

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)**

St Charles 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	
2D: Goss-----	---	---	---	---
2F: Goss-----	black oak----- blackjack oak----- post oak----- shortleaf pine----- white oak-----	--- --- --- --- 60	0 0 0 0 43	green ash, sweetgum, tuliptree
3: Twomile-----	pin oak-----	80	57	eastern cottonwood, green ash, pecan, pin oak, silver maple, sweetgum
4D: Menfro-----	black oak----- northern red oak---- sugar maple----- white ash----- white oak-----	73 81 68 70 59	57 57 43 43 43	black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak
Goss-----	---	---	---	---

St Charles 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	
6C: Crider-----	black oak-----	87	72	black walnut,
	black walnut-----	80	0	eastern white
	hickory-----	---	0	pine, loblolly
	northern red oak----	84	72	pine, northern red
	sugar maple-----	---	0	oak, shortleaf
	tuliptree-----	97	100	pine, tuliptree,
	white ash-----	---	0	white ash, white
	white oak-----	72	57	oak
6D2: Crider-----	black oak-----	87	72	black walnut,
	black walnut-----	80	0	eastern white
	hickory-----	---	0	pine, loblolly
	northern red oak----	84	72	pine, northern red
	sugar maple-----	---	0	oak, shortleaf
	tuliptree-----	97	100	pine, tuliptree,
	white ash-----	---	0	white ash, white
	white oak-----	72	57	oak
6E: Crider-----	black oak-----	87	72	black walnut,
	black walnut-----	80	0	eastern white
	hickory-----	---	0	pine, loblolly
	northern red oak----	84	72	pine, northern red
	sugar maple-----	---	0	oak, shortleaf
	tuliptree-----	97	100	pine, tuliptree,
	white ash-----	---	0	white ash, white
	white oak-----	72	57	oak

St Charles 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	
7B: Menfro-----	black oak-----	73	57	black walnut,
	northern red oak----	81	57	eastern white
	sugar maple-----	68	43	pine, green ash,
	white ash-----	70	43	shortleaf pine,
	white oak-----	59	43	sugar maple,
				tuliptree, white oak
7C: Menfro-----	black oak-----	73	57	black walnut,
	northern red oak----	81	57	eastern white
	sugar maple-----	68	43	pine, green ash,
	white ash-----	70	43	shortleaf pine,
	white oak-----	59	43	sugar maple,
				tuliptree, white oak
7D2: Menfro-----	black oak-----	73	57	black walnut,
	northern red oak----	81	57	eastern white
	sugar maple-----	68	43	pine, green ash,
	white ash-----	70	43	shortleaf pine,
	white oak-----	59	43	sugar maple,
				tuliptree, white oak
7E2: Menfro-----	black oak-----	73	57	black walnut,
	northern red oak----	81	57	eastern white
	sugar maple-----	68	43	pine, green ash,
	white ash-----	70	43	shortleaf pine,
	white oak-----	59	43	sugar maple,
				tuliptree, white oak

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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	
7F: Menfro-----	black oak-----	73	57	black walnut, eastern white pine, green ash, shortleaf pine, sugar maple, tuliptree, white oak
	northern red oak----	81	57	
	sugar maple-----	68	43	
	white ash-----	70	43	
	white oak-----	59	43	
8C: Winfield-----	black oak-----	65	43	black oak, eastern white pine, green ash, northern red oak, tuliptree
	northern red oak----	60	43	
	white oak-----	65	43	
8D: Winfield-----	black oak-----	65	43	black oak, eastern white pine, green ash, northern red oak, tuliptree
	northern red oak----	60	43	
	white oak-----	65	43	
8E2: Winfield-----	black oak-----	65	43	black oak, eastern white pine, green ash, northern red oak, tuliptree
	northern red oak----	60	43	
	white oak-----	65	43	

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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	
9E:				
Holstein-----	black oak-----	75	57	black cherry, black oak, black walnut, green ash, northern red oak, shortleaf pine, tuliptree, white oak
	northern red oak----	75	57	
	white oak-----	65	43	
10F:				
Gasconade-----	blackjack oak-----	---	0	eastern redcedar
	chinkapin oak-----	40	29	
	eastern redcedar----	27	29	
	post oak-----	---	0	
Rock outcrop-----	---	---	---	---
11:				
Dockery-----	pin oak-----	76	57	eastern cottonwood, pecan, pin oak
12:				
Kennebec-----	black walnut-----	79	0	American sycamore, black walnut, bur oak, common hackberry, eastern cottonwood, green ash
	bur oak-----	63	43	
	common hackberry----	---	0	
	eastern cottonwood--	---	0	
	green ash-----	---	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	
13:				
Auxvasse-----	green ash-----	---	0	eastern cottonwood, green ash, pin oak, silver maple, sweetgum, tuliptree, white oak
	northern red oak----	---	0	
	pin oak-----	76	57	
	silver maple-----	---	0	
22F:				
Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
Gasconade-----	blackjack oak-----	---	0	eastern redcedar
	chinkapin oak-----	40	29	
	eastern redcedar----	27	29	
	post oak-----	---	0	
Crider-----	black oak-----	87	72	black walnut, eastern white pine, loblolly pine, northern red oak, shortleaf pine, tuliptree, white ash, white oak
	black walnut-----	80	0	
	hickory-----	---	0	
	northern red oak----	84	72	
	sugar maple-----	---	0	
	tuliptree-----	97	100	
	white ash-----	---	0	
	white oak-----	72	57	
24D2:				
Keswick-----	northern red oak----	55	43	eastern white pine, red pine, sugar maple
	white oak-----	55	43	

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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	
27C: Armster-----	pin oak-----	70	57	black oak, green ash, northern red oak, pin oak, white oak
31C: Hatton-----	black oak-----	61	43	black oak, bur oak, Norway maple, scarlet oak, white ash, white oak
	white oak-----	56	43	
34E: Lindley-----	black oak-----	63	43	black oak, eastern white pine, northern red oak, white oak
	northern red oak----	61	43	
	white oak-----	56	43	
35B: Mexico-----	---	---	---	---
37: Marion-----	post oak-----	---	0	black willow, eastern cottonwood, green ash, pin oak, silver maple, tuliptree, white oak
	white oak-----	50	29	
40: Westerville-----	eastern cottonwood--	100	0	eastern cottonwood, green ash, pecan, pin oak
	pin oak-----	90	72	

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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	
41: Freeburg-----	white oak-----	65	43	black oak, eastern cottonwood, green ash, pecan, pin oak, tuliptree, white oak
43: Cedargap-----	black oak-----	66	43	black oak, shortleaf pine
44: Sensabaugh-----	shortleaf pine-----	80	129	black walnut, loblolly pine, tuliptree
	tuliptree-----	100	114	
	Virginia pine-----	75	114	
	white oak-----	80	57	
48A: Weller-----	white oak-----	55	43	black walnut, eastern white pine, red pine, sugar maple
48B: Weller-----	white oak-----	55	43	black walnut, eastern white pine, red pine, sugar maple
48C: Weller-----	white oak-----	55	43	black walnut, eastern white pine, red pine, sugar maple

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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	
54C:				
Harvester-----	---	---	---	---
Urban land-----	---	---	---	---
54D:				
Harvester-----	---	---	---	---
Urban land-----	---	---	---	---
62:				
Edinburg-----	---	---	---	---
63B:				
Herrick-----	---	---	---	---
67E:				
Menfro-----	black oak-----	73	57	black walnut,
	northern red oak----	81	57	eastern white
	sugar maple-----	68	43	pine, green ash,
	white ash-----	70	43	shortleaf pine,
	white oak-----	59	43	sugar maple,
				tuliptree, white oak
70:				
Booker-----	eastern cottonwood--	85	86	eastern cottonwood,
	silver maple-----	80	29	green ash, pecan,
				pin oak, silver maple

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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	
71: Waldron-----	eastern cottonwood-- pin oak-----	110 80	157 57	black willow, eastern cottonwood, green ash, pecan, pin oak, silver maple, sweetgum
72: Blake-----	American sycamore--- eastern cottonwood-- silver maple-----	--- 115 ---	0 172 0	American sycamore, eastern cottonwood, green ash, silver maple
73: Haynie-----	American sycamore--- black walnut----- eastern cottonwood-- green ash-----	110 --- 110 ---	157 0 157 0	black walnut, eastern cottonwood
74: Carr-----	American sycamore--- eastern cottonwood--	--- 90	0 100	American sycamore, eastern cottonwood
75: Hodge-----	eastern cottonwood-- silver maple-----	110 105	157 57	eastern cottonwood, green ash, silver maple
76: Haynie-----	American sycamore--- black walnut----- eastern cottonwood-- green ash-----	110 --- 110 ---	157 0 157 0	black walnut, eastern cottonwood

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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	
76: (cont)				
Blake-----	American sycamore---	---	0	American sycamore,
	eastern cottonwood--	115	172	eastern
	silver maple-----	---	0	cottonwood, green
				ash, silver maple
77:				
Hodge-----	eastern cottonwood--	110	157	eastern cottonwood,
	silver maple-----	105	57	green ash, silver
				maple
Blake-----	American sycamore---	---	0	American sycamore,
	eastern cottonwood--	115	172	eastern
	silver maple-----	---	0	cottonwood, green
				ash, silver maple
79:				
Dupo-----	---	---	---	---
80:				
Portage-----	eastern cottonwood--	85	86	baldcypress,
	pin oak-----	75	57	eastern
	silver maple-----	80	29	cottonwood, green
				ash, pecan, pin
				oak, silver maple,
				sweetgum
81:				
Haymond-----	black walnut-----	70	0	black locust, black
	tuliptree-----	100	114	walnut, eastern
	white oak-----	90	72	white pine,
				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	
82: Chequest-----	eastern cottonwood-- silver maple-----	90 80	100 29	American sycamore, arborvitae, eastern cottonwood, green ash, laurel willow, silver maple
83: Lomax-----	---	---	---	---
84: Blase-----	---	---	---	---
85: Carlow-----	eastern cottonwood-- pin oak-----	85 75	86 57	baldcypress, eastern cottonwood, green ash, pecan, pin oak, silver maple, sweetgum, willow oak
86: Kampville-----	eastern cottonwood-- pin oak----- silver maple-----	100 75 95	129 57 43	eastern cottonwood, green ash, pin 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	
90: Hurst-----	bur oak----- southern red oak---- white ash----- white oak-----	--- 70 --- 70	0 57 0 57	Austrian pine, baldcypress, eastern redcedar, green ash, pin oak, red maple, shortleaf pine
91: Pits-----	---	---	---	---
AED: Orthent-----	---	---	---	---
M-W: Water-----	---	---	---	---
W: Water-----	---	---	---	---