

Wildlife Diversity Branch - 3000 IH-35 South, Austin, Texas 78704
www.tpwd.state.tx.us/tracker

The Texas Nature Tracker



2002

Catching Up! with Marsha Reimer, TNT Coordinator

Greetings Texas Nature Trackers!
 This newsletter comes to you a bit later than usual. There are a lot of reasons for this. Change is in the air...I mean literally. As the fresh paint fumes mingle with the new carpeting chemicals in the office, I'll attempt to relate all the other changes that have taken place here at the Texas Nature Tracker office...

- We were sorry to lose Ann Miller, but delighted for her when she was offered another position with Texas Parks and Wildlife Dept. last August, 2001. We wish her the best as the new Aquatic Education Coordinator.
- In January 2002, I was hired as the Texas Nature Trackers Coordinator.
- Our most recent addition to the Texas Nature Tracker team is Kathryn Palmer. As the TNT Assistant, she will be helping us with our education programs and will be the contact person for all you volunteers.

Not all of the changes we've seen this past year have been positive. Ten more plants and animals have been added as candidates for Threatened and Endangered listing. Two wildflowers have been listed in Texas. But the work that all you wonderful TNT volunteers are accomplishing fills me with hope.

continued on the next page

Winners Announced for Hometown Horned Toads Essay Contest

By Kathryn Palmer, TNT Assistant



One of our individual winners

Our state lizard has received a lot more attention from students throughout Texas, thanks to Texas Parks and Wildlife Department's *Hometown Horned Toads Essay Contest*.

Competition was fierce with over 200 entries from 44 different Texas counties but in the end, the very best triumphed. Students researched information on the Texas Horned Lizard and interviewed people in their communities to see if they could discover what may be causing this lizard's population decline.

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Texas Horned Lizard Watch Celebrates Fifth Year

By Lee Ann Linam, TNT Project Biologist

The 2001 season marked the fifth year that Texas volunteer scientists have helped Texas Parks and Wildlife Department gather data on our official state reptile, the Texas Horned Lizard. THLW volunteers have much to be proud of, including:

- Over 200 volunteers have submitted data—ranging from simple e-mail reports to volunteers who have

gathered sightings from all over their county.

- Over 200 sites have been adopted for monitoring—providing a benchmark for comparisons in years to come.
- Data have been gathered from 137 counties, more than half the counties in Texas. THL have been reported from 116 of those counties.

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Back by Popular Demand

Find out how your
students can enter the

2002-2003

Hometown Horned Toad

Essay Contest.

www.tpwd.state.tx.us/htht

Entry Deadline: March 1, 2003

Catching Up!

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Texas Nature Trackers was conceived on hope. Texans like you, people who saw their environments changing, became concerned and wanted to know how they could get involved. They believed that they could make a difference. There's far more Texas than there are biologists at TPWD to cover it, so we really needed your help. And your continued assistance is essential. Each monitoring program our volunteers get involved with, every bit of data that is sent in, adds to our overall understanding of the complexity of our world. We couldn't do this work without you.

I'm excited to continue the great TNT programs we've started ... and I have a few new ideas up my sleeve for the future. I welcome your input on any and all programs, workshops whatever. TNT is here because of you volunteers who not only are willing, but are eager to make a difference.

Winners Announced...

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The essays received provided data from all across the state, with nearly all students reporting declines in horned lizards in their counties. Reported dates of decline ranged from the 1950s through the 2000s, with the declines most often reported in the 1970s and 1980s. The most common reasons for decline, as suggested by the interviewees, were the red imported fire ant, urbanization or population growth and pesticides.

TPWD biologist, Lee Ann Linam, stated that the contest was successful from several perspectives, noting, "The contest gathered valuable insights from local citizens and helped students come to know and value a real Texas legend." The winning essay from Lawn Elementary illustrated that concept in its closing comments. "We have learned how important they are to the entire food chain, but most of all we've learned how much we want to enjoy them in the future."

TEAM WINNERS

3rd-5th grade: Lawn Elementary, Lawn, TX Jana Bradley's 5th grade
6th-8th grade: Holliday Middle School, Holliday, TX Judy Schnedorf's 8th grade
9th-12th grade: Childress High School, Childress, TX Russell Grave's Advanced Wildlife Management class, grades 9-12

INDIVIDUAL WINNERS

3rd-5th grade:	1st Place	Sarah Petta	New Braunfels
	2nd Place	Levi Posey	Rotan
	3rd Place	Jamie Kirkham	Uvalde
6th-8th grade:	1st Place	Heather Posey	Rotan
	2nd Place	Robert Ezekiel Currey	Austin
	3rd Place	Storey Zimmerman	Uvalde
9th-12th grade:	1st Place	Teri Podlesney	Houston
	2nd Place	Ned Atton	Spring
	3rd Place	Heather L. Bennett	Houston

The *Hometown Horned Toads Essay Contest* was sponsored by Texas Parks and Wildlife Department's Wildlife Diversity Branch, TPWD's "Outdoor Kids" program and the Threatened or Endangered Species section of the Texas Academy of Science, with participation from the Texas Historical Commission, Texas Agricultural Extension Service, Horned Lizard Conservation Society and Texas Herpetological Society.

Call for Submissions

Texas Nature Trackers would like to put your story in our newsletter. There are over 1300 of you wonderful TNT volunteer monitors throughout Texas doing remarkable work. **WE WOULD LIKE TO HEAR FROM YOU.** Teachers, send in your student's class project or a winning report. Artists, we'd love to publish your poems, drawings, photographs, songs. Monitors, do you have any interesting sightings, anecdotes or tips to share?

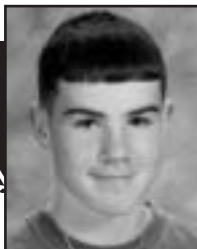
Send by e-mail to: kathryn.palmer@tpwd.state.tx.us or regular mail: Texas Parks and Wildlife Dept., Texas Nature Trackers, 3000 IH-35 South, Suite 100, Austin, TX, 78704. I'm sorry but we will not be able to return your submissions.

REMINDER

Volunteers,
don't forget
to send in
your data!



VOLUNTEER SPOTLIGHT - Josh Ellis



ONE PERSON CAN MAKE A DIFFERENCE

With steel, wood, wire and sweat, 15 year old Josh Ellis earned the highest rank in scouting while helping Texas Parks and Wildlife Department save a plant in danger.

In a remote area of a city park in San Antonio, the rare bracted twistflower blooms. This is the only colony of bracted twistflowers in Bexar County and that is why it's of particular concern.

Josh Ellis was looking for a project to help him earn his Eagle Scout rank. Through participation in Texas Nature Trackers, Josh teamed up with TPWD Botanist Dana Price and Biologist Lee Ann Linam to find a way to help preserve this colony of bracted twistflowers.

He decided to build a fence around the colony of plants to protect it from deer and other herbivores—that was the easy part. Next came the hard work.

“Josh showed incredible leadership in mobilizing the community to protect this little-known flower,” said TPWD botanist, Dana Price.

Ellis said he couldn't have done it alone. “Home Depot donated materials, National Guard Camp Bullis allowed these materials to be driven into the park through their facility, San Antonio Parks and Recreation participated and my whole scout troop, Troop 50, offered their help.”

“I think where I really earned my right to Eagle Scout rank came when I stuck my shovel into the Hill Country landscape—it's practically solid rock,” Ellis said.

On Sunday, April 14th, Josh received his Eagle Scout award at a ceremony held at the Oxford United Methodist Church in San Antonio. Josh really earned the award but the bracted twistflower has the most to gain from his effort. Our hats are off to this outstanding volunteer.

Horned Lizard Watch ...

- Statistical analysis of the data show correlations with red imported fire ants and land use that may help in future management efforts.
- Results from THLW have been presented at scientific meetings and have generated interest from other states with horned lizards.
- The “stories” from our watchers inspired the idea for our Hometown Horned Toads Essay Contest. Results from that contest should help to capture the history of horned lizards in Texas.

We owe the success of Texas Horned Lizard Watch to the efforts of our dedicated volunteers, Texans who love the horny toad! Special thanks goes out to our veteran volunteers who have submitted data during all five years of the survey effort. These “super citizen scientists” are: **Ed, Linda, and Anna Allen, Jeanne Ansley, Beverly Kitzman, Bill Knight, Larry McKnight, Cathy Palmer, Britton and Gayle Phillips and Doris Steadman.**

Highlights from the 2001 Monitoring Season

Thirty-nine volunteers submitted data sheets, while an additional 14 informal reports were received. Horned lizards were seen on 24 of 30 adopted sites and on three of four transects. Our 11 spotters noted 112 different sightings of THL. Data came in from 45 counties, including seven counties new to THLW. Data was received for the first time from Coryell, Dallam, Goliad, Hartley, Henderson, Red River and Reeves counties.

Special recognition goes out to Doris Steadman, Beverly Kitzman, Brandee Frishe and Judy Creager for their superb efforts in gathering sightings. Efforts by Brandee and Judy with Texas State Technical College students are featured on page 4. Special thanks also to Joan Senn and John Farley whose regular visits to their adopted sites allowed them to report horned lizard sightings on 19 and 20 different occasions, respectively. Maybe getting to see horned lizards that many times is thanks enough!

Looking for Ways to Expand your Horned Lizard Monitoring?

Check out the Texas Ant Voucher Tracking System coordinated by the Texas Cooperative Extension Service. You can collect ants at your site and have them identified and entered into a database.

LEARN MORE AT <http://fasims.tamu.edu/voucher/>



Texas State Technical Students Monitor Horned Lizards

By Judy Creager and Brandee Frishe

Monitoring was done for Texas Parks and Wildlife Department during the summer of 2001 in Stephens County for the Texas Horned Lizard Watch. The Watch was done in conjunction with the Environmental Biology class at Texas State Technical College (TSTC) West Texas, Breckenridge, Texas. Brandee Frishe and Judy Creager collected data from three sources, using all three THLW forms of data collection; Adopt-a-habitat, Transects and Horned Lizard Spotters. These are the results:

Our Adopt-a-habitat watch began on June 6, 2001 on the property of Frank Love, located four miles south of Breckenridge. We selected and carefully walked the ten acres where we found "Frank", a Texas horned lizard (THL), which we named after the land owner. To our disappointment, we found only one additional THL during our next two visits, making a grand total of two THLs. Fifteen red harvester ant mounds were also found.

Our Transect watch was located about fifteen miles north of Breckenridge along two miles of gravel road on County Road 285 with an additional one mile surrounding a field of sandy river bottom belonging to the Power's Estate. During our three slow drives we saw only one THL on the county road. We also counted 21 harvester ant mounds.

The Horned Lizard Spotters watch was a collection of sightings, our and others, informing us when THLs were spotted throughout the year. Along one stretch of FM 3418 we found seven carcasses and one live THL. The highest number of THLs reported came from a farmer, who saw at least ten while plowing his field in May 2001. So far, 42 THLs have been recorded.

For our biology class assignment, we gave a report and included our class in another survey along our transect, on August 2, 2001. Although no horned lizards were found, we did observe one scat and 20 harvester ant mounds.

Most of the THLs found were near harvester ant mounds with no imported fire ants nearby. With an abundance of harvester ants and the exclusion of fire ants, we have concluded that there is a good

chance that the Texas horned lizard is beginning to thrive again in this part of Texas. Nearly all of the spotters mentioned that there are more horny toads now than they have seen in years. Most of them also said that they have stopped killing harvester ants.

We hope that this data is helpful and we appreciate the opportunity that you have given us to watch out for one of our favorite species.



Pictured from left to right: Jeff Grant, Judy Creager, Brandee Frishe, Allen Billington, Zack Waller and Mark Beggeman

NEW! Listservs for TNT Monitors

Soon to be available to all TNT monitors with internet access: We are creating listservs for several of our monitoring programs. These will be internet sites where you can send and receive e-mail to and from all those people throughout the state who are looking out for the same species of concern as you. Internet groups will be created where you can share your excitement, confusion, ideas and findings with each other.

Send a picture of that hard to ID mussel, share a story about an exceptional toad spotting, discuss your ideas about Texas horned lizard population decline. You all have an incredible

accumulation of knowledge and this will be a means for you to share what you know with each other.

We will be e-mailing all of you who we have e-mail addresses with more information and an invitation to participate. If you are interested but don't think we have your current e-mail address, please send this to us via e-mail so we can include you. And of course, if you don't care to participate, you just don't sign up.

kathryn.palmer@tpwd.state.tx.us



Desperately Seeking ... Texas Amphibian Watch Data

By Lee Ann Linam, TNT Project Biologist

The drought is finally over—or is it? After launching Texas Amphibian Watch at the onset of a two-year drought in 1997, our volunteer scientists finally got the chance to experience some big breeding choruses in response to improved rainfall in 2001. Some watchers experienced fantastic results. Volunteers in Hays County recorded eight different species. Harris County volunteers reported nine different species. Our champions were the diligent monitors at the **Houston Outdoor Education Center** in Trinity County who recorded 12 species at one site over the course of the year, including the elusive **crawfish frog** and the always entertaining **Hurter's spadefoot toad!**

Despite the flood events in some parts of the state, however, you might say that Texas Amphibian Watch data is just trickling in. A look at the data sent in so far

shows that TAW staff and 15 outstanding volunteers recorded 30 species in 19 different counties. Some finds are especially interesting, such as the first recorded occurrence of the Rio Grande chirping frog in Brazos Bend State Park, good winter breeding choruses of the Strecker's chorus frog in Central Texas, and explosive spadefoot toad breeding choruses in South Texas in March and April recorded by **Dave Martin**. In addition, 2001 produced TAW's first data from Madison, Leon, Borden and Uvalde counties, thanks to the efforts of Bobette Heaton, Robbie Ferguson, Matt and Barbara Arnett and the students of St. Philip's Episcopal School, respectively. A malformed bull-

frog was recorded in Caldwell County, along with a malformed Gulf Coast toad in Cameron County. Special thanks to Bobette and her students, Carol Miserlian and her students, Ann McMaster, Sheryl Marquez, Jerry Lee Fischer and Wendy Quintero for devoting themselves to collecting data on many different occasions!

Despite these interesting highlights, we think there may still be a few recollections of the 2001 season out there. So, take a moment and send in that TAW datasheet. There's still time to break the data drought and add to our understanding of how frogs and toads are faring in Texas!

Want to Get Started, but Don't Know How? Be a Cricket Frog Watcher!

The cricket frog (*Acris crepitans*) is one of the most readily seen, heard and recognized frogs in Texas. They are small (1 - 1 1/2 inches long), with mottled gray, green or brown coloring and a big voice that sounds like marbles being clicked together (or like crickets!). Cricket frogs are often seen during the day sitting or leaping along the vegetated sunny edges of a pond or stream. Like other frogs, male cricket frogs primarily call at night during warm months (March to October in much of the state), but they may also call during the day.

Although cricket frogs are very common and widely distributed in Texas, they are declining throughout some portions of their range. In fact, the northern cricket frogs are considered endangered in Canada and several northern states. You can help us make sure that cricket frogs are abundant and healthy in Texas by becoming a Cricket Frog watcher! Simply use the Texas Amphibian Watch materials to become a Cricket Frog Spotter, to adopt a Cricket Frog Pond or to monitor for Cricket Frog Malformations. Contact us, and we can provide the TAW monitoring materials, along with more information about the cricket frog!



Madisonville Students Eager to Monitor Amphibians

Yellowrose/Crossroads student, Jessica, age 15, wrote:

Recently, at Yellowrose/Crossroads School, we had guests from Houston ISD. We took our guests on a tour of our school. When we came near the frog clock it "croaked." One of our guests said, "Listen, do you hear that frog? Frogs are not supposed to be out yet." Ms. Bobette, the administrator of the school, started laughing, and said, "That is our frog clock. Every hour it makes a different frog noise!" Everyone got a laugh out of that. It was really cool how the clock sounded so much like a real frog! The students are anxiously awaiting the spring, when they will study frogs and their environment. The students truly enjoy the "croaking" clock, the singing bullfrog named Burford B. and three inflatable frogs seen in this picture.





Lessons on the River

By Sky Lewey, Public Outreach Associate for the Nueces River Authority

St. Phillips 4th, 5th and 6th graders learned about the water-cycle and watersheds first hand during a field trip to the Nueces River. Following procedures developed by their teachers and Texas Parks and Wildlife Department, and with guidance and support from the Nueces River Authority, students surveyed bank vegetation and counted darters at two sites on the river.

Lee Ann Linam, biologist with the Wildlife Diversity Branch of Texas Parks and Wildlife Department, worked with the teachers to develop the project. This hands-on approach to science is designed to help students understand and appreciate the plants and animals whose lives depend on the river and the quality of water needed to support them.

As part of the TPWD Nature Tracker program students caught Cricket frogs and documented malformations. Frog malformations are a growing concern nationwide, but the Cricket frogs on the Nueces do not seem to be affected. "We found only one malformed frog. It had an injured leg. It looked like it had been bitten by a fish," 4th grader Thomas Farr concluded.

riparian

\Ri*pa"ri*an\, a. [L. riparius, fr. ripa a bank..] Of or pertaining to the bank of a river; as, riparian rights.

Webster's Revised Unabridged Dictionary, © 1996, 1998 MICRA, Inc.

"Riparian was the word of the day," according to Sky Lewey, Public Outreach Associate for the River Authority. Students learned that riparian areas are fragile and critically important to the aquatic habitat and water quality. "This relationship is very apparent on the Nueces River with the wide riparian zone that flanks the clear stream. We hope

that through projects like this one, area students can begin to understand the role that aquatic species play in water quality and develop the skills to identify activities that may threaten them."

Teachers Danielle Plaza, Danielle Gibbs and Robin Stout know from experience that students learn best by discovering and guiding the discovery process.

"The river is a perfect classroom," according to Plaza. Students caught small fish and macro-invertebrates in the riffles (rapids) of the Nueces. Using *A Guide to Freshwater Ecology* published by the Texas Natural Resource Conservation Commission, they were able to identify many of these life forms. Two they identified were *Gambusia affinis*, also known as the Western Mosquito Fish and *Poecilia latipinna* or Sailfin Molly, both part of a unique fish family that gives birth to living young. "One of my 4th graders asked me if that made them a mammal, which was a very good question. This River Education Project is helping us cultivate knowledge-seeking in our students," said Plaza.

"They saw Caddis fly lodges and baby catfish. But watching them count darters was the best. The *Etheostoma lepidum*, Greenthroat Darter is abundant in the riffles but very well camouflaged," according to Stout who led the counters.

"They're difficult to see until you train your eyes to watch for them. They lie tucked under the edge of rocks on the bottom. That's because they don't have a swim bladder like most fish and so they just sit on the bottom," said veteran of

the day's darter counting, 5th grader, Ryan Cargil.

Danielle Gibbs' group counted plants along a trans-section of the riverbed. "Examining the bank vegetation was a good way to draw student's attention to the role that riparian plants play in filtering runoff and providing habitat for insects that feed the aquatic system. We took plant samples and are planning to identify them using the Texas A&M University Extension Center's online herbarium."



Counting darters with Mrs. Stout. Photo by Sky Lewey

St. Phillip's principal, Judy Tindoll is enthusiastic about the outdoor classroom. "As educators we should focus our natural science training around local resource issues. I believe that developing the capacity of a student to observe, analyze, investigate and think critically about the resources around them is one of the most important products a local education system can offer its community."

Summing up their experiences, 5th grader, Jamie Kirkham said, "Learning so much about conservation is going to affect the way I'll act when I go to the river for recreation. I'll be thinking about those little animals instead of stomping on their home."



Texas Mussel Watch Update

By Marsha Reimer, TNT Coordinator

At least the year 2001 saw more rain in the Lone Star State. That's good for plants and aquifers, but not for mussel monitoring. All that water made the search for mussels challenging, especially when we tried to find an access site on the banks of the Little River in Cameron during the Texas Mussel Watch (TMW) workshop in September 2001 (see "Mussel Mania in Texas" on page 8). The water was just too high for us to safely explore for mussels. Maybe we will have better luck this year.

Between September 1, 2000 and August 31, 2001, TMW volunteers and participants from five TMW workshops record-



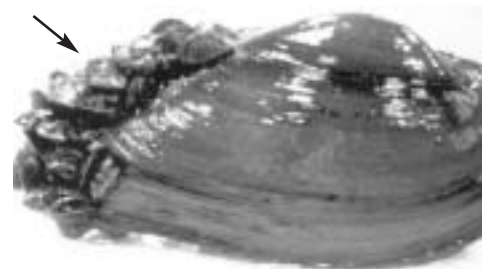
TMW Workshop, Sheldon Lake State Park

ed and mailed data to Texas Parks and Wildlife Department from five major Texas river systems in 14 counties. These volunteers observed a total of 88 live, native freshwater mussels, 309 whole shells and 190 valves (half shells). A total of 19 native freshwater mussel species were observed, the largest number from the Trinity River system. Volunteers, John Caldeira and Judy Lewis, spent a combined total volunteer time of 11 hours mussel monitoring and collected the most data for the season. Within the Trinity River drainage basin they found evidence of the yellow sandshell, bleufer, deertoe, fragile papershell, threehorn wartyback, pistolgrip, giant floater, western pimpleback, pink papershell, fragile papershell, Louisiana fatmucket, southern mapleleaf and paper pondshell.

We also received data from the following volunteers:

- Klaus Meyer
- Timothy and James Mueck
- Sheila McCray and Ann Miller
- Mike McKay's biology students at Texas State Technical College (see article below by Mike McKay).
- Sandy Birnbaum
- Sharon Wood's aquatic science class at Edward Marcus High School
- Melba Sexton, science teacher at Luling Jr. High

The introduced Asian clam was recorded present at eleven of sixteen sites. The good news is the zebra mussel was not recorded at any site. This small "D"-shaped mussel (below) poses a multi-billion-dollar threat to North America's industrial, agricultural and municipal water supplies, and is a threat to our native freshwater mussels as well. It was first found in the Great Lakes in 1988 and rapidly spreading.



Arrow is pointing to a cluster of zebra mussels encrusted on a native freshwater mussel. Photo by R. G. Howells

It is important to report sightings. So, if you find zebra mussels in any water system in Texas, please note the date and exact location and call our office at (512) 912-7062.

The year 2002 began with drought conditions, not good for plants or aquifers, but great for searching for mussels. Let's hope all you Texas Mussel Watch volunteers had an opportunity to do some monitoring before the 2002 summer floods. We're looking forward to seeing your data. Keep up the good work!

Environmental Science Program Gets Down and Dirty

By Mike McKay

Students in Mike McKay's Environmental Biology Class gained first-hand experience monitoring wildlife last July 2001. The Texas State Technical College class participated in a Texas Mussel Watch program with Texas Parks and Wildlife Department and Breckenridge's Environmental Science Technology program.

After learning that mussels are an indicator species of water quality and finding native mussels can be a sign of healthy water, students were anxious to get to the laboratory. In this case, the lab was Hubbard Creek Lake, located just west of Breckenridge.

Trekking through mud and water, students searched for shells. To their delight, many mussel shells were found, including three live mussels. This data, reported to TPWD, is critical for establishing a database of mussel life in Texas.





Mussel Mania in Texas

By Alice Nance, Education Coordinator for the National Wildlife Federation

In an attempt to raise awareness and improve conditions for endangered mussels in their region, National Wildlife Federation's (NWF) offered a Keep the Wild Alive workshop for mussel enthusiasts in Cameron, Texas in September 2001. The workshop, which was hosted by the NWF Gulf States Natural Resource Center and Texas Parks and Wildlife Department's (TPWD) Texas Mussel Watch program, aimed to help landowners minimize their impacts on endangered mussels and better conserve habitat for these imperiled mollusks, including the Ouachita rock-pocketbook mussel.

Workshop participants learned how to monitor for native mussels through TPWD's Mussel Watch program, and NWF shared specific techniques for improving land management for native mussels. Some of these techniques included: reducing harmful run off from agricultural fields by minimizing or eliminating pesticides, and fertilizers; keeping livestock out of streams and stream

banks; maintaining natural vegetation along riparian areas; and getting involved in local planning processes that might imperil critical riparian areas.

The Keep the Wild Alive workshop was also tailored to reach out to an area of Texas that is the focus of NWF's Texas Water for Wildlife campaign. A pending proposal to construct the Little River Dam and Reservoir, which would be located near the town of Cameron, made this workshop especially pertinent. The dam and reservoir would alter one of the last undammed rivers in Texas, flood 35,000 acres of productive farm and range land, reduce river flows and degrade downstream wildlife habitat. Siltation and reduced water quality, which often result from damming of rivers, can be harmful to freshwater mussels and other freshwater species.

In Texas, more than 50 native freshwater species inhabit the state's streams and rivers. In an attempt to learn more about

Texas native mussels and avoid actions that imperil them, TPWD created the Texas Mussel Watch program, which focuses on training volunteers to identify regional mussel species, understand mussel life history and collect valuable scientific data. The volunteer-gathered data helps TPWD biologists determine distribution and population statistics of mussels, variations in their population and distribution over time and the presence of any exotic mussel species.

By providing information and resources about mussel species in this region, NWF is helping people to understand the impact of projects like the one potentially slated for the Little River - as well as giving them tools and resources to help discover information vital to the survival of freshwater mussels. NWF and TPWD hope to work together in the future to educate and move people toward actively safeguarding these rapidly declining "Texas natives" before it is too late.

Mary Kennedy's TNT Students Win Big in Science Fairs

Science students at Texas Military Institute have learned that Texas Nature Trackers projects can really take them places. During the last several years students of **Mary Kennedy** have used data from monitoring projects to place in regional, state and even international science fairs.

Cynthia Spurgat, Texas Nature Trackers student volunteer, won two first place awards and has qualified to present her study at the next American Association of Science convention. Cynthia, a senior at Texas Military Institute in San Antonio, has been studying a population of big red sage (*Salvia penstemonoides*) with her school science research team. Cynthia used the TNT Salvia project data as a basis for her statistical analysis of population changes at the site over time. She found that the salvia population has declined over the past ten years. Her project won first place at the Alamo Regional Junior Academy of Science and at the Texas Junior Academy of Science at Texas A&M. This qualified her to

present at the American Association of Science in Denver, Colorado in February 2003. Mary Kennedy, Cynthia's academic team coach, has overseen science students' monitoring of the Salvia site for eight years.

Texas Monarch Watch volunteers **Stephanie Spurgat** and **Bethany Leach** had an opportunity to go to South America with their research results. These Texas Military Institute 10th graders studied parasitism rates in monarch and queen butterflies. They monitored milkweed plants every week for ten months, collecting larvae of each species to determine parasitism by tachinid flies. Their study won First Grand Prize at the Alamo Regional Science Fair and qualified them to present at the International Science Fair in Louisville, Kentucky, and at the International Science Fair in Santiago, Chile.

CONGRATULATIONS!



Single Storm Kills Over 75% of Eastern North America's Migratory Monarchs



By Kathryn Palmer, TNT Assistant

Between January 12-16, 2002, a severe winter storm hit the monarch sanctuary region deep in central Mexico. Mexico's over-wintering sites harbor all of eastern North America's migratory monarch breeding stock. For monarchs, the mid-January weather pattern was a recipe for disaster: Heavy rains were followed by clearing skies and plummeting temperatures. This storm was an historic extreme in that the rains were heavy during the peak of the dry season in Mexico, and the temperatures were exceptionally cold. Monarchs are essentially tropical butterflies and cannot tolerate sub-freezing temperatures for very long. When they are wet, they die at warmer temperatures than they would if dry. Many millions of monarchs succumbed to the extreme cold. Dr. Lincoln Brower, biologist with Journey North, and colleagues released mortality estimates. Based on data collected from the

two largest sanctuaries, over 75% of the population was killed by this single storm.

Sierra Chincua Sanctuary:
74% of the butterflies were killed

El Rosario Sanctuary:
80% of the population was killed

At the two colonies combined, an estimated 200-272 million butterflies were killed.

Significantly, these two huge colonies are the winter sanctuaries of 2/3 of eastern North America's migratory butterflies. The other 1/3 of the butterflies are spread among other smaller sites in the vicinity. While scientists have not yet visited these outlying sites, mortality rates are feared to

be similar because the sites are small, their forest habitat is less pristine and because the rain and cold were prolonged in the region.

Dr. Brower described the catastrophe, "The ground in these two colonies was littered with monarchs that had an eerie flat, pallid appearance that I have never before seen - like wet leaves. The heavily packed piles of butterflies were up to 13 inches deep, and even those that were still alive may not have been able to struggle out. The main survivors were buried alive, covered by dead butterflies that were insulating them (from the cold)."

Nonetheless, many millions of monarchs did survive and those survivors began reaching Texas in March. We'll have a full report on their spring migration in our next edition of The Texas Nature Tracker.

Texas Hummingbird Roundup Changes As We Grow

By Mark Klym

Over the seven years of collecting data on hummingbirds, the Texas Hummingbird Roundup has experienced many changes. Including January and February in our surveys - which we added at the request of our volunteers - was one of the most significant of these changes. Through the addition of these two months came the realization that hummingbirds are in Texas year-round, and many Texans enjoy their winter visits.

This year we added yet another change - the opportunity to participate in the Texas Hummingbird Roundup without purchasing a survey kit. Survey kits are still available for those that want one, but participants can now download the kit off the internet at www.tpwd.state.tx.us/hummingbirds.

Those purchasing the kit will receive *The Texas Hummer*, the Texas Hummingbird Roundup newsletter at no charge. For those of you who send in a free, downloaded survey, the newsletter will not automatically be sent to you. If you want the newsletter, just attach \$3.00 to your survey return. Alternatively, you can also find the newsletter posted on our Web site.

The shortcut to the internet site is also a change - added to make it much easier for people to get information and materials for the Roundup. The site changes frequently, so visiting more than once a year is a good idea!

A big addition to the program, which should bring more participation, is the Hummingbird Workshops - an opportunity

for people to learn more about the hummingbirds and to become familiar with the Roundup. Workshops are also available to teach school teachers how to integrate Texas hummingbirds in their science, language arts, creative arts and even physical education curricula. These workshops have been given in West Texas, North Texas, the panhandle and the Houston area. This year, workshops are planned for Marfa, Weslaco and Brownsville.

And more changes to the Roundup are planned - all designed to increase the data we collect and the information we can return to our participants. If you would like to help gather data about these fascinating creatures, visit our Web site or call (512) 389-4644.

NOW AVAILABLE

- Texas Horned Lizard Watch Annual Report
- Texas Amphibian Watch Annual Report 2001
- Hometown Horned Toads Essay Contest Summary Report
- Texas Mussel Watch Annual Report

Our latest reports on several of our programs are now available to any of you Texas Nature Trackers that are interested in receiving a copy. We can send an electronic copy via e-mail or a paper copy. Let us know if you'd like a copy of this report.



MONITORING SHORTS

By Lee Ann Linam, TNT Project Biologist

BIG RED SAGE

Each August, **Mary Kennedy**, a biology teacher from **Texas Military Institute**, along with a group of her students and volunteers join TPWD staff in monitoring one of the few remaining populations of big red sage (*Salvia penstemonoides*). Mary and her group have faithfully monitored this Boerne population of big red sage since 1996, when there were three subpopulations of big red sage at the site. Heavy rains in 1997 caused the nearby creek to flow out of its banks, destroying one of the three subpopulations. As of August 2002, that third subpopulation has still not reestablished. The other two subpopulations are hanging on although at depressed numbers in 2001. Then, in 2002, monitors were discouraged to see debris from early July flood waters deposited six feet high in trees at the site. Despite the flood, a few prostrate plants near Frederick Creek were blooming, and many rosettes were present in higher areas along the slope. We are thankful for dedicated volunteers who keep their eye on this critically imperiled population.

SOUTHERN LADY'S-SLIPPER

Doug Hines, a botanist in East Texas who frequently assists TPWD in education and survey efforts, reports that he spotted five southern lady's-slipper orchids (*Cypripedium kentuckiense*) in Caddo State Park last spring. Next spring, 2003, Doug plans to assist TPWD botanists in more extensive surveys for the elusive orchids in state parks of northeast Texas.

HOUSTON DAISY AND TEXAS WINDMILL GRASS

Two new volunteers, **Kristi McMillan** and **Jennifer Winans** of **Berg Oliver Associates, Inc.**, assisted TNT staff in monitoring a new site in Cypress for the Houston daisy (*Machaeranthera aurea*) and Texas windmill grass (*Chloris texensis*). Master Naturalists of Houston have expressed interest in expanding monitoring efforts for these rare prairie species in 2002.



BRANCHED GAY-FEATHER

Lori Biederman approached TPWD about ways to get involved in rare plant conservation, and TPWD botanists sent her on a search for the lovely branched gay-feather (*Liatris cymosa*) in the College Station area last summer. Lori discovered three new sites for the species, but unfortunately discovered that only three of 12 previously-known sites still appeared to contain the species.



RYDBERG'S SCURFPEA

Rains during the winter of 2000-2001 finally provided a good year for the tiny Rydberg's scurfpea (*Pediomelum humile*) found in the Del Rio area. **Monea Fortunado's** gifted and talented students at **Calderon Elementary** marked approximately 90 plants near the nature trail they constructed behind their school, and found that about 80 of those plants flowered. Despite the efforts of the school children and TPWD, the plants and their habitat were destroyed during school district construction. Fortunately, Monea stepped in to help salvage some of the genetic diversity of the population. She collected some of the seeds which she sent to the Lady Bird Johnson National Wildflower Research Center. Four seeds were sent to the horticultural department to see if they could be propagated. The other four are in the seed bank. **Glenda Overfelt's** biology II students at Del Rio surveyed a roadside population—finding over 80 plants at that site.



BRACTED TWISTFLOWER

The bracted twistflower (*Streptanthus bracteatus*), a beautiful Hill Country annual, also responded to the increased 2000-01 winter rainfall, emerging at sites where it had not been seen for years. In Austin, **Bill Glover** and **Austin High School** students assisted Master Naturalist **Mary Ruth Holder** and TNT staff in recording 30 plants in monitoring plots at Barton Creek. The volunteers also noted at least 40 plants near the monitoring plots, especially in some areas protected by deer-proof fencing. **Robert Furtado** and his **Westlake High School** biology students assisted Mary Ruth and TPWD staff in recording nine plants in monitoring plots at the Bee Creek preserve, along with four others nearby. Although numbers at this site are increased from the previous year, they are still dangerously low, perhaps due to browsing by deer. Mary Ruth also monitored the results of a reintroduction effort at Mount Bonnell, where she recorded 190 plants. Populations also increased at Eisenhower Park in San Antonio, although many of the 60 plants found there were infected with a powdery mildew. **Josh Ellis** and his scout troop's efforts to protect his population are described on page 3. Populations also rebounded in Medina County, where nearly 750 plants were counted at six sites. Our dedicated volunteers were active once again in spring 2002, including additional assistance from Paul Cox and Pat McNeil in Medina county. Unfortunately, the drought had returned in the winter of 2001-02, and numbers of this fickle annual were lower once again.

SPRING-DWELLING SALAMANDERS

Mary Beth Bauer's Ingram High School Biology II students continued their great efforts to monitor the Texas salamander at scenic Stockman's Springs near Ingram. In May, students recorded one salamander found every 10 minutes in the best habitats (shallow watercress areas in the spring). In the fall they hit the hot spot, recording almost one salamander every two minutes in the same habitats. Mary Beth continues to use beautiful Stockman's Springs as an outdoor classroom each spring and fall. **Linda Walker's Bracken Christian School** biology club students also assisted with surveys at Honey Creek State Natural Area in the fall; however, changes to those habitats during a flood several years ago have made salamanders very difficult to find in the springs.



FLOUR BLUFF POCKET GOPHER

Bernice Speer, Elizabeth Maxim and **Doyle Cross** made a road trip to Corpus Christi last spring to count Flour Bluff pocket gophers (or at least their mounds). They recorded over 100 active burrows in a field on the Corpus Christi Naval Air Station—each representing one gopher. Way to go gopher girls (and gopher guy)! There's still another gopher monitoring site available for other volunteers near the "Sparkling City by the Sea!"

PALMETTO PILL SNAIL

Bernice and Elizabeth also joined **Sally Strong** and **Melba Sexton's** Luling 4-H Club to conduct a third year of monitoring for the palmetto pill snail in Palmetto State Park in February 2001. The volunteers searched through leaf debris to

record nine snails or their shells near a wetland maintained by hydraulic pump, the only location in the world where this species has been recorded. Apparently the snails are good wetland indicators, as the group found them only near the wetland edges. Searches in 2002 were modified to reflect the findings of the volunteers—the worldwide experts on this species!

HORSESHOE LIPTOOTH SNAIL

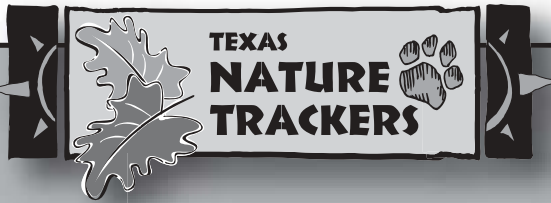
Denise Ortiz's environmental science students at **New Braunfels High School** are also experts regarding a snail found in only one location in the world. Their surveys at Landa Park continue to illustrate that this is an extremely rare species, as they found only four shells of the species in 46 quadrats surveyed in 2001 and two shells on 177 quadrats surveyed in 2002.

In memory of
Robert A. Furtado
(1948-2002)

For two years, Bob Furtado graced the Texas Nature Trackers program as he and his West Lake High School classes volunteered to assist TPWD botanists in monitoring the bracted twistflower. He influenced many by sharing, through education and outreach, his love of science and nature. All of us in the Texas Nature Trackers program want to honor Bob for his dedication, his work, his life.

The Texas Nature Tracker

Texas Parks and Wildlife Department
Wildlife Diversity Branch
3000 IH-35 South, Suite 100
Austin, Texas 78704



WATCH OUR WEB SITE:
www.tpwd.state.tx.us/tracker

2002

The Texas Nature Tracker



OUR PURPOSE

Texas Nature Trackers is a citizen science monitoring program designed to involve volunteers of all ages and interest levels in gathering scientific data on species of concern in Texas through experiential learning. The goal of the program is to enable long-term conservation of these species and appreciation among Texas citizens.

Upcoming Events

MAY 21, 2003

Texas Amphibian Watch Workshop

6:00 p.m. - 10:00 p.m.

Wild Basin Wilderness, Austin

\$20 includes box dinner

Learn to identify and monitor local amphibians. Receive monitoring packets, CD and more. Teachers receive 4 hours of SBEC approved credit.

Contact: Marsha Reimer (512) 912-7062 marsha.reimer@tpwd.state.tx.us
or Carol Knepp (512) 327-7622 hike@wildbasin.org

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