

T E X A S

Master Naturalist™



HIGHLAND LAKES CHAPTER



Highland Lakes Steward

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MISSION

The Texas Master Naturalist program is a natural resource-based volunteer training and development program sponsored statewide by Texas AgriLife Extension and the Texas Parks and Wildlife Department.

The mission of the program is to develop a corps of well-informed volunteers who provide education, outreach, and service dedicated to the beneficial management of natural resources and natural areas within their communities for the state of Texas

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PRESENTING THE 2011 HLMN CLASS!

By Mike Childers



Photo by Sue Kersey

Congratulations to the 19 graduates of the 2011 Texas Master Naturalist training class. Class Graduates and Chapter Officers pictured from (l to r) are: Treasurer Jerry Stacy, Asst. Class Coordinator Mike Childers, Class Coordinator Sammye Childers, Graduates Jeffrey Stokes and Betty Cruikshank, President Billy Hutson, Vice-President Fredi Franki, Graduates Cathy Hill, Elaine Barnhill, Jean Schar, Joanne Fischer, Debbie Gallagher, Marcy Wescott, Sam Center, Suze Jernigan, Nancy Ellison, Helen Dillon, Dennis Ellison, Secretary Sherry Bixler. Not pictured were graduates: Charles Bierle, Pam Durst, Candace Henderson, Andrea Roach, Art Schrieber, and Beth Wesley.

Stewardship

An ethic that embodies cooperative planning and management of environmental resources with organizations, communities and others to actively engage in the prevention of loss of habitat and facilitate its recovery in the interest of long-term sustainability

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BEYOND TRIVIA – TAYLOR’S MARVELOUS CURIOSITIES AND FASCINATING FACTS

By John and Rosalie Taylor, submitted by Lyn Davis

- Anteaters and armadillos are close kin. Anteaters visit up to 40 termite mounds an hour when they are hunting. Anteaters not only have no teeth, they also have no jaws. An armadillo, on the other hand, has lots of teeth, but they are all molars.
- The nine-banded armadillo gives birth to four little armadillos, always of the same sex. Armadillos, incidentally, are fond of sun bathing.
- Harrier hawks have been seen to kill one of its three chicks and feed it to the surviving two.
- Cypress is the only conifer that sheds its leaves annually.
- Did you know that mallow weed turns east after sundown to be ready for the morning sun?
- Coyotes mate for life.
- We gave poison ivy to Europe, along with the potato, chocolate, peanut, vanilla, tomatoes, pineapple, lima beans, red and green peppers, tapioca and turkeys!

JUNE MEETING

Fred Franki

When: Wednesday, June 1st from 1 to 3 pm

Where: Kingsland Library

Speaker: Robert Linder will talk about wild turkeys.

Mr. Linder writes a wildlife column for the Highlander and is president of the Texas Wild Turkey Federation. Part of his program will include some turkey calling!

WILDLIFE MOMENT



Turkey In the Childers' Yard - Early April

THE DICKCISSEL (*SPIZA AMERICANUS*) AND RANGE MAPS

Sherry Bixler

Range maps are a vital part of every field guide and are extremely helpful to anyone interested in bird populations, but they cannot be relied upon to tell the whole story: Bird populations may change from year to year and many areas within the depicted range of a species may be devoid of the species because those areas do not meet the birds' food, water, or shelter requirements. More birds will usually be found in the center of the range shown and fewer around the edges. Song sparrows, for instance, are rarely found away from water except for short migratory flights and thus may be absent from much of what is considered their normal range.

Range maps show the dickcissel to be a summer resident throughout the central states including all of Texas except for the far southwestern section of the state. In reality most dickcissels pass through the state to breed further north, and in some years are rarely seen in the hill country. This year there have been several reports from Inks Dam, Pedernales and other nearby sites. Populations have shrunk in many eastern states and the birds almost disappeared from this part of their range in the early 1900's but began to reappear in the 1920's in small numbers.

The finch-sized dickcissel has a yellow front with a black bib; a pattern similar to that of meadowlarks. He can often be found traveling and feeding with other finches or sparrows but can be distinguished by the chest colors or the plain gray head contrasting with the brown back when seen from above. Females and immatures are harder to identify but most have the same gray head, yellow eyestripe and yellow malar stripe of the adult male.



Nests are constructed in grasslands and fields and birds may raise a second brood in a different location from the first one. Mowing machines often destroy nests and/or eggs and young. The birds lay an average of four eggs and are frequent cowbird hosts. While the diet of most finch-type birds is primarily seed, the dickcissel eats about 70 per cent insects (usually grasshoppers) and 30 per cent seed - the birds are frequent feeder visitors when feeders are present.

Dickcissels may form large roosting groups and also small to large flocks when on their winter grounds in Mexico and northern South America. One of the birds that identifies itself by singing its name, the dickcissel also makes an electric buzzer sound. Both sounds are easily identifiable and when on their breeding grounds, dickcissels may be singing from every tree. We always hope for a year when fair numbers of this plump, colorful cardinal-family bird visit our area.

EXPLORING RIPARIAN MYTHS: #4 - CUT BANKS ARE BAD

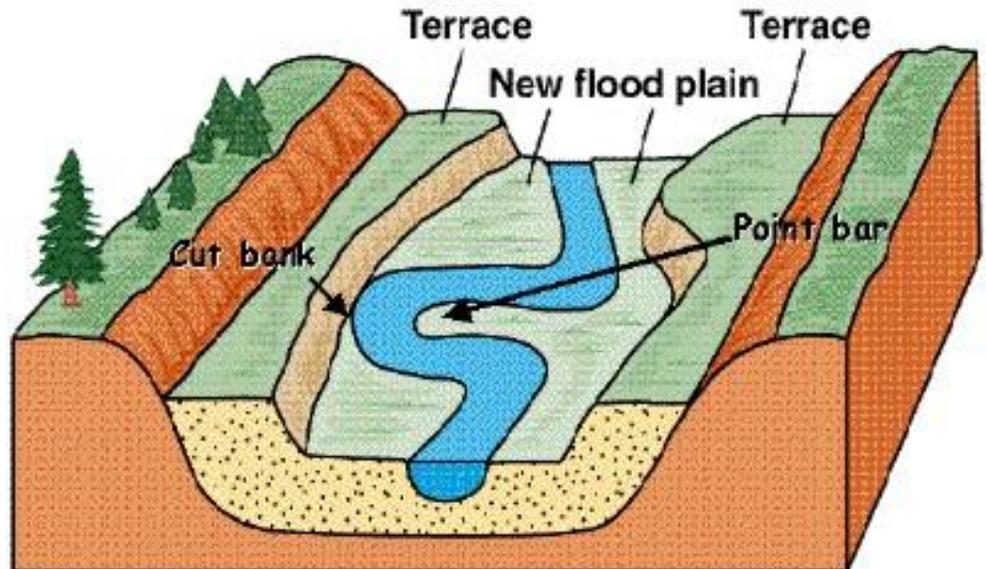
Sammye Childers

A cut bank can be a natural feature of a healthy stream and they are regularly found along mature or meandering streams. They are located on the outside bend of a meander and are shaped like a small cliff. The inside bend of the meander is called the point bar where the soil eroded from the cut bank is deposited. Meandering streams represent the equilibrium between the friction of swift moving water and inertia when waters are slowed. When a stream has more energy than it can dissipate, it will carve meanders to reduce its gradient and stream power. In any meander, there will be a cut bank

and a point bar. "If the material eroded from cut bands is being trapped downstream and being stabilized by vegetation, and if the dimension, pattern and profile of the channel remains stable, then the cut banks would be considered to be natural and helping to maintain balance." (Steve Nelle, NRCS)

The forming of new cut banks and the deposition of new sediment on point bars is necessary for the continued health of any stream and the surrounding floodplain. Over time, eroding cut banks and deposition on point bars can help maintain a wide and healthy floodplain. Floodplains are beneficial for wildlife by creating a variety of habitats and are important because of storage and conveyance of water, protection of water quality and for storage of ground water.

The importance of maintaining natural floodplains is not hard to understand and humans have always been attracted to them because of their natural attributes. This development and industrialization of floodplains has taken a toll on their natural functions. Development in floodplains causes loss of water quality, loss of wildlife habitats and an increase in the severity and frequency of flood losses. Understanding the importance of natural functions in floodplains can lead to better management practices to protect their natural and beneficial functions.



The temptation is to "fix" all erosion problems and in upland areas that is usually the right instinct. But, in the case of rivers and streams, it is normally best to allow them to fix themselves through the natural processes. Any "fix" to a stream channel is very risky, extremely expensive if done properly (according to Steve Nelle, \$500 to \$1000 per foot) and they often lead to other problems.

To determine if cut banks are out of balance consider some of the following red flags:

1. Is the erosion on the cut bank and the sediment deposition on the point bar out of balance?
2. Is the channel widening due to excessive erosion of the cut banks?
3. Are cut banks present on straight segments of the channel?

Is there downcutting? When cut banks result in downcutting, that is a bad situation.

Any of these situations might require intervention but keep in mind that in most cases the best solution is to step back and let the stream heal itself.

Article reviewed by Steve Nelle. Texas NRCS Biologist

PHOTO GALLERY



Great Blue Heron nest in Highland Haven
Photo by Sue Kersey



Cottonmouth in Inks Lake

Photo by Sue Kersey



Roadrunner in Jerry Stone's Backyard



Indigo Bunting at the Trails of Horseshoe Bay, April 21
Photo by Jerry Stone



Summer Tanager, Trails of Horseshoe Bay, May 1.
Photo by Jerry Stone

EARTHWORM FACTS

Phil Wyde

As some of you know, I spend many Friday evenings helping with the Fishing with a Ranger Program at Inks Lake State Park. The most fun is when we catch fish. Unfortunately, that does not always happen. You would think that anything short of catching fish would be a disastrous, disappointing experience for the children participating in the Fishing with a Ranger Program. However (happily), the kids (both girls and boys) are often satisfied with learning to cast – and often with seeing and playing with the bait, i.e., earthworms. This prompted me to think



about what I knew and didn't know about earthworms. I would like to share some of things that I already knew, and some of what I found out, about these important, fascinating creatures.

First, earthworms are often called night crawlers. I am not positive how they got this moniker, but based on my experience I would guess that it is because they seem to spend most of the day light hours below ground and crawl on the surface of the ground mostly at night. In fact, when I was young, my friend and I used to catch night crawlers for bait at night. Of course we could have dug them up during the day, but catching them at night with a flashlight was much more fun. What we did was go out after sunset following a good rain, or after a heavy watering of the lawn. It turns out that when the ground is water-saturated the worms go to the surface to "hang out" in large numbers. And I do mean hang out. They keep one end of their bodies in their tunnel. We would crawl around on our hands and knees with a lit flash light. As some of you know a normal flash light emits light in two phases: quite bright in the center and less

bright along the edges. If the bright light hit the earthworm, it would immediately shoot back down its tunnel. However, the less bright light did not usually cause this to happen. (Being Master Naturalists you have obviously figured out that without a flash light you cannot see worms well in the dark.) Now you may not think that catching earthworms is a challenge. However, you need very fast hands to catch them. They can get back down their holes VERY QUICKLY. It shouldn't surprise you, but I was very fast and good at catching them.

Did you know that earthworms are not indigenous to the United States? They are indigenous to Europe and came to the United States with the early European colonists. Can you imagine what those first worms thought – a whole continent to colonize! Also imagine what the first birds and fish thought when they encountered these new creatures. Regardless, they are now common throughout the United States and western Asia. Indeed, rich soil can contain more than 1,000,000 earthworms per acre. (Of course that is not true in much of Burnet County.)

Other earthworm facts: Typically earthworms grow only a few inches in length, although some members of this species reach 14 inches. Earthworm bodies are made up of ring-like segments called annuli. These segments are covered with small bristles called setae. These help the worm move and burrow. Earthworms normally stay close to the surface. However they can dig as deep as 6.5 feet.

The first segment of an earthworm contains its mouth. Worms consume soil, extracting nutrients from decomposing organic matter in the soil (e.g., leaves and roots). The worm's eating/excreting process promotes the health of the soil by transporting nutrients and minerals from below to the surface of the ground. The tunnels created by the worms help aerate the ground. The castings (the solid material excreted by the worms) and secretions of earthworms contain nitrogen, an important nutrient for plants. The secretions also help to hold clusters of soil particle together. These formations are called aggregates.

Earthworms are hermaphroditic. (Billy, that means they are both male and female.) However they do not self-fertilize. They mate on the surface (it would be tough in a burrow. Also they need the moon to set the mood.) I am sure that you want to know how they mate. Worms mate by joining their clitella (swollen area near the head of a mature worm) and exchange sperm. Following mating, each worm forms a tiny, lemon-shaped (rice-sized) cocoon out of a liquid secreted from its clitellum. The sperm and egg cells are deposited inside the cocoon, and it is buried. After a two- to four-week gestation period, the baby worms emerge.

Earthworms are a source of food for numerous animals, e.g., birds, rats, and toads, and as you all know are frequently used in residential composting and as bait

in commercial and recreational fishing.

An earthworm does not have eyes. However, as suggested by the fact that they react to light from a flashlight, they do have light sensitivity, especially at their anterior (front) ends.

I am sure that you want to know what happens when you cut a worm in half. Most of the organs of an earthworm are in the top ½ (the end with the clitella. When a worm is cut in half, it can generate a new tail. However, the other end CANNOT generate a new head. So you end up with only one worm.

Other interesting earthworm facts: Worms are cold-blooded animals. If a worm's skin dries out, it will die. Earthworms belong to the Kingdom: Animalia, Phylum Annelida: the "segmented worms" (in Latin, "annellus" means small ring), Class: Clitellata (worms having a clitellum), Subclass: Oligochaeta (meaning "few bristles").

I hope that I have not bored you. I really only wanted to get you as interested in the "lowly" earthworm as the children that participate in the Inks Lake State Park Fishing with the Ranger Program. Just think how smart your grandchildren will think you are when you tell them about night crawlers. And I promise you, they will be awed if you take them night crawler hunting.

One last thought. While writing this article it occurred to me that the earthworm is an example of an invasive animal that does not deserve to be driven out. Of course I do not know if the earthworm pushed out some native animal that fulfilled the niche of earthworms prior to the latter's arrival to the New World?

Sources:

www.nationalgeographic.com,
<http://urbanext.illinois.edu/worms/facts/index.html>
<http://www.enchantedlearning.com/subjects>

DENNY RANCH 2 SPOTLIGHT

Deborah Douglas, M.D.
Photos by Thomas Fisher, M.D



(c) Thomas D. Fisher, M.D. 2011

Recent Arrival: a male Painted Bunting doing his impression of a great blue heron.



(c) Thomas D. Fisher, M.D. 2011

A female House Sparrow with slightly unusual, all-black greater covert feathers.



(c) Thomas D. Fisher, M.D. 2011

Just passing through: a Nashville Warbler

TOLSTOY IN THE BACKYARD By Betsy Bouchard

Serious observers of nature, ones who stick to it over years, tend to become writers. The scribbling habit probably starts with dates: the first warbler or the earliest bluebonnet showing color in the grass. You mark these premieres first in the Audubon Society gift calendar, but then later transfer them to a notebook when you add first sightings for hummers, then buntings, then every avian that shows up at the feeder as you identify it. You also begin a list of the new plants added to your garden, with some notes on their needs and a guess at why the previous ones died. You reread last year's notes, and notice that the chipping sparrows did not show up this winter, only the sassy white-crested ones. You make a note of that. The lists expand to include speculation on causes of other garden mysteries, to include future remedies and, now, some feelings about the losses and triumphs.

Inscribed in their own notebook, season after season, the lists have morphed into histories that track slow changes in the garden or along the creek or in the pastures. Look at Aldo Leopold's *Sand County Almanac*. When he and his family first took their weekends to repair a worn-out piece of farmland in Wisconsin, you know the book started with notes scratched on the back of one of his student's blue books. Ro Wauer's *For All Seasons. A Big Bend Journal* began as lists of birds and plants he sighted as he hiked the desert park where he was a biologist. Wauer's official residence at Big Bend lasted only 8 years, but his journal spans the 30 years he observed it. He gives us not merely snapshots, but a dynamic portrait of a changing land.

Which gets us to Tolstoy. . . Louis Menand, in the *New Yorker*, writes that "history the way Tolstoy imagined it [was] a great, slow-moving weather system in which even tsars or generals are just leaves before the storm." Naturalists are intuitively Tolstoyan, epic thinkers. We have learned to see strata of rocks millions of years old and evidence of seas in the hills we stand on. We find remnants along dry streambeds of ancient



human crafts, long since vanished. Events unfold--arrivals and departures of plants, animals, and civilizations--that have very little to do with our individual efforts, however strategic or well intentioned. Yet we try. Take those friendly barn swallows: they return every spring to nest under the eaves of your porch and are like family. Then one morning you walk out and the babies are tiny corpses on the ground. You grieve with the distraught parents. You speculate. You clear out the nest; maybe it was defective. Then you write in your journal. You write about the sadness, but you also observe that the swallows have not left. Last year you noted that they raised several families. Is this pair the same birds that parented those babies, or the babies themselves?

Like Tolstoy's famously long novel, *War and Peace*, the backyard journal gets thicker with observation and questions that can't be answered in one season, if at all. This year's blustery, dry seasons are a world apart from last year's cool, rainy winter and spring. This you know. You pasted in a picture of the live oak in the snow. You wrote down the monthly rainfall so you know exactly the difference in moisture. You know that the grasses you identified last year and the abundant burs are not here this spring. Hmmm. The naturalist wonders and looks for patterns. The journalist writes.

SIX PACK #1: FOUR BIG BEES TO RECOGNIZE (AND TWO EXTRAS) Kim Bacon



Carpenter Bee *Xylocopa sp.*

Look for: Big, with shiny, black abdomen w/o much hair.



Bumblebee *Bombus sp.*

Look for: Big, with black and yellow abdomen with a lot of hair.



Carpenter Bee *Xylocopa sp.*

Look for: Big, with shiny, black abdomen w/o much hair (even though the thorax has a lot of hair).



Carpenter Bee *Xylocopa tabaniformis parkinsoniae*

Look for: Big, has a black, shiny abdomen with a few thin yellow stripes of hair



Honeybee *Apis mellifera*

Look for: Smaller than a carpenter bee or bumblebee. Has yellow abdomen, with black stripes, not furry-looking.



Hummingbird Clear Wing Moth *Hemaris sp.*

Look for: Big, with thicker antennae than a bee, real furry, big clear wings, seems to hover. May look like a bumblebee or a hummingbird at first.

MUNICIPAL WATER CONSERVATION CHALLENGES Ray Buchanan

The demand for water in Texas will increase from 18.3 millions of acre-feet (water that would fill one acre of space to a one foot level) in 2010 to 21.6 millions of acre-feet by 2060. Because the population in Texas is predicted to double in that 50 year period, this estimate probably falls on the low side. But the opposite prediction seems true for supply: a decrease from 17.9 millions of acre-feet in 2010 to 14.6 millions of acre-feet in 2060, which is a predicted gap of some 7 millions of acre-feet.

Who will supply the greatest pressure in demanding water from these declining supplies? The answer seems obvious when you think about it: municipalities! Again, by 2060 the demand by agricultural irrigation users is predicted to decline dramatically and the demand by industrial and steam-electric generation users will rise slowly and insignificantly. Rather, it is municipalities that figure highest in increased demand: from 3.7 millions of acre-feet in 2010 to 8.8 millions of acre-feet by 2060. This is a startling increase of almost 2 ½ times the 2010 amount.

And when one realizes that some 30-60% of urban water use is directed toward landscape irrigation for both private homes and business property – up to 58% in Texas – the issue becomes much more serious (American Water Works Association Research Foundation 1999 figures). Even more serious is the realization that the city has little direct control over such water usage. But beyond that, it is a widely recognized fact that households and businesses do not consciously manage their irrigation water use either! So, we face an uncontrolled water crisis where the city has the most significant supervisory position, but little direct authority except to raise water rates (not a very satisfactory option) or find more water and build more facilities (not a very propitious option either). What can the city do?

Some significant answers to this dilemma were provided at a recent conference in Cedar Park: “Central Texas Water Conservation Symposium – The Business Case for Water Conservation”, at-



tended by over 100 city officials and water engineers from our Central Texas area. Speaker after speaker – from TCEQ; San Antonio Water System; the Alliance for Water Efficiency; the Texas Water Foundation; and representatives from municipal water system offices in Austin, Round Rock, Cedar Park, and San Marcos – all emphasized that cities must take the initiative with vigorous programs to deflect the current trends in uncontrolled water consumption.

First, the trends turn out to be much worse than anticipated. For example, one-half of the homes that will exist in 2030 have not yet been built (Alliance for Water Efficiency). And studies are showing that new homes will be using up to 60% more water than their exist-

ing counterparts. What is the main cause for such a dramatic upsurge in water use? Yes, it is mostly lawn and garden irrigation. And most of these new homes are predicted to appear in the so-called ‘dry’ states (such as, of course, Texas). Green lawns, water ponds, fountains, the sound of flowing water – who can be “modern” without these amenities? And the local POA insists on it!! But, on the other hand, “It makes little sense to procure, treat, and deliver high-quality drinking water to customers across a city only to have it evaporate immediately or disappear down a storm drain once we apply it inefficiently to our outdoor landscapes” (from “Sprayed Away: Seven Ways to Reduce Texas’ Outdoor Water Use” a publication of the National Wildlife Federation and the Lone Star Chapter of the Sierra Club).

The main thrust of the conference in responding to such dire predictions (and to the existing and equally dire budget shortages experienced by all cities) - conservation makes economic sense because it lowers costs to municipalities, even in long-term growth scenarios. Investment in conservation measures now precludes huge expenses later. The approach is: “conservation needs to be viewed and evaluated as a source of water supply” (SAWS presenter). What this means is that: “every gallon saved [by carefully planned conservation measures] is water that does

not have to be pumped and treated and delivered to the customer”, which is an overall cost reducer for cities (Alliance for Water Efficiency).

Costs at each stage involved in providing municipal water – the procurement from groundwater or surface water sources, pumping to city facilities, purification treatment, the delivery system to users across the city, and waste water treatment – can be reduced and/or replacement costs mitigated by water conservation. The most eloquent figures for the economic savings from conservation were presented by Doug Evanson of SAWS. For example, between 1984 and 2009 the San Antonio service area experienced a 67% increase in customers while paying for the costs of 0% more water. During that time period “SAWS conservation efforts have resulted in a reduction in annual usage of approximately 39.5 billion gallons or 121,297 acre feet” of water (Evanson, “The Business Case for Water Conservation and Its Impact on Rates”). As a result the water supply savings, as compared with alternative methods of supply, was estimated to be around \$3.3 billion and wastewater treatment savings at around \$1.1 billion. In addition SAWS rate increases were kept to a minimum and the elimination of budget “draws on equity” (not spending resources designated for capital improvement/replacement needs) helped increase senior lien bond ratings for the city.

So, what can cities do to conserve water and reap such benefits? Most city representatives talked about irrigation system evaluations, rebates for water saving

irrigation upgrades, recommended watering schedules, educational initiatives about water conservation in schools and in the general community, as well <http://conta.cc/jCP5dx?ref=nfas> rebates for water efficient indoor fixtures. Some have tried city ordinances imposing water conservation measures on carwash establishments, requiring more efficient cooling towers, and recycling mechanisms at dining facilities and at new on-premise laundries. Forming community partnerships and sponsoring community events as well as door-to-door campaigns have been popular, particularly in smaller, economically strapped towns.

The Texas AgriLife Extension services’ “Texas Urban Landscape Guide” - focused around its Earth Kind: Environmental Stewardship Program - discusses seven basic principles which an individual can do to promote significant water savings: landscape planning and design, procuring an accurate soil analysis, incorporating practical turf areas, making appropriate plant selections, practicing efficient irrigation, using mulches, and carrying out appropriate maintenance – see Earth-Kind.tamu.edu. We can do our part and at the same time encourage the community to do its part – in Texas it is a mandate for us all!



HERBERTIA (*HERBERTIA LAHUE*)

Iris family — Iridaceae

Also known as:

Prairie Nymph, Celestial

Prairie nymph is a diminutive and ephemeral relative of the iris which can be found growing in many Southern lawns. It varies in color from blue to lavender. It occurs all throughout the coastal prairie of Texas and Louisiana as well as a few other places along the Gulf Coast. The flowers last only one day and barely stand above cut grass and if they never appeared, you would never know the plant was there. I found this one in my front yard. They don't last long and the deer love them.



Jerry Stone

VOLUNTEER OPPORTUNITIES AND AT/EVENTS CALENDAR

Mike Childers

MAY EVENTS & VOLUNTEER OPPORTUNITIES		JUNE EVENTS & VOLUNTEER OPPORTUNITIES	
The Hatchery Outdoor Program	16th, 19th	Wild Turkeys - Robert Linder	1st
Inks Dam National Fish Hatchery	9:30am - Noon	HLMN Meeting - Kingsland Library	1-3pm
Moonlight Paddles	17th	Fishing with Ranger	3rd
Inks Lake State Park	7:30-9:30pm	Inks Lake State Park	6-7pm
Owl Prowl	18th	Sunset Jaunt on the Electric Boat	3rd
Inks Lake State Park	7-8:30pm	Inks Lakes State Park	7-8:30pm
The Hatchery Outdoor Program	19th	Geology Rocks	4th
Inks Dam National Fish Hatchery	9:30am - Noon	Inks Lake State Park	9-11am
Fishing with a Ranger	20th	Electric Boat Jaunt	4th
Inks Lake State Park	6-7pm	Inks Lake State Park	10-11am
Sunset Jaunt on the Electric Boat	20th	Amphitheater Program	4th
Inks Lakes State Park	7-8:30pm	Inks Lake State Park	8-9pm
Onion Creek Clearing with Boy Scouts (WQPL)	21st	Adult Kayak Basics	8th
Balcones Canyonlands Preserve - Austin Wildland Conservation Div	8am-1pm	Inks Lake State Park	10am-Noon
Texas Outdoor Family	21st-22nd	Canoe Basics for the Family	9th
Inks Lakes State Park		Ink Lake State Park	10-12pm
Geology Rocks	21st	Kids Kayak Basics	10th
Inks Lake State Park	10am-12pm	Inks Lake State Park	10am-Noon
Electric Boat Jaunt	22nd	Sunset Jaunt on the Electric Boat	10th
Inks Lake State Park	12-1pm	Inks Lakes State Park	7-8:30pm
Climate Change, Biodiversity and Texas, Dr. Wendy Gordon TPWD	21st	Geology Rocks	11th
NPSOT Meeting - Marble Falls Library	1-3pm	Inks Lake State Park	9-11am
Amphitheater Programs	21st	Amphitheater Program	11th
Inks Lake State Park	8-9pm	Inks Lake State Park	8-9pm
2011 Intnt'l Urban Wildlife Mgmt/Plan Conf	22nd-25th	Birding Cow Creek Rd. by Bike	12th
Austin, TX www.urbanwildlife2011.org		Cow Creek Road - Friends of Balcones Canyonlands NWR	6:30am-12:30pm
Going Buggy Program	24th	Owl Prowl	14th
Balcones Canyonlands NWR friendsofbalcones.org	9am-2pm	Inks Lake State Park	8-9:30pm
Fishing with a Ranger	27th	Moonlight Paddle	15th
Inks Lake State Park	6-7pm	Inks Lake State Park	7:30-9:30
Sunset Jaunt on the Electric Boat	27th	HLMN Field Trip - Jacob's Well	17th
Inks Lakes State Park	7-8:30pm	Wimberley, TX	10am-4pm
Geology Rocks	28th	Sunset Jaunt on the Electric Boat	17th
Inks Lake State Park	10am-12pm	Inks Lakes State Park	7-8:30pm
Hike the Hill Country	28th	Geology Rocks	18th
Inks Lakes State Park	1-4pm	Inks Lake State Park	9-11am
Amphitheater Program	28th	Amphitheater Program	18th
Inks Lake State Park	8-9pm	Inks Lake State Park	8-9pm
Memorial Family Day Fun	29th	Fishing with Dad	19th
Inks Lakes State Park	11am-1pm	Inks Lake State Park	9:30-11:30am
Sunset Jaunt on the Electric Boat	29th	Electric Boat Jaunt	22nd
Inks Lakes State Park	7-8:30pm	Inks Lakes State Park	10-11am
Electric Boat Jaunt	30th	Texas Stream Team Educator Workshop	23rd
Inks Lakes State Park	12-1pm	Lake Waco Wetlands, China Spring, TX - CRASR sponsored	9am-3pm
FUTURE EVENTS & VOLUNTEER OPPORTUNITIES		Electric Boat Jaunt	23rd
Continuing Activities and Volunteer Opportunities	July thru Aug	Inks Lakes State Park	10-11am
Ink Lake State Park		Project WET Workshop	24th
August Refuge Talk Instead of Walk w/Diane Sherrill	Aug 14	Baylor Univ-Center for Reservoir & Aquatic Systems Research(CRASR	9am-3pm
Balcones Canyonlands National Wildlife Refuge	8:30am	Geology Rocks	25th
Native Plant Society of Texas Symposium	Oct 14-16	Inks Lake State Park	9-11am
Houston, TX		Kids Kayak Basics	25th
Native Plant Garden Tour	Oct 15	Inks Lake State Park	10am-Noon
Burnet County		Amphitheater Program	25th
Texas Master Naturalist State Conference	Oct 21-23	Inks Lake State Park	8-9pm
Mo Ranch, Hunt TX			
Big Bend State Park Field Trip	Oct 30-Nov 4		
Big Bend State Park			

Please submit pictures, articles, reports, stories, calendar and event entries, etc. to chili865@gmail.com. Photos should have captions and appropriate credits. The deadline for submissions to each months newsletter is the 10th of the month and publication will be by the 15th.