

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)**

Cooper 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	
10: ACKMORE-----	white oak-----	65	43	black walnut, cottonwood, eastern white pine, red pine, sugar maple
11B: ARISBURG-----	---	---	---	---
11B2: ARISBURG-----	---	---	---	---
11C2: ARISBURG-----	---	---	---	---
13B: JEMERSON-----	black oak----- northern red oak---- white oak-----	65 60 65	43 43 43	black oak, eastern white pine, green ash, northern red oak
15D2: NEWCOMER-----	black oak----- black walnut----- shagbark hickory---- white ash----- white oak-----	--- --- --- --- 60	0 0 0 0 43	sweetgum, tuliptree, white ash, 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	
15F: NEWCOMER-----	black oak----- black walnut----- shagbark hickory---- white ash----- white oak-----	--- --- --- --- 60	0 0 0 0 43	sweetgum, tuliptree, white ash, white oak
17C2: BLUELICK-----	black oak----- northern red oak---- white oak-----	62 65 60	43 43 43	black walnut, green ash, white oak
17D2: BLUELICK-----	black oak----- northern red oak---- white oak-----	62 65 60	43 43 43	black walnut, green ash, white oak
17E2: BLUELICK-----	black oak----- northern red oak---- white oak-----	62 65 60	43 43 43	black walnut, green ash, white oak
20: BREMER-----	eastern cottonwood-- silver maple-----	90 80	100 29	American sycamore, common hackberry, eastern arborvitae, eastern cottonwood, green ash, silver maple

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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	
25A: CHAUNCEY-----	green ash-----	---	0	green ash, pin oak, red maple, water tupelo
	pin oak-----	80	57	
	tuliptree-----	80	72	
	white oak-----	---	0	
27B: CLAFORK-----	black oak-----	---	0	black oak, white oak
	pin oak-----	---	0	
	post oak-----	---	0	
	white oak-----	60	43	
27B2: CLAFORK-----	black oak-----	---	0	black oak, white oak
	pin oak-----	---	0	
	post oak-----	---	0	
	white oak-----	60	43	
27C2: CLAFORK-----	black oak-----	---	0	black oak, white oak
	pin oak-----	---	0	
	post oak-----	---	0	
	white oak-----	60	43	
28A: DAMERON-----	American sycamore---	---	0	black walnut, green ash, pecan
	black walnut-----	72	0	
	green ash-----	70	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	
	white oak-----	---	0	
29: DARWIN-----	American sycamore---	---	0	American sycamore,
	eastern cottonwood--	---	0	eastern
	green ash-----	---	0	cottonwood, green
	pin oak-----	80	57	ash, pin oak, red
	swamp white oak----	---	0	maple
30: DOCKERY-----	pin oak-----	76	57	eastern cottonwood, pecan, pin oak
32A: CRESTMEADE-----	---	---	---	---
32B2: CRESTMEADE-----	---	---	---	---
33: EUDORA-----	American sycamore---	---	0	black walnut,
	black walnut-----	---	0	eastern
	common hackberry----	---	0	cottonwood, green
	eastern cottonwood--	105	143	ash
	green ash-----	---	0	
34D: ELDON-----	---	---	---	---

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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	
35A: FREEBURG-----	white oak-----	65	43	black oak, eastern cottonwood, green ash, pecan, pin oak, tuliptree, white oak
35B: FREEBURG-----	white oak-----	65	43	black oak, eastern cottonwood, green ash, pecan, pin oak, tuliptree, white oak
38B2: GLENSTED-----	---	---	---	---
40C: GOSS-----	black oak----- blackjack oak----- post oak----- shortleaf pine----- white oak-----	--- --- --- --- 60	0 0 0 0 43	green ash, sweetgum, tuliptree
40D: GOSS-----	black oak-----	---	0	green ash,

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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	
	blackjack oak----- post oak----- shortleaf pine----- white oak-----	--- --- --- 60	0 0 0 43	sweetgum, tuliptree
40F: GOSS-----	black oak----- blackjack oak----- post oak----- shortleaf pine----- white oak-----	56 --- --- --- 54	43 0 0 0 43	green ash, sweetgum, tuliptree
41: GRABLE-----	---	---	---	---
46: HAYNIE-----	American sycamore--- black walnut----- eastern cottonwood-- green ash-----	110 --- 110 ---	157 0 157 0	black walnut, eastern cottonwood
47: HAYNIE-----	American sycamore--- black walnut----- eastern cottonwood-- green ash-----	110 --- 110 ---	157 0 157 0	black walnut, eastern cottonwood
WALDRON-----	eastern cottonwood-- pin oak-----	110 80	157 57	black willow, eastern cottonwood, green

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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	
48B: HIGGINSVILLE-----	---	---	---	ash, pin oak, silver maple, sweetgum
50C: BUNCETON-----	white oak-----	60	43	black walnut, eastern white pine, green ash
50C2: BUNCETON-----	white oak-----	60	43	black walnut, eastern white pine, green ash
50D2: BUNCETON-----	white oak-----	60	43	black walnut, eastern white pine, green ash
51C2: KNOX-----	northern red oak---- white oak-----	78 69	57 57	black walnut, eastern white pine, green ash, tuliptree
52C2: LADOGA-----	northern red oak---- white oak-----	75 75	57 57	black walnut, eastern white

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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	
53: BUCKNEY-----	---	---	---	pine, European larch, northern red oak, red pine, sugar maple, white oak
54A: LESLIE-----	---	---	---	---
54B: LESLIE-----	---	---	---	---
54B2: LESLIE-----	---	---	---	---
56: LETA-----	black willow----- eastern cottonwood--	--- 90	0 100	eastern cottonwood, green ash, pecan, silver maple, sweetgum
60F: LINDLEY-----	black oak----- northern red oak---- white oak-----	63 61 56	43 43 43	black oak, eastern white pine, northern red oak, white oak
64B:				

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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	
MCGIRK-----	white oak-----	55	43	eastern cottonwood, green ash, pecan, pin oak, sweetgum, white oak
66C: 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
66C2: 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
66D2: MENFRO-----	black oak----- northern red oak---- sugar maple-----	73 81 68	57 57 43	black walnut, eastern white pine, 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	
	white ash----- white oak-----	70 59	43 43	shortleaf pine, sugar maple, tuliptree, white oak
66F: 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
67C2: 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
70C: MOKO-----	eastern redcedar----	30	29	eastern redcedar

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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	
ROCK OUTCROP-----	---	---	---	---
70F: MOKO-----	eastern redcedar----	30	29	eastern redcedar
ROCK OUTCROP-----	---	---	---	---
72: MONITEAU-----	pin oak-----	70	57	black willow, eastern cottonwood, green ash, pin oak, silver maple, sweetgum, white oak, willow oak
75: SHANNONDALE-----	---	---	---	---
76: MOTARK-----	black walnut----- eastern cottonwood-- green ash-----	--- 100 ---	0 129 0	black walnut, eastern cottonwood, green ash, northern red oak, pecan, 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	
80B: PERSHING-----	white oak-----	55	43	eastern white pine, red pine, white oak
80B2: PERSHING-----	white oak-----	55	43	eastern white pine, red pine, white oak
80C2: PERSHING-----	white oak-----	55	43	eastern white pine, red pine, white oak
82: SARPY-----	eastern cottonwood--	95	114	American sycamore, eastern cottonwood, silver maple
86: SPEED-----	---	---	---	---
87A: SPEED-----	---	---	---	---
88:				

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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	
STURKIE-----	American sycamore--- eastern cottonwood-- northern red oak---- white oak-----	80 100 80 70	86 129 57 57	American sycamore, black walnut, eastern cottonwood, northern red oak, white oak
90B: WAKENDA-----	---	---	---	---
90C2: WAKENDA-----	---	---	---	---
92: WALDRON-----	eastern cottonwood-- pin oak-----	110 80	157 57	black willow, eastern cottonwood, green ash, pin oak, silver maple, sweetgum
93B: COTTON-----	white oak-----	55	43	black oak, pin oak, white ash, white oak
93B2: COTTON-----	white oak-----	55	43	black oak, pin oak, white ash, white 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	
93C2: COTTON-----	white oak-----	55	43	black oak, pin oak, white ash, white oak
93D2: COTTON-----	white oak-----	55	43	black oak, pin oak, white ash, white oak
94B: WELLER-----	white oak-----	55	43	black walnut, eastern white pine, red pine, sugar maple
94B2: WELLER-----	white oak-----	55	43	black walnut, eastern white pine, red pine, sugar maple
94C2: WELLER-----	white oak-----	55	43	black walnut, eastern white pine, red pine,

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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	
94D2: WELLER-----	white oak-----	55	43	sugar maple black walnut, eastern white pine, red pine, sugar maple
95C: WRENGART-----	black oak----- northern red oak---- shagbark hickory---- white oak-----	63 --- --- 53	43 0 0 43	black oak, northern red oak, shortleaf pine, white oak
95C2: WRENGART-----	black oak----- northern red oak---- shagbark hickory---- white oak-----	63 --- --- 53	43 0 0 43	black oak, northern red oak, shortleaf pine, white oak
95D2: WRENGART-----	black oak----- northern red oak---- shagbark hickory---- white oak-----	63 --- --- 53	43 --- --- 43	black oak, northern red oak, shortleaf pine, white oak
95E: WRENGART-----	black oak-----	63	43	black oak, northern

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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	
96C: WINFIELD-----	northern red oak----	---	0	red oak, shortleaf pine, white oak
	shagbark hickory----	---	0	
	white oak-----	53	43	
96C2: 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	
96D2: 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	
99: ZOOK-----	---	---	---	---
100: PITS-----	---	---	---	---
W:				

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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	
Water-----	---	---	---	---