

Trial/Pilot Event

Contact the organizers of your tournament to find out what trial/pilot events will be held.
B Division

Triple E's: Endangered, Extinct (or Extirpated), and Exotic Vertebrates

1. **DESCRIPTION:** Students will be asked questions about endangered, and extinct vertebrates (Refer to Texas Taxa List for examples in Texas), including probable reasons for their status on the list. Some of these vertebrates on the may also appear on the National List of Endangered Species. Students will also be asked questions about exotic (non-native) vertebrates (refer to State Taxa List), including their probable mode of introduction and their impact on biodiversity.

TEAM OF UP TO: 2

APPROXIMATE TIME: 50 minutes

2. **EVENT PARAMETERS:** No published reference materials may be used during this competition, although student-made notes on as many as 25 3"x5" cards held together by a ring will be permitted during testing.

3. **THE COMPETITION:**

- a. The event may be run as stations, using names, photos, specimens or drawings of selected vertebrates listed as endangered in a specific region. Students are expected to know if the selected vertebrate also appears on the national endangered list.
- b. Students will be expected to identify the vertebrate (complete common name is sufficient – see Taxa List), and identify probable cause of population decline.
- c. Students may 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).
- d. Students will be expected to recognize photos or specimens of regional vertebrates that are non-native (exotics), and will be expected to identify the probably mode of their introduction and their impact on biodiversity. Students will be expected to identify characteristics of successful non-native species and the damage they may cause.

4. **SCORING:**

- a. Points will be assigned to various questions and problems
- b. Points will be awarded for both quality and accuracy of the answers, quality of supporting reasoning, and use of proper scientific knowledge.
- c. Highest number of points will determine the winner. Tiebreaker questions may be included in the competition.

5. **SAMPLE PROBLEMS:**

Station #1. Identify the endangered species represented by the photograph. Describe factors that contributed to population decline for this species.

Station #2. Which of the three vertebrate species in the tray is an exotic species in this region (non-native)? How did this vertebrate arrive in this region?

Station #3. Name the national law that prohibits the buying and selling of endangered wildlife? What law protects marine mammals from being trapped, killed, or bought and sold?

RESOURCES: Any current environmental textbook would be a good review for this event. The following websites and their links contain material that may be useful to event supervisors, coaches, and competitors:

www.fws.gov/endangered/

www.endangeredspecie.com/ (use this exact spelling in calling up this website)

www.worldwildlife.org/endangered/index

www.savetheseaturtle.org

http://www.tpwd.state.tx.us/warden/endangered_species/

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Texas TAXA LIST:

Endangered and/or Extirpated (Wiped out) Vertebrates in Texas

Fishes

Darter, Fountain (*Etheostoma fonticola*)
Gambusia, Big Bend (*Gambusia gaigei*)
Gambusia, Clear Creek (*Gambusia heterochir*)
Gambusia, Pecos (*Gambusia nobilis*)
Gambusia, San Marcos (*Gambusia georgei*) **Extirpated**
Minnow, Rio Grande Silvery (*Hybognathus amarus*) **Extirpated**
Pupfish, Comanche Springs (*Cyprinodon elegans*)
Pupfish, Leon Springs (*Cyprinodon bovinus*)

Amphibians

Salamander, Barton Springs (*Eurycea sosorum*)
Salamander, Texas Blind (*Typhlomolge [Eurycea] rathbuni*)
Toad, Houston (*Bufo houstonensis*)

Reptiles

Sea Turtle, Hawksbill (*Eretmochelys imbricata*)
Sea Turtle, Kemps Ridley (*Lepidochelys kempii*)
Sea Turtle, Leatherback (*Dermochelys coriacea*)

Mammals

Bat, Greater (Mexican) long-nosed (*Leptonycteris nivalis*)
Ferret, Black-footed (*Mustela nigripes*)
Jaguar (*Panthera onca*)
Jaguarundi (*Felis yaguarondi*)
Manatee, West Indian (*Trichechus manatus*)
Ocelot (*Leopardus pardalis*)
Whale, Black Right (*Eubalaena glacialis*)
Whale, Blue (*Balaenoptera musculus*)
Whale, Finback (*Balaenoptera physalus*)
Whale, Sperm (*Physeter macrocephalus*)
Wolf, Gray (*Canis lupus*) **Extirpated**
Wolf, Red (*Canis rufus*) **Extirpated**

Birds

Crane, Whooping (*Grus americana*)
Curlew, Eskimo (*Numenius borealis*)
Falcon, Aplomado (*Falco femoralis*)
Flycatcher, Southwestern Willow (*Empidonax traillii extimus*)
Pelican, Brown (*Pelecanus occidentalis*)
Prairie-chicken, Attwater's Greater (*Tympanuchus cupido attwateri*)
Tern, Interior Least (*Sterna antillarum anthalassos*)
Vireo, Black-capped (*Vireo atricapillus*)
Warbler, Bachman's (*Vermivora bachmanii*) **Extirpated**
Warbler, Golden-cheeked (*Dendroica chrysoparia*)
Woodpecker, Red-cockaded (*Picoides borealis*)
Woodpecker, Ivory-billed (*Campephilus principalis*) **Extirpated**

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Exotic Texas Vertebrates (Non-native, introduced)

Fishes

Tilapia

European Carp

Goldfish

Suckermouth Catfish (Plecostomus)

Reptiles

Mediterranean Gecko (*Hemidactylus turcicus*)

Tokay Geckos

Spinytail Iguana *Ctenosaura pectinata*

Mammals

Nutria

Roof Rat

Norway Rat

Red Fox

Feral Pig

Birds

Eurasian Collared-Dove

Rock (Feral) Pigeon

European Starling

House Sparrow

Cattle Egret

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