

	sq. km	sq. mi	FIA Plots
Area of Region	44,051	17,008	157

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			
		Model	Reliability	Adaptability	Scenario	Scenario	Scenario	Scenario	SHIFT	SHIFT			
		High	11	17	RCP45	RCP85	RCP45	RCP85	RCP45	RCP85			
Ash	3				Increase	6	5	Very Good	1	0	Likely	1	1
Hickory	1				No Change	15	15	Good	4	4	Infill	15	18
Maple	4	Abundant	0		Decrease	13	14	Fair	7	7	Migrate	4	5
Oak	4	Common	5		New	11	11	Poor	9	12		20	24
Pine	4	Rare	37		Unknown	10	10	Very Poor	13	10			
Other	26	Absent	12			55	55	FIA Only	5	5			
	42		54					Unknown	2	2			
									41	40			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099
Annual Average	CCSM45	40.9	42.2	44.3	44.6
	CCSM85	40.9	42.8	45.1	47.5
	GFDL45	40.9	45.1	44.6	45.5
	GFDL85	40.9	43.1	45.4	48.8
	HAD45	40.9	43.0	45.7	46.9
	HAD85	40.9	43.4	46.7	50.3
Growing Season (May–Sep)	CCSM45	55.9	57.4	59.2	59.6
	CCSM85	55.9	57.9	60.1	63.1
	GFDL45	55.9	61.1	60.3	61.6
	GFDL85	55.9	58.5	61.1	65.1
	HAD45	55.9	57.8	60.0	61.4
	HAD85	55.9	58.1	61.1	64.6
Coldest Month (Average)	CCSM45	16.9	18.4	20.1	20.5
	CCSM85	16.9	18.4	20.0	21.6
	GFDL45	16.9	19.6	20.5	20.8
	GFDL85	16.9	19.5	20.7	22.6
	HAD45	16.9	18.3	21.2	21.1
	HAD85	16.9	20.7	23.7	25.9
Warmest Month (Average)	CCSM45	60.5	62.3	63.4	64.0
	CCSM85	60.5	63.4	64.7	66.6
	GFDL45	60.5	62.8	63.9	64.9
	GFDL85	60.5	63.3	64.6	67.1
	HAD45	60.5	62.4	63.7	64.6
	HAD85	60.5	63.3	64.9	67.4

Precipitation (in)

	Scenario	2009	2039	2069	2099
Annual Total	CCSM45	20.1	20.8	20.5	20.1
	CCSM85	20.1	20.2	20.0	20.4
	GFDL45	20.1	22.4	24.1	22.3
	GFDL85	20.1	22.6	24.5	23.7
	HAD45	20.1	22.1	21.2	21.5
	HAD85	20.1	21.0	21.5	23.1
Growing Season (May–Sep)	CCSM45	12.9	12.8	12.4	12.1
	CCSM85	12.9	12.3	11.6	11.4
	GFDL45	12.9	14.5	15.2	13.6
	GFDL85	12.9	14.6	14.9	13.9
	HAD45	12.9	13.3	12.4	12.3
	HAD85	12.9	12.5	11.8	11.6

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
green ash	Fraxinus pennsylvanica	WSH	Low	49	172.3	19.6	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	1
boxelder	Acer negundo	WSH	Low	49.1	149.8	20.7	Sm. dec.	Lg. dec.	High	Common	Fair	Fair	Infill +	Infill +	2	2
bur oak	Quercus macrocarpa	NDH	Medium	23.3	86.8	16.0	Sm. inc.	No change	High	Common	Very Good	Good			2	3
American basswood	Tilia americana	WSL	Medium	22.8	74.9	10.6	Sm. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	4
American elm	Ulmus americana	WDH	Medium	37.3	65.8	8.8	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +		2	5
eastern redcedar	Juniperus virginiana	WDH	Medium	6.5	39.8	21.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	6
eastern cottonwood	Populus deltoides	NSH	Low	13.2	37.6	15.8	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	7
black willow	Salix nigra	NSH	Low	7.6	33.0	16.3	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	8
hackberry	Celtis occidentalis	WDH	Medium	17.3	22.1	9.9	Sm. inc.	Lg. inc.	High	Rare	Good	Good			2	9
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	15.7	21.5	6.4	No change	Sm. dec.	High	Rare	Fair	Good	Infill +	Infill +	2	10
black ash	Fraxinus nigra	WSH	Medium	6.7	20.6	10.5	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	11
silver maple	Acer saccharinum	NSH	Low	9.7	18.6	22.3	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	12
northern red oak	Quercus rubra	WDH	Medium	11.9	17.2	8.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	13
sugar maple	Acer saccharum	WDH	High	10.7	16.9	12.7	Sm. inc.	No change	High	Rare	Good	Fair		Infill +	2	14
quaking aspen	Populus tremuloides	WDH	High	4.4	16.5	6.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	15
black cherry	Prunus serotina	WDL	Medium	7.5	13.7	4.6	No change	No change	Low	Rare	Very Poor	Very Poor			2	16
slippery elm	Ulmus rubra	WSL	Low	16.5	12.1	5.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	17
northern white-cedar	Thuja occidentalis	WSH	High	0.3	10.8	20.6	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	18
Siberian elm	Ulmus pumila	NDH	FIA	3.4	7.7	8.6	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	19
black walnut	Juglans nigra	WDH	Low	6.3	7.6	5.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	20
white spruce	Picea glauca	NSL	Medium	1.6	6.2	4.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	21
northern pin oak	Quercus ellipsoidalis	NSH	Medium	1.4	4.9	4.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	22
red pine	Pinus resinosa	NSH	Medium	1.5	4.1	14.1	No change	No change	Low	Rare	Very Poor	Very Poor			2	23
bitternut hickory	Carya cordiformis	WSL	Low	6.7	3.2	2.9	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	24
tamarack (native)	Larix laricina	NSH	High	0	2.6	1.5	No change	No change	Low	Rare	Very Poor	Very Poor			2	25
white oak	Quercus alba	WDH	Medium	3	2.4	7.3	Sm. inc.	No change	High	Rare	Good	Fair		Infill +	2	26
jack pine	Pinus banksiana	NSH	Medium	0.1	1.8	2.8	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	27
peachleaf willow	Salix amygdaloides	NSLX	FIA	2.4	1.8	4.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	28
white ash	Fraxinus americana	WDL	Medium	0.9	1.8	30.1	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	2	29
bigtooth aspen	Populus grandidentata	NSL	Medium	1.8	1.7	14.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	30
white mulberry	Morus alba	NSL	FIA	2.2	1.7	7.6	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	31
eastern white pine	Pinus strobus	WDH	High	0.1	1.5	2.3	No change	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	32
red mulberry	Morus rubra	NSL	Low	4.3	1.3	4.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	33
wild plum	Prunus americana	NSLX	FIA	3.5	1.2	3.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	34
chokecherry	Prunus virginiana	NSLX	FIA	2.8	1.1	0.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	35
rock elm	Ulmus thomasii	NSLX	FIA	1.8	1.0	9.2	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	36
paper birch	Betula papyrifera	WDH	High	0.9	0.7	3.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	37
serviceberry	Amelanchier spp.	NSL	Low	1.8	0.3	2.6	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	38
yellow birch	Betula alleghaniensis	NDL	High	0.8	0.3	4.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	39
Scots pine	Pinus sylvestris	NSH	FIA	0.6	0.2	1.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	40
butternut	Juglans cinerea	NSLX	FIA	1.3	0.2	0.9	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	41
red maple	Acer rubrum	WDH	High	0.1	0.1	0.2	Lg. inc.	Sm. inc.	High	Rare	Good	Good			2	42
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	43
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	44
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	45
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	46
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			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
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	48
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	49
sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	50
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	51
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	52
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	53
black oak	Quercus velutina	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	54
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	55