

## 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)**

Gasconade 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	
01B: Union-----	black oak-----	58	43	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak----	62	43	
	shortleaf pine-----	53	86	
	white oak-----	50	43	
01C: Union-----	black oak-----	58	43	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak----	62	43	
	shortleaf pine-----	53	86	
	white oak-----	50	43	
01C2: Union-----	black oak-----	58	43	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak----	62	43	
	shortleaf pine-----	53	86	
	white oak-----	50	43	
01D2: Union-----	black oak-----	58	43	northern red oak, scarlet oak, shortleaf pine, white oak
	northern red oak----	62	43	
	shortleaf pine-----	53	86	
	white oak-----	50	43	
02F: Coulstone-----	black oak-----	58	43	black oak, scarlet oak, shortleaf pine, white oak
	scarlet oak-----	60	43	
	shortleaf pine-----	60	86	
	white oak-----	55	43	

Gasconade 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	
03A: Racoon-----	green ash-----	---	0	baldcypress, pin oak, red maple, water tupelo
	pin oak-----	80	57	
	post oak-----	80	57	
	white oak-----	---	0	
04A: Freeburg-----	white oak-----	65	43	black oak, eastern cottonwood, green ash, pecan, pin oak, tuliptree, white oak
05B: Hartville-----	white oak-----	55	43	eastern cottonwood, pin oak, tuliptree, white oak
05C: Hartville-----	white oak-----	55	43	eastern cottonwood, pin oak, tuliptree, white oak
06C2: Bucklick-----	black oak-----	---	0	eastern white pine, green ash, tuliptree, white oak
	northern red oak----	---	0	
	post oak-----	---	0	
	sugar maple-----	---	0	
	white oak-----	61	43	

Gasconade 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	
06D2: Bucklick-----	black oak-----	---	0	eastern white pine, green ash, tuliptree, white oak
	northern red oak----	---	0	
	post oak-----	---	0	
	sugar maple-----	---	0	
	white oak-----	61	43	
07B: 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	
07C: 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	

Gasconade 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	
07E2: 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
10F: Gasconade-----	blackjack oak----- chinkapin oak----- eastern redcedar---- post oak-----	--- 40 27 ---	0 29 29 0	eastern redcedar
11: Dockery-----	pin oak-----	76	57	eastern cottonwood, pecan, pin oak
12: Bremer-----	eastern cottonwood-- silver maple-----	90 80	100 29	American sycamore, common hackberry, eastern arborvitae, eastern cottonwood, green ash, silver maple

Gasconade 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	
13A: Auxvasse-----	green ash----- northern red oak---- pin oak----- silver maple-----	--- --- 76 ---	0 0 57 0	eastern cottonwood, green ash, pin oak, silver maple, sweetgum, tuliptree, white oak
16: Waldron-----	eastern cottonwood-- pin oak-----	110 80	157 57	black willow, eastern cottonwood, green ash, pin oak, silver maple, sweetgum
17D: Wilderness-----	black oak----- northern red oak---- white oak-----	63 64 56	43 43 43	black oak, shortleaf pine, white oak
19: Haynie-----	American sycamore--- black walnut----- eastern cottonwood-- green ash-----	110 --- 110 ---	157 0 157 0	black walnut, eastern cottonwood
20: Sarpy-----	eastern cottonwood-- silver maple-----	95 90	114 43	American sycamore, black willow, eastern cottonwood

Gasconade 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	
23F:				
Weingarten-----	black oak-----	---	0	black oak, northern red oak, shortleaf pine, tuliptree
	northern red oak----	70	57	
	shortleaf pine-----	---	0	
	white oak-----	66	43	
Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
24F:				
Gatewood-----	black oak-----	42	29	eastern redcedar, shortleaf pine
	eastern redcedar----	40	43	
	post oak-----	43	29	
	white oak-----	45	29	
26D:				
Beemont-----	eastern redcedar----	---	0	eastern redcedar, northern red oak, shortleaf pine
	northern red oak----	61	43	
	post oak-----	---	0	
	white oak-----	48	29	
26F:				
Beemont-----	eastern redcedar----	---	---	eastern redcedar, northern red oak, shortleaf pine
	northern red oak----	61	43	
	post oak-----	---	---	
	white oak-----	48	29	

Gasconade 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	
28C: Weingarten-----	black oak-----	---	0	black oak, northern red oak, shortleaf pine, tuliptree
	northern red oak----	70	57	
	shortleaf pine-----	---	0	
	white oak-----	66	43	
28D2: Weingarten-----	black oak-----	---	0	black oak, northern red oak, shortleaf pine, tuliptree
	northern red oak----	70	57	
	shortleaf pine-----	---	0	
	white oak-----	66	43	
28E2: Weingarten-----	black oak-----	---	0	black oak, northern red oak, shortleaf pine, tuliptree
	northern red oak----	70	57	
	shortleaf pine-----	---	0	
	white oak-----	66	43	
31D: Bucklick-----	black oak-----	---	0	eastern white pine, green ash, tuliptree, white oak
	northern red oak----	---	0	
	post oak-----	---	0	
	sugar maple-----	---	0	
	white oak-----	61	43	
Beemont-----	eastern redcedar----	---	0	eastern redcedar, northern red oak, shortleaf pine
	northern red oak----	61	43	
	post oak-----	---	0	
	white oak-----	48	29	
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	
32: Pits-----	---	---	---	---
35A: Glensted-----	---	---	---	---
35B: Glensted-----	---	---	---	---
37: Marion-----	post oak----- white oak-----	--- 50	0 29	black willow, eastern cottonwood, green ash, pin oak, silver maple, tuliptree, white oak
39: Nolin-----	American sycamore--- black walnut----- cherrybark oak----- sweetgum----- tuliptree----- white ash-----	--- 100 97 93 105 102	0 0 143 114 114 0	black walnut, cherrybark oak, eastern white pine, sweetgum, tuliptree, white ash
43: Cedargap-----	American sycamore--- black oak----- black walnut----- cottonwood-----	--- 66 --- ---	0 43 0 0	black oak, shortleaf 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	
45: Pope-----	American basswood---	---	0	black walnut, eastern white pine, northern red oak, shortleaf pine, tuliptree, white ash, white oak
	American beech-----	---	0	
	American sycamore---	---	0	
	bitternut hickory---	---	0	
	blackgum-----	---	0	
	eastern hemlock-----	---	0	
	northern red oak----	---	0	
	tuliptree-----	96	100	
	white oak-----	80	57	
49A: Gladden-----	American sycamore---	85	86	black walnut, shortleaf pine
	black walnut-----	---	0	
	shortleaf pine-----	---	0	
	white oak-----	75	57	
51F: Beemont-----	northern red oak----	39	29	shortleaf pine
	post oak-----	35	29	
Ramsey-----	northern red oak----	50	29	eastern white pine, loblolly pine, shortleaf pine, Virginia pine
	shortleaf pine-----	50	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	
60F:				
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
Gatewood-----	black oak----- eastern redcedar---- post oak----- white oak-----	42 40 43 45	29 43 29 29	eastern redcedar, shortleaf pine
M-W:				
Miscellaneous water-----	---	---	---	---
W:				
Water-----	---	---	---	---