

## 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 Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
1B: 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	
1C: 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	
1D: 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	
2B: 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	

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
2C: 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	
2D: 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	
2E: 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	

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
2F: 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
3D: Clarksville-----	black oak----- northern red oak---- shortleaf pine----- white oak-----	61 61 61 58	43 43 86 43	shortleaf pine, sweetgum, tuliptree, white oak
3F: Clarksville-----	black oak----- northern red oak---- shortleaf pine----- white oak-----	61 61 61 58	43 43 86 43	shortleaf pine, sweetgum, tuliptree, white oak
4D: Union-----	black oak----- northern red oak---- shortleaf pine----- white oak-----	58 62 53 50	43 43 86 43	northern red oak, scarlet oak, shortleaf pine, white oak

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
5A:				
Iva-----	pin oak-----	85	72	American sycamore, baldcypress, eastern white pine, red maple, tuliptree, white ash
	sweetgum-----	80	86	
	tuliptree-----	85	86	
	white oak-----	75	57	
6A:				
Urban land-----	---	---	---	---
7B:				
Urban land-----	---	---	---	---
8E:				
Goss-----	black oak-----	---	0	green ash, sweetgum, tuliptree
	blackjack oak-----	---	0	
	post oak-----	---	0	
	shortleaf pine-----	---	0	
	white oak-----	60	43	
10D:				
Gasconade-----	blackjack oak-----	---	0	---
	chinkapin oak-----	41	29	
	eastern redcedar-----	27	29	
	post oak-----	---	0	
Rock outcrop-----	---	---	---	---

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
10F: Gasconade-----	blackjack oak-----	---	0	---
	chinkapin oak-----	41	29	
	eastern redcedar----	27	29	
	post oak-----	---	0	
Rock outcrop-----	---	---	---	---
12: Nevin-----	---	---	---	---
13D: Goss-----	---	---	---	---
13F: Goss-----	black oak-----	---	0	green ash,
	blackjack oak-----	---	0	sweetgum,
	post oak-----	---	0	tuliptree
	shortleaf pine-----	---	0	
	white oak-----	60	43	
14C: 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

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
14E: 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
16C: Urban land-----	---	---	---	---
Harvester-----	---	---	---	---
16D: Urban land-----	---	---	---	---
Harvester-----	---	---	---	---
17D: Crider-----	black oak----- black walnut----- hickory----- northern red oak---- sugar maple----- tuliptree----- white ash----- white oak-----	87 80 --- 84 --- 97 --- 72	72 0 0 72 0 100 0 57	black walnut, eastern white pine, loblolly pine, northern red oak, shortleaf pine, tuliptree, white ash, white oak

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
17D: (cont)				
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
17F:				
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
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
18A:				
Urban land-----	---	---	---	---
Harvester-----	---	---	---	---

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
18C:				
Urban land-----	---	---	---	---
Harvester-----	---	---	---	---
18D:				
Urban land-----	---	---	---	---
Harvester-----	---	---	---	---
19C:				
Urban land-----	---	---	---	---
Goss-----	---	---	---	---
19D:				
Urban land-----	---	---	---	---
Goss-----	black oak-----	---	0	green ash,
	blackjack oak-----	---	0	sweetgum,
	post oak-----	---	0	tuliptree
	shortleaf pine-----	---	0	
	white oak-----	60	43	
20B:				
Fishpot-----	---	---	---	---
Urban land-----	---	---	---	---

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
21B:				
Winfield-----	black oak-----	65	43	black oak, eastern
	northern red oak----	60	43	white pine, green
	white oak-----	65	43	ash, northern red oak, tuliptree
Urban land-----	---	---	---	---
21C:				
Winfield-----	black oak-----	65	43	black oak, eastern
	northern red oak----	60	43	white pine, green
	white oak-----	65	43	ash, northern red oak, tuliptree
Urban land-----	---	---	---	---
21D:				
Winfield-----	black oak-----	65	43	black oak, eastern
	northern red oak----	60	43	white pine, green
	white oak-----	65	43	ash, northern red oak, tuliptree
Urban land-----	---	---	---	---
22A:				
Iva-----	pin oak-----	85	72	American sycamore,
	sweetgum-----	80	86	baldcypress,
	tuliptree-----	85	86	eastern white
	white oak-----	75	57	pine, red maple, tuliptree, white ash

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
22A: (cont) Urban land-----	---	---	---	---
23B: 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
Urban land-----	---	---	---	---
23C: 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
Urban land-----	---	---	---	---

St Louis County and St Louis City, Missouri  
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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	
23D: 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
Urban land-----	---	---	---	---
24: Nevin-----	---	---	---	---
Urban land-----	---	---	---	---
27: Pits-----	---	---	---	---
28: Pits-----	---	---	---	---
29: Dumps-----	---	---	---	---
Orthents-----	---	---	---	---
31: Elsah-----	American sycamore--- eastern cottonwood-- red maple----- sweetgum-----	--- 95 --- 76	0 114 0 72	black walnut, green ash, sweetgum, tuliptree

St Louis County and St Louis City, Missouri  
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
32: Haymond-----	tuliptree-----	100	114	black cherry, bur oak, green ash, pin oak, red maple, swamp white oak, sweetgum
33: Wilbur-----	tuliptree-----	100	114	black cherry, bur oak, green ash, pin oak, red maple, swamp white oak, sweetgum
40: Eudora-----	American sycamore---	---	0	black walnut, eastern cottonwood, green ash
	black walnut-----	---	0	
	common hackberry----	---	0	
	eastern cottonwood--	105	143	
	green ash-----	---	0	
41: Booker-----	eastern cottonwood--	85	86	eastern cottonwood, green ash, pecan, pin oak, silver maple
	silver maple-----	80	29	
42: Blake-----	American sycamore---	---	0	American sycamore, eastern cottonwood, green ash, silver maple
	eastern cottonwood--	115	172	
	silver maple-----	---	0	

St Louis County and St Louis City, Missouri  
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
43: Waldron-----	eastern cottonwood-- pin oak-----	110 80	157 57	black willow, eastern cottonwood, green ash, pecan, pin oak, silver maple, sweetgum
44: Sarpy-----	eastern cottonwood-- silver maple-----	95 90	114 43	American sycamore, black willow, eastern cottonwood
45: Sarpy-----	eastern cottonwood-- silver maple-----	95 90	114 43	American sycamore, black willow, eastern cottonwood
46: Parkville-----	eastern cottonwood-- pin oak-----	100 90	129 72	American sycamore, eastern cottonwood, pecan, pin oak, sweetgum
49: Blake-----	American sycamore--- eastern cottonwood-- silver maple-----	--- 115 ---	0 172 0	American sycamore, eastern cottonwood, green ash, silver maple

St Louis County and St Louis City, Missouri  
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
49: (cont)				
Eudora-----	American sycamore----	---	0	black walnut,
	black walnut-----	---	0	eastern
	common hackberry----	---	0	cottonwood, green
	eastern cottonwood--	105	143	ash
	green ash-----	---	0	
Waldron-----	eastern cottonwood--	110	157	black willow,
	pin oak-----	80	57	eastern
				cottonwood, green
				ash, pecan, pin
				oak, silver maple,
				sweetgum
52A:				
Freeburg-----	white oak-----	65	43	black oak, eastern
				cottonwood, green
				ash, pecan, pin
				oak, tuliptree,
				white oak
52B:				
Freeburg-----	white oak-----	65	43	black oak, eastern
				cottonwood, green
				ash, pecan, pin
				oak, tuliptree,
				white oak

St Louis County and St Louis City, Missouri  
Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
53A: Bremer-----	eastern cottonwood-- silver maple-----	90 80	100 29	American sycamore, arborvitae, common hackberry, eastern cottonwood, green ash, silver maple
55A: Ashton-----	American elm----- American sycamore--- cherrybark oak----- common hackberry---- hickory----- pin oak----- red maple----- Shumard's oak----- sweetgum----- white ash-----	--- --- --- --- 94 --- 93 87 ---	0 0 0 0 57 0 57 100 0	black walnut, cherrybark oak, eastern cottonwood, eastern white pine, sweetgum, tuliptree, white ash
55B: Ashton-----	American elm----- American sycamore--- cherrybark oak----- common hackberry---- hickory----- pin oak----- red maple----- Shumard's oak----- sweetgum----- white ash-----	--- --- --- --- 94 --- 93 87 ---	0 0 0 0 57 0 57 100 0	black walnut, cherrybark oak, eastern cottonwood, eastern white pine, sweetgum, tuliptree, white ash

St Louis County and St Louis City, Missouri  
 Forest Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
56A: Weller-----	white oak-----	55	43	black walnut, eastern white pine, red pine, sugar maple
56B: Weller-----	white oak-----	55	43	black walnut, eastern white pine, red pine, sugar maple
M-W: Water-----	---	---	---	---
W: Water-----	---	---	---	---