

## 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)**

Cole 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	
15002: MCGIRK-----	white oak-----	55	43	black oak, pin oak, white oak
60001: MENFRO-----	black oak-----	73	57	black walnut,
	northern red oak----	81	57	northern red oak,
	sugar maple-----	68	43	sugar maple,
	white ash-----	70	43	tuliptree, white
	white oak-----	59	43	oak
60003: MENFRO-----	black oak-----	73	57	black walnut,
	northern red oak----	81	57	northern red oak,
	sugar maple-----	68	43	sugar maple,
	white ash-----	70	43	tuliptree, white
	white oak-----	59	43	oak
60004: MENFRO-----	black oak-----	73	57	black walnut,
	northern red oak----	81	57	northern red oak,
	sugar maple-----	68	43	sugar maple,
	white ash-----	70	43	tuliptree, white
	white oak-----	59	43	oak
60005: MENFRO-----	black oak-----	73	57	black walnut,
	northern red oak----	81	57	northern red oak,
	sugar maple-----	68	43	sugar maple,
	white ash-----	70	43	tuliptree, white
	white oak-----	59	43	oak

Cole 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	
60051: URBAN LAND-----	---	---	---	---
HARVESTER-----	---	---	---	---
60052: URBAN LAND-----	---	---	---	---
UDORTHENTS-----	---	---	---	---
64002: FREEBURG-----	black walnut----- green ash----- white oak-----	--- --- 65	--- --- 43	eastern cottonwood, green ash, pecan, pin oak, white oak
64007: FREEBURG-----	black walnut----- green ash----- white oak-----	--- --- 65	--- --- 43	green ash, pecan, pin oak, white oak
64010: URBAN LAND-----	---	---	---	---
FREEBURG-----	black walnut----- green ash----- white oak-----	--- --- 65	--- --- 43	black oak, eastern cottonwood, green ash, pecan, pin oak, white oak
64011: KLIEVER-----	eastern cottonwood-- green ash----- silver maple-----	100 80 90	129 57 86	eastern cottonwood, 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	
64012: KLIEVER-----	eastern cottonwood-- green ash----- silver maple-----	100 80 90	129 57 86	eastern cottonwood, silver maple
64013: KLIEVER-----	eastern cottonwood-- green ash----- silver maple-----	100 80 90	129 57 86	eastern cottonwood, silver maple
64014: KLIEVER-----	eastern cottonwood-- green ash----- silver maple-----	100 80 90	129 57 86	eastern cottonwood, silver maple
66000: MONITEAU-----	pin oak-----	70	57	black willow, eastern cottonwood, green ash, pin oak, silver maple
66004: DOCKERY-----	pin oak-----	76	57	eastern cottonwood, pecan, pin oak
66006: WALDRON-----	eastern cottonwood-- pin oak-----	110 80	157 57	eastern cottonwood, green ash, pecan, pin oak, silver maple

Cole 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	
66009: HAYNIE-----	American sycamore---	110	157	black walnut, eastern cottonwood
	black walnut-----	---	0	
	eastern cottonwood--	110	157	
	green ash-----	---	0	
66010: SARPY-----	eastern cottonwood--	95	114	American sycamore, black willow, eastern cottonwood
	silver maple-----	90	43	
66026: BLAKE-----	American sycamore---	---	0	American sycamore, eastern cottonwood, green ash, silver maple
	eastern cottonwood--	115	172	
	silver maple-----	---	0	
66027: HAYNIE-----	American sycamore---	110	157	black walnut, eastern cottonwood
	black walnut-----	---	0	
	eastern cottonwood--	110	157	
	green ash-----	---	0	
66028: LETA-----	black willow-----	---	0	eastern cottonwood, green ash, pecan, silver maple
	eastern cottonwood--	90	100	
70023: ELDON-----	---	---	---	---

Cole 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	
70029: MOKO-----	eastern redcedar----	30	29	eastern redcedar
ROCK OUTCROP-----	---	---	---	---
70046: SACVILLE-----	---	---	---	---
73012: GRAVOIS-----	black oak-----	60	43	black oak, northern red oak, white oak
	northern red oak----	60	43	
	white oak-----	57	43	
73035: GRAVOIS-----	black oak-----	58	43	northern red oak, white oak
	northern red oak----	62	43	
	white oak-----	50	43	
73040: MAPLEWOOD-----	black oak-----	---	0	black oak, white oak
	pin oak-----	---	0	
	post oak-----	---	0	
	white oak-----	60	43	
73041: MAPLEWOOD-----	black oak-----	---	0	black oak, white oak
	pin oak-----	---	0	
	post oak-----	---	0	
	white oak-----	60	43	

Cole 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	
73042:				
NIANGUA-----	black oak-----	56	43	northern red oak, Shumard's oak
	northern red oak----	---	0	
	white oak-----	54	43	
BARDLEY-----	black oak-----	54	43	black oak, eastern redcedar
	post oak-----	45	29	
	white oak-----	42	29	
73048:				
RUETER-----	black oak-----	61	43	northern red oak, white oak
	northern red oak----	61	43	
	white oak-----	58	43	
73050:				
ROCK OUTCROP-----	---	---	---	---
BARDLEY-----	black oak-----	54	43	black oak, eastern redcedar
	post oak-----	45	29	
	white oak-----	42	29	
73088:				
RUETER-----	black oak-----	61	43	northern red oak, white oak
	northern red oak----	61	43	
	white oak-----	58	43	
73089:				
RUETER-----	black oak-----	61	43	northern red oak, white oak
	northern red oak----	61	43	
	white oak-----	58	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	
73095: GRAVOIS-----	black oak----- northern red oak---- white oak-----	58 62 50	43 43 43	northern red oak, scarlet oak, white oak
73101: WRENGART-----	black oak----- northern red oak---- white oak-----	--- 70 66	0 57 43	black oak, northern red oak, white oak
73112: GUNLOCK-----	black oak----- northern red oak---- white oak-----	60 60 57	43 43 43	black oak, northern red oak, white oak
73250: GATEWOOD-----	black oak----- eastern redcedar---- post oak----- white oak-----	42 40 43 45	29 43 29 29	eastern redcedar
MOKO-----	eastern redcedar----	30	29	eastern redcedar
73251: GATEWOOD-----	black oak----- eastern redcedar---- post oak----- white oak-----	42 40 43 45	29 43 29 29	eastern redcedar
MOKO-----	eastern redcedar----	30	29	eastern redcedar

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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	
73253: OCIE-----	black oak----- northern red oak---- white oak-----	58 --- 57	43 0 43	northern red oak
73254: OCIE-----	black oak----- northern red oak---- white oak-----	58 --- 57	43 0 43	northern red oak
73255: OCIE-----	black oak----- northern red oak---- white oak-----	58 --- 57	43 0 43	northern red oak
73256: ARKANA-----	eastern redcedar---- northern red oak---- shortleaf pine----- white oak-----	35 55 55 ---	0 0 72 0	eastern redcedar
73257: CANEYVILLE-----	black oak----- chinkapin oak----- eastern redcedar---- hickory----- scarlet oak----- sugar maple----- white oak-----	65 51 36 --- 53 --- 60	43 29 43 0 43 0 43	black oak, 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	
73258: COTTON-----	black oak----- hickory----- white oak-----	--- --- 55	--- --- 43	black oak, pin oak, white ash, white oak
73259: COTTON-----	black oak----- hickory----- white oak-----	--- --- 55	--- --- 43	black oak, pin oak, white ash, white oak
73260: MAPLEWOOD-----	black oak----- pin oak----- post oak----- white oak-----	--- --- --- 60	0 0 0 43	black oak, white oak
73261: WRENGART-----	black oak----- northern red oak---- white oak-----	--- 70 66	0 57 43	black oak, northern red oak, white oak
73262: WRENGART-----	black oak----- northern red oak---- white oak-----	--- 70 66	0 57 43	black oak, northern red oak, white oak
73263: WRENGART-----	black oak----- northern red oak---- white oak-----	--- 70 66	0 57 43	black oak, northern red oak, 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	
74634: HARTVILLE-----	green ash----- pin oak----- silver maple----- white oak-----	--- --- --- 55	--- --- --- 43	eastern cottonwood, green ash, pin oak, silver maple
74659: DEIBLE-----	eastern cottonwood-- pin oak----- silver maple-----	100 75 95	129 57 43	eastern cottonwood, green ash, pin oak
74678: RACoon-----	American sycamore--- green ash----- pin oak----- white oak-----	--- --- 80 ---	--- 0 57 0	green ash, pin oak
75376: CEDARGAP-----	black oak----- black walnut----- green ash----- Shumard's oak-----	66 --- --- ---	43 --- --- ---	black walnut, green ash, Shumard's oak, white oak
75387: HACREEK-----	---	---	---	---

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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	
75399: JAMESFIN-----	American sycamore---	---	---	black walnut,
	black walnut-----	90	57	eastern
	eastern cottonwood--	---	---	cottonwood, green
	green ash-----	---	---	ash
	river birch-----	---	---	
	white ash-----	102	57	
75415: JEMERSON-----	black oak-----	65	43	black oak, green
	northern red oak----	60	43	ash, northern red
	white oak-----	65	43	oak
75456: RACKET-----	American sycamore---	---	0	black walnut, green
	black walnut-----	72	72	ash
	northern red oak----	---	0	
	white ash-----	---	0	
75457: URBAN LAND-----	---	---	---	---
JAMESFIN-----	American sycamore---	---	0	black walnut,
	black walnut-----	---	0	eastern
	eastern cottonwood--	---	0	cottonwood, white
	river birch-----	---	0	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	
75458: TANGLENOOK-----	eastern cottonwood-- silver maple-----	90 80	100 29	American sycamore, common hackberry, eastern cottonwood, green ash, pin oak, silver maple
99000: Pits, quarries-----	---	---	---	---
99001: Water-----	---	---	---	---
99012: URBAN LAND-----	---	---	---	---