

TABLES

TABLE 1

**Summary of Longleaf Pine Old-growth Stands
on
Mountain Longleaf National Wildlife Refuge (1)**

	Stand No.	Manage Area	Acres	Age	Mean Age	Slope (%)	Aspect	Elevation (ft)	Regeneration
Caffey Mt.	A1	16E	20.0	12-228	65	40-65	S	1350-1500	Low
Red-tail Ridge	A2	15D	9.0	12-238	62	20-45	SW-NW	1000-1250	None
Mt. Tylo	A3	16E&G	31.0	0-201	151	20-50	S-E	1000-1300	Well stocked
Indigo Ridge	A4	15I	4.0	0-196	-	15-45	E-NE	1000-1250	Moderate
Bee Sting Mt.	B1	14C	1.4	131-200	163	15-40	SE	1400-1650	Poor
Lightning Ridge	B2	16G	4.0	0-181	145	15-55	S-SW	1500-1750	Infrequent & Patchy
Boyer Ridge	B4	16G	2.1	0-243	156	20-45	S-SW	1500-1700	Infrequent & Patchy
Zoe's Ridge	B5	16G	2.0	0-238	193	20-40	S-SW	1400-1650	Infrequent & Patchy
Holloway Mt.	B6	15C	6.0	0-200	-	20-45	S-SE	1000-1300	None
TOTAL			79.5			15-65		1000-1750	

(1) Varner et al. 2000

TABLE 2

High Quality Longleaf Pine Forest

on

Mountain Longleaf National Wildlife Refuge (1)

Stand Name	Stand No.	Manage Area	Age	Mean Age	Slope (%)	Aspect	Elevation (ft)	Regeneration
Ponderosa	C1	16G	0-138	79	15-50	W-S	1200-1400	Good
Maceina Area	C2	16E	0-106		5-25	W-SW	850-1100	Very good
North Slope Reeves Mountain	C3	15I	0-100		15-45	E-N	1000-1200	Poor
CDTF Tract	C4	16C/E	0-106		5-25	W-NW	850-1100	Very good
Caffey Mt South	C6	16E	0-111	78	10-55	SE-S	1000-1500	Good
Red-tail Ridge Northwest	C9	15D	0-110	50-70	5-30	SW	800-1100	Very good
TOTAL					5-55		800-1500	

(1) Varner et al. 2000

TABLE 3

**Plant Occurrence in Old-growth Stands
on
Mountain Longleaf National Wildlife Refuge (1)**

Species	Form	Percent Plot Occurrence		
		Bee Sting Mt fire suppressed	Caffey Mt recurring fire	Red-tail Ridge annual fire
<i>Acer rubrum</i>	W	83	0	0
<i>Agalinus purpurea</i>	F	0	0	6
<i>Andropogon tenarius</i>	G	8	75	100
<i>Angelica venenosa</i>	F	0	0	6
<i>Asarum canadense</i>	F	8	0	0
<i>Asclepias amplexicaulis</i>	F	0	0	6
<i>Asimina parviflora</i>	W	8	20	6
<i>Asplenium platyneuron</i>	F	0	0	12
<i>Aster dumosus</i>	F	0	15	0
<i>Aster patens</i>	F	0	15	81
<i>Aster undulatus</i>	F	0	20	50
<i>Aureolaria pedicularia</i>	F	0	30	0
<i>Carya pallida</i>	W	25	30	44
<i>Chrysopsis graminifolia</i>	F	0	70	50
<i>Circaea lutetiana</i>	F	0	0	6
<i>Clitoria mariana</i>	F	8	30	56
<i>Coreopsis major</i>	F	8	100	31

Species	Form	Percent Plot Occurrence		
		Bee Sting Mt fire suppressed	Caffey Mt recurring fire	Red-tail Ridge annual fire
<i>Desmodium viridiflorum</i>	F	0	0	12
<i>Diospyros virginiana</i>	W	33	45	50
<i>Elephantopus tomentosus</i>	F	0	15	0
<i>Euphorbia corollata</i>	F	16	80	88
<i>Galactia volubilis</i>	F	0	20	38
<i>Galium pilosum</i>	F	0	0	50
<i>Gaura longiflora</i>	F	0	20	6
<i>Helianthus microcephalus</i>	F	0	70	81
<i>Helianthus mollis</i>	F	0	5	6
<i>Hydrangea quercifolia</i>	W	0	0	19
<i>Hypericum gentianoides</i>	F	0	10	6
<i>Hypericum hypercoides</i>	F	0	0	6
<i>Hypericum punctatum</i>	F	0	5	6
<i>Hypoxis hirsuta</i>	F	0	10	12
<i>Iris verna</i>	F	8	0	25
<i>Krigia biflora</i>	F	0	20	6
<i>Kuhnia eupatorioides</i>	F	0	15	12
<i>Lespedeza intermedia</i>	F	0	5	12
<i>Lespedeza procumbens</i>	F	0	10	6
<i>Lespedeza stuevei</i>	F	0	0	6
<i>Lespedeza virginiana</i>	F	0	0	31
<i>Liatris graminifolia</i>	F	0	15	19
<i>Nyssa sylvatica</i>	W	16	0	6
<i>Oxalis dillenii</i>	F	0	15	44

Species	Form	Percent Plot Occurrence		
		Bee Sting Mt fire suppressed	Caffey Mt recurring fire	Red-tail Ridge annual fire
<i>Oxalis violacea</i>	F	0	0	6
<i>Oxydendron arboreum</i>	W	8	0	0
<i>Panicum commutatum</i>	G	8	60	63
<i>Panicum virgatum</i>	G	0	5	25
<i>Panicum spp.</i>	G	0	20	0
<i>Pentstemon pallidus</i>	F	0	0	19
<i>Phlox amoena</i>	F	0	0	25
<i>Pinus echinata</i>	W	8	0	6
<i>Pinus palustris</i>	W	0	5	0
<i>Poa spp.</i>	G	0	0	6
<i>Pteridium aquilinum</i>	F	25	50	44
<i>Quercus marilandica</i>	W	0	35	12
<i>Quercus montana</i>	W	17	0	6
<i>Quercus velutina</i>	W	17	0	0
<i>Rhus copallina</i>	W	0	85	69
<i>Rhus radicans</i>	W	0	5	0
<i>Rhus toxicodendron</i>	W	0	25	0
<i>Rhyncosia tomentosa</i>	F	0	35	44
<i>Salvia urticifolia</i>	F	0	30	25
<i>Sassafras albidum</i>	W	92	95	0
<i>Senna marilandica</i>	F	0	30	42
<i>Seymeria cassioides</i>	F	0	5	0
<i>Silphium terebenthinaceum</i>	F	0	0	31
<i>Sisyrhincium angustifolium</i>	F	0	5	12

Species	Form	Percent Plot Occurrence		
		Bee Sting Mt fire suppressed	Caffey Mt recurring fire	Red-tail Ridge annual fire
<i>Smilax glauca</i>	F	0	35	50
<i>Smilax rotundifolia</i>	F	58	0	0
<i>Solidago erecta</i>	F	0	55	6
<i>Solidago odora</i>	F	8	85	44
<i>Specularia perfoliata</i>	F	0	5	6
<i>Stipa avenacia</i>	G	8	5	62
<i>Tephrosia virginiana</i>	F	0	25	44
<i>Tradescantia hirsuticaulis</i>	F	0	0	6
<i>Vaccinium arboreum</i>	W	8	30	44
<i>Vaccinium pallidum</i>	W	50	0	0
<i>Viola palmata</i>	F	0	0	25
<i>Viola pedata</i>	F	0	0	6
TOTAL SPECIES		23	48	62
TOTAL WOODY SPECIES		12	9	10
TOTAL FORB SPECIES		8	34	47
TOTAL GRASS SPECIES		3	5	5
TOTAL ASTER SPECIES		2	13	12
TOTAL LEGUME SPECIES		1	7	10

(1) Modified from Varner (2000)

TABLE 4

**Plants Indicators
of Pristine Longleaf Pine Forest
on
Mountain Longleaf National Wildlife Refuge**

Scientific Name	Common Name
<i>Hypoxis hirsuta</i>	
<i>Rhus copalina</i>	Winged Sumac
<i>Asclepias amplexicaulis</i>	Curly Milkweed
<i>Aster dumosus</i>	Bushy Aster
<i>Aster lateriflorus</i>	Calico Aster
<i>Aster patens</i>	Late Purple Aster
<i>Aster paternus</i>	Toothed White-topped Aster
<i>Aster surculosus</i>	Aster
<i>Aster undulates</i>	Wavy Leaved Aster
<i>Chrysopsis graminifolia</i>	Grass Leaved Golden Aster
<i>Coreopsis major</i>	Greater Tickseed
<i>Helianthus microcephalus</i>	Small Head Sunflower
<i>Helianthus mollis</i>	Prairie Sunflower
<i>Krigia biflora</i>	Two Flowered Cynthia
<i>Solidago erecta</i>	Erect Goldenrod
<i>Solidago odora</i>	Sweet Goldenrod
<i>Pteridium aquilinum</i>	Bracken Fern
<i>Vaccinium arboretum</i>	Sparkleberry
<i>Clitoria mariana</i>	Butterfly Pea
<i>Galactia volubilis</i>	Downy Milk Pea
<i>Lespedeza intermedia</i>	Slender Lespedezia
<i>Lespedeza procumbens</i>	Trailing Bush Clover
<i>Lespedeza virginica</i>	Slender Bush Clover
<i>Rhynchosia tomentosa</i>	Erect Snoutbean
<i>Senna marilandica</i>	Wild Senna
<i>Tephrosia virginiana</i>	Goat's Rue
<i>Quercus marilandica</i>	Black Jack Oak
<i>Hypericum gentianoides</i>	Pineweed
<i>Hypericum hypericoides</i>	St. Andrew's Cross

Scientific Name	Common Name
<i>Hypericum punctatum</i>	St. John's Wort
<i>Sisyrinchium angustifolium</i>	Stout Blue-eyed Grass
<i>Carya pallida</i>	Sand Hickory
<i>Salvia urticifolia</i>	Nettle-leaved Sage
<i>Pinus palustris</i>	Longleaf Pine
<i>Andropogon tenarius</i>	Split-beard Bluestem
<i>Andropogon virginicus</i>	Broom-sedge
<i>Dichanthelium scoparium</i>	Little Bluestem
<i>Panicum aciculare</i>	Panic Grass
<i>Panicum angustifolium</i>	Panic Grass
<i>Panicum boscii</i>	Panic Grass
<i>Panicum commutatum</i>	Panic Grass
<i>Panicum virgatum</i>	Switch Grass
<i>Smilax glauca</i>	White-leaf Catbrier

(1) Varner et al. 2000

TABLE 5

Summary of Longleaf Pine Stand Characteristics
on
Mountain Longleaf National Wildlife Refuge

Maceina et al. 1997					Varner et al. 2000		
Mgmt Area	Recovery Potential	Slope (%)	Roads	Wind Direction	Stand Category	Stand #	Stand Description
14A	Fair-poor	38	Perimeter on E, interior missing	S-SE	Z	1	Contains Scattered individuals & patches of longleaf pine
14B	Fair	35	Perimeter only	S-SE	D	7	Significant component of longleaf pine
14C	Good-poor	26-41	Perimeter on N & NE missing, no interior access	S-SW	B	1	Contains old-growth stand B1
15A	Good	13-29	Perimeter, one interior	W-SW	B	7	Contains old-growth stand B7
15C	Poor	14-22	Perimeter missing	S-SW	B	6	Contains old-growth stand B6

Maccina et al. 1997					Varner et al. 2000		
Mgmt Area	Recovery Potential	Slope (%)	Roads	Wind Direction	Stand Category	Stand #	Stand Description
			on W				
15D	Fair-good	13-32	Perimeter on W missing, one interior	W-SW	A C D	2 9 5	Contains frequently burned old-growth, high quality stands, and areas with a significant component of longleaf pine
15F	Good	13-23	Perimeter, some interior	N-W	Z	4	Contains scattered individuals & patches of longleaf pine
15G	Good	16	Perimeter ,one interior	SW	Z	5	Contains scattered individuals & patches of longleaf pine
15H	Good	48	Perimeter, one interior	S-SW	Z	6	Contains scattered individuals & patches of longleaf pine
15J	Fair	27	Perimeter, interior abandoned	W-SW	D Z	6 7	Contains significant component, and scattered individuals and patches of longleaf pine
15I	Good	17	Perimeter, one interior	W-SW	A C	4 3	Contains frequently burned old-growth, and high quality longleaf pine stands
16B	Poor	10-34	Perimeter and interior	W-NW	-	-	-
16C	Good	12-14	Perimeter and interior	-	C	4	Contains high quality longleaf pine stands
16E	Good	18-36	Perimeter and interior	W-SW	A A	1 3	Contains two frequently burned old-growth stands, three high quality stands,

Maceina et al. 1997					Varner et al. 2000		
Mgmt Area	Recovery Potential	Slope (%)	Roads	Wind Direction	Stand Category	Stand #	Stand Description
					C C C D	2 4 6 8	and one area with a significant component of longleaf pine
16F	Fair-poor	3-17	Perimeter and interior	NW	Z	8	Contains scattered individuals and patches of longleaf pine
16G	Fair-poor	26	Perimeter only	SW	A B B B C	3 2 4 5 1	Contains one frequently burned old-growth stand, three fire-suppressed old-growth stands, and one high quality longleaf pine stand
16H	Fair-poor	27	Perimeter, two interior	SW	Z	9	Contains scattered individuals and patches of longleaf pine
19C	Fair-poor	21-37	Perimeter N & W missing, some interior	S-SW	Z	17	Contains scattered individuals and patches of longleaf pine
19D	Poor	30	Perimeter on E, S & W missing, three interior	S-SW	Z	18	Contains scattered individuals and patches of longleaf pine
19E	Fair-poor	13	Perimeter on E & S missing, two interior	S	D Z	2 19	Contains significant component, and scattered individuals and patches of longleaf pine
			Perimeter on E &		D	3	Contains significant component, and

Maceina et al. 1997					Varner et al. 2000		
Mgmt Area	Recovery Potential	Slope (%)	Roads	Wind Direction	Stand Category	Stand #	Stand Description
20A	Fair-good	24-25	S missing, some interior	S-SE	Z	20	scattered individuals and patches of longleaf pine
20B	Poor	21-49	Perimeter on E missing, one interior	E-SE	D Z	4 21	Contains significant component, and scattered individuals and patches of longleaf pine
20C	Fair	18	Perimeter on NE & SE missing, interior missing	S-SE	Z	22	Contains scattered individuals and patches of longleaf pine

TABLE 6

**Potential
Reptiles and Amphibians
on
Mountain Longleaf National Wildlife Refuge (1)**

Scientific Name	Common Name	Refuge Record
Frogs and Toads		
<i>Acris crepitans</i>	Northern Cricket Frog	
<i>Acris gryllus</i>	Southern Cricket Frog	
<i>Bufo americanus</i>	American Toad	X
<i>Bufo quercicus</i>	Oak Toad	
<i>Bufo woodhouseii</i>	Fowler's Toad	X
<i>Gastrophryne carolinensis</i>	Narrowmouth Toad	X
<i>Hyla cinerea</i>	Green Treefrog	
<i>Hyla chrysoscelis</i>	Cope's Gray Treefrog	
<i>Hyla gratiosa</i>	Barking Frog	
<i>Hyla squirrela</i>	Squirrel Treefrog	
<i>Scaphiopus holbrookii</i>	Eastern Spadefoot Toad	
<i>Pseudacris brachyphona</i>	Mountain Chorus Frog	X
<i>Pseudacris crucifer</i>	Spring Peeper	
<i>Pseudacris triseriata</i>	Upland Chorus Frog	X
<i>Rana catesbeiana</i>	Bullfrog	X
<i>Rana clamitans</i>	Green Frog	X
<i>Rana palustris</i>	Pickerel Frog	X

Scientific Name	Common Name	Refuge Record
<i>Rana sylvatica</i>	Wood Frog	
<i>Rana utricularia</i>	Southern Leopard Frog	X
Salamanders		
<i>Ambystoma maculatum</i>	Spotted Salamander	
<i>Ambystoma opacum</i>	Marbled Salamander	
<i>Ambystoma texanum</i>	Smallmouth Salamander	
<i>Ambystoma tigrinum</i>	Eastern Tiger Salamander	
<i>Aneides aeneus</i>	Green Salamander	
<i>Desmognathus aeneus</i>	Seepage Salamander	
<i>Desmognathus fuscus</i>	Southern Dusky Salamander	X
<i>Desmognathus monticola</i>	Mountain Dusky Salamander	
<i>Eurycea cirrigera</i>	Southern Two-lined Salamander	
<i>Eurycea longicauda</i>	Long Tail Salamander	X
<i>Eurycea lucifuga</i>	Cave Salamander	
<i>Hemidactylum scutatum</i>	Four-toed Salamander	
<i>Necturus beyeri</i>	Gulf Coast Waterdog	
<i>Notophthalmus viridescens</i>	Red-spotted Newt	X
<i>Gyrinophilus porphyriticus</i>	Spring Salamander	X
<i>Plethodon glutinosus</i>	Slimy Salamander	X
<i>Plethodon serratus</i>	Southern Redback Salamander	X
<i>Plethodon websteri</i>	Webster's Salamander	X
<i>Pseudotriton montanus</i>	Mud Salamander	
<i>Pseudotriton ruber</i>	Southern Red Salamander	X
Lizards		
<i>Anolis carolinensis</i>	Green Anole	X

Scientific Name	Common Name	Refuge Record
<i>Cnemidophorus sexlineatus</i>	Six-lined Racerunner	
<i>Eumeces anthracinus</i>	Coal Skink	
<i>Eumeces egregius</i>	Mole Skink	
<i>Eumeces fasciatus</i>	Five-lined Skink	
<i>Eumeces inexpectus</i>	Southeastern Five-lined Skink	
<i>Eumeces laticeps</i>	Broad Headed Skink	
<i>Ophiasaurus attenuatus</i>	Slender Glass Lizard	X
<i>Sceloporus undulatus</i>	Fence Lizard	X
<i>Scincella laterale</i>	Ground Skink	
Snakes		
<i>Agkistrodon contortrix</i>	Copperhead	X
<i>Agkistrodon piscivorus</i>	Cottonmouth	
<i>Carphophis amoenus</i>	Worm Snake	X
<i>Cemophora coccinea</i>	Scarlet Snake	X
<i>Coluber constrictor</i>	Black Racer	
<i>Crotalus horridus</i>	Timber Rattlesnake	X
<i>Diadophis punctatus</i>	Ringneck Snake	X
<i>Elaphe guttata</i>	Cornsnake	X
<i>Elaphe obsoleta</i>	Gray Rat Snake	X
<i>Heterodon platirhinos</i>	Eastern Hognose Snake	X
<i>Heterodon simus</i>	Southern Hognose Snake	
<i>Lampropeltis calligaster</i>	Mole Kingsnake	
<i>Lampropeltis getula</i>	Eastern Kingsnake	X
<i>Masticophis flagellum</i>	Coachwhip	
<i>Micurus fulvius</i>	Coral Snake	

Scientific Name	Common Name	Refuge Record
<i>Nerodia erythrogaster</i>	Yellow Belly Water Snake	
<i>Nerodia rhombifer</i>	Diamondback Water Snake	
<i>Nerodia sipedon</i>	Midland Water Snake	X
<i>Opheodrys aestivus</i>	Rough Green Snake	
<i>Pituophis melanoleucus melanoleucus</i>	Northern Pine Snake	Adjacent
<i>Regina rigida</i>	Glossy Crayfish Snake	
<i>Regina septemvittata</i>	Queen Snake	
<i>Sistrurus miliarius</i>	Pigmy Rattlesnake	
<i>Storeria dekayi</i>	Midland Brown Snake	
<i>Storeria occipitomaculata</i>	Redbelly Snake	
<i>Tantilla coronata</i>	Southern Crowned Snake	
<i>Thamnophis sauritus</i>	Eastern Ribbon Snake	
<i>Thamnophis sirtalis</i>	Garter Snake	X
<i>Virginia striatula</i>	Rough Earth Snake	
<i>Virginia valarie</i>	Smooth Earth Snake	X
Turtles		
<i>Apalone spinifer</i>	Spiny Softshell Turtle	
<i>Chelydra serpentina</i>	Common Snapping Turtle	
<i>Chrysemys picta</i>	Painted Turtle	
<i>Deirochelys reticularia</i>	Chicken Turtle	
<i>Graptemys geographica</i>	Common Map Turtle	
<i>Kinosternon subrubrum</i>	Eastern Mud Turtle	
<i>Sternotherus minor</i>	Loggerhead Musk Turtle	
<i>Sternotherus odoratus</i>	Stinkpot Turtle	
<i>Terrepenne carolina</i>	Eastern Box Turtle	X

Scientific Name	Common Name	Refuge Record
<i>Trachemys scripta</i>	Yellow Bellied Slider	

(1) Adapted from Cline and Adams (1997)

TABLE 7

**Reptiles and Amphibians
Documented on
Mountain Longleaf National Wildlife Refuge (1)**

Scientific Name	Common Name	Refuge Location	Habitat	Status (3)
<i>Bufo americanus</i>	American Toad	19D Pond	Upland Pond	
<i>Bufo woodhousii</i>	Fowler's Toad	19D Pond	Ponds with emergent plants	
<i>Gastrophryne carolinesis</i>	E. Narrowmouth Toad	19D Pond	Ephemeral Pools and Ponds	
<i>Pseudacris triseriata</i>	Upland Chorus Frog	19D Pond	Upland Wetlands	
<i>Pseudacris brachyphona</i>	Mountain Chorus Frog	Rocky Hollow Rd (2)	Upland Wetland	
<i>Rana catesbeiana</i>	Southern Bullfrog	19D Pond	Upland Wetlands	
<i>Rana clamitans</i>	Green Frog	19D Pond	Upland Wetlands	
<i>Rana palustris</i>	Pickerel Frog	Bains Gap Rd., 19D Pond	Upland Wetlands	
<i>Rana utricularia</i>	Southern Leopard Frog	Bains Gap Rd, 19D Pond	Upland Wetlands	

Scientific Name	Common Name	Refuge Location	Habitat	Status (3)
<i>Desmognathus fuscus</i>	S. Dusky Salamander	19D Creek	Temporal to Permanent Streams	
<i>Eurycea longicauda</i>	Long Tail Salamander	Bains Gap Road	Upland Wetlands and Seeps	
<i>Gyrinophilus porphyriticus</i>	Spring Salamander	Bains Gap Rd	Permanent Streams	
<i>Notopthalmus viridescens</i>	Red Spotted Newt	19D Pond	Upland Ponds	
<i>Plethodon dorsalis</i>	ZigZag Salamander	Near 19D Pond	Upland Wetlands and Seeps	
<i>Plethodon glutinosus</i>	Slimy Salamander	Forested Upland in 19E	Upland Forest	
<i>Plethodon serratus/websteri</i>	S. Redback Salamander	Forested Upland in 19D	Upland Permanent Stream	G5S3
<i>Pseudotriton ruber</i>	S. Red Salamander	Bains Gap Rd	Upland Permanent Streams	
<i>Anolis carolinensis</i>	Green Anole	19D Pond	Upland Forest	
<i>Sceloporus undulatus</i>	Eastern Fence Lizard	Moorman Mt., 19D Pond	Mesic to Xeric Forest	
<i>Ophisaurus attenuatus</i>	E. Slender Glass Lizard	Bains Gap Rd	Mesic Forest	
<i>Agkistrodon contortrix</i>	Copperhead	Bains Gap Rd	Upland and Lowland forest	
<i>Carphophis amoenus</i>	Worm Snake	19D Pond	Mesic Hardwood Forest	
<i>Cemophora coccinea</i>	Northern Scarlet Snake	Bains Gap Rd	Well Drained Areas	
<i>Crotalus horridus</i>	Timber Rattlesnake	Bains Gap Rd	Upland Forest	

Scientific Name	Common Name	Refuge Location	Habitat	Status (3)
<i>Diadophis punctatus</i>	Southern Ringneck Snake	Compartment E	Upland and Lowland forest	
<i>Elaphe guttata guttata</i>	Corn Snake	Rocky Hallow Rd (2)	Upland Forests and Fields	
<i>Elaphe obsoleta spiloides</i>	Gray Rat Snake	19D Pond, Rocky Hollow Rd (2)	Upland and Lowland Forest	
<i>Heterodon platirhinos</i>	Eastern Hognose Snake	Rocky Hollow Rd (2)	Upland and Lowland Forest	
<i>Lampropeltis getula</i>	Eastern King Snake	Bains Gap	Upland Mesic Forest	
<i>Nerodia sipedon pleuralis</i>	Midland Water Snake	19D Pond	Permanent Ponds/Lakes	
<i>Thamnophis sirtalis</i>	Eastern Garter Snake	Bains Gap Rd	Upland and Lowland Wetlands	
<i>Virginia valeriae</i>	E. Smooth Earth Snake	19D Pond	Upland and Lowland forest	
<i>Terrepenne carolina</i>	Eastern Box Turtle	19D	Upland and Lowland Forest	

(1) Modified from Cline and Adams (1997) to include only those species documented within the Refuge

(2) Rocky Hollow Road records were considered refuge documentation. Rocky Hollow Road parallels the refuge boundary, and habitat between the refuge and road are similar and contiguous.

(3) Alabama Natural Heritage Program (2003)

TABLE 8

Neotropical Migrants Potentially Breeding on Mountain Longleaf National Wildlife Refuge (1)

Common Name	Forest Interior	Forest Interior & Edge	Forest-Edge & Scrub	Field-Edge	Recorded on Fort McClellan	
					Soerhen (1995)	Webb (1996a)
Broad-winged Hawk	Yes	No	No	No		
Yellow-billed Cuckoo	No	Yes	No	No	Yes	Yes
Black-billed Cuckoo	No	Yes	No	No		
Common Nighthawk	No	No	No	Yes		
Whip-poor-will	No	Yes	No	No		
Chuck-will's-widow	No	Yes	No	No		
Ruby-throated Hummingbird	No	Yes	No	No		
Eastern Kingbird	No	No	No	Yes		
Great Crested Flycatcher	No	Yes	No	No	Yes	Yes
Eastern Wood-pewee	No	Yes	No	No	Yes	Yes
Acadian Flycatcher	Yes	No	No	No	Yes	Yes

Common Name	Forest Interior	Forest Interior & Edge	Forest-Edge & Scrub	Field-Edge	Recorded on Fort McClellan	
					Soerhen (1995)	Webb (1996a)
Purple Martin	No	No	No	Yes		
Barn Swallow	No	No	No	Yes		
Northern Rough-winged Swallow	No	No	No	Yes		
Chimney Sift	No	No	No	Yes	Yes	Yes
Blue-gray Gnatcatcher	No	Yes	No	No	Yes	Yes
Wood Thrush	No	Yes	No	No		Yes
Red-eyed Vireo	No	Yes	No	No	Yes	Yes
Yellow-throated Vireo	No	Yes	No	No		
Prothonotary Warbler	No	Yes	No	No		
Northern Parula	No	Yes	No	No		
Yellow-throated Warbler	Yes	No	No	No		
Black-throated Green Warbler	Yes	No	No	No		
Black-and-white Warbler	Yes	No	No	No	Yes	Yes
Cerulean Warbler	Yes	No	No	No		
American Redstart	Yes	No	No	No		
Prairie Warbler	No	No	Yes	No		
Blue-winged Warbler	No	No	Yes	No		

Common Name	Forest Interior	Forest Interior & Edge	Forest-Edge & Scrub	Field-Edge	Recorded on Fort McClellan	
					Soerhen (1995)	Webb (1996a)
Yellow Warbler	No	Yes	No	No		
Swainson's Warbler	Yes	No	No	No		
Worm-eating Warbler	Yes	No	No	No	Yes	Yes
Hooded Warbler	Yes	No	No	No		
Kentucky Warbler	Yes	No	No	No	Yes	Yes
Common Yellowthroat	No	Yes	No	No		
Yellow-breasted Chat	No	No	Yes	No	Yes	Yes
Louisiana Waterthrush	Yes	No	No	No		
Ovenbird	Yes	No	No	No	Yes	Yes
Orchard Oriole	No	No	Yes	No		
Summer Tanager	No	Yes	No	No	Yes	Yes
Scarlet Tanager	Yes	No	No	No	Yes	Yes
Dickcissel	No	No	No	Yes		
Blue Grosbeak	No	No	Yes	No		
Indigo Bunting	No	No	Yes	No	Yes	Yes
Chipping Sparrow	No	No	No	Yes	Yes	Yes

(1) Adapted from Soehren (1994), originally adapted from Hammel (1992)

TABLE 9**Breeding Bird Surveys on or directly adjacent to
Mountain Longleaf National Wildlife Refuge
Large Forested Tracts (1)**

Common Name	Federal	State	Nature Conservancy (2)
Wild Turkey			
Yellow-billed Cuckoo			
Chimney Swift			
Red-bellied Woodpecker			
Downy Woodpecker			
Pileated Woodpecker			
Eastern Wood-pewee			
Great Crested Fly Catcher			
Blue Jay			
Tufted Titmouse			
White-breasted Nuthatch			
Red-eyed Vireo			
Black-and-white Warbler			
Worm-eating Warbler			G5S3B
Ovenbird			
Kentucky Warbler			
Yellow-breasted Chat			
Summer Tanager			

Common Name	Federal	State	Nature Conservancy (2)
Scarlet Tanager			
Northern Cardinal			
Indigo Bunting			

(1) Soerhen (1995) and Webb (1996a)

(2) Nature Conservancy Heritage Ranking: G5-Demonstrably secure globally, S3B-Species uncommon during breeding season in Alabama

TABLE 10
Mammals Suspected or Documented
on
Mountain Longleaf National Wildlife Refuge

Common Name	Scientific Name	Status			Recorded on Refuge (4)
		Federal (1)	Alabama (2)	NC (3)	
Virginia Opossum	<i>Didelphis virginiana</i>				X
Southern Short-tailed Shrew	<i>Blarina carolinensis</i>				
Least Shrew	<i>Cryptotis parva</i>				
Southeastern Shrew	<i>Sorex longirostris</i>				
Eastern Mole	<i>Scalopus aquaticus</i>				
Gray Bat	<i>Myotis grisecens</i>	LE	SP	G3S2	X (5)
Little Brown Myotis	<i>Myotis lucifugus</i>			G5S3	
Northern Long-eared Bat	<i>Myotis septentrionalis</i>			G4S2	
Indiana Bat	<i>Myotis sodalis</i>	LE	SP	G2S2	
Eastern Red Bat	<i>Lasiurus borealis</i>				X (5)

Common Name	Scientific Name	Status			Recorded on Refuge (4)
		Federal (1)	Alabama (2)	NC (3)	
Hoary Bat	<i>Lasiurus cinereus</i>				
Seminole Bat	<i>Lasiurus seminolus</i>				X (5)
Silver-haired Bat	<i>Lasionycteris noctivagans</i>				
Eastern Pipistrelle	<i>Pipistrellus subflavus</i>				X (5)
Big Brown Bat	<i>Eptesicus fuscus</i>				X (5)
Evening Bat	<i>Nycticeius humeralis</i>				X (5)
Rafinesque's Big-eared Bat	<i>Corynorhinus rafinesquii</i>		SP	G4S2	
Brazilian Free-tailed Bat	<i>Tadarida brasiliensis</i>			G5S3	
Nine-banded Armadillo	<i>Dasypus novemcinctus</i>				X
Swamp Rabbit	<i>Sylvilagus aquaticus</i>				
Eastern Cottontail	<i>Sylvilagus floridanus</i>				X
Appalachian Cottontail	<i>Sylvilagus obscurus</i>			G4S1	X
Eastern Chipmunk	<i>Tamias striatus</i>				X
Woodchuck	<i>Marmota monax</i>				X
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>				X
Eastern Fox Squirrel	<i>Sciurus niger</i>			G5S4	X
Southern Flying Squirrel	<i>Glaucomys volans</i>				X

Common Name	Scientific Name	Status			Recorded on Refuge (4)
		Federal (1)	Alabama (2)	NC (3)	
American Beaver	<i>Castor canadensis</i>				X
Marsh Rice Rat	<i>Oryzomys palustris</i>				
Eastern Harvest Mouse	<i>Reithrodontomys humulis</i>				
Cotton Mouse	<i>Peromyscus gossypinus</i>				
White-footed Mouse	<i>Peromyscus leucopus</i>				
Oldfield Mouse	<i>Peromyscus polionotus</i>				
Golden Mouse	<i>Ochrotomys nuttalli</i>				
Hispid Cotton Rat	<i>Sigmodon hispidus</i>				
Eastern Wood Rat	<i>Neotoma floridana</i>				
Woodland Vole	<i>Microtus pinetorum</i>				
Common Muskrat	<i>Ondatra zibethicus</i>				X
Meadow Jumping Mouse	<i>Zapus hudsonius</i>		SP	G5S3	
Coyote	<i>Canis latrans</i>				X
Red Fox	<i>Vulpes vulpes</i>				X
Common Gray Fox	<i>Urocyon cinereoargenteus</i>				X
American Black Bear	<i>Ursus americanus</i>				X
Northern Raccoon	<i>Procyon lotor</i>				X

Common Name	Scientific Name	Status			Recorded on Refuge (4)
		Federal (1)	Alabama (2)	NC (3)	
Long-tailed Weasel	<i>Mustela frenata</i>			G5S3	
American Mink	<i>Mustela vison</i>				
Northern River Otter	<i>Lontra canadensis</i>				
Eastern Spotted Skunk	<i>Spilogale putorius</i>			G5S3	
Striped Skunk	<i>Mephitis mephitis</i>				
Bobcat	<i>Lynx rufus</i>				X
White-tailed Deer	<i>Odocoileus virginianus</i>				X

(1) LE=Listed Endangered

(2) SP=State Protected (Nongame Species Regulation)

(3) Nature Conservancy Heritage Ranking system - G2=Imperiled globally, G3=Either very rare and local throughout its range or found locally in a restricted range, G4=Apparently secure globally, G5=Demonstrably secure globally, S2=Imperiled in state because of rarity or because of some factors making it very vulnerable to extirpation from Alabama, S3=Rare or uncommon in Alabama, S4=Demonstrably secure in Alabama and essentially ineradicable under present conditions.

(4) Recorded observations include lands adjacent to the Refuge where species and habitat suggests that they may also inhabit or range onto the Refuge

(5) Refuge Observations were taken from mist netting captures on Fort McClellan (3D/International 1996; 3D/International 1997). While no stations were located directly on the Refuge, sites were adjacent on Fort McClellan and along Cane Creek to the west. All captures represented bats that at the minimum possibly forage on the Refuge.

TABLE 11

**Rare and Uncommon Biota
Documented on
Mountain Longleaf National Wildlife Refuge**

Common Name	Scientific Name	Status			Refuge Location
		Federal	State	TNC	
Mammals					
Gray Bat	<i>Myotis grisecens</i>	E	SP	G3S2	Mist netted and radio-tracked along streams and forests west of Refuge. Radio-detection near the headwaters of South Branch Cane Creek on Refuge.
Appalachian Cottontail	<i>Sylvilagus obscurus</i>			G4S1	Tentative documentation of specimen along Ridge Road. Recorded from Talladega Mts to east and suspected to inhabit higher elevations on Refuge.
Eastern Fox Squirrel	<i>Sciurus niger</i>			G5S4	Present in mature longleaf and shortleaf pine forests on Refuge
Birds					

Common Name	Scientific Name	Status			Refuge Location
		Federal	State	TNC	
Worm-eating Warbler	<i>Helmitheros vermivorus</i>			G5S3	Recorded along breeding bird transects in Management Areas 15 A and 15F.
Reptiles and amphibians					
Southern Redback Salamander	<i>Plethodon serratus/websteri</i>			G5S3	Collected in forested upland in Management Area 19D
Insects					
Caddisflies				X	18 rare species collected from the headwaters of Bains Gap Creek and South Branch Cane Creek
Diana	<i>Speyeria diana</i>			G3S2	Two females were observed in the Marcheta Mountain Seep in 1993.
Plants					
Sky-blue Aster	<i>Aster azureus</i>			G5S1	Collected along the west slopes of Frederick Mountain in Management Areas 16G and 14B.
Ground Juniper	<i>Juniperus communis</i>			G5S1	Located on rock ledges along the summit of Moorman Mt., habitat designated as Moorman Mountain Natural Area.
Fraser's Loosestrife	<i>Lysimachia fraseri</i>			G2S1	Recorded along the upper reaches of Bains Gap Creek, although not observed in the last few years. Area designated Bains Gap Creek Seep Natural Area.

Common Name	Scientific Name	Status			Refuge Location
		Federal	State	TNC	
White Fringeless Orchid	<i>Platanthera integrilabia</i>	C		G2G3S2	Populations in Marcheta Mountain Seep Natural Area and Cave Creek Seep Natural Area. Potential habitat throughout seepages in mountains.
Rose Gentian	<i>Sabatia capitata</i>			G2S2	Upland border of Marcheta Mt. Seep directly behind former Range 21. Site included within boundaries of Marcheta Mt. Seep Natural Area.
Flat-topped Hawthorn	<i>Crataegus triflora</i>			G2S2	Two populations exist within a hundred yards of refuge boundary and species is highly suspected on Refuge. Grows on exposed limestone outcrops.

(1) E=Federally Listed Endangered

(2) SP=State Protected (Alabama Nongame Species Regulation, Section 220-2-.92 of the Alabama Regulations for 2003-2004 Game, Fish, and Fur Bearing Animals).

(3) Nature Conservancy Heritage Ranking system - G2=Imperiled globally, G3=Either very rare and local throughout its range or found locally in a restricted range, G4=Apparently secure globally, G5=Demonstrably secure globally, S1=Critically imperiled in Alabama because of extreme rarity or because of some factors making it especially vulnerable to extirpation from Alabama, S2=Imperiled in state because of rarity or because of some factors making it very vulnerable to extirpation from Alabama, S3=Rare or uncommon in Alabama, S4=Demonstrably secure in Alabama and essentially ineradicable under present conditions.

TABLE 12

Natural Areas

on

Mountain Longleaf National Wildlife Refuge

Natural Area	Manage. Area	Rare Spp.	Significance
Cave Creek Seep	16C and 16E	White Fringeless Orchid	Headwaters and associated seepages along Cave Creek
Marcheta Mountain Seep	15I	White Fingeless Orchid, Diana, Rose Gentian	Headwaters and associated seepages along North Branch Cane Creek
South Branch Cane Creek Seep	15H and 15G	Gray Bat, Caddisflies	Headwaters and associated seepages along South Branch Cane Creek
Bains Gap Creek Seep	14A and 14B	Fraser's Loosestrife, Caddisflies	Headwaters and associated seepages along Bains Gap Creek
Moorman Mountain Rock Ledges	16G	Ground Juniper	Exposed rock faces extending along Moorman Mountain Summit

Table 13

Management Strategy Costs on Mountain Longleaf National Wildlife Refuge

GOAL	OBJECTIVE	COST (\$)	PERCENTAGE		FREQUENCY INTERVAL	RONS
			SERVICE	CONTRACT		
G-1	Primary Obj - 1	60,000	10	90	One-time	
G-1	Primary Obj - 2	60,000	10	90	One-time	
G-1	Primary Obj - 3					
	Year 1	81,300	100	0		
	Year 2	81,300	100	0		
	Year 3	81,300	100	0		
G-1	Primary Obj - 4	15,000	100	0	Annual	
G-1	Primary Obj - 5	2,000	100	0	Annual	
G-2	Primary Obj - 1					
	Year 1	28,700	100	0		
	Year 2	34,500	100	0		
	Year 4	63,200	100	0		
	Year 6	63,200	100	0		
G-2	Secondary Obj - 1					
	Year 3-15	100,000	100	0	Annual	
G-2	Secondary Obj - 2	10,000	100	0	Two Year	
G-2	Secondary Obj - 3					
	Year 8-15	100,000	100	0	Annual	
G-3	Secondary Obj - 1	10,000	50	50	Annual	

GOAL	OBJECTIVE	COST (\$)	PERCENTAGE		FREQUENCY INTERVAL	RONS
			SERVICE	CONTRACT		
G-3	Secondary Obj - 2	10,000	80	20	Annual	
G-3	Secondary Obj - 3	7,000	25	75	Annual	
G-4	Secondary Obj - 1	1,000	100	0	Annual	
G-5	Primary Obj - 1	1,000	100	0	Annual	
G-6	Primary Obj - 1	1,000	100	0	Annual	
G-6	Primary Obj - 2	8,000	50	50	Annual	
G-6	Primary Obj - 3	2,000	20	80	Annual	
G-7	Primary Obj - 1	3,000	100	0	Annual	
G-7	Primary Obj - 2	4,000	25	75	Annual	
G-7	Secondary Obj - 1	10,000	100	0	Ten Year	
G-8	Primary Obj - 1	3,000	0	100	Annual	
G-8	Primary Obj - 2	3,000	100	0	Annual	
G-8	Primary Obj - 3	3,000	25	75	Annual	
G-9	Primary Obj - 1	3,000	25	75	Annual	
G-9	Primary Obj - 2	20,000	0	100	One-time	
G-9	Primary Obj - 3	2,000	20	80	Annual	
G-9	Primary Obj - 4	2,000	20	80	Annual	
G-9	Secondary Obj - 1	15,000	20	80	One-time	
G-10	Primary Obj - 1	5,000	50	50	Annual	

TABLE 14

Schedule and Accomplishment Targets for Management Objectives

GOAL	OBJECTIVE	ACCOMPLISHMENT TARGET	YEAR														
			01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
1-P1	Vegetation Mapping	Map 9016 Acres															
1-P2	Longleaf Pine Mapping	Map Approximately 4000 Acres															
1-P3	Dormant Season Prescribed Burns	Burn 1500 Acres/Annually															
1-P4	Cooperative Agreement with JPA	Burn 300 Acres/5 Years	?	?	?	?	?										
1-P5	Plant Herbarium	Maintain and update/annually															
2-P1	Growing Season Burn - Unit 3	Burn 1264 acres/2 Years															
2-S1	Growing Season Burns - Refugewide	Burn 2000 Acres/Annually															
2-S2	Burn Units 10 & 11 - Feasibility	Burn 200 Acres/2 Years															
2-S3	Prescribed Burning - Maintenance	Burn 2000 Acres Annually															
3-S1	Longleaf Restoration - Mechanical	Treat 50 Acres/Annually															
3-S2	Longleaf Restoration - Seedlings	Plant 20 Acres Annually															
3-S3	Longleaf Restoration - Removal	Treat 20 Acres/Annually															
4-S1	Restoration of Ranges	Variable Targets			?	?	?	?	?	?	?	?	?	?	?	?	?
5-P1	Fire Monitoring - Forest Condition	Photo Monitoring Plots/Annually															

GOAL	OBJECTIVE	ACCOMPLISHMENT TARGET	YEAR														
			01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
6-P1	Landscape Ecology - Agreements	Meetings/Annually															
7-P1	Forest Fragmentation - Restoration	Restore 20 Acres/annually															
7-P2	Biotic Inventories	Monitoring Report/Annually															
8-P1	Wetland Management	Monitoring Report/Annually															
8-P2	Wetland - Fire Effects	Monitoring Report/Annually															
8-S1	Wetland - Reintroduce Fire	Modify Existing Burn Plan			?												
9-P1	Endangered Species - Monitoring	Monitoring Report/annually															
9-P2	Significant Ecological Communities	Monitoring Report/Annually															
9-P3	White Fringeless Orchid - Monitor	Monitoring Report/Annually															
10-P1	Kudzu Control and Monitoring	Monitoring Report/Annually															
10-P2	Weeping Lovegrass	Research Agreement				?	?	?	?	?	?	?	?	?	?	?	?
10-P3	Exotic Plants - Control	Treat Bains Gap Rd/Annually															
10-P4	Exotic Plants - Ranges	Treat 5 Acres/Annually	?	?	?												
10-P5	Japanese Stilt Grass - Control	Treat 10 Miles/Annually															
10-S1	Weeping Lovegrass - Restoration	Treat 50 Acres & Plant Seedlings	?	?	?												
11-P1	Hunting Program	Cooperative with State/Annually	?														
11-P2	Wildlife Demonstration Projects	Individual Projects	?	?	?												
12-P1	Firebreak Management	Restore 5 miles/Annually															