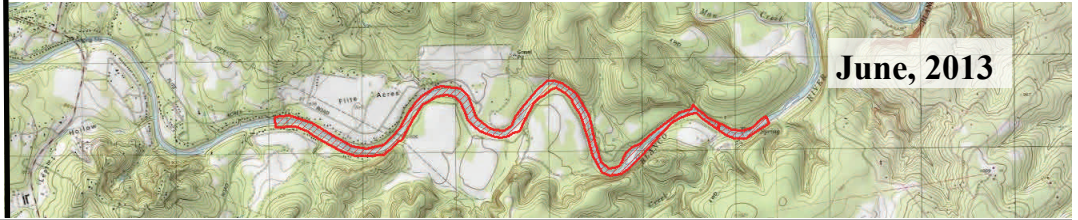
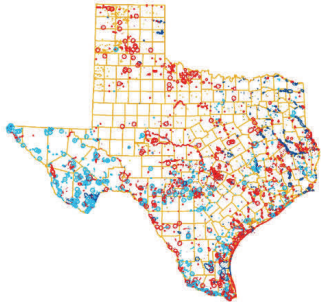




The TXNDD Report



June, 2013

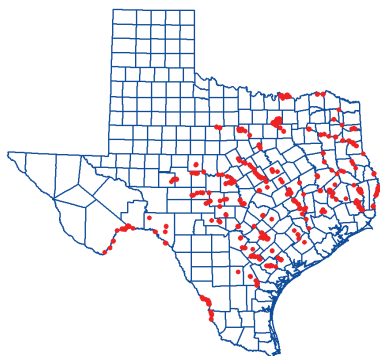
Data Highlight: Freshwater Mussels

Recently, TXNDD staff has added or updated 366 records for 22 freshwater mussel species tracked by the database. The number of records per species varies from 54 for Smooth Pimpleback to fewer than 5 records for Pimpleback and False Spike. Data sources ranged from historical specimen records to 2013 survey data.

The value of this data for mussel conservation is considerable. The Wildlife Habitat Assessment program uses the data to justify recommendations made to minimize the impacts of projects on mussels. In FY12 TxDOT replaced over 150 bridges and impacts to mussels were seldom addressed due to lack of data. Now that the presence of mussels has been verified in many waterways TxDOT is proactively conducting mussel surveys as needed and submitting that data to the TXNDD. Adverse impacts to mussels have been minimized by relocating mussels out of the construction area and performing post-relocation monitoring. The mussel dataset will also assist in determining federal and state listing statuses. Currently fifteen mussel species are state-listed as threatened and five species are under review for federal listing.



Mussels from the San Saba River
Burlakova & Karatayev, 2011



Due to the heightened interest in mussels, a working group of multiple TPWD divisions and other interested parties has formed to develop protocols for mussel surveys, relocation activities, and post-relocation monitoring. The result should be higher quality freshwater mussel data in the TXNDD to guide conservation activities.

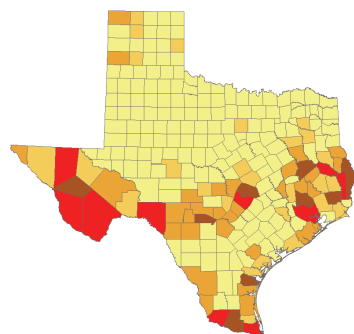
For more information on mussels please see our mussel webpage:

http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/texas_rare_species/mussels/.

TXNDD freshwater mussel records

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TXNDD Patterns: Top Counties



Counties shaded by the number of EOs; the top ten counties are red.

In our last TXNDD Report we looked at Element Occurrences (EOs) by Wildlife District, this time we highlight distribution by county. It is nice to see that our data is not concentrated in one part of the state; our top ten counties are spread across the state. But what is the underlying cause for the distribution of EOs? One clue might be the amount of protected areas in these counties, which tend to be better surveyed.

2810 EOs out of 8935 EOs (over 30%) statewide are within protected areas, yet protected areas make up less than 3% of the total area of Texas. In the top ten counties, protected areas make up 14% of the land area compared to the average 3% statewide. In the top ten counties 51% of the EOs are in protected areas.

County	Number of EOs
Brewster	667
Travis	392
Cameron	223
Val Verde	193
Presidio	190
Starr	187
Jasper	184
Culberson	182
Harris	148
Angelina	135

TXNDD's Most Wanted

The TXNDD tracks over 700 elements. An element is a species, animal aggregation (e.g. bat cave), or native plant community. We are always looking for more data and here are a few of our highest priorities. Have you seen them?



Photo by Terry Hibbitts

Massasauga (*Sistrurus catenatus*)

This species was recently added to the tracked species list; there are no TXNDD records yet. There are four observations on our iNaturalist Herps of Texas Project: www.inaturalist.org/projects/herps-of-texas

Found throughout Texas. Genetic and geographic boundaries between the desert massasauga (ssp. *edwardsi*) and the western massasauga (ssp. *tergeminus*) are unclear. If the snake is dead and can be collected, tissue is needed for genetic analysis. The desert massasauga has been petitioned for federal review.

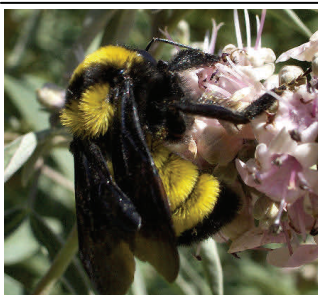


Photo by Jason Singhurst

Big Red Sage (*Salvia pentstemonoides*)

There are 16 element occurrences, 8 of which are historical records.

Once thought extinct, *Salvia pentstemonoides* was rediscovered in 1980. It is only found at a few locations in the wild where it grows on limestone near seeps or creeks. This species has been introduced into the horticultural trade, but the TXNDD only tracks wild populations.



Sonoran Bumblebee (*Bombus sonorus*)

This species was recently added to the tracked species list; there are no TXNDD records yet.

The status of the Sonoran bumblebee is unknown but needs to be evaluated. There are numerous historical records from Central and West Texas, but no recent observations.

For more information go to: www.texasbumblebees.com



TXNDD Profile: Nathan Rains



Nathan Rains is one of five Wildlife Diversity Biologists in the Wildlife Division. Diversity Biologists primarily work on issues relating to nongame species in their region, including threatened and endangered species. They often act as a point of contact for

research on species tracked by the TXNDD, and are important contributors to our database.

Nathan is the Wildlife Diversity Biologist for Region 2 (Districts 3 and 4), so he works across the Edwards Plateau and the Cross Timbers. He is currently in-

involved in a three year study on the Brazos Water Snake (*Nerodia harteri*). In addition, Nathan is assisting the Fort Worth Zoo with captive breeding programs for Texas Horned Lizard (*Phrynosoma cornutum*) and Spot-tailed Earless Lizard (*Holbrookia lacerata*).

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