

	sq. km	sq. mi	FIA Plots
Area of Region	32,709	12,629	95

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	7	17	Increase	9	10	Very Good	0	0
Hickory	3			Medium	22	30	No Change	14	12	Good	5	5
Maple	4	Abundant	0	Low	23	7	Decrease	16	17	Fair	11	14
Oak	7	Common	3	FIA	4		New	13	13	Poor	10	5
Pine	1	Rare	40				Unknown	4	4	Very Poor	9	9
Other	25	Absent	13							FIA Only	2	2
	43		56		56	54		56	56	Unknown	0	0
											37	35

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099
Annual Average	CCSM45	43.3	44.7	46.6	46.9
	CCSM85	43.3	45.3	47.3	49.7
	GFDL45	43.3	48.0	47.1	48.0
	GFDL85	43.3	45.6	47.9	51.2
	HAD45	43.3	45.3	47.9	49.2
	HAD85	43.3	45.7	49.1	52.5
Growing Season May—Sep	CCSM45	57.6	59.3	60.9	61.4
	CCSM85	57.6	59.9	61.7	64.6
	GFDL45	57.6	63.6	62.2	63.6
	GFDL85	57.6	60.4	63.1	67.2
	HAD45	57.6	59.5	61.6	63.1
	HAD85	57.6	59.9	63.5	66.8
Coldest Month Average	CCSM45	20.2	21.7	23.4	23.8
	CCSM85	20.2	22.1	23.5	25.0
	GFDL45	20.2	22.9	23.7	24.0
	GFDL85	20.2	22.8	23.9	25.3
	HAD45	20.2	21.2	24.1	24.1
	HAD85	20.2	23.6	26.1	28.2
Warmest Month Average	CCSM45	62.1	63.8	65.0	65.4
	CCSM85	62.1	65.0	66.3	67.9
	GFDL45	62.1	64.5	65.5	66.7
	GFDL85	62.1	65.1	66.4	69.2
	HAD45	62.1	64.0	65.5	66.2
	HAD85	62.1	65.2	67.3	69.4

Precipitation (in)

	Scenario	2009	2039	2069	2099
Annual Total	CCSM45	25.6	25.2	25.3	25.0
	CCSM85	25.6	24.7	25.5	25.8
	GFDL45	25.6	27.7	30.0	29.0
	GFDL85	25.6	28.2	30.5	30.1
	HAD45	25.6	27.7	27.6	27.5
	HAD85	25.6	26.5	26.2	28.1
Growing Season May—Sep	CCSM45	15.7	15.3	15.1	15.0
	CCSM85	15.7	14.6	14.7	14.3
	GFDL45	15.7	16.6	17.8	16.8
	GFDL85	15.7	17.2	17.7	16.8
	HAD45	15.7	16.2	15.4	15.5
	HAD85	15.7	15.3	14.1	14.1

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
bur oak	Quercus macrocarpa	NDH	Medium	25.3	72.9	36.5	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	2	1
American elm	Ulmus americana	WDH	Medium	45.7	65.5	13.0	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	2	2
silver maple	Acer saccharinum	NSH	Low	24.3	63.7	23.2	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	2	3
boxelder	Acer negundo	WSH	Low	29.1	43.7	19.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	4
hackberry	Celtis occidentalis	WDH	Medium	32.7	36.7	14.1	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	5
black walnut	Juglans nigra	WDH	Low	18.1	34.4	14.0	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	6
black cherry	Prunus serotina	WDL	Medium	28.3	26.5	9.1	No change	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	7
red mulberry	Morus rubra	NSL	Low	20.1	23.0	13.4	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	8
green ash	Fraxinus pennsylvanica	WSH	Low	19.7	19.3	11.4	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +		2	9
slippery elm	Ulmus rubra	WSL	Low	29.9	18.2	7.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	10
honeylocust	Gleditsia triacanthos	NSH	Low	12.1	14.1	12.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	11
white ash	Fraxinus americana	WDL	Medium	8.7	14.0	3.9	No change	No change	Low	Rare	Very Poor	Very Poor			2	12
shagbark hickory	Carya ovata	WSL	Medium	15.1	13.8	8.3	No change	Sm. dec.	Medium	Rare	Poor	Very Poor	Infill +		2	13
American basswood	Tilia americana	WSL	Medium	11.5	12.4	13.7	Sm. inc.	No change	Medium	Rare	Fair	Poor	Infill +	Infill +	2	14
eastern redcedar	Juniperus virginiana	WDH	Medium	7.9	12.4	7.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	15
white oak	Quercus alba	WDH	Medium	6.7	11.2	10.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	16
bitternut hickory	Carya cordiformis	WSL	Low	11.2	10.9	8.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	17
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	11.4	10.0	8.9	Sm. inc.	No change	High	Rare	Good	Fair		Infill +	2	18
Siberian elm	Ulmus pumila	NDH	FIA	9.2	8.1	12.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	19
eastern cottonwood	Populus deltoides	NSH	Low	3	7.8	7.2	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	20
black willow	Salix nigra	NSH	Low	6.5	7.7	13.1	No change	No change	Low	Rare	Very Poor	Very Poor			2	21
white spruce	Picea glauca	NSL	Medium	0.7	6.9	52.4	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	22
black maple	Acer nigrum	NSH	Low	3.3	5.7	12.3	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	23
northern red oak	Quercus rubra	WDH	Medium	6.5	4.6	7.2	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	24
wild plum	Prunus americana	NSLX	FIA	5.5	4.4	8.8	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	25
white mulberry	Morus alba	NSL	FIA	0.1	3.2	0.9	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	26
Osage-orange	Maclura pomifera	NDH	Medium	1.2	2.6	15.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	27
black oak	Quercus velutina	WDH	High	4.5	2.6	3.7	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	28
sugar maple	Acer saccharum	WDH	High	3.7	2.3	9.9	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	29
black locust	Robinia pseudoacacia	NDH	Low	1.7	1.8	3.6	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	30
quaking aspen	Populus tremuloides	WDH	High	3.2	1.4	4.8	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	31
northern pin oak	Quercus ellipsoidalis	NSH	Medium	2.4	1.0	6.8	Lg. dec.	Very Lg. dec.	High	Rare	Poor	Lost			0	32
mockernut hickory	Carya alba	WDL	Medium	1	0.9	4.2	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	2	33
river birch	Betula nigra	NSL	Low	2.8	0.7	1.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	34
chokecherry	Prunus virginiana	NSLX	FIA	4.2	0.6	1.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	35
swamp white oak	Quercus bicolor	NSL	Low	1.6	0.5	2.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	36
eastern white pine	Pinus strobus	WDH	High	0.7	0.5	3.5	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	37
paper birch	Betula papyrifera	WDH	High	1.2	0.4	5.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	38
shingle oak	Quercus imbricaria	NDH	Medium	0.4	0.3	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	39
black ash	Fraxinus nigra	WSH	Medium	2.1	0.3	1.8	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	40
serviceberry	Amelanchier spp.	NSL	Low	0.4	0.2	1.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	41
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	1.2	0.1	1.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	42
bigtooth aspen	Populus grandidentata	NSL	Medium	1.2	0.1	1.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	43
pignut hickory	Carya glabra	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	44
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	45
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	46
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	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
eastern redbud	<i>Cercis canadensis</i>	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	48
common persimmon	<i>Diospyros virginiana</i>	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	49
sycamore	<i>Platanus occidentalis</i>	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	50
blackjack oak	<i>Quercus marilandica</i>	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate ++	3	51
chinkapin oak	<i>Quercus muehlenbergii</i>	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	52
pin oak	<i>Quercus palustris</i>	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	53
post oak	<i>Quercus stellata</i>	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	54
sassafras	<i>Sassafras albidum</i>	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	55
winged elm	<i>Ulmus alata</i>	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	56