

Area of Region    sq. km    sq. mi    FIA Plots  
 8,066.3    3,114.4    239

**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	19	Increase	18	20	Very Good	9	8	Likely	0	0
Hickory	4			Medium	26	45	No Change	9	8	Good	8	13	Infill	28	26
Maple	4	Abundant	7	Low	26	12	Decrease	22	21	Fair	11	9	Migrate	5	7
Oak	8	Common	17	FIA	6		New	17	18	Poor	8	5			
Pine	4	Rare	31				Unknown	14	13	Very Poor	12	13			
Other	32	Absent	23							FIA Only	2	2			
	<b>55</b>		<b>78</b>		<b>80</b>	<b>76</b>		<b>80</b>	<b>80</b>	Unknown	8	7			
											<b>58</b>	<b>57</b>			

**Potential Changes in Climate Variables**

**Temperature (°F)**

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	49.9	51.6	53.6	53.8	
	CCSM85	49.9	52.0	54.4	57.2	
	GFDL45	49.9	53.1	55.2	56.3	
	GFDL85	49.9	52.8	56.4	60.5	
	HAD45	49.9	52.1	55.5	57.2	
HAD85	49.9	51.9	56.3	60.9		
Growing Season (May—Sep)	CCSM45	65.7	67.6	69.2	69.5	
	CCSM85	65.7	67.7	70.1	73.4	
	GFDL45	65.7	69.1	71.6	72.8	
	GFDL85	65.7	68.9	72.9	77.0	
	HAD45	65.7	67.9	71.2	73.2	
HAD85	65.7	67.0	72.0	76.7		
Coldest Month Average	CCSM45	25.9	27.3	28.8	29.5	
	CCSM85	25.9	28.2	29.3	31.2	
	GFDL45	25.9	29.4	30.6	31.6	
	GFDL85	25.9	29.3	31.0	33.1	
	HAD45	25.9	27.2	29.6	30.0	
HAD85	25.9	28.2	30.3	33.0		
Warmest Month Average	CCSM45	72.1	74.1	75.0	74.9	
	CCSM85	72.1	74.2	75.7	77.2	
	GFDL45	72.1	74.8	76.3	77.3	
	GFDL85	72.1	75.5	77.8	80.3	
	HAD45	72.1	74.4	75.9	77.0	
HAD85	72.1	73.4	75.9	78.9		

**Precipitation (in)**

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	50.2	50.0	49.6	54.9	
	CCSM85	50.2	51.2	53.3	56.8	
	GFDL45	50.2	54.2	57.5	55.4	
	GFDL85	50.2	53.1	56.3	58.8	
	HAD45	50.2	50.8	54.9	54.5	
HAD85	50.2	54.5	55.0	56.9		
Growing Season (May—Sep)	CCSM45	20.1	22.2	20.9	22.6	
	CCSM85	20.1	21.3	22.2	22.1	
	GFDL45	20.1	20.0	19.8	20.4	
	GFDL85	20.1	20.6	19.9	20.5	
	HAD45	20.1	20.3	20.6	20.2	
HAD85	20.1	20.8	20.5	21.2		

**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
red maple	Acer rubrum	WDH	High	97.1	2260.2	23.1	Sm. dec.	Sm. dec.	High	Abundant	Good	Good	Infill ++	Infill ++	2	1
white oak	Quercus alba	WDH	Medium	86.4	846.8	9.8	No change	Sm. dec.	High	Abundant	Very Good	Good	Infill ++	Infill ++	2	2
black oak	Quercus velutina	WDH	High	76.8	718.5	8.9	No change	No change	Medium	Abundant	Good	Good	Infill ++	Infill ++	2	3
sweet birch	Betula lenta	NDH	High	70.2	656.9	9.2	Sm. dec.	Sm. dec.	Low	Abundant	Fair	Fair	Infill +	Infill +	2	4
northern red oak	Quercus rubra	WDH	Medium	77.2	652.0	8.8	No change	No change	High	Abundant	Very Good	Very Good	Infill ++	Infill ++	2	5
scarlet oak	Quercus coccinea	WDL	Medium	66	576.6	9.2	No change	Sm. dec.	Medium	Abundant	Good	Fair	Infill ++	Infill +	2	6
eastern white pine	Pinus strobus	WDH	High	50.9	510.8	10.6	Sm. dec.	Lg. dec.	Low	Abundant	Fair	Poor	Infill +		2	7
black cherry	Prunus serotina	WDL	Medium	47.7	259.1	5.0	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair	Infill +	Infill +	2	8
eastern hemlock	Tsuga canadensis	NSH	High	23	213.8	9.5	Sm. dec.	Lg. dec.	Low	Common	Poor	Very Poor	Infill +		2	9
eastern redcedar	Juniperus virginiana	WDH	Medium	27.8	213.4	7.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	2	10
white ash	Fraxinus americana	WDL	Medium	47.8	201.9	4.3	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair	Infill +	Infill +	2	11
sugar maple	Acer saccharum	WDH	High	39.7	196.0	5.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	2	12
pignut hickory	Carya glabra	WDL	Medium	47.5	187.3	3.8	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +	Infill ++	2	13
American beech	Fagus grandifolia	WDH	High	42.4	173.7	4.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	2	14
yellow birch	Betula alleghaniensis	NDL	High	44.3	158.4	3.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	2	15
mockernut hickory	Carya alba	WDL	Medium	28.3	99.6	2.9	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	2	16
pitch pine	Pinus rigida	NSH	High	13.5	92.3	6.9	No change	Sm. dec.	Medium	Common	Fair	Poor	Infill +	Infill +	2	17
blackgum	Nyssa sylvatica	WDL	Medium	29.6	88.9	2.6	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	2	18
chestnut oak	Quercus prinus	NDH	High	12	84.2	5.7	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	2	19
shagbark hickory	Carya ovata	WSL	Medium	34.3	79.3	2.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	2	20
sassafras	Sassafras albidum	WSL	Low	42.1	64.9	1.7	Lg. inc.	Sm. inc.	Medium	Common	Very Good	Good	Infill ++	Infill ++	2	21
American elm	Ulmus americana	WDH	Medium	18.6	63.2	4.3	Sm. dec.	No change	Medium	Common	Poor	Fair	Infill +	Infill +	2	22
yellow-poplar	Liriodendron tulipifera	WDH	High	13.9	59.9	4.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	2	23
gray birch	Betula populifolia	NSL	Low	14.6	58.3	2.6	Sm. dec.	No change	Medium	Common	Poor	Fair			0	24
bitternut hickory	Carya cordiformis	WSL	Low	6.1	36.0	5.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	25
bigtooth aspen	Populus grandidentata	NSL	Medium	23.9	35.4	2.2	Sm. inc.	Sm. dec.	Medium	Rare	Fair	Very Poor	Infill +		2	26
Norway spruce	Picea abies	NSH	FIA	3.7	34.9	9.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	27
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	18.1	26.1	1.5	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	28
silver maple	Acer saccharinum	NSH	Low	6.2	25.1	11.2	Sm. dec.	No change	High	Rare	Poor	Fair			0	29
pin cherry	Prunus pensylvanica	NSL	Low	2.5	22.6	9.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	30
eastern cottonwood	Populus deltoides	NSH	Low	2.4	22.3	8.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	31
quaking aspen	Populus tremuloides	WDH	High	8.7	21.7	2.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	32
black walnut	Juglans nigra	WDH	Low	2.7	20.0	9.0	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			0	33
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	14.9	18.9	1.3	Sm. dec.	Lg. inc.	High	Rare	Poor	Good		Infill ++	2	34
red pine	Pinus resinosa	NSH	Medium	6.2	16.6	7.4	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	35
black locust	Robinia pseudoacacia	NDH	Low	3	14.7	1.9	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +		2	36
green ash	Fraxinus pennsylvanica	WSH	Low	6.2	13.9	3.8	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	37
hackberry	Celtis occidentalis	WDH	Medium	0.6	12.3	4.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	38
swamp white oak	Quercus bicolor	NSL	Low	2.5	12.2	4.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	39
paper birch	Betula papyrifera	WDH	High	3.7	11.4	3.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	40
balsam poplar	Populus balsamifera	NSH	Medium	1.2	9.6	7.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	41
balsam fir	Abies balsamea	NDH	High	1.2	9.3	7.4	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	42
American basswood	Tilia americana	WSL	Medium	4.6	8.0	2.2	No change	No change	Medium	Rare	Poor	Poor			0	43
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	1.2	6.0	4.8	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	44
bear oak; scrub oak	Quercus ilicifolia	NSLX	FIA	0.8	5.2	2.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	45
black ash	Fraxinus nigra	WSH	Medium	1.2	4.8	3.8	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	46
Scots pine	Pinus sylvestris	NSH	FIA	2.5	3.9	1.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			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
American chestnut	Castanea dentata	NSLX	FIA	9.9	3.5	1.2	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	48
flowering dogwood	Cornus florida	WDL	Medium	5.6	3.0	0.7	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +		2	49
serviceberry	Amelanchier spp.	NSL	Low	3.5	2.3	0.5	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	50
Norway maple	Acer platanoides	NSL	FIA	6.2	1.7	0.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	51
American holly	Ilex opaca	NSL	Medium	1.2	1.3	1.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	52
American mountain-ash	Sorbus americana	NSL	Low	1.2	0.6	0.5	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	53
ailanthus	Ailanthus altissima	NSL	FIA	1.2	0.5	0.4	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	54
post oak	Quercus stellata	WDH	High	0.8	0.5	0.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	55
shortleaf pine	Pinus echinata	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	56
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	57
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	58
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	59
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	60
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	61
water hickory	Carya aquatica	NSL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			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
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	65
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	66
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	67
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	68
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	69
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	70
redbay	Persea borbonia	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	71
sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	72
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	73
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	74
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	75
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	76
pin oak	Quercus palustris	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	77
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	78
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	79
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	80