

	sq. km	sq. mi	FIA Plots
Area of Region	24,912	9,618.7	826

**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	3			High	22	24	Increase	21	22	Very Good	2	2	Likely	4	4
Hickory	3			Medium	31	47	No Change	11	10	Good	17	17	Infill	14	13
Maple	6	Abundant	7	Low	34	17	Decrease	17	17	Fair	12	14	Migrate	6	11
Oak	6	Common	13	FIA	4		New	32	33	Poor	9	8		24	28
Pine	3	Rare	33				Unknown	10	9	Very Poor	8	6			
Other	32	Absent	38					91	91	FIA Only	2	2			
	<b>53</b>		<b>91</b>							Unknown	6	5			
											<b>56</b>	<b>54</b>			

**Potential Changes in Climate Variables**

**Temperature (°F)**

Scenario	2009	2039	2069	2099		
Annual	CCSM45	42.7	44.7	47.2	47.3	
Average	CCSM85	42.7	45.3	47.9	51.3	
	GFDL45	42.7	46.1	49.4	50.9	
	GFDL85	42.7	46.4	50.8	55.9	
	HAD45	42.7	45.9	49.1	50.9	
	HAD85	42.7	46.0	50.2	55.9	
Growing Season	CCSM45	60.7	62.9	64.7	65.2	
	CCSM85	60.7	63.1	65.6	69.5	
May—Sep	GFDL45	60.7	64.3	67.8	69.5	
	GFDL85	60.7	64.7	69.4	74.8	
	HAD45	60.7	63.8	66.5	68.9	
	HAD85	60.7	63.5	68.0	74.2	
Coldest Month	CCSM45	14.4	16.2	18.5	18.7	
Average	CCSM85	14.4	17.5	18.8	21.3	
	GFDL45	14.4	17.6	20.1	21.3	
	GFDL85	14.4	18.7	21.0	24.0	
	HAD45	14.4	17.2	20.3	20.7	
	HAD85	14.4	18.5	21.1	24.9	
Warmest Month	CCSM45	66.7	69.1	70.3	70.5	
Average	CCSM85	66.7	69.6	71.3	73.4	
	GFDL45	66.7	69.7	71.8	73.2	
	GFDL85	66.7	70.7	73.6	76.5	
	HAD45	66.7	70.0	71.5	72.9	
	HAD85	66.7	69.7	72.3	76.7	

**Precipitation (in)**

Scenario	2009	2039	2069	2099		
Annual	CCSM45	46.1	45.2	43.8	48.5	
Total	CCSM85	46.1	46.2	47.0	48.8	
	GFDL45	46.1	50.4	52.7	51.2	
	GFDL85	46.1	48.5	51.2	52.9	
	HAD45	46.1	49.2	50.9	50.5	
	HAD85	46.1	50.4	49.9	53.5	
Growing Season	CCSM45	21.6	21.5	20.0	21.8	
	CCSM85	21.6	21.3	21.8	20.7	
May—Sep	GFDL45	21.6	22.1	21.2	21.3	
	GFDL85	21.6	21.8	21.3	20.1	
	HAD45	21.6	23.2	22.3	23.2	
	HAD85	21.6	22.2	21.8	23.6	

**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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Current and Potential Future Habitat, Capability, and Migration

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
sugar maple	Acer saccharum	WDH	High	90.3	1914.8	19.9	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	1
red maple	Acer rubrum	WDH	High	89.3	1151.2	11.0	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	2
eastern hemlock	Tsuga canadensis	NSH	High	60.7	856.5	12.0	No change	Sm. dec.	Low	Abundant	Fair	Fair			0	3
American beech	Fagus grandifolia	WDH	High	82.9	792.3	9.1	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	4
eastern white pine	Pinus strobus	WDH	High	52.9	697.6	10.6	Sm. inc.	No change	Low	Abundant	Good	Fair			1	5
yellow birch	Betula alleghaniensis	NDL	High	77.4	674.2	8.2	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	6
balsam fir	Abies balsamea	NDH	High	51.8	600.6	9.7	Sm. dec.	Sm. dec.	Low	Abundant	Fair	Fair			0	7
white ash	Fraxinus americana	WDL	Medium	77.3	475.2	5.2	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	8
red spruce	Picea rubens	NDH	High	63.9	434.2	6.2	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	9
paper birch	Betula papyrifera	WDH	High	73.9	424.5	4.8	No change	Sm. dec.	Medium	Common	Fair	Poor			1	10
black cherry	Prunus serotina	WDL	Medium	60	235.8	3.3	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	11
northern white-cedar	Thuja occidentalis	WSH	High	18.3	228.7	10.5	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	12
northern red oak	Quercus rubra	WDH	Medium	33.6	213.6	4.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	13
quaking aspen	Populus tremuloides	WDH	High	39.1	189.1	3.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	14
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	46.9	164.0	3.2	No change	No change	High	Common	Good	Good			1	15
sweet birch	Betula lenta	NDH	High	19.6	158.4	5.2	Lg. inc.	Lg. inc.	Low	Common	Good	Good	Infill ++	Infill ++	1	16
American elm	Ulmus americana	WDH	Medium	31.2	112.2	3.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	17
white spruce	Picea glauca	NSL	Medium	12.5	69.8	4.4	Sm. dec.	No change	Medium	Common	Poor	Fair	Infill +	Infill +	1	18
black ash	Fraxinus nigra	WSH	Medium	15.8	64.4	3.5	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	19
pin cherry	Prunus pensylvanica	NSL	Low	26.1	55.6	1.9	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	20
American basswood	Tilia americana	WSL	Medium	16.2	49.0	2.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	21
balsam poplar	Populus balsamifera	NSH	Medium	6.8	42.1	5.1	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	22
bitternut hickory	Carya cordiformis	WSL	Low	14.1	41.2	2.8	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	23
gray birch	Betula populifolia	NSL	Low	17.1	39.9	2.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			1	24
bigtooth aspen	Populus grandidentata	NSL	Medium	14.1	37.6	2.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	25
Norway spruce	Picea abies	NSH	FIA	3	29.5	8.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	26
shagbark hickory	Carya ovata	WSL	Medium	3.7	23.7	4.0	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	27
silver maple	Acer saccharinum	NSH	Low	0.8	23.2	12.3	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	28
green ash	Fraxinus pennsylvanica	WSH	Low	6	23.0	4.7	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	29
black locust	Robinia pseudoacacia	NDH	Low	2.5	21.5	11.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	30
boxelder	Acer negundo	WSH	Low	0.9	19.3	8.4	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	31
white oak	Quercus alba	WDH	Medium	4.7	17.7	1.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	32
red pine	Pinus resinosa	NSH	Medium	1.7	17.2	3.2	No change	No change	Low	Rare	Very Poor	Very Poor			2	33
butternut	Juglans cinerea	NSLX	FIA	4	15.2	3.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	34
eastern redcedar	Juniperus virginiana	WDH	Medium	1.7	14.4	6.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	35
slippery elm	Ulmus rubra	WSL	Low	0.2	13.9	4.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	36
serviceberry	Amelanchier spp.	NSL	Low	15.7	12.3	0.8	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	37
tamarack (native)	Larix laricina	NSH	High	4.9	11.4	1.8	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	38
eastern cottonwood	Populus deltoides	NSH	Low	0.9	11.1	8.0	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	39
Scots pine	Pinus sylvestris	NSH	FIA	1.6	9.0	5.6	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	40
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	6.3	8.5	1.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	41
bur oak	Quercus macrocarpa	NDH	Medium	2.8	8.1	5.3	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	42
black walnut	Juglans nigra	WDH	Low	0.2	6.7	2.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +		2	43
mountain maple	Acer spicatum	NSL	Low	9.6	6.6	0.7	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	44
American mountain-ash	Sorbus americana	NSL	Low	6.4	5.2	0.8	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	45
chestnut oak	Quercus prinus	NDH	High	2.1	4.2	1.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	46
black spruce	Picea mariana	NSH	High	0.4	2.0	5.0	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	47

Current and Potential Future Habitat, Capability, and Migration

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
chokecherry	Prunus virginiana	NSLX	FIA	2.2	1.7	0.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 48
black oak	Quercus velutina	WDH	High	0.4	1.7	0.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2 49
striped maple	Acer pensylvanicum	NSL	Medium	15.4	0.4	0.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 50
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0.4	0.3	0.7	Sm. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor				0 51
mockernut hickory	Carya alba	WDL	Medium	0.3	0.2	0.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good				2 52
swamp white oak	Quercus bicolor	NSL	Low	1.6	0.0	0.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2 53
pitch pine	Pinus rigida	NSH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 54
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +		3 55
bald cypress	Taxodium distichum	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 56
pawpaw	Asimina triloba	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 57
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat				0 58
water hickory	Carya aquatica	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 59
pignut hickory	Carya glabra	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 60
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				0 61
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 62
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 63
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 64
hackberry	Celtis occidentalis	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 65
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 66
flowering dogwood	Cornus florida	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +		3 67
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 68
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 69
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++		3 70
yellow-poplar	Liriodendron tulipifera	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++		3 71
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +		3 72
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 73
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 74
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	Unknown	New Habitat	NA	Absent	Unknown	New Habitat				0 75
blackgum	Nyssa sylvatica	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 76
redbay	Persea borbonia	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0 77
sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 78
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 79
northern pin oak	Quercus ellipsoidalis	NSH	Medium	0	0	0	New Habitat	Unknown	High	Absent	New Habitat	Unknown				3 80
shingle oak	Quercus imbricaria	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 81
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				0 82
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 83
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +		3 84
pin oak	Quercus palustris	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 85
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 86
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				0 87
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 88
black willow	Salix nigra	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +		3 89
sassafras	Sassafras albidum	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 90
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 91