

### Current and Potential Future Habitat, Capability, and Migration

sq. km    sq. mi    FIA Plots  
Area of Region    20,480    7,907.5    1

#### 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									
Hickory	0									
Maple	1	Abundant	0	17	Increase	6	7	Very Good	0	0
Oak	0	Common	0	22	No Change	1	0	Good	3	4
Pine	0	Rare	8	5	Decrease	1	1	Fair	3	3
Other	4	Absent	35	0	New	35	34	Poor	1	0
	<b>8</b>		<b>43</b>	<b>44</b>	Unknown	<b>1</b>	<b>2</b>	Very Poor	1	1
						<b>44</b>	<b>44</b>	FIA Only	0	0
								Unknown	1	2
									<b>9</b>	<b>10</b>

#### Potential Changes in Climate Variables

##### Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	32.2	32.3	32.3	32.3	
	CCSM85	32.2	32.3	32.3	32.4	
	GFDL45	32.2	32.3	32.4	32.4	
	GFDL85	32.2	32.3	32.4	32.5	
	HAD45	32.2	32.3	32.4	32.4	
	HAD85	32.2	32.3	32.4	32.5	
	Growing Season (May—Sep)	CCSM45	32.5	32.6	32.6	32.6
CCSM85		32.5	32.6	32.6	32.7	
GFDL45		32.5	32.6	32.7	32.7	
GFDL85		32.5	32.6	32.7	32.8	
HAD45		32.5	32.6	32.6	32.7	
Coldest Month (Average)	CCSM45	31.8	31.8	31.9	31.9	
	CCSM85	31.8	31.8	31.9	31.9	
	GFDL45	31.8	31.8	31.9	31.9	
	HAD85	31.8	31.9	31.9	32.0	
Warmest Month (Average)	CCSM45	32.7	32.7	32.7	32.7	
	CCSM85	32.7	32.7	32.7	32.8	
	GFDL45	32.7	32.7	32.7	32.8	
	GFDL85	32.7	32.7	32.8	32.8	
	HAD85	32.7	32.7	32.7	32.8	

##### Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	.7	.6	.6	.7	
	CCSM85	.7	.7	.7	.7	
	GFDL45	.7	.7	.7	.7	
	GFDL85	.7	.7	.7	.8	
	HAD45	.7	.7	.7	.7	
Growing Season (May—Sep)	CCSM45	.3	.3	.3	.3	
	CCSM85	.3	.3	.3	.2	
	GFDL45	.3	.3	.3	.3	
	GFDL85	.3	.3	.3	.3	
	HAD85	.3	.3	.2	.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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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
eastern redcedar	Juniperus virginiana	WDH	Medium	52.2	9.5	2.0	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	1
black ash	Fraxinus nigra	WSH	Medium	35.8	6.1	5.6	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	2
American elm	Ulmus americana	WDH	Medium	52.2	5.4	2.0	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	3
white ash	Fraxinus americana	WDL	Medium	52.2	2.0	0.8	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	4
slippery elm	Ulmus rubra	WSL	Low	35.8	0.6	0.6	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	5
sugar maple	Acer saccharum	WDH	High	35.8	0.4	0.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	6
American basswood	Tilia americana	WSL	Medium	35.8	0.2	0.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	7
green ash	Fraxinus pennsylvanica	WDH	Low	16.4	0.1	0.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	8
eastern white pine	Pinus strobus	WSH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	9
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	10
boxelder	Acer negundo	WSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	11
red maple	Acer rubrum	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	12
silver maple	Acer saccharinum	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	13
paper birch	Betula papyrifera	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	14
bitternut hickory	Carya cordiformis	WSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	15
pignut hickory	Carya glabra	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	16
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	17
mockernut hickory	Carya alba	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	18
hackberry	Celtis occidentalis	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	19
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	20
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	21
American beech	Fagus grandifolia	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	22
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	23
black walnut	Juglans nigra	WDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	24
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	25
yellow-poplar	Liriodendron tulipifera	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	26
blackgum	Nyssa sylvatica	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	27
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	28
sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	29
eastern cottonwood	Populus deltoides	NSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	30
bigtooth aspen	Populus grandidentata	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	31
quaking aspen	Populus tremuloides	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	32
black cherry	Prunus serotina	WDL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	33
white oak	Quercus alba	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	34
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	35
bur oak	Quercus macrocarpa	NDH	Medium	0	0	0	New Habitat	Unknown	High	Absent	New Habitat	Unknown	Likely +		3	36
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	37
pin oak	Quercus palustris	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	38
northern red oak	Quercus rubra	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	39
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	40
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	41
black oak	Quercus velutina	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	42
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	43
sassafras	Sassafras albidum	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	44