

Forestland Interpretations

Forestland interpretations are important to good management. The management of trees begins with an understanding of the soil where they grow or are to be grown. Some soils are very suitable for growing wood crops; others barely support tree cover. Different tree species may vary in production on the same soil.

Forestland interpretations should be used to assist land users in planning, installing, and maintaining forestland management systems.

Forest Management and Productivity

The Forestland Management and Productivity tables presents information about suitable for producing timber for each soil map unit. Management concerns, which include hand planting, mechanical planting, use of harvesting equipment, mechanical site preparation (surface), roads (natural surface), erosion on roads and trails, off-road/trail erosion, soil rutting, log landings, seedling survival, are listed by ratings of:

- Not Limited (0.00)
- Slightly Limited (0.01 to 0.30)
- Moderately Limited (0.31 to 0.60)
- Limited (0.61 to 0.99)
- Very Limited (1.00)

Information on potential productivity includes plant competition, common trees, site index, productivity class, and trees to plant.

Management Concerns

PLANT COMPETITION - A rating of slight indicates little or no competition from other plants; moderate indicates that plant competition is expected to hinder the development of the fully stocked stand of desirable trees; and severe means that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed for the control of undesirable plants.

POTENTIAL PRODUCTIVITY - This is discussed under the ordination class symbol.

COMMON TREES - Trees that generally occur on the soil are listed regardless of economic importance.

SITE INDEX AND PRODUCTIVITY CLASS - These are discussed under ordination class symbol.

TREES TO PLANT - Trees that are suitable for commercial wood production and that are adapted to the soil.

HAND PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty of hand planting, which includes the proper placement of root systems of tree seedlings to a depth of up to 12 inches, using standard hand planting tools. It is assumed that necessary site preparation is completed before seedlings are planted.

MECHANICAL PLANTING – ratings are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, a water table, and ponding. Ratings indicate the expected difficulty using a mechanical planter, which includes proper placement of root systems of tree seedlings to a depth up to 12 inches. It is assumed that necessary site preparation is completed before seedlings are planted.

USE OF HARVEST EQUIPMENT – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, and ponding. Ratings indicate the suitability for operating harvest equipment for off-road transport or harvest of logs and/or wood products by ground-based wheeled or tracked equipment.

MECHANICAL SITE PREPARATION (SURFACE) – ratings are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, a water table, and ponding. The part of the soil from the surface to a depth of about 12 inches is considered in the ratings. Ratings indicate the suitability of using surface-altering soil tillage equipment to prepare the site for planting or seeding.

ROADS (NATURAL SURFACE) – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads on which trucks transport logs and other wood products from the site.

EROSION (ROAD/TRAIL) – ratings are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails.

EROSION (OFF-ROAD/OFF-TRAIL) – ratings are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

SOIL RUTTING – ratings are based on a water table, rock fragments on or below the surface, surface texture, depth to a restrictive layer, and slope. Ratings indicate the hazard or risk of ruts in the uppermost soil surface layers by operation of forest equipment. Soil displacement and puddling (soil deformation and compaction) may occur simultaneously with rutting.

LOG LANDINGS – ratings are based on slope, rock fragments on the surface, plasticity index, content of sand, surface texture, a water table, ponding, flooding, and the hazard of soil slippage. Ratings indicate the suitability of the soil at the forest site to serve as a log landing and allows the efficient and effective use of equipment for the temporary storage and handling of logs.

SEEDLING SURVIVAL – ratings are based on flooding, ponding, a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. Ratings indicate the impact of soil, physiographic, and climatic conditions on the survivability of newly established tree seedlings.

See the National Forestry Manual, Subpart B for criteria used in rating management concerns.

This subsection includes:

- **(a) Forest Management (one or two tables)**

Dunklin County, Missouri
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
Ag:				
Alligator-----	cedar elm-----	90	100	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, water oak, willow oak
	green ash-----	70	43	
	honeylocust-----	80	86	
	Nuttall oak-----	90	86	
	sugarberry-----	90	100	
	swamp chestnut oak--	---	0	
	sweetgum-----	90	100	
	water oak-----	90	86	
	willow oak-----	95	86	
Ak:				
Alligator-----	cedar elm-----	90	100	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, water oak, willow oak
	green ash-----	70	43	
	honeylocust-----	80	86	
	Nuttall oak-----	90	86	
	sugarberry-----	90	100	
	swamp chestnut oak--	---	0	
	sweetgum-----	90	100	
	water oak-----	90	86	
	willow oak-----	95	86	
	Steele-----			eastern cottonwood, pin oak
	eastern cottonwood--	85	86	
	pin oak-----	80	57	
Ba:				
Baldwin-----	green ash-----	80	57	green ash, Nuttall oak, water oak
	Nuttall oak-----	---	0	
	pecan-----	---	0	
	sweetgum-----	90	100	
	water oak-----	90	86	
	willow oak-----	---	0	

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 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
BeA: Beulah-----	American sycamore---	---	0	cherrybark oak, eastern
	cherrybark oak-----	90	114	cottonwood,
	eastern cottonwood--	100	129	loblolly pine, shortleaf pine
	Nuttall oak-----	90	114	
	water oak-----	90	86	
	willow oak-----	90	86	
BeB: Beulah-----	American sycamore---	---	0	cherrybark oak, eastern
	cherrybark oak-----	90	114	cottonwood,
	eastern cottonwood--	100	129	loblolly pine, shortleaf pine
	Nuttall oak-----	90	114	
	water oak-----	90	86	
	willow oak-----	90	86	
Bk: Bosket-----	cherrybark oak-----	90	114	cherrybark oak, eastern
	eastern cottonwood--	100	129	cottonwood, shortleaf pine, sweetgum
	green ash-----	80	57	
	sweetgum-----	90	100	
	water oak-----	90	86	
	willow oak-----	90	86	
BrB: Broseley-----	eastern cottonwood--	80	86	eastern cottonwood, pin oak
	pin oak-----	70	57	

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
Ca: Cairo-----	baldcypress----- eastern cottonwood-- green ash----- pin oak----- swamp white oak----	--- --- --- 90 ---	0 0 0 72 0	baldcypress, eastern cottonwood, pin oak, red maple, water tupelo
Ch: Calhoun-----	loblolly pine----- shortleaf pine----- sweetgum-----	90 84 ---	129 143 0	green ash, loblolly pine, water oak
Cn: Canalou-----	black oak----- eastern cottonwood-- pin oak----- shortleaf pine----- sweetgum-----	--- 86 80 --- ---	0 86 57 0 0	American sycamore, eastern cottonwood, eastern white pine, loblolly pine, pin oak, shortleaf pine, sweetgum
Co: Collins-----	cherrybark oak----- eastern cottonwood-- green ash-----	110 115 95	57 0 57	cherrybark oak, eastern cottonwood, green ash

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
Ct: Cooter-----	baldcypress----- eastern cottonwood-- pin oak-----	--- 95 80	0 114 57	baldcypress, eastern cottonwood, pin oak
Cw: Crowley-----	loblolly pine----- shortleaf pine-----	83 ---	114 0	loblolly pine, shortleaf pine
Db: Dubbs-----	cherrybark oak----- eastern cottonwood-- green ash----- Nuttall oak----- Shumard's oak----- sweetgum----- water oak----- willow oak-----	100 100 80 95 100 95 90 95	143 129 57 0 72 114 86 86	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, tuliptree
De: Dubbs-----	cherrybark oak----- eastern cottonwood-- green ash----- Nuttall oak----- Shumard's oak----- sweetgum----- water oak----- willow oak-----	100 100 80 95 100 95 90 95	143 129 57 0 72 114 86 86	American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, tuliptree

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 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
De: (cont)				
Silverdale-----	black oak-----	70	57	American sycamore, eastern cottonwood, eastern white pine, shortleaf pine, sweetgum
	pin oak-----	80	57	
	shortleaf pine-----	70	114	
	sweetgum-----	80	86	
Dn:				
Dundee-----	cherrybark oak-----	105	172	cherrybark oak, eastern cottonwood, sweetgum, tuliptree, water oak
	eastern cottonwood--	100	129	
	sweetgum-----	100	143	
	water oak-----	95	86	
Ds:				
Dundee-----	cherrybark oak-----	105	172	cherrybark oak, eastern cottonwood, sweetgum, tuliptree, water oak
	eastern cottonwood--	100	129	
	sweetgum-----	100	143	
	water oak-----	95	86	
Silverdale-----	black oak-----	70	57	American sycamore, eastern cottonwood, eastern white pine, shortleaf pine, sweetgum
	pin oak-----	80	57	
	shortleaf pine-----	70	114	
	sweetgum-----	80	86	

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
Fa:				
Falaya-----	cherrybark oak-----	100	157	cherrybark oak,
	eastern cottonwood--	100	129	eastern
	green ash-----	90	129	cottonwood, green
	loblolly pine-----	90	129	ash, sweetgum,
	Nuttall oak-----	110	100	tuliptree
	water oak-----	100	100	
Fg:				
Farrenburg-----	baldcypress-----	---	0	American sycamore,
	eastern cottonwood--	96	0	eastern
	pin oak-----	86	72	cottonwood, pin
	sweetgum-----	---	0	oak
Fo:				
Foley-----	cherrybark oak-----	80	86	cherrybark oak,
	sweetgum-----	80	86	sweetgum, water
	water oak-----	80	72	oak
Ft:				
Fountain-----	loblolly pine-----	90	129	loblolly pine,
	slash pine-----	90	157	slash pine,
	sweetgum-----	110	172	sweetgum
	water oak-----	---	0	
Gd:				
Gideon-----	baldcypress-----	---	0	American sycamore,
	eastern cottonwood--	96	114	baldcypress,
	sweetgum-----	---	0	eastern
				cottonwood,
				sweetgum, water oak

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
Jp: Jackport-----	cherrybark oak----- green ash----- sweetgum----- water oak----- willow oak-----	90 80 90 90 90	114 43 100 86 86	cherrybark oak, eastern cottonwood, Nuttall oak, willow oak
Lf: Lafe-----	post oak----- water oak-----	45 45	29 29	eastern redcedar, post oak, water oak
Ln: Lilbourn-----	baldcypress----- eastern cottonwood-- pin oak-----	--- 90 80	0 0 57	baldcypress, eastern cottonwood, green ash, pin oak
LoB: Loring-----	cherrybark oak----- loblolly pine----- southern red oak---- sweetgum----- water oak-----	86 85 74 90 82	100 114 57 100 72	cherrybark oak, loblolly pine, shortleaf pine, southern red oak, tuliptree
LoC: Loring-----	cherrybark oak----- loblolly pine----- southern red oak---- sweetgum----- water oak-----	86 85 74 90 82	100 114 57 100 72	cherrybark oak, loblolly pine, shortleaf pine, southern red oak, tuliptree

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
LoD2: Loring-----	cherrybark oak----- loblolly pine----- southern red oak---- sweetgum----- water oak-----	86 85 74 90 82	100 114 57 100 72	cherrybark oak, loblolly pine, shortleaf pine, southern red oak, tuliptree
M-W: Water-----	---	---	---	---
Ma: Malden-----	shortleaf pine-----	70	114	black oak, loblolly pine, shortleaf pine
MeC: Memphis-----	cherrybark oak----- loblolly pine----- sweetgum-----	90 90 90	114 129 100	cherrybark oak, loblolly pine, tuliptree
MeD: Memphis-----	cherrybark oak----- loblolly pine----- sweetgum-----	90 90 90	114 129 100	cherrybark oak, loblolly pine, tuliptree
MeE2: Memphis-----	cherrybark oak----- loblolly pine----- sweetgum-----	90 90 90	114 129 100	cherrybark oak

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
Or:				
Orthents-----	---	---	---	---
Water-----	---	---	---	---
Os:				
Orthents-----	---	---	---	---
Pt:				
Pits-----	---	---	---	---
Ro:				
Roellen-----	cherrybark oak-----	90	114	eastern cottonwood, sweetgum
	eastern cottonwood--	100	129	
	sweetgum-----	90	100	
	water oak-----	90	86	
Sc:				
Sharkey-----	cedar elm-----	---	0	green ash, Nuttall oak, water oak
	green ash-----	---	0	
	honeylocust-----	---	0	
	Nuttall oak-----	90	0	
	sugarberry-----	---	0	
	swamp chestnut oak--	---	0	
	sweetgum-----	90	100	
	water oak-----	90	86	
	willow oak-----	100	100	

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Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Sh: Sharkey-----	cedar elm-----	---	0	green ash, Nuttall oak, water oak
	green ash-----	---	0	
	honeylocust-----	---	0	
	Nuttall oak-----	90	0	
	sugarberry-----	---	0	
	swamp chestnut oak--	---	0	
	sweetgum-----	90	100	
	willow oak-----	100	100	
Sm: Sharkey-----	cedar elm-----	---	0	green ash, Nuttall oak, water oak
	green ash-----	---	0	
	honeylocust-----	---	0	
	Nuttall oak-----	90	0	
	sugarberry-----	---	0	
	swamp chestnut oak--	---	0	
	sweetgum-----	90	100	
	willow oak-----	100	100	
Steele-----	eastern cottonwood--	85	86	eastern cottonwood, pin oak
	pin oak-----	80	57	
So: Sikeston-----	baldcypress-----	---	0	American sycamore, eastern cottonwood, pin oak, sweetgum, water oak
	eastern cottonwood--	100	129	
	pin oak-----	95	72	
	sweetgum-----	95	114	

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 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
W: Water-----	---	---	---	---
Wd: Wardell-----	eastern cottonwood-- pin oak-----	90 80	100 57	eastern cottonwood, pecan, pin oak, sweetgum