

THE SHIREY BAY RAINEY BRAKE WILDLIFE MANGEMENT AREA BioBlitz

9-10 May 2005

A Cooperative Biodiversity Survey

Conducted by

The Arkansas State University Department of Biological Sciences

and

The Arkansas Game and Fish Commission

**This report was compiled by
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October 2005**

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Introduction

In general, a BioBlitz may have elements of a contest, festival, educational event and scientific endeavor. Because this was the first BioBlitz experience for most participants, the scope of the Shirey Bay Rainy Brake Wildlife Management Area (SBRBWMA, or SB/RB) BioBlitz was limited to that of being a scientific endeavor.

In this regard, a BioBlitz provides an opportunity for biologists from many disciplines to work together toward a common goal. Although a BioBlitz will not produce a complete species inventory, it can contribute significantly to a firm foundation for a wildlife management program. It can potentially identify species that should be monitored or controlled. It may also identify important aspects of an area that otherwise might not have been known (Censky, 2001).

Wildlife management areas are established for the management of wildlife species and the potential utilization of those resources by the public. Although management of fish, bird and mammal game species is emphasized, all species of plants and animals are included. The SB/RB is located in Lawrence County and lies immediately southeast of Lynn. It encompasses over 10,700 acres. It straddles the Black River and has several oxbows (e.g. Brushy Lake, Horseshoe Lake, Shirey Bay). Hill Slough traverses the SB/RB from north to south, entering the Black River at the SB/RB's south central border. Much of this area is covered by bottomland hardwood forest, but the Ozark foothills begin in its northwest corner.

The BioBlitz was a cooperative venture between the Arkansas Game and Fish Commission and the Arkansas State University – Jonesboro Campus Department of Biological Sciences. Participants were as follows. Team leaders are listed first.

Fungi: ASU - Dr. Marty Huss, Dr. Jeannette Loutch, Dr. Staria Vanderpool

Vascular plants: ASU – Dr. Staria Vanderpool, Dr. Jeannette Loutsch, Dr. Marty Huss

Aquatic macroinvertebrates: ASU – Dr. Alan Christian, Dr. Rich Grippo, George Harp (retired), Phoebe Harp (retired), Sam McCord, Raven Lawson

Lepidoptera (butterflies and moths): ASU - Dr. Norman Lavers (retired), Cheryl Lavers and George Harp

Miscellaneous terrestrial insects: ASU – Dr. Norman Lavers, Cheryl Lavers, George Harp

Fishes: AGFC – Fisheries District 3; Sam Barkley (District biologist), Sam Henry (Research biologist)

ASU – Dr. Alan Christian, Dr. Richard Grippo, Jason Gambill, Shelly Kannada, Raven Lawson, Holly Martin, Micky Matthews, Mellissa Milligan, Andrew J. Peck, Justin Yancey
Herptiles: ASU – Dr. Norman and Cheryl lavers, Dr. Marty Huss, Mauricio Solis, George Harp

Birds: AGFC – Terence Teel, Dale Odum

ASU – Dr. Jim Bednarz, Nick Anich, Marcus Asher, Dick Baxter, Jason Carbaugh, James Foster, Blake Grisham, Dr. Norman Lavers, Cheryl Lavers, Mauricio Solis

Mammals: AGFC – Dale Odum, Terence Teel

ASU – Dr. Tom Risch, Dr. Richard Grippo, George Harp

Administrative Assistance: AGFC – Robert Zachary (District Supervisor), Terence Teel (Assistant District Supervisor), Dale Odum (SB/RB Manager)

ASU – Dr. Aldemaro Romero (Dept. Chair, CEO for the BioBlitz), Dr. Jeannette Louthsch (acquired microscopes, snacks and drinks), Shelly Kannada (set up and manned the base camp), Joy Trauth (Publicity)

We gratefully thank the following Jonesboro businesses for providing snacks and drinks: Fred's Discount Stores, Hays Grocers, Kroger, Wallace and Owens Supermarkets and WalMart.

Methods

The SB/RB was chosen as the BioBlitz site because of its diversity of both terrestrial and aquatic habitat and because of its proximity to Jonesboro. The BioBlitz was conducted for a 24-hour period, from noon 9 May until noon 10 May 2005. A base camp was established at the SB/RB workshop. Microscopes, tally sheets, snacks and drinks were located here. Data were recorded and initial species tallies were reported.

Most species (e.g. birds, vascular plants) were identified in situ. Of necessity, however, some species (e.g. invertebrates) were collected to aid in identification. Team leaders, experts in their respective disciplines, assembled their teams and gathered the data for their species group. Voucher specimens are housed either in the ASU Herbarium or the various collections (e.g. Adult Odonata, Aquatic Macroinvertebrates) of the Arkansas State University Museum of Zoology.

While most of the species were tallied during the BioBlitz, in the interest of developing a more comprehensive list, results of prior studies, when known (e.g. aquatic macroinvertebrates, were incorporated. Most of the freshwater mussels listed (Table 3) are from Rust's (1993) study.

Results

A total of 453 species and subspecies of flora and fauna was identified (Tables 1-8). The taxa (and number of species) were as follows: Fungi (4), Vascular plants (90), Aquatic macroinvertebrates (119), Lepidoptera + Misc. insects (60), Fishes (36), Herptiles (19), Birds (105) and Mammals (20).

Two observations were of particular note. A population of the butterfly commonly known as the Appalachian brown (Family Nymphalidae, *Satyroides appalachia*) was discovered (Table 4). This is only the second population known to occur in Arkansas, and the numbers observed indicate that it may be larger than the population in Pulaski County.

Also, Rust (1993) reported the presence of the pink mucket pearly mussel at mile 50.6 of the Black River (Table 3). This is an endangered species.

Literature Cited

Censky, C.J. 2001. BioBlitz Organization Guide. Connecticut State Museum of Natural History. 9pp.

Rust, P.J. 1993. Analysis of the commercial mussel beds in the Black, Spring, Strawberry and Current rivers in Arkansas. MS Thesis, Arkansas State University. 118pp.

Table 1. Fungi checklist for the Shirey Bay Rainey Brake Wildlife Management Area, 9-10 May 2005. Contributors were Drs. Martin Huss, Jeannette Loutsche and Staria Scott Vanderpool.

Scientific Name	Common Name
Heterobasidiomycetes	
Auriculariales	
Family Auriculaceae	
<i>Auricularia auricula</i>	Wood ear (Tree ear)
Hymenomycetes	
Aphyllophorales	
Family Polyporaceae	
<i>Laetiporus sulphureus</i>	Sulfur shelf
<i>Polyporus alveolaris</i>	Hexagonal Polypore
Russulales	
Family Stereaceae	
<i>Stereum ostrea</i>	False turkey tail
Total species = 4	

End

Table 2. Vascular plant checklist for the Shirey Bay Rainey Brake Wildlife Management Area, 9-10 May 2005. Contributors were Drs. Staria Scott Vanderpool, Martin Huss and Jeannette Loutsche.

Scientific Name	Common Name
Gymnospermae	
Coniferophyta	Conifers
Family Taxodiaceae:	
<i>Taxodium distichum</i>	Baldcypress
Family Cupressaceae:	
<i>Juniperus virginiana</i>	Redcedar
Angiospermae	
Anthophyta	
Monocotyledonae	Monocots
Family Lemnaceae:	
<i>Lemna</i> sp.	Duckweed
Family Poaceae:	Grasses
<i>Arundinaria gigantea</i>	Cane
Dicotyledonae	Dicots
Family Fagaceae:	Oaks
<i>Quercus alba</i>	White oak
<i>Quercus falcata</i>	Spanish oak
<i>Quercus macrocarpa</i>	Bur oak
<i>Quercus michauxii</i>	Basket oak
<i>Quercus nigra</i>	Water oak
<i>Quercus palustris</i>	Pin oak
<i>Quercus phellos</i>	Willow oak
<i>Quercus shumardii</i>	Shumard oak
<i>Quercus velutina</i>	Black oak
Family Juglandaceae:	
<i>Carya aquatica</i>	Water hickory (Bitter pecan)
<i>Carya illinoensis</i>	Pecan
<i>Carya ovata</i>	Shagbark hickory
<i>Juglans nigra</i>	Black walnut
Family Salicaceae:	Poplars and willows
<i>Populus deltoids</i>	Cottonwood
<i>Salix nigra</i>	Black willow
Family Platanaceae:	
<i>Platanus occidentalis</i>	Sycamore
Family Aceraceae:	Maples
<i>Acer negundo</i>	Box elder
<i>Acer rubrum</i>	Red maple
<i>Acer saccharinum</i>	Silver maple
Family Aquifoliaceae:	
<i>Ilex decidua</i>	Deciduous holly

Family Fabaceae:	
<i>Gleditsia aquatica</i>	Water locust
<i>Gleditsia triacanthos</i>	Honey locust
<i>Cercis canadensis</i>	Redbud
<i>Amorpha fruticosa</i>	False indigo
Family Annonaceae:	
<i>Asimina triloba</i>	Tall pawpaw
Family Lauraceae:	
<i>Sassafras albidum</i>	Sassafras
Family Saururaceae:	
<i>Saururus cernuus</i>	Lizard's tail
Family Ranunculaceae:	
<i>Clematis crispa</i>	Clematis
<i>Ranunculus abortivus</i>	Kidneyleaf buttercup
<i>Ranunculus bulbosus</i>	Bulbous buttercup
Family Berberidaceae:	
<i>Podophyllum peltatum</i>	Barberries
Family Menispermaceae:	
<i>Menispermum canadense</i>	Mayapple
Family Hamamelidaceae:	
<i>Liquidambar styraciflua</i>	Moonseeds
Family Ulmaceae:	
<i>Celtis</i> sp.	Common moonseed
<i>Ulmus alater</i>	Sweetgum
Family Moraceae:	
<i>Morus rubra</i>	Elms
Family Betulaceae:	
<i>Betula nigra</i>	Hackberry
Family Phytolaccaceae:	
<i>Phytolaca americana</i>	Winged elm
Family Polygonaceae:	
<i>Polygonum</i> sp.	Red mulberry
<i>Rumex crispus</i>	River birch
<i>Rumex verticillatus</i>	Pokeweeds
Family Tiliaceae:	
<i>Tilia americana</i>	Pokeweed
Family Malvacea:	
<i>Hibiscus lasiocarpus</i>	Buckwheat family
<i>Hibiscus laevis</i>	Smartweed
Family Violaceae:	
<i>Viola soraria</i>	Curly dock
Family Brassicaceae:	
<i>Lepidium virginicum</i>	?
Family Ebenaceae:	
<i>Diospyros virginiana</i>	Basswood
Family Styracaceae:	
	Mallow family
	Wild hibiscus (Rose mallow?)
	Swamp mallow
	Violet family
	Common violet
	Mustard family
	Pepper grass
	Persimmon

<i>Styrax americana</i>	American snowbell
Family Rosaceae:	Rose family
<i>Crataegus viridis</i>	Hawthorn
<i>Prunus serotina</i>	Wild cherry
<i>Rubus</i> sp.	Blackberry
Family Fabaceae:	Pea family
<i>Lespedeza</i> sp.	Lespedeza
<i>Trifolium campestre</i>	Hop clover
<i>Trifolium repens</i>	White clover
Family Nyssaceae:	
<i>Nyssa aquatica</i>	Tupelo
Family Rhamnaceae:	Buckthorn family
<i>Berchemia scandens</i>	Supplejack (Rattan vine)
Family Vitaceae:	
<i>Ampelopsis arborea</i>	Pepper vine
<i>Parthenocissus quinquefolia</i>	Virginia creeper
<i>Vitis vulpina</i>	Frost grape
Family Hippocastanaceae:	Horse chestnut family
<i>Aesculus pavia</i>	Red buckeye
Family Anacardiaceae:	Sumac family
<i>Toxicodendron radicans</i>	Poison ivy
Family Balsaminaceae:	Touch-me-not family
<i>Impatiens capensis</i>	Spotted touch-me-not
Family Apocyanaceae:	Dogbane family
<i>Apocynum</i> sp.	Dogbane
<i>Amsonia tabernaemontana</i>	Blue dogbane (Blue star)
Family Lamiaceae:	Mint family
<i>Prunella vulgaris</i>	Self-heal
Family Oleaceae:	
<i>Fraxinus</i> sp.	Ash
<i>Forestiera acuminata</i>	Swamp privet
Family Acanthaceae:	Acanthus family
<i>Ruellia strepens</i>	Wild petunia
Family Bignoniaceae:	Trumpet creeper family
<i>Bignonia capreolata</i>	Cross vine
Family Rubiaceae:	Bedstraw family
<i>Cephalanthus occidentalis</i>	Buttonbush
<i>Galium</i> sp.	Bedstraw
Family Caprifoliaceae:	Honeysuckle family
<i>Sambucus canadensis</i>	Common elderberry
<i>Lonicera japonica</i>	Japanese honeysuckle
Family Asteraceae:	Daisy family
<i>Ambrosia</i> sp.	Ragweed
<i>Bidens</i> sp.	Beggar ticks
<i>Senecio glabellus</i>	Ragwort
<i>Sonchus</i> sp.	Sow thistle

Taraxacum officinale
Family Araceae:
Arisaema dracontium
Family Liliaceae:
Smilax glauca
Smilax tamnoides
Family Amaryllidaceae:
Hymenocallis liriosome
Family Iridaceae:
Iris fulva
Sisyrinchium angustifolium
Family Dioscoreaceae:
Dioscorea sp.

Total species = 90

Dandelion
Arum family
Dragontail
Lily family
Glaucous greenbrier
Hellfetter greenbrier
Amaryllis family
Spider lily
Iris family
Copper iris
Blue-eyed grass

Wild yam

End

Table 3. Aquatic Macroinvertebrate checklist for the Shirey Bay Rainey Brake WMA
 Following is a list of aquatic macroinvertebrates that includes species for which voucher specimens have been deposited in the Arkansas State University Aquatic Macroinvertebrate Collection of the ASU Museum of Zoology. Much of this information derives from one field trip each by the Aquatic Entomology classes of 1981, 1983 and 1993. Most collections were made at Horseshoe Lake, the Big Eddy area of Black River, Pond #1 or Hill Slough at the section road, just E of the workshop (SW¼ Sec29, T16N, R2W). Participants during the 2005 BioBlitz were Alan Christian, Rich Grippo, George Harp, Phoebe Harp, and Sam McCord.

Taxon	Common Name	Date	Location
Phylum Annelida	Segmented round worms		
Class Oligochaeta			
Family Naididae			
<i>Dero</i> sp.	Oligochaete	9-V-05	Hill Slough
<i>Nais</i> sp.	Oligochaete	9-V-05	Hill Slough, misc. ponds
<i>Stylaria lacustris</i>	Oligochaete	9-V-05	Misc. ponds, Phase Three
Family Tubificidae			
<i>Branchiura sowerbyi</i>	Oligochaete	9-V-05	Brushy Lake
<i>Ilyodrilus templetoni</i>	Oligochaete	9-V-05	Misc. ponds
<i>Limnodrilus hoffmeisteri</i>	Oligochaete	9-V-05	Phase Three Moist Soil Unit
Class Hirudinea			
Family Glossiphoniidae	Leech	9-V-05	Phase Three Moist Soil Unit
Phylum Mollusca	Molluscs		
Class Gastropoda	Snails, slugs		
Order Limnophila:	Pulmonate snails		
Family Ancyliidae	Limpets	9-V-05	Brushy Lake
Family Physidae	Pulmonate snails	9-V-05	Brushy Lake, other sites
Family Planorbidae	Pulmonate snails		
Unident. genus	Pulmonate snail	9-V-05	Brushy Lake
<i>Helisoma</i> sp.	Pulmonate snail	9-V-05	Phase Three Moist Soil Unit
Order Mesogastropoda:	Operculate snail		
Family Viviparidae?	Operculate snail	9-V-05	Brushy Lake
Class Pelecypoda	Bivalves		
Order Unionoida:	Unionoid clams		
Family Unionidae	Unionids		
<i>Actinonaias ligamentina</i>	Mucket	1992	Black River @ mile 50.6
<i>Amblema plicata</i>	Threeridge	1992	Black River @ mile 50.6
<i>Ellipsaria lineolata</i>	Butterfly	1992	Black River @ mile 50.6
<i>Fusconaia ebena</i>	Ebonysshell	1992	Black River @ mile 50.6
<i>Fusconaia flava</i>	Wabash pigtoe	1992	Black River @ mile 50.6
<i>Lampsilis abrupta</i> *	Pink mucket pearly mussel	1992	Black River @ mile 50.6
<i>Lampsilis cardium</i>	Plain pocketbook pearly mussel	1992	Black River @ mile 50.6
<i>Obliquaria reflexa</i>	Threehorn wartyback	1992	Black River @ mile 50.6

<i>Obovaria olivaria</i>	Hickorynut	1992	Black River @ mile 50.6
<i>Pleurobema coccineum</i>	Pigtoe	1992	Black River @ mile 50.6
<i>Pyganodon grandis</i>	Giant floater	19-X-05	Black River S of Horseshoe L.
<i>Quadrula metanevra</i>	Monkeyface	1992	Black River @ mile 50.6
<i>Quadrula nodulata</i>	Wartyback	1992	Black River @ mile 50.6
<i>Quadrula pustulosa</i>	Pimpleback	1992	Black River @ mile 50.6
<i>Quadrula quadrula</i>	Mapleleaf	1992	Black River @ mile 50.6
<i>Tritogonia verrucosa</i>	Pistolgrip	1992	Black River @ mile 50.6
<i>Truncilla truncata</i>	Deertoe	1992	Black River @ mile 50.6
Family Sphaeriidae	Fingernail clam	9-V-05	Brushy Lake
Phylum Arthropoda	Arthropods		
Class Crustacea			
Order Decapoda:			
Family Asellidae			
<i>Caecidotea</i> sp.	Sow bug, roly poly	9-V-05	Phase Three Moist Soil Unit
Family Crangonyctidae			
<i>Crangonyx</i> sp.	Scud	9-V-05	Phase Three Moist Soil Unit
Family Talitridae			
<i>Hyaella azteca</i>	Scud	3-IV-81	Hill Slough, other sites
Family Palaemonidae			
<i>Palaemonetes kadiakensis</i>	Freshwater shrimp	20-II-93	Horseshoe Lake, other sites
Family Cambaridae	Crawfish		
<i>Procambarus acutus</i>	Crawfish	9-V-05	Hill Slough
Order Collembola:			
Family Poduridae			
<i>Podura aquatica</i>	Springtail	3-IV-81	Hill Slough
Order Ephemeroptera:	Mayflies		
Family Caenidae			
<i>Caenis</i> sp.	Caenid mayfly	9-V-05	Phase Three Moist Soil Unit
Family Ephemerellidae			
<i>Eurylophella temporalis</i>	Ephemerellid mayfly	3-IV-81	Hill Slough
Family Metretopdidae			
<i>Siphloplectron</i> sp. (<i>interlineatum</i> ?)	Metretopodid mayfly	3-IV-81	Big Eddy of Black River
Order Odonata:	Dragonflies		
Family Lestidae	Spreadwings		
<i>Lestes inaequalis</i>	Elegant spreadwing	3-IV-81	Hill Slough
<i>Lestes vigilax</i>	Swamp spreadwing	10-V-05	Phase Three Moist Soil Unit
Family Coenagrionidae	Forktails		
<i>Argia apiclis</i>	Blue-fronted dancer	19-X-05	Coffey Access, Black River
<i>Enallagma civile</i>	Familiar bluet	10-V-05	Phase Three Moist Soil Unit
<i>Enallagma geminatum</i>	Skimming bluet	10-V-05	Phase Three Moist Soil Unit
<i>Enallagma signatum</i>	Orange bluet	10-V-05	Phase Three Moist Soil Unit
<i>Ischnura hastata</i>	Citrine forktail	3-IV-04	Flooded field nr Hill Slough
<i>Ischnura kellicotti</i>	Lilypad forktail	10-V-05	Phase Three Moist Soil Unit
<i>Ischnura posita</i>	Fragile forktail	10-V-05	Phase Three Moist Soil Unit

<i>Ischnura ramburii</i>	Rambur's forktail	19-X-05	Phase Three Moist Soil Unit
Family Aeshnidae	Darners		
<i>Anax junius</i>	Green darner	10-V-05	Phase Three Moist Soil Unit
<i>Epiaeschna heros</i>	Swamp darner	3-IV-81	Pond #1
<i>Nasiaeschna pentacantha</i>	Cyrano darner	20-II-93	Hill Slough
Family Gomphidae	Clubtails	9-V-05	Phase Three Moist Soil Unit
Family Corduliidae	Emeralds		
<i>Epitheca cynosura</i>	Common baskettail	3-IV-04	Flooded field nr Hill Slough
Family Libellulidae	Skimmers		
<i>Celithemis verna</i>	Double-ringed pennant	10-V-05	Phase Three Moist Soil Unit
<i>Erythemis simplicicollis</i>	Eastern pondhawk	9-V-05	Hill Slough, other sites
<i>Ladona deplanata</i>	Blue corporal	3-IV-04	Flooded field nr Hill Slough
<i>Libellula cyanea</i>	Eastern spangled skimmer	9-V-05	Hill Slough
<i>Pachydiplax longipennis</i>	Blue dasher	9-V-05	Hill Slough, other sites
<i>Perithemis tenera</i>	Eastern amberwing	10-V-05	Phase Three Moist Soil Unit
<i>Plathemis lydia</i>	Common whitetail	10-V-05	Phase Three Moist Soil Unit
<i>Sympetrum corruptum</i>	Variegated meadowhawk	10-V-05	Phase Three Moist Soil Unit
<i>Sympetrum vicinum</i>	Yellow-legged meadowhawk	19-X-05	Phase Three Moist Soil Unit
<i>Tramea lacerata</i>	Black-mantled glider	10-V-05	Phase Three Moist Soil Unit
Order Hemiptera:	True bugs		
Family Corixidae	Water boatman		
<i>Hesperocorixa brimleyi</i>	Water boatman	3-IV-81	Hill Slough
<i>Hesperocorixa interrupta</i>	Water boatman	3-IV-81	Hill Slough
<i>Hesperocorixa lucida</i>	Water boatman	25-III-83	Horseshoe Lake
<i>Hesperocorixa nitida</i>	Water boatman	29-VII-92	Hill Slough
<i>Palmarcorixa buenoi</i>	Water boatman	25-III-83	Horseshoe Lake
<i>Trichocorixa calva</i>	Water boatman	20-II-93	Hill Slough
<i>Trichocorixa kanza</i>	Water boatman	3-VI-81	Big Eddy area of Black River
<i>Trichocorixa macroceps</i>	Water boatman	20-II-93	Hill Slough
<i>Trichocorixa sexcincta</i>	Water boatman	20-II-93	Hill Slough
Family Gelastocoridae	Toad bugs		
<i>Gelastocoris oculatus</i>	Toad bug	3-IV-81	Horseshoe Lake
Family Gerridae	Water striders		
<i>Neogerris hesione</i>	Water strider	3-IV-81	Pond #1
Family Hydrometridae	Water measurer		
<i>Hydrometra martini</i>	Water measurer	3-IV-81	Pond #1
Family Nepidae	Water scorpion		
<i>Ranatra buenoi</i>	Water scorpion	20-II-93	Hill Slough
<i>Ranatra fusca</i>	Water scorpion	3-IV-81	Hill Slough
Family Notonectidae	Back swimmers		
<i>Buenoa margaritacea</i>	Back swimmer	3-IV-81	Pond #1
<i>Notonecta indica</i>	Back swimmer	3-IV-81	Pond #1

<i>Notonecta raleighi</i>	Back swimmer	20-II-93	Hill Slough
<i>Notonecta uhleri</i>	Back swimmer	20-II-93	Hill Slough
Family Pleidae	Pygmy backswimmer		
<i>Neoplea striola</i>	Pygmy back swimmer	3-IV-81	Hill Slough
Order Megaloptera:			
Family Corydalidae			
<i>Chauliodes rastricornis</i>	Dobsonfly	3-IV-81	Hill Slough
Order Coleoptera:	Beetles		
Family Dytiscidae	Predaceous diving beetle		
<i>Coptotomus</i>	Predaceous diving beetle	9-V-05	Phase Three Moist Soil Unit
<i>Cybister fimbriolatus</i>	Predaceous diving beetle	20-II-93	Horseshoe Lake
<i>fimbriolatus</i>			
<i>Hydroporus</i>	Predaceous diving beetle	9-V-05	Phase Three Moist Soil Unit
<i>Hydrovatus horni</i>	Predaceous diving beetle	3-IV-81	Big Eddy, Black River
<i>Laccophilus fasciatus</i>	Predaceous diving beetle	3-IV-81	Pond #1
<i>rufus</i>			
<i>Laccophilus proximus</i>	Predaceous diving beetle	3-IV-81	Pond #1
<i>proximus</i>			
<i>Matus bicarinatus</i>	Predaceous diving beetle	3-IV-81	Ditch below Red Barn
<i>Thermonectus ornaticollis</i>	Predaceous diving beetle	20-II-93	Horseshoe Lake
Family Gyrinidae	Whirligig beetle		
<i>Dineutus assimilis</i>	Whirligig beetle	3-IV-81	Big Eddy, Black River
<i>Dineutus carolinus</i>	Whirligig beetle	20-II-93	Horseshoe Lake
<i>Dineutus emarginatus</i>	Whirligig beetle	3-IV-81	Hill Slough
Family Haliplidae	Creeping water beetle		
<i>Halipus</i> sp.	Creeping water beetle	9-V-05	Phase Three Moist Soil Unit
<i>Peltodytes dunavani</i>	Crawling water beetle	3-IV-81	Pond #1
<i>Peltodytes</i>			
<i>duodecempunctatus</i>	Crawling water beetle	20-II-93	Horseshoe Lake
<i>Peltodytes literalis</i>	Crawling water beetle	20-II-93	Horseshoe Lake
<i>Peltodytes sexmaculatus</i>	Crawling water beetle	3-IV-81	Hill Slough
Family Hydrophilidae	Water scavenger beetle		
<i>Berosus</i>	Water scavenger beetle	9-V-05	Phase Three Moist Soil Unit
<i>Helophorus</i> sp.	Water scavenger beetle	9-V-05	Phase Three Moist Soil Unit

<i>Hydrobiomorpha casta</i>	Water scavenger beetle	20-II-93	Horseshoe Lake
<i>Hydrochara obtusatus</i>	Water scavenger beetle	3-IV-81	Pond #1
<i>Hydrophilus triangularis</i>	Water scavenger beetle	3-IV-81	Pond #1
<i>Tropisternus blatchleyi</i> <i>blatchleyi</i>	Water scavenger beetle	3-IV-81	Hill Slough
<i>Tropisternus blatchleyi</i> <i>modestus</i>	Water scavenger beetle	3-IV-81	Horseshoe Lake
<i>Tropisternus collaris</i> <i>mexicanus</i>	Water scavenger beetle	3-IV-81	Pond #1
<i>Tropisternus lateralis</i> <i>nimbatus</i>	Water scavenger beetle	20-II-93	Hill Slough
Family Scirtidae	Marsh beetles	9-V-05	Phase Three Moist Soil Unit
Order Diptera:	True flies		
Family Chironomidae	Non-biting midge		
<i>Ablabesmyia</i> cf <i>peleensis</i>	Bloodworm	9-V-05	Hill Slough, Misc. ponds
<i>Chironomus</i> spp.	Bloodworm	9-V-05	Hill Slough, other sites
<i>Dicrotendipes simpsoni</i>	Bloodworm	9-V-05	Hill Slough
<i>Einfeldia</i> sp. A (Epler)	Bloodworm	9-V-05	Hill Slough
<i>Kiefferulus</i> sp.	Bloodworm	9-V-05	Hill Slough
<i>Polypedilum illinoense</i> gp.	Bloodworm	9-V-05	Hill Slough, other sites
<i>Psectrocladius</i> (Ps.) <i>vernalis</i>	Bloodworm	9-V-05	Misc. ponds
<i>Tanypus</i> cf <i>carinatus</i>	Bloodworm	9-V-05	Misc. ponds
<i>Tanypus</i> cf <i>punctipennis</i>	Bloodworm	9-V-05	Hill Slough

Total = 119 species/subspecies

*Endangered species, Federal list

End

Table 4. Orders Lepidoptera (butterflies, moths) and Miscellaneous Terrestrial Insect checklist for the Shirey Bay Rainey Brake Wildlife Management Area, 9-10 May 2005. Contributors were Norman Lavers, Cheryl Lavers and George Harp.

Taxon	Common Name
Order Lepidoptera:	Butterflies and moths
Family Papilionidae	Swallowtails
<i>Battus philenor</i>	Pipevine swallowtail
<i>Eurytides Marcellus</i>	Zebra swallowtail
<i>Papilio cresphontes</i>	Giant swallowtail
<i>Papilio glaucus</i>	Eastern tiger swallowtail
<i>Papilio polyxenes</i>	Black swallowtail
<i>Papilio troilus</i>	Spicebush swallowtail
Family Pieridae	Whites, sulphurs
<i>Anthocharis midea</i>	Falcate orangetip
<i>Colias cesonia</i>	Southern dogface
<i>Colias eurytheme</i>	Orange sulphur
<i>Eurema nicippe</i>	Sleepy orange
<i>Nathalis iole</i>	Dainty sulphur
<i>Phoebis sennae</i>	Cloudless sulphur
<i>Pontia protodice</i>	Checkered white
Family Lycaenidae	Gossamer-winged butterflies
<i>Everes comyntas</i>	Eastern tailed-blue
<i>Feniseca tarquinius</i>	Harvester
Family Nymphalidae	Brush-footed butterflies
<i>Anaea andrea</i>	Goatweed leafwing
<i>Asterocampa celtis</i>	Hackberry emperor
<i>Asterocampa clyton</i>	Tawny emperor
<i>Cyllopsis gemma</i>	Gemmed satyr
<i>Danaus plexippus</i>	Monarch butterfly
<i>Euptoieta claudia</i>	Variegated fritillary
<i>Hermeuptychia sosybius</i>	Carolina satyr
<i>Junonia coenia</i>	Common buckeye
<i>Libytheana carinenta</i>	American snout
<i>Limenitis archippus</i>	Viceroy butterfly
<i>Limenitis arthemis astyanax</i>	Red-spotted purple
<i>Phyciodes tharos</i>	Pearl crescent
<i>Polygonia comma</i>	Eastern comma
<i>Polygonia interrogationis</i>	Question mark
<i>Satyroides appalachia*</i>	Appalachian brown
<i>Vanessa atalanta</i>	Red admiral
<i>Vanessa virginiensis</i>	American lady
Family Hesperidae	Skippers
<i>Ancyloxypha numitor</i>	Least skipper
<i>Atalopedes campestris</i>	Sachem
<i>Epargyreus clarus</i>	Silver-spotted skipper

<i>Erynnis horatius</i>	Horace's duskywing
<i>Erynnis juvenalis</i>	Juvenal's duskywing
<i>Euphyes vestries</i>	Dun skipper
<i>Hylephila phyleus</i>	Fiery skipper
<i>Lerema accius</i>	Clouded skipper
<i>Poanes zabulon</i>	Zabulon skipper
<i>Polites themistocles</i>	Tawny-edged skipper
<i>Pompeius verna</i>	Little glassywing
<i>Thorybes pylades</i>	Northern cloudywing
<i>Wallengrenia otho</i>	Southern broken-dash
Family Sphingidae	Sphinx moth
<i>Hyles lineata</i>	White-lined sphinx
Family Geometridae	Geometrid moths
<i>Xanthotype urticaria</i>	False crocus geometer
Family Noctuidae	
<i>Psychomorpha epimenis</i>	Grapevine epimenis

Order Coleoptera:	Beetles
Family Cerambycidae	Long-horned beetles
<i>Oncideres cingulata</i>	Twig girdler beetle

Order Hymenoptera:	Bees, wasps and ants
Family Apidae	Bees
<i>Apis mellifera</i>	Honeybee

Order Diptera:	True flies
Family Asilidae	Robber flies
<i>Cerotainia macrocera</i>	Robber fly
<i>Diogmites angustipennis</i>	Robber fly
<i>Diogmites missouriensis</i>	Robber fly
<i>Diogmites platypterus</i>	Robber fly
<i>Laphria flavicollis</i>	Bumblebee mimic robber fly
<i>Machimus snowii</i>	Robber fly
<i>Nerax aestuans</i>	Robber fly
<i>Ommatius ouachentensis</i>	Robber fly
<i>Promachus hinei</i>	Robber fly
<i>Psilocurus birdi</i>	Robber fly

*An important discovery: Previously, only one population of this species was known to exist in Arkansas, that one being near Little Rock. This, only the second known population, is perhaps the larger of the two.

Total taxa = 60

End

Table 5. Fishes checklist for the Shirey Bay Rainey Brake Wildlife Management Area, 9-10 May 2005. Contributors were Sam Barkley and Sam Henry (AGFC), Dr. Alan Christian, Dr. Rich Grippo, Jason Gambill, Raven Lawson, Holly Martin, Micky Matthews, Mellissa Milligan, Andrew J. Peck and Justin Yancey.

- 1, Horseshoe Lake and Hill Slough Lake, combined (Sam Barkley and Sam Henry)
2. Coffee Access, Black River (Grippo et al.)
3. Lower Hill Slough
4. Hill Slough/Diversion Ditch/Wetted Area combination (Christian et al.)

Scientific Name	Common Name	Location Site
Class Cephalaspidomorphi		
Order Petromyzontiformes;		
Family Petromyzontidae		
<i>Ichthyomyzon castaneus</i>	Chestnut lamprey	1
Class Osteichthyes		
Order Lepisosteiformes:		
Family Lepisosteidae		
<i>Lepisosteus oculatus</i>	Gars	
	Spotted gar	1
<i>Lepisosteus osseus</i>	Longnose gar	1
Order Amiiformes:		
Family Amiidae		
<i>Amia calva</i>	Bowfin	1
Order Clupeiformes:		
Family Clupeidae		
<i>Dorosoma cepedianum</i>	Gizzard shad	1
Order Salmoniformes:		
Family Esocidae		
<i>Esox americanus</i>	American pickerel	3
<i>Esox niger</i>	Chain pickerel	1, 4
Order Cypriniformes:		
Family Cyprinidae		
<i>Campostoma anomalum</i>	Central stoneroller	4
<i>Ctenopharyngodon idellus</i>	White amur	1
<i>Cyprinus carpio</i>	Common carp	1
<i>Notemigonus crysoleucas</i>	Golden shiner	1, 3, 4
<i>Notropis atrocaudalis</i>	Blackspot shiner	2
<i>Notropis fumeus</i>	Ribbon shiner	2, 4
<i>Notropis maculatus</i>	Taillight shiner	1
<i>Notropis texanus</i>	Weed shiner	4
<i>Pimephales notatus</i>	Bluntnose minnow	4
Family Catostomidae		
<i>Ictiobus bubalus</i>	Smallmouth buffalo	1
<i>Ictiobus cyprinellus</i>	Bigmouth buffalo	1
<i>Minytrema melanops</i>	Spotted sucker	1

Order Siluriformes:

Family Ictaluridae

<i>Ictalurus melas</i>	Black bullhead	1
<i>Ictalurus natalis</i>	Yellow bullhead	1
<i>Ictalurus punctatus</i>	Channel catfish	4
<i>Noturus gyrinus</i>	Tadpole madtom	1

Order Cyprinodontiformes:

Family Fundulidae

<i>Fundulus dispar</i>	Northern starhead topminnow	4
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Family Poeciliidae

<i>Gambusia affinis</i>	Mosquito fish	1, 4
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Order Percopsiformes:

Family Aphredoderidae

<i>Aphredoderus sayanus</i>	Pirate perch	4
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Family Atherinidae

<i>Labidesthes sicculus</i>	Brook silverside	1, 4
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Order Perciformes:

Family Centrarchidae

<i>Centrarchus macropterus</i>	Flier	1, 4
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<i>Lepomis cyanellus</i>	Green sunfish	1, 4
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<i>Lepomis gulosus</i>	Warmouth	1, 4
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<i>Lepomis macrochirus</i>	Bluegill sunfish	1, 4
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<i>Lepomis microlophus</i>	Redear sunfish	1
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<i>Micropterus salmoides</i>	Largemouth bass	1, 4
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<i>Pomoxis annularis</i>	White crappie	1, 4
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<i>Pomoxis nigromaculatus</i>	Black crappie	1
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Family Sciaenidae

<i>Aplodinotus grunniens</i>	Freshwater drum	1
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Total = 36 species

End

Table 6. Herptile (Classes Amphibia and Reptilia) checklist for the Shirey Bay Rainey Brake Wildlife Management Area, 9-10 May 2005. Contributors were Cheryl Lavers, Norman Lavers, Marty Huss, Mauricio Solis and George Harp.

Taxon	Common Name
Class Amphibia	Amphibians
Order Urodela:	Salamanders
Family Salamandridae	
<i>Notophthalmus viridescens</i> <i>lousianensis</i>	Central newt
Order Anura:	Frogs, toads
Family Bufonidae	Toads
<i>Bufo fowleri</i>	Fowler's toad
Family Microhylidae	Narrowmouth toads
<i>Gastrophryne carolinensis</i>	Eastern narrowmouth toad
Family Hylidae	Cricket frogs, chorus frogs treefrogs
<i>Acris crepitans blanchardi</i>	Blanchard's cricket frog
<i>Hyla chrysocelus/versicolor</i>	Gray tree frog
<i>Hyla cinerea</i>	Green tree frog
Family Ranidae	True frogs
<i>Rana clamitans clamitans</i>	Bronze frog
<i>Rana clamitans melanota</i>	Northern green frog
<i>Rana palustris</i>	Pickerel frog
<i>Rana sphenoccephala</i>	Southern leopard frog
Class Reptilia	Reptiles
Order Testudines:	Turtles
Family Chelydridae	Snapping turtles
<i>Chelydra serpentina serpentina</i>	Common snapping turtle
Family Emydidae	Pond, marsh, river and box turtles
<i>Terrapene carolina triunguis</i>	Three-toed box turtle
<i>Trachemys scripta elegans</i>	Red-eared slider
Order Squamata:	Lizards, snakes
Family Phrynosomatidae	Horned and spiny lizards
<i>Sceloporus undulatus hyacinthinus</i>	Northern fence lizard
Family Scincidae	Skinks
<i>Eumeces fasciatus</i>	Five-lined skink
Family Colubridae	Colubrid snakes
<i>Nerodia rhombifer rhombifer</i>	Diamondback water snake
<i>Pantheropsis obsoleta obsoletus</i>	Western rat snake
Family Viperidae	Pitvipers
<i>Agkistrodon piscivorus leucostoma</i>	Western cottonmouth
<i>Crotalus horridus</i>	Timber rattlesnake

Total taxa = 19

End

Table 7. Bird (Class Aves) checklist for the Shirey Bay Rainey Brake Wildlife Management Area, 9-10 May 2005. Contributors were Dr. Jim Bednarz, Dr. and Mrs. Norman Lavers, Nick Anich, Marcus Asher, Dick Baxter, Jason Carbaugh, James Foster, Blake Grisham and Mauricio Solis.

Scientific Name	Common Name
Order Podicipediformes:	
Family Podicipedidae	Grebes
<i>Podiceps auritus</i>	Horned grebe
<i>Podilymbus podiceps</i>	Pied-bill grebe
Order Ciconiiformes:	Herons, egrets, ibises and vultures
Family Ardeidae	
<i>Botaurus lentiginosus</i>	American bittern
<i>Ardea herodias</i>	Great blue heron
<i>Ardea alba</i>	Great egret
<i>Egretta caerulea</i>	Little blue heron
<i>Bubulcus ibis</i>	Cattle egret
<i>Butorides virescens</i>	Green heron
<i>Nycticorax nycticorax</i>	Black-crowned night-heron
<i>Nyctanassa violacea</i>	Yellow-crowned night-heron
Order Anseriformes:	Swans, geese and ducks
Family Anatidae	Ducks
<i>Aix sponsa</i>	Wood duck
<i>Anas acuta</i>	Northern pintail
<i>Anas americana</i>	American wigeon
<i>Anas clypeata</i>	Northern shoveler
<i>Anas crecca</i>	Green-winged teal
<i>Anas discors</i>	Blue-winged teal
<i>Anas platyrhynchos</i>	Mallard
<i>Aythya affinis</i>	Lesser scaup
<i>Lophodytes cucullatus</i>	Hooded merganser
Order Falconiformes:	Hawks and falcons
Family Accipitridae	
<i>Buteo lineatus</i>	Red-shouldered hawk
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Haliaeetus leucocephalus</i>	Bald eagle
<i>Ictinia mississippiensis</i>	Mississippi kite
Order Galiformes:	Grouse, turkey and quail
Family Phasianidae	
<i>Meliagris gallopavo</i>	Wild turkey
Order Gruiformes	Rails, gallinules and cranes
Family Rallidae:	
<i>Porzana carolina</i>	Sora rail

<i>Gallinula chloropus</i>	Common moorhen
Order Charadriiformes:	Plovers, sandpipers, gulls and terns
Family Scolopacidae	
<i>Tringa melanoleuca</i>	Greater yellowlegs
<i>Tringa solitaria</i>	Spotted sandpiper
<i>Calidris minutilla</i>	Least sandpiper
<i>Scolopax minor</i>	American woodcock
Order Columbiformes:	Pigeons and doves
Family Columbidae	
<i>Streptopelia decaocto</i>	Eurasian collared dove
<i>Zenaida macroura</i>	Mourning dove
Order Cuculiformes:	Cuckoos, roadrunners and anis
Family Cuculidae	
<i>Coccyzus americanus</i>	Yellow-billed cuckoo
Order Strigiformes:	Owls
Family Strigidae	
<i>Strix varia</i>	Barred owl
Family Tytonidae	Barn owls
<i>Tyto alba</i>	Barn owl
Order Caprimulgiformes:	Goatsuckers
Family Caprimulgidae	
<i>Chordeiles minor</i>	Common nighthawk
<i>Caprimulgus carolinensis</i>	Chuck-will's-widow
Order Apodiformes:	Swifts and humming birds
Family Apodidae	
<i>Chaetura pelagica</i>	Chimney swift
Family Trochilidae	Humming birds
<i>Archilochus colubris</i>	Ruby-throated hummingbird
Order Coraciiformes:	Kingfishers
Family Alcedinidae	
<i>Ceryle alcyon</i>	Belted kingfisher
Order Piciformes:	Woodpeckers
Family Picidae	
<i>Melanerpes erythrocephalus</i>	Red-headed woodpecker
<i>Melanerpes carolinus</i>	Red-bellied woodpecker
<i>Picoides pubescens</i>	Downy woodpecker
<i>Picoides villosus</i>	Hairy woodpecker
<i>Colaptes auratus</i>	Northern flicker
<i>Dryocopus pileatus</i>	Pileated woodpecker
Order Passeriformes:	
Family Tyrannidae	Flycatchers
<i>Contopus cooperi</i>	Olive-sided flycatcher
<i>Contopus virens</i>	Eastern wood-pewee
<i>Empidonax virens</i>	Acadian flycatcher
<i>Sayornis phoebe</i>	Eastern phoebe
<i>Myiarchus crinitus</i>	Great-crested flycatcher

<i>Tyrannus tyrannus</i>	Eastern kingbird
<i>Tyrannus forficatus</i>	Scissor-tailed flycatcher
Family Vireonidae	Vireos
<i>Vireo griseus</i>	White-eyed vireo
<i>Vireo flavifrons</i>	Yellow-throated vireo
<i>Vireo olivaceus</i>	Red-eyed vireo
Family Corvidae	Jays and crows
<i>Cyanocitta cristata</i>	Blue jay
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus ossifragus</i>	Fish crow
Family Hirundinidae	Swallows
<i>Progne subis</i>	Purple martin
<i>Stelgidopteryx serripennis</i>	Northern rough-winged swallow
<i>Riparia riparia</i>	Barn swallow
Family Paridae	Chickadees and titmice
<i>Poecile carolinensis</i>	Carolina chickadee
<i>Baeolophus bicolor</i>	Tufted titmouse
Family Sittidae	Nuthatches
<i>Sitta carolinensis</i>	White-breasted nuthatch
Family Troglodytidae	Wrens
<i>Thryothorus ludovicianus</i>	Carolina wren
<i>Cistothorus palustris</i>	Marsh wren
Family Sylviidae	Gnatcatchers
<i>Polioptila caerulea</i>	Blue-gray gnatcatcher
Family Turdidae	Thrushes
<i>Turdus turdus</i>	Eastern bluebird
<i>Catharus ustulatus</i>	Swainson's thrush
<i>Hylocichla mustelina</i>	Wood thrush
<i>Turdus migratorius</i>	American robin
Family Mimidae	Mockingbirds, thrashers and allies
<i>Dumetella carolinensis</i>	Gray catbird
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Toxostoma rufum</i>	Brown thrasher
Family Sturnidae	Starlings
<i>Sturnus vulgaris</i>	European starling
Family Parulidae	Wood warblers
<i>Vermivora pinus</i>	Blue-winged warbler
<i>Vermivora peregrina</i>	Tennessee warbler
<i>Vermivora ruficapilla</i>	Nashville warbler
<i>Parula americana</i>	Northern parula
<i>Dendroica pensylvanica</i>	Chestnut-sided warbler
<i>Dendroica magnolia</i>	Magnolia warbler
<i>Dendroica coronata</i>	Yellow-rumped warbler
<i>Dendroica pinus</i>	Pine warbler
<i>Dendroica castanea</i>	Bay-breasted warbler
<i>Dendroica striata</i>	Blackpoll warbler

<i>Mniotilta varia</i>	Black-and-white warbler
<i>Setophaga ruticilla</i>	American redstart
<i>Prothonotaria citrea</i>	Prothonotary warbler
<i>Seiurus aurocapillus</i>	Ovenbird
<i>Seiurus noveboracensis</i>	Northern waterthrush
<i>Oporornis formosus</i>	Kentucky warbler
<i>Geothlypis trichas</i>	Common yellowthroat
<i>Icteria virens</i>	Yellow-breasted chat
Family Thraupidae	Tanagers
<i>Piranga rubra</i>	Summer tanager
Family Emberizidae	New world sparrows
<i>Spizella passerina</i>	Chipping sparrow
<i>Passerculus sandwichensis</i>	Savannah sparrow
<i>Melospiza lincolnii</i>	Lincoln's sparrow
Family Cardinalidae	Cardinals, grosbeaks and allies
<i>Cardinalis cardinalis</i>	Northern cardinal
<i>Guiraca caerulea</i>	Blue grosbeak
<i>Passerina cyanea</i>	Indigo bunting
Family Icteridae	Blackbirds and allies
<i>Agelaius phoeniceus</i>	Red-winged blackbird
<i>Sturnella magna</i>	Eastern meadowlark
<i>Quiscalus quiscula</i>	Common grackle
<i>Molothrus ater</i>	Brown-headed cowbird
<i>Icturus spurius</i>	Orchard oriole
<i>Icturus galbula</i>	Baltimore oriole
Family Fringillidae	Finches
<i>Carduelis tristis</i>	American goldfinch
Family Passeridae	Old world sparrows
<i>Passer domesticus</i>	House sparrow

Total species = 105

End

Table 8. Mammal (Class Mammalia) checklist for the Shirey Bay Rainey Brake Wildlife Management Area, 9-10 May 2005. Contributors were Dr. Tom Risch, Dr. Rich Grippo and George Harp.

Taxon	Common Name
Order Didelphimorphia:	Opossums
Family Didelphidae	Opossums
<i>Didelphus virginiana</i>	Virginia opossum
Order Lagomorpha:	Rabbits and hares
Family Leporidae	Rabbits and hares
<i>Sylvilagus aquaticus</i>	Swamp rabbit
Order Rodentia:	Rodents
Family Sciuridae	Tree squirrels
<i>Glaucomys volans</i>	Southern flying squirrel
<i>Marmota monax</i>	Woodchuck
<i>Sciurus carolinensis</i>	Gray squirrel
<i>Sciurus niger</i>	Fox squirrel
Family Castoridae	Beavers
<i>Castor canadensis</i>	Beaver
Family Muridae	Old world mice and rats
<i>Peromyscus gossypinus</i>	Cotton mouse
<i>Ourzomys palustris</i>	Marsh Rice Rat
<i>Sigmodon hispidus</i>	Hispid cotton rat
Family Cricetidae	New world mice and rats
<i>Ondatra zibethicus</i>	Muskrat
Order Edentata:	Armadillos, anteaters and sloths
Family Dasypodidae	Armadillos
<i>Dasypus novemcinctus</i>	Nine-banded armadillo
Order Artiodactyla:	Even-toed ungulates
Family Cervidae	Deer
<i>Odocoileus virginianus</i>	White-tailed deer
Order Carnivora:	Carnivores
Family Felidae	Cats
<i>Felis rufus</i>	Bobcat
Family Canidae	Wolves, foxes, dogs
<i>Canis latrans</i>	Coyote
<i>Urocyon cinereoargenteus</i>	Gray fox
Family Mustelidae	Mustelids
<i>Lontra canadensis</i>	River otter
<i>Mephitis mephitis</i>	Striped skunk
<i>Mustela vison</i>	American mink
Family Procyonidae	Raccoons
<i>Procyon lotor</i>	Raccoon

Total taxa = 20

End