

TEXAS NATURE TRACKER

Spring 2000

Wildlife Diversity Program • 3000 IH-35 South, Ste. 100 • Austin, Texas 78704

Texas Amphibian Watch NEEDS YOU!



Over 20 volunteers became charter participants in Texas Amphibian Watch in 1999—offering the first volunteer data ever systematically collected on amphibians in Texas! In all, data was received from 12 counties. Our participants reported on habitats ranging from large marshes in southeast Texas to lakeshores in the western Edwards Plateau to backyard ponds and sidewalks in urban areas. They chose to participate at many levels. Some provided extensive notes about species they encountered in their work and travel (Amphibian Spotter), some adopted sites and chose to really explore one area close up (Adopt-a-Frog Pond), and some took initial steps to help Texas participate in the North American Amphibian Monitoring Program (Texas Frog and Toad Survey). Several teachers encouraged their students to “get their feet wet.” Over 70 students from John Kneisler’s classes at South Houston Middle School provided data on nearly 200 amphibians they spotted. Two other teachers report on their adopted frog ponds in this newsletter.

Texas Amphibian Watch continues to look for volunteers interested in learning more about the frogs, toads, and salamanders of Texas. Volunteers can participate at several levels. The monitoring packet is free, but Texas Amphibian Watch also offers a tape of the frog and toad calls of Texas for \$5 and several workshops throughout the year for \$10. There is also a North Central Texas Amphibian Watch especially targeted at participants in the Dallas-Fort Worth area.

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FEARS, FROGS, AND SPRING FEVER

By Carol Miserlian

Houston ISD's Outdoor Education Center

It's a warm spring evening on the shores of Lake Livingston. Daylight is fading fast. I am surrounded by 12 quiet fifth grade girls from Houston ISD. “It's the one that sounds like hitting little rocks together!” whispered an excited voice in the dark. “Yes, which one is that?” I replied. “Cricket frogs” was the proud response. After a pause, I told the girls that I had been in the area earlier and had heard a leopard frog. “If we play the taped voice will they respond?” We tried it and sure enough we heard the unique calls of 2 or 3 leopard frogs. What fun!

We waited for another 10 minutes, enjoying the clearing sky and the fireflies—spring at its best. Then we moved along the lakeshore to a spot where I thought we would hear spring peepers. Sure enough the students heard and correctly identified the sleigh bell-like sounds of tiny spring peepers. In the background we heard the cricket frogs from our earlier spot. A few minutes later we again heard the leopard frogs. We lingered to enjoy the now familiar sounds of the night.

Being able to hear and identify three species of frogs was a big accomplishment for these kids and I was amazed at how quickly they picked up this new skill. I'm excited to have the teachers and students at Houston ISD's Outdoor Education Center participate in Texas Amphibian Watch. But even more exciting than collecting and submitting the data is the experience that these students have in the



Lee Ann Linam introduces Camp Tyler students to young bull frogs.

outdoors at night. Most of them are so focused on listening for the amphibian sounds that they forget their fears of all the creepy crawly critters that also make the water's edge their home. For many of our fifth grade students, this is only the first or second time that they have walked through a forest at night. And conquering their fears is an important milestone—just as important to me as heightening their awareness of the wonders of the natural world and teaching them to collect useful data. Each time I take a group of students out to identify frog and toad calls for Texas Amphibian Watch, my goals have been achieved.



WAITING FOR RAIN IN DEL RIO

By Monea Meck-Fortunato

Rain is as rare as the Rydberg's scurfpea (*Pediomelum bumile*) in West Texas. With as little as 3 inches of measurable rainfall since May of 1999, the Val Verde County area is hard pressed for flowers of any kind this spring. Students at Dr. Fermin Calderon Elementary in Del Rio are really amazed at the contrast between last spring's glorious show of Texas wildflowers and this spring's almost total lack. Spring of '99 brought forth beautiful blooms from even the Rydberg's scurfpea, the first blooms witnessed since the beginning of this monitoring project three years ago.

The spring of 2000 has not been as cooperative. With only 63 plants, compared with 114 last spring, we are seeing a 45% reduction in numbers. Last year 28 plants sported blooms; so far this year, none of the plants have had the nourishment required to produce flowers. My fourth grade students re-marked and counted each sprout during March. Using a new marking system, we individually numbered and catalogued each plant according to its location on the site. This new marking system will enable my students to record which plants reoccur and are most productive.

Glenda Overfelt and her Del Rio High School students are busy monitoring another site of Rydberg's scurfpea. Twice this spring they traveled to the site to count plants and both times were unable to locate any. The site they monitor is located further west and receives even less rain than the Calderon site.



Kylie and Christina Sanchez tag scurfpea plants.

los Niños Nature Trail. Frequently, students from other classes will capture desert tortoises, toads, or horned lizards to display at school, not understanding that it is best to leave wild creatures alone. The Nature Trail students then release these captives at appropriate sites along the Nature Trail, usually the very same day. "Children and parents need to know how endangered these small animals are and how important it is to protect them," states Juan Lopez, a fifth grade Nature Trail volunteer. Gloria and I teach daily lessons of the importance of "watching" nature—not capturing it.

Principal Ricardo Jimenez has been most supportive of the various activities we do with the Nature Trail. Often rolling up his sleeves and donning jeans, Mr. Jimenez has assisted me, Mrs. Culpepper, and an



Calderon students jump for joy at the "toad tank" site.

ambitious crew of student and parent volunteers in every phase of trail construction. The Paseo de los Niños now sports over 3 miles of trails, a new outdoor classroom, and most recently, a newly constructed "toad tank" or frog pond surrounded by 12 new live oak and persimmon trees. Daily trail use is rising rapidly as other schools, organizations, and community groups are becoming familiar with the trail and its various features.

Nothing ever stands still, though. This fact was brought close to home for Calderon Elementary as the plans for a new middle school have been taking shape. The middle school will be located on the 114-acre site which now hosts the Nature Trail and the Rydberg's scurfpea site. The strong, positive support of Mr. Jimenez and Mr. Roberto Fernandez, assistant superintendent, for preserving the scurfpea site and a major portion of the Nature Trail is evident in every phase of the middle school site design. Sensitive areas have been identified for consideration by the architectural team. Excitement is gathering at the prospect of having middle school science students and elementary students working as a team directly on our Texas Nature Tracker projects.



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previous page*

Texas Amphibian Watch offers many rewards—both to the amphibians of the state and the volunteers who watch them. Nationally, there is great excitement about Texas joining the effort to monitor the status of amphibians. Our data will become part of an important global monitoring effort, as well as shed light for the first time on how amphibians are doing overall in Texas. For the volunteer, there is the enjoyment of awakening to the amphibian music of a summer night. It's not too late to join the fun—call us for your 2000 monitoring packet!



IN SEARCH OF THE GOLDEN ORB

By Ann Miller

We don't always get instant gratification when we do volunteer monitoring projects. Sometimes we have to look at the long term and realize that our data, taken consistently, even when we aren't encountering the species we are looking for, is important. The absence of species in areas and at times when they should be present is significant and vital to our efforts. But that does not always make for a memorable field experience.

This year, however, mussel volunteers have hit some interesting pay dirt. This gold won't make them wealthy, but it is "gold" in terms of finding something fairly rare. Melba Sexton, science teacher at Luling Jr. High and 4-H leader involved in snail monitoring at Palmetto State



Melba Sexton's students identify mussels found in the Guadalupe River.

Park, sent in a photo of a living freshwater mussel she had collected from the San Marcos River for the river tank in her classroom. Dr. Bob Howells, mussel expert at Heart-of-the-Hills Research Station, identified it as a rare, golden orb. Melba also found a recently-dead threeridge shell. Despite over 40 collections made by TPW in the San Marcos and Blanco rivers since 1992, no living, native freshwater mussels had been found (and none confirmed since 1977). These specimens indicate that a river recently thought to have lost its entire mussel fauna does have at least a few remaining. And, golden orb, known from only 4 remaining populations, now appears to have a fifth population in the San Marcos River.

Melba wondered how many other golden orbs might be out there, so she set up a field trip for her students to look for mussels, both in the Guadalupe River and in the San Marcos. Armed with wading shoes, data sheets, and some background knowledge about mussels, Melba and her students first examined a site on the Guadalupe at Lake Wood.

Students found, examined, categorized, and identified 5 different species of mussels, with 2 species of live mussels in the group. All species found were fairly common and well documented for that location, but the data is important for long-term monitoring and the students got some great field experience.

Next stop, the San Marcos River at the Hwy. 90 crossing. Would they be able to find the golden orb? Alas, after 45 minutes of searching, no living mussels were found, only some shells of long-dead threeridge and the exotic Asian clam. Again, the absence of native mussels at this site is important data.

Next week, Melba returned to the original site where she had found the golden orb. This time, searching for an hour with 2 assistants, she found 1 more live golden orb and more shells of recently dead specimens! All specimens were found in water less than 6 inches deep, with a muddy substrate, and out of the main current.

Other successes for mussel monitors this year include a record-setting size for Tampico pearlymussel, collected by a volunteer on the central Colorado River in August. That same volunteer also collected very-recently dead shells of rare Texas pimpleback, which was known only from 3 surviving populations (now 4), and Texas fawnsfoot (not confirmed in the Colorado drainage since a long-dead valve in the mid-1960s was found). Previously, just over 100 shells of this species had been found since 1980 (in the Brazos drainage) and only 5 of these were alive.

Another volunteer found over 35 Texas fawnsfoot specimens in the Brazos River upstream of College Station. All were very recently dead and suggested that a significant population of Texas fawnsfoot is still surviving in the area. Very few have been documented in this area in recent decades and never such a large number at one time anywhere. Newly trained volunteers looked again at the Brazos River after a Texas Mussel Watch workshop in College Station and found several more Texas fawnsfoot specimens.

Dr. Howells and another volunteer examined Lake Lewisville and found living specimens of lilliput for genetic analysis (previously, HOH had obtained only 4 living specimens in Texas since 1992), a number of living pimplebacks also needed for genetic analysis, and still other specimens that may be rare endemic Texas heelsplitter.

Thanks to all those Texas Mussel Watch volunteers who sent in data, whether or not it has resulted in a significant find. All data is important since we are just beginning to understand freshwater mussel populations in Texas.



STUDENT MONITORS FIND LIVE RARE SNAILS!

In late November of 1999, students from Judith McLaren's New Braunfels High biology class used random sampling techniques to find 2 live and 10 dead horseshoe liptooth snails. That may not sound like a lot of snails, but in 1998 and the spring of 1999, the students didn't find any live ones. We were beginning to wonder if there were any live ones left. Finding 2 living snails thrilled everyone. The snails were quickly returned to their habitat in the leaf litter on a wooded slope of Landa Park.

Horseshoe liptooth snails live only in Landa Park as far as we know. Although they share their habitat with other types of land snails, they can be distinguished by the particular shape of their shells.

New Braunfels High students were quick to learn both how to identify the snails and how to conduct the random sampling monitoring techniques. As part of their science lab requirements, students also performed water quality tests while at the park.

In the spring of 2000, Denise Ortiz's class used the same techniques in searching for the snail. Alas, they found no live horseshoe liptooth snails and only 4 dead ones.

Questions remain and can only be answered with a longer study:

- 1) Is weather affecting the snails' population?
- 2) Is time of year that we sample a factor in how many we find?
- 3) Are we finding them in a particular micro habitat within the study area?
- 4) Is the population of this rare snail in steep decline or holding its own?



New Braunfels High School students find rare snails.



PALMETTO STATE PARK IS SITE OF SEARCH



4-H students search for the Palmetto pill snail at Palmetto State Park.

Finding 3 living Palmetto pill snails was also a happy event for Melba Sexton's 4-H students. In February, students and sponsors met TPW staff, intern Kelley Clifford, and volunteers Bernice Speer, Elizabeth Maxim, and Sally Strong to learn random sampling and to monitor for the Palmetto pill snail, a rare snail found only in Palmetto State Park.

With only last year's data to go on, the students knew they wouldn't find many snails, but hoped they would at least find a few. There was also the question of whether we would find the snails closer to water or further away. This year, the snails were found 5 and 8 feet from the water's edge. Last year, the 2 live snails found were close to 20 feet from the water's edge. More data are needed to find out what the best habitat is for the Palmetto pill snail, but the enthusiasm of these volunteers makes TPW staff hopeful that they can again be counted on to monitor these rare snails.



DROUGHT AFFECTS CENTEX SPECIES AND MONITORING PROJECTS

In the last issue of "The Texas Nature Tracker," we reported that bracted twist flower monitors and Texas Salamander monitors would be hoping for rain. Central Texas did get some rains last year in June and July, but that wasn't at the right time for the blooming period of bracted twist flower or for spring flow at the Audubon site in Leander where Susan von Rosenberg's Deer Park Middle School science club monitors Texas salamanders. The drought nixed their monitoring both in the spring and in the fall, but more importantly, what did it do to the salamanders or to the bracted twist flowers?

Bracted twist flower, the increasingly rare hill country annual with lavender flower spikes, was particularly hard hit by the drought at all sites. Westlake High's site near Bee Creek in Austin saw a decrease in



we can't judge if her last site experienced an increase or a decrease in plants, but obviously the future of bracted twist flowers at all the other sites is in serious question.



Shannon Holbrook and Jessica Palmer monitor for salamanders.

plants at the study site from 37 in 1998 to only 16 in 1999. Austin High's site on the Barton Creek greenbelt (which has been monitored for three years by Peggy Meyer's students) saw a decrease of from around 47 plants in 1998 to only 18 in 1999. Mary Kennedy's site at Eisenhower Park in San Antonio went from only 2 plants found in 1998 to none found in 1999. Our new monitor, Mary Stiles, had 5 historic sites of bracted twist flower to monitor around the Lake Medina area. At 4 sites, she could not locate any plants, but at 1 site she did find 39. Since we don't have 1998 data for Mary Stiles' sites,

The timing of the rain is very important for these plants. Monitoring takes place the last week in April and first week in May, so this year's results will have to be reported in next year's newsletter. At least we have had some spring rains this year.

For big red sage (*Salvia penstemonoides*), a rare perennial plant with tall, magenta flower spikes, the early August blooming period was helped by the rains of June and July. At their site near Boerne, Mary Kennedy's Texas Military Institute students found a population that was holding its own despite the spring drought, with a slight increase in the number of rosette's found this year compared to last year.

At Stockman's Spring near Ingram, Mary Beth Bauer's AP Environmental Science students had good luck in finding salamanders at a spring that flowed well even during the drought last fall. The students were paired and assigned different areas of the spring habitat to do a

timed search, turning over rocks to look for the small salamanders hiding underneath. Data from this search supported data from last year suggesting that the salamanders prefer the area of the spring that is shallow and full of watercress. Students found 12 salamanders in all and as this newsletter goes to press, they will be monitoring again.

Find out how bracted twist flowers and Texas salamanders weathered the drought of 1999 by reading next year's edition of "The Texas Nature Tracker."



SCIENTISTS VALUE TEXAS HORNED LIZARD WATCH RESULTS

By Lee Ann Linam

TEXAS Horned



Lizard WATCH

This spring Texas Horned Lizard watchers joined the ranks of well-known scientists in Texas as data from the first three years of the project were presented at the leading meeting of wildlife biologists in the state. A presentation entitled "An Update on the Status and Distribution of the Texas Horned Lizard—Some Results of a Successful Citizen Science Program in Texas" was given at the annual meeting of the Texas Chapter of The Wildlife Society.

The presentation offered some highlights from the first 3 years of the project, notably:

- we now have data from 112 counties, nearly half the counties in the state
- we have had a total of 124 volunteers provide data
- we have data from 206 adopted sites or transects
- at 38 sites we have two years of data, while at 16 sites we have three years of data!

Attendees at the meeting were impressed with the findings (listed below) from Texas Horned Lizard Watch.

- Results of the first three years of Texas Horned Lizard Watch validate and refine earlier findings regarding distribution and prevalence—that is, populations are stable in West Texas and parts of South Texas, much reduced in East Texas and the tallgrass prairie areas, and struggling in parts of Central Texas and the Rio Grande Valley.
- Results show that horny toad presence appears to be related to presence of harvester ants and absence of red imported fire ants. On the other hand, Texas Horned Lizard presence appears to be independent of land use, at least based on our data set.
- Our data set is too young at this time to predict trends in Texas Horned Lizard abundance and distribution, but the program is poised to capture meaningful data as changes in habitat variables, including fire ant distribution, continue to occur.
- Finally, our program confirms that Texans love horny toads, and that they can do much as citizen scientists to aid our understanding of this species' status and conservation needs.

Also this year, Texas Horned Lizard Watch data were useful in an effort to provide farmers more opportunities to participate in conservation through the Conservation Reserve Program. More exciting opportunities may be on the horizon. The Texas Agriculture Extension Service Fire Ant Program has approached Texas Horned Lizard Watch about opportunities to learn about experimental approaches to controlling fire ants, enhancing native ants, and, perhaps ultimately, restoring Texas Horned Lizards. Data from our volunteers are impressing many people!

Finally, the Wildlife Society meeting in San Angelo provided the opportunity to highlight the experiences of one local Texas Horned Lizard Watch volunteer. Frank and Marjorie Hoelscher of San Angelo have been providing horned lizard data about their ranch in Pecos and Reeves county for three years. At the meeting in San Angelo Mr. Hoelscher had the opportunity to meet other Texas Horned Lizard researchers and share some of his experiences in transplanting and feeding harvester ant beds as a means of improving habitat for horned lizards.

**THANKS TO ALL OUR WATCHERS!
YOUR KNOWLEDGE, DATA, AND PERSONAL EXPERIENCES ARE ESSENTIAL TO THE CONSERVATION EFFORT FOR TEXAS' FAVORITE REPTILE!**





"We find so many aquatic species when we go to the wetlands.

It's also fun to walk through the water in our black boots."

Miranda Garcia, 6th grade

BOOTS, BUCKETS, AND BIOLOGY:

WETLANDS SCIENCE AT ITS BEST

By Dr. Mary Neid-Phillips

During the spring of 1999, 22 intermediate students in grades 4-6 at Lake Waco Montessori Magnet School of Environmental Studies (part of Waco ISD) participated in their first year of Texas Amphibian Watch, monitoring a vernal pool on private property. I worked with small groups of students, visiting the study site both on school afternoons and during an occasional early Sunday evening. We successfully identified the presence of Blanchard's cricket frogs by their calls. By the end of April, however, the vernal pool had dried up, ending data collection, and raising the question of whether we needed to seek a new study site for the following spring.

This year all three classes of intermediate students at Lake Waco Montessori Magnet School were eager to participate in the amphibian research project, and winter rains in the Waco area triggered a return trip to the original vernal wetland site on February 27th. Much to our surprise and delight, the February rains had resulted in water depths of 12 to 14 inches in the deepest part of the pool. Aquatic plants were growing again,

the pool was declining by an average of two inches per week! More rain was needed, and needed soon, if the vernal pool specimens, especially tadpoles, would be able to complete their life cycles.

The urgency of this conclusion became even more evident when one 4th grade investigator discovered a small mass of tiny frog eggs clinging to a piece of wood in the water sample she was viewing under a microscope in the classroom lab. Excitement filled the room! The students had finally established proof that the frogs were successfully breeding in the shallow waters of the vernal pool.

Our students will continue to learn many critical science lessons as our involvement with Texas Amphibian Watch develops, but students have already realized two very important conditions needed for scientific research as a result of their work this spring: 1) *The importance of establishing a consistent data collection protocol so that site visits occur*

"Once we caught a turtle and a frog, but we put them back because the pond was their habitat."

Steven West

and there was evidence of invertebrate life in the form of small insects and spiders on or in the water.

Since then, we have returned to the wetlands study site on a weekly basis and have refined our research methods by choosing a consistent day and time for each visit. Every Sunday evening at 5:30 PM my students and I head for the site with boots, buckets, and instruments, collecting additional data on each visit, recording it in the research notebook, and bringing back water samples for additional study in the classroom lab.

During our second visit, on March 5th, the students saw four live frogs in clear, shallow water in the drainage ditches the landowner had dug the prior spring to channel water back into the vernal pool. They were able to positively identify them as Blanchard's cricket frogs.

By the week of March 20th, the students re-analyzed their accumulated data after four site visits, and drew an alarming conclusion: the depth of

at similar days and times, and 2) The importance of collecting data over time so that comparisons can be made and trends studied.

The basis of hands-on, minds-on science investigation involves students in questioning, observing, and drawing conclusions about the natural world they live in. By continuing our research into a second year with Texas Amphibian Watch, our students have already observed the change or constancy that occurs in natural systems and have learned how to measure these changes as patterns as well as how to predict what might happen next.

Fortunately for both amphibians and student researchers, it rained a total of 1 1/2 inches the week of March 20th, and the pool depths increased to their earlier March 6th levels, 7 to 12 inches. In addition, the March 26th visit revealed the presence of tiny 1/4-inch tadpoles swimming and feeding throughout the pool, as well as five frogs, all of which appeared to have no malformations.

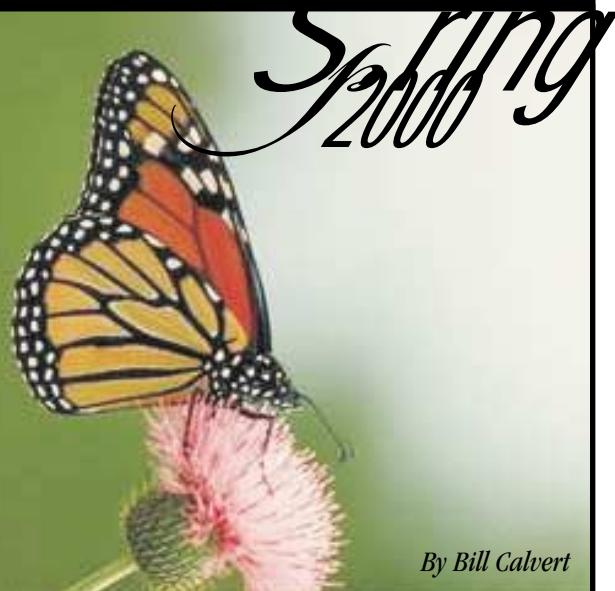
"Going to the wetlands and exploring the waters is my idea of fun. I have learned a lot about environmental health and why wetlands are important. I used to think that wetlands were yucky pools of swimming critters. Now I know that these critters are the best part."

Leandra Lomosad





MONARCH



By Bill Calvert

MIGRATION

The spring migration is not yet over, but reports to the Texas Monarch Hotline and to Journey North, an Internet based educational outreach program (www.learner.org/jnorth), indicate that monarchs arrived in numbers in central Texas sometime during the week of the 19th of March. Prior to that, sporadic reports had come in from a few places, especially from the coastal area or Rio Grande Valley, but they were usually single sighting observations or were sightings of only a few monarchs. A good number of monarchs to see in a single day during the spring migration is anywhere from 5 to 12. More than twelve per day is quite a large number and would probably indicate either an exceptional year or that you had been along the coast.

The coastal area has always been different. We believe that there is a major movement of monarchs along the coast in mid-March. Areas such as Matagorda Island and Sea Rim State Park have reported as many as 30 to 50 or more monarchs moving through per day. One volunteer, Sandy Moore, enjoyed seeing and reporting over 100 monarchs in the coastal bend area on March 19th. These butterflies apparently move rapidly eastward along the coast and populate the Gulf Coastal States.

By the date of this writing, mid-April, the progeny of the monarchs that had pushed through inland Texas in the later weeks of March had reached the fourth and fifth instar (monarch caterpillars go through five molting stages or instars) or had formed chrysalises. In the last half of April, we should see brand new brightly colored monarchs representing the first spring generation, moving generally northward.

You can help us track monarchs through Texas during both the spring and fall migrations by joining Texas Monarch Watch. You may participate at three levels:

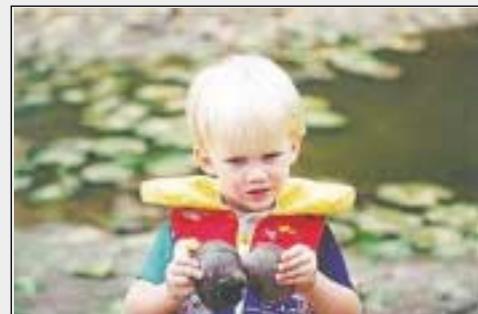
- 1) Report observations as they occur to the Texas Monarch Watch Hotline (800-468-9719). Please give the date and the place of your observation.
- 2) Much more helpful is to keep a calendar of monarch events. Each day during the migration, mark the number of monarchs that you saw and some observations about the weather in the appropriate column on the data sheet that we supply.
- 3) Monitor eggs and larva on local milkweeds, keeping a careful record of what you observed.

At the end of the season, we compile these records. Depending on the numbers of persons reporting and the distribution of the observation locations, this may give us a picture of the migration. We can determine the breadth of the flyways by looking at longitudes and the timing of the migration by looking at latitudes. We send the compiled information back to you in one of our newsletters. For more information about Texas Monarch Watch, call (800) 792-1112, Ext. 7011.

DOWN BY THE BAYOU

By Wendee Holtcamp

My husband and me and our two children often kayak from our home on Luce Bayou out to Lake Houston, and the east fork of the San Jacinto River. When the water level in Lake Houston dropped some ten feet during 1999, we started noticing a lot of shells lying around the shoreline and on the islands that dot the reservoir. With beautiful pearly interiors and a variety of different shell types, we were enthralled. After doing a bit of internet research we discovered they were freshwater mussels. And we discovered Texas Mussel Watch! We were excited to learn that we could go out and do what we were already doing—observing and attempting to identify mussel shells—and at the same time help Texas Parks and Wildlife's efforts to catalog the state's mussel resources. Armed with knowledge gained at a Texas Mussel Watch workshop, we're ready to enjoy both kayaking and mussel monitoring.



Sam finds mussel shells.

Photo by Matt Holtcamp



TMI STUDENTS WIN WITH MONARCH WATCH

By Mary Kennedy, TMI Biology Teacher

Texas Military Institute's TNT team, Kristin Duncan, Mayra Arias, Jenny Saik, Paige Cooper, Dayton Kring, and Andres Roman have participated throughout the past year in Texas Monarch Watch. Guided by teacher, Sandy Moore, mentor, Dr. Bill Calvert, and me, their biology teacher, they collaborated with scientists, teachers, and students from Minnesota and Texas in the University of Minnesota's Monarch Project.

We began in April last year by studying the ecology of the monarch at Welder Wildlife Institute. At Welder, we learned field study techniques from ecologist Dr. Karen Oberhauser. We then monitored milkweed for monarch eggs and larvae from April through October near our campus. In July we traveled to Minnesota for a week of field studies in the summer prairie habitat of the monarch. In October we conducted research projects on migratory populations at Garner State Park. Our eighth grade class met us at Garner for a two day Monarch Camp. We taught them how to measure monarch condition, wing length, mass, check for spores and spermatophores. We also studied the directionality of their flight. For the highlight of our year of study we traveled to the over-wintering colonies in the state of Michoacan, Mexico with Dr. Calvert.

This was an amazing educational experience for us!

Students presented individual and team research projects at the Alamo Regional Science and Engineering Fair and Junior Academy of Science. They also presented at the Texas State Science and Engineering Fair in Austin and at the Texas Junior Academy of Science at A&M University. Finally, they also presented the program for the Bexar Audubon Society.

AWARDS INCLUDE:

Zoology at Alamo Regional Junior Academy of Science:

Mayra Arias—4th place

Paige Cooper—2nd place

Andres Roman—Best in Category

Zoology at Alamo Regional Science and Engineering Fair:

Paige Cooper—Director's Award

Kristin Duncan—2nd place

on to Texas State Science and Engineering Fair

Andres Roman—4th Grand Prize

on to Texas State Science and Engineering Fair

Zoology at the Texas State Science and Engineering Fair:

Andres Roman—Honorable Mention

Zoology at the Texas Junior Academy of Science:

Andres Roman—1st place medal and finalist in Natural Science

*Andres will present his project at the American Association
for the Advancement of Science in San Francisco!*





TWO FOR THE PRAIRIE... GOPHERS AND DAISIES

Coastal prairies are hard to find in Texas, but two species, maritime pocket gophers (*Geomys personatus maritimus*) and Houston daisies (*Machaeranthera aurea*) thrive in that environment. And monitoring data for the pocket gophers have indicated that they prefer the shorter or mowed areas of native prairie grasses.

Diane Hartung and her students from Moody High School have been taking data for 2 of the 3 years this project has been in place at the Corpus Christi State Fish Hatchery. Each year during late February, they meet at the fish hatchery and look for fresh pocket gopher mounds. This gives an indication of which areas of the habitat are being used by the pocket gophers and an index of how many pocket gophers live there.

Does mowing bother pocket gophers? Apparently not because fresh pocket gopher mounds seem to be more numerous in the mowed areas and total numbers of fresh mounds are decreasing in areas that are not being mowed. But with only 2 years of data, future data are needed to shed more light on this question...and provide Moody High School students with both a real science project and a fun field trip.

At the Naval Air Station site, the mowed field that Bernice Speer and Elizabeth Maxim monitor for pocket gophers seems to be good



Students check for fresh pocket gopher mounds.

habitat also. Using a slightly different monitoring approach in which fresh mounds are counted for 2 consecutive days, our monitors found that gopher numbers appear to be on the increase from last year, with a total of 139 fresh mounds on day 2 this year compared to only 40 fresh mounds counted on day 2 last year.

For our Houston daisy volunteers, the question of whether to mow or not to mow, is still up in the air. We have two monitoring sites for Houston daisy, one at Addick's Reservoir on the west side of town monitored by Patricia Julien, and one at North Harris County Community College northwest of Houston monitored by Janice Hartgrove. At the college, Janice is getting support from others at the college to both do the monitoring and to leave the areas where the plant is found unmowed. Monitoring data through the next few years may reveal what the Houston daisy's response is to being left unmowed. Will it increase in the area it covers or decrease? Only time and Janice's important data on this rare coastal prairie plant will tell.

Of course, the Addick's Reservoir site is not mowed. Instead, the Houston daisy populations are found in areas where native prairie grasses are not thick, but the vegetation is sparse. Perhaps this prairie plant can survive in areas of poorer soil or decreased moisture that do not provide habitat for other prairie plants. Because this is the first year that Patricia Julien and other volunteers have monitored this site, we will need future data to check for increases or decreases in the area covered by this plant.

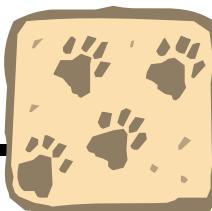


Janice Hartgrove (left) and Ann Miller (right) estimate areal coverage of the Houston daisy.



MAKING TRACKS

Keeping track of TNT programs.



Where to find the latest information.



For folks who love their "horny toads" (Texas Horned Lizards)...we have a challenge for you. Start collecting historic accounts of horny toads from people in your community, the archives of local newspapers, or any other source. We will announce a special essay contest in August, but you have the first notice. Find out: (1) How abundant were horny toads in your community in the past? (2) How has the abundance changed over time? (3) Does anyone living in your area have any interesting observations about the natural history of horny toads? (4) Does anyone have interesting anecdotes about horny toads? Watch for the formal announcement of this contest on our Web site. www.tpwd.state.tx.us/nature/tracker



For more information about Texas Nature Trackers projects or workshops scheduled for Texas Amphibian Watch or Texas Mussel Watch contact Ann Miller:
TPW, Wildlife Diversity, 3000 IH 35 South, Suite 100
Austin, TX 78704
1-800-792-1112, Ex 7011 or 7025
ann.miller@tpwd.state.tx.us

More detailed reports are available for some TNT projects. You can order these reports and additional monitoring materials using the form below. Monitoring Packets can also be downloaded from the internet: www.tpwd.state.tx.us/nature/tracker

- Texas Horned Lizard Watch Monitoring Packet (free)
- Texas Horned Lizard Watch 1999 Annual Report (free)

- Texas Amphibian Watch Monitoring Packet (free)
- Texas Amphibian Watch 1999 Annual Report (free)
- Cassette tape - Guide to the Calls of Frog and Toads of Texas (\$5.00)

- Texas Mussel Watch 1999 Annual Report (free)

- Texas Nature Trackers 1999 Annual Report (free)

Please send the checked items to:

Name _____

Address _____

In addition to Texas Nature Trackers projects, check out these water quality monitoring programs. These programs offer TNT volunteers additional opportunities to contribute important scientific data to help keep aquatic ecosystems healthy.



Texas Watch

For more information contact: Eric Mendelman, Program Coordinator or Jason Pinchback, Program Specialist
Texas Watch
SWT Department of Geography
ELA 375
601 University Drive
San Marcos, Texas 78666
877.506.1401
texas_watch@geo.swt.edu
<http://www.texaswatch.geo.swt.edu>

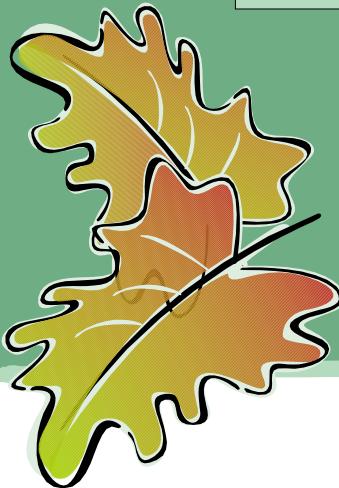


Colorado River Watch Network

For more information call:
Stephen Hubbell
LCRA
Room H219
PO. Box 220
Austin, TX 78767-0220

Spring 2000

TEXAS PARKS AND WILDLIFE



TEXAS NATURE TRACKER



PWD BR W7000-360 (5/00)

WHAT IS TEXAS NATURE TRACKERS!

Texas Nature Trackers (or TNT) is sponsored by the Wildlife Diversity Program of Texas Parks and Wildlife. TPW biologists provide training and/or materials, while TNT volunteers agree to collect data for TPW on an ongoing basis. The goal of TNT is to foster local stewardship and conservation to ensure that species do not become threatened. Participation is strictly voluntary and surveys are conducted only on public property or on the property of willing landowners. TNT is partially supported by a grant from the U.S. Fish and Wildlife Service.

For more information about Texas Nature Trackers contact the Wildlife Diversity Program at 1-800-792-1112 ext. 7011.