

F. MHNHA Resources

F1. NATURAL RESOURCES

Landscapes and Waters

This section of the report addresses land resources and water resources of various types, as follow.

Land Resources

The MHNHA's land resources are mapped on the following page, as are the issues of eco-regions and slopes within the broader land resources category. As the land resources map illustrates, most of the heritage area consists of relatively natural lands. Urbanized areas, which are illustrated in various shades of red to delineate residential, commercial and industrial lands, are obviously concentrated in communities. The largest communities with such uses include Tupelo, Columbus, Oxford, Starkville, Corinth, and the suburbs on the south side of the Memphis metro area. The balance of the heritage area lands are dominated by deciduous forests, evergreen forests, mixed forests, shrublands, pastures, grasslands, and crops. Water bodies are addressed separately below.

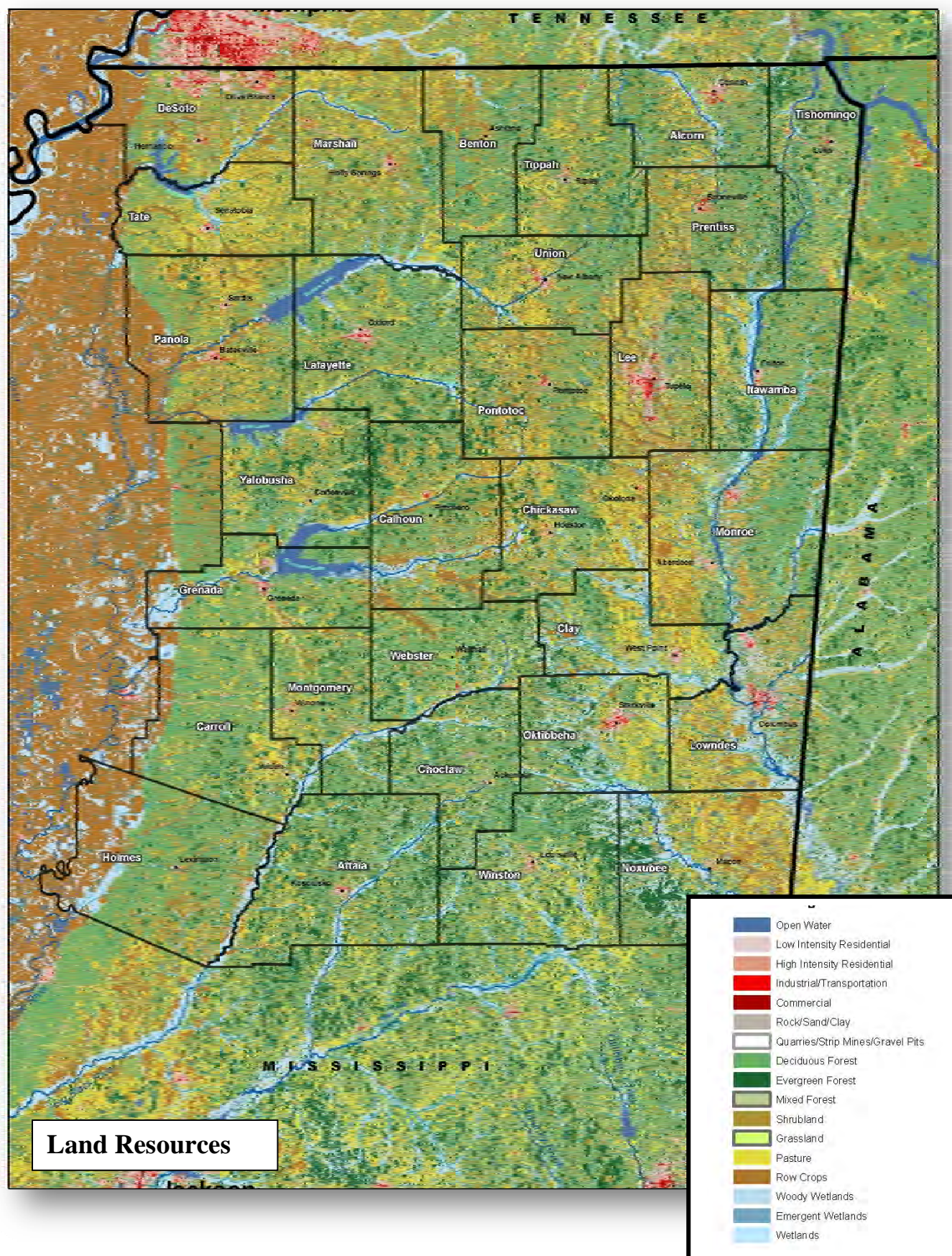
Eco-Regions

Also referred to as “geomorphology” or “physical geography,” physiography is the study of the physical features of the earth’s surface and the heritage area's attributes can be conveyed by an “eco-regions” map. As the eco-regions map illustrates (following the land resources map), the MHNHA features several different eco-regions. Most of the eco-regions follow a vertical axis that parallels key rivers. For example, the Fall Line Hills eco-region has a north-south alignment along the eastern edge of the heritage area and it follows portions of the Tombigbee and Buttahatchee Rivers. Also oriented along this same axis and sequenced from east to west are the Flatwoods/Blackland Prairie Margins, the Southeastern Floodplains, the Blackland Prairie, and the Northern Hilly Gulf Coastal Plain. Some of these eco-regions occur again at other points within the heritage area. Finally, the southern portion of the heritage area is dominated by the Southern Hilly Gulf Coastal Plain, while the western edge consists of the Northern Holocene Meander Belts, Loess Plains, Bluff Hills, and Northern Pleistocene Valley Trains.

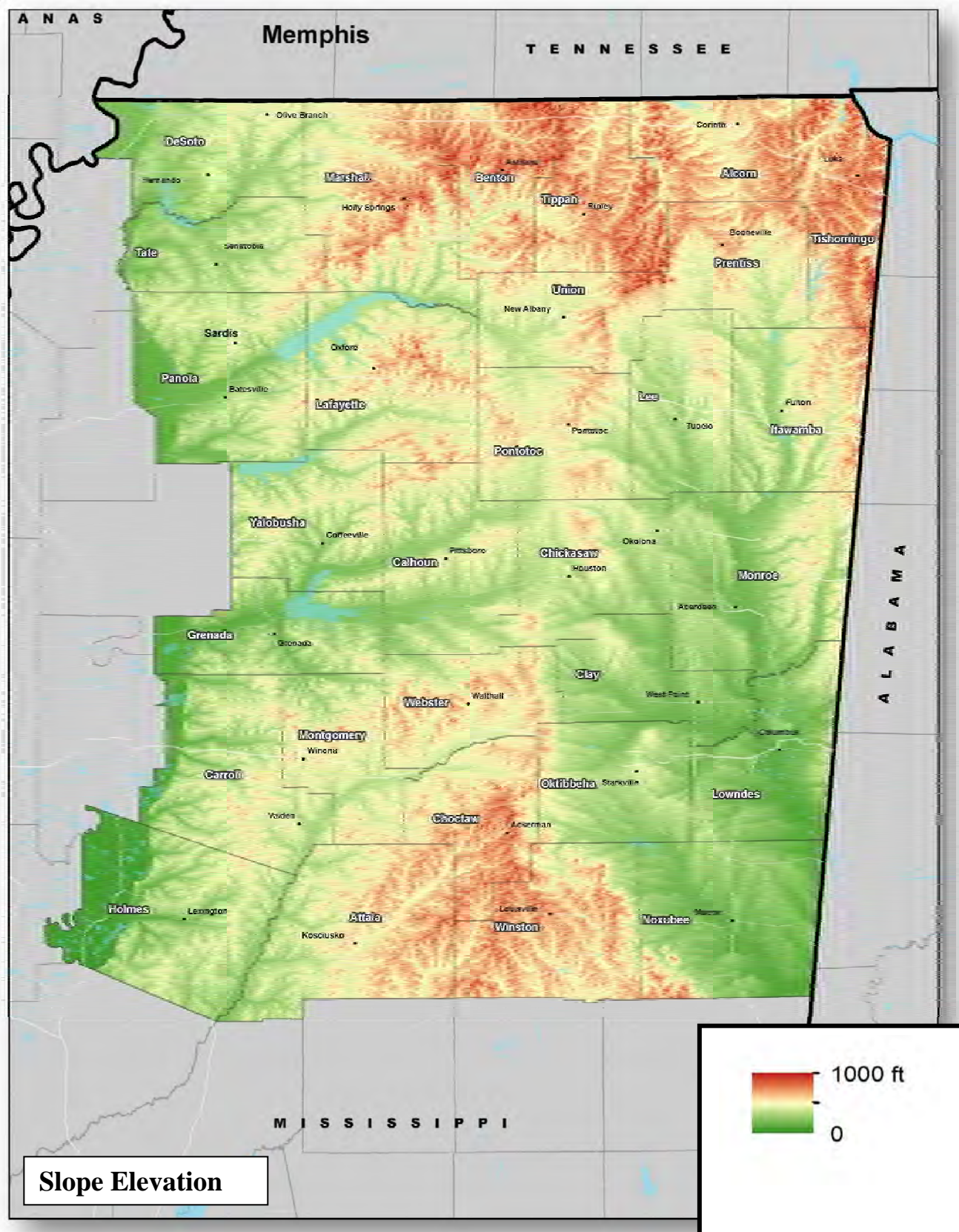
Slopes

The slope of land is simply the pitch or amount of vertical increase with every increment of horizontal distance. In short, it is the extent to which land is steep. Slopes are an important issue because the disturbance of steep slopes can result in soil erosion and sedimentation into streams and other lower lying areas. Erosion and sedimentation can have substantially negative consequences for the environment and threaten the health (and even life) of various plant and animal species. Even the use of silt fences during slope disturbance may not be enough to avoid soil erosion and sedimentation.

The issue of steep slopes and elevations in the MHNHA is illustrated by the map following the land resources and eco-regions maps. This map illustrates that the steepest slopes and highest elevations are in dark reddish-brown, while the flattest lands and lowest elevations are in dark green. The most expansive area of steep slopes and high elevations is located in the northeast corner of the heritage area, and it extends to the south to Itawamba County, as well as to the west as far as







Marshall County. The other extensive area of slopes and high elevations can be found in the south central portion of the NHA in Attala, Choctaw, and Winston Counties. Conversely, the lowest and flattest lands are found along the western edge of the heritage area where the Delta begins. The southeast portion of the heritage area has expansive areas of similarly situated lands.

Water Resources

The water resource topics addressed below include rivers, lakes, and locks and dams (see Appendix D - Natural Resources Inventory - of this report for more detail).

Rivers

The Tombigbee River is a tributary of the Mobile River. It is approximately 200 miles long, and it traverses Mississippi and Alabama, including the eastern edge of the MHNHA. Together with the Alabama, it merges to form the short Mobile River before the latter empties into Mobile Bay on the Gulf of Mexico. The Tombigbee watershed encompasses much of the rural coastal plain of western Alabama and northeastern Mississippi, flowing generally southward. The river provides one of the principal routes of commercial navigation in the southern United States, as it is navigable along much of its length through locks and connected in its upper reaches to the Tennessee River via the Tennessee-Tombigbee Waterway. Two key rivers in the northeast corner of the heritage area featuring a north-south orientation are the Hatchie and Tuscumbia Rivers. The northwest and central portion of the MHNHA is dominated by northeast-southwest oriented rivers such as the Coldwater, Little Tallahatchie, and Yalobusha Rivers. The southern portion of the heritage area features two northeast-southwest oriented rivers - the Big Black and Yockanookany Rivers. See the map on the following page.



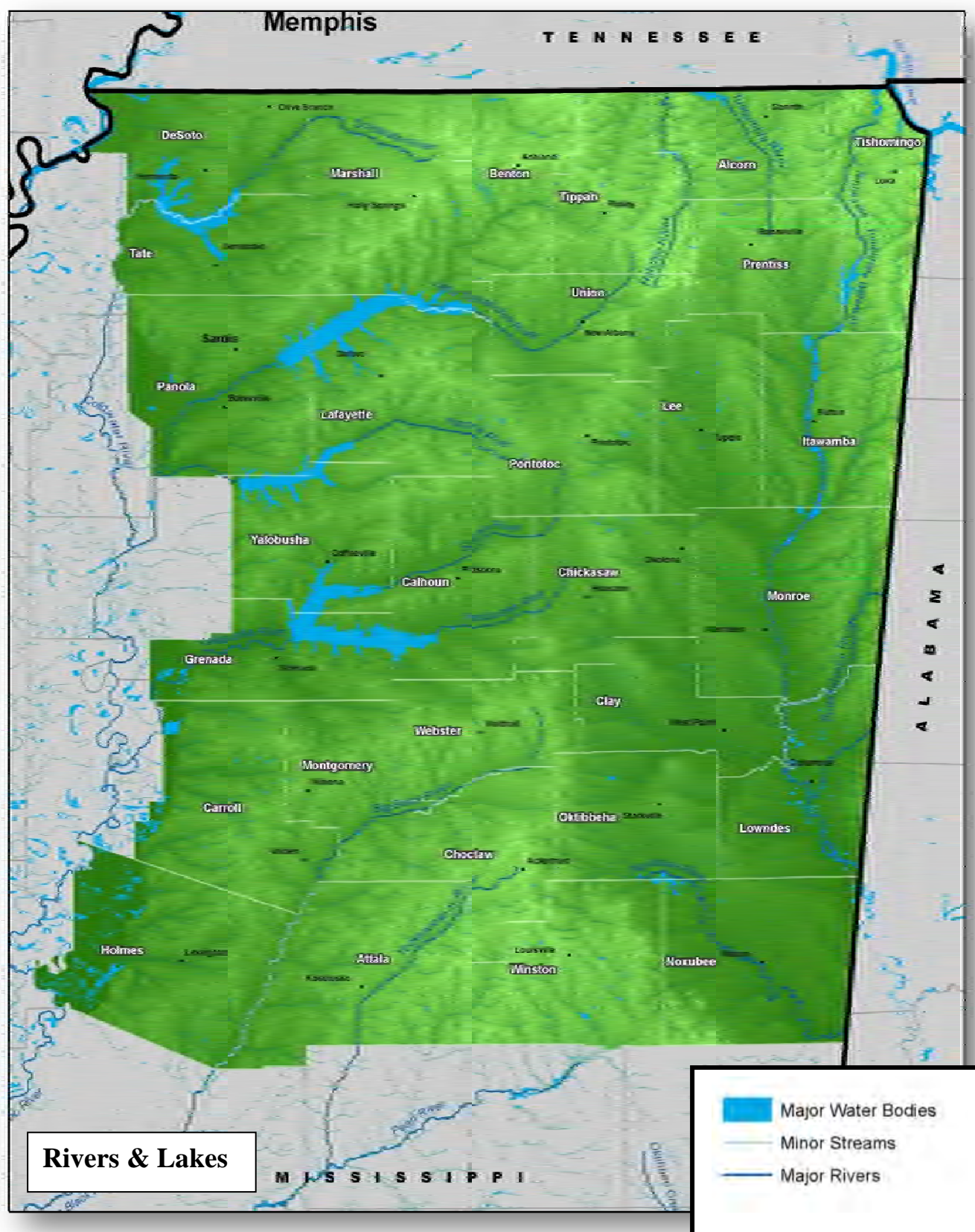
Graphic Source: Tennessee-Tombigbee Waterway

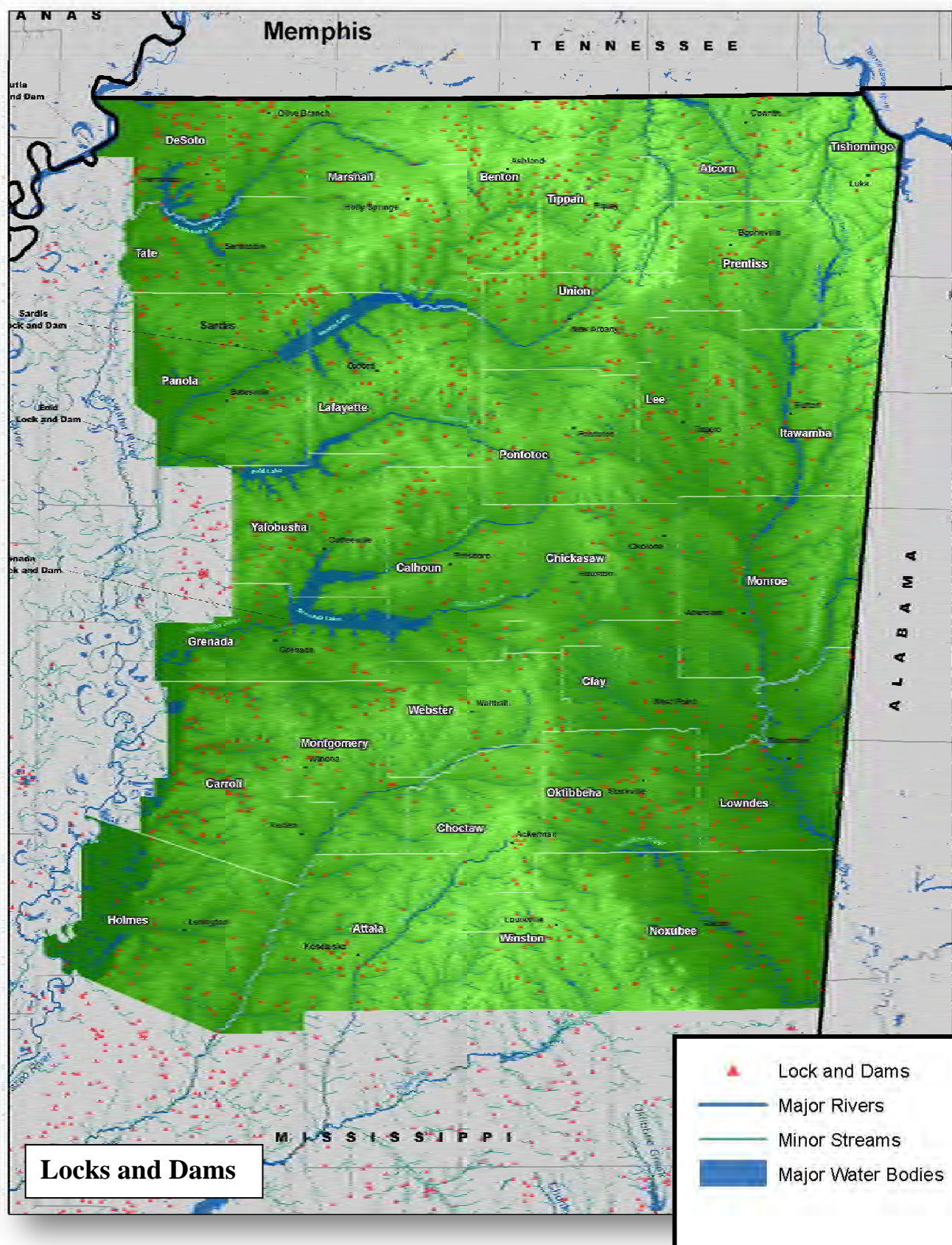
Lakes

More than any other water resource type, the MHNHA is blessed with numerous lakes. Examples of the NHA's largest lakes include: Aberdeen Lake, a 4100-acre lake off the Tennessee-Tombigbee Waterway; Arkabutla Lake, a 33,000-acre lake near Hernando; Enid Lake, a 28,000-acre lake near Water Valley; Grenada Lake, a 35,000-acre lake near Granada; Pickwick Lake, a 47,500-acre lake near Iuka; and Sardis Lake, a 32,100-acre lake near Sardis. A full inventory of key lakes is included in Appendix D of this report.

Locks & Dams

Locks and dams are engineering facilities used to manipulate water for the creation of lakes, the navigation of rivers, controlling flooding, and similar purposes. As the map following the following page illustrates, the MHNHA features hundreds of locks and dams throughout the area. Just a few noteworthy examples include the Grenada Lock and Dam on the Yalobusha River to create Lake Granada and the Sardis Lock and Dam on the Little Tallahatchie creating Lake Sardis.





Biological Resources

The Mississippi Hills National Heritage Area has a great diversity of plant and animal species. Those considered to be “threatened species” have been included in the biological resources inventory of this report (Appendix D). Below is a summary of that inventory:

Plants & Animals

Important endangered or threatened species within the MHNHA include the following:

Plants

Vascular plants (also known as tracheophytes or higher plants) are those plants that have lignified tissues for conducting water, minerals, and photosynthetic products through the plant. Vascular plants include ferns, conifers, and flowering plants. Trees are one of the most obvious vascular plants because they feature a trunk, limbs, and leaves with veins. A threatened vascular plant within the MHNHA is the Price’s Potato Bean, whose scientific name is “*Apios priceana*.” It is known to exist in Chickasaw, Clay, Lee, and Oktibbeha Counties.

Animals

Technically speaking, birds are feathered, winged, bipedal (two-legged), endothermic (warm-blooded), egg-laying, vertebrate animals. Approximately 10,000 bird species exist today. There are three species of endangered birds in the MHNHA - the Bald Eagle (*Haliaeetus leucocephalus*), the Least Tern (*Sterna antillarum*), and the Red-Cockaded Woodpecker (*Picoides borealis*). Bald Eagles, which were recently delisted as endangered, are known to exist in Grenada, Itawamba, Lafayette, Monroe, Noxubee, Oktibbeha, Panola, Tate, Tishomingo, Winston, and Yalobusha Counties. Least Terns are found in DeSoto County. Red-Cockaded Woodpeckers exist in Lee, Noxubee, Oktibbeha, Winston, Yalobusha Counties.

Fish are a group of organisms that consist of gill-bearing aquatic vertebrate animals that lack limbs with digits. They can be found in nearly all aquatic environments, from high mountain streams to the depths of the deepest oceans. At 32,000 species, fish exhibit greater species diversity than any other class of vertebrates. The one endangered fish identified in the MHNHA is the Pallid Sturgeon (*Scaphirhynchus albus*), although it is only known to exist in DeSoto County.

Mammals are members of a class of air-breathing vertebrate animals characterized by the possession of endothermy (an organism that produces heat through internal means), hair, three middle ear bones, and mammary glands functional in mothers with young. Most mammals also possess sweat glands and specialized teeth. Relative to some of the other types of endangered species within the MHNHA, there is a relatively small number of endangered mammals identified by this report’s inventory. They are limited to the Louisiana Black Bear and the Gray Bat. Known scientifically as the “*Ursus a. luteolus*,” they are known to exist in Attala, Holmes, and Lowndes Counties. The Gray Bat (*Myotis grisescens*) is only known to exist in Tishomingo County.

With the exception of the Mitchell’s satyr Butterfly (*Neonympha mitchellii mitchellii*), existing in Prentiss, Tishomingo Counties, the only other endangered or threatened animal species in the MHNHA are a broad range of freshwater mussels. The common name “mussel” is used for members of several families of clams or bivalvia mollusca, from saltwater and freshwater habitats. These groups have in common a shell whose outline is elongated and asymmetrical compared with

other edible clams, which are often more or less rounded or oval. The external color of the shell is often dark blue, blackish, or brown, while the interior is silvery. The following endangered or threatened mussels exist in the MHNHA (with counties in parenthesis):

- Fat pocketbook (DeSoto)
- Black clubshell (Itawamba, Monroe)
- Heavy pigtoe (Itawamba, Monroe)
- Orange-nacre mucket (Itawamba, Lowndes, Monroe)
- Ovate clubshell (Itawamba, Lowndes, Monroe)
- Southern clubshell (Itawamba, Lowndes, Monroe)
- Southern combshell (Itawamba, Lowndes, Monroe)
- Alabama moccasinshell (Lowndes, Monroe)
- Heavy pigtoe mussel (Lowndes)
- Cumberlandian combshell (Tishomingo)

Critical Habitats

There are some natural landscapes that serve as particularly important habitats for endangered and threatened plant and animal species. Such places are typically associated with water bodies and wetlands. Within the MHNHA, there are two critical habitat types. As illustrated on the map on the following page, one such habitat is located in the southeast corner of Tishomingo County and it is home to the Mussel Oyster and the Alabama Moccasinshell. The other habitat type that is found in several locations within Itawamba, Lowndes, and Monroe Counties. It serves as a habitat for four types of mussels: Orange Nacre Mucket, Southern Clubshell, Ovate Clubshell, and Cumberland Combshell.

Other Resource Types

Parks & Refuges

Appendix D of this report features an inventory of “Land Resources” within the MHNHA that are designated areas for protection. Examples of federally-owned or designated areas include the Hillside National Wildlife Refuge near Lexington, the Holly Springs National Forest near Holly Springs, the Noxubee National Wildlife Refuge near Starkville, the Tallahatchie National Wildlife Refuge (Black Bayou Unit) near Granada, and the Tombigbee National Forest near Louisville and Houston. Examples of state-owned or designated parks and natural areas include Carver Point State Park near Granada, George Payne Cossar State Park near Oakland, Holmes County State Park near Durant, Hugh White State Park near Granada, J.P. Coleman State Park near Iuka, John W. Kyle State Park near Sardis, Lake Lowndes State Park near Columbus, Legion State Park near Louisville, the State Migratory Waterfowl Refuge near Oxford, Tishomingo State Park near Tishomingo, Tombigbee State Park near Tupelo, Trace State Park near Belden, and Wall Doxey State Park near Holly Springs.

Natural Recreation Resources

In addition to an inventory of land resources, a related inventory within Appendix D of this report features natural recreation resources. Many of the lakes already described above are included

among those natural recreation resources, as they provide boating, fishing, and related activities. Just a few examples of many other such resources include the BancorpSouth Sports Center in Southaven, Beaver Dam Lodge in Macon, Birdshot Lodge Hunting Preserve in Shannon, Black Creek Outfitters in Lexington, Burnt Oak Lodge & Conference Center in Columbus, Cane Creek Bottom Trail Ride & Cookout in Blue Mountain, and the Chickasaw Hill Campground in Enid. The federally-designated Natchez Trace Parkway is also considered a natural recreation resource. And finally, there are numerous municipal parks throughout the MHNHA.



The Tennessee-Tombigbee Waterway is a critical recreational amenity for the MHNHA.



Categorical Exclusion

Appendix G of this report addresses in detail the Categorical Exclusion (CE) issue relevant to federal environmental regulations. Below is a summary of the background section and conclusions.

Background

An important requirement for creating a National Heritage Area (NHA) Management Plan is to follow all applicable federal environmental policies. The most significant of such policies is the 1970 National Environmental Policy Act (NEPA). The Council on Environmental Quality (CEQ) was established by Congress to be responsible for implementing NEPA. In turn, the CEQ produced the DO-12 handbook (Director's Order) to guide parties in meeting NEPA requirements.

During the first few decades of the National Park Service's NHA program, NHAs followed Environmental Assessment (EA) or Environmental Impact Statement (EIS) requirements, although the requirement for an EIS rarely occurred, if ever. Thus, the vast majority of NHAs, if not all, followed the path of the EA when addressing NEPA within their management planning processes. On March 22, 2011, the NPS's Office of the Solicitor and Environmental Quality Division (EQD) determined that Categorical Exclusion (CE) 3.3-R applied to the Gullah Geechee National Heritage Corridor's Management Plan because the actions described in the plan would not result in immediate ground disturbance or measureable environmental impacts.

Conclusions

The determination of whether a CE is appropriate for this Management Plan is being based upon three key input factors:

- 1) The *inventory and analysis of natural and cultural resources* contained within the Background Study component of the draft Management Plan for the MHNHA;
- 2) The *public input* solicited through the various scoping meetings that were conducted as part of the planning process and documented in the Public Involvement Strategy of the draft Management Plan for the MHNHA; and
- 3) The *foundation statement* within the Background Study component of the draft Management Plan that predicts what the ultimate MHNHA might become.

A consideration and contrasting of these three inputs, in light of the CE requirements, as well as recent precedents such as the Gulla Geechee National Heritage Corridor, underscores the conclusion that no significant impacts on natural, cultural or social resources are anticipated from the future implementation of the MHNHA Management Plan. Consequently, a CE per Section 3.3 should apply to this project.

Some NHA management plans feature an inventory of natural resources, in part, because they relate directly to one or more of the NHA's interpretive themes. Because no such relationship exists for this NHA, the natural resources inventory of this plan is solely for the purpose of identifying any potential impacts to natural resources from the plan's future implementation.