

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)**

New Madrid 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 | |
| Ad: Acadia, LOAMY SUBSTRATUM | sweetgum----- water oak----- | 80 80 | 86 72 | pecan, sweetgum |
| Ag: Alligator----- | cedar elm----- green ash----- honeylocust----- Nuttall oak----- sugarberry----- swamp chestnut oak-- sweetgum----- water oak----- willow oak----- | 90 70 80 90 90 --- 90 90 95 | 100 43 86 86 100 0 100 86 86 | American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, water oak, willow oak |
| At: Alligator----- | cedar elm----- green ash----- honeylocust----- Nuttall oak----- sugarberry----- swamp chestnut oak-- sweetgum----- water oak----- willow oak----- | 90 70 80 90 90 --- 90 90 95 | 100 43 86 86 100 0 100 86 86 | American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, water oak, willow oak |
| Bp: Borrow----- | --- | --- | --- | --- |

New Madrid 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 | |
| BtA: | | | | |
| Bosket----- | cherrybark oak----- | 90 | 114 | cherrybark oak, |
| | eastern cottonwood-- | 100 | 129 | eastern |
| | green ash----- | 80 | 57 | cottonwood, |
| | sweetgum----- | 90 | 100 | shortleaf pine, |
| | water oak----- | 90 | 86 | sweetgum |
| | willow oak----- | 90 | 86 | |
| BtB: | | | | |
| Bosket----- | cherrybark oak----- | 90 | 114 | cherrybark oak, |
| | eastern cottonwood-- | 100 | 129 | eastern |
| | green ash----- | 80 | 57 | cottonwood, |
| | sweetgum----- | 90 | 100 | shortleaf pine, |
| | water oak----- | 90 | 86 | sweetgum |
| | willow oak----- | 90 | 86 | |
| Bw: | | | | |
| Bowdre----- | cherrybark oak----- | 90 | 114 | American sycamore, |
| | eastern cottonwood-- | 110 | 157 | eastern |
| | sweetgum----- | 95 | 114 | cottonwood, |
| | water oak----- | 95 | 86 | sweetgum |
| ByA: | | | | |
| Broseley----- | eastern cottonwood-- | 80 | 86 | eastern cottonwood, |
| | pin oak----- | 70 | 57 | pin oak |
| ByC: | | | | |
| Broseley----- | eastern cottonwood-- | 80 | 86 | eastern cottonwood, |
| | pin oak----- | 70 | 57 | pin oak |

New Madrid 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 | |
| Ca: Cairo, FREQUENTLY FLOODED----- | baldcypress----- eastern cottonwood-- green ash----- pin oak----- swamp white oak---- | --- --- --- 90 --- | 0 0 0 72 0 | baldcypress, eastern cottonwood, pin oak, red maple, water tupelo |
| Cd: Canalou----- | black oak----- eastern cottonwood-- pin oak----- shortleaf pine----- sweetgum----- | --- 86 80 --- --- | 0 86 57 0 0 | American sycamore, eastern cottonwood, eastern white pine, loblolly pine, pin oak, shortleaf pine, sweetgum |
| Ce: Caruthersville, FREQUENTLY FLOODED----- | American sycamore--- eastern cottonwood-- | 95 110 | 0 157 | American sycamore, eastern cottonwood, pin oak, silver maple |
| Cm: Commerce----- | American sycamore--- eastern cottonwood-- green ash----- Nuttall oak----- pecan----- water oak----- willow oak----- | --- 120 100 90 --- 110 --- | 0 186 100 0 0 114 0 | cherrybark oak, pecan, Shumard's oak, water oak |

New Madrid 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 | |
| Cn: Commerce, OCCASIONALLY FLOODED----- | American sycamore--- | --- | 0 | cherrybark oak, pecan, Shumard's oak, water oak |
| | eastern cottonwood-- | 120 | 186 | |
| | green ash----- | 100 | 100 | |
| | Nuttall oak----- | 90 | 0 | |
| | pecan----- | --- | 0 | |
| | water oak----- | 110 | 114 | |
| | willow oak----- | --- | 0 | |
| Co: Cooter, OCCASIONALLY FLOODED----- | baldcypress----- | --- | 0 | baldcypress, eastern cottonwood, pin oak |
| | eastern cottonwood-- | 95 | 114 | |
| | pin oak----- | 80 | 57 | |
| CrA: Crevasse, OCCASIONALLY FLOODED----- | sweetgum----- | 90 | 100 | --- |
| | white oak----- | 100 | 72 | |
| CsB: Crevasse----- | black oak----- | --- | 0 | black oak, loblolly pine, shortleaf pine, southern red oak |
| | post oak----- | --- | 0 | |
| | southern red oak---- | 62 | 43 | |
| CsC: Crevasse----- | black oak----- | --- | 0 | black oak, loblolly pine, shortleaf pine, southern red oak |
| | post oak----- | --- | 0 | |
| | southern red oak---- | 62 | 43 | |

New Madrid 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 | |
| CvA: Crevasse, FREQUENTLY FLOODED----- | eastern cottonwood-- | 100 | 129 | eastern cottonwood, loblolly pine |
| | loblolly pine----- | 90 | 129 | |
| | sweetgum----- | 90 | 100 | |
| | white oak----- | 90 | 72 | |
| Db: Dubbs----- | cherrybark oak----- | 100 | 143 | American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum, tuliptree |
| | eastern cottonwood-- | 100 | 129 | |
| | green ash----- | 80 | 57 | |
| | Nuttall oak----- | 95 | 0 | |
| | Shumard's oak----- | 100 | 72 | |
| | sweetgum----- | 95 | 114 | |
| | water oak----- | 90 | 86 | |
| | willow oak----- | 95 | 86 | |
| De: Dundee----- | cherrybark oak----- | 105 | 172 | cherrybark oak, eastern cottonwood, sweetgum, tuliptree, water oak |
| | eastern cottonwood-- | 100 | 129 | |
| | sweetgum----- | 100 | 143 | |
| | water oak----- | 95 | 86 | |
| Dn: Dundee----- | cherrybark oak----- | 105 | 172 | cherrybark oak, eastern cottonwood, sweetgum, tuliptree, water oak |
| | eastern cottonwood-- | 100 | 129 | |
| | sweetgum----- | 100 | 143 | |
| | water oak----- | 95 | 86 | |

New Madrid 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 | |
| Fa: Farrenburg----- | baldcypress----- eastern cottonwood-- pin oak----- sweetgum----- | --- 96 86 --- | 0 0 72 0 | American sycamore, eastern cottonwood, pin oak |
| Fs: Forestdale----- | cherrybark oak----- eastern cottonwood-- green ash----- Nuttall oak----- sweetgum----- water oak----- willow oak----- | 94 100 78 99 100 90 94 | 129 129 43 0 143 86 86 | American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum |
| Ft: Forestdale----- | cherrybark oak----- eastern cottonwood-- green ash----- Nuttall oak----- sweetgum----- water oak----- willow oak----- | 94 100 78 99 100 90 94 | 129 129 43 0 143 86 86 | American sycamore, eastern cottonwood, green ash, Nuttall oak, sweetgum |
| Gd: Gideon----- | baldcypress----- eastern cottonwood-- sweetgum----- | --- 96 --- | 0 114 0 | American sycamore, baldcypress, eastern cottonwood, sweetgum, water oak |

New Madrid 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 | |
| Ge: | | | | |
| Gideon----- | baldcypress----- eastern cottonwood-- sweetgum----- | --- 96 --- | 0 114 0 | American sycamore, baldcypress, eastern cottonwood, sweetgum, water oak |
| Lb: | | | | |
| Lilbourn----- | baldcypress----- eastern cottonwood-- pin oak----- | --- 90 80 | 0 0 57 | baldcypress, eastern cottonwood, green ash, pin oak |
| M-W: | | | | |
| Water----- | --- | --- | --- | --- |
| Or: | | | | |
| Orthents----- | --- | --- | --- | --- |
| Water----- | --- | --- | --- | --- |
| Ro: | | | | |
| Roellen----- | cherrybark oak----- eastern cottonwood-- sweetgum----- water oak----- | 90 100 90 90 | 114 129 100 86 | eastern cottonwood, sweetgum |
| Sa: | | | | |
| Psammets, FREQUENTLY FLOODED----- | sweetgum----- white oak----- | 90 100 | 100 72 | --- |

New Madrid 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 | |
| Sh: | | | | |
| Sharkey----- | cedar elm----- | --- | 0 | green ash, Nuttall oak, water oak |
| | green ash----- | --- | 0 | |
| | honeylocust----- | --- | 0 | |
| | Nuttall oak----- | 90 | 0 | |
| | sugarberry----- | --- | 0 | |
| | swamp chestnut oak-- | --- | 0 | |
| | sweetgum----- | 90 | 100 | |
| | willow oak----- | 100 | 100 | |
| Sr: | | | | |
| Sharkey----- | cedar elm----- | --- | 0 | green ash, Nuttall oak, water oak |
| | green ash----- | --- | 0 | |
| | honeylocust----- | --- | 0 | |
| | Nuttall oak----- | 90 | 0 | |
| | sugarberry----- | --- | 0 | |
| | swamp chestnut oak-- | --- | 0 | |
| | sweetgum----- | 90 | 100 | |
| | willow oak----- | 100 | 100 | |
| St: | | | | |
| Sikeston, FREQUENTLY FLOODED----- | baldcypress----- | --- | 0 | American sycamore, eastern cottonwood, pin oak, sweetgum, water oak |
| | eastern cottonwood-- | 100 | 129 | |
| | pin oak----- | 95 | 72 | |
| | sweetgum----- | 95 | 114 | |

New Madrid 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 | |
| Tp: Tiptonville----- | cherrybark oak----- eastern cottonwood-- green ash----- Nuttall oak----- sweetgum----- | 90 100 90 90 90 | 114 129 57 86 100 | cherrybark oak, eastern cottonwood, green ash, Shumard's oak, tuliptree |
| W: Water----- | --- | --- | --- | --- |
| Wr: Wardell----- | eastern cottonwood-- pin oak----- | 90 80 | 100 57 | eastern cottonwood, pecan, pin oak, sweetgum |