Appendix lists scientific names*

BIRDS: black-backed woodpecker, canada warbler, golden-crowned kinglet, gray jay, northern waterthrush, palm warbler, red-shouldered hawk, american three-toed woodpecker, veery, white-throated sparrow, wood duck, yellow-bellied flycatcher

MAMMALS: masked shrew, mink, red-backed vole, short-tailed shrew

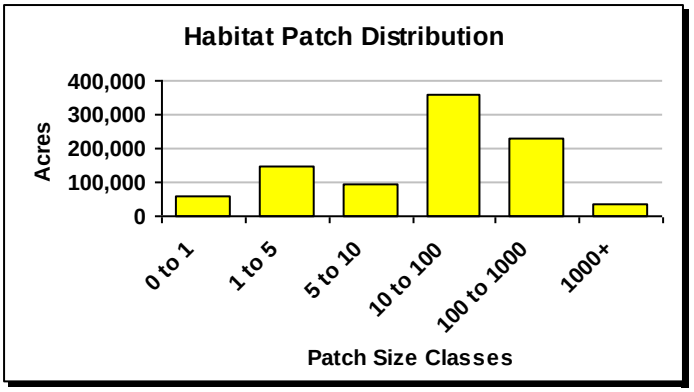
PLANTS: bog aster (Oclemena nemoralis), fairy slipper (Calypso bulbosa), green adder's-mouth (Malaxis unifolia), hoary willow (Salix candida), lapland buttercup (Ranunculus lapponicus), loesel's twayblade (Liparis loeselii), nodding trillium (Trillium flexipes), pink wintergreen (Pyrola asarifolia), swamp thistle (Cirsium muticum), yellow screwstem (Bartonia virginica), yellow water-crowfoot (Ranunculus flabellaris)

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

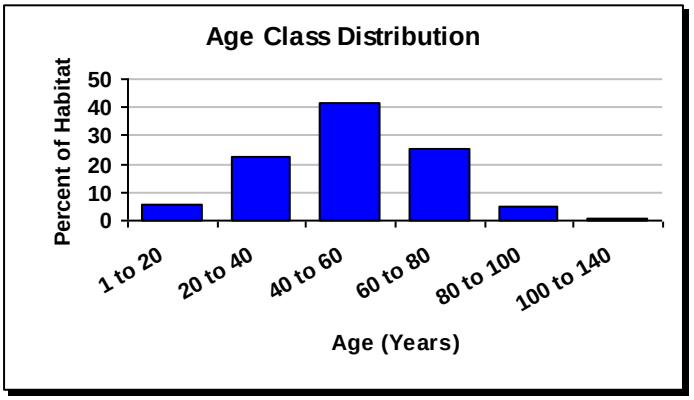
BIRDS: olive-sided flycatcher, yellow rail

INSECTS: Clayton's copper butterfly

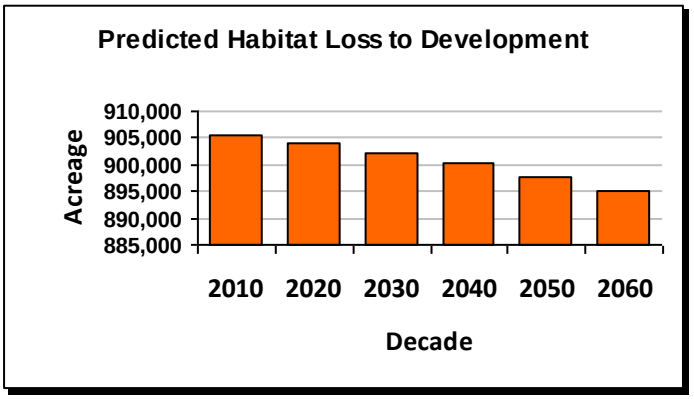
PLANTS: fen mosses (Calliergon spp, Meesia triquetra, Paludella squarrosa, Scorpidium scorpioides, Tomentypnum falcifolium), bog jacob's-ladder (Polemonium vanbruntiae), eastern prairie white-fringed orchid (Platanthera leucophaea), lake-cress (Armoracia lacustris), marsh valerian (Valeriana uliginosa), northern yellow lady's-slipper (Cypripedium parviflorum), prickly hornwort (Ceratophyllum echinatum), rugulose grape-fern (Botrychium rugulosum), sartwell's sedge (Carex sartwellii), small skullcap (Scutellaria parvula var. parvula), three-lobed violet (Viola triloba), white adder's-mouth (Malaxis monophyllos)



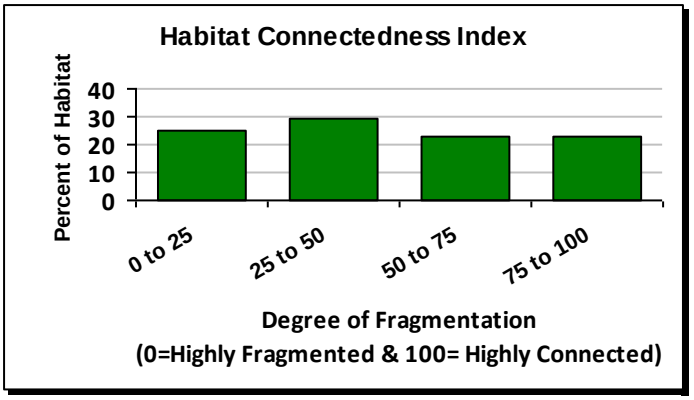
The average patch size for this habitat is 3 acres and the largest single patch is 2,091 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



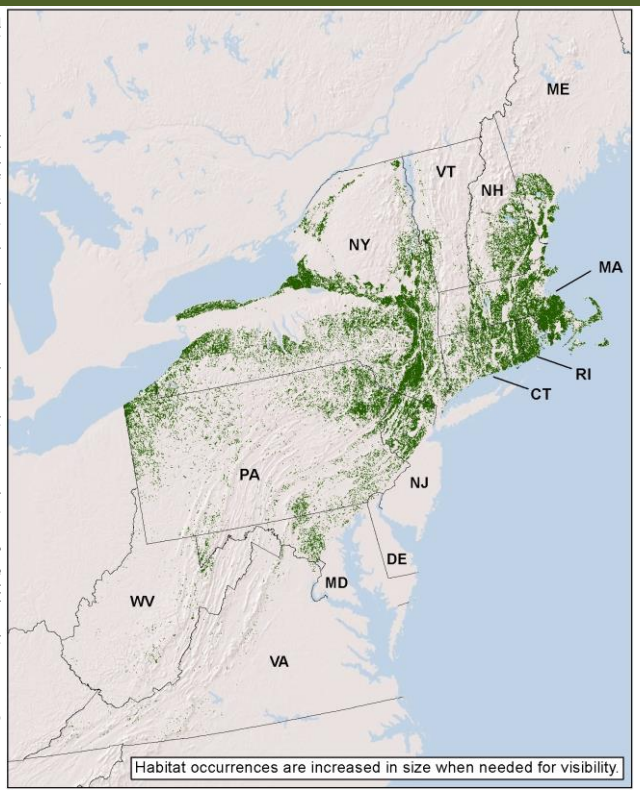
This chart shows the predicted loss of habitat over the next five decades (10,426 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 209 acres per year.



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.

North-Central Appalachian Acidic Swamp

Macrogroup: Northern Swamp



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.

© Shane Gebauer (New York Natural Heritage Program)

State Distribution: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Total Habitat Acreage: 1,505,822

Percent Conserved: 19.1%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	38%	573,190	12,114	41,979	519,097
MA	18%	272,643	13,012	62,775	196,856
PA	14%	213,320	15,593	42,685	155,042
CT	7%	112,088	6,555	17,448	88,085
NJ	6%	86,025	18,977	6,977	60,071
NH	6%	85,981	3,020	15,884	67,078
RI	4%	67,734	6,254	13,470	48,010
ME	4%	61,849	1,027	4,633	56,189
MD	1%	15,080	424	2,666	11,991
VT	1%	10,235	149	544	9,542
VA	0%	4,111	113	498	3,500
WV	0%	3,060	22	180	2,857
DE	0%	358	6	137	215
DC	0%	147	0	0	147

Crosswalk to State Name Examples:

Acidic Red Maple-Ericaceous Basin Swamp (CT), Red Maple/Tussock Sedge Wooded Marsh (DE), Hemlock/Inland Atlantic White Cedar Swamp (MA), Montane - Piedmont Acidic Seepage Swamp (MD), Red Maple - Skunk Cabbage Swamp (NH), Inland Red Maple Swamp (NJ), Red Maple-Hardwood Swamp (NY), Red Maple - Mixed Shrub Palustrine Woodland (PA), Hemlock/Hardwood Swamp (RI), Central Appalachian Low-Elevation Acidic Seepage Swamp (VA), Red Maple-White Pine-Huckleberry Swamp (VT)

Description:

A conifer or mixed conifer-hardwood swamp of poorly drained acidic substrates throughout central New England and the Central Appalachians, encompassing a broad range of basin, seepage, and stream-associated wetland communities. Hemlock is usually present and may be dominant. It is often mixed with deciduous wetland trees such as red maple or black gum. Spruce is rarely present. Basin swamps tend to be more nutrient-poor than seepage swamps; in some settings, the two occur adjacent to each other with the basin swamp vegetation surrounded by seepage swamp vegetation on its upland periphery.

Ecological Setting and Natural Processes:

Occurs at low to mid elevations (generally <2000 feet) in poorly drained depressions that may be in proximity to a stream. The acidic substrate is mineral soil, often with a component of organic muck; if peat is present, it usually forms a thin layer over the mineral soil rather than a true peat substrate.

Similar Habitat Types:

Similar to the Northern Appalachian-Acadian Conifer-Hardwood Acidic Swamp system, but with vegetation characteristic of a warmer climate. North-Central Interior and Appalachian Rich Swamps occur in the same region, but in more enriched hydrologic settings. Small patch poor fens may be embedded within larger wetland complexes of this type.

Crosswalk to State Wildlife Action Plans:

Forested Inland Wetland - Red/Black Spruce Swamps (CT), Forested Swamps (MA), Upland Depression Swamps (MD), Forested wetlands - hardwood swamps (NJ), Mixed Hardwood Swamp (NY), Wetlands - Forested Wetlands and Bogs (PA), Forested Wetlands - Forested Deciduous Wetland Unspecified (RI), Wetland Habitat - Forested (VA), Softwood Swamps - Hemlock Swamp (VT)

Places to Visit this Habitat:

Pachaug State Forest | CT
Douglas State Forest | MA
Great Swamp National Wildlife Refuge | NJ
Stewart State Forest | NY
Delaware State Forest | PA

Associated Species: *Appendix lists scientific names*

BIRDS: blue-headed vireo, great-crested flycatcher, green heron, green-winged teal, northern waterthrush, veery, wood duck, yellow-bellied flycatcher

MAMMALS: black bear, golden mouse, northern flying squirrel, snowshoe hare

HERPTILES: spotted turtle

INSECTS: arctic skipper, belted whiteface, boreal bluet, common sanddragon, emerald spreadwing, great blue skimmer, harlequin darner

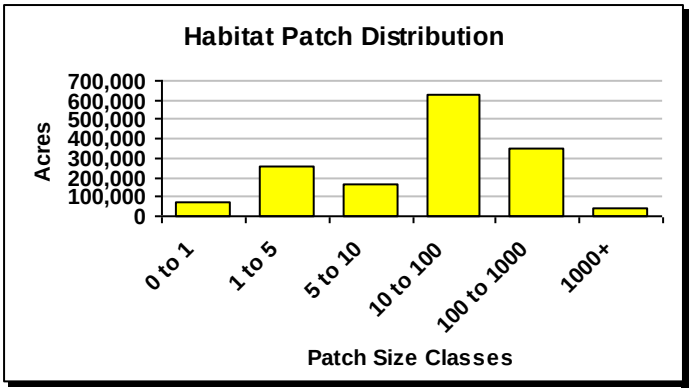
PLANTS: bog rosemary (Andromeda polifolia), boreal bog sedge (Carex magellanica), bushy cinquefoil (Potentilla paradoxa), canada lily (Lilium canadense), common labrador tea (Ledum groenlandicum), creeping snowberry (Gaultheria hispidula), hairy hedge-nettle (Stachys pilosa), smooth gooseberry (Ribes hirtellum), swamp dock (Rumex verticillatus), sweet bayberry (Myrica gale)

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

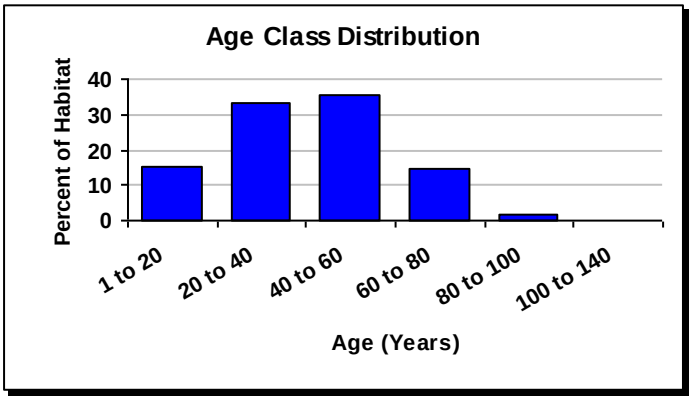
BIRDS: loggerhead shrike, olive-sided flycatcher

INSECTS: Amber-winged spreadwing, attenuated bluet, bog elfin, bog oligia, broad-lined catopyrrha, chain fern corer moth, macrochilo louisiana, northern brocade moth, white corporal

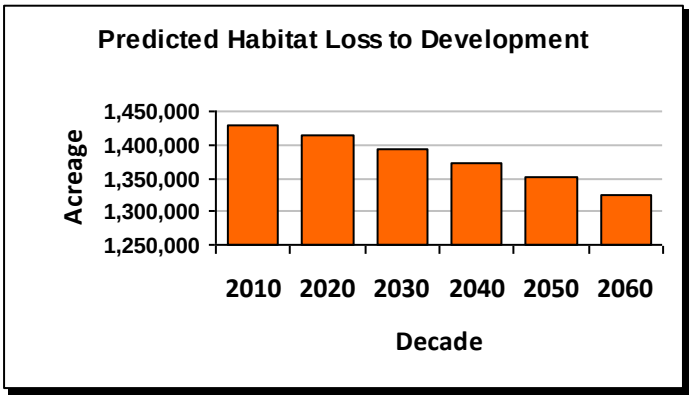
PLANTS: Collins' sedge (Carex collinsii), dwarf azalea (Rhododendron atlanticum), golden puccoon (Lithospermum caroliniense), incurved umbrella-sedge (Cyperus aristatus), many-fruit false-loosestrife (Ludwigia polycarpa), mitchell's sedge (Carex mitchelliana), tall beakrush (Rhynchospora macrostachya), tall bentgrass (Agrostis altissima)



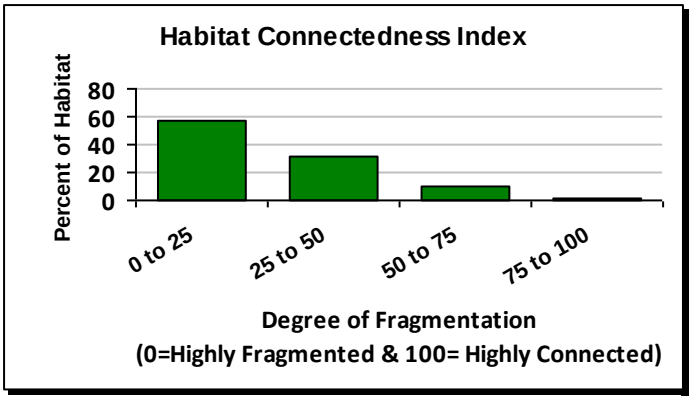
The average patch size for this habitat is 4 acres and the largest single patch is 2,811 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



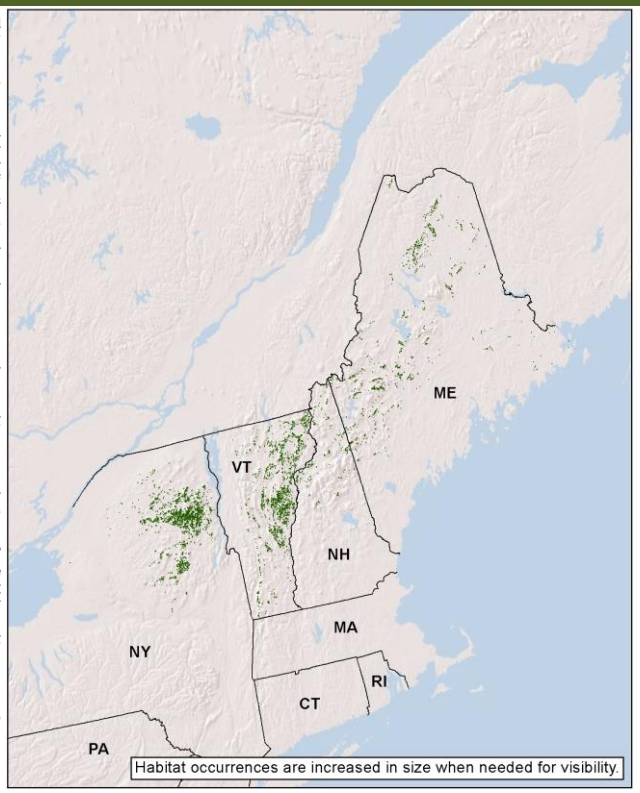
This chart shows the predicted loss of habitat over the next five decades (104,239 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 2,085 acres per year.



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.

Calcareous Rocky Outcrop

Macrogroup: Outcrop & Summit Scrub



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.

© Troy Weldy (New York Natural Heritage Program)

Description:

A sparsely vegetated ridge, summit, dome, or flat plain, composed of circumneutral or calcareous bedrock such as limestone or dolomite The vegetation is a mosaic of woodlands and open glades reflecting the proportion of rock surface to thin soil. Northern white cedar is a characteristic tree although it rarely forms extensive cover. Sites are often exposed and dry; however, there may be local areas of more moist conditions.

State Distribution: ME, NH, NY, VT

Total Habitat Acreage: 50,770

Percent Conserved: 51.5%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
NY	39%	20,023	16,266	1,514	2,242
VT	33%	16,985	1,170	2,612	13,203
ME	21%	10,744	963	2,278	7,503
NH	6%	3,018	920	447	1,650

Ecological Setting and Natural Processes:

Occurs on ridges or summits of circumneutral to calcareous bedrock such as limestone or dolomite This outcrop system occurs in scattered locations from New England west to the Great Lakes. Sites are often exposed and dry; however, there may be local areas of more moist conditions. Exposure, thin soils, and occasional fire are the major factors in keeping the vegetation open.

Similar Habitat Types:

Calcareous rocky outcrops share affinities with calcareous cliff and talus and open glade communities.

Crosswalk to State Name Examples:

Boreal Circumneutral Open Outcrop (ME), Circumneutral Rocky Ridge (NH), Northern White Cedar Rocky Summit (NY), Temperate Calcareous Outcrop (VT)

Crosswalk to State Wildlife Action Plans:

Cliff Face and Rocky Outcrops (ME), Talus Slopes and Rocky Ridges - Rocky Ridges (NH), Rocky Outcrop (NY), Oak-Pine-Northern Hardwood Forest - Limestone Bluff Cedar-Pine Forest (VT)

Places to Visit this Habitat:

Bigelow Preserve | ME
Dix/Giant Mountain Wilderness | NY
High Peaks Wilderness Area | NY
Siamese Ponds | NY
Green Mountain National Forest | VT

Associated Species: *Appendix lists scientific names*

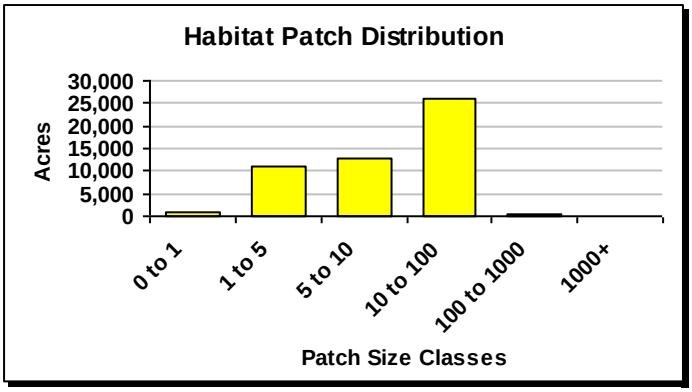
BIRDS: gray jay

PLANTS: bronze sedge (Carex foenea), creeping juniper (Juniperus horizontalis), downy arrowwood (Viburnum rafinesquianum), ebony sedge (Carex eburnea), four-leaved milkweed (Asclepias quadrifolia), fragrant sumac (Rhus aromatica), hairy beardtongue (Penstemon hirsutus), hairy honeysuckle (Lonicera hirsuta), harsh sunflower (Helianthus strumosus), intermediate sedge, lance-leaved draba, lyre-leaved rock cress (Arabis lyrata), purple clematis (Clematis occidentalis), Richardson's sedge (Carex richardsonii)

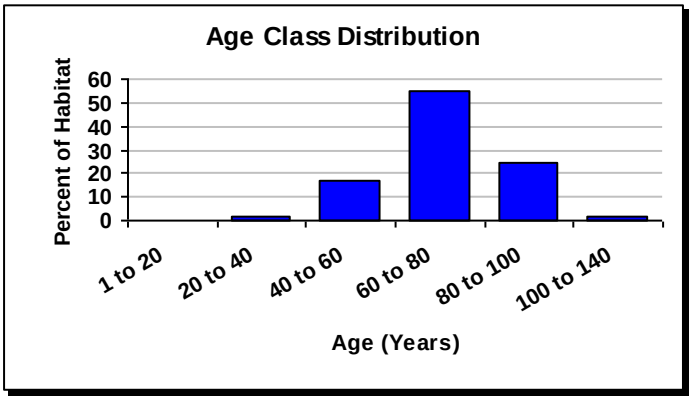
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: Bicknell's thrush

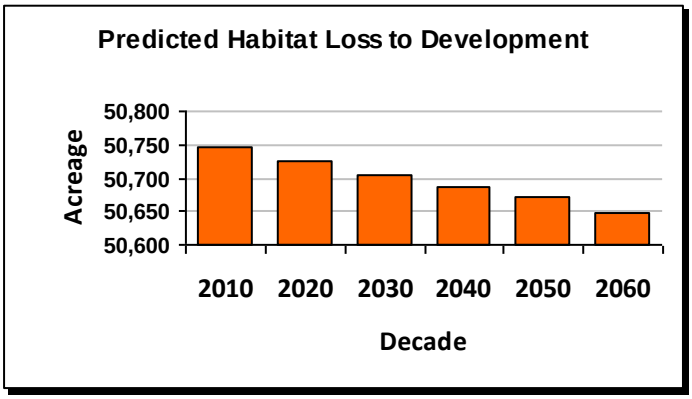
PLANTS: rock whitlow grass (Draba arabisans), sticky goldenrod (Solidago simplex)



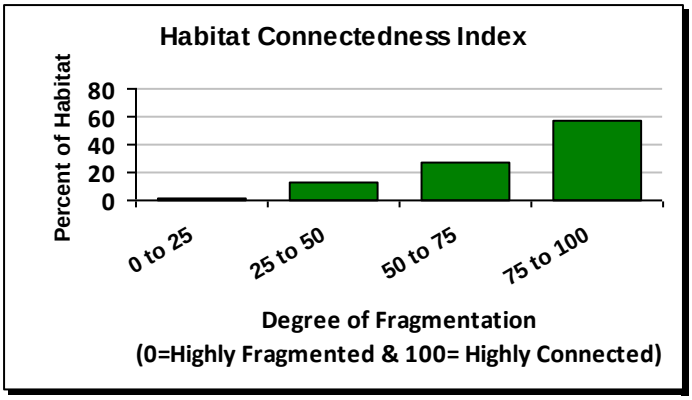
The average patch size for this habitat is 6 acres and the largest single patch is 136 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



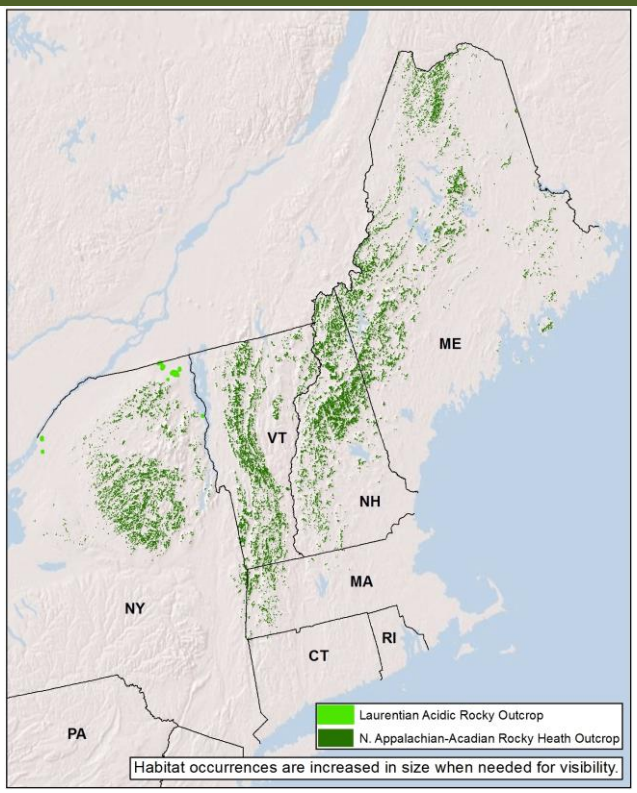
This chart shows the predicted loss of habitat over the next five decades (97 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 2 acres per year.



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.

Acidic Rocky Outcrop

Macrogroup: Outcrop & Summit Scrub



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.

© Josh Royte (The Nature Conservancy, Maine)

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

Total Habitat Acreage: 197,404

Percent Conserved: 55.9%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	27%	53,689	8,884	9,303	35,502
NH	25%	50,310	27,817	9,761	12,732
NY	22%	44,370	25,713	7,866	10,791
VT	22%	43,939	7,341	11,061	25,537
MA	3%	5,005	1,107	1,433	2,466
CT	0%	91	0	6	84

Description:

A sparsely vegetated system on resistant acidic bedrock such as sandstone, quartzite, or granite. The vegetation is a mosaic of woodlands and open glades reflecting the proportion of rock surface to thin soil. At higher elevation or in northern regions characteristic trees, sometimes stunted, include black spruce, red pine, red oak, and scarlet oak. Carpets of low heath shrubs or reindeer lichens are typical. At low to mid elevation stunted red oak, white pine, and red spruce are characteristic over low heath shrubs such as lowbush blueberry, huckleberry, and chokeberry. An open jack pine/heath shrub woodland community on nearly level sandstone pavement in northeastern New York falls into this system. Lichens, mosses, and scattered herbs dominate the ground cover.

Ecological Setting and Natural Processes:

Ridge, summit, dome, or flat plain of resistant acidic bedrock like sandstone or granite. The surface is largely bare rock widths thin soil mats around the edges and in other patches. Exposure, thin soils, and occasional fire are the major factors in keeping the vegetation open. This system is distributed throughout the Northern Appalachian region with a distinct variant in the St Lawrence -Champlain Valley. small patch

Similar Habitat Types:

Similar to the glade and barrens systems farther south, in which environmental stresses and lithochemical factors restrict some vegetation types and promote others. The northern New York flat rock variant is analogous to the Southern Piedmont Granite Flatrock and Outcrop in Virginia.

Crosswalk to State Name Examples:

Upland Herbaceous - Grassy Glades And Balds (CT), Rocky Cliffs, Ridgetops, Talus Slopes, And Other Similar Habitats (MA), Rocky Summit Heath (ME), Red Spruce - Heath - Cinquefoil Rocky Ridge (NH), Red Pine Rocky Summit (NY), Red Pine Forest Or Woodland (VT)

Crosswalk to State Wildlife Action Plans:

Upland Herbaceous - Grassy Glades and Balds (CT), Rocky Cliffs, Ridgetops, Talus Slopes, and Other Similar Habitats (MA), Cliff Face and Rocky Outcrops (ME), Talus Slopes and Rocky Ridges - Rocky Ridges (NH), Rocky Outcrop (NY), Outcrops and Upland Meadows - Boreal Outcrop (VT)

Places to Visit this Habitat:

Baxter State Park | ME
Appalachian Trail | NH
White Mountain National Forest | NH
West Canada Lake | NY
Green Mountain National Forest | VT

Associated Species: *Appendix lists scientific names*

BIRDS: blackpoll warbler

PLANTS: alpine bilberry (vaccinium uliginosum), alpine sweet grass (hierochloe alpina), bigelow's sedge (carex bigelowii), canada mountain ricegrass (piptatherum canadense), douglas' knotweed (polygonum douglasii), mountain sandwort (minuartia groenlandica)

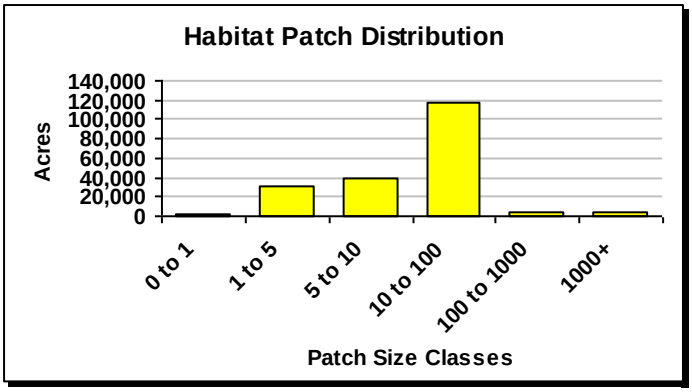
Species of Concern (G1-G4): *Appendix lists scientific names*

BIRDS: Bicknell's thrush, three-toed woodpecker

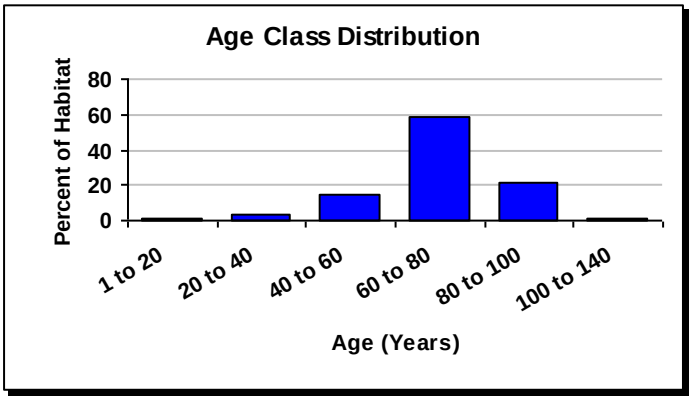
INSECTS: early hairstreak

PLANTS: appalachian sandwort (minuartia glabra)

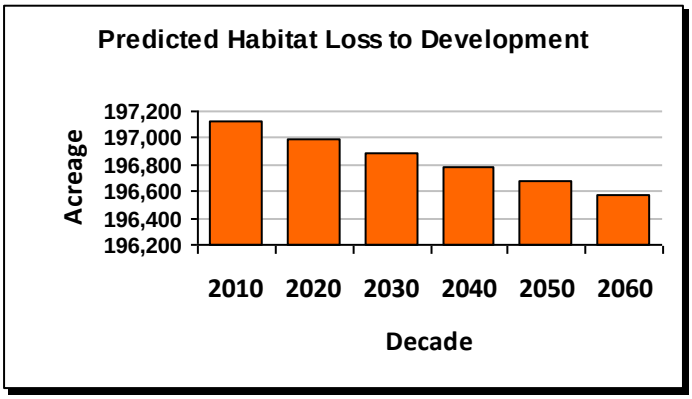
© George Gress (The Nature Conservancy, Pennsylvania)



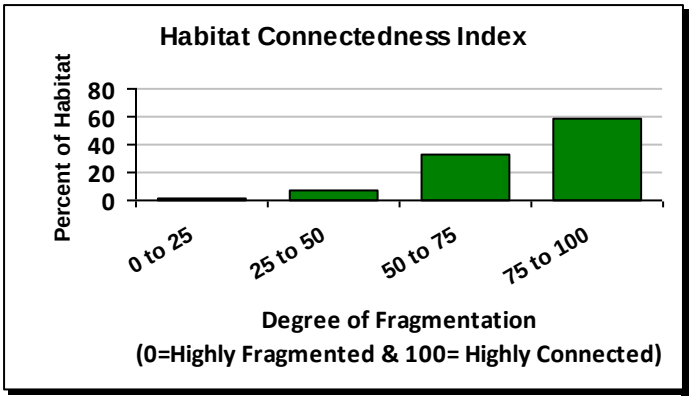
The average patch size for this habitat is 7 acres and the largest single patch is 4,555 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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.



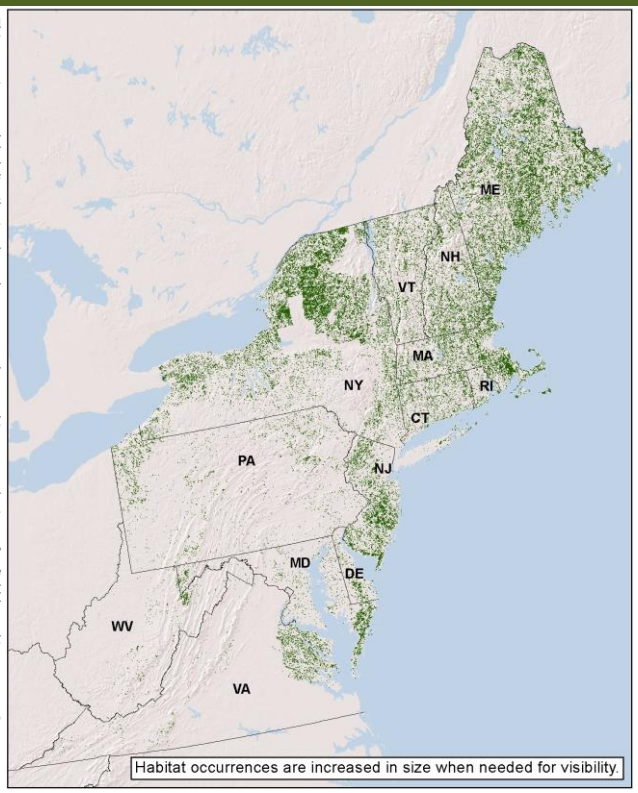
This chart shows the predicted loss of habitat over the next five decades (547 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 11 acres per year.



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.

Laurentian-Acadian Wet Meadow-Shrub Swamp

Macrogroup: Wet Meadow / Shrub Marsh



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.

© Maine Natural Areas Program

State Distribution: CT, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

Total Habitat Acreage: 990,077

Percent Conserved: 25.5%

State	State Habitat %	State Acreage	GAP 1&2 (acres)	GAP 3 (acres)	Unsecured (acres)
ME	30%	297,075	11,928	39,478	245,668
NY	30%	293,979	59,329	38,332	196,318
MA	8%	76,718	4,358	17,980	54,380
NJ	7%	68,351	16,148	9,221	42,983
NH	6%	59,721	3,582	12,416	43,723
VT	4%	42,135	989	5,797	35,350
VA	4%	40,237	574	2,543	37,121
PA	4%	39,797	2,410	4,691	32,696
MD	3%	29,043	1,395	10,655	16,993
CT	2%	23,347	1,741	3,387	18,219
DE	1%	11,617	1,182	2,441	7,994
RI	1%	5,130	497	1,390	3,244
WV	0%	2,928	29	320	2,579

Crosswalk to State Name Examples:

Shrub Inland Wetland - Shrub Thickets (CT), Eastern Tussock Sedge Meadow (DE), Shrub Swamp (MA), Shrub Swamp (MD), Mixed Graminoid - Shrub Marsh (ME), Mixed Tall Graminoid - Scrub-Shrub Marsh (NH), Streamside/Lakeside Shrub Swamp (NJ), Sedge Meadow/Shrub Swamp (NY), Tussock Sedge Marsh (PA), Shrub Swamp (RI), Ridge And Valley Calcareous Spring Marsh (VA), Sedge Meadow (VT)

Description:

A shrub-dominated swamp or wet meadow on mineral soils characteristic of the glaciated Northeast and scattered areas southward. Examples often occur in association with lakes and ponds or streams, and can be small and solitary pockets or, more often, part of a larger wetland complex. The habitat can have a patchwork of shrub and herb dominance. Typical species include willow, red-osier dogwood, alder, buttonbush, meadowsweet, bluejoint grass, tall sedges, and rushes. Trees are generally absent or thinly scattered.

Ecological Setting and Natural Processes:

Shrub swamps and wet meadows are associated with lakes and ponds and along headwater and larger streams where the water level does not fluctuate greatly. They are commonly flooded for part of the growing season but generally do not have standing water throughout the season. This is a dynamic system that may return to marsh in beaver-impounded areas or succeed to wooded swamp with sediment accumulation or water subsidence.

Similar Habitat Types:

Most often occurs with Laurentian-Acadian Freshwater Marsh, acidic or circumneutral forested swamps, peatlands, and floodplain vegetation in large, diverse complexes.

Crosswalk to State Wildlife Action Plans:

Shrub Inland Wetland - Shrub Thickets (CT), Marshes and Wet Meadows - Wet Meadow (MA), Emergent Marsh and Wet Meadows (ME), Marsh and Shrub Wetlands (NH), Forested wetlands - scrub-shrub (NJ), Wet Meadow/Shrub Swamp (NY), Wetlands - Scrub/Shrub Swamps (PA), Emergent Wetlands - Emergent Marsh Shallow/ Wet Meadow (RI), Marshes and Sedge Meadows - Sedge Meadow (VT)

Places to Visit this Habitat:

Redden State Forest | DE
Chesapeake Forest Lands | MD
Wharton State Forest | NJ
Debar Mountain Wild Forest | NY
Canaan Valley National Wildlife Refuge | WV

Associated Species: *Appendix lists scientific names*

BIRDS: alder flycatcher, american woodcock, common yellowthroat, least bittern, nashville warbler, northern waterthrush, ruddy duck, sedge wren, swamp sparrow, tennessee warbler, veery, wilson's warbler, wilson's snipe, yellow warbler

MAMMALS: eastern cottontail, meadow jumping mouse, new england cottontail, northern bog lemming, northern short-tailed shrew, raccoon, smoky shrew, snowshoe hare, southern bog lemming, star-nosed mole, virginia possum, water shrew

HERPTILES: blue-spotted salamander, northern leopard frog, ribbon snake, spotted turtle

PLANTS: northern adder's-tongue (Ophioglossum pusillum), auricled twayblade (Listera auriculata), greater marsh-bellflower (Campanula uliginosa), swamp birch (Betula pumila), swamp lousewort (Pedicularis lanceolata)

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

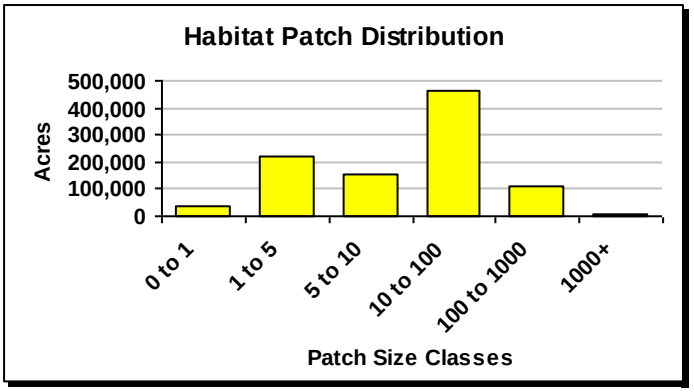
BIRDS: american bittern, black tern, rusty blackbird, three-toed woodpecker

MAMMALS: southern bog lemming

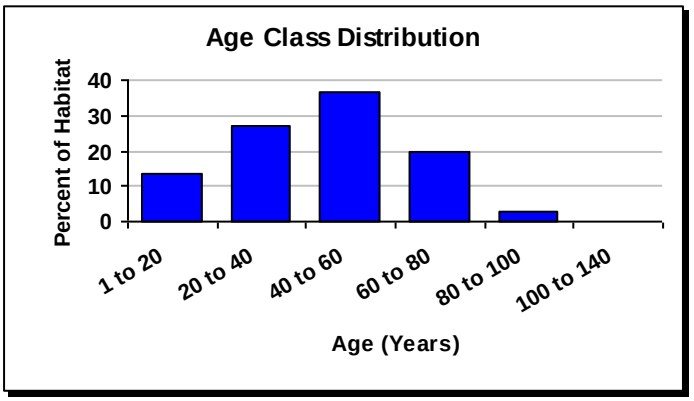
HERPTILES: Blanding's turtle, bog turtle, jefferson salamander, pine barrens treefrog, wood turtle

INSECTS: Clayton's copper butterfly, comet darner, don skipper, ebony boghaunter, elderberry long-horned beetle, helicta satyr, incurvate emerald, mottled darner, mulberry wing, tomah mayfly

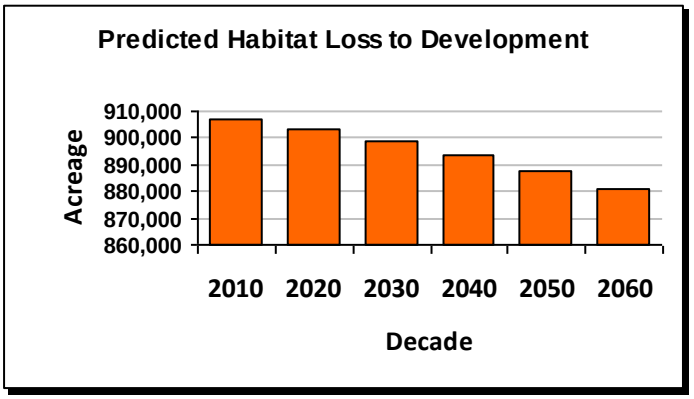
PLANTS: bead pinweed (Lechea pulchella), branching bur-reed (Sparganium androcladum), Long's bulrush (Scirpus longii), Ogden's pondweed (Potamogeton ogdenii), Pursh's goldenrod (Solidago uliginosa), stout smartweed (Polygonum robustius), Walter's paspalum (Paspalum dissectum)



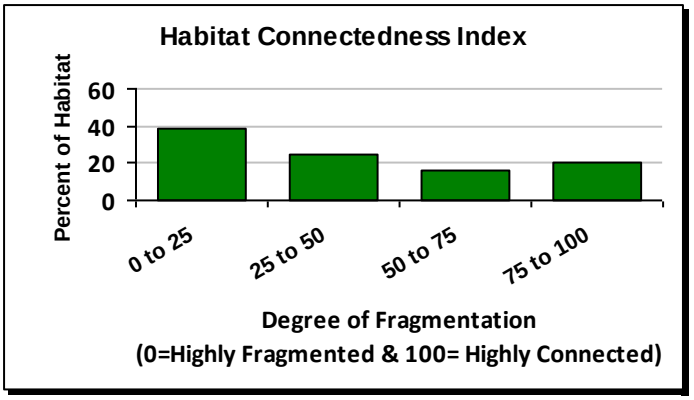
The average patch size for this habitat is 4 acres and the largest single patch is 1,460 acres. This chart shows the proportion of the habitat that is in each patch-size class.



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 (26,569 acres) if loss continues at the same rate as 1990-2000. The average rate of loss is 531 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.