

## 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)**

Washington 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	
66014: Haymond-----	American sycamore--- black walnut----- white oak-----	--- 70 90	--- --- 72	black walnut, northern red oak, white ash, white oak
70028: Moko-----	eastern redcedar---	30	29	eastern redcedar
Rock outcrop-----	---	---	---	---
73012: Gravois-----	black oak----- northern red oak---- white oak-----	60 60 57	43 43 43	black oak, northern red oak, white oak
73035: Gravois-----	black oak----- northern red oak---- white oak-----	60 60 57	43 43 43	northern red oak, white oak
73039: Glensted-----	---	---	---	---
73046: Wrengart-----	black oak----- northern red oak---- shagbark hickory---- white oak-----	63 --- --- 53	43 --- --- 43	black oak, northern red oak, white oak

Washington 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	
73052: Lily-----	black oak-----	---	---	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak----	54	---	
	scarlet oak-----	---	---	
	shortleaf pine-----	58	43	
	white oak-----	45	29	
73053: Lily-----	black oak-----	---	---	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak----	54	---	
	scarlet oak-----	---	---	
	shortleaf pine-----	58	43	
	white oak-----	45	29	
Bender-----	black oak-----	52	29	black oak, scarlet oak, shortleaf pine
	scarlet oak-----	---	---	
	shortleaf pine-----	53	71	
	white oak-----	50	29	
73066: Bender-----	black oak-----	52	29	black oak, scarlet oak, shortleaf pine
	scarlet oak-----	---	---	
	shortleaf pine-----	53	71	
	white oak-----	50	29	
73067: Bender-----	black oak-----	52	29	black oak, scarlet oak, shortleaf pine
	scarlet oak-----	---	---	
	shortleaf pine-----	53	71	
	white oak-----	50	29	
Rock outcrop-----	---	---	---	---

Washington 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	
73089: Rueter-----	black oak----- hickory----- post oak-----	53 --- 45	43 --- 29	black oak, shortleaf pine
73159: Yelton-----	black oak----- white oak-----	60 55	43 43	black oak, shortleaf pine
73162: Alred-----	black oak----- shortleaf pine----- white oak-----	60 60 56	43 86 43	black oak, shortleaf pine, white oak
Rueter-----	black oak----- hickory----- post oak-----	53 --- 45	43 --- 29	black oak, shortleaf pine
73166: Viburnum-----	black oak----- blackjack oak----- hickory----- post oak----- scarlet oak-----	58 --- --- --- ---	43 --- --- --- ---	black oak, scarlet oak, shortleaf pine
Tonti-----	black oak----- post oak----- shortleaf pine-----	60 --- 53	43 --- 71	black oak, shortleaf pine

Washington 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	
73173: Lily-----	black oak-----	---	---	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak----	54	---	
	scarlet oak-----	---	---	
	shortleaf pine-----	58	43	
	white oak-----	45	29	
Yelton-----	black oak-----	60	43	black oak, shortleaf pine
	white oak-----	55	43	
73174: Lily-----	black oak-----	---	---	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak----	54	---	
	scarlet oak-----	---	---	
	shortleaf pine-----	58	43	
	white oak-----	45	29	
Yelton-----	black oak-----	60	43	black oak, shortleaf pine
	white oak-----	55	43	
73200: Sonsac-----	black oak-----	54	43	black oak, eastern redcedar, post oak
	post oak-----	45	29	
	white oak-----	42	29	
73201: Sonsac-----	black oak-----	54	43	black oak, eastern redcedar, post oak
	post oak-----	45	29	
	white oak-----	42	29	

Washington 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	
73210: Goss-----	black oak----- northern red oak---- white oak-----	56 54 54	43 43 43	black oak, shortleaf pine, white oak
73214: Moko-----	eastern redcedar----	27	29	eastern redcedar
Rock outcrop-----	---	---	---	---
73215: Crider-----	black oak----- northern red oak---- scarlet oak----- white oak-----	65 65 --- 63	43 43 0 43	northern red oak, scarlet oak, white oak
73218: Tiff-----	black oak----- blackjack oak----- post oak----- white oak-----	--- --- --- 60	--- --- --- 43	black oak, white oak
73271: Moko-----	eastern redcedar----	30	29	eastern redcedar
Rock outcrop-----	---	---	---	---
73272: Hildebrecht-----	black oak----- white oak-----	60 55	43 43	black oak, shortleaf pine, white oak

Washington 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	
73273: Coulstone-----	black oak-----	56	43	black oak, scarlet oak, shortleaf pine
	scarlet oak-----	---	---	
	shortleaf pine-----	57	86	
	white oak-----	55	43	
Bender-----	black oak-----	52	29	black oak, scarlet oak, shortleaf pine
	scarlet oak-----	---	---	
	shortleaf pine-----	53	71	
	white oak-----	50	29	
73274: Scholten-----	black oak-----	50	29	black oak, eastern redcedar, shortleaf pine
	post oak-----	45	29	
73275: Gravois-----	black oak-----	60	43	black oak, northern red oak, white oak
	northern red oak----	60	43	
	white oak-----	57	43	
Goss-----	black oak-----	56	43	black oak, northern red oak, white oak
	northern red oak----	54	43	
	white oak-----	54	43	
73276: Rueter-----	black oak-----	53	43	black oak, shortleaf pine
	hickory-----	---	---	
	post oak-----	45	29	
Hildebrecht-----	black oak-----	60	43	black oak, shortleaf pine, white oak
	white oak-----	55	43	

Washington 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	
73277: Goss-----	black oak----- northern red oak---- white oak-----	56 54 54	43 43 43	black oak, northern red oak, white oak
73278: Rueter-----	black oak----- hickory----- post oak-----	53 --- 45	43 --- 29	black oak, shortleaf pine
73279: Sonsac-----	black oak----- post oak----- white oak-----	54 45 42	43 29 29	black oak, eastern redcedar, post oak
Moko-----	eastern redcedar---	30	29	eastern redcedar
Rock outcrop-----	---	---	---	---
73280: Alred-----	black oak----- shortleaf pine----- white oak-----	60 60 56	43 86 43	black oak, shortleaf pine, white oak
73282: Alred-----	black oak----- shortleaf pine----- white oak-----	60 60 56	43 86 43	black oak, shortleaf pine, white oak
Sonsac-----	black oak----- post oak----- white oak-----	54 45 42	43 29 29	black oak, eastern redcedar, post 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	
73283: Courtois, eroded-----	northern red oak----	---	---	northern red oak, white oak
	shortleaf pine-----	65	100	
	white oak-----	60	43	
73284: Courtois-----	northern red oak----	---	---	northern red oak, white oak
	shortleaf pine-----	65	100	
	white oak-----	60	43	
Goss-----	black oak-----	56	43	black oak, northern red oak, white oak
	northern red oak----	54	43	
	white oak-----	54	43	
73285: Useful-----	black oak-----	56	56	black oak, scarlet oak
	northern red oak----	---	---	
	post oak-----	---	---	
	white oak-----	54	43	
Courtois-----	northern red oak----	---	---	northern red oak, white oak
	shortleaf pine-----	65	100	
	white oak-----	60	43	
73286: Useful-----	black oak-----	56	56	black oak, scarlet oak
	northern red oak----	---	---	
	post oak-----	---	---	
	white oak-----	54	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	
73286: (cont) Courtois-----	northern red oak----	---	---	northern red oak, white oak
	shortleaf pine-----	65	100	
	white oak-----	60	43	
73287: Useful-----	black oak-----	56	56	black oak, scarlet oak
	northern red oak----	---	---	
	post oak-----	---	---	
	white oak-----	54	43	
Sonsac-----	black oak-----	54	43	black oak, eastern redcedar, post oak
	post oak-----	45	29	
	white oak-----	42	29	
73288: Caneyville-----	black oak-----	56	43	black oak, eastern redcedar, scarlet oak
	chinkapin oak-----	51	29	
	eastern redcedar----	36	43	
	hickory-----	---	---	
	scarlet oak-----	53	43	
	white oak-----	---	---	
Rock outcrop-----	---	---	---	---
73289: Fourche-----	black oak-----	---	---	black oak, northern red oak, white ash, white oak
	northern red oak----	---	---	
	white ash-----	---	---	
	white oak-----	62	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	
73290:				
Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
Aaron-----	black oak-----	56	56	black oak, scarlet oak
	northern red oak----	---	---	
	post oak-----	---	---	
	white oak-----	54	43	
73291:				
Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
Aaron-----	black oak-----	56	56	black oak, scarlet oak
	northern red oak----	---	---	
	post oak-----	---	---	
	white oak-----	54	43	
73292:				
Lily-----	black oak-----	---	---	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak----	54	---	
	scarlet oak-----	---	---	
	shortleaf pine-----	58	43	
	white oak-----	45	29	

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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	
73293: Caneyville-----	black oak-----	56	43	black oak, eastern redcedar, scarlet oak
	chinkapin oak-----	51	29	
	eastern redcedar----	36	43	
	hickory-----	---	---	
	scarlet oak-----	53	43	
	white oak-----	---	---	
73294: Ocie-----	black oak-----	60	43	northern red oak, white oak
	northern red oak----	---	---	
	white oak-----	57	43	
74634: Hartville-----	green ash-----	---	---	green ash, pin oak, white oak
	pin oak-----	---	---	
	white oak-----	55	43	
74650: Higdon-----	American sycamore---	---	---	black walnut, green ash, pecan, white oak
	black walnut-----	---	---	
	green ash-----	---	---	
	white oak-----	65	43	
74652: Lecoma-----	black oak-----	65	43	northern red oak, white oak
	northern red oak----	65	43	
	white oak-----	60	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	
74653: Raccoon-----	green ash----- pin oak----- white oak-----	--- 80 ---	--- 57 ---	green ash, pin oak
Freeburg-----	black walnut----- green ash----- white oak-----	--- --- 65	--- --- 43	eastern cottonwood, green ash, northern red oak, pecan, white oak
74656: Deible-----	green ash----- northern red oak---- pin oak----- silver maple-----	--- --- 76 ---	--- --- 57 ---	eastern cottonwood, green ash, pin oak, silver maple
74661: Waben-----	black oak----- eastern redcedar---- post oak----- shortleaf pine-----	--- 40 --- ---	--- 43 --- ---	eastern redcedar, shortleaf pine
74662: Higdon-----	American sycamore--- black walnut----- green ash----- white oak-----	--- --- --- 65	--- --- --- 43	black walnut, green ash, pecan, 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	
75376: Cedargap-----	black oak----- black walnut----- green ash----- Shumard's oak-----	66 --- --- ---	43 --- --- ---	black walnut, Shumard's oak, white oak
75388: Kaintuck-----	American basswood--- American sycamore--- black walnut----- green ash-----	--- 90 --- ---	--- 100 --- ---	American sycamore, black walnut, green ash
Relfe-----	American sycamore--- black oak----- shortleaf pine----- white oak-----	--- 60 --- 55	--- 43 --- 43	black oak, shortleaf pine
75398: Kaintuck-----	American basswood--- American sycamore--- black walnut----- green ash-----	--- 90 --- ---	--- 100 --- ---	American sycamore, black walnut, green ash
75406: Racket-----	American sycamore--- black cherry----- black walnut----- green ash----- northern red oak----	--- --- 72 --- ---	--- --- 72 --- ---	black walnut, green ash, 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	
75412: Razort-----	American sycamore---	85	86	black walnut,
	eastern cottonwood--	90	100	northern red oak,
	northern red oak----	75	57	white oak
	white oak-----	70	57	
75427: Gabriel, GRAVELLY SUBSTRATUM PHASE-----	---	---	---	---
75450: Bloomsdale-----	American sycamore---	---	---	American sycamore,
	black oak-----	---	---	eastern
	eastern cottonwood--	94	114	cottonwood,
	northern red oak----	68	57	northern red oak,
	white oak-----	---	---	white oak
75453: Sturkie-----	American sycamore---	80	86	American sycamore,
	eastern cottonwood--	100	129	black walnut,
	northern red oak----	80	57	eastern
	white oak-----	70	57	cottonwood,
				northern red oak,
				white oak
75459: Huzzah-----	American sycamore---	---	---	black walnut,
	black walnut-----	70	---	northern red oak,
	white oak-----	90	72	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	
75460: Horsecreek, WET SUBSTRATUM PHASE-----	American sycamore----	---	---	black walnut, eastern cottonwood, white ash
	common hackberry----	---	---	
	pin oak-----	94	57	
	red maple-----	---	---	
	Shumard's oak-----	93	57	
77014: Rock outcrop-----	---	---	---	---
Taumsauk-----	eastern redcedar----	30	29	eastern redcedar
77015: Irondale-----	black oak-----	48	29	black oak, scarlet oak, shortleaf pine
	northern red oak----	47	29	
	post oak-----	---	---	
	shortleaf pine-----	48	56	
Taumsauk-----	eastern redcedar----	30	29	eastern redcedar
Rock outcrop-----	---	---	---	---
77016: Irondale-----	black oak-----	48	29	black oak, scarlet oak, shortleaf pine
	northern red oak----	47	29	
	post oak-----	---	---	
	shortleaf pine-----	48	56	
Taumsauk-----	eastern redcedar----	30	29	eastern redcedar
Rock outcrop-----	---	---	---	---

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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	
77017: Knobtop-----	black oak----- northern red oak---- white oak-----	50 47 ---	43 29 ---	black oak, eastern redcedar, shortleaf pine
77019: Frenchmill-----	northern red oak---- shortleaf pine----- white oak-----	62 60 58	43 86 43	northern red oak, shortleaf pine, white oak
99000: Pits, quarries-----	---	---	---	---
99001: Water-----	---	---	---	---
99014: Mine tailings-----	---	---	---	---