

**Triple E's: Endangered, Extinct (or Extirpated), and Exotic Species of Texas**  
B Division

**DESCRIPTION:** Students will be asked questions about Texas endangered, and extinct species (Refer to attached 2012 Taxa List), including probable reasons for their status on the Texas list and distribution in Texas. Some of these organisms on the Texas List may also appear on the National List of Endangered Species. Students will need to know when the animals were listed in Texas. Students will also be asked questions about Texas exotic (non-native) species (refer to attached 2012 Taxa List), including their probable mode of introduction and their impact on biodiversity.

**EVENT PARAMETERS:** No published reference materials (books, pamphlets, maps, field guides, etc.), in whole or in part, may be carried into the testing room during this competition. Handwritten competitor-made notes with on front and back of as many as **twenty-five (25) 3"x5" index cards, all of which are to be held together by a single ring**, will be permitted during testing. *The cards must remain on the ring during the competition.* The competitor-made notes **may not** include any typewritten material, clippings, pictures or photocopies from published materials. Drawings and sketches by the student are allowed in pencil or in color.

**TEAM OF UP TO:** 2

**APPROXIMATE TIME:** 50 minutes

**THE COMPETITION:**

1. The event will be run as stations with several questions at each station, using names, photos, specimens or drawings of selected organisms listed as endangered, exotic or extinct in Texas.
2. Students will be expected to identify the organisms by common name and recognize genus and species (see attached 2012 Taxa List).
3. Students will be asked to identify laws and regulations which apply to endangered species on the National level, including **but not limited to** the Endangered Species Act (ESA), and the Convention on International Trade in Endangered Species (CITES).
4. Students will be expected to recognize photos or specimens of Texas organisms that are endangered, exotic and non-native (exotics), and will be expected to identify the reason for their population decline or the probable mode of their introduction as well as their impact on biodiversity.
5. Students will be expected to identify characteristics of successful non-native species and the damage they may cause.
6. Students will be expected to identify distribution ranges in Texas of endangered, exotic and non-native (exotics) species of Texas.
7. Texas and Federal listing will be according to Texas Parks and Wildlife Department. Any organism not listed on the TPWD site's status will be according to the U.S. Fish & Wildlife Service.

## **SCORING:**

1. The test will be a multiple choice test with answers recorded on scantrons.
2. There will be 50 questions with 2, 3, 4 or 5 possible answer choices.
3. The highest number of correct answers will determine the winner.
4. Tiebreaker questions will be included in the competition and will be graded individually by the coordinator in the event of a tie.

## **SAMPLE PROBLEMS:**

1. Identify the specimen by common name.
  - a. Texas Kangaroo Bat
  - b. Spotted Bat
  - c. Southern Bat
  - d. Southern Yellow Bat
  - e. None of the above
2. What is the complete scientific name of plant A?
  - a. *Zizania texana*
  - b. *Spiranthes parksii*
  - c. *Astrophytum asterias*
  - d. *Echinocerus davisii*
  - e. *Spiranthes cernua*
3. In what year was this animal listed as threatened in Texas?
  - a. 1968
  - b. 1970
  - c. 1972
  - d. 1974
  - e. 1976
4. These birds are at the top of the food chain. Why has this contributed to their demise?
  - a. Their habitats are being destroyed.
  - b. Their prey has concentrated toxins in their fatty tissues.
  - c. They do not fly as well as they once did.
  - d. Fewer eggs hatch each year.

**RESOURCES:** The following websites **and their links** contain material that may be useful to event supervisors, coaches, and competitors:

[www.tpwd.state.tx.us/](http://www.tpwd.state.tx.us/)

[www.fws.gov/endangered/](http://www.fws.gov/endangered/)

[www.endangeredspecie.com/](http://www.endangeredspecie.com/) (use this exact spelling in calling up this website)

[www.worldwildlife.org/endangered/index](http://www.worldwildlife.org/endangered/index)

<http://www.invasivespeciesinfo.gov/unitedstates/tx.shtml>

<http://www.texasinvasives.org>

[http://www.texasep.org/html/wld/wld\\_3pna\\_ext.html](http://www.texasep.org/html/wld/wld_3pna_ext.html)

<http://plants.usda.gov>

[www.wikipedia.org](http://www.wikipedia.org)

## 2012 State Triple E Taxa List

### Endangered and Threatened Species in Texas

#### Reptiles and Amphibians

- Mexican Treefrog (*Smilisca baudinii*)
- Mexican Burrowing Toad (*Rhinophrynus dorsalis*)
- Houston Toad (*Bufo houstonensis*)
- Concho Water Snake (*Nerodia paucimaculata*)
- Green Sea Turtle (*Chelonia mydas*)
- Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)
- Alligator Snapping Turtle (*Macrochelys temminckii*)
- Leatherback Sea Turtle (*Dermochelys coriacea*)
- Barton Springs Salamander (*Aurycea sosorum*)
- Texas Blind Salamander (*Eurycea rathbuni*)
- Blanco Blind Salamander (*Eurycea robusta*)
- Texas Horned Lizard (*Phrynosoma cornutum*)
- Timber Rattlesnake (*Crotalus horridus*)

#### Mammals

- Mexican Long-nosed Bat *Leptonycteris nivalis*)
- Atlantic Spotted Dolphin (*Stenella frontalis*)
- Black Bear (*Ursus americanus*)
- Dwarf Sperm Whale (*Kogia simus*)
- False Killer Whale (*Pseudorca crassidens*)
- Killer Whale (*Orcinus orca*)
- Sperm Whale (*Physeter macrocephalus*)
- Southern Yellow Bat (*Lasiurus ega*)
- Spotted Bat (*Euderma maculatum*)
- Texas Kangaroo Rat (*Dipodomys elator*)
- West Indian Manatee (*Trichechus manatus*)

#### Birds

- American Peregrine Falcon (*Falco peregrinus anatum*)
- Arctic Peregrine Falcon (*Falco peregrinus tundrius*)
- Attwater's Greater Prairie Chicken (*Tympanuchus cupido attwateri*)
- White-faced Ibis (*Plegadis chihi*)
- Bald Eagle (*Haliaeetus leucocephalus*)
- Reddish Egret (*Egretta rufescens*)
- Whooping Crane (*Grus americana*)
- Red-cockaded Woodpecker (*Picoides borealis*)
- Sooty Tern (*Sterna fuscata*)

#### Plants

- Tobusch Fishhook Cactus (*Sclerocactus breviphamatus* ssp. *tobuschii*)
- Chisos Mountains Hedgehog Cactus (*Echinocereus chisoensis* var. *chisoensis*)
- Nellie's Cory Cactus (*Escobaria minima*)
- Star Cactus (*Astrophytum asterias*)
- Texas Snowbells (*Styrax platanifolius* subsp. *texanus*)
- Texas Poppy-mallow (*Callirhoe scabriuscula*)
- Navasota Ladies'-tresses (*Spiranthes parksii*)
- Texas Wild-rice (*Zizania texana*)

## **Invertebrates**

- Bee Creek Cave Harvestman (*Texella reddelli*)
- Bone Cave Harvestman (*Texella reyesi*)
- Tooth Cave Pseudoscorpion (*Tartarocreagris texana*)
- Tooth Cave Spider (*Neoleptoneta myopica*)
- Coffin Cave Mold Beetle (*Batrisodes texanus*)
- Kretschmarr Cave Mold Beetle (*Texamaurops reddelli*)
- Tooth Cave Ground Beetle (*Rhadine persephone*)

## **Extinct Species and/or Species Extirpated (wiped out) in Texas**

### **Mammals**

- Grizzly Bear (*Ursus arctos horribilis*)
- Bison (*Bison bison*)
- Gray Wolf (*Canis lupus*)
- Red Wolf (*Canis rufus*)
- Black-footed Ferret (*Mustela nigripes*)

### **Birds**

- Passenger Pigeon (*Ectopistes migratorius*)
- Ivory-billed Woodpecker (*Campephilus principalis*)
- Aplomado falcon (*Falco femoralis*)
- Carolina Parakeet (*Conuropsis carolinensis*)

### **Fishes**

- Amistad Gambusia (*Gambusia amistadensis*)
- Phantom Shiner (*Notropis orca*)

## **Exotic (non-native, introduced) Species in Texas**

### **Animals**

- Africanized Honeybee (*Apis mellifera scutellata*)
- Red Imported Fire Ant (*Solenopsis invicta*)
- Wild Boar (*Sus scrofa*)
- European Green Crab (*Carcinus maenas*)
- Flathead Catfish (*Pylodictus olivaris*)
- Nutria (*Myocastor coypus*)
- Quagga Mussel (*Dreissena bugensis*)
- Sea Squirt (*Didemnum lahillei*)
- Tokay Gecko (*Gekko gekko*)
- Tilapia (*Oreochromis mossambicus*)

### **Plants**

- Bamboo (*Bambusa* spp.)
- Bermuda Grass (*Cynodon dactylon*)
- Kudzu (*Pueraria montana* var. *lobata*)
- Musk Thistle (*Carduus nutans*)
- Bull Thistle (*Cirsium vulgare*)
- Japanese Honeysuckle (*Lonicera japonica*)
- Yellow Sweet Clover (*Melilotus officinalis*)
- Swamp Morning Glory (*Impomoea aquatica*)
- Tree Tobacco (*Nicotinia glauca*)
- Water Hyacinth (*Eichhornia crassipes*)
- Water Lettuce (*Pistia stratiotes*)