

	sq. km	sq. mi	FIA Plots
Area of Region	22,742	8,780.6	474

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	23	22	Increase	14	13	Very Good	5	5	Likely	1	1
Hickory	3			Medium	27	43	No Change	12	14	Good	6	7	Infill	12	13
Maple	6	Abundant	3	Low	28	16	Decrease	20	19	Fair	12	10	Migrate	10	15
Oak	4	Common	21	FIA	5		New	26	30	Poor	14	14		23	29
Pine	3	Rare	27				Unknown	11	7	Very Poor	9	10			
Other	32	Absent	31							FIA Only	3	3			
	51		82		83	81		83	83	Unknown	6	2			
											55	51			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	40.5	41.9	44.0	44.0	
	CCSM85	40.5	42.4	44.6	47.2	
	GFDL45	40.5	42.9	45.8	46.9	
	GFDL85	40.5	43.4	46.9	51.0	
	HAD45	40.5	43.1	45.7	47.1	
	HAD85	40.5	43.1	46.4	51.0	
Growing Season (May—Sep)	CCSM45	54.7	56.3	57.9	58.1	
	CCSM85	54.7	56.5	58.5	61.6	
	GFDL45	54.7	57.3	60.6	61.9	
	GFDL85	54.7	58.1	61.8	66.1	
	HAD45	54.7	57.2	59.4	61.3	
	HAD85	54.7	57.0	60.5	65.4	
Coldest Month Average	CCSM45	17.6	18.9	20.9	20.9	
	CCSM85	17.6	20.0	21.1	23.0	
	GFDL45	17.6	20.1	22.1	23.1	
	GFDL85	17.6	21.0	22.8	25.4	
	HAD45	17.6	19.7	22.4	22.6	
	HAD85	17.6	20.8	23.0	26.1	
Warmest Month Average	CCSM45	59.4	61.2	62.2	62.3	
	CCSM85	59.4	61.7	63.0	64.7	
	GFDL45	59.4	61.9	63.7	64.7	
	GFDL85	59.4	62.8	65.0	67.2	
	HAD45	59.4	62.2	63.3	64.6	
	HAD85	59.4	62.1	64.3	67.9	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	32.7	32.0	31.7	34.2	
	CCSM85	32.7	33.6	33.2	33.6	
	GFDL45	32.7	35.9	37.1	36.5	
	GFDL85	32.7	34.3	36.1	37.2	
	HAD45	32.7	34.7	35.9	36.1	
	HAD85	32.7	35.8	34.8	38.0	
Growing Season (May—Sep)	CCSM45	15.4	15.3	14.1	15.5	
	CCSM85	15.4	15.5	15.0	14.1	
	GFDL45	15.4	16.1	15.2	15.2	
	GFDL85	15.4	15.5	15.1	13.9	
	HAD45	15.4	16.0	15.0	15.9	
	HAD85	15.4	15.9	14.4	15.3	

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	88.6	1097.0	13.8	No change	No change	High	Abundant	Very Good	Very Good			1	1
sugar maple	Acer saccharum	WDH	High	72.8	752.7	12.3	No change	Sm. dec.	High	Abundant	Very Good	Good			1	2
American beech	Fagus grandifolia	WDH	High	64.4	726.4	12.2	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	3
yellow birch	Betula alleghaniensis	NDL	High	65.4	430.5	7.3	Sm. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	4
red spruce	Picea rubens	NDH	High	46.9	418.3	9.7	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	5
eastern white pine	Pinus strobus	WDH	High	39.2	390.9	12.5	Sm. inc.	No change	Low	Common	Fair	Poor			1	6
balsam fir	Abies balsamea	NDH	High	47.7	382.1	8.0	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	7
American elm	Ulmus americana	WDH	Medium	44.5	368.4	9.3	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	8
black cherry	Prunus serotina	WDL	Medium	64.2	331.5	6.6	Sm. inc.	No change	Low	Common	Fair	Poor			1	9
eastern hemlock	Tsuga canadensis	NSH	High	36.7	245.2	7.1	Sm. inc.	No change	Low	Common	Fair	Poor			1	10
quaking aspen	Populus tremuloides	WDH	High	36.4	214.5	6.3	No change	No change	Medium	Common	Fair	Fair			1	11
northern white-cedar	Thuja occidentalis	WSH	High	27.8	211.6	9.3	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	12
white ash	Fraxinus americana	WDL	Medium	50	204.2	5.2	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	13
gray birch	Betula populifolia	NSL	Low	31	104.9	4.2	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	14
American basswood	Tilia americana	WSL	Medium	23.8	101.3	6.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	15
paper birch	Betula papyrifera	WDH	High	28.7	77.1	2.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	16
black ash	Fraxinus nigra	WSH	Medium	24	74.9	4.9	Sm. dec.	Lg. dec.	Low	Common	Poor	Very Poor			0	17
green ash	Fraxinus pennsylvanica	WSH	Low	11.5	71.1	5.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	18
bitternut hickory	Carya cordiformis	WSL	Low	14.4	68.5	6.5	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	19
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	29.5	68.3	3.1	No change	No change	High	Common	Good	Good			1	20
bigtooth aspen	Populus grandidentata	NSL	Medium	20.2	65.6	3.6	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	21
tamarack (native)	Larix laricina	NSH	High	16.2	60.7	3.8	Sm. dec.	Lg. dec.	Low	Common	Poor	Very Poor			0	22
red pine	Pinus resinosa	NSH	Medium	4.5	56.9	14.6	No change	No change	Low	Rare	Very Poor	Very Poor			2	23
northern red oak	Quercus rubra	WDH	Medium	14.9	56.5	4.8	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	24
striped maple	Acer pensylvanicum	NSL	Medium	35	52.7	1.6	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	25
black spruce	Picea mariana	NSH	High	7.8	41.3	5.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	26
silver maple	Acer saccharinum	NSH	Low	4.7	40.7	13.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	27
serviceberry	Amelanchier spp.	NSL	Low	19.7	33.7	1.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	28
Norway spruce	Picea abies	NSH	FIA	4.1	25.3	7.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	29
Scots pine	Pinus sylvestris	NSH	FIA	5.6	25.1	6.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	30
bur oak	Quercus macrocarpa	NDH	Medium	6.3	24.7	5.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	31
black locust	Robinia pseudoacacia	NDH	Low	1.6	24.5	7.5	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	32
swamp white oak	Quercus bicolor	NSL	Low	3.7	23.5	5.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	33
pin cherry	Prunus pensylvanica	NSL	Low	10	22.7	2.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	34
black willow	Salix nigra	NSH	Low	1.4	15.3	17.4	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	35
shagbark hickory	Carya ovata	WSL	Medium	3.9	14.3	3.9	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	36
white spruce	Picea glauca	NSL	Medium	1	13.7	14.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	37
slippery elm	Ulmus rubra	WSL	Low	7.3	12.9	2.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	38
boxelder	Acer negundo	WSH	Low	2	12.8	9.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	39
butternut	Juglans cinerea	NSLX	FIA	7.3	12.6	2.0	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	40
balsam poplar	Populus balsamifera	NSH	Medium	4.3	10.7	3.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	41
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	12.3	9.5	1.1	Lg. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair			1	42
white oak	Quercus alba	WDH	Medium	5.5	7.9	2.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	43
eastern redcedar	Juniperus virginiana	WDH	Medium	2.6	4.2	1.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	44
pignut hickory	Carya glabra	WDL	Medium	0.7	3.3	7.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	45
hackberry	Celtis occidentalis	WDH	Medium	0.7	3.1	7.1	No change	No change	High	Rare	Fair	Fair		Infill +	2	46
mountain maple	Acer spicatum	NSL	Low	3.6	3.1	0.7	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	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	2.7	1.7	1.0	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	48
American mountain-ash	Sorbus americana	NSL	Low	1.9	1.3	0.6	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	49
sweet birch	Betula lenta	NDH	High	0.7	0.4	0.9	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	50
rock elm	Ulmus thomasii	NSLX	FIA	0.1	0.4	0.2	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	51
jack pine	Pinus banksiana	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate +	3	52
pitch pine	Pinus rigida	NSH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	53
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	54
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat			0	55
pecan	Carya illinoensis	NSH	Low	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			0	56
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	57
mockernut hickory	Carya alba	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	58
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	59
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	60
flowering dogwood	Cornus florida	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	61
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	62
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	63
American holly	Ilex opaca	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	64
black walnut	Juglans nigra	WDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	65
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	66
yellow-poplar	Liriodendron tulipifera	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	67
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	68
blackgum	Nyssa sylvatica	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	69
sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	70
eastern cottonwood	Populus deltoides	NSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	71
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	72
northern pin oak	Quercus ellipsoidalis	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	73
shingle oak	Quercus imbricaria	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	74
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	75
water oak	Quercus nigra	WDH	High	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			0	76
pin oak	Quercus palustris	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	77
willow oak	Quercus phellos	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	78
chestnut oak	Quercus prinus	NDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	79
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	80
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	81
black oak	Quercus velutina	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	82
sassafras	Sassafras albidum	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	83