

HUC 060101 French Broad-Holston

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
yellow-poplar	Liriodendron tulipifera	WDH	High	82.5	1235.0	11.6	Sm. dec.	Lg. dec.	High	Abundant	Good	Good			1	1
chestnut oak	Quercus prinus	NDH	High	69	1009.6	10.6	No change	No change	High	Abundant	Very Good	Very Good			1	2
red maple	Acer rubrum	WDH	High	79.5	962.0	8.6	No change	Sm. dec.	High	Abundant	Very Good	Good			1	3
Virginia pine	Pinus virginiana	NDH	High	48.5	474.2	7.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	4
black locust	Robinia pseudoacacia	NDH	Low	72.8	472.3	4.9	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	5
northern red oak	Quercus rubra	WDH	Medium	69	470.8	4.8	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	6
sourwood	Oxydendrum arboreum	NDL	High	67.4	407.9	4.3	No change	Sm. dec.	High	Common	Good	Fair			1	7
white oak	Quercus alba	WDH	Medium	64.1	394.5	4.7	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	8
scarlet oak	Quercus coccinea	WDL	Medium	50.3	385.6	5.2	No change	No change	Medium	Common	Fair	Fair			1	9
eastern redcedar	Juniperus virginiana	WDH	Medium	30.1	341.6	9.4	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	10
sugar maple	Acer saccharum	WDH	High	48.8	334.6	4.7	Sm. dec.	Lg. dec.	High	Common	Fair	Fair			1	11
eastern white pine	Pinus strobus	WDH	High	38.6	329.6	6.7	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	12
eastern hemlock	Tsuga canadensis	NSH	High	46.3	318.7	5.2	No change	No change	Low	Common	Poor	Poor			0	13
pignut hickory	Carya glabra	WDL	Medium	66.2	305.8	3.6	No change	No change	Medium	Common	Fair	Fair			1	14
sweet birch	Betula lenta	NDH	High	50.2	305.0	4.3	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	15
black oak	Quercus velutina	WDH	High	57.4	243.1	3.2	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	16
white ash	Fraxinus americana	WDL	Medium	40.3	232.7	4.8	No change	No change	Low	Common	Poor	Poor			0	17
blackgum	Nyssa sylvatica	WDL	Medium	63.3	218.2	2.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	18
American beech	Fagus grandifolia	WDH	High	45.7	194.2	3.4	No change	No change	Medium	Common	Fair	Fair			1	19
mockernut hickory	Carya alba	WDL	Medium	40.8	188.2	3.6	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	20
black cherry	Prunus serotina	WDL	Medium	43.4	185.7	3.3	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	21
sassafras	Sassafras albidum	WDL	Low	40.7	129.8	2.4	No change	No change	Medium	Common	Fair	Fair			1	22
shagbark hickory	Carya ovata	WSL	Medium	27.2	123.6	3.8	No change	Sm. dec.	Medium	Common	Fair	Poor			1	23
black walnut	Juglans nigra	WDH	Low	29.5	110.8	3.2	No change	Sm. inc.	Medium	Common	Fair	Good			1	24
flowering dogwood	Cornus florida	WDL	Medium	40.6	109.1	1.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	25
pitch pine	Pinus rigida	NSH	High	23	93.2	2.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	26
yellow birch	Betula alleghaniensis	NDL	High	13.7	80.3	3.3	No change	No change	Medium	Common	Fair	Fair			1	27
American elm	Ulmus americana	WDH	Medium	19.4	79.8	3.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	28
yellow buckeye	Aesculus flava	NSL	Low	19.1	79.8	3.0	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	29
southern red oak	Quercus falcata	WDL	Medium	14.7	79.6	4.4	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	30
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	23	79.1	2.5	No change	No change	Low	Common	Poor	Poor			0	31
shortleaf pine	Pinus echinata	WDH	High	19.7	76.3	2.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	32
green ash	Fraxinus pennsylvanica	WSH	Low	19.4	75.3	3.5	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	33
red spruce	Picea rubens	NDH	High	3.5	72.8	6.3	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	34
cucumbertree	Magnolia acuminata	NSL	Low	23.2	63.6	1.8	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	35
Osage-orange	Maclura pomifera	NDH	Medium	0.8	63.1	26.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	36
American basswood	Tilia americana	WSL	Medium	20	61.5	2.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	37
boxelder	Acer negundo	WSH	Low	7.7	56.7	5.8	Sm. dec.	No change	High	Common	Fair	Good	Infill +	Infill ++	1	38
winged elm	Ulmus alata	WDL	Medium	15.8	55.8	3.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	39
serviceberry	Amelanchier spp.	NSL	Low	32.2	48.7	1.0	No change	No change	Medium	Rare	Poor	Poor			1	40
bitternut hickory	Carya cordiformis	WSL	Low	17.7	46.4	2.1	Sm. inc.	Lg. inc.	High	Rare	Good	Good			1	41
eastern redbud	Cercis canadensis	NSL	Low	18.5	43.5	2.0	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	42
hackberry	Celtis occidentalis	WDH	Medium	11.9	42.4	3.2	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	43
sycamore	Platanus occidentalis	NSL	Low	5	41.0	5.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	44
striped maple	Acer pensylvanicum	NSL	Medium	22.3	38.6	1.2	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	45
sweetgum	Liquidambar styraciflua	WDH	High	7.3	32.8	4.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	46
pin cherry	Prunus pensylvanica	NSL	Low	7.2	32.0	2.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	47



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chinkapin oak	Quercus muehlenbergii	NSL	Medium	11.7	29.9	2.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	48
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	14.3	29.5	1.8	Sm. inc.	Lg. inc.	High	Rare	Good	Good			1	49
Table Mountain pine	Pinus pungens	NSL	Low	5.8	27.8	3.8	Sm. dec.	No change	High	Rare	Poor	Fair			1	50
slippery elm	Ulmus rubra	WSL	Low	9.9	26.3	2.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	51
silverbell	Halesia spp.	NSL	Low	8.7	25.7	2.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	52
post oak	Quercus stellata	WDH	High	7.9	24.4	2.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	53
common persimmon	Diospyros virginiana	NSL	Low	5.7	22.5	3.4	No change	Sm. inc.	High	Rare	Fair	Good			1	54
loblolly pine	Pinus taeda	WDH	High	4.8	19.7	3.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	55
paulownia	Paulownia tomentosa	NSL	FIA	3.6	18.8	4.3	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	56
ailanthus	Ailanthus altissima	NSL	FIA	7.8	18.7	1.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	57
red mulberry	Morus rubra	NSL	Low	9.7	18.7	1.8	No change	No change	Medium	Rare	Poor	Poor			1	58
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	8.1	10.9	1.2	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	59
American chestnut	Castanea dentata	NSLX	FIA	9.6	8.5	0.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	60
American holly	Ilex opaca	NSL	Medium	4.1	7.4	1.5	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	61
pawpaw	Asimina triloba	NSL	Low	3.6	6.1	1.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	62
sand hickory	Carya pallida	NSL	FIA	2.2	3.2	1.7	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	63
white mulberry	Morus alba	NSL	FIA	1.9	2.8	1.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	64
river birch	Betula nigra	NSL	Low	0.9	2.2	2.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	65
bigleaf magnolia	Magnolia macrophylla	NSL	Low	1.3	1.7	1.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	66
shingle oak	Quercus imbricaria	NDH	Medium	0.4	1.6	3.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	67
honeylocust	Gleditsia triacanthos	NSH	Low	0.4	1.4	3.3	No change	Lg. inc.	High	Rare	Fair	Good			2	68
chokecherry	Prunus virginiana	NSLX	FIA	0.4	1.4	3.2	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	69
black willow	Salix nigra	NSH	Low	1	1.3	0.7	No change	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	70
shellbark hickory	Carya laciniosa	NSL	Low	0.9	1.2	1.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	71
bigtooth aspen	Populus grandidentata	NSL	Medium	0.4	0.8	1.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	72
silver maple	Acer saccharinum	NSH	Low	0.9	0.7	0.8	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	73
mountain maple	Acer spicatum	NSL	Low	0.8	0.5	0.5	No change	No change	High	Rare	Fair	Fair			0	74
sugarberry	Celtis laevigata	NDH	Medium	0.1	0.4	0.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	75
blackjack oak	Quercus marilandica	NSL	Medium	0.3	0.3	0.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	76
swamp white oak	Quercus bicolor	NSL	Low	0.1	0.3	0.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	77
American mountain-ash	Sorbus americana	NSL	Low	0.5	0.3	0.2	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	78
northern white-cedar	Thuja occidentalis	WSH	High	0.3	0.3	0.5	No change	No change	Medium	Rare	Poor	Poor			0	79
southern magnolia	Magnolia grandiflora	NSL	Low	0.4	0.3	0.7	No change	Lg. inc.	Medium	Rare	Poor	Good			2	80
willow oak	Quercus phellos	NSL	Low	1.7	0.3	2.4	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			2	81
wild plum	Prunus americana	NSLX	FIA	0.4	0.2	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	82
butternut	Juglans cinerea	NSLX	FIA	0.4	0.2	0.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	83
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	84
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	85
pond cypress	Taxodium ascendens	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++		3	86
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	87
black maple	Acer nigrum	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	88
Ohio buckeye	Aesculus glabra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	89
gray birch	Betula populifolia	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	90
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	91
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	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			3	93
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			3	94



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blue ash	Fraxinus quadrangulata	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	95
redbay	Persea borbonia	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	96
eastern cottonwood	Populus deltoides	NSH	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	97
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	98
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	Unknown	Unknown	Low	Absent	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
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	101
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	102
bluejack oak	Quercus incana	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	103
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	104