

# Section 8. Appendices

## Appendix 1.1 — Acronyms

### Terminology

AWAP – Arkansas Wildlife Action Plan  
BMP – Best Management Practice  
CWCS — Comprehensive Wildlife Conservation Strategy  
EO — Element Occurrence  
GIS — Geographic Information Systems  
SGCN — Species of Greatest Conservation Need  
LIP — Landowner Incentive Program  
MOA — Memorandum of Agreement  
ACWCS — Arkansas Comprehensive Wildlife Conservation Strategy  
SWG — State Wildlife Grant  
LTA — Land Type Association  
WNS — White-nose Syndrome

### Organizations

ADEQ — Arkansas Department of Environmental Quality  
AGFC — Arkansas Game and Fish Commission  
AHTD — Arkansas Highway and Transportation Department  
ANHC — Arkansas Natural Heritage Commission  
ASU — Arkansas State University  
ATU — Arkansas Technical University  
FWS — Fish and Wildlife Service  
HSU — Henderson State University  
NRCS — Natural Resources Conservation Service  
SAU — Southern Arkansas University  
TNC — The Nature Conservancy  
UA — University of Arkansas (Fayetteville)  
UA/Ft. Smith — University of Arkansas at Fort Smith  
UALR — University of Arkansas at Little Rock  
UAM — University of Arkansas at Monticello  
UCA — University of Central Arkansas  
USFS — United States Forest Service

## Appendix 2.1. List of Species of Greatest Conservation Need by Priority Score.

List of species of greatest conservation need ranked by Species Priority Score. A higher score implies a greater need for conservation concern and actions.

Priority Score	Common Name	Scientific Name	Taxa Association
100	Curtis Pearlymussel	<i>Epioblasma florentina curtisii</i>	Mussel
100	Turgid Blossom	<i>Epioblasma turgidula</i>	Mussel
100	Yellowcheek Darter	<i>Etheostoma moorei</i>	Fish
80	Bowed Snowfly	<i>Allocapnia oribata</i>	Insect
80	Winter Stonefly	<i>Allocapnia warreni</i>	Insect
80	Foushee Cavesnail	<i>Amnicola cora</i>	Invertebrate - other
80	Ouachita Rock Pocketbook	<i>Arcidens wheeleri</i>	Mussel
80	Magazine Mountain Mold Beetle	<i>Arianops sandersoni</i>	Insect
80	Benton County Cave Crayfish	<i>Cambarus aculabrum</i>	Crayfish
80	Hell Creek Cave Crayfish	<i>Cambarus zophonastes</i>	Crayfish
80	Ozark Big-eared Bat	<i>Corynorhinus townsendii ingens</i>	Mammal
80	Slenderwrist Burrowing Crayfish	<i>Fallicambarus petilicarpus</i>	Crayfish
80	Sulphur Springs Diving Beetle	<i>Heterosternuta sulphuria</i>	Insect
80	Magazine Mountain Shagreen	<i>Inflectarius magazinensis</i>	Invertebrate - other
80	Magazine Stripetail	<i>Isoperla szczytkoi</i>	Insect
80	Speckled Pocketbook	<i>Lampsilis streckeri</i>	Mussel
80	Isopod	<i>Lirceus bidentatus</i>	Invertebrate - other
80	Ozark Pyrg	<i>Marstonia ozarkensis</i>	Invertebrate - other
80	Caddo Madtom	<i>Noturus taylori</i>	Fish
80	Striate Supercoil	<i>Paravitrea aulacogyra</i>	Invertebrate - other
80	Microcaddisfly	<i>Paucicalcaria ozarkensis</i>	Insect
80	Irons Fork Burrowing Crayfish	<i>Procambarus reimeri</i>	Crayfish
80	Winged Mapleleaf	<i>Quadrula fragosa</i>	Mussel
80	Ground Beetle	<i>Rhadine ozarkensis</i>	Insect
80	Ouachita Pebblesnail	<i>Somatogyrus amnicoloides</i>	Invertebrate - other
80	Thicklipped Pebblesnail	<i>Somatogyrus crassilabris</i>	Invertebrate - other
80	Channelled Pebblesnail	<i>Somatogyrus wheeleri</i>	Invertebrate - other
76	Scaleshell	<i>Leptodea leptodon</i>	Mussel
71	Ozark Hellbender	<i>Cryptobranchus alleganiensis bishopi</i>	Amphibian
65	Caddo Sallfly	<i>Alloperla caddo</i>	Insect
65	Cave Obligate Pseudoscorpion	<i>Apochthonius diabolus</i>	Invertebrate - other
65	Cave Obligate Pseudoscorpion	<i>Apochthonius titanicus</i>	Invertebrate - other
65	Ouachita Spiketail	<i>Cordulegaster talaria</i>	Insect
65	Cave Obligate Harvestman	<i>Crosbyella distincta</i>	Invertebrate - other

65	Cave Obligate Harvestman	<i>Crosbyella roeweri</i>	Invertebrate - other
65	Saline Burrowing Crayfish	<i>Fallicambarus strawni</i>	Crayfish
65	Louisiana Pearlshell	<i>Margaritifera hembeli</i>	Mussel
65	Nearctic Paduniellan Caddisfly	<i>Paduniella nearctica</i>	Insect
65	Rattlesnake-Master Borer Moth	<i>Papaipema eryngii</i>	Insect
65	Mayfly	<i>Paraleptophlebia calcarica</i>	Insect
65	Calico Rock Oval	<i>Patera clenchi</i>	Invertebrate - other
65	Texas Pigtoe	<i>Pleurobema riddellii</i>	Mussel
65	Elevated Spring Amphipod	<i>Stygobromus elatus</i>	Invertebrate - other
65	Mountain Cave Amphipod	<i>Stygobromus montanus</i>	Invertebrate - other
65	Cave Obligate Millipede	<i>Trigenotyia parca</i>	Invertebrate - other
65	Arkansas Wedge	<i>Xolotrema occidentale</i>	Invertebrate - other
63	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Mammal
62	Boston Mountains Crayfish	<i>Cambarus causeyi</i>	Crayfish
62	Neosho Mucket	<i>Lampsilis rafinesqueana</i>	Mussel
62	Indiana Bat	<i>Myotis sodalis</i>	Mammal
62	Leopard Darter	<i>Percina pantherina</i>	Fish
57	Ozark Pocket Gopher	<i>Geomys bursarius ozarkensis</i>	Mammal
57	Arkansas Fatmucket	<i>Lampsilis powellii</i>	Mussel
57	Microcaddisfly	<i>Ochrotrichia robisoni</i>	Insect
52	Alabama Shad	<i>Alosa alabamae</i>	Fish
52	Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Mussel
50	Arkansas Agapetus Caddisfly	<i>Agapetus medicus</i>	Insect
50	Winter Stonefly	<i>Allocapnia jeanae</i>	Insect
50	Winter Stonefly	<i>Allocapnia ozarkana</i>	Insect
50	Arogos Skipper	<i>Atrytone arogos iowa</i>	Insect
50	Bayou Bodcau Crayfish	<i>Bouchardina robisoni</i>	Crayfish
50	Jefferson County Crayfish	<i>Fallicambarus gilpini</i>	Crayfish
50	Stonefly	<i>Leuctra paleo</i>	Insect
50	Arkansas River Shiner	<i>Notropis girardi</i>	Fish
50	Contorted Ochrotrichian Microcaddisfly	<i>Ochrotrichia contorta</i>	Insect
50	Coldwater Crayfish	<i>Orconectes eupunctus</i>	Crayfish
50	Kiamichi Slimy Salamander	<i>Plethodon kiamichi</i>	Amphibian
50	Sequoyah Slimy Salamander	<i>Plethodon sequoyah</i>	Amphibian
50	Springtail	<i>Pseudosinella dubia</i>	Invertebrate - other
50	Cave Obligate Springtail	<i>Schaefferia alabamensis</i>	Invertebrate - other
50	Ouachita Needlefly	<i>Zealeuctra wachita</i>	Invertebrate - other
48	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	Fish
46	Paleback Darter	<i>Etheostoma pallididorsum</i>	Fish
46	Ouachita Burrowing Crayfish	<i>Fallicambarus harpi</i>	Crayfish
46	Daisy Burrowing Crayfish	<i>Fallicambarus jeanae</i>	Crayfish
46	Blair's Fencing Crayfish	<i>Faxonella blairi</i>	Crayfish

46	Predaceous Diving Beetle	<i>Heterosternuta phoebeae</i>	Insect
46	Pink Mucket	<i>Lampsilis abrupta</i>	Mussel
46	Ouachita Madtom	<i>Noturus lachneri</i>	Fish
46	Mammoth Spring Crayfish	<i>Orconectes marchandi</i>	Crayfish
46	Ouachita Darter	<i>Percina brucethompsoni</i>	Fish
46	Caddo Mountain Salamander	<i>Plethodon caddoensis</i>	Amphibian
46	Fourche Mountain Salamander	<i>Plethodon fourchensis</i>	Amphibian
46	Fat Pocketbook	<i>Potamilus capax</i>	Mussel
46	Rich Mountain Slitmouth	<i>Stenotrema pilsbryi</i>	Invertebrate - other
43	Piping Plover	<i>Charadrius melodus</i>	Bird
43	Western Fanshell	<i>Cyprogenia aberti</i>	Mussel
43	"Ouachita" Fanshell	<i>Cyprogenia sp. cf aberti</i>	Mussel
43	Snuffbox	<i>Epioblasma triquetra</i>	Mussel
43	Sicklefin Chub	<i>Macrhybopsis meeki</i>	Fish
43	Red-cockaded Woodpecker	<i>Picoides borealis</i>	Bird
43	Illinois Chorus Frog	<i>Pseudacris illinoensis</i>	Amphibian
43	Ozark Cavefish	<i>Troglichthys rosae</i>	Fish
42	Hubricht's Long-tailed Amphipod	<i>Allocrangonyx hubrichti</i>	Invertebrate - other
42	Amphipod	<i>Bactrurus pseudomucronatus</i>	Invertebrate - other
42	Isopod	<i>Caecidotea oculata</i>	Invertebrate - other
42	Cave Obligate Isopod	<i>Caecidotea simulator</i>	Invertebrate - other
42	Texas Frosted Elfin	<i>Callophrys irus hadros</i>	Insect
42	Cave Obligate Planarian	<i>Dendrocoelopsis americana</i>	Invertebrate - other
42	American Burying Beetle	<i>Nicrophorus americanus</i>	Insect
38	Linda's Roadside-Skipper	<i>Amblyscirtes linda</i>	Insect
38	Isopod	<i>Caecidotea dimorpha</i>	Invertebrate - other
38	Bat Cave Isopod	<i>Caecidotea macropropoda</i>	Invertebrate - other
38	Crystal Darter	<i>Crystallaria asprella</i>	Fish
38	Spectaclecase	<i>Cumberlandia monodonta</i>	Mussel
38	Arkansas Darter	<i>Etheostoma cragini</i>	Fish
38	Stargazing Darter	<i>Percina uranidea</i>	Fish
38	Rich Mountain Salamander	<i>Plethodon ouachitae</i>	Amphibian
38	Pyramid Pigtoe	<i>Pleurobema rubrum</i>	Mussel
38	Regal Burrowing Crayfish	<i>Procambarus regalis</i>	Crayfish
38	Indiana Phlox Moth	<i>Schinia indiana</i>	Insect
34	Swamp Metalmark	<i>Calephelis muticum</i>	Insect
34	Bristly Cave Crayfish	<i>Cambarus setosus</i>	Crayfish
34	White Liptooth	<i>Daedalochila peregrina</i>	Invertebrate - other
34	Williams' Crayfish	<i>Orconectes williamsi</i>	Crayfish
34	Salamander Mussel	<i>Simpsonaias ambigua</i>	Mussel
34	Ozark Emerald	<i>Somatochlora ozarkensis</i>	Insect
34	Ouachita Slitmouth	<i>Stenotrema unciferum</i>	Invertebrate - other

33	Western Sand Darter	<i>Ammocrypta clara</i>	Fish
33	Henslow's Sparrow	<i>Ammodramus henslowii</i>	Bird
33	Sprague's Pipit	<i>Anthus spragueii</i>	Bird
33	Little Brown Bat	<i>Myotis lucifugus</i>	Mammal
33	Kiamichi Shiner	<i>Notropis ortenburgeri</i>	Fish
33	Ozark Shiner	<i>Notropis ozarcanus</i>	Fish
33	Peppered Shiner	<i>Notropis perpallidus</i>	Fish
33	Bachman's Sparrow	<i>Peucaea aestivalis</i>	Bird
33	Bluehead Shiner	<i>Pteronotropis hubbsi</i>	Fish
33	King Rail	<i>Rallus elegans</i>	Bird
33	Purple Lilliput	<i>Toxolasma lividum</i>	Mussel
32	Dukes' Skipper	<i>Euphyes dukesi</i>	Insect
32	Pine Hills Digger	<i>Fallicambarus dissitus</i>	Crayfish
32	Prairie Mole Cricket	<i>Gryllotalpa major</i>	Insect
32	Ozark Snaketail Dragonfly	<i>Ophiogomphus westfalli</i>	Insect
31	Interior Least Tern	<i>Sternula antillarum athalassos</i>	Bird
31	Slippershell Mussel	<i>Alasmidonta viridis</i>	Mussel
30	Isopod	<i>Caecidotea steevesi</i>	Invertebrate - other
30	Mayfly	<i>Dannella provonshai</i>	Insect
30	Isopod	<i>Lirceus bicuspidatus</i>	Invertebrate - other
30	Giant Prairie Robberfly	<i>Microstylum morosum</i>	Insect
30	Meek's Short Pointed Crayfish	<i>Orconectes meeki brevis</i>	Crayfish
30	Ozark Swallowtail	<i>Papilio joanae</i>	Insect
30	Ouachita Mountain Crayfish	<i>Procambarus tenuis</i>	Crayfish
30	Purple Pimpleback	<i>Quadrula refulgens</i>	Mussel
29	Buff-breasted Sandpiper	<i>Calidris subruficollis</i>	Bird
29	Rafinesque's Big-Eared Bat	<i>Corynorhinus rafinesquii</i>	Mammal
29	Swallow-tailed Kite	<i>Elanoides forficatus</i>	Bird
29	Mottled Duskywing	<i>Erynnis martialis</i>	Insect
29	Strawberry River Darter	<i>Etheostoma fragi</i>	Fish
29	Least Darter	<i>Etheostoma microperca</i>	Fish
29	Rusty Blackbird	<i>Euphagus carolinus</i>	Bird
29	"Elongate" Pigtoe	<i>Fusconaia sp. cf. flava</i>	Mussel
29	Meske's Skipper	<i>Hesperia meskei</i>	Insect
29	Silver Redhorse	<i>Moxostoma anisurum</i>	Fish
29	Stonecat	<i>Noturus flavus</i>	Fish
29	Queensnake	<i>Regina septemvittata</i>	Reptile
29	Bewick's Wren	<i>Thryomanes bewickii</i>	Bird
27	Lake Sturgeon	<i>Acipenser fulvescens</i>	Fish
27	Lace-winged Roadside-Skipper	<i>Amblyscirtes aesculapius</i>	Insect
27	Carolina Roadside-Skipper	<i>Amblyscirtes carolina</i>	Insect
27	Alligator Gar	<i>Atractosteus spatula</i>	Fish

27	Isopod	<i>Caecidotea ancyla</i>	Invertebrate - other
27	Isopod	<i>Caecidotea salemensis</i>	Invertebrate - other
27	Hubbs' Crayfish	<i>Cambarus hubbsi</i>	Crayfish
27	Appalachian Azure	<i>Celastrina neglectamajor</i>	Insect
27	Baltimore Checkerspot	<i>Euphydryas phaeton ozarkae</i>	Insect
27	Land Snail	<i>Gastrocopta rogersensis</i>	Invertebrate - other
27	Ozark Clubtail Dragonfly	<i>Gomphus ozarkensis</i>	Insect
27	Plains Minnow	<i>Hybognathus placitus</i>	Fish
27	Ouachita Shiner	<i>Lythrurus snelsoni</i>	Fish
27	Eastern Small-Footed Bat	<i>Myotis leibii</i>	Mammal
27	Georgia Satyr	<i>Neonympha areolatus</i>	Insect
27	Red River Shiner	<i>Notropis bairdi</i>	Fish
27	Rocky Shiner	<i>Notropis suttkusi</i>	Fish
27	Brown Madtom	<i>Noturus phaeus</i>	Fish
27	Mena Crayfish	<i>Orconectes menae</i>	Crayfish
27	Midget Crayfish	<i>Orconectes nana</i>	Crayfish
27	Longnose Darter	<i>Percina nasuta</i>	Fish
27	Louisiana Slimy Salamander	<i>Plethodon kisatchie</i>	Amphibian
27	Shelled Cave Springtail	<i>Pseudosinella testa</i>	Invertebrate - other
27	King's Hairstreak	<i>Satyrium kingi</i>	Insect
27	Southern Cavefish	<i>Typhlichthys subterraneus</i>	Fish
25	Tiger Beetle	<i>Cicindela lepida</i>	Insect
25	Giant Stag Beetle	<i>Lucanus elaphus</i>	Insect
25	Springtail	<i>Pygmarrhopalites clarus</i>	Invertebrate - other
25	Diana	<i>Speyeria diana</i>	Insect
24	American Eel	<i>Anguilla rostrata</i>	Fish
24	Ruddy Turnstone	<i>Arenaria interpres</i>	Bird
24	Smith's Longspur	<i>Calcarius pictus</i>	Bird
24	Common Nighthawk	<i>Chordeiles minor</i>	Bird
24	Eastern Collared Lizard	<i>Crotaphytus collaris</i>	Reptile
24	Migrant Loggerhead Shrike	<i>Lanius ludovicianus</i>	Bird
24	Southeastern Bat	<i>Myotis austroriparius</i>	Mammal
24	Yellow-crowned Night-Heron	<i>Nyctanassa violacea</i>	Bird
24	Black-bellied Plover	<i>Pluvialis squatarola</i>	Bird
24	Paddlefish	<i>Polyodon spathula</i>	Fish
24	American Woodcock	<i>Scolopax minor</i>	Bird
24	Cerulean Warbler	<i>Setophaga cerulea</i>	Bird
23	Millipede	<i>Abacion wilhelminae</i>	Invertebrate - other
23	Lace Bug	<i>Acalypta susanae</i>	Insect
23	Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>	Bird
23	Copeland's Mold Beetle	<i>Arianops copelandi</i>	Insect
23	American Bittern	<i>Botaurus lentiginosus</i>	Bird

23	Isopod	<i>Caecidotea fonticulus</i>	Invertebrate - other
23	Isopod	<i>Caecidotea stiladactyla</i>	Invertebrate - other
23	Northern Metalmark	<i>Calephelis borealis</i>	Insect
23	Lincoln Underwing	<i>Catocala lincolnana</i>	Insect
23	Dusky Azure	<i>Celastrina nigra</i>	Insect
23	Outis Skipper	<i>Cogia outis</i>	Insect
23	Blue Sucker	<i>Cycleptus elongatus</i>	Fish
23	Blunface Shiner	<i>Cyprinella camura</i>	Fish
23	Spotfin Shiner	<i>Cyprinella spiloptera</i>	Fish
23	Beetle	<i>Derops divalis</i>	Insect
23	Spotted Dusky Salamander	<i>Desmognathus conanti</i>	Amphibian
23	Willow Flycatcher	<i>Empidonax traillii</i>	Bird
23	Ouachita Streambed Salamander	<i>Eurycea subfluvicola</i>	Amphibian
23	Oklahoma Salamander	<i>Eurycea tynerensis</i>	Amphibian
23	Lowland Topminnow	<i>Fundulus blairae</i>	Fish
23	Ozark Pigtoe	<i>Fusconaia ozarkensis</i>	Mussel
23	Pseudoscorpion	<i>Hesperochnes occidentalis</i>	Invertebrate - other
23	Squirrel Treefrog	<i>Hyla squirella</i>	Amphibian
23	Crawfish Frog	<i>Lithobates areolatus</i>	Amphibian
23	Chub Shiner	<i>Notropis potteri</i>	Fish
23	Sabine Shiner	<i>Notropis sabiniae</i>	Fish
23	Neosho Midget Crayfish	<i>Orconectes macrus</i>	Crayfish
23	Ouachita Shore Bug	<i>Pentacora ouachita</i>	Insect
23	Suckermouth Minnow	<i>Phenacobius mirabilis</i>	Fish
23	Flathead Chub	<i>Platygobio gracilis</i>	Fish
23	Great Plains Skink	<i>Plestiodon obsoletus</i>	Reptile
23	Yehl Skipper	<i>Poanes yehl</i>	Insect
23	Purple Gallinule	<i>Porphyrio martinicus</i>	Bird
23	Pink Heelsplitter	<i>Potamilus alatus</i>	Mussel
23	Byssus Skipper	<i>Problema byssus</i>	Insect
23	Ouachita Pseudactium	<i>Pseudactium magazinensis</i>	Insect
23	Ozark Pseudactium	<i>Pseudactium ursum</i>	Insect
23	Ouachita Kidneyshell	<i>Ptychobranthus occidentalis</i>	Mussel
23	Plains Harvest Mouse	<i>Reithrodontomys montanus</i>	Mammal
23	Ground Beetle	<i>Scaphinotus inflectus</i>	Insect
23	Ground Beetle	<i>Scaphinotus parisiana</i>	Insect
23	Western Groundsnake	<i>Sonora semiannulata</i>	Reptile
23	Plains Spadefoot	<i>Spea bombifrons</i>	Amphibian
23	Ozark Cave Amphipod	<i>Stygobromus ozarkensis</i>	Invertebrate - other
23	Pseudoscorpion	<i>Tartarocreagris ozarkensis</i>	Invertebrate - other
23	Anthophorid Bee	<i>Tetraloniella albata</i>	Insect
23	Lined Snake	<i>Tropidoconion lineatum</i>	Reptile

23	Central Mudminnow	<i>Umbra limi</i>	Fish
23	Ellipse	<i>Venustaconcha ellipsiformis</i>	Mussel
23	Bleedingtooth Mussel	<i>Venustaconcha pleasii</i>	Mussel
21	Le Conte's Sparrow	<i>Ammodramus leconteii</i>	Bird
21	Bell's Roadside-Skipper	<i>Amblyscirtes belli</i>	Insect
21	Golden-banded Skipper	<i>Autochton cellus</i>	Insect
21	Ant-like Tiger Beetle	<i>Cicindela cursitans</i>	Insect
21	Scrubland Tiger Beetle	<i>Cicindela obsoleta</i>	Insect
21	Woodland Tiger Beetle	<i>Cicindela unipunctata</i>	Insect
21	Sedge Wren	<i>Cistothorus platensis</i>	Bird
21	Black-tailed Jackrabbit	<i>Lepus californicus</i>	Mammal
21	Eastern Spotted Skunk	<i>Spilogale putorius</i>	Mammal
21	Red Milkweed Beetle	<i>Tetraopes quinque maculatus</i>	Insect
21	Texas Milkweed Beetle	<i>Tetraopes texanus</i>	Insect
20	Gapped Ringed Crayfish	<i>Orconectes neglectus chaenodactylus</i>	Crayfish
19	Lace Bug	<i>Acalypta lillianus</i>	Insect
19	Sharp-shinned Hawk	<i>Accipiter striatus</i>	Bird
19	Elktoe	<i>Alasmidonta marginata</i>	Mussel
19	Ringed Salamander	<i>Ambystoma annulatum</i>	Amphibian
19	Brown Bullhead	<i>Ameiurus nebulosus</i>	Fish
19	Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Bird
19	American Black Duck	<i>Anas rubripes</i>	Bird
19	Anhinga	<i>Anhinga anhinga</i>	Bird
19	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>	Bird
19	Sanderling	<i>Calidris alba</i>	Bird
19	Dunlin	<i>Calidris alpina</i>	Bird
19	Stilt Sandpiper	<i>Calidris himantopus</i>	Bird
19	Common Wormsnake	<i>Carphophis amoenus</i>	Reptile
19	Chimney Swift	<i>Chaetura pelagica</i>	Bird
19	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Bird
19	Northern Bobwhite	<i>Colinus virginianus</i>	Bird
19	Chicken Turtle	<i>Deirochelys reticularia</i>	Reptile
19	Six-banded Longhorn Beetle	<i>Dryobius sexnotatus</i>	Insect
19	Tricolored Heron	<i>Egretta tricolor</i>	Bird
19	Autumn Darter	<i>Etheostoma autumnale</i>	Fish
19	Beaded Darter	<i>Etheostoma clinton</i>	Fish
19	Sunburst Darter	<i>Etheostoma mihileze</i>	Fish
19	Current Darter	<i>Etheostoma uniporum</i>	Fish
19	Dion Skipper	<i>Euphyes dion</i>	Insect
19	Grotto Salamander "northern clade"	<i>Eurycea spelaea northern</i>	Amphibian
19	Grotto Salamander "western clade"	<i>Eurycea spelaea western</i>	Amphibian



19	American Kestrel	<i>Falco sparverius</i>	Bird
19	Common Gallinule	<i>Gallinula galeata</i>	Bird
19	Great Plains Narrowmouth Toad	<i>Gastrophryne olivacea</i>	Amphibian
19	Purple Finch	<i>Haemorhous purpureus</i>	Bird
19	Four-toed Salamander	<i>Hemidactylium scutatum</i>	Amphibian
19	Leonard's Skipper	<i>Hesperia leonardus</i>	Insect
19	Cobweb Skipper	<i>Hesperia metea</i>	Insect
19	Ouachita Diving Beetle	<i>Heterosternuta ouachita</i>	Insect
19	Goldeye	<i>Hiodon alosoides</i>	Fish
19	Mooneye	<i>Hiodon tergisus</i>	Fish
19	Wood Thrush	<i>Hylocichla mustelina</i>	Bird
19	Least Bittern	<i>Ixobrychus exilis</i>	Bird
19	Southern Pocketbook	<i>Lampsilis ornata</i>	Mussel
19	"Red River" Mucket	<i>Lampsilis sp. B cf hydiana</i>	Mussel
19	American Brook Lamprey	<i>Lethenteron appendix</i>	Fish
19	Short-billed Dowitcher	<i>Limnodromus griseus</i>	Bird
19	Swainson's Warbler	<i>Limnothlypis swainsonii</i>	Bird
19	Texas Coralsnake	<i>Micrurus tener</i>	Reptile
19	Pealip Redhorse	<i>Moxostoma pisolabrum</i>	Fish
19	Striped Mullet	<i>Mugil cephalus</i>	Fish
19	Redspot Chub	<i>Nocomis asper</i>	Fish
19	Crawford's Gray Shrew	<i>Notiosorex crawfordi</i>	Mammal
19	Blackspot Shiner	<i>Notropis atrocaudalis</i>	Fish
19	Channel Shiner	<i>Notropis wickliffi</i>	Fish
19	Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	Bird
19	Hickorynut	<i>Obovaria olivaria</i>	Mussel
19	"White" Hickorynut	<i>Obovaria sp. cf arkansasensis</i>	Mussel
19	Redspotted Stream Crayfish	<i>Orconectes acares</i>	Crayfish
19	Little River Creek Crayfish	<i>Orconectes leptogonopodus</i>	Crayfish
19	Small-eyed Mold Beetle	<i>Ouachitychus parvovulus</i>	Insect
19	Gilt Darter	<i>Percina evides</i>	Fish
19	Slenderhead Darter	<i>Percina phoxocephala</i>	Fish
19	Prairie Skink	<i>Plestiodon septentrionalis</i>	Reptile
19	Ohio Pigtoe	<i>Pleurobema cordatum</i>	Mussel
19	Gray Comma	<i>Polygonia progne</i>	Insect
19	Bismark Burrowing Crayfish	<i>Procambarus parasimulans</i>	Crayfish
19	Boreal Chorus Frog	<i>Pseudacris maculata</i>	Amphibian
19	Strecker's Chorus Frog	<i>Pseudacris streckeri</i>	Amphibian
19	Gulf Mapleleaf	<i>Quadrula nobilis</i>	Mussel
19	Graham's Crayfish Snake	<i>Regina grahamii</i>	Reptile
19	Eastern Harvest Mouse	<i>Reithrodontomys humulis</i>	Mammal
19	Oak Hairstreak	<i>Satyrium favonius ontario</i>	Insect

19	Eastern Spadefoot	<i>Scaphiopus holbrookii</i>	Amphibian
19	Hurter's Spadefoot	<i>Scaphiopus hurterii</i>	Amphibian
19	Southeastern Shrew	<i>Sorex longirostris</i>	Mammal
19	Southern Bog Lemming	<i>Synaptomys cooperi</i>	Mammal
19	Ornate Box Turtle	<i>Terrapene ornata</i>	Reptile
19	Lilliput	<i>Toxolasma parvum</i>	Mussel
19	Texas Lilliput	<i>Toxolasma texasiense</i>	Mussel
19	Tapered Pondhorn	<i>Unio merus declivis</i>	Mussel
19	Pondhorn	<i>Unio merus tetralasmus</i>	Mussel
19	Bell's Vireo	<i>Vireo bellii</i>	Bird
17	Highfin Carpsucker	<i>Carpionodes velifer</i>	Fish
17	Big Sand Tiger Beetle	<i>Cicindela formosa pigmentosignata</i>	Insect
17	Beach-dune Tiger Beetle	<i>Cicindela hirticollis</i>	Insect
17	Sandy Stream Tiger Beetle	<i>Cicindela macra</i>	Insect
17	Western Diamond-backed Rattlesnake	<i>Crotalus atrox</i>	Reptile
17	Trumpeter Swan	<i>Cygnus buccinator</i>	Bird
17	Earthworm	<i>Diplocardia meansi</i>	Invertebrate - other
17	Goldstripe Darter	<i>Etheostoma parvipinne</i>	Fish
17	Round Pigtoe	<i>Pleurobema sintoxia</i>	Mussel
17	Little Spectaclecase group	<i>Villosa sp. cf. lienosa</i>	Mussel
16	Gray Bat	<i>Myotis grisescens</i>	Mammal
16	American Badger	<i>Taxidea taxus</i>	Mammal
15	Mole Salamander	<i>Ambystoma talpoideum</i>	Amphibian
15	Eastern Tiger Salamander	<i>Ambystoma tigrinum</i>	Amphibian
15	Gorgone Checkerspot	<i>Chlosyne gorgone</i>	Insect
15	Cow Path Tiger Beetle	<i>Cicindela purpurea</i>	Insect
15	Monarch	<i>Danaus plexippus</i>	Insect
15	Lake Chubsucker	<i>Erimyzon sucetta</i>	Fish
15	Swamp Darter	<i>Etheostoma fusiforme</i>	Fish
15	Highland Darter	<i>Etheostoma teddyroosevelt</i>	Fish
15	Dwarf Salamander	<i>Eurycea quadridigitata</i>	Amphibian
15	Grotto Salamander "eastern clade"	<i>Eurycea spelaea eastern</i>	Amphibian
15	Bird-voiced Treefrog	<i>Hyla avivoca</i>	Amphibian
15	Least Brook Lamprey	<i>Lampetra aepyptera</i>	Fish
15	"Arkoma" Fatmucket	<i>Lampsilis sp. A cf. hydiana</i>	Mussel
15	Glossy Swampsnake	<i>Liodytes rigida</i>	Reptile
15	Wood Frog	<i>Lithobates sylvaticus</i>	Amphibian
15	Shoal Chub	<i>Macrhybopsis hyostoma</i>	Fish
15	Long-tailed Weasel	<i>Mustela frenata</i>	Mammal
15	Slender Glass Lizard	<i>Ophisaurus attenuatus</i>	Reptile
15	Saddleback Darter	<i>Percina vigil</i>	Fish
15	American Golden-Plover	<i>Pluvialis dominica</i>	Bird

15	Broad-winged Skipper	<i>Poanes viator</i>	Insect
15	Southern Mapleleaf	<i>Quadrula apiculata</i>	Mussel
15	Western Harvest Mouse	<i>Reithrodontomys megalotis</i>	Mammal
15	Fawnsfoot	<i>Truncilla donaciformis</i>	Mussel
15	Rainbow	<i>Villosa iris</i>	Mussel
13	Twelve-spotted Tiger Beetle	<i>Cicindela duodecimguttata</i>	Insect
11	Winter Stonefly	<i>Allopnia malverna</i>	Insect
11	Bronze Copper	<i>Lycaena hyllus</i>	Insect

## Appendix 2.2. List of SGCN by Taxonomic Group.

**Table 2.2.1. Calculated Species Priority Scores for Amphibian Species of Greatest Conservation Need.** A higher score implies a greater need for conservation concern and actions.

Priority Score	Common Name	Scientific Name
71	Ozark Hellbender	<i>Cryptobranchus alleganiensis bishopi</i>
50	Kiamichi Slimy Salamander	<i>Plethodon kiamichi</i>
50	Sequoyah Slimy Salamander	<i>Plethodon sequoyah</i>
46	Caddo Mountain Salamander	<i>Plethodon caddoensis</i>
46	Fourche Mountain Salamander	<i>Plethodon fourchensis</i>
43	Illinois Chorus Frog	<i>Pseudacris illinoensis</i>
38	Rich Mountain Salamander	<i>Plethodon ouachitae</i>
27	Louisiana Slimy Salamander	<i>Plethodon kisatchie</i>
23	Spotted Dusky Salamander	<i>Desmognathus conanti</i>
23	Ouachita Streambed Salamander	<i>Eurycea subfluvicola</i>
23	Oklahoma Salamander	<i>Eurycea tynnerensis</i>
23	Squirrel Treefrog	<i>Hyla squirella</i>
23	Crawfish Frog	<i>Lithobates areolatus</i>
23	Plains Spadefoot	<i>Spea bombifrons</i>
19	Ringed Salamander	<i>Ambystoma annulatum</i>
19	Grotto Salamander "northern clade"	<i>Eurycea spelaea northern</i>
19	Grotto Salamander "western clade"	<i>Eurycea spelaea western</i>
19	Great Plains Narrowmouth Toad	<i>Gastrophryne olivacea</i>
19	Four-toed Salamander	<i>Hemidactylium scutatum</i>
19	Boreal Chorus Frog	<i>Pseudacris maculata</i>
19	Strecker's Chorus Frog	<i>Pseudacris streckeri</i>
19	Eastern Spadefoot	<i>Scaphiopus holbrookii</i>
19	Hurter's Spadefoot	<i>Scaphiopus hurterii</i>
15	Mole Salamander	<i>Ambystoma talpoideum</i>
15	Eastern Tiger Salamander	<i>Ambystoma tigrinum</i>
15	Dwarf Salamander	<i>Eurycea quadridigitata</i>
15	Grotto Salamander "eastern clade"	<i>Eurycea spelaea eastern</i>
15	Bird-voiced Treefrog	<i>Hyla avivoca</i>
15	Wood Frog	<i>Lithobates sylvaticus</i>

**Table 2.2.2. Calculated Priority Scores for Bird Species of Greatest Conservation Need.** A higher score implies a greater need for conservation concern and actions.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
43	Piping Plover	<i>Charadrius melodus</i>
43	Red-cockaded Woodpecker	<i>Picoides borealis</i>
33	Henslow's Sparrow	<i>Ammodramus henslowii</i>
33	Sprague's Pipit	<i>Anthus spragueii</i>
33	Bachman's Sparrow	<i>Peucaea aestivalis</i>
33	King Rail	<i>Rallus elegans</i>
31	Interior Least Tern	<i>Sternula antillarum athalassos</i>
29	Buff-breasted Sandpiper	<i>Calidris subruficollis</i>
29	Swallow-tailed Kite	<i>Elanoides forficatus</i>
29	Rusty Blackbird	<i>Euphagus carolinus</i>
29	Bewick's Wren	<i>Thryomanes bewickii</i>
24	Ruddy Turnstone	<i>Arenaria interpres</i>
24	Smith's Longspur	<i>Calcarius pictus</i>
24	Common Nighthawk	<i>Chordeiles minor</i>
24	Migrant Loggerhead Shrike	<i>Lanius ludovicianus</i>
24	Yellow-crowned Night-Heron	<i>Nyctanassa violacea</i>
24	Black-bellied Plover	<i>Pluvialis squatarola</i>
24	American Woodcock	<i>Scolopax minor</i>
24	Cerulean Warbler	<i>Setophaga cerulea</i>
23	Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>
23	American Bittern	<i>Botaurus lentiginosus</i>
23	Willow Flycatcher	<i>Empidonax traillii</i>
23	Purple Gallinule	<i>Porphyrio martinicus</i>
21	Le Conte's Sparrow	<i>Ammodramus leconteii</i>
21	Sedge Wren	<i>Cistothorus platensis</i>
19	Sharp-shinned Hawk	<i>Accipiter striatus</i>
19	Grasshopper Sparrow	<i>Ammodramus savannarum</i>
19	American Black Duck	<i>Anas rubripes</i>
19	Anhinga	<i>Anhinga anhinga</i>
19	Eastern Whip-poor-will	<i>Antrostomus vociferus</i>
19	Sanderling	<i>Calidris alba</i>
19	Dunlin	<i>Calidris alpina</i>
19	Stilt Sandpiper	<i>Calidris himantopus</i>
19	Chimney Swift	<i>Chaetura pelagica</i>
19	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
19	Northern Bobwhite	<i>Colinus virginianus</i>
19	Tricolored Heron	<i>Egretta tricolor</i>
19	American Kestrel	<i>Falco sparverius</i>
19	Common Gallinule	<i>Gallinula galeata</i>
19	Purple Finch	<i>Haemorhous purpureus</i>

Table 2.2.2. Birds, continued.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
19	Wood Thrush	<i>Hylocichla mustelina</i>
19	Least Bittern	<i>Ixobrychus exilis</i>
19	Short-billed Dowitcher	<i>Limnodromus griseus</i>
19	Swainson's Warbler	<i>Limnothlypis swainsonii</i>
19	Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
19	Bell's Vireo	<i>Vireo bellii</i>
17	Trumpeter Swan	<i>Cygnus buccinator</i>
15	American Golden-Plover	<i>Pluvialis dominica</i>

**Table 2.2.3. Calculated Priority Scores for Crayfish Species of Greatest Conservation Need.** A higher score implies a greater need for conservation concern and actions.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
80	Benton County Cave Crayfish	<i>Cambarus aculabrum</i>
80	Hell Creek Cave Crayfish	<i>Cambarus zophonastes</i>
80	Slenderwrist Burrowing Crayfish	<i>Fallicambarus petilicarpus</i>
80	Irons Fork Burrowing Crayfish	<i>Procambarus reimeri</i>
65	Saline Burrowing Crayfish	<i>Fallicambarus strawni</i>
62	Boston Mountains Crayfish	<i>Cambarus causeyi</i>
50	Bayou Bodcau Crayfish	<i>Bouchardina robisoni</i>
50	Jefferson County Crayfish	<i>Fallicambarus gilpini</i>
50	Coldwater Crayfish	<i>Orconectes eupunctus</i>
46	Ouachita Burrowing Crayfish	<i>Fallicambarus harpi</i>
46	Daisy Burrowing Crayfish	<i>Fallicambarus jeanae</i>
46	Blair's Fencing Crayfish	<i>Faxonella blairi</i>
46	Mammoth Spring Crayfish	<i>Orconectes marchandi</i>
38	Regal Burrowing Crayfish	<i>Procambarus regalis</i>
34	Bristly Cave Crayfish	<i>Cambarus setosus</i>
34	Williams' Crayfish	<i>Orconectes williamsi</i>
32	Pine Hills Digger	<i>Fallicambarus dissitus</i>
30	Meek's Short Pointed Crayfish	<i>Orconectes meeki brevis</i>
30	Ouachita Mountain Crayfish	<i>Procambarus tenuis</i>
27	Hubbs' Crayfish	<i>Cambarus hubbsi</i>
27	Mena Crayfish	<i>Orconectes menae</i>
27	Midget Crayfish	<i>Orconectes nana</i>
23	Neosho Midget Crayfish	<i>Orconectes macrus</i>
20	Gapped Ringed Crayfish	<i>Orconectes neglectus chaenodactylus</i>
19	Redspotted Stream Crayfish	<i>Orconectes acares</i>
19	Little River Creek Crayfish	<i>Orconectes leptogonopodus</i>
19	Bismark Burrowing Crayfish	<i>Procambarus parasimulans</i>

**Table 2.2.4. Calculated Priority Scores for Fish Species of Greatest Conservation Need.** A higher score implies a greater need for conservation concern and actions.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
100	Yellowcheek Darter	<i>Etheostoma moorei</i>
80	Caddo Madtom	<i>Noturus taylori</i>
62	Leopard Darter	<i>Percina pantherina</i>
52	Alabama Shad	<i>Alosa alabamae</i>
50	Arkansas River Shiner	<i>Notropis girardi</i>
48	Pallid Sturgeon	<i>Scaphirhynchus albus</i>
46	Paleback Darter	<i>Etheostoma pallididorsum</i>
46	Ouachita Madtom	<i>Noturus lachneri</i>
46	Ouachita Darter	<i>Percina brucethompsoni</i>
43	Sicklefin Chub	<i>Macrhybopsis meeki</i>
43	Ozark Cavefish	<i>Troglichthys rosae</i>
38	Crystal Darter	<i>Crystallaria asprella</i>
38	Arkansas Darter	<i>Etheostoma cragini</i>
38	Stargazing Darter	<i>Percina uranidea</i>
33	Western Sand Darter	<i>Ammocrypta clara</i>
33	Kiamichi Shiner	<i>Notropis ortenburgeri</i>
33	Ozark Shiner	<i>Notropis ozarcanus</i>
33	Peppered Shiner	<i>Notropis perpallidus</i>
33	Bluehead Shiner	<i>Pteronotropis hubbsi</i>
29	Strawberry River Darter	<i>Etheostoma fragi</i>
29	Least Darter	<i>Etheostoma microperca</i>
29	Silver Redhorse	<i>Moxostoma anisurum</i>
29	Stonecat	<i>Noturus flavus</i>
27	Lake Sturgeon	<i>Acipenser fulvescens</i>
27	Alligator Gar	<i>Atractosteus spatula</i>
27	Plains Minnow	<i>Hybognathus placitus</i>
27	Ouachita Shiner	<i>Lythrurus snelsoni</i>
27	Red River Shiner	<i>Notropis bairdi</i>
27	Rocky Shiner	<i>Notropis suttkusi</i>
27	Brown Madtom	<i>Noturus phaeus</i>
27	Longnose Darter	<i>Percina nasuta</i>
27	Southern Cavefish	<i>Typhlichthys subterraneus</i>
24	American Eel	<i>Anguilla rostrata</i>
24	Paddlefish	<i>Polyodon spathula</i>
23	Blue Sucker	<i>Cycleptus elongatus</i>
23	Bluntnose Shiner	<i>Cyprinella camura</i>
23	Spotfin Shiner	<i>Cyprinella spiloptera</i>
23	Lowland Topminnow	<i>Fundulus blairae</i>



Table 2.2.4. Fish, continued.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
23	Chub Shiner	<i>Notropis potteri</i>
23	Sabine Shiner	<i>Notropis sabiniae</i>
23	Suckermouth Minnow	<i>Phenacobius mirabilis</i>
23	Flathead Chub	<i>Platygobio gracilis</i>
23	Central Mudminnow	<i>Umbra limi</i>
19	Brown Bullhead	<i>Ameiurus nebulosus</i>
19	Autumn Darter	<i>Etheostoma autumnale</i>
19	Beaded Darter	<i>Etheostoma clinton</i>
19	Sunburst Darter	<i>Etheostoma mihileze</i>
19	Current Darter	<i>Etheostoma uniporum</i>
19	Goldeye	<i>Hiodon alosoides</i>
19	Mooneye	<i>Hiodon tergisus</i>
19	American Brook Lamprey	<i>Lethenteron appendix</i>
19	Pealip Redhorse	<i>Moxostoma pisolabrum</i>
19	Striped Mullet	<i>Mugil cephalus</i>
19	Redspot Chub	<i>Nocomis asper</i>
19	Blackspot Shiner	<i>Notropis atrocaudalis</i>
19	Channel Shiner	<i>Notropis wickliffi</i>
19	Gilt Darter	<i>Percina evides</i>
19	Slenderhead Darter	<i>Percina phoxocephala</i>
17	Highfin Carpsucker	<i>Carpionodes velifer</i>
17	Goldstripe Darter	<i>Etheostoma parvipinne</i>
15	Lake Chubsucker	<i>Erimyzon sucetta</i>
15	Swamp Darter	<i>Etheostoma fusiforme</i>
15	Highland Darter	<i>Etheostoma teddyroosevelt</i>
15	Least Brook Lamprey	<i>Lampetra aepyptera</i>
15	Shoal Chub	<i>Macrhybopsis hyostoma</i>
15	Saddleback Darter	<i>Percina vigil</i>

**Table 2.2.5. Calculated Priority Scores for Insect Species of Greatest Conservation Need.** A higher score implies a greater need for conservation concern and actions.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
80	Bowed Snowfly	<i>Allocapnia oribata</i>
80	Winter Stonefly	<i>Allocapnia warreni</i>
80	Magazine Mountain Mold Beetle	<i>Arianops sandersoni</i>
80	Sulphur Springs Diving Beetle	<i>Heterosternuta sulphuria</i>
80	Magazine Stripetail	<i>Isoperla szczytkoi</i>
80	Microcaddisfly	<i>Paucicalcaria ozarkensis</i>
80	Ground Beetle	<i>Rhadine ozarkensis</i>
65	Caddo Sallfly	<i>Alloperla caddo</i>
65	Ouachita Spiketail	<i>Cordulegaster talaria</i>
65	Nearctic Paduniellan Caddisfly	<i>Paduniella nearctica</i>
65	Rattlesnake-Master Borer Moth	<i>Papaipema eryngii</i>
65	Mayfly	<i>Paraleptophlebia calcarica</i>
57	Microcaddisfly	<i>Ochrotrichia robisoni</i>
50	Arkansas Agapetus Caddisfly	<i>Agapetus medicus</i>
50	Winter Stonefly	<i>Allocapnia jeanae</i>
50	Winter Stonefly	<i>Allocapnia ozarkana</i>
50	Arogos Skipper	<i>Atrytone arogos iowa</i>
50	Stonefly	<i>Leuctra paleo</i>
50	Contorted Ochrotrichian Microcaddisfly	<i>Ochrotrichia contorta</i>
46	Predaceous Diving Beetle	<i>Heterosternuta phoebeae</i>
42	Texas Frosted Elfin	<i>Callophrys irus hadros</i>
42	American Burying Beetle	<i>Nicrophorus americanus</i>
38	Linda's Roadside-Skipper	<i>Amblyscirtes linda</i>
38	Indiana Phlox Moth	<i>Schinia indiana</i>
34	Swamp Metalmark	<i>Calephelis muticum</i>
34	Ozark Emerald	<i>Somatochlora ozarkensis</i>
32	Dukes' Skipper	<i>Euphyes dukesi</i>
32	Prairie Mole Cricket	<i>Gryllotalpa major</i>
32	Ozark Snaketail Dragonfly	<i>Ophiogomphus westfalli</i>
30	Mayfly	<i>Dannella provonshai</i>
30	Giant Prairie Robberfly	<i>Microstylum morosum</i>
30	Ozark Swallowtail	<i>Papilio joanae</i>
29	Mottled Duskywing	<i>Erynnis martialis</i>
29	Meske's Skipper	<i>Hesperia meskei</i>
27	Lace-winged Roadside-Skipper	<i>Amblyscirtes aesculapius</i>
27	Carolina Roadside-Skipper	<i>Amblyscirtes carolina</i>
27	Appalachian Azure	<i>Celastrina neglectamajor</i>
27	Baltimore Checkerspot	<i>Euphydryas phaeton ozarkae</i>

Table 2.2.5. Insects, continued.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
27	Ozark Clubtail Dragonfly	<i>Gomphus ozarkensis</i>
27	Georgia Satyr	<i>Neonympha areolatus</i>
27	King's Hairstreak	<i>Satyrrium kingi</i>
25	Tiger Beetle	<i>Cicindela lepida</i>
25	Giant Stag Beetle	<i>Lucanus elaphus</i>
25	Diana	<i>Speyeria diana</i>
23	Lace Bug	<i>Acalypta susanae</i>
23	Copeland's Mold Beetle	<i>Arianops copelandi</i>
23	Northern Metalmark	<i>Calephelis borealis</i>
23	Lincoln Underwing	<i>Catocala lincolnana</i>
23	Dusky Azure	<i>Celastrina nigra</i>
23	Outis Skipper	<i>Cogia outis</i>
23	Beetle	<i>Derops divalis</i>
23	Ouachita Shore Bug	<i>Pentacora ouachita</i>
23	Yehl Skipper	<i>Poanes yehl</i>
23	Byssus Skipper	<i>Problema byssus</i>
23	Ouachita Pseudactium	<i>Pseudactium magazinensis</i>
23	Ozark Pseudactium	<i>Pseudactium ursum</i>
23	Ground Beetle	<i>Scaphinotus inflectus</i>
23	Ground Beetle	<i>Scaphinotus parisiana</i>
23	Anthophorid Bee	<i>Tetraloniella albata</i>
21	Bell's Roadside-Skipper	<i>Amblyscirtes belli</i>
21	Golden-banded Skipper	<i>Autochton cellus</i>
21	Ant-like Tiger Beetle	<i>Cicindela cursitans</i>
21	Scrubland Tiger Beetle	<i>Cicindela obsoleta</i>
21	Woodland Tiger Beetle	<i>Cicindela unipunctata</i>
21	Red Milkweed Beetle	<i>Tetraopes quinque maculatus</i>
21	Texas Milkweed Beetle	<i>Tetraopes texanus</i>
19	Lace Bug	<i>Acalypta lillianus</i>
19	Six-banded Longhorn Beetle	<i>Dryobius sexnotatus</i>
19	Dion Skipper	<i>Euphyes dion</i>
19	Leonard's Skipper	<i>Hesperia leonardus</i>
19	Cobweb Skipper	<i>Hesperia metea</i>
19	Ouachita Diving Beetle	<i>Heterosternuta ouachita</i>
19	Small-eyed Mold Beetle	<i>Ouachitychus parvovculus</i>
19	Gray Comma	<i>Polygonia progne</i>
19	Oak Hairstreak	<i>Satyrrium favonius ontario</i>
17	Big Sand Tiger Beetle	<i>Cicindela formosa pigmentosignata</i>

Table 2.2.5. Insects, continued.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
17	Beach-dune Tiger Beetle	<i>Cicindela hirticollis</i>
17	Sandy Stream Tiger Beetle	<i>Cicindela macra</i>
15	Gorgone Checkerspot	<i>Chlosyne gorgone</i>
15	Cow Path Tiger Beetle	<i>Cicindela purpurea</i>
15	Monarch	<i>Danaus plexippus</i>
15	Broad-winged Skipper	<i>Poanes viator</i>
13	Twelve-spotted Tiger Beetle	<i>Cicindela duodecimguttata</i>
11	Winter Stonefly	<i>Allocaenia malverna</i>
11	Bronze Copper	<i>Lycaena hyllus</i>

**Table 2.2.6. Calculated Priority Scores for Invertebrate Species of Greatest Conservation Need.** A higher score implies a greater need for conservation concern and actions.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
80	Foushee Cavesnail	<i>Amnicola cora</i>
80	Magazine Mountain Shagreen	<i>Inflectarius magazinensis</i>
80	Isopod	<i>Lirceus bidentatus</i>
80	Ozark Pyrg	<i>Marstonia ozarkensis</i>
80	Striate Supercoil	<i>Paravitrea aulacogyra</i>
80	Ouachita Pebblesnail	<i>Somatogyrus amnicoloides</i>
80	Thicklipped Pebblesnail	<i>Somatogyrus crassilabris</i>
80	Channelled Pebblesnail	<i>Somatogyrus wheeleri</i>
65	Cave Obligate Pseudoscorpion	<i>Apochthonius diabolus</i>
65	Cave Obligate Pseudoscorpion	<i>Apochthonius titanicus</i>
65	Cave Obligate Harvestman	<i>Crosbyella distincta</i>
65	Cave Obligate Harvestman	<i>Crosbyella roeweri</i>
65	Calico Rock Oval	<i>Patera clenchi</i>
65	Elevated Spring Amphipod	<i>Stygobromus elatus</i>
65	Mountain Cave Amphipod	<i>Stygobromus montanus</i>
65	Cave Obligate Millipede	<i>Trigenotyia parca</i>
65	Arkansas Wedge	<i>Xolotrema occidentale</i>
50	Springtail	<i>Pseudosinella dubia</i>
50	Cave Obligate Springtail	<i>Schaefferia alabamensis</i>
50	Ouachita Needlefly	<i>Zealeuctra wachita</i>
46	Rich Mountain Slitmouth	<i>Stenotrema pilsbryi</i>
42	Hubricht's Long-tailed Amphipod	<i>Allocrangonyx hubrichti</i>
42	Amphipod	<i>Bactrurus pseudomucronatus</i>
42	Isopod	<i>Caecidotea oculata</i>
42	Cave Obligate Isopod	<i>Caecidotea simulator</i>
42	Cave Obligate Planarian	<i>Dendrocoelopsis americana</i>
38	Isopod	<i>Caecidotea dimorpha</i>
38	Bat Cave Isopod	<i>Caecidotea macropropoda</i>
34	White Liptooth	<i>Daedalochila peregrina</i>
34	Ouachita Slitmouth	<i>Stenotrema unciferum</i>
30	Isopod	<i>Caecidotea steevesi</i>
30	Isopod	<i>Lirceus bicuspidatus</i>
27	Isopod	<i>Caecidotea ancyla</i>
27	Isopod	<i>Caecidotea salemensis</i>
27	Land Snail	<i>Gastrocopta rogersensis</i>
27	Shelled Cave Springtail	<i>Pseudosinella testa</i>
25	Springtail	<i>Pygmarrhopalites clarus</i>
23	Millipede	<i>Abacion wilhelminae</i>

Table 2.2.6. Invertebrates - other, continued.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
23	Isopod	<i>Caecidotea fonticulus</i>
23	Isopod	<i>Caecidotea stiladactyla</i>
23	Pseudoscorpion	<i>Hesperochernes occidentalis</i>
23	Ozark Cave Amphipod	<i>Stygobromus ozarkensis</i>
23	Pseudoscorpion	<i>Tartarocreagris ozarkensis</i>
17	Earthworm	<i>Diplocardia meansi</i>

**Table 2.2.7. Calculated Priority Scores of Mammal Species of Greatest Conservation Need.** A higher score implies a greater need for conservation concern and actions.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
80	Ozark Big-eared Bat	<i>Corynorhinus townsendii ingens</i>
63	Northern Long-eared Bat	<i>Myotis septentrionalis</i>
62	Indiana Bat	<i>Myotis sodalis</i>
57	Ozark Pocket Gopher	<i>Geomys bursarius ozarkensis</i>
33	Little Brown Bat	<i>Myotis lucifugus</i>
29	Rafinesque's Big-Eared Bat	<i>Corynorhinus rafinesquii</i>
27	Eastern Small-Footed Bat	<i>Myotis leibii</i>
24	Southeastern Bat	<i>Myotis austroriparius</i>
23	Plains Harvest Mouse	<i>Reithrodontomys montanus</i>
21	Black-tailed Jackrabbit	<i>Lepus californicus</i>
21	Eastern Spotted Skunk	<i>Spilogale putorius</i>
19	Crawford's Gray Shrew	<i>Notiosorex crawfordi</i>
19	Eastern Harvest Mouse	<i>Reithrodontomys humulis</i>
19	Southeastern Shrew	<i>Sorex longirostris</i>
19	Southern Bog Lemming	<i>Synaptomys cooperi</i>
16	Gray Bat	<i>Myotis grisescens</i>
16	American Badger	<i>Taxidea taxus</i>
15	Long-tailed Weasel	<i>Mustela frenata</i>
15	Western Harvest Mouse	<i>Reithrodontomys megalotis</i>

**Table 2.2.8. Calculated Priority Scores for Mussel Species of Greatest Conservation Need.** A higher score implies a greater need for conservation concern and actions.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
100	Curtis Pearlymussel	<i>Epioblasma florentina curtisii</i>
100	Turgid Blossom	<i>Epioblasma turgidula</i>
80	Ouachita Rock Pocketbook	<i>Arcidens wheeleri</i>
80	Speckled Pocketbook	<i>Lampsilis streckeri</i>
80	Winged Mapleleaf	<i>Quadrula fragosa</i>
76	Scaleshell	<i>Leptodea leptodon</i>
65	Louisiana Pearlshell	<i>Margaritifera hembeli</i>
65	Texas Pigtoe	<i>Pleurobema riddellii</i>
62	Neosho Mucket	<i>Lampsilis rafinesqueana</i>
57	Arkansas Fatmucket	<i>Lampsilis powellii</i>
52	Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>
46	Pink Mucket	<i>Lampsilis abrupta</i>
46	Fat Pocketbook	<i>Potamilus capax</i>
43	Western Fanshell	<i>Cyprogenia aberti</i>
43	"Ouachita" Fanshell	<i>Cyprogenia sp. cf aberti</i>
43	Snuffbox	<i>Epioblasma triquetra</i>
38	Spectaclecase	<i>Cumberlandia monodonta</i>
38	Pyramid Pigtoe	<i>Pleurobema rubrum</i>
34	Salamander Mussel	<i>Simpsonaias ambigua</i>
33	Purple Lilliput	<i>Toxolasma lividum</i>
31	Slippershell Mussel	<i>Alasmidonta viridis</i>
30	Purple Pimpleback	<i>Quadrula refulgens</i>
29	"Elongate" Pigtoe	<i>Fusconaia sp. cf. flava</i>
23	Ozark Pigtoe	<i>Fusconaia ozarkensis</i>
23	Pink Heelsplitter	<i>Potamilus alatus</i>
23	Ouachita Kidneyshell	<i>Ptychobranhus occidentalis</i>
23	Ellipse	<i>Venustaconcha ellipsiformis</i>
23	Bleedingtooth Mussel	<i>Venustaconcha pleasii</i>
19	Elktoe	<i>Alasmidonta marginata</i>
19	Southern Pocketbook	<i>Lampsilis ornata</i>
19	"Red River" Mucket	<i>Lampsilis sp. B cf hydiana</i>
19	Hickorynut	<i>Obovaria olivaria</i>
19	"White" Hickorynut	<i>Obovaria sp. cf arkansasensis</i>
19	Ohio Pigtoe	<i>Pleurobema cordatum</i>
19	Gulf Mapleleaf	<i>Quadrula nobilis</i>



Table 2.2.8. Mussels, continued.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
19	Lilliput	<i>Toxolasma parvum</i>
19	Texas Lilliput	<i>Toxolasma texasiense</i>
19	Tapered Pondhorn	<i>Uniomerus declivis</i>
19	Pondhorn	<i>Uniomerus tetralasmus</i>
17	Round Pigtoe	<i>Pleurobema sintoxia</i>
17	Little Spectaclecase group	<i>Villosa sp. cf lienosa</i>
15	"Arkoma" Fatmucket	<i>Lampsilis sp. A cf hydiana</i>
15	Southern Mapleleaf	<i>Quadrula apiculata</i>
15	Fawnsfoot	<i>Truncilla donaciformis</i>
15	Rainbow	<i>Villosa iris</i>

**Table 2.2.9. Calculated Species Priority Scores for Reptile Species of Greatest Conservation Need.** A higher score implies a greater need for conservation concern and actions.

<b>Priority Score</b>	<b>Common Name</b>	<b>Scientific Name</b>
29	Queensnake	<i>Regina septemvittata</i>
24	Eastern Collared Lizard	<i>Crotaphytus collaris</i>
23	Great Plains Skink	<i>Plestiodon obsoletus</i>
23	Western Groundsnake	<i>Sonora semiannulata</i>
23	Lined Snake	<i>Tropidoclonion lineatum</i>
19	Common Wormsnake	<i>Carphophis amoenus</i>
19	Chicken Turtle	<i>Deirochelys reticularia</i>
19	Texas Coralsnake	<i>Micrurus tener</i>
19	Prairie Skink	<i>Plestiodon septentrionalis</i>
19	Graham's Crayfish Snake	<i>Regina grahamii</i>
19	Ornate Box Turtle	<i>Terrapene ornata</i>
17	Western Diamond-backed Rattlesnake	<i>Crotalus atrox</i>
15	Glossy Swampsnake	<i>Liodytes rigida</i>
15	Slender Glass Lizard	<i>Ophisaurus attenuatus</i>

## Appendix 2.3. List of Added and Removed SGCN List for 2015 Revision.

**Table 2.3.1.** Species added to the Arkansas Wildlife Action Plan under the 2015 revision as SGCN.

Common Name	Scientific Name	Taxa Association
Grotto Salamander "western clade"	<i>Eurycea spelaea</i>	amphibian
Grotto Salamander "eastern clade"	<i>Eurycea spelaea</i>	amphibian
Ouachita Streambed Salamander	<i>Eurycea subfluvicola</i>	amphibian
Squirrel Tree Frog	<i>Hyla squirella</i>	amphibian
Boreal Chorus Frog	<i>Pseudacris maculata</i>	amphibian
Sharp-shinned Hawk	<i>Accipiter striatus</i>	bird
Sprague's Pipit	<i>Anthus spragueii</i>	bird
Ruddy Turnstone	<i>Arenaria interpres</i>	bird
Common Nighthawk	<i>Chordeiles minor</i>	bird
Tricolored Heron	<i>Egretta tricolor</i>	bird
American Kestrel	<i>Falco sparverius</i>	bird
Purple Finch	<i>Haemorhous purpureus</i>	bird
American Golden-Plover	<i>Pluvialis dominica</i>	bird
Hubbs' Crayfish	<i>Cambarus hubbsi</i>	crayfish
Pine Hills Digger	<i>Fallicambarus dissitus</i>	crayfish
Redspotted Stream Crayfish	<i>Orconectes acares</i>	crayfish
Little River Creek Crayfish	<i>Orconectes leptogonopodus</i>	crayfish
Brown Bullhead	<i>Ameiurus nebulosus</i>	fish
American Eel	<i>Anguilla rostrata</i>	fish
Highfin Carpsucker	<i>Carpiodes velifer</i>	fish
Autumn Darter	<i>Etheostoma autumnale</i>	fish
Beaded Darter	<i>Etheostoma clinton</i>	fish
Sunburst Darter	<i>Etheostoma mihileze</i>	fish
Highland Darter	<i>Etheostoma teddyroosevelt</i>	fish
Lowland Topminnow	<i>Fundulus blairae</i>	fish
Mooneye	<i>Hiodon tergisus</i>	fish
Plains Minnow	<i>Hybognathus placitus</i>	fish
Shoal Chub	<i>Macrhybopsis hyostoma</i>	fish
Striped Mullet	<i>Mugil cephalus</i>	fish
Chub Shiner	<i>Notropis potteri</i>	fish
Rocky Shiner	<i>Notropis suttkusi</i>	fish
Channel Shiner	<i>Notropis wickliffi</i>	fish
Stonecat	<i>Noturus flavus</i>	fish
Gilt Darter	<i>Percina evides</i>	fish
Saddleback Darter	<i>Percina vigil</i>	fish
Bell's Roadside-Skipper	<i>Ambylscirtes bellii</i>	insect

Arogos Skipper	<i>Atrytone arogos</i>	insect
Golden-banded Skipper	<i>Autochton cellus</i>	insect
Northern Metalmark	<i>Calephelis borealis</i>	insect
Appalachian Azure	<i>Celastrina neglecta major</i>	insect
Dusky Azure	<i>Celastrina nigra</i>	insect
Gorgonne Checkerspot	<i>Chlosyne gorgone</i>	insect
Outis Skipper	<i>Cogia outis</i>	insect
Ouachita Spiketail	<i>Cordulegaster talaria</i>	insect
Monarch	<i>Danaus plexippus</i>	insect
Mottled Duskywing	<i>Erynnis martialis</i>	insect
Baltimore Checkerspot	<i>Euphydryas phaeton ozarkae</i>	insect
Dion Skipper	<i>Euphyes dion</i>	insect
Leonard's Skipper	<i>Hesperia leonardus</i>	insect
Cobweb Skipper	<i>Hesperia metea</i>	insect
Bronze Copper	<i>Lycaena hyllus</i>	insect
Rattlesnake-master Borer Moth	<i>Papaipema eryngii</i>	insect
Ozark Swallowtail	<i>Papilio joanae</i>	insect
Broad-winged Skipper	<i>Poanes viator</i>	insect
Gray Comma	<i>Polygonia progne</i>	insect
Oak Hairstreak	<i>Satyrium favonius ontario</i>	insect
Ozark Emerald	<i>Somatochlora ozarkensis</i>	insect
Little Brown Bat	<i>Myotis lucifugus</i>	mammal
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	mammal
Western Fanshell	<i>Cyprogenia aberti</i>	mussel
Ouachita Fanshell	<i>Cyprogenia sp. Cf aberti</i>	mussel
Elongate Elktoe	<i>Fusconaia sp. Cf. sampsoniana</i>	mussel
Texas Pigtoe	<i>Pleurobema riddellii</i>	mussel
Purple Pimpleback	<i>Quadrula refulgens</i>	mussel
Lilliput	<i>Toxolasma parvum</i>	mussel
Lined Snake	<i>Tropidoclonion lineatum</i>	reptile

**Table 2.3.2.** Species removed from the Arkansas Wildlife Action Plan under the 2015 Revision.

Common Name	Scientific Name	Taxa Association
Northern Pintail	<i>Anas acuta</i>	bird
Short-eared Owl	<i>Asio flammeus</i>	bird
Upland Sandpiper	<i>Bartramia longicauda</i>	bird
Ruffed Grouse	<i>Bonasa umbellus</i>	bird
Western Sandpiper	<i>Calidris mauri</i>	bird
Least Sandpiper	<i>Calidris minutilla</i>	bird
Semi-palmated Sandpiper	<i>Calidris pusilla</i>	bird
Ivory-billed Woodpecker	<i>Campephilus principalis</i>	bird
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	bird
Lark Sparrow	<i>Chondestes grammacus</i>	bird
Northern Harrier	<i>Circus cyaneus</i>	bird
Prairie Warbler	<i>Dendroica discolor</i>	bird
Yellow Warbler	<i>Dendroica petechia</i>	bird
Little Blue Heron	<i>Egretta caerulea</i>	bird
Snowy Egret	<i>Egretta thula</i>	bird
Bald Eagle	<i>Haliaeetus leucocephalus</i>	bird
Worm-eating Warbler	<i>Helmitheros vermivorus</i>	bird
Mississippi Kite	<i>Ictinia mississippiensis</i>	bird
Hudsonian Godwit	<i>Limosa haemastica</i>	bird
Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	bird
Wood Stork	<i>Mycteria americana</i>	bird
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	bird
Kentucky Warbler	<i>Oporornis formosus</i>	bird
Osprey	<i>Pandion haliaetus</i>	bird
American White Pelican	<i>Pelecanus erythrorhynchos</i>	bird
Wilson's Phalarope	<i>Phalaropus tricolor</i>	bird
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	bird
Pied-billed Grebe	<i>Podilymbus podiceps</i>	bird
Prothonotary Warbler	<i>Protonotaria citrea</i>	bird
American Avocet	<i>Recurvirostra americana</i>	bird
Brown-headed Nuthatch	<i>Sitta pusilla</i>	bird
Lesser Yellowlegs	<i>Tringa flavipes</i>	bird
Greater Yellowlegs	<i>Tringa melanoleuca</i>	bird
Solitary Sandpiper	<i>Tringa solitaria</i>	bird
Greater Prairie Chicken	<i>Tympanuchus cupido</i>	bird
Barn Owl	<i>Tyto alba</i>	bird
Blue-winged Warbler	<i>Vermivora pinus</i>	bird
Hooded Warbler	<i>Wilsonia citrina</i>	bird
Crayfish	<i>Procambarus ferrugineus</i>	crayfish

Ozark Chub	<i>Erimystax harrisi</i>	fish
Sturgeon Chub	<i>Macrhybopsis gelida</i>	fish
Tailight Shiner	<i>Notropis maculatus</i>	fish
Seminole Bat	<i>Lasiurus seminolus</i>	mammal
Black Bear	<i>Ursus americanus americanus</i>	mammal
Flat Floater	<i>Anodonta suborbiculata</i>	mussel
Rock Pocketbook	<i>Arcidens confragosus</i>	mussel
Purple Wartyback	<i>Cyclonaias tuberculata</i>	mussel
Butterfly	<i>Ellipsaria lineolata</i>	mussel
Round Pearlshell	<i>Glebula rotundata</i>	mussel
Louisiana Fatmucket	<i>Lampsilis hydiana</i>	mussel
Arkansas Brokenray	<i>Lampsilis reeveiana</i>	mussel
Fatmucket	<i>Lampsilis siliquodea</i>	mussel
Flutedshell	<i>Lasmigona costata</i>	mussel
Black Sandshell	<i>Ligumia recta</i>	mussel
Round Hickorynut	<i>Obovaria subrotunda</i>	mussel
Creeper	<i>Strophitus undulatus</i>	mussel
Ouachita Creekshell	<i>Villosa arkansasensis</i>	mussel

## Appendix 3.1 Potential Habitat: GIS Methodology

Approach: Use GAP Vegetation Map in combination with ancillary layers (polygons from Level III Omernik Ecoregions, STATSGO soils, 1:500,000 Arkansas Geology, Saucier Geomorphology. These were used to clip the GAP Vegetation Raster map to define areas of existing vegetation associated with particular ecological systems). Future phases will add to and improve this map. In the Ozark-Ouachita (Interior Highlands) region, systems are not generally defined in such a way that the data layers available for Phase 1 added any ability to map ecological systems. Therefore in these areas GAP vegetation units were selected without using any other layers.

The 2ha aggregate GAP Vegetation Map was the base vegetation layer – Initial efforts used the finer 30-m pixel size that was the base GAP map resulting from image classification. After doing some clipping of this map it was apparent that the selected areas of vegetation included many single-pixel or few-pixel “speckles” that would have to be aggregated with larger areas before a useful polygon map could be created. The GAP project had already produced aggregated raster maps of 2ha, 10ha and 100ha. It would simplify the current project to use one of these. After inspecting the alternatives the 2ha was chosen as the base vegetation map since it would be easy to “polygonize” but would retain considerable detail. This was a smaller area than would be tracked by the CWCS planning effort for large patch or matrix communities but might be useful for some small patch communities.

Factors involved in selecting clipping layer – GAP used STATSGO map to constrain spectral classification, that is, spectral classification was often done within certain STATSGO polygons within a certain satellite scene. Therefore the vegetation map overlays better on the STATSGO map than on the other maps and is the preferred clipping file unless another is preferred for a specific reason. The STATSGO map was most useful in the Coastal Plain because systems there are closely associated with soils. The Saucier map was preferred in the Mississippi Alluvial Plain because it better represents the definitions of those alluvial systems. The Ecoregion map did not exactly overlay the other maps

but CWCS has already made the decision to use that map to define ecoregions so it was used for that purpose. The Geology map was used as a backup to these.

Map Accuracy: The ecological systems map can be no more accurate than the maps used in creating it. The GAP project did an accuracy assessment and found wide variations in accuracy depending on the vegetation type. The highest accuracy was forest vs. non-forest at 75%. In creating the ecological systems map, unless it was essential to do otherwise, all natural vegetation types within a clipping polygon were selected as representing the system, even if, for example, wetland types along streams were known to be a different system from the dominant upland system. The wetland pixels were usually scattered and occurred both along defined stream courses and in inappropriate sites as well, indicating that there would have been as much error in placing them into a different system as including them in the prevalent system. Thus overall accuracy was improved by selecting all forested types as belonging to the system. Although this resulted in a decrease in detail within any given system polygon, the number of systems so defined, at about 20, is not greatly different from the total number of vegetation types defined in the original GAP map, 31.

### Map Units Organized by Ecoregion

OZARK-OUACHITA (INTERIOR HIGHLANDS) REGION (comprised of Omernik Level 3 ecoregions Ozark Highlands, Boston Mountains, Arkansas Valley, Ouachita Mountains)

Method: Select vegetation types from the 2 ha. Gap vegetation map (no clip polygons are used).

Ozark-Ouachita Dry-mesic Oak Forest habitat (and same ecological system)

GAP types:

8 T.1.B.3.a.II, *Quercus alba*, white oak - mixed hardwoods

9 T.1.B.3.a.III, *Quercus rubra* - *Quercus* spp., northern red oak - oak

10 T.1.B.3.a.IV, *Quercus falcata* - *Quercus* spp., south-

ern red oak - oak 15 T.2.B.4.a.I, *Quercus* spp. - *Carya texana*, oak - black hickory

“Interior Highlands Glade-Barrens” type includes three habitats: Central Interior Highlands Dry Acidic Glade and Barrens (and same ecological system)

Central Interior Highlands Calcareous Glade and Barrens (and same ecological system)

Ozark-Ouachita Dry Oak Woodland (and same ecological system)

GAP types:

3 T.1.A.9.c.I, *Juniperus virginiana*, eastern red cedar

6 T.1.B.2.b.IV, *Juniperus virginiana*, eastern red cedar

11 T.1.B.3.a.V, *Quercus stellata*, post oak

12 T.2.A.2.b.I, *Juniperus virginiana* - *Quercus* spp., eastern red cedar - oak

14 T.2.B.3.a.II, *Juniperus ashei* - *Quercus* spp., white cedar - oak

“Ozark-Ouachita Pine-Oak Forest and Woodland” type includes pine-hardwood co-dominated sites in three habitats:

Ozark-Ouachita Pine-Oak Forest habitat Ozark-

Ouachita Pine-Oak Woodland habitat Ozark-

Ouachita Pine/Bluestem Woodland habitat

All of which make up Ozark-Ouachita Shortleaf Pine-Oak Forest and Woodland ecological system. (This map unit is probably more comparable to the first two habitats, depending on structure, either forest or woodland, not distinguished by GAP).

GAP types:

4 T.1.B.2.b.II, *Quercus* spp. - *Pinus echinata* - *Carya* spp., oak - shortleaf pine - hickory 13 T.2.B.3.a.I, *Pinus echinata* - *Quercus* spp., shortleaf pine - oak

“Ozark-Ouachita Pine” type includes pine-dominated sites in three habitats:

Ozark-Ouachita Pine-Oak Forest habitat Ozark-

Ouachita Pine-Oak Woodland habitat Ozark-

Ouachita Pine/Bluestem Woodland habitat

All of which make up Ozark-Ouachita Shortleaf Pine-Oak Forest and Woodland ecological system. (This may be comparable to the third habitat if structure is very open, and may also be a distinct habitat from the first two, even if fairly dense.)

GAP types:

1 T.1.A.9.b.I, *Pinus echinata*, shortleaf pine

Ozark-Ouachita Mesic Hardwood Forest habitat (and same ecological system)

GAP types:

7 T.1.B.3.a.I, *Fagus grandifolia*, american beech (The GAP map shows very few areas of this type in only part of the highlands – the type is under-represented in that map.)

“Ozark-Ouachita Riparian” type includes two habitats:

Ozark-Ouachita Riparian habitat (and same ecological system)

South-Central Interior Large Floodplain habitat (and same ecological system)

GAP types:

23 P.1.B.3.c.VII, *Quercus phellos*, willow oak

24 P.1.B.3.c.VIII, *Liquidambar styraciflua*, sweetgum

30 R.1.B.3.c.I, *Salix* - *Populus*, willow - cottonwood

31 R.1.B.3.c.II, *Betula* - *Platanus* - *Acer*, birch - sycamore - maple

CROWLEY’S RIDGE ECOREGION (defined by Omernik Level 3 map)

“Crowley’s Ridge Dry-Mesic Forest” type is a part of Mississippi River Alluvial Plain Loess Slope Forest habitat (and same ecological system)

GAP types:

8 T.1.B.3.a.II, *Quercus alba*, white oak - mixed hardwoods

9 T.1.B.3.a.III, *Quercus rubra* - *Quercus* spp., northern red oak - oak

10 T.1.B.3.a.IV, *Quercus falcata* - *Quercus* spp., southern red oak - oak

15 T.2.B.4.a.I, *Quercus* spp. - *Carya texana*, oak - black hickory

“Crowley’s Ridge Pine” type is a part of Mississippi River Alluvial Plain Loess Slope Forest habitat (and same ecological system)

GAP types:

1 T.1.A.9.b.I, *Pinus echinata*, shortleaf pine



MISSISSIPPI ALLUVIAL PLAIN ECOREGION defined by Omernik Level 3 map.

Method: Clip 2 ha. GAP vegetation map with appropriate geomorphology polygons defined by Saucier's map.

Lower Mississippi River Dune Woodland and Forest habitat (equivalent to Lower Mississippi River Dune Woodland and Forest and Lower Mississippi River Dune Pond ecological systems).

Saucier types:

Ps sand dune fields and eolian deposits on valley trains

GAP types - All except:

32 R.6.A.1.a.I, Bare, bare

33 W, Water, water

34 AGW, Agriculture, Agriculture (wet crops)

35 AGD, Agriculture, Agriculture (dry crops)

36 AGP, Agriculture, Agriculture (pasture)

37 URC, Urban, Urban Commercial-Industrial

38 URR, Urban, Urban Residential

"Mississippi River Low Bottomland and Depression" map unit includes Lower Mississippi River Low Bottomland Forest and Lower Mississippi River Bottomland Depression habitats (equivalent to Mississippi River Low Floodplain (Bottomland) Forest and Lower Mississippi River Bottomland Depression ecological systems).

Saucier types:

Hb Backswamp (floodbasin) deposits

Hal Alluvial fans and aprons along valley margins

Hchm Abandoned channels (neck and chute cutoffs) of the Mississippi River

Hcom Abandoned courses of the Mississippi River

Pdch Abandoned channels (cutoffs) of the Deweyville Complex

Pdp Point bar (meander scroll) deposits of the Deweyville Complex

Pdu Undifferentiated fluvial deposits of the Deweyville Complex

Ptc Undifferentiated fluvial deposits of the Cache River Terrace

Pvcl Relict channels of late Wisconsin Stage Valley Train

GAP types – All except:

32 R.6.A.1.a.I, Bare, bare

33 W, Water, water

34 AGW, Agriculture, Agriculture (wet crops)

35 AGD, Agriculture, Agriculture (dry crops)

36 AGP, Agriculture, Agriculture (pasture)

37 URC, Urban, Urban Commercial-Industrial

38 URR, Urban, Urban Residential

"Mississippi River Riparian and High Bottomland" map unit includes Lower Mississippi River Riparian Forest and Lower Mississippi River High Bottomland Forest habitats (equivalent to Lower Mississippi River Riparian Forest and Lower Mississippi River High Floodplain (Bottomland) Forest).

Saucier types:

Hpa 1-7 Point bar (meander scroll) deposits of Arkansas meander belts

Hps Point bar (meander scroll) deposits of small streams

GAP types – All except:

32 R.6.A.1.a.I, Bare, bare

34 AGW, Agriculture, Agriculture (wet crops)

35 AGD, Agriculture, Agriculture (dry crops)

36 AGP, Agriculture, Agriculture (pasture)

37 URC, Urban, Urban Commercial-Industrial

38 URR, Urban, Urban Residential

Lower Mississippi Alluvial Plain Grand Prairie habitat (equivalent to Lower Mississippi Alluvial Plain Grand Prairie ecological system).

Saucier types:

Ppu Undifferentiated fluvial deposits of the Prairie Complex. Mostly natural levee and backswamp deposits of the Mississippi, Arkansas and Red rivers.

Pdp Point bar (meander scroll) deposits of the Deweyville Complex. Note-some prairie occurred on Pdp but it is primarily in flatwoods, below.

Pi The part adjacent to Ppu

GAP types – all except:

25 Baldcypress – mixed hardwoods (moved to Mississippi River Low Bottomland and Depression.

32 R.6.A.1.a.I, Bare, bare

33 W, Water, water  
 34 AGW, Agriculture, Agriculture (wet crops)  
 35 AGD, Agriculture, Agriculture (dry crops)  
 36 AGP, Agriculture, Agriculture (pasture)  
 37 URC, Urban, Urban Commercial-Industrial  
 38 URR, Urban, Urban Residential  
 Lower Mississippi River Flatwoods Woodland and Forest habitat (equivalent to Lower Mississippi River Flatwoods ecological system).  
 Saucier types:  
 Had Principal abandoned deltaic distributaries.  
 Pdp Point bar (meander scrolls) of the Deweyville Complex.  
 Pve 1-4 Early Wisconsin Stage valley trains.  
 Pvl Late Wisconsin Stage valley trains where levels are not separately delineated.  
 Pvl 1-2 Late Wisconsin Stage valley trains Levels 1 and 2.  
 GAP types – all except:  
 25 Baldcypress – mixed hardwoods (moved to Mississippi River Low Bottomland and Depression.  
 32 R.6.A.1.a.I, Bare, bare  
 33 W, Water, water  
 34 AGW, Agriculture, Agriculture (wet crops)  
 35 AGD, Agriculture, Agriculture (dry crops)  
 36 AGP, Agriculture, Agriculture (pasture)  
 37 URC, Urban, Urban Commercial-Industrial  
 38 URR, Urban, Urban Residential

**WEST GULF COASTAL PLAIN ECOREGION**  
 defined by Omernik Level 3 map.

Method: Clip 2 ha. GAP vegetation map with appropriate polygons defined by NRCS STATSGO soil map.

“West Gulf Coastal Plain Flatwoods” includes two habitats:

West Gulf Coastal Plain Dry Pine-Hardwood Flatwoods (and same ecological system)

West Gulf Coastal Plain Wet Hardwood Flatwoods (and same ecological system)

STATSGO types:

Adaton-Felker-Gore AR035

Amy-Pheba-Guyton AR040  
 Calloway-Henry-Grenada AR038  
 Bussy-Tullou-Guyton  
 Sacul-Savannah-Sawyer  
 Smithdale-Savannah-Sacul (only that area of Sacul lying within the 1:500,000 geology Qt-Quaternary Terrace)  
 Wrightsville-Acadia-Louin  
 GAP types – all except:  
 32 R.6.A.1.a.I, Bare, bare  
 33 W, Water, water  
 34 AGW, Agriculture, Agriculture (wet crops)  
 35 AGD, Agriculture, Agriculture (dry crops)  
 36 AGP, Agriculture, Agriculture (pasture)  
 37 URC, Urban, Urban Commercial-Industrial  
 38 URR, Urban, Urban Residential  
 “West Gulf Coastal Plain Sandhill” equivalent to West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest and Woodland habitat (and same ecological system)  
 STATSGO types:  
 Briley-Alaga  
 GAP types – all except:  
 32 R.6.A.1.a.I, Bare, bare  
 33 W, Water, water  
 34 AGW, Agriculture, Agriculture (wet crops)  
 35 AGD, Agriculture, Agriculture (dry crops)  
 36 AGP, Agriculture, Agriculture (pasture)  
 37 URC, Urban, Urban Commercial-Industrial  
 38 URR, Urban, Urban Residential  
 “Red River” equivalent to West Gulf Coastal Plain Red River Floodplain Forest habitat and Red River Large Floodplain Forest ecological system.  
 STATSGO types:  
 Severn-Billyhaw  
 Billyhaw-Perry  
 Rilla-Hebert  
 GAP types – all except:  
 32 R.6.A.1.a.I, Bare, bare  
 33 W, Water, water

34 AGW, Agriculture, Agriculture (wet crops)  
35 AGD, Agriculture, Agriculture (dry crops)  
36 AGP, Agriculture, Agriculture (pasture)  
37 URC, Urban, Urban Commercial-Industrial  
38 URR, Urban, Urban Residential  
“Blackland” equivalent to West Gulf Coastal Plain Calcareous Prairie habitat (and same ecological system)

STATSGO types:

Oktibbeha-Sumter (But eliminated areas south of I-40 and north of the main belt of these soils.

GAP types – all except:

32 R.6.A.1.a.I, Bare, bare

33 W, Water, water

34 AGW, Agriculture, Agriculture (wet crops)

35 AGD, Agriculture, Agriculture (dry crops)

36 AGP, Agriculture, Agriculture (pasture)

37 URC, Urban, Urban Commercial-Industrial

38 URR, Urban, Urban Residential

ALSO within a TNC conservation site boundary, included

36 AGP, Agriculture, Agriculture (pasture): This was done because there is a substantial amount of native prairie pasture within this area. However, it is properly beyond Phase 1.

West Gulf Coastal Plain Large River Floodplain Forest habitat (and same ecological system)

STATSGO Types:

Guyton-Amy-Ouachita (but only those areas along the Ouachita, Saline, Little Missouri, Little and Cossatot Rivers.)

GAP types – all except:

32 R.6.A.1.a.I, Bare, bare

34 AGW, Agriculture, Agriculture (wet crops)

35 AGD, Agriculture, Agriculture (dry crops)

36 AGP, Agriculture, Agriculture (pasture)

37 URC, Urban, Urban Commercial-Industrial

38 URR, Urban, Urban Residential

West Gulf Coastal Plain Small Stream/River Forest habitat (and same ecological system)

STATSGO Types:

Guyton-Amy-Ouachita (but only those areas other than the Ouachita, Saline, Little Missouri, Little and Cossatot Rivers.)

GAP types – all except:

32 R.6.A.1.a.I, Bare, bare

34 AGW, Agriculture, Agriculture (wet crops)

35 AGD, Agriculture, Agriculture (dry crops)

36 AGP, Agriculture, Agriculture (pasture)

37 URC, Urban, Urban Commercial-Industrial

38 URR, Urban, Urban Residential

West Gulf Coastal Plain Pine-Hardwood Forest habitat (and same ecological system)

STATSGO types:

All, except those listed above

GAP types – all except:

32 R.6.A.1.a.I, Bare, bare

34 AGW, Agriculture, Agriculture (wet crops)

35 AGD, Agriculture, Agriculture (dry crops)

36 AGP, Agriculture, Agriculture (pasture)

37 URC, Urban, Urban Commercial-Industrial

38 URR, Urban, Urban Residential

## MOSAICKING IMAGES

The purpose of mosaicking was to stitch all the different images that were produced during different spatial operations into one continuous reclassified image.

Each one of those map units discussed earlier in the draft were output as a raster image and each raster image ended up with pixels representing two classes. One class would be the appropriate gap type or types aggregated into one and other class would be the classes that weren't taken into consideration from the original GAP 2Ha data due to their inappropriacy; hence were classified under single class as unclassified. The unclassified classes from all the images were given a consistent number “0” and each class was given a unique number depending on its order in the mosaic operation. At end there were 21 images (21 classes) to be mosaicked.

Mosaic rule: Since there was lot of clipping operations done on the STASGO soil layer there were likely overlaps amongst the raster layers (most expectedly at the borders) while mosaicking all of them together. As a general rule, the classes having smaller spatial extents were given higher priority in the overlap areas over the classes having bigger spatial extents. For instance, if there is a classification conflict due to pixel overlap between the red river and the uplands image then the overlapping pixels will be classified as red river and not the uplands since the red river has much smaller geographical extent than the uplands which are widespread in the UWGCP. To implement this general rule, the “Maximum” overlap function was set while mosaicking all these images together into one contiguous raster. What the maximum overlap function does is in any instance of overlapping pixels for the classification purpose the priority will be given to the pixel or class having higher order. Again as an example; in an overlap between Sandhills- class 3 and Blackland-class 4; according to our rule the overlapping pixel will be classified as blacklands since it has higher order than Sandhills and hence will get the preference. Setting the same rule, all the images were mosaicked together and were output as a single image representing all the classes including unclassified pixels.

ERDAS Imagine 8.7 remote sensing software was used to do all the raster operations including mosaicking and the other spatial data were produced, edited and displayed in ESRI software suite.

## MOSAICKING ORDER

### Upper West Gulf Coastal Plain

- 0- Unclassified
- 1- Uplands
- 2- Flatwoods
- 3- Sandhills
- 4- Blacklands
- 5- Red River
- 6- Large River
- 7- Small River

### Interior Highlands

- 8- Dry Mesic Uplands Oak
- 9- Pine
- 10- Pine Hardwoods
- 11- Glade Barrens
- 12- Riparian
- 13- Mesic Forest

### Crowley’s Ridge

- 14- Mesic Uplands Oak
- 15- Pine Hardwoods

### Mississippi River Alluvial Plain

- 16- Riparian
- 17- Grand Prairie
- 18- Low bottomland
- 19- Flatwoods
- 20- Sand Dunes

## Appendix 3.2. Crosswalk of Terrestrial Habitat Changes.

The following table summarizes the terrestrial habitat team revisions to terrestrial habitat types from the original plan to the 2015 revised plan. The final updated list includes 37 terrestrial habitats.

Original Habitat Name	Change	New Habitat Name
Arkansas Valley Prairie and Woodland	name change; combine with Southeast tallgrass prairie	Ozark-Ouachita Prairie and Woodland
Caves, Mines & Karst Habitat	name change	Caves, Mines, Sinkholes and other Karst Features
Central Interior Acidic Cliff and Talus	combined acidic and calcareous	Ozark-Ouachita Cliff and Talus
Central Interior Calcareous Cliff and Talus	combined acidic and calcareous	Ozark-Ouachita Cliff and Talus
Central Interior Highlands and Appalachian Sinkhole and Depression Pond	combined into caves, mines, karst	Caves, Mines, Sinkholes and other Karst Features
Central Interior Highlands Calcareous Glade and Barrens	name change, delete 'central'	Interior Highlands Calcareous Glade and Barrens
Central Interior Highlands Dry Acidic Glade and Barrens	name change, delete 'central'	Interior Highlands Dry Acidic Glade and Barrens
Crop Land	no change	Crop Land
Cultivated Forest	no change	Cultivated Forest
Lower Mississippi Alluvial Plain Grand Prairie	no change	Lower Mississippi Alluvial Plain Grand Prairie
Lower Mississippi Flatwoods Woodland and Forest	no change	Lower Mississippi Flatwoods Woodland and Forest
Lower Mississippi River Bottomland Depression	no change	Lower Mississippi River Bottomland Depression
Lower Mississippi River Dune Pond Woodland and Forest	no change	Lower Mississippi River Dune, Pond, Woodland and Forest
Lower Mississippi River High Bottomland Forest	no change	Lower Mississippi River High Bottomland Forest
Lower Mississippi River Low Bottomland Forest	no change	Lower Mississippi River Low Bottomland Forest
Lower Mississippi River Riparian Forest	no change	Lower Mississippi River Riparian Forest
Mississippi River Alluvial Plain Loess Slope Forest	name change	Crowley's Ridge Loess Slope Forest

Mud Flats	no change	Mud Flats
Ouachita Montane Oak Forest	no change	Ouachita Montane Oak Forest
Ouachita Mountain Forested Seep	name change, include Ozarks	Ozark-Ouachita Forested Seep
Ouachita Novaculite Glade and Woodland	combined with Interior Highlands dry acidic glade and barrens	Interior Highlands Dry Acidic Glade and Barrens
Ozark-Ouachita Dry Oak Woodland	name change, include pine	Ozark-Ouachita Dry Oak and Pine Woodland
Ozark-Ouachita Dry-Mesic Oak Forest	no change	Ozark-Ouachita Dry-Mesic Oak Forest
Ozark-Ouachita Mesic Hardwood Forest	no change	Ozark-Ouachita Mesic Hardwood Forest
Ozark-Ouachita Pine/Bluestem Woodland	no change	Ozark-Ouachita Pine/Bluestem Woodland
Ozark-Ouachita Pine-Oak Forest	combine with Ozark-Ouachita Pine-oak Woodland	Ozark-Ouachita Pine-Oak Forest/Woodland
Ozark-Ouachita Pine-Oak Woodland	combine with Ozark-Ouachita Pine-oak Forest	Ozark-Ouachita Pine-Oak Forest/Woodland
Ozark-Ouachita Riparian	no change	Ozark-Ouachita Riparian
Pasture Land	no change	Pasture Land
Ponds, Lakes, and Water Holes	no change	Ponds, Lakes, and Water Holes
South-Central Interior Large Floodplain	name change	Ozark-Ouachita Large Floodplain
Southeastern Great Plains Tallgrass Prairie	combine with Arkansas Valley Prairie- rename	Ozark-Ouachita Prairie and Woodland
Urban/Suburban	no change	Urban/Suburban
West Gulf Coastal Plain Calcareous Prairie	Add "and woodland"	West Gulf Coastal Plain Calcareous Prairie and Woodland
West Gulf Coastal Plain Dry Pine-Hardwood Flatwoods	name change, delete the word dry	West Gulf Coastal Plain Pine-Hardwood Flatwoods
West Gulf Coastal Plain Large River Floodplain Forest	no change	West Gulf Coastal Plain Large River Floodplain Forest
West Gulf Coastal Plain Mesic Hardwood Forest	combined with West Gulf Coastal Plain Pine-Hardwood Forest/Woodland	West Gulf Coastal Plain Pine-Hardwood Forest/Woodland
West Gulf Coastal Plain Nepheline Syenite Glade	combined with Central Interior Highland Calcareous Glades and Barrens	Interior Highlands Calcareous Glades and Barrens
West Gulf Coastal Plain Pine-Hardwood Forest	combined with West Gulf Coastal Plain Pine-Hardwood Forest/Woodland	West Gulf Coastal Plain Pine-Hardwood Forest/Woodland

West Gulf Coastal Plain Red River Floodplain Forest	no change	West Gulf Coastal Plain Red River Floodplain Forest
West Gulf Coastal Plain Saline Glade	combined with West Gulf Coastal Plain Pine-Hardwood Flatwoods	West Gulf Coastal Plain Pine-Hardwood Flatwoods
West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest and Woodland	name change, delete the word "and"	West Gulf Coastal Plain Sandhill Oak and Shortleaf Pine Forest/Woodland
West Gulf Coastal Plain Seepage Swamp and Baygall	no change	West Gulf Coastal Plain Seepage Swamp and Baygall
West Gulf Coastal Plain Small Stream/River Forest	no change	West Gulf Coastal Plain Small Stream/River Forest
West Gulf Coastal Plain Wet Hardwood Flatwoods	no change	West Gulf Coastal Plain Wet Hardwood Flatwoods
	New Habitat	Herbaceous Wetland



# Appendix 4.1 Aquatic health and ecobasin condition: GIS Methodology

## **Data Sources:**

Stream reaches layer- NHD (National Hydrography Dataset) from NRCS (National Resource Conservation Science)

Roads layer- TIGER (Topologically Integrated Geographic Encoding and Referencing system)

Dams Data- EPA Basin CD

Riparian Zones- A polygon layer derived by buffering 100 meters on each side of the stream reach

Land use/Land cover Raster- NLCD (National Land Cover Data) from USGS

## **Measurement Concepts and Units:-**

Dam Density- Number of dams per ecobasin (sq. miles)

*Methodology-* Dams (point layer) were intersected with the Ecobasins layer (polygon) and summed the number of dams for respective ecobasins based upon their spatial locations. Units were expressed as the number of dams per square mile of Ecobasin.

Road Density- Length of roads (miles) per ecobasin (sq. miles)

*Methodology-* Roads (line layer) were intersected with the Ecobasins layer (polygon) and measured the lengths of road segments for respective ecobasins based upon their spatial locations. Units were expressed as the miles of roads per square mile of Ecobasin.

Riparian Road Density- Length of roads (miles) in riparian zone per ecobasin (sq. miles)

*Methodology-* Same methodology as measuring the road density except the measurement was taken inside the riparian zones in each ecobasin. Units were expressed as the total number of miles of roads within the total square miles of riparian area for each Ecobasin.

Crossing Density - Number of stream-roads intersections (points) per ecobasin (sq. miles)

*Methodology-* Stream layer (line features) was intersected to the road layer (line features); at every intersection of a stream and a road line feature, programmatically generated a point. Such intersection points were counted for each ecobasin as number of stream-road intersections. Units were expressed as the total number of crossings per square mile of Ecobasin.

Ecobasin Forested- Percent forest present inside each ecobasin

*Methodology-* Classified NLCD dataset was used; based upon the ecobasins spatial location land cover was mapped in percentage. 'Tabulate Areas' function was used in ESRI ArcView software. As a result the function returned % contribution of each class from the NLCD dataset for each ecobasin.

Percent forest in Riparian zone- Percent forest present inside the riparian zone in each ecobasin

*Methodology-* Same methodology as measuring Forested- % forest present inside each ecobasin except the forest cover was mapped inside the riparian zones (100 meters).



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