

Decision Notice
Designation Order

By virtue of the authority delegated to me by the Chief of the Forest Service in Forest Service Manual Section 4063, I hereby establish the Nutmeg Hickory Research Natural Area (RNA). It shall be comprised of 299.23 acres of land in Jasper County, MS, on the Bienville District of the National Forests in Mississippi, as described in the section of the Establishment Record entitled "Location" (available from the Forest Supervisor, National Forests in Mississippi, 100 W. Capitol Street, Suite 1141, Jackson, MS 39269).

The National Forests in Mississippi Land and Resource Management Plan as amended (Forest Plan) (Record of Decision signed September 16, 1985) contains a management area (MA) for RNAs (Not Suitable 11). The Forest Plan contained a management goal to manage important historic, cultural, and natural aspects of the Forest (page 4-10). To help fulfill this goal, the Forest Supervisor undertook a study of a unique natural area called Nutmeg Hickory that provides a relatively undisturbed area of swamp chestnut-cherrybark oak community. This study, done by the Forest Supervisor's staff and Southern Research Station scientists, and using the factors listed in 36 CFR219.25 and Forest Service manual 4063.41, analyzed this area for inclusion into the national network of RNAs. Because the study found the area suitable for an RNA, an environmental assessment (EA) was prepared that studied allocating this part of the Forest as an RNA (see Appendix A). Based on this analysis and a Forest Supervisor's decision to recommend the area for RNA status the Nutmeg Hickory area is now identified as a proposed RNA in MA Not Suitable 10. Amendment 10 to the Forest Plan based on this decision changed the area from a Botanical Study Area also in MA 10 to a proposed RNA.

In analyzing the Nutmeg Hickory area for RNA status, the public was invited to participate early in the environmental analysis process and just prior to the conclusion of the process. Issues raised include identifying the best site for an RNA representing an important forest situation and plant and animal communities that have special or unique characteristics and loss of opportunity for meeting other multiple-use objectives. This analysis is documented in the EA. Based on the EA, it is my decision to adopt Alternative A to establish the 299.23 acre Nutmeg Hickory area as a RNA. Alternative A is selected because it provides long-term protection and recognition of the forest situation and the special plant and animal communities being featured. The Nutmeg Hickory RNA will be managed in compliance with all relevant laws, regulations, and Forest Service Manual direction regarding RNAs, and in accordance with the management direction identified in the Forest Plan.

The other alternative considered was Alternative 1, the "No Action" alternative which would continue management of Nutmeg Hickory according to direction in the Forest Plan as not suitable for timber production. Alternative 1 was not selected because it would not fully protect a good representative of the swamp chestnut-cherrybark oak forest community.


The proposed action is consistent with the management direction and is consistent with the land allocation for the Nutmeg Hickory Area in the Forest Plan. The National Forests in Mississippi Forest Plan is hereby amended to officially manage Nutmeg Hickory as a RNA and according to the management prescription for an established RNA. This is a non-significant amendment of the Forest Plan (36 CFR 21g.10(f)).

Legal notice of this decision will appear in the Clarion Ledger, Jackson, MS. The Forest Supervisor of the National Forests in Mississippi shall notify the public of this decision and mail a copy of the Decision Notice and Designation Order to all persons on the National Forests in Mississippi Plan mailing list.

This decision is subject to appeal pursuant to 36 CFR Part 217. Two (2) copies of the Notice of Appeal must be in writing and submitted to:

Chief, USDA Forest Service
14th & Independence Ave., S.W.
P.O. Box 96090
Washington, D.G. 20090-6090

The Notice of Appeal prepared pursuant to 36 CFR 217.9(b) must be submitted within 45 days from the date of legal notice of this decision.


for Bob Jacobs, Regional Forester

Date 9/22/07

SIGNATURE PAGE

for

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

Nutmeg Hickory Research Natural Area

National Forests in Mississippi

Jasper County, Mississippi

The undersigned certify that all applicable land management planning and environmental analysis requirements have been met and that boundaries are clearly identified in accordance with FSM 4063.21, Mapping and Recordation and FSM 4063.41 5.e(3) in arriving at this recommendation.

Prepared by Margaret S. Devall Date 6/9/2003
 Margaret S. Devall, Ecologist

Recommended by David L. Carter Date 6/16/2003
 David L. Carter, District Ranger, Bienville Ranger District

Recommended by Gerry R. Farmer Date 7/28/03
 Gerry R. Farmer, Forest Supervisor, National Forests in
 Mississippi

Concurrence of Peter J. Roussopoulos Date 9/5/03
 Peter J. Roussopoulos, Director, Southern Research Station

ESTABLISHMENT RECORD FOR THE NUTMEG HICKORY
RESEARCH NATURAL AREA WITHIN
NATIONAL FORESTS IN MISSISSIPPI, BIENVILLE COUNTY, MISSISSIPPI.

Introduction

Nutmeg Hickory Research Natural Area (RNA) is a swamp chestnut-cherrybark oak community. It is entirely on National Forest land, and is not within a congressionally designated area.

Land Management Planning

The Nutmeg Hickory area was proposed as a candidate RNA by personnel of National Forests in Mississippi. It was not proposed in the approved Forest Plan, but the Plan has been amended (see Appendix B). A smaller delineation of the Nutmeg Hickory area was previously placed in Analysis Area Not Suitable 10 in the Forest Plan as the Nutmeg Hickory Botanical Study Area.

Objectives

The objectives for establishing the RNA are to serve as a reference area for the study of succession, to preserve an important forest type that has unique characteristics of scientific interest and importance, and to preserve and maintain genetic diversity.

Justification Statement for Establishment of Area

This relatively undisturbed wetland ecosystem has a unique combination of mixed bottomland hardwood species. Species present on the RNA include the uncommon nutmeg hickory (*Carya myristiciformis*), Durand's oak (*Quercus durandii*), shagbark hickory (*C. ovata*), and diamond-leaf oak (*Q. laurifolia*).

Principal Distinguishing Features

The Nutmeg Hickory RNA is a wetland forest with an unusual association of tree species. The area has a mixed age and species component of bottomland hardwoods and a scattering of spruce pine (*Pinus glabra*). It provides habitat for a sensitive orchid species, the purple fringeless orchid, *Platanthera peramoena*.

Location

Maps 1-4 show the location of the RNA. The Nutmeg Hickory RNA is located entirely in the Bienville National Forest. The latitude of the area is 32° 8'30", and the longitude is 89° 17'30". The area is within Township 4 North, Range 10 East, parts of sections 29, 32, and 33, as shown on Map 2. The area includes 299.23 acres (121.1 hectares). The elevation of the area ranges from 340 to 370 feet (104-113 m).

Boundary Description

The following boundary description is referenced to Map 2, which is a

reproduced portion of USGS 7.5 minute topographic maps: Beginning at a USDA Forest Service corner monument at the Southeast corner of Section 29, T4N, R10E of the Choctaw Meridian in Jasper County, Mississippi; thence N 00° 26' E for 989 feet, more or less, along and with the East line of said Section 29 to point A; thence in a West and Northwesterly direction following a marked and posted boundary which generally follows a line of transition between pine timber on the right (uplands) and hardwood timber on the left (lowlands) to this line's intersection with the Easterly bank of Quarterliah Creek at point B; thence in a Southerly direction with the creek's Easterly bank and the marked and posted boundary to the intersection of a branch that enters the creek from the Northeast at point C; thence with the branch's centerline and the marked and posted boundary in a Northeasterly direction to its intersection with the North line of Section 33 of T4N, R10E at point D; thence along and with the North line of said Section 33 for 720 feet, more or less, back to the Southeast corner of Section 29, the point of beginning, thus describing an area of land containing 299.23 acres more or less.

Access

The Nutmeg Hickory RNA is accessible by passenger car from Montrose, MS (see Map 1). From Montrose proceed 4 miles (6.4 km) to FS road 507A, west 3/4 mile (1.2 km) to FS road 553, then 1 1/2 mile (2.4 km) to the terminus of 553.

Area by Cover Types

<u>SAF Cover Types (Eyre, 1980)</u>	<u>Acres</u>	<u>Hectares</u>	<u>Kuchler Types</u> (Kuchler, 1966)
91 swamp chestnut - cherrybark oak	299.23	121.1	103 southern floodplain forest

Physical and Climatic Conditions

Figures 1-4 show the physical characteristics of the Nutmeg Hickory RNA. The site is a bottomland hardwood forest with calcareous soil.

The climate of the Nutmeg Hickory RNA is characterized by mild winters and hot summers. The following record is from the weather station at the Bienville District Ranger's office at Forest, MS, approximately 16 miles (26.3 km) northwest of the RNA. The temperature is the mean maximum.

Weather Summary

<u>MONTH</u> 1985-1990	<u>AIR TEMPERATURE</u>		<u>PRECIPITATION</u>	
	<u>DEG F</u>	<u>DEG C</u>	<u>INCH</u>	<u>CM</u>
JAN	54	12	4.6	11.7
FEB	58	14	6.5	16.5
MAR	69	21	4.3	10.9
APR	77	25	2.9	7.4
MAY	83	28	5.8	14.7

JUN	89	32	3.3	8.4
JUL	90	32	3.3	8.4
AUG	91	33	3.4	8.6
SEP	86	30	5.2	13.2
OCT	75	24	4.3	10.9
NOV	70	21	6.2	15.7
DEC	55	13	3.9	9.9

Description of Values

Flora

Dr. Sidney McDaniel¹ of the Institute for Botanical Exploration conducted a botanical survey of the proposed RNA and compiled the following list of plants present on the site.

Scientific Name ²

Acalypha gracilens
Acer negundo
Acer rubrum
Allium bivalve
A. canadense
Amelanchier arborea
Ammanea coccinea
Amorpha fruticosa
Ampelopsis arborea
A. cordata
Andropogon virginicus
Angelica atropurpurea
Apios americana
Arisaema dracontium
Arisaema quinatum
Arisaema triphyllum
Aristolochia serpentaria
Arundinaria gigantea
Arundinaria tecta
Asimina triloba
Asplenium platyneuron
Aster dumosus
Aster laterifolius
Aster patens
Aster pilosus
Aster simplex
Aster solidagineus
Aster subulatus
Athyrium asplendioides
Aureolaria flava
Baccaris halmifolia
Berchemia scandens

Bidens aristosa
Bignonia capreolata
Boehmeria cylindrica
Boltonia diffusa
Brintonia discoidea
Brunnichia cirrhosa
Bumelia lycioides
Callicarpa americana
Campsis radicans
Cardamine bulbosa
Cardamine hirsuta
Cardiospermum halicacabum
Carex amphibola
Carex caroliniana
Carex cephalophora
Carex cherokeensis
Carex complanata
Carex crus-corvi
Carex debilis
Carex digitalis
Carex flaccosperma
Carex frankii
Carex gigantea
Carex glaucescens
Carex granularis
Carex intumescens
Carex louisianica
Carex lupulina
Carex lurida
Carex oxylepis
Carex reniformis
Carex socialis
Carex styloflexa
Carex triangularis
Carex tribuloides
Carex typhina
Carex vulpinoidea
Carpinus caroliniana
Carya aquatica
C. myristicaeformis
Cicuta maculata
Claytonia virginica
Cocculus carolinus
Commelina virginica
Coreopsis tripteris
Cornus stricta
Crataegus iracunda
Crataegus marshallii
Crataegus viridus L.
Cryptotaenia canadensis
Cyperus erythrorhizos

C. iria
C. odoratus
C. pseudovegetus
C. sesquiflorus
C. strigosus
C. tenuifolius
C. virens
Dasistoma macrophylla
Desmodium paniculatum
D. pauciflorum
Dicliptera bracheata
Didiplis diandra
Diodia virginiana
Dioscorea bulbifera
D. villosa
Diospyros virginiana
Echinochloa colonum
E. crusgallii
Echinodorus cordifolius
Eclipta alba
Eleocharis obtusa
E. tenuis
Elephantopus carolinianus
Elymus virginicus
Erianthus giganteus
Eryngium yuccifolium
Euonymus americanus
Eupatorium coelestinum
E. fistulosum
E. perfoliatum
E. rugosum
E. semiserratum
Euphorbia corollata
Euthamia graminifolia
Fimbristylus autumnalis
Fraxinus caroliniana
F. pennsylvanica
Galium obtusum
G. pilosum
G. uniflorum
Gelsemium sempervirens
Geum canadense
Gladiolus gandavensis
Gleditsia triacanthos
Glyceria striata
Hamamelis virginiana
Hedyotis purpurea
Helianthus angustifolius
H. divaricatus
Heliopsis gracilis
Heliotropium indicum

Hexastylis arifolia
Hydrocotyle verticillata
Hydrolea quadrivalvis
Hymenocallis occidentalis
Hypericum gymnanthum
H. mutilum
Ilex decidua
Ilex longipes
Impatiens capensis
Ipomoea pandurata
Juncus coriaceus
J. effusus
J. marginatus
J. tenuis
Justicia lanceolata
Krigia oppositifolia
Kuhnia eupatorioides
Lactuca floridana
Lathyrus hirsutus
Leersia lenticularis
L. virginica
Lespedeza cuneata
L. virginica
Ligustrum sinense
Lilium michauxii
Lindera benzoin
Lindernia dubia
Linum striatum
Liquidambar styraciflua
Liriodendron tulipifera
Lobelia cardinalis
Lobelia elongata
L. puberula
L. siphilitica
Lonicera japonica
L. sempervirens
Ludwigia alternifolia
L. decurrens
L. glandulosa
L. linearis
L. palustris
L. peploides
Luzula echinata
Lycopus rubellus
L. virginicus
Lygodium japonicum
Lyonia ligustrina
Lysimachia ciliata
Lysimachia lanceolata
Lythrum lanceolatum
Magnolia virginiana

Marshallia trinervia
Matelea gonocarpa
Mecardonia acuminata
Melia azedarach
Melothria pendula
Mikania scandens
Mimulus alatus
Mitchella repens
Mitreola petiolata
Morus rubra
Muhlenbergia expansa
Myosotis macrosperma
Myrica cerifera
Nymphaea odorata
Nyssa biflora
N. sylvatica
Oldenlandia boscii
Onoclea sensibilis
Oplismenus setarius
Osmunda cinnamomea
O. regalis
Ostrya virginiana
Oxalis stricta
Oxypolis rigidor
Panicum anceppps
P. commutatum
P. dichotomum
P. hians
P. laxiflorum
P. lindheimeri
P. microcarpon
P. polyanthes
P. ramosum
P. rigidulum
P. scoparium
Parthenocissus quinquefolia
Paspalum floridanum
Paspalum notatum
Passiflora lutea
Pedicularis canadensis
Penstemon laxiflorus
Penthorum sedoides
Phanopyrum gymnocarpon
Phlox carolina
P. divaricata
P. glaberrima
P. pilosa
Phyla lanceolata
Physalis angulata
P. virginiana
Physostegia purpurea

Phytolacca americana
Pilea pumila
Pinus glabra
P. taeda
Platanus occidentalis
Pluchea camphorata
Poa annua
P. autumnalis
Podophyllum peltatum
Polygonum hirsutum
P. hydropiperoides
P. opelousanum
P. punctatum
P. setaceum
P. virginianum
Polypodium polypodioides
Polypremum procumbens
Polystichum acrostichoides
Populus deltoides
Potamogeton pulcher
Potentilla simplex
Proserpinaca palustris
Prunella vulgaris
Prunus mexicana
P. serotina
Ptelea trifoliata
Ptilimnium capillaceum
Pyrrhopappus carolinianus
Pyrus arbutifolia
Quercus alba
Q. durandii
Q. laurifolia
Q. lyrata
Q. michauxii
Q. nigra
Q. oglethorpensis
Q. pagoda
Q. phellos
Q. texana
Ranunculus bulbosus
R. pusillus
R. recurvatus
Rhexia mariana
Rhododendron canescens
Rhus radicans
Rhynchospora caduca
R. corniculata
R. fascicularis
R. glomerata
R. inexpansa
R. miliacea

Rosa carolina
Rotala ramosior
Rubus argutus
R. betulifolius
Rudbeckia fulgida
R. hirta
R. triloba
Ruellia caroliniensis
R. strepens
Rumex crispus
Sabal minor
Salix nigra
Salvia lyrataa
Sambucus canadensis
Samolus parviflorus
Sanicula canadensis
Saururus cernuus
Scirpus atrovirens
S. cyperinus
S. divaricatus
S. lineatus
Scleria oligantha
Senecio glabellus
Silphium integrifolium
S. perfoliatum
Smilax bona-nox
S. glauca
S. laurifolia
S. rotundifolia
S. tamnoides
Solidago altissima
S. arguta
S. gigantea
S. rugosa
Sparganium americanum
Sphenopholis obtusata
Spigelia marilandica
Stellaria media
Symplocos tinctoria
Taxodium distichum
Thalictrum debile
T. pubescens
T. revolutum
T. thalictroides
Thaspium trifoliatum
Thelypteris kunthii
Trachelospermum difforme
Trepocarpus aethusae
Tridens flavus
Tridens strictus
Trillium cuneatum

Typha latifolia
Ulmus alata
U. americana
Urticularia biflora
Vaccinium elliottii
Verbena brasiliensis
V. rigida
Verbesina alternifolia
Vernonia gigantea
Viburnum dentatum
V. rufidulum
Vicia angustifolia
V. caroliniana
V. minutiflora
Viola affinis
V. primulifolia
V. sagittata
V. triloba
Vitis aestivalis
V. cineria
V. rotundifolia
V. vulpina
Wahlenbergia marginata
Woodwardia areolata
Xanthium strumarium
Zephyranthes atamasco
Zizia aurea

¹ Center for Botanical Exploration, Box EN, Mississippi State, MS 39762

² Nomenclature for trees follows that of Little (1979), and nomenclature of other plant species follows that of Radford, Ahles and Bell (1968) Correll and Johnson (1970) and Steyermark (1963).

Fauna

Faunal species have not been systematically studied or inventoried. Animals likely to be present in the RNA are:

Scientific Name ³	Common Name
<i>Sciurus carolinensis</i>	grey squirrel
<i>S. niger</i>	fox squirrel
<i>Meleagris gallopavo</i>	turkey
<i>Sylvilagus floridanus</i>	cottontail rabbit
<i>Procyon lotor</i>	raccoon
<i>Vulpes fulva</i>	red fox
<i>Urocyon cinereoargenteus</i>	grey fox
<i>Didelphis virginiana</i>	opossum

<i>Mephitis mephitis</i>	striped skunk
<i>Spiogale putorius</i>	spotted skunk
<i>Dasypus novemcinctus</i>	armadillo

³ Nomenclature for animals follows Lowery (1955).

Geology

The Nutmeg Hickory Research Natural Area is located in the northwestern corner of Jasper County and is underlain by the Jackson Group of Eocene Age. The Jackson group in this area is composed of the Yazoo formation and the Moodys Branch formation. The Moodys Branch formation consists of an upper and lower member. The upper member has beds of greenish-gray, fossiliferous marls and sands. The lower member is characterized by stratified beds of lignitic sands and silt, interbedded with thinner beds of marly sands. The Yazoo formation has been divided into four members which are North Twistwood Creek clay, Cocoa sand, Pachuta marl and Shubuta clay. The formation consists of fossiliferous clays, silty clays and minor marl beds. Often, the Cocoa sand is absent or poorly developed in Jasper County.⁴

Soils

This area consists of soils in the Urbo and Louin soil series.

The Urbo series consists of acid, clayey soils located on floodplains with slopes ranging from 0 to 2 percent. They are occasionally flooded. The surface layer is a silty clay loam and the subsurface is a silty clay. These soils are somewhat poorly drained and have very slow permeability.

The Louin series consists of acid, clayey soils located on uplands with slopes ranging from 0 to 2 percent. These soils exhibit gilgai microrelief. They have a silty clay loam surface layer and a silty clay subsurface layer. Permeability is very slow and they are somewhat poorly drained. This soil shrinks and cracks when dry and swells when wet.⁵

⁴ Geological and minerals information was provided by Marcia Sneed, Forest Geologist, National Forests in Mississippi.

⁵ Soils information was provided by Suzanne Krieger, District Soil Scientist, National Forests in Mississippi.

Lands

The land was acquired from the Bruce and Marathon Lumber Company in 1936. No mineral rights are outstanding.

Cultural

No archeological sites are known in the Nutmeg Hickory RNA⁶.

Other

No other features of local importance are known.

Impacts and Possible Conflicts**Mineral Resources**

Although, there has been significant oil and gas activity in Jasper County, there are no known reserves or drilling interest expressed in this RNA or in close proximity. Presently, the RNA is under several Federal oil and gas leases. This land has been leased with a no surface occupancy stipulation as a condition for leasing.

The only other economic mineral resource in this area is the abundance of the Shubuta clay member. This clay has provided an enormous supply of material for the manufacture of lightweight expanded clay aggregate for structural uses.³

Grazing

The area is not part of a grazing allotment, and grazing is not needed in the area. Fencing is not necessary at this time.

Timber

The total forested acreage is 299.23 acres (121.1 ha); the entire RNA is commercial forest. The value withdrawn from the timber producing base is \$448,500.

Watershed Values

Watershed values of the area are high; these values will be maintained by establishment of the area as an RNA.

⁶Cultural information was provided by Robert Bryan, Zone Archeologist, National Forests in Mississippi.

Recreation Values

The Nutmeg Hickory RNA receives dispersed recreational use for hunting, fishing, trapping and nature study, but these should not conflict appreciably

with RNA values.

Wildlife and Plant Values

Establishing the RNA will preserve an important wetland community. It will provide habitat for an orchid species that is a Federal candidate (C3).

Special Management Area Values

This RNA is not within a congressionally designated area.

Transportation Plans

There are no transportation plans that will adversely impact the area, and the establishment of the area as an RNA will not impact the forest transportation system.

Management Prescription

Vegetation Management

The Nutmeg Hickory RNA will be managed to protect its natural condition. Ecological conditions will be allowed to proceed according to natural processes as much as possible.

Administration Records and Protection

Administration and protection of the Nutmeg Hickory RNA will be the responsibility of the Forest Supervisor, National Forests in Mississippi. The District Ranger, Bienville Ranger District, Bienville National Forest, has direct responsibility. Requests to conduct research should be referred to the Station Director, Southern Research Station for permission and issuing of a special use permit. All plant and animal specimens collected in the course of research conducted in the area will be properly preserved and maintained at the Fanny A. Cook Memorial Mississippi Museum of Natural Science, Jackson, Mississippi.

Records for the Nutmeg Hickory RNA will be maintained in the following offices:

Regional Forester
1720 Peachtree Rd., N.W.
Atlanta, Georgia
404/347-4177

Forest Supervisor
National Forests in Mississippi
100 W. Capitol Street, Suite 1141
Jackson, Mississippi 39269

District Ranger

Bienville Ranger District
3473 Hwy. 35 South
Forest, Mississippi 39074

Director
Southern Research Station
200 Weaver Boulevard, P.O. Box 2680
Asheville, North Carolina 28802
704/257-4300

Archiving

The Director of the Southern Research Station will be responsible for maintaining the Nutmeg Hickory RNA research data file and list of herbarium and species samples collected.

References

- Collins, Henry Hill, Jr. 1959. Complete field guide to American wildlife, east, central and north. New York: Harper and Brothers. 683 pp.
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- Lowery, George H. Jr. 1955. Louisiana birds. Baton Rouge: Louisiana State University Press. 556 pp.
- Lowery, George H. Jr. 1955. The mammals of Louisiana and its adjacent waters. Baton Rouge: Louisiana State University Press. 565 pp.
- Radford, A.E., H.E. Ahles and C.R. Bell. 1968. Manual of the Vascular Flora of the Carolinas
- Steyermark, Julian A. 1963. Flora of Missouri. The Iowa State University Press, Ames, Iowa. 1728 p.

**USDA - Forest Service
National Forests in Mississippi
Bienville Ranger District
Jasper County, Mississippi**

On _____, 2003 the Regional Forester of Region 8 of the USDA Forest Service made a decision to establish the Nutmeg Hickory Research Natural Area in the Bienville Ranger District of National Forests in Mississippi, Jasper County, Mississippi.

The associated Decision Notice and Finding of No Significant Impact are available upon request from the Forest Supervisor, National Forests in Mississippi, 100 W. Capitol Street, Suite 1141, Jackson, Mississippi 39269 and the District Ranger, Bienville Ranger District, 3473 Hwy. 35 South, Forest, Mississippi 39074.

This decision is subject to appeal pursuant to Forest Service regulations at 36 CFR part 217. Appeals must be filed within 45 days from the date of publication of this notice. Notices of appeals must meet the requirements of 36 CFR 217.9.

NATIONAL FORESTS IN MISSISSIPPI LAND AND RESOURCE MANAGEMENT PLAN
AMENDMENT NUMBER 10

DECISION NOTICE
and
FINDING OF NO SIGNIFICANT IMPACT

Recommendation for Designation of Granny Creek Bay and Nutmeg Hickory
Research Natural Areas

DeSoto National Forest, Forrest County, Mississippi
Bienville National Forest, Jasper County, Mississippi

The Environmental Assessments for Granny Creek Bay and the Nutmeg Hickory area document two alternatives each for their designation. The Environmental Assessments are on file in the Supervisor's Office in Jackson, Mississippi.

Based on the analysis in the Environmental Assessments, I have decided to recommend these areas for establishment as part of the national network of Research Natural Areas (RNA's) by amendment to the Land and Resource Management Plan (Forest Plan). RNA's are for nonmanipulative research, observation, and study. They are designed to preserve a wide spectrum of representative areas of important ecological communities that have special characteristics of scientific interest.

The decision to recommend RNA designation for these areas was chosen because it provides long-term protection and recognition for two relatively rare ecological units and their associated plant and animal communities. Both areas are fully suited to the objectives of RNA establishment (FSM 4063.02), and both have already been the object of scientific study.

The "No Action" alternative was not selected for either area because it fails to provide the permanent protection and the coordination with research and education appropriate to these sites.

An amendment to the Forest Plan is necessary to make this recommendation consistent with the plan's allocation of suitable acres. Pending review and a decision on designation by the Chief of the Forest Service, the Granny Creek Bay and Nutmeg Hickory "Proposed Research Natural Areas" will be allocated to Analysis Area Not Suitable 10 in the Forest Plan. A smaller delineation of the Nutmeg Hickory area was previously placed in this analysis area as the "Nutmeg Hickory Botanical Study Area". The net result of this decision is the withdrawal of 269 acres from the acreage suitable for timber production. This is a non-significant amendment to the Forest Plan (36 CFR 219.10(f)). As proposed RNA's, these areas will be managed in compliance with all relevant

laws, regulations, and Forest Service Manual direction regarding RNA's, and in accordance with the management direction in the Forest Plan.

I find that this decision is not a major Federal action and will not have a significant effect on the quality of the human environment, individually or cumulatively; therefore, an environmental impact statement is not needed. This finding includes consideration of the following factors:

A. Context

The protection of these areas presents neither short nor long-term significant effects, either locally or nationally.

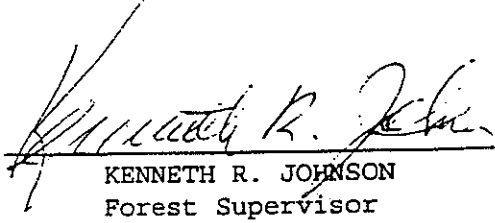
B. Intensity

1. There are no known effects on public health and safety.
2. There are no known effects on historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
3. Effects on the human environment are not uncertain, do not involve unique or unknown risks, and are not likely to be highly controversial.
4. The action is not likely to establish a precedent for future actions with significant effects.
5. This action is not related to other actions with cumulatively significant impacts.
6. No threatened or endangered species are adversely affected.
7. The action is consistent with Federal, State, and local laws and requirements for the protection of the environment.

Implementation of this decision may occur no sooner than 7 days from the day after the legal notice of this decision is published.

This decision is subject to appeal pursuant to 36 CFR 217. Any written notice of appeal of this decision must be fully consistent with 36 CFR 217.9, "Content of Notice of Appeal", including the reasons for appeal. It must be filed, in duplicate, with: Regional Forester, Southern Region, 1720 Peachtree Road NW, Atlanta, GA 30367-9102, no later than 45 days, beginning the day after the legal notice of this decision is published.

For additional information concerning this decision or the Forest Service appeal process, contact Gene Sirmon, National Forests in Mississippi, 100 W. Capitol St., Jackson, MS 39269 or telephone (601) 965-4391.


KENNETH R. JOHNSON
Forest Supervisor

Date July 1, 1983

APPENDIX A

ENVIRONMENTAL ASSESSMENT

for

Nutmeg Hickory Research Natural Area

Jasper County, Mississippi

Strong River Ranger District

Bienville National Forest

I. Proposed Action

The proposed action is to designate 299.23 acres of forest area in Compartment 207 (Sections 29, 32, and 33, Township 4 North, Range 10 East, Choctaw Meridian, Jasper County, Mississippi) as the Nutmeg Hickory Research Natural Area (RNA) and to manage it according to the direction provided for established RNA's in the Land and Resource Management Plan for the National Forests in Mississippi (Forest Plan). The proposed action, formal designation of this Research Natural Area by the Chief of the Forest Service, will amend the Forest Plan.

II. Purpose and Need for Action

The purpose of establishing the Nutmeg Hickory RNA is to contribute to a series of RNA's designated to "illustrate adequately or typify for research or education purposes, the important forest and range types in each forest region, as well as other plant communities that have special or unique characteristics of scientific interest and importance" (36 CFR 251.23). The Nutmeg Hickory RNA contributes to this series of RNA's by providing an example of plant and animal communities that have special or unique characteristics. An evaluation by the Regional RNA Committee, pursuant to direction in Forest Service Manual (FSM) 4063.04b, identified this area as suitable and desirable for inclusion in the national network. Establishment of the Nutmeg Hickory RNA provides long-term protection and recognition of these unique floral and faunal attributes.

III. Alternatives Considered

Description of Alternatives and Environmental Consequences:

1. No action. This alternative continues management according to direction in the Forest Plan as not suitable for timber production (withdrawn from timber production) by the Forest Supervisor "pending their resolution for official designation as Special Areas" (page 4-105). In this case, the Forest Plan has identified this area as the potential "Nutmeg Hickory Botanical Study Area". No action would extend physical protection to the area but would not provide the administrative framework to achieve other objectives of an RNA (FSM 4063.02). Nor would it allow the use of specifically allocated RNA funds for protection and administration. This alternative does not effect other resources or contribute to the cumulative effects of other actions.

2. Designate 299.23-acre area as the Nutmeg Hickory Research Natural Area and place the RNA in Analysis Area Not Suitable 11 in the Forest Plan. Field review and comments from Forest Service personnel, advisory groups, and members of the public support establishment of this area as an RNA. Conditions and environmental effects of designation are the same as those that existed when the Forest Plan was developed.

Field studies and reviews done since the Forest Plan was approved confirm the presence of unique floral communities that merit RNA status. A Review Team including participants from the Nature Conservancy, Natural Heritage Program, Institute for Botanical Exploration, Mississippi State University, Southern Forest Experiment Station, and the National Forests in Mississippi considered available information concerning the proposed area and set boundaries that follow definite geographic/vegetative features and property lines.

Management of this area will follow direction set forth in FSM 4063.3 - Protection and Management Standards for Research Natural Areas, as well as Standards and Guidelines for established RNA's in the Forest Plan.

Changing the designation of this 299.23 acre tract to a RNA will have no adverse effects on any program or output of the Forest since the management requirements now existing in the Forest Plan and what will be required as a RNA are so similar. Designation will, however, provide permanent protection under a systematic program which provides coordination with research and education in addition to the qualification for specific management funding. The area is partly a wetland and partly in the floodplain of Cedar Creek. There are no significant cumulative effects associated with this alternative.

IV. Interdisciplinary Team

Briscoe Price, District Ranger
Terry Pierce, District Timber Management Assistant
Bob Bradford, District Resource Assistant
John Murphy, District Silviculturalist
Larry Byam, District Prescriptionist
David Chisholm, District Engineering Technician
Len Weeks, Soil Scientist
Dean Elsen, Wildlife Biologist

V. List of Agencies and Persons Contacted

Gene Sirmon, Timber Staff Officer
Dr. Sidney McDaniel, Institute For Botanical Exploration
Daniel Carroway, Mississippi State University
Ken Gordon, Mississippi Natural Heritage Program
Dr. George Hurst, Mississippi State University
Roger Jones, Mississippi Nature Conservancy
Margaret Devall, Southern Forest Experiment Station

BIOLOGICAL EVALUATION
for Nutmeg Hickory Research Natural Area
on the Strong River Ranger District
Bienville National Forest

I. Summary. This Biological Evaluation will determine if the proposed designation of the Nutmeg Hickory Research Natural Area on the Strong River Ranger District, Bienville National Forest, in Jasper County, Mississippi will likely adversely affect endangered, threatened, or sensitive species.

II. Introduction. Rare species that are considered in this Biological Evaluation are: Red-Cockaded Woodpeckers, listed as endangered Federally and by the State of Mississippi; Jackson Prairie Crayfish, listed as under review (C2) Federally and as proposed special concern by the State; Bachmans Sparrow, listed as proposed special concern by the State and as C2 Federally; Prairie Milkweed, Eastern Purple Coneflower, Rough Rattlesnake root, Lesser Ladies-tresses, Great-plains Ladies-tresses, Purple Fringeless Orchid, Arabis sicklepod, Carex socialis sedge, Crested fringed orchid, Laciniosa hickory and Matlelea carolinensis -- special concern plants; Oglethorpe oak; plus four state listed proposed rare and Forest Service listed sensitive animals, the southeastern shrew, coral snake, mole snake and the scarlet kingsnake. American alligators are endangered in the State and threatened by similarity of appearance Federally. Black bear are likely extirpated. Golden eagles and ospreys can be possible transients.

The Red-cockaded Woodpecker is endemic to the pine forests of the South. The species is non-migratory and clans maintain year-round territories near their nesting and roost trees. One of the unique features of the Red-cockaded Woodpecker's life history is its selection of mature, living pine trees for excavation of nesting and roosting cavities.

Jackson Prairie Crayfish habitat is in some alkaline areas (prairies) scattered in east-central Mississippi. Their burrows are found in more open vegetation on the alkaline prairies; areas such as recently burned areas in the prairies, old log roads on the prairies and mowed areas on prairie soils. Bachmans sparrow breeding habitat is old fields and in the open understory of pines where there is a dense groundcover of grasses and forbs.

The four plants on the prairie remnants are the Rattlesnake Root, Prairie Milkweed, Eastern Purple Coneflower, and Great-Plains Ladies-tresses. These prairie plants are perennials that are favored by frequent burning. Lesser (oval) Ladies Tresses are in moist woods. Oglethorpe oaks are scattered in some drains and along prairies. South-eastern shrews are in mesic woods. Mole kingsnakes burrow in the soil have a varied habitat that can include thickets, fields, and woods.

Scarlet kingsnakes are nonvenomous mimics of coral snakes and often winter in pine stumps. They are adept at working their way beneath bark, logs and other hiding places. Coral snakes are usually secretive; their habitats vary from well-drained woods to lake borders. American alligators are in some ponds in the state. Purple fringeless orchid and crested fringed orchid are along wet drains. Arabis sicklepod is on dry sandy hilltops.

As part of this analysis, the current list of Threatened & Endangered species of the U.S. Fish and Wildlife Service plus the list of Endangered, Threatened and Special Concern species of the Mississippi Museum of Natural History have been reviewed.

III. Affected Area and Proposed Action. The proposed action involves the designation of a 299.23 acre tract in Compartment 207 of the Strong River Ranger District, Bienville National Forest, Jasper County, Mississippi as the Nutmeg Hickory Research Natural Area.

IV. Potential Effects. There are no colonies of Red-Cockaded Woodpeckers or prairie areas in the proposed area. The designation of this area as a Research Natural Area with associated management practices aimed at maintaining current natural conditions in so far as possible will not adversely affect other listed flora or fauna.

V. Determination of Effect. The proposed designation of the Nutmeg Hickory Research Natural Area will not affect any State or Federally listed species. A USF&WS concurrence is not required.

VI. Recommendation for Avoiding Adverse Effects. Follow Protection and Management Standards as outlined in FSM 4063.3 for Research Natural Areas.

VII. References.

- A. Forest Service Handbook 2609.23R, Red-Cockaded Woodpecker Management. 2/15/85 Opinion of USF&WS on the 2609.23R Handbook.
- B. 1990 Environmental Assessment; Interim Standards for the Protection and Management of Red-Cockaded Woodpecker Habitat.
- C. Concurrence 6/15/87 on the 3/27 Interim Policy for cutting within 3/4 miles of RCW colonies by the USF&WS.
- D. Special Plants of National Forests in Mississippi, Feb 14, 1992, Mississippi Natural Heritage Program.
- E. Ken Gordon and John Wiseman's 1988 Survey of Prairies, Bienville National Forest.
- F. Survey of Oglethorpe Oak locations, Bienville National Forest.
- G. Nature Conservancy Element Stewardship Abstract for Bachmans Sparrow..

- H. Surveys of compartments for any cavity trees of Red-Cockaded Woodpeckers; Ranger District Annual Surveys.
- I. Guide to the Vegetation of the Tallahala Wildlife Management Area, Bienville National Forest; McDaniel (in press).

/s/ Dean Elsen
DEAN ELSEN
Wildlife Biologist

June 23, 1993

NATIONAL FORESTS IN MISSISSIPPI
LAND AND RESOURCE MANAGEMENT PLAN

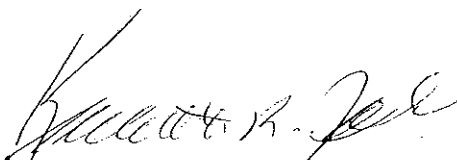
July 1993

Amendment No. 10

POSTING NOTICE. Amendments to this title are numbered consecutively. Check the last transmittal received for this manual to see that the above amendment number is in sequence. If not, order intervening amendment(s) at once on Form 1100-06. Do not post this amendment until the missing one(s) is received and posted. After posting, retain this transmittal until the next amendment to this title is received. Place it at the front of the title.

<u>Page Code</u>	<u>Superseded</u>	<u>New</u>
	<u>(Number of Sheets)</u>	
PLAN:		
Proposed RNA's	0	3

Digest: This amendment recommends two areas for designation as Research Natural Areas and allocates acres to analysis area Not Suitable 10. The attached sheet details pen-and-ink changes to reflect new analysis area allocations. Included as well are changes due to the Sandy Creek allocation which were inadvertently omitted as part of Amendment 1 and corrections of other computational and typographical errors.



KENNETH R. JOHNSON
Forest Supervisor

National Forests in Mississippi
Land and Resource Management Plan

Amendment No. 10

July 1993

This amendment recommends two areas for designation as Research Natural Areas and allocates acres to analysis area Not Suitable 10. Additional changes are made to reflect previously uncorrected acreage allocation from Amendment 1 as well as computational and typographical errors discovered while reconciling allocation totals. Make the pen-and-ink changes listed below for page numbers as noted.

Page 4-28/29 - Table 4-4

- Line 3, "Forest Land Withdrawn"
Changes: Strong River, 690; Black Creek, 14,583;
Homochitto, 1,113; Holly Springs, 4,095;
Trace, 119; Ackerman, 80; Forest Total, 29,271.

- Line 6, "Tentatively Suited Forest Land"
Changes: Strong River, 90,169; Black Creek, 185,691;
Homochitto, 93,614; Holly Springs, 117,499;
Trace, 24,820; Ackerman, 38,860; Forest Total,
1,046,402.

- Line 15, "Unsuitable Forest Land"
Changes: Strong River, 1,225; Black Creek, 50,625;
Homochitto, 1,170; Holly Springs, 4,241;
Trace, 556; Ackerman, 743; Forest Total, 84,918.

- Line 16, "Total Suitable Forest Land"
Changes: Strong River, 89,634; Black Creek, 165,620;
Homochitto, 93,588; Holly Springs, 117,353;
Trace, 24,766; Ackerman, 38,197; Forest Total,
1,018,248.

Page 4-94 - Not Suitable 10 (continued)

Change: Nutmeg Hickory Proposed Research Natural Area.
Add: Granny Creek Bay Proposed Research Natural Area.

Page 4-104 - Not Suitable 10

Change: Total Acres: 3,373.

Page 4-105 - Not Suitable 10 (list continuation)

Change: Nutmeg Hickory Proposed Research Natural Area - 299 ac.
Add: Granny Creek Bay Proposed Research Natural Area - 120 ac.
Sandy Creek National Natural Landmark Study Area - 300 ac.

Page 4-111 - Suitable 1, Description

Changes:

-- Acreage Suitable for Timber Management, 1,018,248.
-- Yellow Pine Working Group, 498,713.
-- Hardwood Working Group, 142,349.
-- Delta Hardwood Working Group, 52,495.
-- Slash Pine Working Group, 103,322.
-- Longleaf Pine Working Group, 178,183.
-- Pine-Hardwood Working Group, 19,508.

Page 4-119 - Table 4-14

Changes:

-- Yellow Pine: Suitable, 71,881; Not Suitable, 2,996.
-- Totals: Suitable, 81,629; Not Suitable, 4,355.

Page 4-127 - Table 4-18

Changes:

-- Yellow Pine: Suitable, 34,396; Not Suitable, 8,401.
-- Hardwood: Suitable, 14,035; Not Suitable, 3,771.
-- Longleaf: Suitable, 83,467; Not Suitable, 15,538.
-- Slash: Suitable, 30,596; Not Suitable, 5,757.
-- Totals: Suitable, 165,620; Not Suitable, 67,233.

Page 4-139 - Table 4-24

Change:

-- Totals: Suitable, 52,495.
(Delete "495" from untitled line immediately above)

Page 4-142 - Table 4-26

Change:

-- Totals: Suitable, 117,353.

Page 4-145 - Table 4-28

Changes:

-- Pine-Hardwood: Suitable, 10,110; Not Suitable, 300.
-- Totals: Suitable, 93,588; Not Suitable, 3,571.

Page 4-151 - Table 4-32

Changes:

-- Hardwood: Suitable, 24,634; Not Suitable, 299.
-- Totals: Suitable, 89,634; Not Suitable, 2,756.

APPENDIX C

BOUNDARY DESCRIPTION

NUTMEG HICKORY RESEARCH NATURAL AREA

The Nutmeg Hickory Research Natural Area is located in Sections 29, 32 and 33, of Township 4 North, Range 10 East, of the Choctaw Meridian and lies entirely within Jasper County, Mississippi. It is also a part of the Bienville National Forest, Strong River Ranger District, and is more particularly described as follows:

The attached map, marked "Exhibit A" is hereby made a part hereof.

The Boundary of this Research Natural Area is marked with blue paint and is posted with Research Natural Area Boundary signs.

Beginning at a USDA Forest Service corner monument at the Southeast corner of Section 29, T4N, R10E of the Choctaw Meridian in Jasper County, Mississippi; thence N 00° 26' E for 989 feet, more or less, along and with the East line of said Section 29 to point A; thence in a West and Northwesterly direction following a marked and posted research natural area boundary which generally follows a line of transition between pine timber on the right (uplands) and hardwood timber on the left (lowlands) to this line's intersection with the Easterly bank of Quarterliah Creek at point B; thence in a Southerly direction with the creek's Easterly bank and the marked and posted boundary to the intersection of a branch that enters the creek from the Northeast at point C; thence with the branch's centerline and the marked and posted boundary in a Northeasterly direction to its intersection with the North line of Section 33 of T4N, R10E at point D; thence along and with the North line of said Section 33 for 720 feet, more or less, back to the Southeast corner of Section 29, the point of beginning;

Thus describing an area of land containing 299.23 acres, more or less.

NUTMEG HICKORY RESEARCH NATURAL AREA

BIENVILLE NATIONAL FOREST

I hereby certify that the legal description and map herewith attached represent the location of the boundary of the Nutmeg Hickory Research Natural Area on the Bienville National Forest and is true and correct to the best of my knowledge.

Clurin B. Reed, III
CLURIN B. REED, III
U.S. Cadastral Surveyor

July 30, 1992
Date

BIENVILLE NATIONAL FOREST

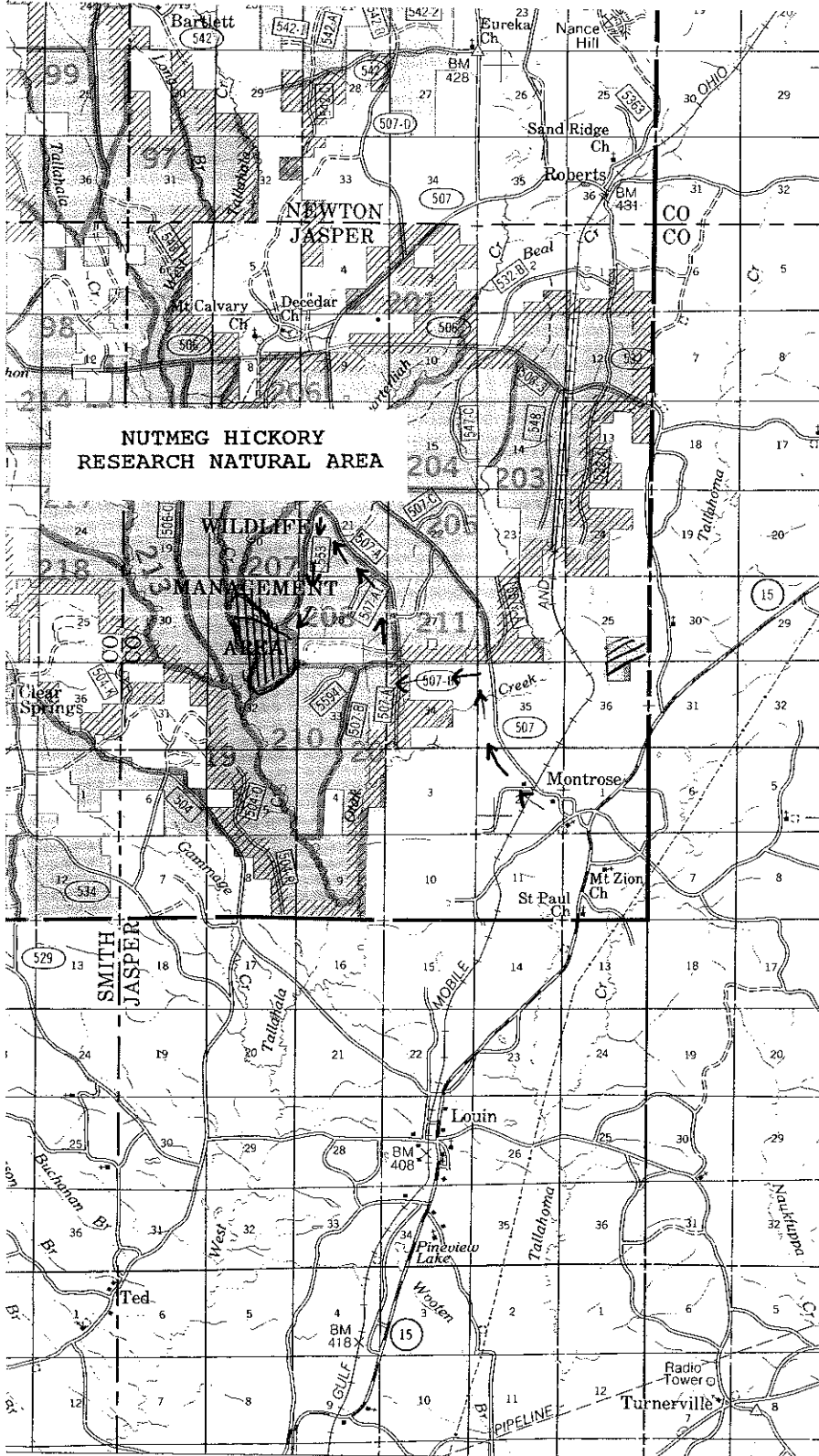
MISSISSIPPI

CHOCTAW MERIDIAN

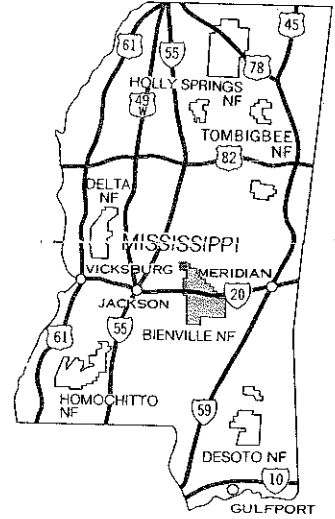
MAP 1

1983

Scale 1:126,720



KEY MAP



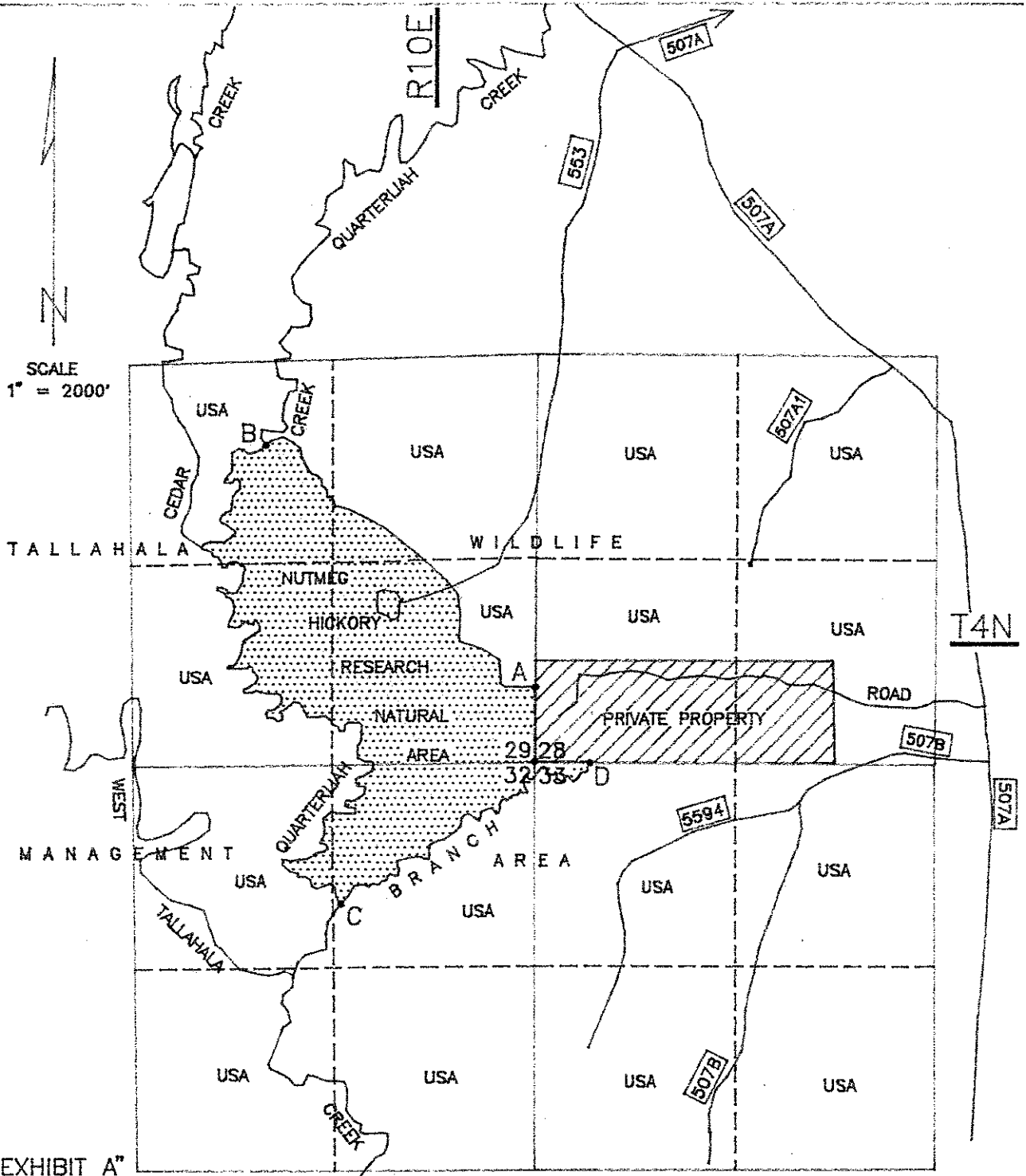
LEGEND

- National Forest Boundary
- County Boundary
- Primary Highway
- Secondary Highway
- Improved Light Duty
- Unimproved Dirt
- Trail
- National Recreation Trail
- Interstate Highway
- U.S. Highway
- State Highway
- Forest Route
- County Route
- District Ranger Office
- Forest Service Facility
- Recreation Site
- Recreation Site other than Forest Service
- Located or Landmark Object
- Cemetery
- Mine, Quarry, or Gravel Pit
- School, Church or other Building
- National Forest Land



Wildlife Management Area boundary is subject to periodic adjustment

BIENVILLE NATIONAL FOREST, BIENVILLE RANGER DISTRICT, JASPER COUNTY, MISSISSIPPI



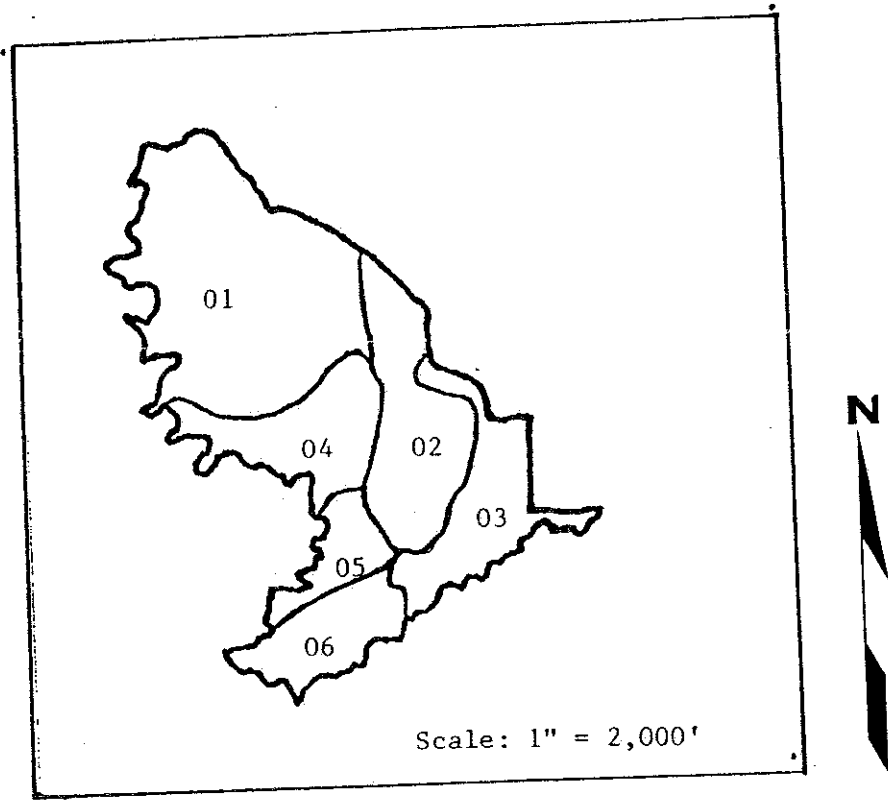
"EXHIBIT A"

THE NUTMEG HICKORY RESEARCH NATURAL AREA 299.23 ACRES

BEGIN AT THE SE CORNER OF SECTION 29, T4N, R10E, OF THE CHOCTAW MERIDIAN, IN JASPER CO., MISSISSIPPI. THENCE NORTH WITH SECTION LINE TO POINT A; THENCE NORTHWESTERLY WITH TIMBER DIVISION LINE BETWEEN PINE TIMBER TO NORTHEAST AND HARDWOOD TIMBER TO THE SOUTHWEST TO POINT B ON THE EASTERLY BANK OF QUARTERLIAH CREEK; THENCE IN A SOUTHERLY DIRECTION ALONG AND WITH THE CREEK'S EASTERLY BANK TO POINT C AT THE INTERSECTION WITH A BRANCH; THENCE ALONG AND WITH THE BRANCH'S CENTERLINE TO POINT D ON THE NORTH LINE OF SECTION 33; THENCE WEST ALONG AND WITH THE SECTION LINE TO THE SECTION CORNER, THE POINT OF BEGINNING. THE BOUNDARY OF THIS RESEARCH NATURAL AREA WAS PLATTED WITH THE AID OF A RESOURCE QUALITY GPS UNIT. THE BOUNDARY IS PAINTED BLUE AND IS POSTED WITH RNA BOUNDARY SIGNS. THIS PLAT WAS PREPARED BY C.B. REED, III - UNITED STATES CADASTRAL SURVEYOR - JULY 23, 1992

MAP 3

NUTMEG HICKORY RESEARCH NATURAL AREA
 BIENVILLE RANGER DISTRICT
 BIENVILLE NATIONAL FOREST



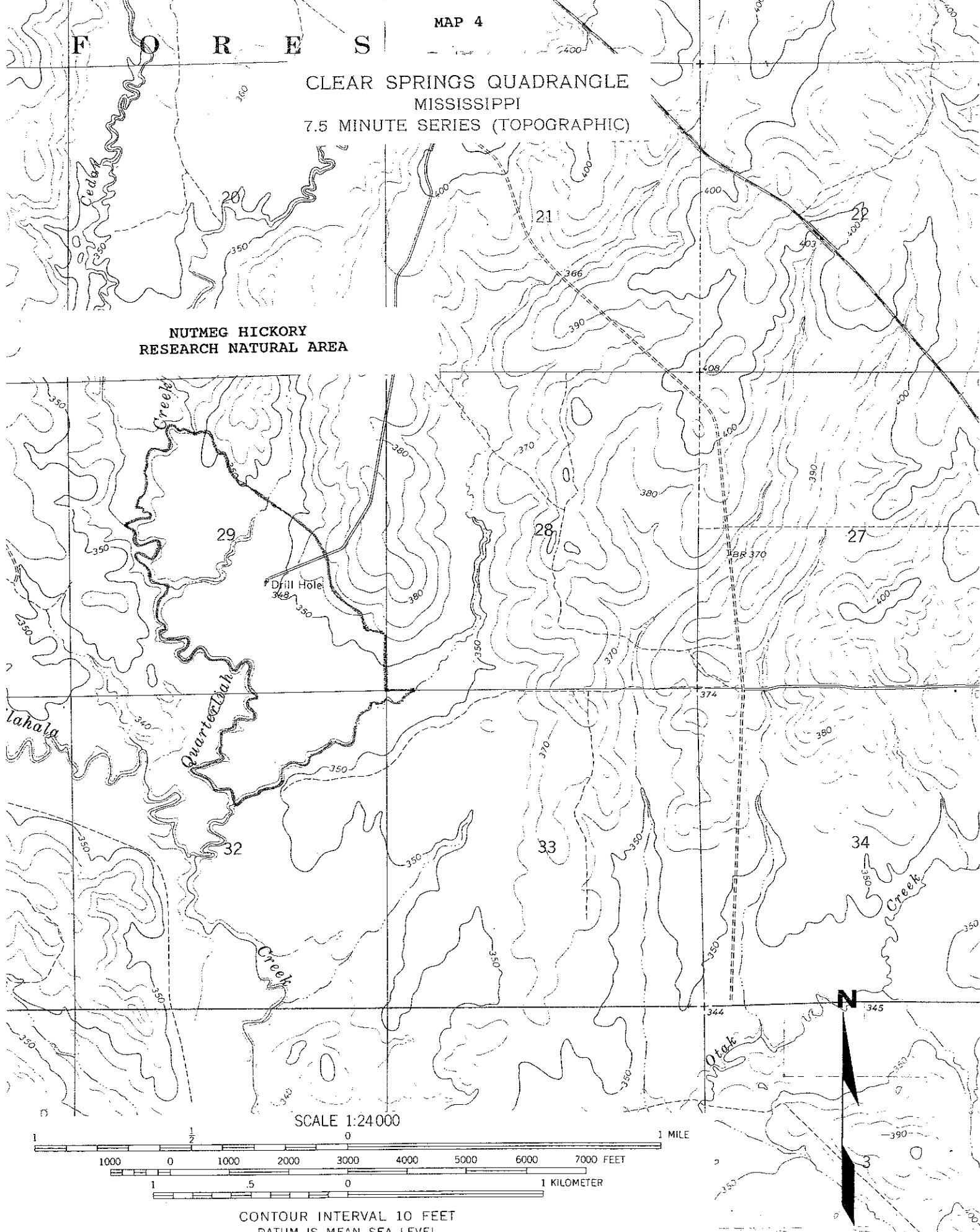
SAF FOREST TYPE MAP

<u>Stand #</u>	<u>Acreage/Hectares</u>	<u>Age</u>	<u>SAF - Forest Type</u>
01	122/49	90	91 - Swamp Chestnut - Cherrybark Oak
02	52/21	70	91 - Swamp Chestnut - Cherrybark Oak
03	43/17	56	91 - Swamp Chestnut - Cherrybark Oak
04	36/15	90	91 - Swamp Chestnut - Cherrybark Oak
05	20/8	12	91 - Swamp Chestnut - Cherrybark Oak
06	26/11	90	91 - Swamp Chestnut - Cherrybark Oak
Total	299/121		

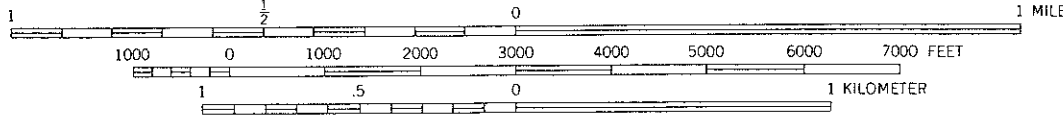
F O R E S

CLEAR SPRINGS QUADRANGLE
MISSISSIPPI
7.5 MINUTE SERIES (TOPOGRAPHIC)

NUTMEG HICKORY
RESEARCH NATURAL AREA



SCALE 1:24 000



CONTOUR INTERVAL 10 FEET
DATUM IS MEAN SEA LEVEL