

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	65,097	25,134	22

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	16	16	Increase	10	10	Very Good	0	0	Likely	17	17
Hickory	0			Medium	21	30	No Change	2	2	Good	4	4	Infill	6	6
Maple	3	Abundant	0	Low	20	11	Decrease	10	10	Fair	5	5	Migrate	9	10
Oak	1	Common	1	FIA	0		New	33	33	Poor	5	5			
Pine	1	Rare	21				Unknown	2	2	Very Poor	7	7			
Other	14	Absent	34							FIA Only	0	0			
	22		56		57	57		57	57	Unknown	2	2			
											23	23			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	32.6	32.7	32.9	32.9	
	CCSM85	32.6	32.8	33.0	33.2	
	GFDL45	32.6	32.8	33.0	33.1	
	GFDL85	32.6	32.8	33.1	33.4	
	HAD45	32.6	32.8	33.0	33.1	
	HAD85	32.6	32.9	33.1	33.4	
Growing Season (May—Sep)	CCSM45	33.7	33.8	33.9	33.9	
	CCSM85	33.7	33.8	34.0	34.2	
	GFDL45	33.7	34.0	34.2	34.3	
	GFDL85	33.7	34.0	34.3	34.6	
	HAD45	33.7	33.9	34.0	34.1	
	HAD85	33.7	33.9	34.1	34.4	
Coldest Month (Average)	CCSM45	31.0	31.1	31.3	31.2	
	CCSM85	31.0	31.1	31.3	31.4	
	GFDL45	31.0	31.1	31.2	31.3	
	GFDL85	31.0	31.2	31.3	31.5	
	HAD45	31.0	31.1	31.3	31.4	
	HAD85	31.0	31.2	31.4	31.7	
Warmest Month (Average)	CCSM45	34.1	34.2	34.3	34.3	
	CCSM85	34.1	34.2	34.4	34.5	
	GFDL45	34.1	34.4	34.5	34.6	
	GFDL85	34.1	34.4	34.6	34.7	
	HAD45	34.1	34.3	34.3	34.4	
	HAD85	34.1	34.3	34.4	34.7	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	1.8	1.8	1.8	1.8	
	CCSM85	1.8	1.8	1.8	1.9	
	GFDL45	1.8	1.9	2.0	2.0	
	GFDL85	1.8	1.9	2.1	2.1	
	HAD45	1.8	1.9	2.0	2.0	
	HAD85	1.8	2.0	2.0	2.1	
Growing Season (May—Sep)	CCSM45	.9	.9	.9	.9	
	CCSM85	.9	.9	.8	.8	
	GFDL45	.9	.9	1.0	.9	
	GFDL85	.9	.9	.9	.9	
	HAD45	.9	.9	.8	.9	
	HAD85	.9	.9	.8	.8	

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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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
northern white-cedar	Thuja occidentalis	WSH	High	70.6	58.0	6.7	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	1
quaking aspen	Populus tremuloides	WDH	High	78.9	36.6	5.1	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	2
balsam fir	Abies balsamea	NDH	High	78.9	17.1	2.4	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	3
white spruce	Picea glauca	NSL	Medium	70.1	13.1	2.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	4
sugar maple	Acer saccharum	WDH	High	67.8	12.7	4.4	No change	No change	High	Rare	Fair	Fair			1	5
paper birch	Betula papyrifera	WDH	High	59.9	9.3	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	6
American beech	Fagus grandifolia	WDH	High	20.3	5.3	6.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	7
balsam poplar	Populus balsamifera	NSH	Medium	50.7	4.0	1.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	8
green ash	Fraxinus pennsylvanica	WSH	Low	6.9	3.5	0.9	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	9
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	23.6	3.5	5.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	10
black ash	Fraxinus nigra	WSH	Medium	28	2.9	0.9	Sm. inc.	Sm. inc.	Low	Rare	Poor	Poor			1	11
red maple	Acer rubrum	WDH	High	25.5	2.8	2.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	12
northern red oak	Quercus rubra	WDH	Medium	15.9	1.8	1.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	13
bigtooth aspen	Populus grandidentata	NSL	Medium	32.9	1.5	1.0	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	14
serviceberry	Amelanchier spp.	NSL	Low	24.6	1.2	1.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	15
black spruce	Picea mariana	NSH	High	15.6	1.1	0.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	16
eastern white pine	Pinus strobus	WDH	High	26.1	1.0	0.8	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	17
white ash	Fraxinus americana	WDL	Medium	16.9	0.9	0.2	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	18
American elm	Ulmus americana	WDH	Medium	1.7	0.8	0.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	19
tamarack (native)	Larix laricina	NSH	High	3.8	0.3	0.5	Sm. inc.	Sm. inc.	Low	Rare	Poor	Poor	Infill +	Infill +	2	20
striped maple	Acer pensylvanicum	NSL	Medium	7	0.2	0.1	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	21
American basswood	Tilia americana	WSL	Medium	13.2	0.0	0.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	22
eastern redcedar	Juniperus virginiana	WDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	23
red pine	Pinus resinosa	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	24
eastern hemlock	Tsuga canadensis	NSH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	25
boxelder	Acer negundo	WSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	26
silver maple	Acer saccharinum	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	27
yellow birch	Betula alleghaniensis	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	28
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	29
bitternut hickory	Carya cordiformis	WSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	30
pignut hickory	Carya glabra	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	31
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	32
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	33
hackberry	Celtis occidentalis	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	34
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	35
black walnut	Juglans nigra	WDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	36
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	37
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	38
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	39
red mulberry	Morus rubra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	40
blackgum	Nyssa sylvatica	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	41
sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	42
eastern cottonwood	Populus deltoides	NSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	43
black cherry	Prunus serotina	WDL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	44
white oak	Quercus alba	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	45
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	46
northern pin oak	Quercus ellipsoidalis	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	47

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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	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	48
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	49
pin oak	Quercus palustris	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	50
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	51
black oak	Quercus velutina	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	52
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	53
black willow	Salix nigra	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	54
sassafras	Sassafras albidum	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate +	3	55
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	56
slippery elm	Ulmus rubra	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	57