S41 E80

One x One Degree

Climate Change Atlas Tree Species

Current and Potential Future Habitat, Capability, and Migration

Landscape Change Research Group
Iverson, Peters, Prasad, Matthews
USFS Northern Research Station
Delaware, OH

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	89.2	3068.57	28.42	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	1
black cherry	Prunus serotina	WDL	Medium	75.4	967.1	9.65	No change	Sm. dec.	Low	Abundant	Fair	Fair			0	2
sugar maple	Acer saccharum	WDH	High	47.2	493.61	7.39	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	3
northern red oak	Quercus rubra	WDH	Medium	46.9	461.42	6.57	No change	No change	High	Common	Good	Good			1	4
quaking aspen	Populus tremuloides	WDH	High	36.7	449.53	10.15	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	5
pin oak	Quercus palustris	NSH	Low	27.2	365.06	12.48	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	6
American elm	Ulmus americana	WDH	Medium	52.7	361.81	5.67	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	7
American beech	Fagus grandifolia	WDH	High	40.8	322.99	5.88	No change	Sm. dec.	Medium	Common	Fair	Poor			1	8
shagbark hickory	Carya ovata	WSL	Medium	36.8	290.33	5.61	Sm. inc.	No change	Medium	Common	Good	Fair			1	9
white ash	Fraxinus americana	WDL	Medium	47.2	254.1	4.1	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	10
bigtooth aspen	Populus grandidentata	NSL	Medium	25	188.63	5.79	Lg. dec.	Very Lg. dec.	Medium	Common	Poor	Lost			0	11
yellow-poplar	Liriodendron tulipifera	WDH	High	28.3	182.1	5.75	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	12
green ash	Fraxinus pennsylvanica	WSH	Low	21.5	173.23	5.35	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	13
silver maple	Acer saccharinum	NSH	Low	8.7	145.04	15.52	No change	No change	High	Common	Good	Good			1	14
bitternut hickory	Carya cordiformis	WSL	Low	20.9	141.07	3.74	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	15
swamp white oak	Quercus bicolor	NSL	Low	22.2	136.13	6.48	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	16
black willow	Salix nigra	NSH	Low	7.9	135.4	17.16	Lg. dec.	Sm. dec.	Low	Common	Very Poor	Poor			0	17
white oak	Quercus alba	WDH	Medium	11.8	134.16	3.79	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	18
eastern hemlock	Tsuga canadensis	NSH	High	10.3	132.29	9.1	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	19
American basswood	Tilia americana	WSL	Medium	20.7	128.48	3.89	No change	No change	Medium	Common	Fair	Fair			1	20
Norway spruce	Picea abies	NSH	FIA	6.3	128.06	18.66	Unknown	Unknown	NA	Common	NNIS	NNIS			0	21
blackgum	Nyssa sylvatica	WDL	Medium	32.4	122.5	3.04	No change	Sm. inc.	High	Common	Good	Very Good			1	22
eastern white pine	Pinus strobus	WDH	High	9.4	89.36	8.45	No change	Sm. dec.	Low	Common	Poor	Poor			0	23
Scotch pine	Pinus sylvestris	NSH	FIA	7.5	85.31	10.18	Unknown	Unknown	NA	Common	NNIS	NNIS			0	24
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	19.6	74.4	3.36	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	25
yellow birch	Betula alleghaniensis	NDL	High	13.7	65.55	4.13	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	26
sassafras	Sassafras albidum	WSL	Low	18.1	63.79	3.01	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	27
black locust	Robinia pseudoacacia	NDH	Low	9.1	62.58	6.85	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	28
black ash	Fraxinus nigra	WSH	Medium	3.4	57.12	16.89	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	29
gray birch	Betula populifolia	NSL	Low	1.1	47.91	42.5	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	30
shingle oak	Quercus imbricaria	NDH	Medium	5.4	43.36	3.84	No change	No change	Medium	Rare	Poor	Poor		Infill +	1	31
pignut hickory	Carya glabra	WDL	Medium	11.5	41.18	3.48	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	32
black oak	Quercus velutina	WDH	High	7.2	40.55	3.15	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	33
black walnut	Juglans nigra	WDH	Low	4.1	39.57	8.62	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	34
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	13.2	37.67	1.99	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	35
cucumbertree	Magnolia acuminata	NSL	Low	9.4	24.6	1.69	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	36
serviceberry	Amelanchier spp.	NSL	Low	8.6	23.86	2.52	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	37
slippery elm	Ulmus rubra	WSL	Low	7.4	23.62	2.33	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	38
red pine	Pinus resinosa	NSH	Medium	1.2	18.01	4.02	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	39
scarlet oak	Quercus coccinea	WDL	Medium	2.1	16.27	1	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	40
sweet birch	Betula lenta	NDH	High	2.6	14.63	2.91	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	41
sycamore	Platanus occidentalis	NSL	Low	4.9	14.6	2.24	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	42
bur oak	Quercus macrocarpa	NDH	Medium	3.4	12.66	3.75	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	43
chokecherry	Prunus virginiana	NSLX	FIA	1.1	7.78	6.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	44
boxelder	Acer negundo	WSH	Low	1.5	7.42	1.04	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	45
mockernut hickory	Carya alba	WDL	Medium	1.1	7.21	6.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	46
butternut	Juglans cinerea	NSLX	FIA	1.1	6.95	6.17	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	47
eastern cottonwood	Populus deltoides	NSH	Low	3.4	6.57	1.94	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	48
black maple	Acer nigrum	NSH	Low	2.3	6.45	1.26	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	49
balsam fir	Abies balsamea	NDH	High	1.1	5.72	5.07	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	50
flowering dogwood	Cornus florida	WDL	Medium	2.1	5.11	0.56	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			0	51
chestnut oak	Quercus prinus	NDH	High	1.1	4.4	3.9	Sm. inc.	Sm. inc.	High	Rare	Good	Good			2	52
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0.4	3.33	1.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	53

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pin cherry	Prunus pensylvanica	NSL	Low	3.4	2.63	0.77	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	54
swamp chestnut oak	Quercus michauxii	NSL	Low	0.4	1.8	0.6	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	55
shellbark hickory	Carya laciniosa	NSL	Low	1.1	1.63	1.45	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	56
sourwood	Oxydendrum arboreum	NDL	High	1.1	0.98	0.87	No change	No change	High	Rare	Fair	Fair	Infill +		2	57
eastern redcedar	Juniperus virginiana	WDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	58
jack pine	Pinus banksiana	NSH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	59
shortleaf pine	Pinus echinata	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	60
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	61
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	62
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	63
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	64
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	65
hackberry	Celtis occidentalis	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	66
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	67
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	68
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	69
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	70
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	71
red mulberry	Morus rubra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	72
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	73
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	74
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate ++	3	75
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	76