

United States
Department of
Agriculture

Forest
Service

Washington
Office

14th & Independence SW
P.O. Box 96090
Washington, DC 20090-6090

Reply To: 4060-3

Date: June 20, 1990

John E. Alcock
Regional Forester
USDA Forest Service
1720 Peachtree Road, N.W.
Atlanta, Georgia 30367

P & B
JUN 25 1990
[Signature]

Dear Mr. Alcock:

Attached is the approved signed Decision Notice/Designation Order and Establishment Record for Cunningham Brake Research Natural Area within the Kisatchie National Forest Natchitoches Parish Louisiana.

Sincerely,

R. M. Burns

Russell M. Burns
Principal Research Silviculturist
Timber Management Research

cc:
Director, SO Station
Forest Supervisor, Kisatchie NF

TMIS 00214.

DECISION NOTICE/DESIGNATION ORDER

Decision Notice
Finding of No Significant Impact
Designation Order

By virtue of the authority vested in me by the Secretary of Agriculture under regulations 7 CFR 2.42, 36 CFR 251.23, and 36 CFR Part 219, I hereby establish the Cunningham Brake Research Natural Area. It shall be comprised of lands described in the section of the Establishment Record entitled "Location."

The Regional Forester has recommended the establishment of this Research Natural Area in the Record of Decision for the Kisatchie National Forest Land and Resource Management Plan. That recommendation was the result of an analysis of the factors listed in 36 CFR 219.25 and Forest Service Manual 4063.41. Results of the Regional Forester's Analysis are documented in the Kisatchie National Forest Land and Resource Management Plan and Final Environmental Impact Statement which are available to the public.

The Cunningham Brake Research Natural Area will be managed in compliance with all relevant laws, regulations, and Forest Service Manual direction regarding Research Natural Areas. It will be administered in accordance with the management direction/prescription identified in the Establishment Record.

The Kisatchie National Forest Land and Resource Management Plan is hereby amended to be consistent with the management direction identified in the Establishment Record and this Decision Notice/Designation Order. This is a non-significant amendment of the Kisatchie National Forest Land and Resource Management Plan. (36 CFR 219.10(f).)

The Forest Supervisor of the Kisatchie National Forest shall notify the public of this decision and will mail a copy of the Decision Notice/ Designation Order and amended direction to all persons on the Kisatchie National Forest Land and Resource Management Plan mailing list.

Based upon the Environmental Analysis, I find that designation of the Cunningham Brake Research Natural Area is not a major Federal action significantly affecting the quality of the human environment. (40 CFR 1508.27.)

This decision is subject to appeal pursuant to 36 CFR Part 217. A Notice of Appeal must be in writing and submitted to:

The Secretary of Agriculture
14th & Independence Ave., S.W.
Washington, D.C. 20250

and simultaneously to the Deciding Officer:

Chief (1570)
USDA, Forest Service
P.O. Box 96090
Washington, D.C. 20090-6090

-FSM 8/88 AMEND 48-

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. Review by the Secretary is wholly discretionary. If the Secretary has not decided within 15 days of receiving the Notice of Appeal to review the Chief's decision, appellants will be notified that the Chief's decision is the final administrative decision of the U.S. Department of Agriculture (36 CFR 217.17(d)).



Chief



Date

SIGNATURE PAGE

for

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

Cunningham Brake Research Natural Area

Kisatchie National Forest

Natchitoches Parish, Louisiana

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 12/5/89
Margaret S. Devall, Ecologist
Southern Forest Experiment Station

Recommended by Thomas J. Fair Date 12/7/89
Thomas J. Fair, District Ranger
Kisatchie Ranger District

Recommended by Danny W. Britt Date 12/2/89
Danny W. Britt, Forest Supervisor
Kisatchie National Forest

Recommended by John E. Alcock Date 12/18/89
John E. Alcock, Regional Forester
Southern Region

Recommended by Thomas H. Ellis Date 1/3/90
Thomas H. Ellis, Station Director,
Southern Forest Experiment Station

ESTABLISHMENT RECORD FOR THE CUNNINGHAM BRAKE
RESEARCH NATURAL AREA WITHIN KISATCHIE
NATIONAL FOREST, NATCHITOCHES PARISH, LOUISIANA.

Introduction

The proposed Cunningham Brake Research Natural Area (RNA) represents a relatively undisturbed large contiguous area of bottomland hardwoods. It is located in the western portion of the Red River Valley and is the primary floodplain for the Kisatchie Bayou. The Cunningham Brake area was purchased by the Forest Service in 1935 from the Frost Lumber Industries, Inc. for \$6.25 per acre, after the cypress and larger hardwoods had been harvested, with only the young trees remaining (Mathies, 1978). Cunningham Brake is located entirely on National Forest System lands and is not within a wilderness area or other Congressionally designated area (See Map 2).

Land Management Planning

The approved Forest Plan includes the proposed RNA (see Appendix A).

Objectives

Northwestern University has used the proposed RNA as an outdoor laboratory for the past 16 years. The area will continue to be used for onsite and extension educational purposes. It will serve as a baseline area for measuring long-term ecological change and an area for maintaining plant and animal genetic diversity associated with mature bottomland hardwood forest.

Justification Statement for Establishment of Area

The three birds orchid (Triphora trianthophora), a rare species in Louisiana, occurs in the Cunningham Brake area near Kisatchie Bayou. The orchid is known in Louisiana from only one other location, so the proposed RNA will help to preserve this rare species. The species is on the sensitive plant list for the Kisatchie National Forest. The establishment of the Cunningham Brake RNA would provide protection and would facilitate habitat research for this species. The large baldcypress and water tupelo trees (Fig. 1), some over 100 years old, and the diverse plant species in this relatively undisturbed swamp make the area worthy of designation. The acreage of forested wetlands in the United States has been decreasing since colonial times, until at present less than half of the original acreage of forested wetlands remains in Louisiana and rapid loss of this community is still occurring (Turner and Craig, 1980). Therefore it is important to set aside this large tract.

Principal Distinguishing Features

The proposed Cunningham Brake RNA is a 1765 acre (714 hectares) tract of bottomland hardwoods forest. Kisatchie Bayou passes through the area, forming several streams as it passes through the Brake (Fig. 2), and merging into one stream as it exits. Most soil in the area is saturated nine months of the year. A plant species rare in Louisiana, the three birds orchid (Triphora trianthophora), occurs in the RNA.

The area contains 1137 acres (460 hectares) of SAF type 92, sweetgum - willow oak, which has only one four acre (1.6 hectare) representative in the RNA

system, and 30 acres (12 hectares) of SAF type 82, loblolly pine-hardwood, which has no representatives in the RNA system. Baldcypress (Taxodium distichum) and two Nyssa species, water tupelo (Nyssa aquatica) and blackgum (N. sylvatica) are dominant species in the lowest part of Cunningham Brake. Several oak species, southern red oak (Quercus falcata), water oak (Q. nigra), willow oak (Q. phellos), laurel oak (Q. laurifolia), and overcup oak (Q. lyrata) are found in the slightly higher areas, as well as red maple (Acer rubrum) and sweetgum (Liquidambar styraciflua). There are numerous understory and herbaceous species. Plant taxa recorded in the area include 81 families, 213 genera and 313 species.

Location

Maps 1-3 show the location of the RNA. The Cunningham Brake RNA is located entirely in the Kisatchie National Forest. The latitude of the area is 31° 33' and the longitude is 93° 07'. The area is within Township 7 north, Range 7 West, parts of sections 19, 20, 21, 29, 30 and 39, as shown on Map 2. The area includes 1765 acres (714 hectares). The elevation of the area ranges from 93 to 100 feet (28.3 - 30.5 m).

Boundary Description

The following boundary description is referenced to Map 2, which is a reproduced portion of USGS 7.5 minute topographic maps for Bellwood and Flora Quadrangle, Louisiana, 1983:

begin at the Southwest corner of Section 19, Township 7 North, Range 7 West, Natchitoches Parish, Louisiana, said corner being the Point of Beginning (P.O.B.), thence:

N 0° 10'W 19.91 chains to the Northwest corner of the SWSW, thence;
 N89° 47'E 19.96 chains to the Southwest corner of the NESW, thence;
 N 0° 13'W 19.98 chains to the Northwest corner of the NESW, thence;
 N89° 35'E 19.96 chains to the Northeast corner of the NESW, thence;
 N 0° 17'W 20.18 chains to the Northwest corner of the S/2NE, thence;
 N89° 34'E 39.98 chains to the Northeast corner of the S/2NE of Section 19
 on the Northwest corner of the S/2NW of Section 20, thence;
 N89° 56'E 39.95 chains to the Northeast corner of the S/2NW, thence;
 N 0° 12'W 20.21 chains to the Northeast corner of the NE, thence;
 N89° 55'E 40.00 chains to the corner common the Sections 16, 17, 20, 21, thence;
 S89° 47'E 79.11 chains to the Northeast corner of Section 21, thence;
 S 0° 17'E 40.20 chains to the Southeast corner of the N/2 of Section 21, thence;
 N89° 58'W approximately 72 chains to a point, where the 100 ft. MSL contour intersects the property line, thence;
 With the meanders of said contour line in a Northerly, Westerly, and Southwesterly direction approximately 69 chains to a point where said contour intersects the South line of the NESE of Section 20, thence;
 S89° 58'W approximately 6 chains to the Southwest corner of the NESE thence;
 S 0° 08'E approximately 5 chains to a point, where the property line intersects the 95 ft. MSL contour line, thence;
 With the meanders of said contour line in a Southwesterly direction approximately 20 chains to a point where said contour line intersects the South line of the SWSE, thence;

- West approximately 8 chains to the Northeast corner of the NENW of Section 29, thence;
- S 0° 08'E approximately 13 chains to a point where the property line intersects the 100 ft. MSL contour line, thence;
- Along and with the meanders of said contour line in a Westerly and Southerly direction approximately 147 chains to a point, where said contour line intersects the west line of the S/2SWSW of the regular Section 29, thence;
- S 0° 16'W approximately 8 chains to a point where the property line intersects the 100 ft. MSL contour line, thence;
- With the meanders of said contour line in a Northwesterly, Westerly, Southeasterly, Westerly, Northerly and Westerly direction approximately 180 chains to a point where said contour line intersects the West line of Section 39, thence;
- N 0° 01'E approximately 45 chains to the Point of Beginning containing 1770 acres more or less, (excluding 5 acres (2 hectares) for the pipeline that runs through the western portion of the RNA equals 1765 acres (714 hectares).

Access

The Cunningham Brake RNA is accessible by passenger car from Alexandria, LA (see Map 1). Take state highway 1 northwest from Alexandria 42.3 miles (68.1 km) to the junction of state highway 120. Turn left on highway 120, proceed 5 miles (8 km) and turn left on state highway 478. Proceed 5 miles (8 km) then turn left on dirt road and proceed .9 miles (1.4 km) to end, which is at the northwest boundary of the RNA.

Area by Cover Types

The area is forested with bald cypress - water tupelo (cover type 102) as well as with four other cover types (see Map 3), except for 39 acres (15.78 hectares) which is a beaver pond.

<u>SAF Cover Types (Eyre, 1980)</u>	<u>Acres</u>	<u>Hectares</u>	<u>Kuchler Types</u> (Kuchler, 1966)
102 bald cypress - tupelo	440	178	103
91 swamp chestnut oak - cherrybark oak	45	18	103
92 sweetgum - willow oak	1137	460	no equivalent
82 loblolly pine - hardwood	30	12	102
52 white oak - red oak - hickory	74	30	91
beaver pond	<u>39</u>	<u>16</u>	
	1765	714	

Physical and Climatic Conditions

The terrain of the Cunningham Brake RNA is uniformly flat (Fig. 3). Kisatchie Bayou is located along the north margin of the RNA and there are numerous small streams flowing through the area. In the cypress swamp, there is standing water during most of the year. A large beaver pond is located in the center of the area, with no live trees except around the edges of the pond. The area appears to be relatively undisturbed by man, except for a pipeline with

50 ft (15.24 m) right of way which runs for 3885 feet (1184 meters) through the west side of the RNA. The pipeline belongs to the Tennessee Gas Pipeline Co., Tenneco Bldg., P.O. Box 2511, Houston, Texas 77252 (Jerry Viator 713/757-3901). The right of way is maintained by mowing annually. This approximately 5 acres (2 hectares) is excluded from the RNA.

The climate in Cunningham Brake is humid and subtropical. The mean annual temperature is 19.2° C (66.5° F), with a mean maximum of 25.4° C (77.7° F) and a mean minimum of 3.2° C (37.8° F). Mean annual precipitation is 55.9 inches (1419 mm), with the largest amount of precipitation occurring in December and the smallest amount occurring in August. These data are from the National Oceanic and Atmospheric Administration Weather Station at Alexandria, 50 miles (80 km) southeast of Cunningham Brake. The length of the record is 29 years.

Description of Values

Flora

An herbaceous species rare in Louisiana occurs in Cunningham Brake, the three birds orchid (*Triphora trianthophora*), known from only two locations in the state. The large clammy-weed (*Polonisia erosa*), known from only six sites, occurs just outside the boundary of Cunningham Brake. In addition 313 plant species have been identified there, representing 213 genera and 81 families (Mathies, 1983). Dominant tree species include baldcypress (*Taxodium distichum*), water tupelo (*Nyssa aquatica*) and blackgum (*Nyssa sylvatica*). Shrubs and herbaceous species in this section of the RNA include Virginia willow (*Itea virginica*), buttonbush (*Cephalanthus occidentalis*), lobelia (*Lobelia cardinalis*), St. John's-wort (*Hypericum tubulosum*), water willow (*Justicia lanceolata*) and a hedge hyssop (*Gratiola neglecta*). Cane (*Arundinaria gigantea*) and several sedges (*Carex* sp) grow on the edges of the swamp (Mathies and others 1983).

Bottomland hardwoods form a dense canopy in an area of periodic inundation in Cunningham Brake. Common tree species in this area include southern red oak (*Quercus falcata*), water oak (*Q. nigra*), willow oak (*Q. phellos*), laurel oak (*Q. laurifolia*), overcup oak (*Q. lyrata*), American hornbeam (*Carpinus caroliniana*), red maple (*Acer rubrum*) and sweetgum (*Liquidambar styraciflua*). An occasional loblolly pine (*Pinus taeda*) occurs in this area. In the wetter parts an understory is formed by American snowbell (*Styrax americana*), two-wing silverbell (*Halesia diptera*), Carolina ash (*Fraxinus caroliniana*) and possumhaw (*Ilex decidua*). Herbaceous plants and vines include jewel-weed (*Impatiens capensis*), fringed loosestrife (*Lysimachia lanceolata*), violet (*Viola affinis*), trumpet vine (*Campsis radicans*) and blackberry (*Rubus argutus*) (Mathies and others 1983).

Several shrubs and herbs occur along the edges and in the shallow parts of the beaver ponds, including buttonbush (*Cephalanthus occidentalis*), Virginia willow (*Itea virginica*), a hedge hyssop (*Gratiola virginiana*), lizard's tail (*Saururus cernuus*), a milkweed (*Asclepias perennis*), climbing hempweed (*Mikania scandens*), a marsh-fleabane (*Pluchea camphorata*), a sedge (*Cyperus strigosus*) and a dodder (*Cuscuta gronovii*) (Mathies and others 1983).

Numerous plant species occur along the edge of Kisatchie Bayou. The species

in this area include river birch (Betula nigra), sycamore (Platanus occidentalis), black willow (Salix nigra), and an occasional northern catalpa (Catalpa speciosa), and herbaceous species include butterweed (Senecio glabellus), Diodia virginia, Teucrium canadense, Mimulus alatus, turnsole (Heliotropium indicum), passion-flower (Passiflora lutea), (Cayaponia quinqueloba), and Berchemia scandens (Mathies and others 1983).

The following list includes plants identified during a survey of the Cunningham Brake conducted between February 1977 and June 1978 by Peter S. Mathies, W.C. Holmes and Arthur S. Allen (1983):

<u>Family</u>	<u>Scientific Name</u>	<u>1/</u>
PTERIDOPHYTA		
Ophioglossaceae	<u>Ophioglossum vulgatum</u> L	
Osmundaceae	<u>Osmunda regalis</u> L.	
Polypodiaceae	<u>Athyrium filix-femina</u> (L.) Roth <u>Onoclea sensibilis</u> L. <u>Polypodium polypodioides</u> L. Watt. <u>Pteridium aquilinum</u> (L.) Kuhn.	
SPERMATOPHYTA		
GYMNOSPERMAE		
Pinaceae	<u>Pinus echinata</u> Mill. <u>P. taeda</u> L.	
Taxodiaceae	<u>Taxodium distichum</u> (L.) Rich	
ANGIOSPERMAE		
MONOCOTYLEDONEAE		
Alismataceae	<u>Sagittaria latifolia</u> Willd.	
Graminae	<u>Andropogon elliottii</u> Chapm. <u>Arundinaria gigantea</u> (Walt.) Muhl. <u>Axonopus affinis</u> Chase <u>Chasmanthium latifolium</u> (Michx.) Yates <u>C. laxum</u> (L.) Yates <u>Echinochloa colonum</u> (L.) Link <u>Eleusine indica</u> (L.) Gaertn. <u>Erianthus strictus</u> Baldw. <u>Leersia lenticularis</u> Michx. <u>Panicum anceps</u> Michx. <u>P. commutatum</u> Schult. <u>P. gymnocarpon</u> Ell. <u>P. lindheimeri</u> Nash <u>P. polyanthes</u> Schult. <u>P. rigidum</u> Nees. <u>Paspalum notatum</u> Flugge <u>Poa autumnalis</u> Ell. <u>Setaria glauca</u> (L.) Beauv. <u>Sphenopholis intermedia</u> (Rydb.) Rydb.	

- Stipa avenacea L.
- Cyperaceae
- Carex amphibola Steud.
C. atlantica Bailey
C. caroliniana Schwein
C. cephalophora Muhl.
C. cherokeensis Muhl.
C. complanata T. & H.
C. crus-corvi Kunze
C. debilis Michx.
C. digitalis Willd.
C. flaccosperma Dew.
C. frankii Kunth.
C. intumescens Rudge
C. joorii Bailey
C. lupulina Muhl.
C. lurida Wahl
C. reniformis (Bailey) Small
C. tribuloides Wahl.
C. typhina Michx.
C. vulpinoidea Michx.
Cyperus erythrorhizos Muhl.
C. Polystachos Rottb.
C. strigosus
C. tenuifolius (Steud.) Dandy
C. virens Michx.
Fimbristylis autumnalis (L.) R. & S.
F. milacea (L.) Vahl.
Rhynchospora corniculata (Lam.) Gray
R. glomerata (L.) Vahl.
Scirpus cyperinus (L.) Kunth.
- Palmae
- Sabal minor (Jacq.) Pers.
- Araceae
- Arisaema tryphyllum (L.) Schott.
Peltandra virginica (L.) Kunth.
- Bromeliaceae
- Tillandsia usneioides (L.) L.
- Commelinaceae
- Commelina erecta L.
- Juncaceae
- Juncus coriaceus Mack.
J. effusus L.
J. polycephalus Michx.
J. tenuis Willd.
- Lilaceae
- Nothoscordum bivalve (L.) Britt.
Smilax bona-nox L.
S. glauca Walt.
S. rotundifolia L.
- Iridaceae
- Eustylis purpurea (Herb.) Engelm & Gray

Orchidaceae	<u>Spiranthes praecox</u> (Walt.) Wats. <u>Triphora trianthophora</u> (Sw.) Rhyd.
DICOTYLEDONAE	
Saururaceae	<u>Saururus cernuus</u> L.
Salicaceae	<u>Salix nigra</u> Marsh
Juglandaceae	<u>Carya aquatica</u> (Michx. f.) Nutt. <u>C. leioderms</u> Sarg. <u>C. tomentosa</u> Nutt. <u>Juglans nigra</u> L.
Betulaceae	<u>Betula nigra</u> L. <u>Carpinus caroliniana</u> Walt. <u>Ostrya virginiana</u> (Mill.) K.Koch
Fagaceae	<u>Quercus alba</u> L. <u>Q. falcata</u> Michx. <u>Q. laurifolia</u> Michx. <u>Q. lyrata</u> Walt. <u>Q. nigra</u> L. <u>Q. nuttallii</u> Palmer <u>Q. phellos</u> L. <u>Q. prinus</u> L. <u>Q. stellata</u> Wang <u>Q. velutina</u> Lam.
Ulmaceae	<u>Ulmus alata</u> Michx. <u>U. americana</u> L.
Moraceae	<u>Maclura pomifera</u> (Raf.) Schneid. <u>Morus alba</u> L. <u>M. rubra</u> L.
Urticaceae	<u>Boehmeria cylindrica</u> (L.) Sw. <u>Urtica chamaedryoides</u> Pursh.
Viscaceae	<u>Phoradendron tomentosum</u> (DC.) Gray
Polygonaceae	<u>Brunnicheea ovata</u> (Walt.) Shinners <u>Persicaria hydropiperoides</u> (Michx.) Small <u>P. pennsylvanica</u> (L.) Small <u>Polygonum virginianum</u> L. <u>Rumex crispus</u> L. <u>R. hastulatus</u> Ell.
Phytolaccaceae	<u>Phytolacca americana</u> L.
Ranunculaceae	<u>Clematis virginiana</u> L. <u>Ranunculus fascicularis</u> Muhl. <u>R. pusillus</u> Poir.

Berberidaceae	<u>Podophyllum peltatum</u> L.
Menispermaceae	<u>Cocculus carolinus</u> (L.) DC.
Magnoliaceae	<u>Magnolia virginiana</u> L.
Lauraceae	<u>Sassafras albidum</u> (Nutt.) Nees
Saxifragaceae	<u>Itea virginica</u> L. <u>Penthorum sedoides</u> L.
Hamamelidaceae	<u>Liquidambar styraciflua</u> L.
Platanaceae	<u>Platanus occidentalis</u> L.
Rosaceae	<u>Crataegus marshallii</u> Eggl. <u>C. opaca</u> H. & A. <u>C. spathulata</u> Michx. <u>C. viridis</u> L. <u>Geum canadense</u> Jacq. <u>Prunus umbellata</u> Ell. <u>Rubus louisianus</u> Berger <u>R. trivialis</u> Michx.
Leguminosae	<u>Apios americana</u> Medic. <u>Cassia fasciculata</u> Michx. <u>C. obtusifolia</u> L. <u>Centrosema virginianum</u> <u>Cercis canadensis</u> L. <u>Desmodium laevigatum</u> (Nutt.) DC. <u>D. strictum</u> DC. <u>Galactia macreei</u> M.A. Curtis <u>G. volubilis</u> (L.) Britt. <u>Gleditsia triacanthos</u> L. <u>Mimosa strigillosa</u> T. & G. <u>Rhynchosia latifolia</u> (Nutt.) T. & G. <u>Schrankia microphylla</u> (Sm.) Macbr. <u>Strophostyles helvola</u> (L.) Ell. <u>Stylosanthes biflora</u> (L.) B.S.P. <u>Trifolium dubium</u> Sibth. <u>T. repens</u> L. <u>Vicia angustifolia</u> L.
Oxalidaceae	<u>Oxalis stricta</u> L.
Rutaceae	<u>Zanthoxylum clava-herculis</u> L.
Euphorbiaceae	<u>Acalypha rhomboidea</u> Raf. <u>Cnidocolus texanus</u> (Muell. Arg.) Small. <u>Croton capitatus</u> Michx. <u>C. glandulosus</u> L. <u>Euphorbia corollata</u> L.

	<u>Sebastiania fruticosa</u> (Bartr.) Fern.
Anacardiaceae	<u>Rhus copallina</u> L. <u>R. toxicodendron</u> L.
Aquafoliaceae	<u>Ilex decidua</u> Walt. <u>I. opaca</u> Ait.
Aceraceae	<u>Acer rubrum</u> L.
Hippocastanaceae	<u>Aesculus pavia</u> L.
Balsaminaceae	<u>Impatiens capensis</u> Meerb.
Rhamnaceae	<u>Berchemia scandens</u> (Hill) K. Koch
Vitaceae	<u>Ampelopsis arborea</u> (L.) Koehne <u>Parthenocissus quinquefolia</u> (L.) Planch. <u>Vitis rotundifolia</u> Michx. <u>V. vulpina</u> L.
Malvaceae	<u>Hibiscus militaris</u> Cav. <u>Sida rhombifolia</u> L.
Hypericaceae	<u>Ascyrum hypericoides</u> L. <u>Hypericum mutilum</u> L. <u>H. tubulosum</u> Walt. <u>H. walteri</u> Gmel.
Violaceae	<u>Viola langloisii</u> Greene <u>V. pedata</u> L. <u>V. triloba</u> Schwein
Passifloraceae	<u>Passiflora incarnata</u> L. <u>P. lutea</u> L.
Lythraceae	<u>Laegerstroemia indica</u> L. <u>Lythrum lanceolatum</u> Ell.
Melastomataceae	<u>Rhexia mariana</u> L.
Onagraceae	<u>Ludwigia alternifolia</u> L. <u>L. decurrens</u> Walt. <u>Oenothera lacinata</u> Hill
Haloragaceae	<u>Proserpinaca palustris</u> L.
Umbelliferae	<u>Eryngium prostratum</u> DC. <u>Hydrocotyle verticillata</u> Thunb. <u>Ptilimnium capillaceum</u> (Michx.) Raf. <u>P. costatum</u> (Ell.) Raf. <u>Sanicula canadensis</u> L.

Cornaceae	<u>Cornus florida</u> L. <u>C. foemina</u> Mill. <u>Nyssa aquatica</u> L. <u>N. sylvatica</u> Marsh.
Ericaceae	<u>Rhododendron canescens</u> (Michx.) Sweet <u>Vaccinium arboreum</u> Marsh <u>V. elliotii</u> Chapm.
Primulaceae	<u>Hottonia inflata</u> Ell. <u>Lysimachia lanceolata</u> Walt.
Ebenaceae	<u>Diospyros virginiana</u> L.
Styracaceae	<u>Halesia diptera</u> Ellis <u>Styrax americana</u> Lam.
Oleaceae	<u>Chionanthus virginica</u> L. <u>Forestiera acuminata</u> (Michx.) Poir. <u>Fraxinus americana</u> L. <u>F. caroliniana</u> Mill. <u>F. pennsylvanica</u> Marsh <u>Ligustrum sinense</u> Lour.
Loganiaceae	<u>Cynoctotum mitreola</u> (L.) Britt <u>Gelsemium sempervirens</u> (L.) Jaume St.Hil. <u>Polypremum procumbens</u> L.
Apocynaceae	<u>Trachelospermum difforme</u> (Walt.) Gray
Asclepiadaceae	<u>Asclepias perennis</u> Walt. <u>A. variegata</u> L.
Convolvulaceae	<u>Cuscuta gronovii</u> R. & S.
Polemoniaceae	<u>Phlox pilosa</u> L.
Hydrophyllaceae	<u>Hydreola uniflora</u> Raf.
Boraginaceae	<u>Heliotropium indicum</u> L. <u>Myosotis macrosperma</u> Engelm.
Verbenaceae	<u>Callicarpa americana</u> L. <u>Verbena brasiliensis</u> Vell. <u>V. halei</u> Small <u>V. tenuisecta</u> Briq.
Labiatae	<u>Lycopus rubellus</u> Moench. <u>Monarda punctata</u> L. <u>Perilla frutescens</u> (L.) Britt. <u>Prunella vulgaris</u> L. <u>Pycnanthemum albescens</u> T. & G.

- Salvia azurea Lam.
S. lyrata L.
Scutellaria elliptica Muhl.
S. integrifolia L.
Stachys tenuifolia L.
Teucrium canadense L.
Trichostema dichotomum L.
- Solanaceae Solanum carolinense L.
- Scrophulariaceae Agalinis fasciculata (Ell.) Raf.
A. oligophylla Penn.
Aureolaria dispersa (Small) Penn.
Gratiola neglecta Torr.
G. virginiana L.
Linaria canadensis (L.) Dum.
Micranthemum umbrosum (Walt.) Small
Mimulus alatus Ait.
Mecardonia acuminata (Walt.) Small
Penstemon tubaeiflorus Nutt.
Verbascum thapsus L.
- Bignoniaceae Bignonia capreolata L.
Campsis radicans (L.) Seem.
Catalpa speciosa Warder
- Acanthaceae Justicia lanceolata (Chapm.) Small
Ruellia caroliniensis (Walt.) Steud.
- Plantaginaceae Plantago virginica L.
- Rubiaceae Cephalanthus occidentalis L.
Diodia virginiana L.
Hedyotis crassifolia Raf.
Galium uniflorum Michx.
- Caprifoliaceae Lonicera japonica Thunb.
Sambucus canadensis L.
Viburnum dentatum L.
V. rufidulum Raf.
- Cucurbitaceae Cayaponia quinqueloba (Raf.) Shinners
- Campanulaceae Lobelia appendiculata A. DC.
L. cardinalis L.
Triodanis perfoliata (L.) Nieuw.
- Compositae Ambrosia artemisiifolia L.
Aster dumosus L.
A. patens Ait.
Baccharis halmifolia L.
Bidens aristosa (Michx.) Britt.

B. mitis (Michx.) Sherff.
Boltonia diffusa Ell.
Cirsium horridulum Michx.
Conyza canadensis (L.) Cronq.
Croptilon divaricatum (Nutt.) Raf.
Elephantopus carolinianus Raeusch.
E. tomentosus L.
Erechtites capillifolium (Lam.) Small.
E. coelestimun L.
E. incarnatum Walt.
E. rugosum Houtt.
E. serotinum Michx.
Euthamia leptcephala (T. & G.) Greene.
Gnaphalium obtusifolium L.
G. purpureum L.
Helenium amarum (Raf.) Rock.
H. flexuosum Raf.
Helianthus angustifolius L.
H. hirsutus Raf.
Heterotheca pilosa (Nutt.) Shinnars
Hieracium gronovii L.
Hymenopappus artemisiaefolius DC.
Krigia dandelion (L.) Nutt.
K. oppositifolia Raf.
Lactuca floridana (L.) Gaertn.
Liatris elegans (Walt.) Michx.
L. squarrulosa Michx.
Mikania scandens (L.) Willd.
Pluchea camphorata (L.) DC.
Pyrropappus carolinianus (Walt.) DC.
Rudbeckia hirta L.
Senecio glabellus Poir.
S. tomentosus Michx.
Solidago altissima L.
S. odora Ait.
Soliva pterosperma (Juss.) Less.
Sonchus asper (L.) Hill
Spilanthes americana (Mutis) Hieron
Vernonia missurica Raf.
V. texana (Gray) Small
Xanthium strumarium L.

1/ Nomenclature for trees follows that of Little (1979), and nomenclature of other plant species follows that of Correll and Johnson (1970) and Steyermark (1963).

Fauna

No rare or endangered animal species are known to occur in Cunningham Brake, although some alligators (Alligator mississippiensis) may be present. Faunal species have not been systematically studied or inventoried in Cunningham

Brake RNA. The RNA is a migratory waterfowl resting area and supports a wild turkey (Meleagris gallogavo) population. Personnel of the Kisatchie Ranger District report seeing green-wing and blue-wing teal (Anas carolinensis and A. discors), gadwall (A. strepera), widgeon (Mareca americana), and pintail (A. acuta). Dr. Arthur Allen of Northwestern State University reports that otters (Lutra canadensis) are present in the area as well as black-crowned night herons (Nycticorax nycticorax), and anhingas (Anhinga anhinga). Gary W. Kerlin of the U.S. Fish and Wildlife Service, Lafayette, Louisiana, provided a list of the following animal species which are found in the Cane River Basin and are likely to occur in the bottomland hardwood area of Cunningham Brake: white tailed deer (Odocoileus virginianus), gray and fox squirrels (Sciurus carolinensis and S. niger), swamp rabbit (Sylvilagus aquaticus), eastern cottontail (S. floridanus), raccoon (Procyon lotor), gray fox (Urocyon cinereoargenteus), red fox (Vulpes fulva), coyote (Canis latrans), bobcat (Lynx rufus), beaver (Castor canadensis), opossum (Didelphis virginiana), nine-banded armadillo (Dasypus novemcinctus), bats (Eptesicus fuscus), eastern wood rat (Neotoma floridana), white-footed mouse (Peromyscus leucopus), mink (Mustela vison), snakes, toads, frogs, skinks and salamanders. Birds include American woodcock (Philohela minor), mourning dove (Zenaidura macroura), bobwhite quail (Colinus virginianus), mallard (Anas platyrhynchos), wood duck (Aix sponsa), numerous songbirds, hawks, owls, crows, grackles, and woodpeckers. Wildlife of the swamp is similar to that of the bottomland hardwood area. In addition, there is significant use of the swamp by wood ducks for nesting, rearing and feeding purposes. Other swamp species include cattle egret (Bubulcus ibis), great egret (Casmerodius albus), great blue heron (Ardea herodias), green heron (Butorides virescens), little blue heron (Florida caerulea), bullfrog (Rana catesbiana) and aquatic turtles. Open water supports resident wood ducks, migratory ducks and coots, grebes, cormorants, various wading birds, and numerous reptiles and amphibians. The following fish species occur in Kisatchie Bayou and are likely to be found in the RNA: largemouth bass (Micropterus salmoides), spotted bass (M. punctulatus), longear sunfish (Lepomis megalotis), bluegill (L. macrochirus), channel catfish (Ictalurus punctatus), flathead catfish (Pylodictis olivaris), bullheads (Ictalurus spp.), blacktail redhorse (Moxostoma poecilurum), blackstripe topminnow (Fundulus notatus), bullhead minnow (Pimephales vigilax), silvery minnow (Hybognathus nuchalis), redbfin shiner (Notropis umbratilis), Sabine shiner (N. sabiniae), blacktail shiner (N. venustus), striped shiner (N. chrysalocephalus), dusky darter (Percina sciera), blackside darter (P. maculata), goldstripe darter (Etoeostoma parvipinne), scaly sand darter (Ammocrypta vivax). 2/

2/ Nomenclature for animals follows Lowery (1955; 1974), Ditmars (1936), Collins (1959) and Lee and others (1980).

Geology

Geological information was provided by Lynn Scholerman, Regional Geologist, Kisatchie National Forest. The Cunningham Brake RNA is a level, somewhat poorly drained depressional area on the lower part of the natural levee of the Red River alluvial plain. The area consists mainly of Recent alluvial deposits and some Pleistocene terrace deposits around the north, south, and west borders of the RNA.

Soils

Soils information was provided by Lynn Scholerman, Regional Geologist, Kisatchie National Forest. The predominant soil in the Cunningham Brake RNA is Perry Clay. These level, poorly drained soils are in sloughs and depressions on broad floodplains of the Red River. They formed in clayey alluvial sediments. The seasonal high water table fluctuates between the surface and a depth of one foot. These soils are subject to occasional flooding for extended periods during the late winter and early spring. The surface layer is typically black clay loam about eight inches thick. The subsoil to a depth of 36 inches is light gray clay. The substratum, to a depth of 60 inches, is mottled reddish brown and gray clay.

Guyton-Cascilla soils are also found in the area. These level, poorly drained Guyton and moderately well drained Cascilla soils are on narrow floodplains of streams that drain the uplands. The Guyton soil is on the low position, and the Cascilla soil is on low ridges and the natural levee along stream channels. These soils are subject to flooding for brief to very long periods during the growing season.

Lands

The Cunningham Brake was purchased by the Forest Service in 1935 from the Frost Lumber Industries, Inc. There are no outstanding rights, except for mineral rights on recent land acquisitions, two small sections of the RNA, approximately 11 and 64 acres (4.5 and 25.9 hectares).

Cultural

A transportation route known as the Beasley crossing passed through the area beginning after 1900, possibly earlier and ending in the early 1930's.

The following information was provided by Alan Dorian, archeologist, Kisatchie National Forest. Very little inventory has been done in Cunningham Brake; however there is one important prehistoric site which dates from late prehistoric Caddoan times (ca AD 500-Contact), estimated at 131 feet (40 m) in diameter. Cunningham Brake is an area that would have provided a relative wealth of resources to aboriginal peoples, with adjacent uplands which would reasonably have supported multiple campsites/hamlets. It is likely that there are other sites.

Impacts and Possible Conflicts

Mineral Resources

No known mineral resources are found in or adjacent to the RNA, and no known mineral activity has occurred there, except for some recent seismic drilling. A request will be made to withdraw the area from mineral entry, except for the small area in which mineral rights are owned by a third party, once establishment has been approved.

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

Excluding the beaver pond, the entire area is forest land (1726 acres, 698 hectares), and is classed in the Kisatchie Forest Plan as unsuitable for timber production. There is no acreage (0 hectares) of commercial forest.

Watershed Values

Watershed values of the area are high; it is within a high precipitation area. These values will be maintained by establishment of the area as an RNA.

Recreation Values

Cunningham Brake receives dispersed recreational use for hunting, fishing, trapping and nature study, but these should not conflict appreciably with RNA values. Henceforth trapping will not be permitted.

Wildlife and Plant Values

No known endangered or threatened plant or animal species occur within the RNA, but a sensitive plant species is found there, the three birds orchid. Establishment of the area as an RNA will maintain habitat for this plant, which is rare in Louisiana.

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 Plan

Vegetation Management

The Cunningham Brake RNA will be managed to protect its natural condition. Ecological processes will be allowed to proceed according to natural processes as much as possible. Trapping will not be permitted.

Administration Records and Protection

Administration and protection of the Cunningham Brake RNA will be the responsibility of the Forest Supervisor, Kisatchie National Forest. The

District Ranger, Kisatchie Ranger District, Natchitoches, LA has direct responsibility. Requests to conduct research should be referred to the Station Director, Southern Forest Experiment 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 Louisiana State University Herbarium and Museum of Natural Science.

Records for the Cunningham Brake RNA will be maintained in the following offices:

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

Forest Supervisor
Kisatchie National Forest
P.O. Box 5500
Pineville, LA 71360
318/473-7160

District Ranger
Kisatchie Ranger District
P.O. Box 2120
Natchitoches, Louisiana
318/352-2568

Director
Southern Forest Experiment Station
701 Loyola Avenue, Room T-10210
New Orleans, Louisiana 70113
504/589-6787

Archiving

The Director of the Southern Forest Experiment Station will be responsible for maintaining the Cunningham Brake RNA research data file and list of herbarium and species samples collected.

References

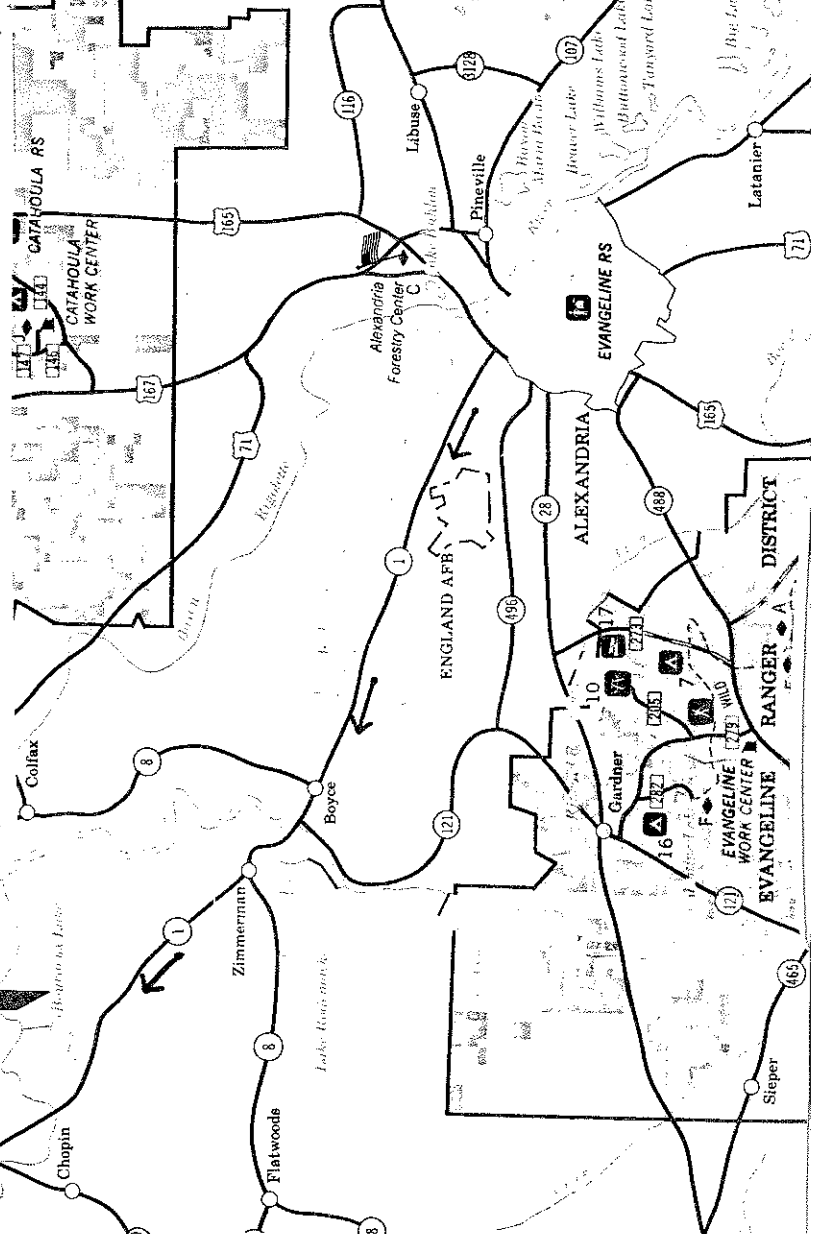
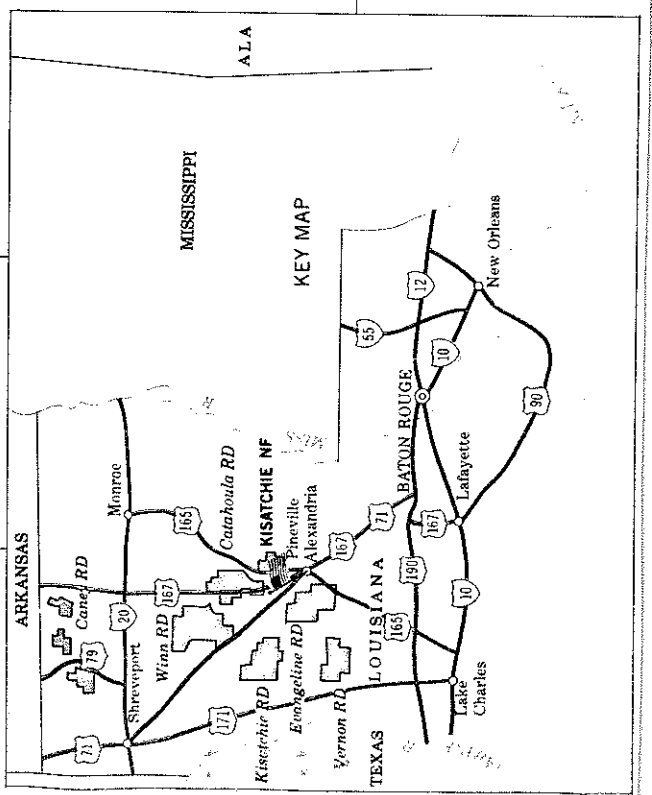
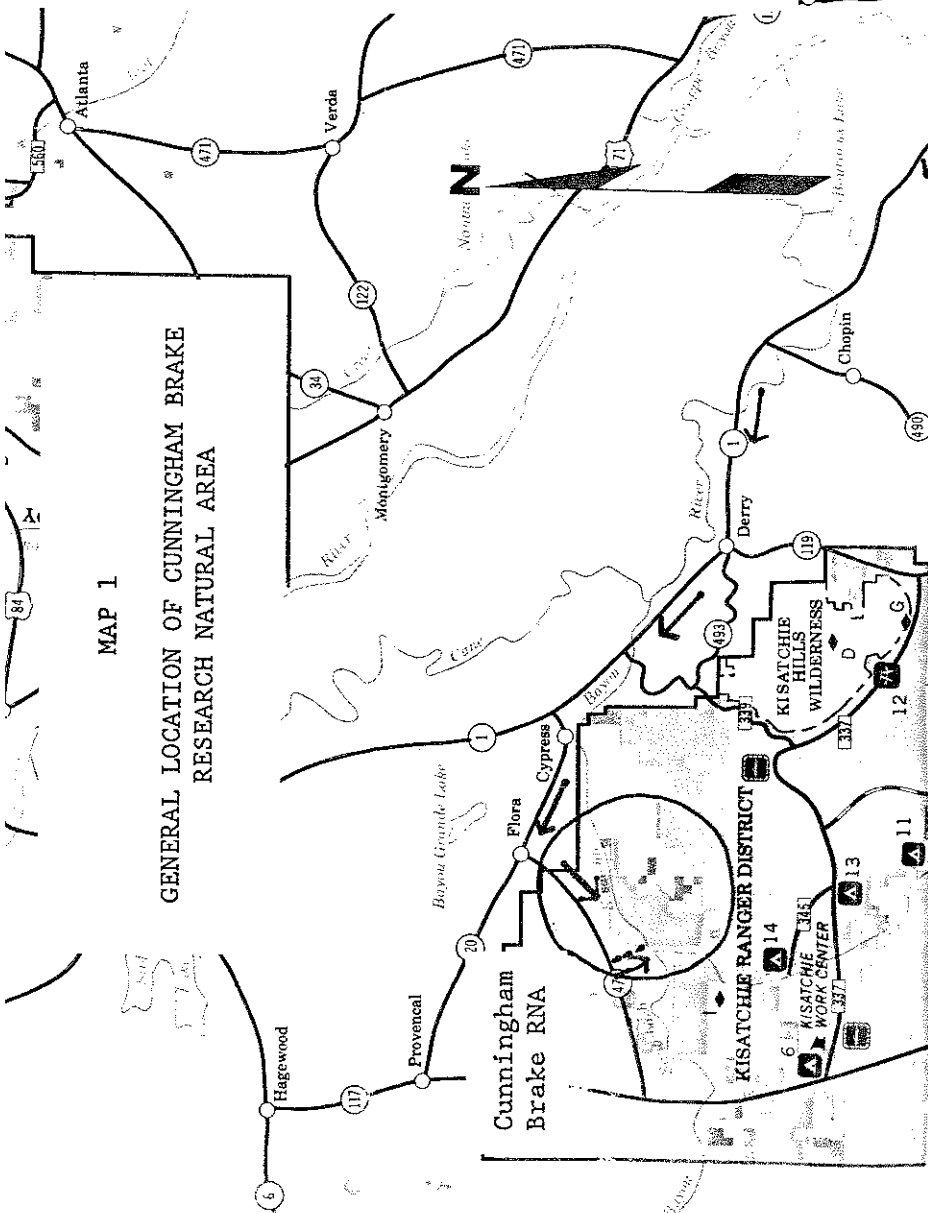
- Collins, Henry Hill, Jr. 1959. Complete field guide to American wildlife, east, central and north. New York: Harper and Brothers. 683 pp.
- Correll, D.S. and Johnston, M.C. 1970. Manual of the Vascular Plants of Texas. Texas Research Foundation, Renner Texas. 1881 p.
- Ditmars, Raymond L. 1936. The reptiles of North America. Garden City, New York: Doubleday and Co. 476 pp.
- Eyre, F.H. ed. 1980. Forest cover types of the United States and Canada. Washington, DC: Society of American Foresters. 148 p.
- Kuchler, A.W. 1966. Potential Natural Vegetation. U.S. Department of Interior, Geologic Survey. 1969. Washington, D.C.
- Little, Elbert L. 1979. Checklist of United States Trees (Native and Naturalized). Agriculture Handbook No. 541. Washington, DC: U.S. Department of Agriculture. 375 p.
- Lee, David S.; Gilbert, Carter R.; Hocutt, Charles H.; Jenkins, Robert E.; Mc Allister, Don E.; Stauffer, Jay R., Jr. Atlas of North American freshwater fishes. Pub. #1980-12 of the North Carolina Biological Survey. Raleigh, NC: North Carolina Department of Agriculture.
- 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.
- Mathies, P.S. 1978. The vascular flora of Cunningham Brake, Kisatchie Ranger District, Kisatchie National Forest, Natchitoches Parish, Louisiana. Ms. Thesis, Northwestern State University. 32 pp.
- Mathies, P.S.; Holmes, W.C.; Allen, A.A. 1983. The vascular flora of Cunningham Brake, a cypress - gum swamp in Natchitoches Parish, Louisiana. *Castanea* 48:24-31.
- Steyermark, Julian A. 1963. Flora of Missouri. The Iowa State University Press, Ames, Iowa. 1728 p.
- Turner, R.E. and Craig, N.J. 1980. Recent areal changes in Louisiana's forested wetland habitat. *La. Acad. Sci.* 43:48-55.

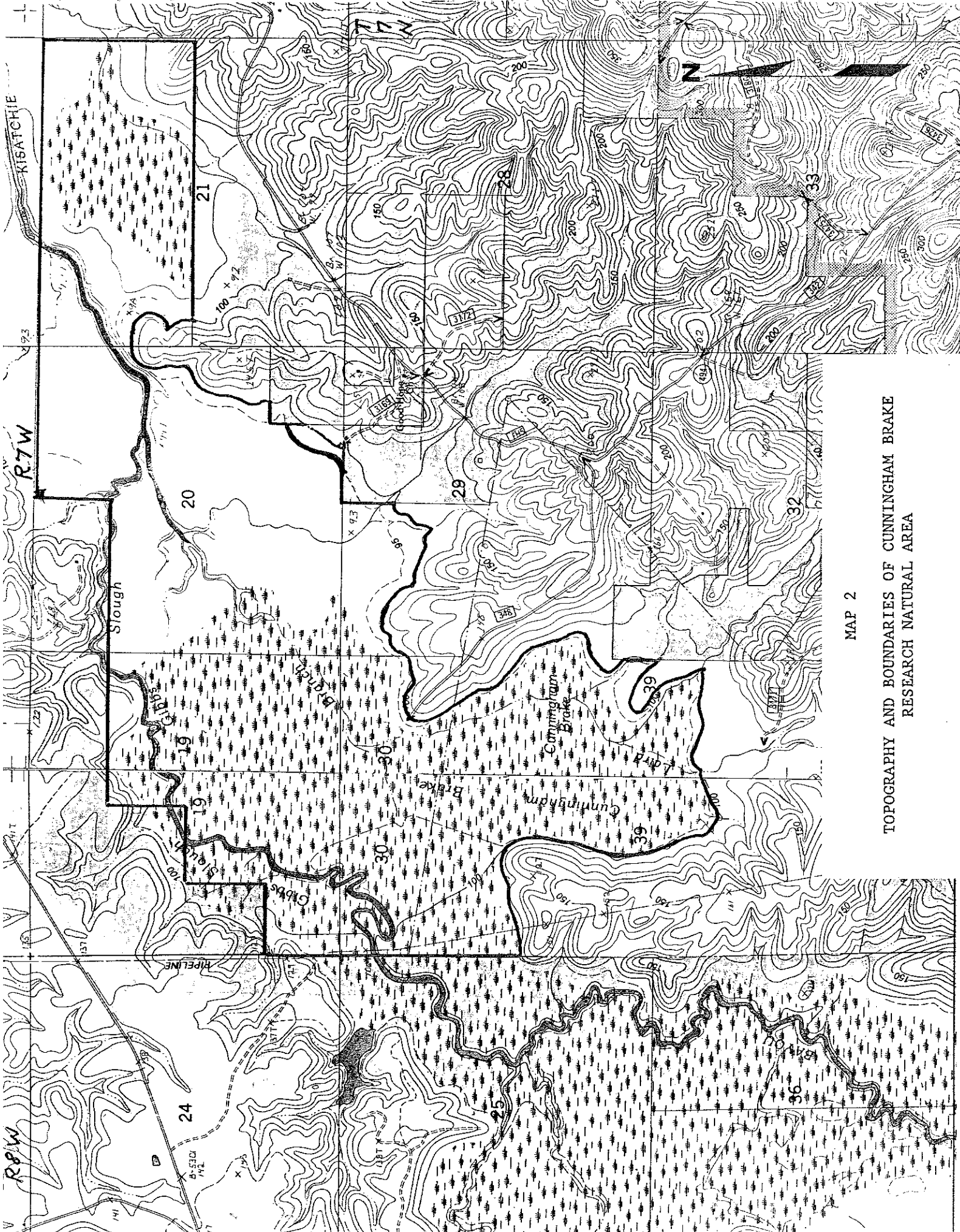
Scale: 1 inch equals approximately 6.6 miles

LEGEND

- National Forest Boundary
- Forest Supervisor's Office
- Ranger Station Office
- Other Forest Service Facility
- Recreation Site Forest Service
- Picnic Area Forest Service
- Point of Interest (See Text)
- Hiking Trail
- Horse Trail
- Boat Launch
- Interchange
- Interstate Highway
- U.S. Highway
- National Forest Land
- Other National Forest Land
- National Forest Land Restriction
- Federal Land
- State Forest or Park
- Urban Area
- Paved-Road
- Gravel Road
- National Trail
- Other Trail
- State Highway
- Forest or Parish Route
- Auto Nature Trail or Tour

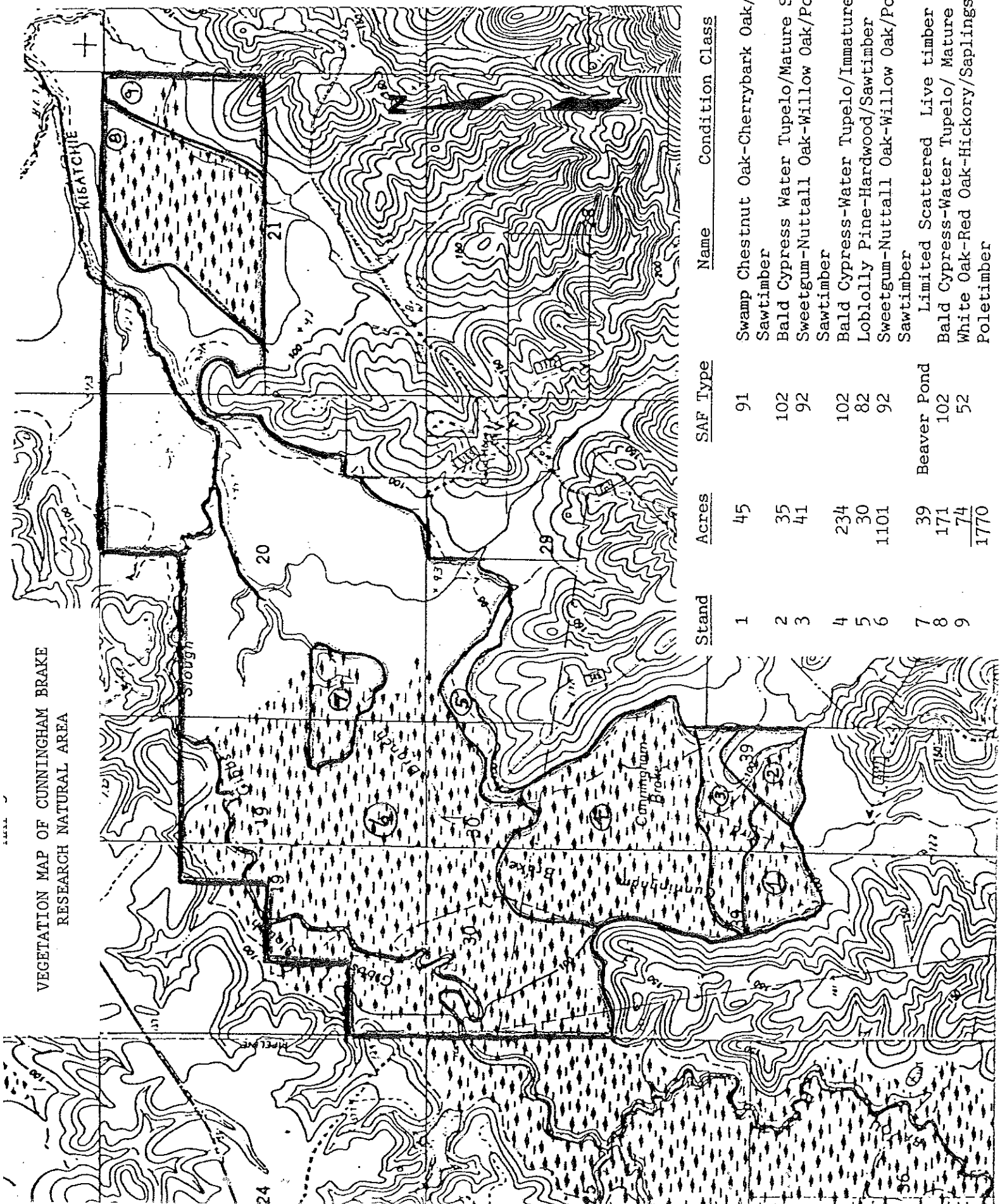
MAP 1
GENERAL LOCATION OF CUNNINGHAM BRAKE
RESEARCH NATURAL AREA





MAP 2
TOPOGRAPHY AND BOUNDARIES OF CUNNINGHAM BRAKE
RESEARCH NATURAL AREA

VEGETATION MAP OF CUNNINGHAM BRAKE
RESEARCH NATURAL AREA



4/25/89
CFE

Stand	Acres	SAF Type	Name	Condition Class
1	45	91	Swamp Chestnut Oak-Cherrybark Oak/Mature Sawtimber	
2	35	102	Bald Cypress Water Tupelo/Mature Sawtimber	
3	41	92	Sweetgum-Nuttall Oak-Willow Oak/Poletimber Sawtimber	
4	234	102	Bald Cypress-Water Tupelo/Immature Sawtimber	
5	30	82	Loblolly Pine-Hardwood/Sawtimber	
6	1101	92	Sweetgum-Nuttall Oak-Willow Oak/Poletimber Sawtimber	
7	39	Beaver Pond	Limited Scattered Live timber	
8	171	102	Bald Cypress-Water Tupelo/ Mature Sawtimber	
9	74	52	White Oak-Red Oak-Hickory/Saplings and Poletimber	
	1770			