

FTN Associates, Ltd.

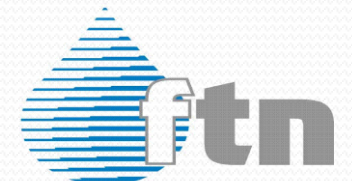
Threatened & Endangered Species

October 6, 2022
Jimmy Rogers – Environmental Scientist



T&E Species Regulation

- In 1973, Congress passed the Endangered Species Act (ESA) with the express purpose of protecting species that were in danger of extinction
- United States Fish and Wildlife Services oversees T&E species
 - (NOAA Fisheries for Marine Wildlife)
- **Endangered species** – species that, if not protected, are in imminent danger of permanently disappearing from Earth
- **Threatened species** – species that, if not protected, are likely to become endangered in the foreseeable future



Arkansas is home to 34 T&E Species



Mammals – 4



Birds – 5



Fish - 4



Amphibians - 1



Insects - 1



Mussels - 13

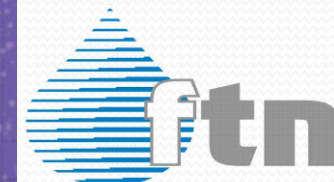


Crayfish - 2



Plants – 4

Bats



Bats

Gray Bat (*E*)



Indiana Bat (*E*)



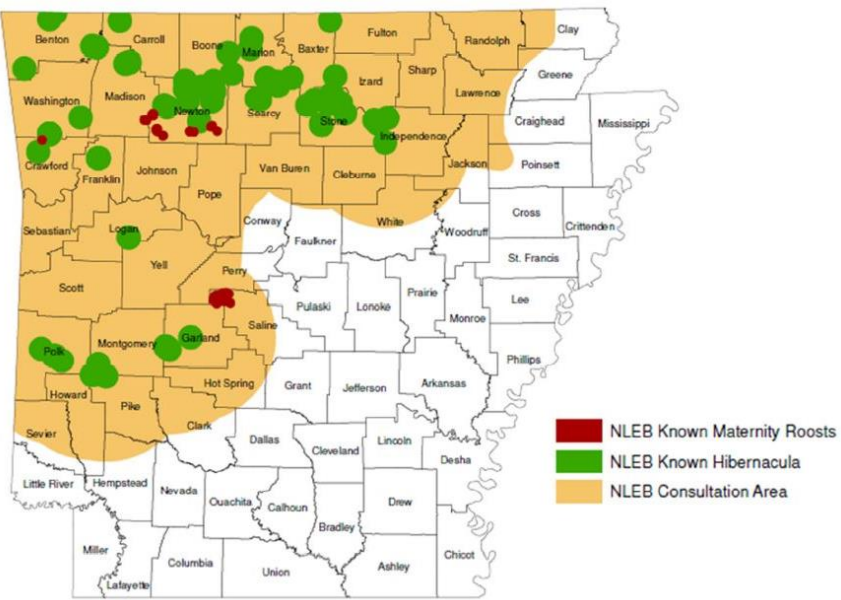
Ozark Big-eared Bat (*E*)



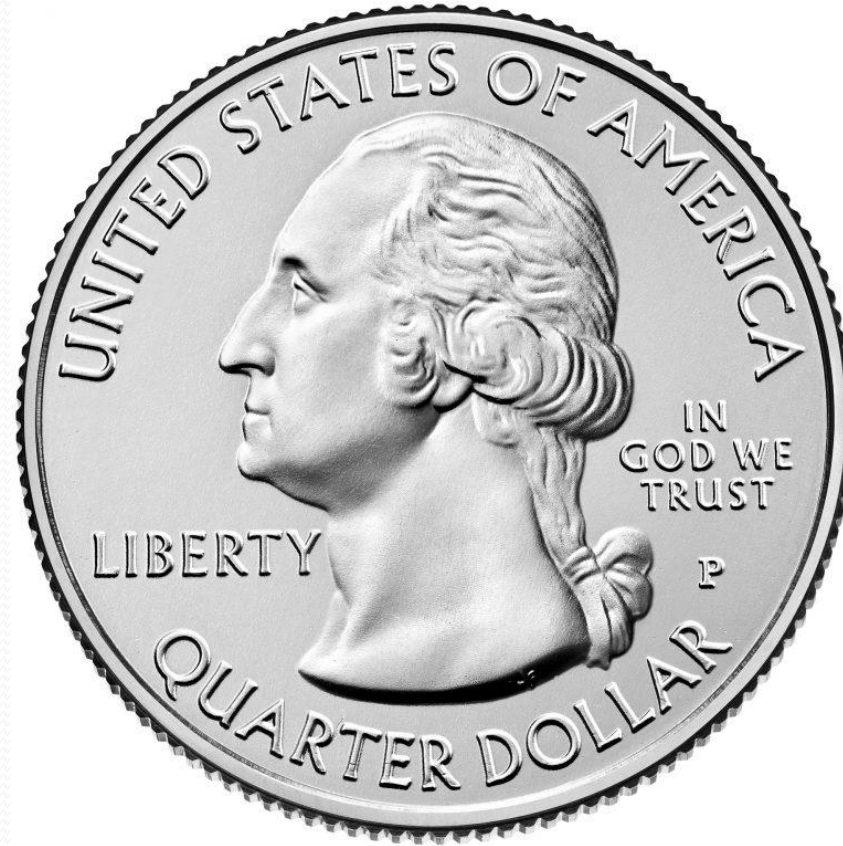
Northern Long-eared Bat (*T*)



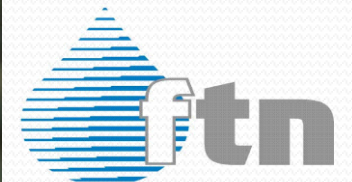
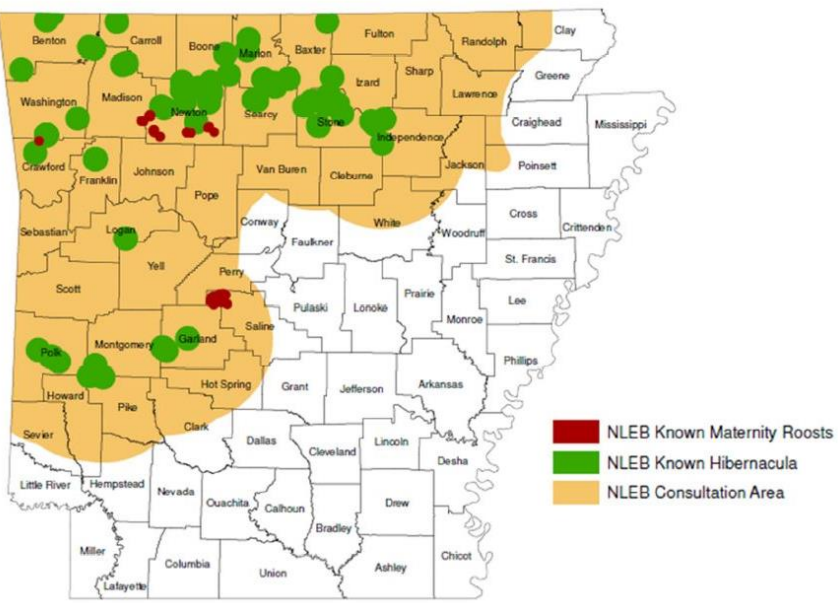
Northern Long-Eared Bat (*T*)



- Small bat – 3-4 inches in length, 0.2-0.3 ounces



Northern Long-Eared Bat (*T*)



- Small bat – 3-4 inches in length, 0.2-0.3 ounces
- Diet – moths, flies, beetles, etc. (feeds at dusk in mature forests)
- Habitat – Summer-caves/forests; Winter-caves/mines (hibernacula)
- Can live up to 19 years
- Listed as Threatened, proposed to be upgraded to Endangered
- If listed as Endangered 4(d) rule would no longer apply
- Sources of Mortality
 - Wind energy-related deaths
 - Habitat loss/disturbance – forest summer habitat and winter hibernation habitat
 - Climate Change
 - Disease – White Nose Syndrome



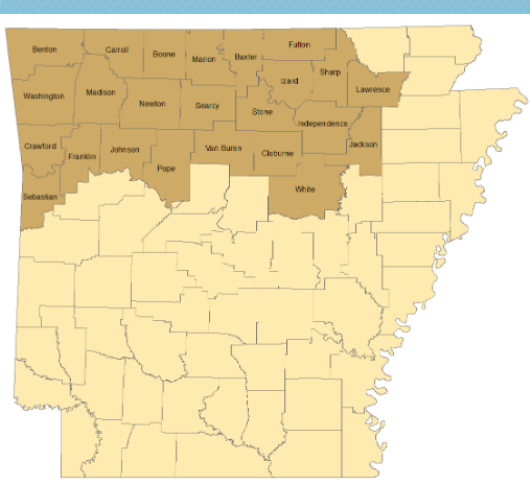
THANK YOU BATS

Gray Bat ^(E)

- 3-4 inches in length, 10-11-inch wingspan, 0.2-0.6 oz
- Diet – flying insects (nursing female can eat more than her body weight in a single night)

That can be more than 5,000 mosquitos



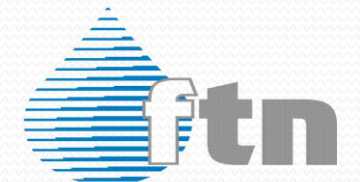
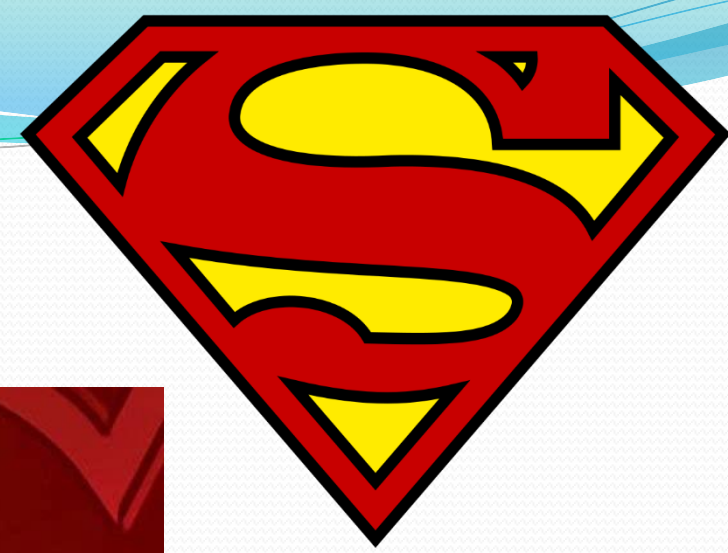


Gray Bat (E)

- 3-4 inches in length, 10-11-inch wingspan, 0.2-0.6 oz
- Diet – flying insects (nursing female can eat more than her body weight in a single night)
- Forage 6-10 feet over the water surface
- Habitat – caves, within a mile of a river or reservoir
- Can live up to ~13 years
- Extremely sensitive to human disturbance (entry into caves, physical touch, noise, artificial light, etc.)



It's a Bird
It's a Plane
No it's...



Birds

Red Knot (*T*)



Red-cockaded Woodpecker (*E*)



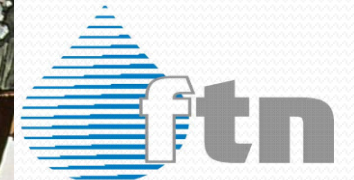
Eastern Black Rail (*T*)



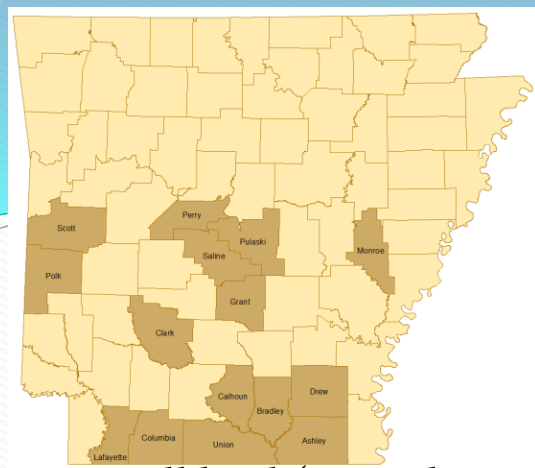
Piping Plover (*T*)



Ivory-Billed Woodpecker (*E*)

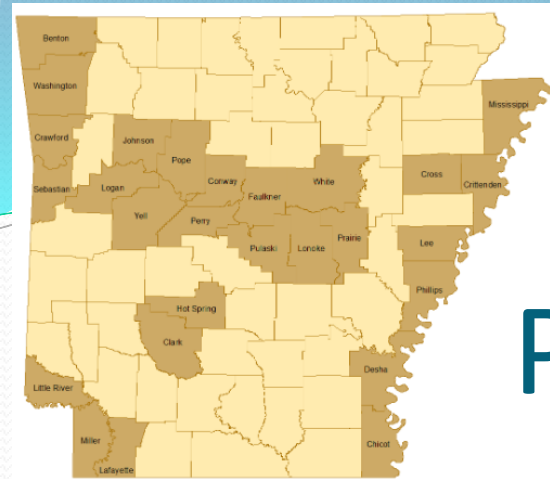


Red-Cockaded Woodpecker (E)



- Small bird (~7 inches in length)
- Habitat – Mature pine forests with open understory
- Small colonies with one breeding pair covering ~10 acres
- Forage on insects from tree cavities
- Young fledge about 4 weeks after hatching, but are fed by adults for 6 months
- Can live up to 18 years



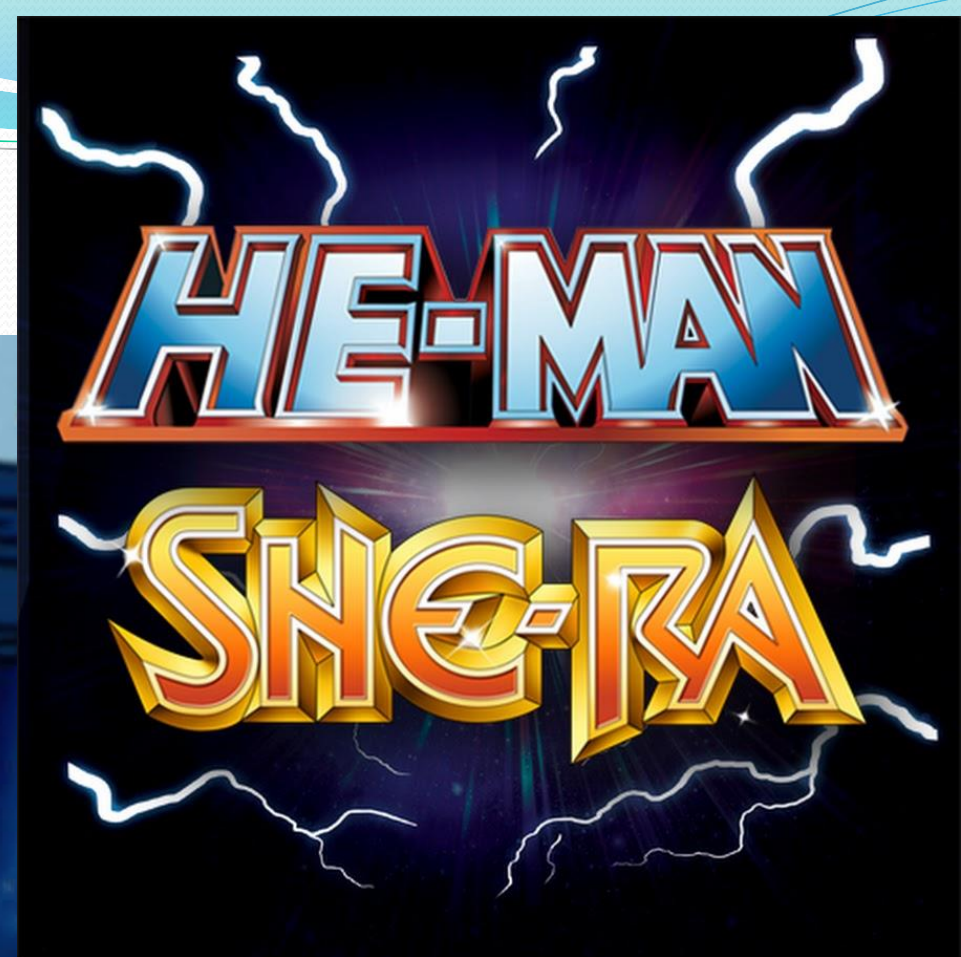
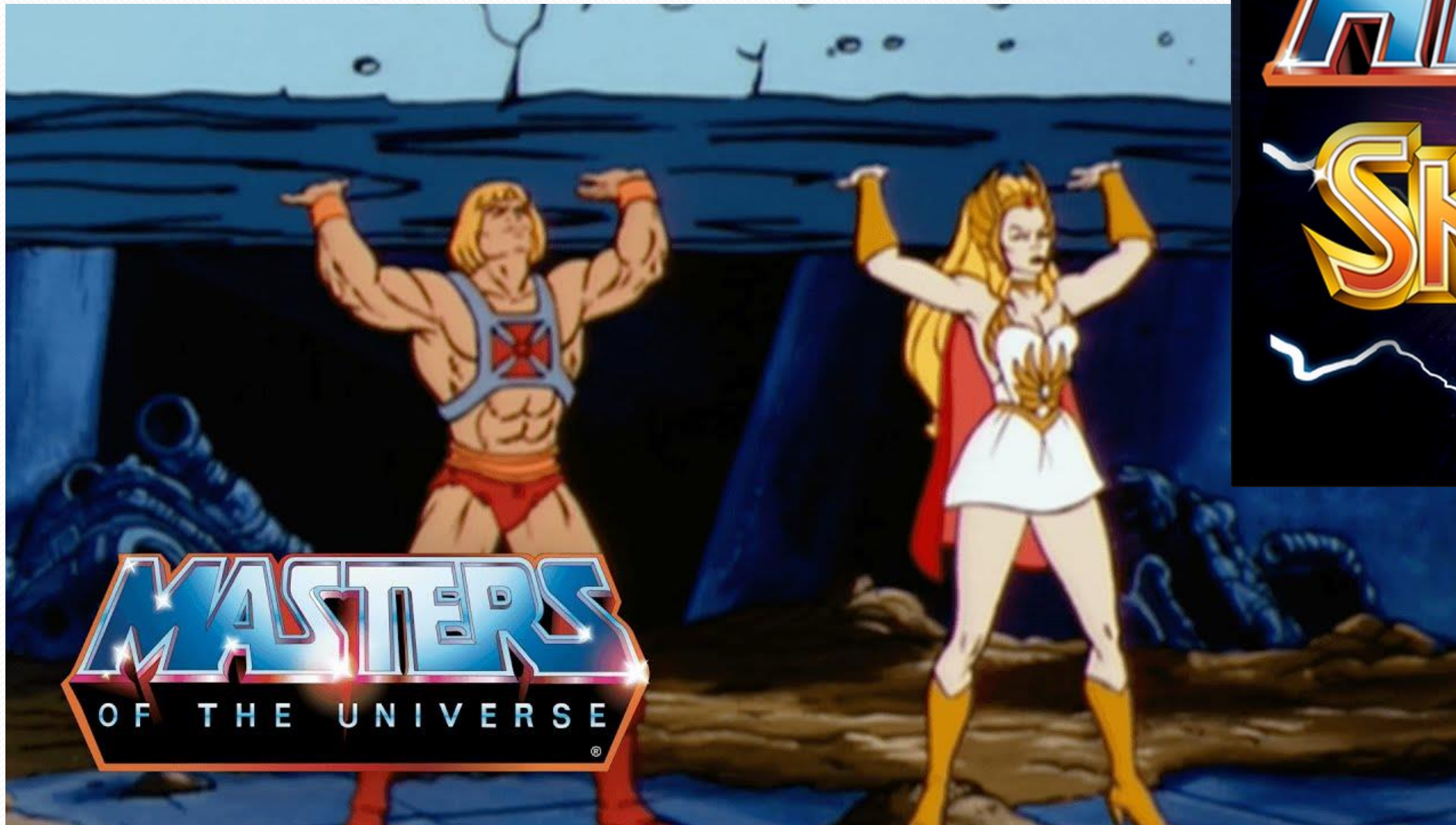


Piping Plover (T)



- Small birds - ~7 inches long with a wingspan of ~15 inches, weighing 1.4-2.3 oz
- Migratory shorebird – feeds and nests along coastal sand and gravel bars
- Forage on various macroinvertebrates
- Breeding grounds are opportunistic
- Males create a shallow depression in the ground, which is lined by both parents with small pebbles, before eggs are laid
- Young leave the nest within hours of hatching and begin foraging immediately
- Fledging occurs 25-35 days after hatching
- Can live up to 11 years, but most commonly 5-6 years

~~Muscles~~ Mussels/Clams



Clams

Scaleshell Mussel (E)



Snuffbox Mussel (E)



Pink Mucket (E)



Arkansas Fatmucket (T)



Louisiana Pearlshell (E)



Speckled Pocketbook (E)



Spectaclecase (E)



Fat Pocketbook (T)



Winged Mapleleaf (E)



Rabbitsfoot (T)



Not Pictured:

Curtis Pearlmussel (E)

Neosho Mucket (E)

Ouachita Rock Pocketbook (E)



Aquatics



en.Drawing.ru



Crayfish

Hell Creek Cave Crayfish (*E*)



Benton County Cave Crayfish (*E*)



Amphibians

Ozark Hellbender (*E*)



Fish

Yellowcheek Darter (*E*)



Leopard Darter (*T*)



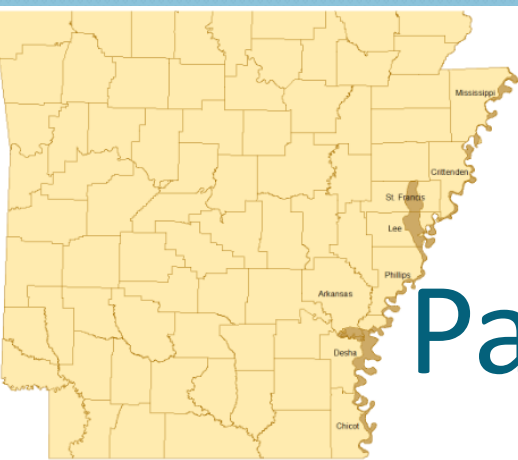
Ozark Cavefish (*T*)



Pallid Sturgeon (*E*)



Pallid Sturgeon (E)



- Pre-historic fish, with ancestry dating to the Cretaceous
- Up to 7 feet long and 85 pounds
- Found in the Mississippi River and Lower Arkansas River
- Lives in turbid, strong current firm gravel/sandy substrate environments
- Toothless fish, suck up prey (insects, crustations, eggs, fish) from substrate
- Can live up to ~60 years



Plants



I AM
GROOT

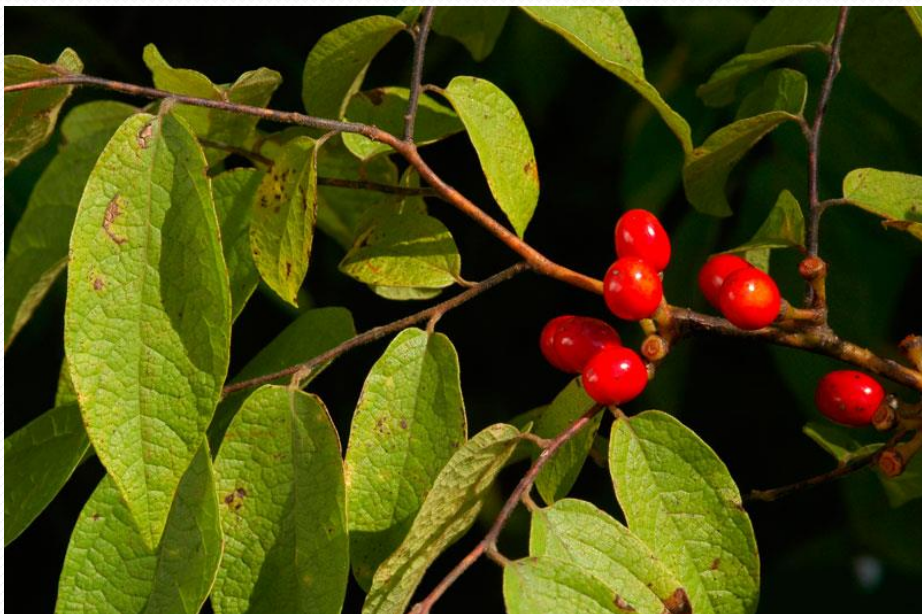


Plants

Geocarpon minimum (*T*)



Pondberry (*E*)



Missouri Bladderpod (*T*)



Harperella (*E*)



Insects

TF Victory
Bumblebee

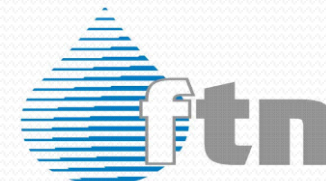
バンブル

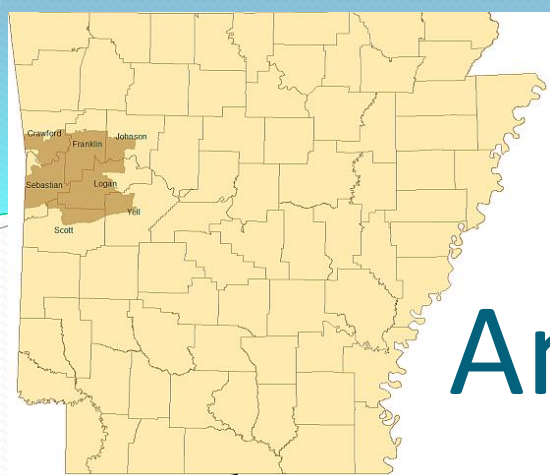


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**Autobots
Roll Out**



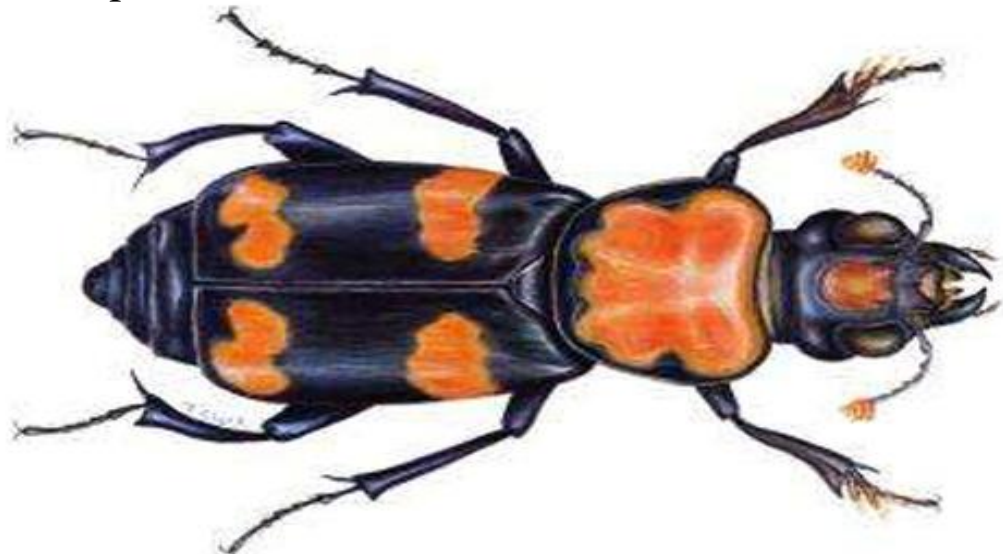


American Burying Beetle (T)



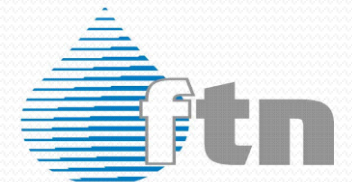
- Active during summer nights
- Both male and female raise the young (extremely unusual for insects)
- Carrion carcass (small mammals, herps, birds) is buried (in a single night), eggs are laid, and the young emerge in 6 days
- Carrion serves as food source and home for young
- Young emerge in 45-60 days
- Size – up to ~1.5 inches
- Lifespan is about 12 months

Down-Listed to
Threatened in 2020



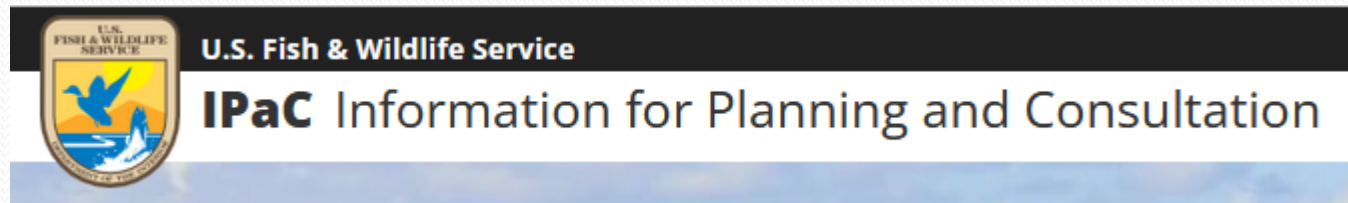
Section 7

- Triggered when an action, that is carried out, funded, or authorized by any federal agency, *may affect* a listed T&E species
- Prohibits “Take” of listed species (regardless of federal nexus)
 - Take = ...“to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture...” etc.
 - Knowing participating in “Take” can result in a \$25,000 fine, per occurrence
- Federal Agencies consult with U.S. Fish and Wildlife Service to ensure that actions do not jeopardize the existence of any listed T&E species
 - Informal consultation
 - Formal consultation and Biological Opinion
- Non-federal entities can request guidance from the USFWS

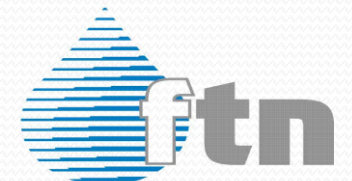


Section 7

- Pre-project planning is important to avoid project delays
 - Consider T&E issues early in project planning
 - Contact USFWS and/or engage a consultant for assistance
 - Determine level of USFWS coordination needed
 - If surveys are required plan for extra project time and expense
- IPaC – USFWS tool to determine what species may in an area; can also be used to get near-instant project clearance (on a project-by-project basis)



- In some cases, minor project alterations (such as adjusting tree clearing dates) can mitigate potential impacts and remove need for further USFWS clearance



Proposed Threatened

- Species whose status the USFWS has determined is likely to become endangered and the USFWS has proposed a rule to list the species as threatened
- No statutory protection under ESA (USFWS encourages conservation efforts)

Alligator Snapping Turtle



- Largest freshwater turtle in North America (up to 29-in and ~250-lbs)
- Lifespan in the wild is 11-45 years.... Have lived in captivity for 70 years
- Features: long tail, curved beak, and rough shell with spined ridges
- Eats plants and animals including acorns, fish, and other turtles
- Lives in lakes, rivers, and backwater swamplands
- Historically harvested for their meat



Proposed Listing Tricolored Bat

- September 2022 USFWS published rule proposing listing
- In danger of extinction
- WNS



Candidate Species

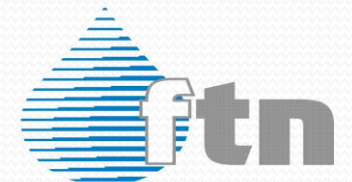
- Species whose status is currently under review to determine whether it warrants ESA listing
- No statutory protection under ESA (USFWS encourages conservation efforts)



Monarch Butterfly



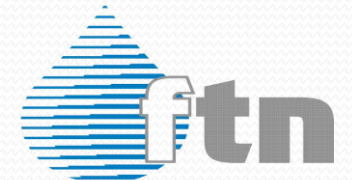
- Brightly colored – serves as warning of toxicity to predators
- Milkweed - obligate host plant for larva
- Most adults live 2-5 weeks; overwintering adults live 6-9 months
- Can migrate >3000 km to overwinter grounds
- Range – Canada to Mexico
- Migration commonly takes 4 generations
- Loss of overwintering grounds in Mexico and loss of breeding grounds in Midwest US



THE POWER IS YOURS



By protecting Endangered Species,
you too can be a Planeteer



Questions/Comments

FTN Associates, Ltd.

Jimmy Rogers

Environmental Scientist

p:501-225-7779 m: 501-269-1947

w: www.ftn-assoc.com/

e: jjr@ftn-assoc.com

