HUC 050600 Scioto

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Landscape Change Research Group
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	sq. km	sq. mi	FIA Plots
Area of Region	16,867	6,512.3	194

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	4
Hickory	5
Maple	5
Oak	12
Pine	7
Other	41
74	

Abundance	
Abundant	1
Common	24
Rare	49
Absent	13
87	

Model		
	Reliability	Adaptability
High	19	26
Medium	28	43
Low	34	14
FIA	7	
	88	**83**

Potential Change in Habitat Suitability	Scenario RCP45	Scenario RCP85
Increase	15	22
No Change	19	10
Decrease	33	35
New	8	8
Unknown	13	13
	88	**88**

Capability to Cope or Persist	Scenario RCP45	Scenario RCP85
Very Good	6	10
Good	11	11
Fair	14	10
Poor	13	14
Very Poor	22	17
FIA Only	2	2
Unknown	6	6
	74	**70**

Migration Potential	SHIFT RCP45	SHIFT RCP85
Likely	0	0
Infill	32	33
Migrate	3	7
	35	**40**

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	46.0	47.2	48.9	49.0	
Average	CCSM85	46.0	47.6	49.4	51.6	
	GFDL45	46.0	48.8	50.0	50.6	
	GFDL85	46.0	48.2	50.7	53.6	
	HAD45	46.0	47.9	50.4	51.4	
	HAD85	46.0	48.2	51.5	54.6	
Growing	CCSM45	57.4	58.6	60.2	60.6	
Season	CCSM85	57.4	59.1	60.9	63.7	
May—Sep	GFDL45	57.4	60.8	62.3	63.2	
	GFDL85	57.4	60.2	63.2	66.5	
	HAD45	57.4	59.8	62.1	63.5	
	HAD85	57.4	59.9	64.2	67.5	
Coldest	CCSM45	28.1	29.0	30.2	30.5	
Month	CCSM85	28.1	29.9	30.6	31.8	
Average	GFDL45	28.1	30.7	31.1	31.6	
	GFDL85	28.1	30.1	30.9	31.6	
	HAD45	28.1	28.7	30.6	30.6	
	HAD85	28.1	29.6	31.1	32.7	
Warmest	CCSM45	61.2	62.4	63.3	63.7	
Month	CCSM85	61.2	63.0	64.2	65.6	
Average	GFDL45	61.2	63.5	65.0	65.6	
	GFDL85	61.2	64.0	65.9	67.8	
	HAD45	61.2	63.9	65.8	66.7	
	HAD85	61.2	64.9	68.0	70.1	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	27.8	29.0	30.2	30.5	
Total	CCSM85	27.8	29.4	30.3	32.3	
	GFDL45	27.8	30.5	31.9	33.5	
	GFDL85	27.8	28.8	32.6	34.2	
	HAD45	27.8	28.8	29.1	29.0	
	HAD85	27.8	28.7	26.8	29.4	
Growing	CCSM45	13.0	13.5	13.6	13.8	
Season	CCSM85	13.0	12.8	12.9	13.1	
May—Sep	GFDL45	13.0	14.3	13.9	14.5	
	GFDL85	13.0	13.0	13.6	13.9	
	HAD45	13.0	13.6	11.7	12.6	
	HAD85	13.0	12.7	10.6	11.1	

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
sugar maple	Acer saccharum	WDH	High	55.6	667.2	13.3	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	1
yellow-poplar	Liriodendron tulipifera	WDH	High	24	401.3	9.8	Lg. dec.	Lg. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	2
red maple	Acer rubrum	WDH	High	36.5	393.3	7.8	Lg. dec.	Lg. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	3
white ash	Fraxinus americana	WDL	Medium	67.7	301.3	8.0	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	4
chestnut oak	Quercus prinus	NDH	High	14.5	230.3	10.8	Lg. dec.	Lg. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	5
black cherry	Prunus serotina	WDL	Medium	45.2	201.5	4.5	No change	Sm. dec.	Low	Common	Poor	Poor			0	6
black walnut	Juglans nigra	WDH	Low	49.4	178.8	7.4	No change	No change	Medium	Common	Fair	Fair			1	7
white oak	Quercus alba	WDH	Medium	29.5	178.2	5.5	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	8
black locust	Robinia pseudoacacia	NDH	Low	19.3	175.9	5.6	Lg. dec.	No change	Medium	Common	Poor	Fair	Infill +	Infill +	1	9
American elm	Ulmus americana	WDH	Medium	62	120.3	4.6	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	10
northern red oak	Quercus rubra	WDH	Medium	32.3	106.0	4.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	11
shagbark hickory	Carya ovata	WSL	Medium	35.8	103.6	4.5	No change	Sm. dec.	Medium	Common	Fair	Poor			1	12
pignut hickory	Carya glabra	WDL	Medium	29.2	101.4	3.4	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	13
black oak	Quercus velutina	WDH	High	24.1	100.2	3.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	14
sassafras	Sassafras albidum	WSL	Low	20.3	87.2	2.9	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	15
American beech	Fagus grandifolia	WDH	High	19.6	87.1	4.0	No change	Sm. dec.	Medium	Common	Fair	Poor	Infill +	Infill +	1	16
bitternut hickory	Carya cordiformis	WSL	Low	21.2	80.3	3.5	No change	Sm. inc.	High	Common	Good	Very Good	Infill ++	Infill ++	1	17
boxelder	Acer negundo	WSH	Low	36.4	79.1	10.7	No change	Sm. inc.	High	Common	Good	Very Good	Infill ++	Infill ++	1	18
eastern redcedar	Juniperus virginiana	WDH	Medium	3.5	74.8	7.2	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	19
slippery elm	Ulmus rubra	WSL	Low	26.1	74.7	2.2	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +	Infill ++	1	20
black willow	Salix nigra	NSH	Low	8.3	72.8	8.0	Lg. dec.	Sm. dec.	Low	Common	Very Poor	Poor		Infill +	2	21
hackberry	Celtis occidentalis	WDH	Medium	38	66.8	5.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	22
scarlet oak	Quercus coccinea	WDL	Medium	15.5	65.5	3.9	No change	Sm. dec.	Medium	Common	Fair	Poor	Infill +	Infill +	1	23
sycamore	Platanus occidentalis	NSL	Low	20.9	58.5	4.2	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	1	24
blackgum	Nyssa sylvatica	WDL	Medium	15.1	52.9	1.8	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	25
mockernut hickory	Carya alba	WDL	Medium	22.8	51.3	2.2	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	26
Virginia pine	Pinus virginiana	NDH	High	5.4	44.9	3.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	27
eastern cottonwood	Populus deltoides	NSH	Low	13.5	40.9	11.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	28
sourwood	Oxydendrum arboreum	NDL	High	9.7	40.8	2.8	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	29
pin oak	Quercus palustris	NSH	Low	7.9	38.8	15.9	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	30
silver maple	Acer saccharinum	NSH	Low	16.1	38.0	14.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	31
flowering dogwood	Cornus florida	WDL	Medium	8.3	37.9	1.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	32
eastern white pine	Pinus strobus	WDH	High	9.4	37.6	8.4	Lg. dec.	Very Lg. dec.	Low	Rare	Very Poor	Lost			0	33
green ash	Fraxinus pennsylvanica	WSH	Low	25.6	36.9	4.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	34
bigtooth aspen	Populus grandidentata	NSL	Medium	11.9	34.8	4.0	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	35
honeylocust	Gleditsia triacanthos	NSH	Low	22.6	33.0	6.8	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	36
loblolly pine	Pinus taeda	WDH	High	1	30.6	22.4	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	37
river birch	Betula nigra	NSL	Low	0.6	29.6	49.4	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	38
American basswood	Tilia americana	WSL	Medium	11.1	28.1	3.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	39
ailanthus	Ailanthus altissima	NSL	FIA	3.9	27.8	2.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	40
pawpaw	Asimina triloba	NSL	Low	6.7	23.8	2.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	41
eastern redbud	Cercis canadensis	NSL	Low	9.6	23.7	1.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	42
shingle oak	Quercus imbricaria	NDH	Medium	8.4	22.1	4.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	43
eastern hemlock	Tsuga canadensis	NSH	High	1.8	21.0	7.5	Lg. dec.	Very Lg. dec.	Low	Rare	Very Poor	Lost			0	44
Ohio buckeye	Aesculus glabra	NSL	Low	19	19.5	3.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	45
chinkapin oak	Quercus muehlenbergii	NSL	Medium	4.2	17.2	2.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	46
blue ash	Fraxinus quadrangulata	NSL	Low	3.4	17.0	3.6	Sm. dec.	Sm. 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
Osage-orange	Maclura pomifera	NDH	Medium	11.4	14.7	11.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	48
bur oak	Quercus macrocarpa	NDH	Medium	14.4	12.0	7.2	No change	Sm. inc.	High	Rare	Fair	Good	Infill +		2	49
red pine	Pinus resinosa	NSH	Medium	3	11.4	13.8	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	50
American hornbeam; musclewood	Carpinus caroliniana	WSL	Low	8.4	10.3	0.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	51
white mulberry	Morus alba	NSL	FIA	14.7	8.7	2.4	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	52
serviceberry	Amelanchier spp.	NSL	Low	5.4	8.2	1.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	53
common persimmon	Diospyros virginiana	NSL	Low	3.1	7.6	1.2	No change	Lg. inc.	High	Rare	Fair	Good	Infill +	Infill ++	2	54
pitch pine	Pinus rigida	NSH	High	2.4	7.3	2.0	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	55
eastern hophornbeam; ironwood	Ostrya virginiana	WSL	Low	8.3	7.1	0.9	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	56
sweet birch	Betula lenta	NDH	High	1.2	6.2	1.5	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			2	57
pin cherry	Prunus pensylvanica	NSL	Low	0.6	4.8	7.9	Very Lg. dec.	Lg. dec.	Medium	Rare	Lost	Very Poor			0	58
yellow buckeye	Aesculus flava	NSL	Low	3.5	4.5	1.4	Sm. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	59
Norway spruce	Picea abies	NSH	FIA	0.2	4.4	2.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	60
shortleaf pine	Pinus echinata	WDH	High	0.6	2.2	3.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	61
Scots pine	Pinus sylvestris	NSH	FIA	3	1.5	4.0	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	62
chokecherry	Prunus virginiana	NSLX	FIA	2.5	1.3	1.0	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	63
sweetgum	Liquidambar styraciflua	WDH	High	0.5	1.2	1.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	64
cucumbertree	Magnolia acuminata	NSL	Low	0.6	0.9	1.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	65
post oak	Quercus stellata	WDH	High	2.4	0.8	5.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	66
swamp white oak	Quercus bicolor	NSL	Low	3	0.7	1.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	67
butternut	Juglans cinerea	NSLX	FIA	1	0.5	1.5	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	68
shellbark hickory	Carya laciniosa	NSL	Low	0.2	0.4	0.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	69
red mulberry	Morus rubra	NSL	Low	0.5	0.4	0.6	No change	Lg. inc.	Medium	Rare	Poor	Good			2	70
black maple	Acer nigrum	NSH	Low	0.8	0.4	0.9	Lg. dec.	Very Lg. dec.	High	Rare	Poor	Lost			0	71
northern pin oak	Quercus ellipsoidalis	NSH	Medium	0.6	0.3	0.5	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	72
paulownia	Paulownia tomentosa	NSL	FIA	0.2	0.3	0.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	73
black ash	Fraxinus nigra	WSH	Medium	0.6	0.2	0.3	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	74
red spruce	Picea rubens	NDH	High	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	75
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	76
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	77
pecan	Carya illinoinensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate ++	3	78
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	79
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	80
American holly	Ilex opaca	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	81
redbay	Persea borbonia	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	82
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	83
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	84
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	85
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	86
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	87
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	88

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