



Natural Communities of Louisiana

Bayhead Swamp/ Forested Seep

Rarity Rank: S3/G3?

Synonyms: Baygall, Acid Seep Forest, Spring-head, Green-head

Ecological Systems:

CES203.505 Southern Coastal Plain

Seepage Swamp and Baygall

CES203.372 West Gulf Coastal

Plain Seepage Swamp and Baygall



General Description:

(Note: Bayhead Swamp and Forested Seep are described as distinct wetland communities in the Natural Communities of Louisiana. They are considered here together due to their similarity in floristics and management needs.)

- **Bayhead swamps** develop in broad, shallow braided drains, or along margins of creeks with little or no creek banks, or are found in deep depressional areas in flatwoods, or the headwaters of creeks in sandy, acidic uplands across Louisiana
- Bayheads are seasonally to semi-permanently saturated or flooded
- **Forested seeps** occur typically in association with mixed pine-hardwood forests, on hillsides, to the base of slopes
- Forested seeps are continually moist due to constant seepage forced to the surface by an underlying impervious layer (clay pan or sandstone)
- Soils of both forests are deep, very poorly drained, very strongly acidic loamy fine sand, fine sandy loam or silt loam, with relatively high organic matter content. Available water capacity is high, surface runoff is very slow to ponded, and soil fertility is low
- Overstory typically closed to nearly closed canopy; midstory densely stocked primarily with evergreen shrubs; herbaceous layer has an abundance of ferns and mats of *Sphagnum* spp.
- Size varies from a few acres up to more than 100 acres
- Bayhead swamps generally occupy the lowest positions on the landscape just down the topographic gradient from pine and hardwood flatwoods. The highly acidic soils combined with the abundance of organic muck on the swamp floor produces a “blackwater” (actually tea-colored water) condition in streams associated with bayhead swamps
- Fire probably played a minor role in bayhead swamps because of topographic position, usually wet nature, and general lack of fuels to carry a fire. However, fires may have occurred during exceedingly dry periods in broader bayheads, or may have been fairly frequent in narrow bayhead drains

Plant Community Associates

Common overstory species include:

Magnolia virginiana (sweet bay magnolia),

Quercus laurifolia (laurel oak),

Liquidambar styraciflua. (sweetgum),

Taxodium distichum (baldcypress),

Pinus elliotii (slash pine, in EGCP),

Nyssa biflora (swamp blackgum),

Acer rubrum (red maple),

Q. nigra (water oak),

T. ascendens (pondcypress, in EGCP),

P. palustris (longleaf pine),



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Common understory species include:

Persea borbonia (red bay),
Morella heterophylla (bigleaf wax myrtle),
Ilex glabra (little-leaf gallberry, in EGCP),
I. opaca (American holly),
L. ligustrina (fetterbush),
Lindera subcoriacea (bog spicebush, rare, in EGCP),
Leucothoe axillaris (leucothoe, in EGCP),
Viburnum nudum (possum-haw),
Clethra alnifolia (summer sweet, in EGCP),
Styrax americana (American snowbell),
Smilax laurifolia (laurel-leaf greenbrier),

Cyrilla racemiflora (swamp titi),
M. cerifera (wax myrtle)
I. coriacea (sweet gallberry),
Lyonia lucida (fetterbush, in EGCP),
L. racemosa (leucothoe),
Itea virginica (Virginia willow),
Aronia arbutifolia (red chokeberry),
Toxicodendron vernix (poison sumac),
Alnus serrulata (hazel alder),
Rhododendron spp. (wild azalea),
Decumaria barbara (climbing hydrangea)

Common ground layer species include:

Lorinseria areolata (net-veined chain fern),
Osmunda regalis (royal fern),
Woodwardia areolata (netted-chain fern),

Osmunda cinnamomea (barberry hawthorn),
Woodwardia virginica (VA chain fern),
orchid family (Orchidaceae)

Federally-listed plant & animal species:

Isoetes louisianensis (Louisiana quillwort, in EGCP) Endangered; G3; S1

Range:

Restricted to the Upper West Gulf Coastal Plain in north central to northwest Louisiana

Threats & Management Considerations:

Presettlement extent of bayheads and seeps statewide in Louisiana have been reduced by 75 to 50 %. These natural wetland forests are easily destroyed or degraded by hydrologic alterations including channelization of rivers of streams, construction of ditches or drainage systems, construction of roads, pipelines and utilities, and excessive groundwater removal. Other threats include introduction of invasive or exotic species, physical damage from timber harvesting and planting activities, contamination by chemicals (herbicides, fertilizers), fire exclusion or inappropriate fire regime, and off-road vehicle use.



Use of appropriate management activities and developing a compatible management plan prevents destruction or degradation of this habitat type and promotes long-term maintenance of healthy bayhead swamps and forested seeps. Such management strategies should include:

- Use of occasional prescribed fire, particularly to control invasive species along margins
- Allow fire to burn into bayheads; do not plow fire lines at bayhead/upland interface
- No logging or only occasional single tree selection cuts
- Treating these areas as any other streamside management zone (SMZ), observing corresponding Best Management Practices (BMPs)
- No ditching, bedding, plowed fire lines or other soil disturbance within bayheads or seeps, or adjacent areas that may alter natural water flow patterns