

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	64,521	24,912	42

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	1		High	5	9	Increase	3	4	Very Good	0	0	Likely	1	1
Hickory	0		Medium	9	21	No Change	7	8	Good	0	0	Infill	10	12
Maple	2	Abundant	Low	17	4	Decrease	9	7	Fair	8	9	Migrate	4	5
Oak	2	Common	FIA	4		New	9	9	Poor	3	4			
Pine	2	Rare				Unknown	7	7	Very Poor	8	6			
Other	16	Absent							FIA Only	3	3			
	23	34		35	34		35	35	Unknown	3	3		15	18
										25	25			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	44.3	45.4	46.5	47.0	
Average	CCSM85	44.3	45.7	47.1	48.8	
	GFDL45	44.3	48.0	47.2	48.0	
	GFDL85	44.3	46.0	47.9	50.5	
	HAD45	44.3	45.9	47.9	48.5	
	HAD85	44.3	46.2	49.2	51.1	
Growing Season	CCSM45	55.5	56.8	58.1	58.6	
	CCSM85	55.5	57.2	58.6	60.8	
May—Sep	GFDL45	55.5	60.5	59.2	60.5	
	GFDL85	55.5	57.7	59.8	63.1	
	HAD45	55.5	56.9	58.5	59.1	
	HAD85	55.5	57.3	60.3	61.9	
Coldest Month	CCSM45	27.6	28.8	29.4	30.0	
	CCSM85	27.6	29.0	29.4	30.5	
Average	GFDL45	27.6	29.6	29.8	30.0	
	GFDL85	27.6	28.8	29.7	30.4	
	HAD45	27.6	28.9	30.6	30.4	
	HAD85	27.6	30.4	32.3	33.3	
Warmest Month	CCSM45	59.9	61.4	62.4	62.8	
	CCSM85	59.9	62.2	63.1	64.5	
Average	GFDL45	59.9	62.2	62.9	63.9	
	GFDL85	59.9	62.6	63.4	65.8	
	HAD45	59.9	61.3	62.3	62.7	
	HAD85	59.9	62.3	63.8	64.7	

Precipitation (in)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	16.3	17.1	16.7	16.3	
Total	CCSM85	16.3	16.9	16.9	17.4	
	GFDL45	16.3	18.1	19.6	18.8	
	GFDL85	16.3	18.5	20.7	19.4	
	HAD45	16.3	18.2	17.8	18.4	
	HAD85	16.3	17.3	16.9	18.3	
Growing Season	CCSM45	10.5	10.7	10.0	9.9	
	CCSM85	10.5	10.4	10.0	10.3	
May—Sep	GFDL45	10.5	11.8	12.6	11.6	
	GFDL85	10.5	11.9	13.2	12.1	
	HAD45	10.5	11.1	11.5	11.4	
	HAD85	10.5	10.7	10.0	9.9	

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
green ash	Fraxinus pennsylvanica	WSH	Low	47.2	28.4	16.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	1
American elm	Ulmus americana	WDH	Medium	55.6	22.7	14.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	2
hackberry	Celtis occidentalis	WDH	Medium	37.6	20.2	21.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	3
red mulberry	Morus rubra	NSL	Low	45.7	18.1	18.5	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	4
eastern cottonwood	Populus deltoides	NSH	Low	21.6	13.4	18.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	5
eastern redcedar	Juniperus virginiana	WDH	Medium	18.3	8.2	7.9	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	6
bur oak	Quercus macrocarpa	NDH	Medium	7.9	4.8	27.8	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	7
honeylocust	Gleditsia triacanthos	NSH	Low	11.1	3.6	8.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	8
Osage-orange	Maclura pomifera	NDH	Medium	7.5	3.3	18.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	9
black walnut	Juglans nigra	WDH	Low	15.7	2.6	7.2	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	10
boxelder	Acer negundo	WSH	Low	7.9	2.4	10.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	11
Siberian elm	Ulmus pumila	NDH	FIA	3.1	1.5	12.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	12
chinkapin oak	Quercus muehlenbergii	NSL	Medium	1	1.2	11.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	13
slippery elm	Ulmus rubra	WSL	Low	8.7	1.1	2.2	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	14
silver maple	Acer saccharinum	NSH	Low	2.6	1.0	26.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	15
black locust	Robinia pseudoacacia	NDH	Low	0.7	1.0	6.7	No change	Sm. inc.	Medium	Rare	Poor	Fair		Infill +	2	16
eastern white pine	Pinus strobus	WDH	High	2.3	0.4	8.2	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	17
peachleaf willow	Salix amygdaloides	NSLX	FIA	1.9	0.3	4.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	18
shortleaf pine	Pinus echinata	WDH	High	2.3	0.1	2.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	19
northern catalpa	Catalpa speciosa	NSHX	FIA	2.5	0.1	2.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	20
sycamore	Platanus occidentalis	NSL	Low	2.3	0.1	2.5	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			0	21
black willow	Salix nigra	NSH	Low	2.6	0.1	2.3	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	22
wild plum	Prunus americana	NSLX	FIA	2.3	0.1	1.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	23
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	24
Ohio buckeye	Aesculus glabra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	25
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	26
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	27
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	28
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	29
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	30
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	31
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	32
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	33
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	34
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	35