

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	36,501	14,093	726

Species Information

The columns below provide brief summaries of the species associated with the region and described in the table on the next pages. Definitions are provided in the Excel file for this region.

Genus	Species	Abundance		Model		Potential Change in Habitat Suitability		Capability to Cope or Persist		Migration Potential		
				Reliability	Adaptability	Scenario RCP45	Scenario RCP85	Scenario RCP45	Scenario RCP85	SHIFT RCP45	SHIFT RCP85	
Ash	2			High	17	13	Increase	15	18	Very Good	2	2
Hickory	0			Medium	20	29	No Change	4	3	Good	9	9
Maple	5	Abundant	3	Low	16	12	Decrease	12	10	Fair	7	10
Oak	1	Common	11	FIA	2		New	18	20	Poor	9	7
Pine	2	Rare	19				Unknown	6	4	Very Poor	4	3
Other	23	Absent	21							FIA Only	1	1
	33		54		55	54		55	55	Unknown	4	2
											36	34

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	37.2	38.7	40.7	40.8	
	CCSM85	37.2	39.3	41.5	44.4	
	GFDL45	37.2	39.5	42.7	44.0	
	GFDL85	37.2	40.0	44.0	48.4	
	HAD45	37.2	39.9	42.3	43.7	
	HAD85	37.2	40.1	43.4	48.1	
Growing Season (May—Sep)	CCSM45	53.2	54.8	56.3	56.5	
	CCSM85	53.2	55.1	57.0	60.1	
	GFDL45	53.2	56.0	59.0	60.4	
	GFDL85	53.2	56.3	60.1	64.5	
	HAD45	53.2	55.5	57.5	59.1	
	HAD85	53.2	55.3	58.8	63.7	
Coldest Month (Average)	CCSM45	12.2	13.4	15.0	15.3	
	CCSM85	12.2	14.4	15.8	17.9	
	GFDL45	12.2	14.2	16.9	17.9	
	GFDL85	12.2	15.2	18.0	20.7	
	HAD45	12.2	14.9	17.0	18.0	
	HAD85	12.2	16.4	18.6	21.7	
Warmest Month (Average)	CCSM45	58.5	60.2	61.2	61.3	
	CCSM85	58.5	60.5	61.9	63.5	
	GFDL45	58.5	61.1	62.6	63.7	
	GFDL85	58.5	61.2	63.5	65.7	
	HAD45	58.5	60.9	61.9	63.0	
	HAD85	58.5	60.8	62.9	66.2	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	33.4	32.5	33.4	35.9	
	CCSM85	33.4	34.8	34.0	35.6	
	GFDL45	33.4	36.9	38.3	37.9	
	GFDL85	33.4	36.7	38.0	38.9	
	HAD45	33.4	35.6	38.0	38.6	
	HAD85	33.4	36.6	36.7	40.4	
Growing Season (May—Sep)	CCSM45	15.8	15.5	15.1	16.3	
	CCSM85	15.8	16.6	15.8	15.3	
	GFDL45	15.8	15.8	15.6	15.3	
	GFDL85	15.8	16.3	15.8	14.9	
	HAD45	15.8	16.8	16.7	18.5	
	HAD85	15.8	16.5	16.7	18.9	

NOTE: For the six climate variables, four 30-year periods are used to indicate six potential future trajectories. The period ending in 2009 is based on modeled observations from the PRISM Climate Group and the three future periods were obtained from the NASA NEX-DCP30 dataset. Future climate projections from three models under two emission scenarios show estimates of each climate variable within the region. The three models are CCSM4, GFDL CM3, and HadGEM2-ES and the emission scenarios are the 4.5 and 8.5 RCP. The average value for the region is reported, even though locations within the region may vary substantially based on latitude, elevation, land-use, or other factors.

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
balsam fir	Abies balsamea	NDH	High	97.4	1424.3	22.4	Lg. dec.	Lg. dec.	Low	Abundant	Poor	Poor			0	1
northern white-cedar	Thuja occidentalis	WSH	High	86	641.9	11.4	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	2
red spruce	Picea rubens	NDH	High	88.6	504.0	8.7	Sm. dec.	Sm. dec.	Low	Abundant	Fair	Fair			0	3
sugar maple	Acer saccharum	WDH	High	69.5	485.8	9.8	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	4
red maple	Acer rubrum	WDH	High	91.3	441.3	7.4	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	5
yellow birch	Betula alleghaniensis	NDL	High	78.7	382.2	7.1	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	6
paper birch	Betula papyrifera	WDH	High	83.8	291.6	5.2	No change	No change	Medium	Common	Fair	Fair			1	7
black spruce	Picea mariana	NSH	High	43.4	270.0	10.1	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	8
white spruce	Picea glauca	NSL	Medium	79.5	254.3	4.8	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	9
quaking aspen	Populus tremuloides	WDH	High	59.5	221.7	6.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	10
American beech	Fagus grandifolia	WDH	High	52.2	209.3	6.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	11
balsam poplar	Populus balsamifera	NSH	Medium	26.8	81.7	5.3	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	12
eastern white pine	Pinus strobus	WDH	High	29.2	68.3	3.5	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	13
tamarack (native)	Larix laricina	NSH	High	24.3	59.5	3.8	No change	Sm. inc.	Low	Common	Poor	Fair			1	14
striped maple	Acer pensylvanicum	NSL	Medium	52.2	45.1	1.3	No change	No change	Medium	Rare	Poor	Poor			1	15
black ash	Fraxinus nigra	WSH	Medium	27.5	41.3	2.1	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	16
eastern hemlock	Tsuga canadensis	NSH	High	15.9	34.3	3.2	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	1	17
Norway spruce	Picea abies	NSH	FIA	1.4	28.6	14.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	18
mountain maple	Acer spicatum	NSL	Low	34.1	25.9	1.2	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	19
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	21.5	23.6	1.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	20
white ash	Fraxinus americana	WDL	Medium	13.2	22.5	2.1	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	1	21
pin cherry	Prunus pensylvanica	NSL	Low	31.1	22.0	1.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	22
bigtooth aspen	Populus grandidentata	NSL	Medium	14.9	21.0	2.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	23
red pine	Pinus resinosa	NSH	Medium	2.6	13.4	9.8	No change	No change	Low	Rare	Very Poor	Very Poor			2	24
northern red oak	Quercus rubra	WDH	Medium	0.5	9.1	33.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	25
chokecherry	Prunus virginiana	NSLX	FIA	5.4	5.3	1.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	26
American mountain-ash	Sorbus americana	NSL	Low	13.2	3.8	0.4	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	27
American elm	Ulmus americana	WDH	Medium	3.3	2.3	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	28
black cherry	Prunus serotina	WDL	Medium	1.7	2.2	1.5	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	29
gray birch	Betula populifolia	NSL	Low	1.7	1.2	0.6	Lg. inc.	Sm. inc.	Medium	Rare	Good	Fair	Infill ++	Infill +	2	30
serviceberry	Amelanchier spp.	NSL	Low	4.2	1.2	0.5	Sm. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair		Infill +	1	31
boxelder	Acer negundo	WSH	Low	0.5	0.1	0.3	Lg. dec.	Lg. inc.	High	Rare	Poor	Good			2	32
American basswood	Tilia americana	WSL	Medium	0.5	0.1	0.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	33
eastern redcedar	Juniperus virginiana	WDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	34
sweet birch	Betula lenta	NDH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	35
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	36
bitternut hickory	Carya cordiformis	WSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	37
pignut hickory	Carya glabra	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	38
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	39
green ash	Fraxinus pennsylvanica	WSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	40
black walnut	Juglans nigra	WDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	41
blackgum	Nyssa sylvatica	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	42
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat			0	43
sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	44
white oak	Quercus alba	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	45
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	46
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	47

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northern pin oak	Quercus ellipsoidalis	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	48
bur oak	Quercus macrocarpa	NDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	49
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	50
chestnut oak	Quercus prinus	NDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	51
black oak	Quercus velutina	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	52
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	53
black willow	Salix nigra	NSH	Low	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown			0	54
slippery elm	Ulmus rubra	WSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	55