HUC 111303 Washita

	sq. km	sq. mi	FIA Plots
Area of Region	20,514	7,920.6	139

Species Information

The columns below provide breif 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
Ash	2
Hickory	5
Maple	2
Oak	10
Pine	1
Other	28
	48

Abundance	
Abundant	0
Common	4
Rare	44
Absent	6
	54

Model Reliability		Adaptability
High	9	17
Medium	18	28
Low	22	6
FIA	6	
	55	**51**

Potential Change in Habitat Suitability	Scenario RCP45	Scenario RCP85
Increase	8	12
No Change	12	10
Decrease	22	20
New	3	3
Unknown	10	10
	55	**55**

Capability to Cope or Persist	Scenario RCP45	Scenario RCP85
Very Good	0	0
Good	6	8
Fair	7	7
Poor	15	16
Very Poor	14	11
FIA Only	2	2
Unknown	4	4
	48	**48**

Migration Potential	SHIFT RCP45	SHIFT RCP85
Likely	1	1
Infill	14	18
Migrate	1	1
	16	**20**

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	49.4	50.4	51.4	51.8	
Average	CCSM85	49.4	50.8	52.0	53.7	
	GFDL45	49.4	53.1	52.2	53.1	
	GFDL85	49.4	51.2	53.0	55.4	
	HAD45	49.4	50.7	52.4	52.9	
	HAD85	49.4	50.9	53.6	55.4	
Growing	CCSM45	59.0	60.1	61.1	61.6	
Season	CCSM85	59.0	60.6	61.7	63.8	
May—Sep	GFDL45	59.0	64.1	62.6	64.1	
	GFDL85	59.0	61.5	63.7	66.8	
	HAD45	59.0	60.2	61.7	62.1	
	HAD85	59.0	60.6	63.5	65.1	
Coldest	CCSM45	35.1	36.5	36.9	37.4	
Month	CCSM85	35.1	36.6	36.9	38.0	
Average	GFDL45	35.1	37.2	37.2	37.3	
	GFDL85	35.1	35.6	36.4	36.8	
	HAD45	35.1	35.6	37.0	37.1	
	HAD85	35.1	36.9	38.1	39.1	
Warmest	CCSM45	62.8	63.9	64.6	64.9	
Month	CCSM85	62.8	64.4	64.9	66.1	
Average	GFDL45	62.8	66.0	66.3	67.6	
	GFDL85	62.8	65.9	67.1	69.8	
	HAD45	62.8	64.0	64.8	64.9	
	HAD85	62.8	64.7	66.1	66.7	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	20.5	20.7	21.1	20.3	
Total	CCSM85	20.5	20.0	21.3	21.0	
	GFDL45	20.5	21.2	23.9	21.1	
	GFDL85	20.5	21.4	23.2	22.3	
	HAD45	20.5	21.5	21.0	21.9	
	HAD85	20.5	21.4	18.7	21.3	
Growing	CCSM45	10.7	10.3	10.4	10.1	
Season	CCSM85	10.7	10.4	10.3	10.0	
May—Sep	GFDL45	10.7	11.1	12.7	11.2	
	GFDL85	10.7	11.8	12.7	11.7	
	HAD45	10.7	11.2	11.0	11.3	
	HAD85	10.7	10.7	8.9	10.3	

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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USDA Forest Service
Northern Research Station
Landscape Change Research Group
Iverson, Peters, Prasad, Matthews

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
post oak	Quercus stellata	WDH	High	47.8	138.2	17.9	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	1
eastern redcedar	Juniperus virginiana	WDH	Medium	46	117.8	12.8	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	2
American elm	Ulmus americana	WDH	Medium	59.3	82.6	11.0	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	3
blackjack oak	Quercus marilandica	NSL	Medium	48.4	62.0	9.6	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	4
black locust	Robinia pseudoacacia	NDH	Low	15.1	31.5	17.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	5
pecan	Carya illinoinensis	NSH	Low	28.7	28.1	7.9	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	1	6
black walnut	Juglans nigra	WDH	Low	20.1	25.5	7.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	7
hackberry	Celtis occidentalis	WDH	Medium	38.3	22.4	2.7	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++	1	8
ashe juniper	Juniperus ashei	NDH	High	9.9	21.1	30.6	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			0	9
winged elm	Ulmus alata	WDL	Medium	20.8	18.7	5.1	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	10
black willow	Salix nigra	NSH	Low	21.8	15.8	5.9	No change	Sm. inc.	Low	Rare	Very Poor	Poor			1	11
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	27.9	12.9	4.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	12
eastern cottonwood	Populus deltoides	NSH	Low	11	12.9	3.2	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	13
sugarberry	Celtis laevigata	NDH	Medium	32.2	12.0	3.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	14
Osage-orange	Maclura pomifera	NDH	Medium	21.5	11.7	3.1	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	15
green ash	Fraxinus pennsylvanica	WSH	Low	22.7	9.6	3.9	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	16
boxelder	Acer negundo	WSH	Low	13.9	8.4	8.4	Lg. dec.	No change	High	Rare	Poor	Fair		Infill +	2	17
Siberian elm	Ulmus pumila	NDH	FIA	10.4	8.3	7.3	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	18
slippery elm	Ulmus rubra	WSL	Low	19.1	7.4	2.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	19
chinkapin oak	Quercus muehlenbergii	NSL	Medium	10.4	7.3	2.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	20
bur oak	Quercus macrocarpa	NDH	Medium	8.2	6.3	12.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	21
common persimmon	Diospyros virginiana	NSL	Low	9.8	5.2	1.8	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	22
white ash	Fraxinus americana	WDL	Medium	14.2	4.9	1.8	No change	No change	Low	Rare	Very Poor	Very Poor			2	23
Shumard oak	Quercus shumardii	NSL	Low	10.8	4.7	2.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	24
eastern redbud	Cercis canadensis	NSL	Low	14.5	4.6	3.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	25
black hickory	Carya texana	NDL	High	17.8	4.1	1.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	26
northern red oak	Quercus rubra	WDH	Medium	12.6	3.5	2.0	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	27
white mulberry	Morus alba	NSL	FIA	5.8	3.1	2.9	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	28
honeylocust	Gleditsia triacanthos	NSH	Low	7.3	2.8	1.9	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	29
black oak	Quercus velutina	WDH	High	15.2	2.8	1.1	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	30
paulownia	Paulownia tomentosa	NSL	FIA	0.4	2.6	3.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	31
wild plum	Prunus americana	NSLX	FIA	2.2	2.2	0.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	32
Kentucky coffeetree	Gymnocladus dioicus	NSLX	FIA	7.3	1.8	3.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	33
red mulberry	Morus rubra	NSL	Low	13.2	1.7	1.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	34
sycamore	Platanus occidentalis	NSL	Low	5.1	1.2	1.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	35
bitternut hickory	Carya cordiformis	WSL	Low	3.2	1.2	0.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	36
sugar maple	Acer saccharum	WDH	High	0	1.0	0.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	37
cedar elm	Ulmus crassifolia	NDH	Medium	1.2	1.0	0.5	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	38
loblolly pine	Pinus taeda	WDH	High	1.1	0.6	2.4	No change	No change	Medium	Rare	Poor	Poor			0	39
white oak	Quercus alba	WDH	Medium	2	0.5	3.7	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	40
shagbark hickory	Carya ovata	WSL	Medium	0.2	0.4	0.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	41
ailanthus	Ailanthus altissima	NSL	FIA	0.4	0.3	0.4	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	42
southern red oak	Quercus falcata	WDL	Medium	0.9	0.2	0.8	No change	No change	High	Rare	Fair	Fair			0	43
pin oak	Quercus palustris	NSH	Low	4.1	0.2	0.9	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	44
mockernut hickory	Carya alba	WDL	Medium	1.1	0.1	0.4	Sm. inc.	Sm. inc.	High	Rare	Good	Good			2	45
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	0.2	0.1	0.1	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	46
black cherry	Prunus serotina	WDL	Medium	2.1	0.1	0.5	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
flowering dogwood	Cornus florida	WDL	Medium	0.9	0.0	0.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	48
shortleaf pine	Pinus echinata	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	49
spruce pine	Pinus glabra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	50
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	51
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	52
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	53
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	54
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	55