



DAN SPAULDING Environment Consultant

965 A.P. HOLLINGSWORTH ROAD, WELLINGTON, ALABAMA 36279
CELL: 256-458-0422 OFFICE: 256-237-6766 FAX: 256-237-6776

8 November 2012

Jerry W. Williams, P.E.
TASK Engineering Management Inc.
P.O. Box 660548
Birmingham, Alabama 35266-0548

Dear Mr. Williams:

This letter is my report of findings from a study to determine if any habitat for the federally listed Indiana bat (*Myotis sodalis*) and green pitcher plant (*Sarracenia oreophila*) occur on approximately 607 acres in DeKalb County, Alabama for a proposed coal mining operation (Thunder Oaks Mine). I conducted a survey on foot November 3-4, 2012. **No** bats or pitcher plants were observed in the study area and no suitable habitat was available, therefore, no impacts to are expected from the project.

The site is southeast of Sylvania and located between CR- 112 & CR-108 and bisected by CR-681. The area is in a rural setting with mostly old fields and pastures. The site occurs in the Sand Mountain District of the Cumberland Plateau.

Habitat Description

A large percentage of the study area was fields and pasture. These habitats were dominated by herbaceous plants such as frost aster (*Aster pilosus*), partridge-pea (*Chamaecrista fasciculata*), common goldenrod (*Solidago altissima*), broom-sedge (*Andropogon virginicus*), Johnson grass (*Sorghum halapense*), Chinese bush-clover (*Lespedeza cuneata*), dog-fennel (*Eupatorium*

capillifolium), bitterweed (*Helenium amarum*), hairy crabgrass (*Digitaria ciliaris*), goose grass (*Eleusine indica*), fescue (*Festuca elatior*), smutgrass (*Sporobolus indicus*), spiny amaranth (*Amaranthus spinosus*), orchard grass (*Dactylis glomerata*), mild waterpepper (*Polygonum hydropiperoides*), horse-nettle (*Solanum carolinense*), Dallis grass (*Paspalum dilatatum*), long-bristled smartweed (*Polygonum longisetum*), Pennsylvania smartweed (*Polygonum pensylvanicum*), peppergrass (*Lepidium virginicum*), lamb's-quarters (*Chenopodium album*), purple-top (*Tridens flavus*), hyssop-leaved thoroughwort (*Eupatorium hyssopifolium*), little bluestem (*Schizachyrium scoparium*), ragweed (*Ambrosia artemisiifolia*), and horseweed (*Conyza canadensis*). Some of the woody plants becoming established were loblolly pine (*Pinus taeda*), highbush blackberry (*Rubus argutus*), winged sumac (*Rhus copallinum*), and smooth sumac (*Rhus glabra*).

A mixed upland forest occurs in patches around the pasture/fields and along streams and drainages. Common canopy trees occurring in various combinations include post oak (*Quercus stellata*), white oak (*Quercus alba*), southern red oak (*Quercus falcata*), mockernut hickory (*Carya tomentosa*), pignut hickory (*Carya glabra*), tulip-poplar (*Liriodendron tulipifera*), sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), and Virginia pine (*Pinus virginiana*). Common woody plants that were found under the canopy are black gum (*Nyssa sylvatica*), red maple (*Acer rubrum*), sourwood (*Oxydendrum arboreum*), persimmon (*Diospyros virginiana*), black cherry (*Prunus serotina*), sassafras (*Sassafras albidum*), winged elm (*Ulmus alata*), flowering dogwood (*Cornus florida*), and red cedar (*Juniperus virginiana*), Chinese privet (*Ligustrum sinense*), low bush blueberry (*Vaccinium pallidum*), sparkleberry (*Vaccinium arboreum*), winged sumac (*Rhus copallinum*), southern dewberry (*Rubus trivialis*), muscadine grape (*Vitis rotundifolia*), southern dewberry (*Rubus trivialis*), Virginia creeper

(*Parthenocissus quinquefolia*), poison ivy (*Toxicodendron radicans*), greenbriers (*Smilax* spp.) and the exotic Japanese honeysuckle (*Lonicera japonica*).

Threatened and Endangered Species

The Indiana bat closely resembles the little brown bat (*Myotis lucifugus*) but differs in coloration. Its fur is dull gray to chestnut rather than bronze, with the basal portion of the hairs of the back dull lead colored. This bat's belly is pinkish to cinnamon, and its hind feet smaller and more delicate than in little brown bat. No species of bats were observed and no good habitat was located in the study area. The Indiana bat require caves or rock shelters for its hibernacula in the winter and usually larger trees with exfoliating bark or old dead to dying trees for summer roosting. The Indiana bat migrates to foraging areas from it hibernacula in the summer and will hibernate in caves during the fall and winter. The habitat of the site was poor for summer roosting and no caves or rock shelters were observed. The rock type in the area rarely has these kinds of geologic features. They are mostly found in the limestone regions of northeast Alabama.

No green pitcher plants were observed and no habitat for the species was available. These plants occur in three main habitats; wet oak flatwoods, seepage bogs and sandstone stream banks. Pitcher plants depend on wet soils at least during the growing season. They require highly acidic soil, derived from sandstone or shale. They are typically found growing on wet, sphagnous sites. These specific types of habitats were not observed in the study area.

Additional Studies And Mitigation Recommendations

Based on literature review and a field survey of the project site, **no** additional studies are required to be in compliance with state and federal endangered species laws associated with project impacts to Threatened & Endangered species.

It is recommended that appropriate Best Management Practices (BMPs) be applied to minimize siltation and in-stream disturbance to sediments. The guidelines and procedures in the following publication, “Best Management Practices for Erosion and Sediment Control” (Roberts 1995. Eastern Federal Lands Highway Design, Federal Highway Administration Report No. FHWA-FLP-94-005, 21400) can help to mitigate impacts to water quality in the project area.

Sincerely,

Daniel D. Spaulding

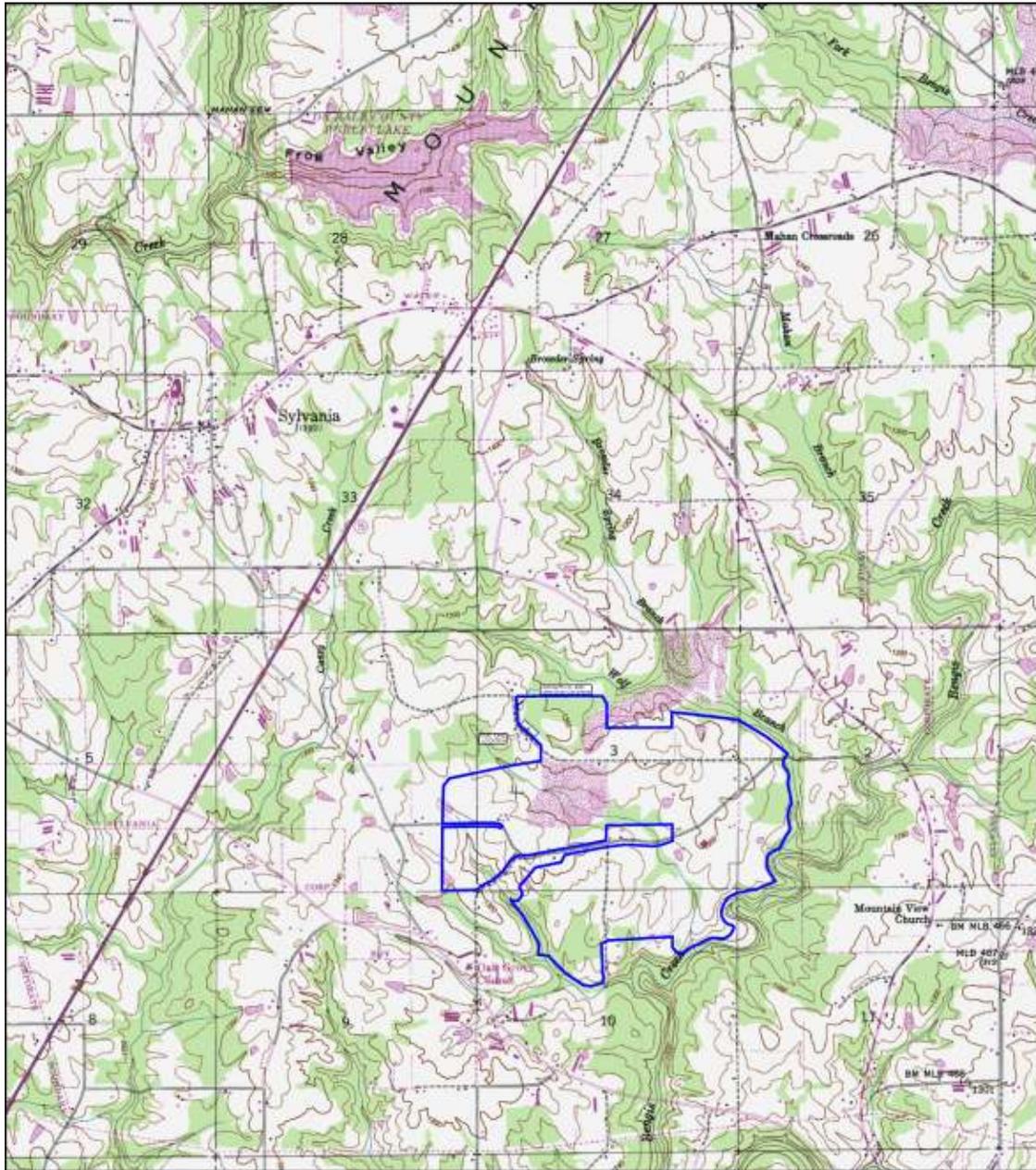
Daniel D. Spaulding

Environmental Consultant

dspaulding@annistonmuseum.org

Attachments

Map of Study Area



GENERAL SITE LOCATION & MINE BOUNDARIES
SECTIONS 2, 3, 4, 10 & 11
TOWNSHIP 6 SOUTH, RANGE 8 EAST
DEKALB COUNTY, ALABAMA



TOTAL PROPOSED DISTURBED AREA - 607 ACRES
 BASE MAP: SYLVANIA & DUGOUT VALLEY U.S.G.S. QUADRANGLE MAPS

- PERMIT BOUNDARY
- SEDIMENT BASIN / OUTFALL

SHEET	SCALE	CLIENT / MINE	
1 OF 1	1" = 2000'	CARBON OAK, INC. THUNDER OAKS MINE	 <p>TASK EMI CONSULTING ENGINEERS P. O. BOX 660548 BIRMINGHAM, ALABAMA 35206 (205) 978-9070</p>

AERIAL IMAGE OF AREA

