

HUC 051301 Upper Cumberland

HUC 6 Watershed Climate Change Atlas Tree Species

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

Current and Potential Future Habitat, Capability, and Migration

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
red maple	Acer rubrum	WDH	High	86.4	1052.4	9.2	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	1
yellow-poplar	Liriodendron tulipifera	WDH	High	86.8	966.7	8.4	Sm. dec.	Lg. dec.	High	Abundant	Good	Good			1	2
white oak	Quercus alba	WDH	Medium	81.8	909.5	8.5	No change	No change	High	Abundant	Very Good	Very Good			1	3
sugar maple	Acer saccharum	WDH	High	75.6	801.9	8.6	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	4
chestnut oak	Quercus prinus	NDH	High	62	566.0	7.1	No change	No change	High	Abundant	Very Good	Very Good			1	5
eastern redcedar	Juniperus virginiana	WDH	Medium	39.6	501.9	9.3	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	6
Virginia pine	Pinus virginiana	NDH	High	46.2	457.5	7.4	No change	Sm. dec.	Medium	Common	Fair	Poor			1	7
American beech	Fagus grandifolia	WDH	High	57.4	365.1	4.8	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	8
pignut hickory	Carya glabra	WDL	Medium	68.1	353.5	4.0	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	9
scarlet oak	Quercus coccinea	WDL	Medium	57	347.6	4.7	Sm. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	10
blackgum	Nyssa sylvatica	WDL	Medium	76.7	296.5	3.1	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	11
sourwood	Oxydendrum arboreum	NDL	High	72.4	294.4	3.1	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	12
black oak	Quercus velutina	WDH	High	53.5	235.9	3.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	13
northern red oak	Quercus rubra	WDH	Medium	56.3	235.0	3.2	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	14
mockernut hickory	Carya alba	WDL	Medium	55.1	215.1	2.9	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	15
white ash	Fraxinus americana	WDL	Medium	45.4	204.6	3.3	No change	Sm. inc.	Low	Common	Poor	Fair			1	16
sweetgum	Liquidambar styraciflua	WDH	High	27.2	191.2	5.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	17
sassafras	Sassafras albidum	WSL	Low	51.2	172.9	2.2	Sm. dec.	No change	Medium	Common	Poor	Fair			1	18
black cherry	Prunus serotina	WDL	Medium	47.5	165.7	2.8	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	19
loblolly pine	Pinus taeda	WDH	High	7.5	163.4	14.0	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	1	20
shagbark hickory	Carya ovata	WSL	Medium	44.2	159.3	2.6	No change	Sm. dec.	Medium	Common	Fair	Poor			1	21
black locust	Robinia pseudoacacia	NDH	Low	27.2	154.2	3.3	No change	No change	Medium	Common	Fair	Fair			1	22
eastern hemlock	Tsuga canadensis	NSH	High	21.7	143.9	5.1	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	23
shortleaf pine	Pinus echinata	WDH	High	28	142.4	4.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	24
southern red oak	Quercus falcata	WDL	Medium	22	132.3	4.5	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	25
flowering dogwood	Cornus florida	WDL	Medium	62.7	131.6	1.7	No change	Sm. inc.	Medium	Common	Fair	Good			1	26
bitternut hickory	Carya cordiformis	WSL	Low	30.4	127.0	3.3	No change	No change	High	Common	Good	Good			1	27
green ash	Fraxinus pennsylvanica	WSH	Low	37.4	121.3	2.6	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	28
chinkapin oak	Quercus muehlenbergii	NSL	Medium	28	112.5	3.2	No change	Sm. dec.	Medium	Common	Fair	Poor			1	29
American elm	Ulmus americana	WDH	Medium	27.7	103.8	2.9	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	30
American basswood	Tilia americana	WSL	Medium	22.8	97.0	2.9	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	31
black walnut	Juglans nigra	WDH	Low	28.3	96.6	2.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	32
ailanthus	Ailanthus altissima	NSL	FIA	22	94.5	3.7	Unknown	Unknown	NA	Common	NNIS	NNIS			0	33
sycamore	Platanus occidentalis	NSL	Low	21.7	91.9	3.0	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	34
eastern redbud	Cercis canadensis	NSL	Low	38.5	82.8	1.6	No change	No change	Medium	Common	Fair	Fair			1	35
post oak	Quercus stellata	WDH	High	18.9	81.3	3.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	36
winged elm	Ulmus alata	WDL	Medium	29.7	80.2	2.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	37
yellow buckeye	Aesculus flava	NSL	Low	27.6	79.3	2.2	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	38
hackberry	Celtis occidentalis	WDH	Medium	14.3	61.4	3.0	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	39
sweet birch	Betula lenta	NDH	High	16.2	61.4	2.5	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	40
slippery elm	Ulmus rubra	WSL	Low	27.7	57.4	1.7	No change	Sm. inc.	Medium	Common	Fair	Good			1	41
eastern white pine	Pinus strobus	WDH	High	10.8	51.1	3.9	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair	Infill +	Infill +	1	42
cucumber tree	Magnolia acuminata	NSL	Low	20.3	45.2	1.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	43
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	18	43.9	2.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	44
boxelder	Acer negundo	WSH	Low	11.1	41.5	2.7	Sm. inc.	Lg. inc.	High	Rare	Good	Good			1	45
pitch pine	Pinus rigida	NSH	High	8.7	31.6	3.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	46
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	19.4	25.6	1.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	47



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paulownia	Paulownia tomentosa	NSL	FIA	6.5	23.6	2.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	48
Osage-orange	Maclura pomifera	NDH	Medium	5.8	22.4	2.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	49
serviceberry	Amelanchier spp.	NSL	Low	17	21.4	1.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	50
shellbark hickory	Carya laciniosa	NSL	Low	8.5	21.1	2.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	51
honeylocust	Gleditsia triacanthos	NSH	Low	4.9	20.8	2.5	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++	2	52
blue ash	Fraxinus quadrangulata	NSL	Low	3.9	17.8	3.1	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			2	53
sugarberry	Celtis laevigata	NDH	Medium	4.7	16.9	3.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	54
red mulberry	Morus rubra	NSL	Low	13.5	16.5	1.0	Sm. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair			1	55
common persimmon	Diospyros virginiana	NSL	Low	6.6	13.5	1.2	Sm. inc.	Lg. inc.	High	Rare	Good	Good			1	56
bigleaf magnolia	Magnolia macrophylla	NSL	Low	9	13.3	1.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	57
American holly	Ilex opaca	NSL	Medium	8.1	9.6	1.1	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	58
Shumard oak	Quercus shumardii	NSL	Low	2.1	9.6	3.4	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	59
silver maple	Acer saccharinum	NSH	Low	0.7	9.3	12.8	Sm. dec.	Lg. dec.	High	Rare	Poor	Poor			0	60
willow oak	Quercus phellos	NSL	Low	2.9	7.8	3.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	61
pawpaw	Asimina triloba	NSL	Low	5.4	5.8	0.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	62
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	2.9	5.7	1.0	No change	No change	Low	Rare	Very Poor	Very Poor			0	63
Ohio buckeye	Aesculus glabra	NSL	Low	3.7	5.5	1.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	64
sand hickory	Carya pallida	NSL	FIA	2.3	5.3	1.5	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	65
eastern cottonwood	Populus deltoides	NSH	Low	1.5	4.8	2.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	66
black willow	Salix nigra	NSH	Low	1.3	4.7	3.1	No change	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	67
black maple	Acer nigrum	NSH	Low	0.5	4.4	4.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	68
river birch	Betula nigra	NSL	Low	2.9	4.4	1.0	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	69
yellow birch	Betula alleghaniensis	NDL	High	2.3	4.3	1.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	70
blackjack oak	Quercus marilandica	NSL	Medium	2.7	4.2	1.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	71
butternut	Juglans cinerea	NSLX	FIA	2.1	4.1	1.8	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	72
striped maple	Acer pensylvanicum	NSL	Medium	2.7	2.5	0.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	73
wild plum	Prunus americana	NSLX	FIA	0.7	1.6	2.2	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	74
bigtooth aspen	Populus grandidentata	NSL	Medium	1.1	1.5	0.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	75
shingle oak	Quercus imbricaria	NDH	Medium	0.4	1.3	3.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	76
florida maple	Acer barbatum	NSL	Low	0.1	0.8	0.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	77
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	1.4	0.7	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	78
pin oak	Quercus palustris	NSH	Low	0.6	0.7	0.8	Lg. dec.	Very Lg. dec.	Low	Rare	Very Poor	Lost			0	79
American chestnut	Castanea dentata	NSLX	FIA	0.9	0.5	0.4	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	80
southern magnolia	Magnolia grandiflora	NSL	Low	0.4	0.5	1.4	Sm. dec.	Lg. inc.	Medium	Rare	Very Poor	Good			2	81
pin cherry	Prunus pensylvanica	NSL	Low	0.3	0.5	0.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	82
white mulberry	Morus alba	NSL	FIA	0.4	0.4	0.4	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	83
pecan	Carya illinoensis	NSH	Low	0.1	0.3	0.2	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	84
Kentucky coffeetree	Gymnocladus dioicus	NSLX	FIA	0.4	0.2	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	85
chokecherry	Prunus virginiana	NSLX	FIA	0.4	0.2	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	86
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	87
slash pine	Pinus elliotii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	88
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	89
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	90
mountain maple	Acer spicatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	91
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate ++	3	92
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	93
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	94



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silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	95
sweetbay	Magnolia virginiana	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	96
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	97
laurel oak	Quercus laurifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	98
swamp chestnut oak	Quercus michauxii	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	99
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	100
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	101
bluejack oak	Quercus incana	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	102
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	103
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	104