



HIGHLAND LAKES CHAPTER



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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SCISSOR-TAILED FLYCATCHER (TYRANNUS FORFICATUS) Sherry Bixler

Lucky Texans can find the Scissor-tailed flycatcher almost state-wide – its limited range includes most of Texas and Oklahoma, part of Kansas and small populations along the borders of these states.

These beautiful, exotic birds look as if they should be found only in the tropics and they do winter in Mexico and Central America. Their pearl gray, white and peach coloring and the long, split tail give them a truly unique appearance.

Scissor-tailed flycatchers are 13 inches long but the tail is two-thirds of that length. No other North American songbird is as long-tailed.

Though they are grouped with the flycatchers, they once had their own genus, MUSCIVORA FORFICATUS. With modern DNA testing, they have been reclassified and are now considered part of the TYRANNUS genus, which includes the seven species of kingbirds found in North America. Indeed they sound and behave like kingbirds. Note that official bird names have been changed from time to time, due to better DNA tests and to the effort to coordinate bird names around the world. Both common names and Latin names can change, making bird identification just that much more challenging.

Scissor-tails, as they are commonly known, prefer open country with scattered trees. The male scissor-tail performs dramatic up-and-down and zigzag courtship



© Bill Horn

flights and sometimes ends with a reverse somersault. Both male and female birds are quite spirited when defending their territory against crows, hawks and other intruders.

Only one brood is produced each year, with three to five eggs which hatch in about two weeks and fledge in another two weeks. Scissor-tails are infrequent cowbird hosts.

At times they may roost communally, with up to 250 birds in one location, especially prior to fall migration. They are economically beneficial since their diet is primarily harmful and non-useful insects like grasshoppers, crickets and beetles. They catch insects by aerial hawking and by plucking them from foliage. They also consume small quantities of berries.

The Scissor-tailed Flycatcher was named the state bird of Oklahoma in 1951; my mother was president of the Tulsa Garden Club Council and one of the committee appointed to choose the state bird.

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BUFFALO OR BISON

Billy Hutson

Home on the range where the buffalo roam, Aaaarrggghhh, well maybe in Asia or Africa but not in North America where a Buffalo nickel used to be worth 5 cents. The N. American settlers likened what they saw to the Asian Water Buffalo and/or the African Cape Buffalo and thus became the misnomer.

Now you can call it vernacular, or better yet colloquial vernacularism but if you refer to the American Bison as a Buffalo you will be among the uneducated in the world of nature enthusiasts that still call a Vulture a Buzzard (in N .A.) or an Ash Juniper a Cedar.

I mean- if we're going to push Latin names aside for colloquial then lets at least get the colloquial correct. By the way - the Latin name is "Bison bi-

son", not too hard to remember! There are actually two sub species, one is the plains bison or "Bison bison bison" and the woods bison or Bison bison athabasca"

When our European ancestors came here they soon discovered a treasure that kept Amerindians alive in the long cold winters of the N. American continent from the East Coast to the Rockies and Canada to the Mexican border. The American Bison was the subsidy of prehistoric N. A. man as the source of food, clothing, shelter, and sewing goods (sinew).



Well, then "Along came Jones" and Smith and other Europeans that wanted meat and sport. And as the S.A. peoples decimated their source of leather supply to the world by extirpating their indigenous ruminant, the leather supplier for N. A. and Europe became the N. A. Bison. Hundreds of millions (that's right I said millions) of Bison were slaughtered just for their hides and the rest was left for the vultures.

There used to be an estimated 600 million and in 1893 they were down to approx. 300. Now we are up to approx. 150 thousand, mostly in commercial ranches. Don't try raising them though as they eat fences for lunch.

Talk about lunch, a bison burger is very tasty and the lowest in cholesterol, calories and saturated fat and the highest in protein of any other meat.

And isn't that the trend now- well at least until next months medical announcements!

And speaking about next month, maybe I'll have a few glasses of wine again and write about some other trivial fact of nature.

RIPARIAN HYDROLOGY

Precipitation is the source of all fresh water and it follows many paths:

- It may run off into streams, rivers or lakes
- It may seep into interacting groundwater flow systems
- It may evaporate
- It may be taken up and transpired by plants.

As rain or snow falls or snow and ice melts, the water will flow either across the land as runoff or will seep into the ground to become groundwater. Leaves and other plant residues on the soil surface serve as a water catchment system. Runoff occurs when rain falls or snow melts faster than the soil can absorb it. Pores, created by vegetation (living or dead) and roots (living or dead) and animal scratchings or borrows, help water seep into the soil. When soil is saturated the excess infiltration moves slowly down to the watertable. Once it reaches the watertable it is called groundwater. Groundwater is the portion of the Earth's water cycle that flows underground.

Most groundwater is in constant movement, pulled by gravity through the soil and porous rock structure. It continues to move both downward and laterally through the subsurface where it eventually discharges through springs or seeps into streams, rivers, lakes, and finally the sea. Riparian area hydrology is influenced by local geographic topology, soils, and the characteristics of the surrounding watershed. Hence, some groundwater flows through certain areas and some groundwater may be stored. Most rock or soil near the earth's surface is composed of solids and voids. The voids

can be as minute as spaces between grains of sand or as large as cracks or fissures in dense rock. All water beneath land occurs within these voids.

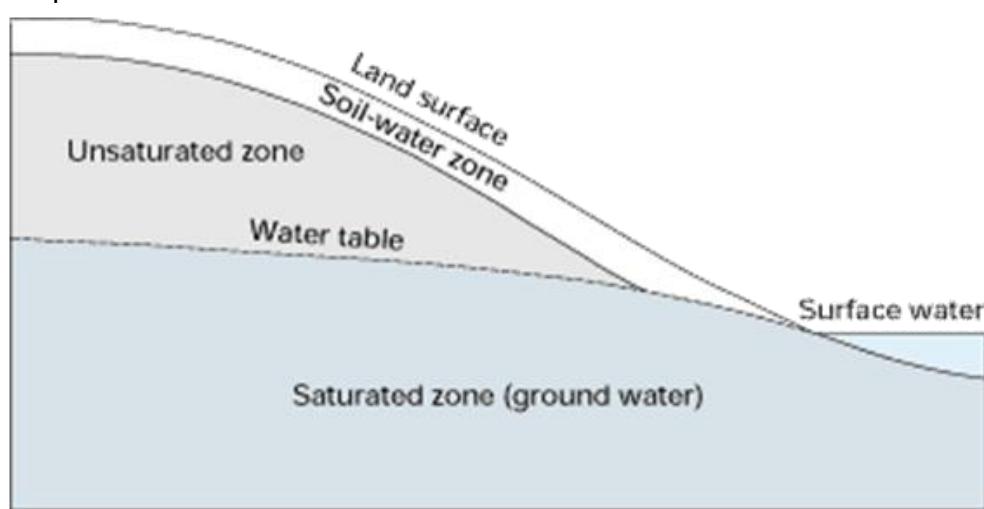
The watertable separates the saturated zone from the unsaturated zone. Water in the saturated zone moves primarily along horizontal gradients, from higher to lower elevations. Shallow groundwater flow intercepts the land surface, feeding springs and seeping back to surface waters as the baseflow of streams, rivers and other bodies of water. Deep groundwater flow does not intercept the surface, flowing directly to the sea.

In nature, surface water and groundwater are inextricably connected. They are part of the hydrologic cycle but differ in two important ways:

- Surface water is renewable usually within days or weeks while groundwater is not easily renewable. It sometimes requires decades or centuries for ground water to renew. The average time for the renewal of deep groundwater is 1400 years.
- Fresh surface water is scarce while large volumes of fresh groundwater are known to exist below the surface.

Understanding interactions between groundwater and surface water is essential because linkages and feedbacks between the two systems affect both the quality and quantity of fresh water available to meet human and ecosystem needs. The hydrologic system is complex, from the climate system that drives it, to the earth materials that the water flows across and through, to the modifications placed on

(Continued on page 4)



the cycle by human needs and activities.

Riparian zones are particularly sensitive to changes in the availability and quality of groundwater and surface water because their ecosystem is dependent on both sources of water. It is becoming increasingly clear that close linkages occur between the depth of the watertable and the nature of the riparian ecosystem. It is essential that we protect riparian zones so that as much fresh water as possible can be collected and stored in the landscape. Although the actual volume of fresh water on the

Earth remains constant, the availability of fresh water varies greatly.

The watertable and the shallow groundwater determine the baseflow of any given stream or river.

The baseflow of the stream contributes to the health of the riparian ecosystem.

The riparian ecosystem contributes to the health of the landscape and the quality and quantity of fresh water that is available.

“Eventually, all things merge into one, and a river runs through it.” (Maclean)

DENNY RANCH 2 SPOTLIGHT

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

This Pearl Milkweed Vine (*Matelea reticulata*), with its heart-shaped leaves and prickly seed pods, was found unobtrusively growing among other shrubs beside the creek at Denney Ranch 2. The silver, pearl-like structure in the middle of the flower is called a gynostegium (or gynostemium) and is composed of the fused parts of the stamens and pistil. Like other milkweeds, this plant is host to Queen and Monarch butterflies.



JUNE GEOLOGY FIELD TRIP

Sherry Bixler and Ray Buchanan
Photos by Marvin Bloomquist



Jack Morelock (center—blue sweater) on the Bloomquist Ranch Road

On June 19, Jack Morelock, a geologist in our Chapter, led a group of HLMN members on a very interesting geology field trip to areas near Inks Dam and Lake Buchanan. This area contains examples of geological formations starting from 2 billion years ago up to 500 million years ago.. Before the field portion of the study began, he reviewed the extensive on-line information he had provided as homework.

We learned that the oldest formations, now associated with the Llano Uplift, began to be formed almost 2 billion years ago when sediments collected in a shallow sea. A tectonic collision more than a billion years ago created a new mountain range and produced magma to form granite domes called batholiths. This is the source of much of the granite outcroppings we see today. The pressure on the sediments also created gneiss formations of metamorphic rock that look much like granite.

Following the deposits of limestone from succeeding shallow seas (much in evidence in this area), the next major change took place, beginning about 500 million years ago, when erosion slowly leveled the mountains and layers of sandstone were deposited. However, uneven erosion also resulted in

some preCambrian (the oldest - 470 to 4500 million years ago) rock remaining standing and visible today above the sandstone deposits. These examples demonstrate that rocks and minerals form in response to earth's processes, both internal and external.

Learning some new terms helped create a basis for our process of discovery and identification



Fault line on Bloomquist ranch with granite on one side and sandstone on the other

while on the trip. For example, the three basic types of rock are:

- Igneous (cooled magma)
- Sedimentary (weathered igneous rock redeposited and subjected to pressure or settlement)
- Metamorphic (igneous or sedimentary rock that has been subjected to heat and/or pressure).

The limestone we see so often in this area is sedimentary rock, as is sandstone. Gneiss, on the other hand, (harder to identify) is metamorphic rock and closely related to schist – thin layers of rock that often surrounds the emerging granite batholiths.. Marble is also metamorphic. Granite is igneous rock and can contain crystals of feldspar, quartz and mica.



Gneiss outcropping at Inks Lake State Park



Green layers of glauconite-rich marine limestone with white streaks - Buchanan Like, Hwy 2341.



Layered sandstone - Buchanan Like, Hwy 2341



Red hematite-rich Hickory Sandstone with broken bands showing fault lines caused by tectonic shifts - Buchanan Lake, Hwy 2341

The field trip portion of the trip began at the Bloomquist Ranch where we saw a fracture with granite on one side and limestone on the other.

Then we stopped at Backbone Ridge to observe outcroppings or ridges containing the major rock formations Jack had described: gneiss, granite, limestone and sandstone.

On the east side of Lake Buchanan Jack showed us green layers of glauconite-rich marine sandstone, which contained white streaks created when trilobites molted and their shells were compressed.

We also saw some good examples of dark red hematite-rich layers of Hickory Sandstone. Jack's discussion of minerals and how they are often found embedded in rock prompted the group to request a mineral field trip in the fall.

INKS DAM NATIONAL FISH HATCHERY THANK YOU LETTER

**INKS DAM NATIONAL FISH HATCHERY
345 CLAY YOUNG ROAD
BURNET TX 78611**

June 25, 2010

Phil Wyde, President
Highland Lakes Chapter
Texas Master Naturalists
5366 River Oaks Drive
Kingsland TX 78639

Dear Phil,

In times like these, it is a true bright spot to know that the generosity of our friends, neighbors and volunteer organizations is alive and well.

Your contribution for the purchase of bug catchers/viewers was a real hit with the Burnet and Marble Falls fifth grade classes taking part in the 2010 'Kids at the Hatchery' Program. From 'baiting and casting', to 'wildflower printing', to 'what's at your feet?' to 'kids in the creek' our local kids had a ball and learned a little more about their precious natural environment.

It is our hope that this becomes an annual event and wish to express our deep appreciation for this year's and hopefully your ongoing support for this event.

Gratefully,

Judy Parker
Highland Lakes Chapter, Texas Master Naturalists
Volunteer, Inks Dam National Fish Hatchery

HELP MAKE YOUR SCRAPBOOK SPECIAL!

We need your help to personalize and enhance your Chapter Scrapbook for 2010

Please bring any of the following items to the August Chapter Meeting and add them to the Scrapbook Donation box!

Photos – Printed or on CD is just fine

Newspaper clippings or magazine articles

Cards or letters received

Memories or thoughts about individual events

Or, if you have any items listed below that you are not using and could donate, they would be very helpful:

Ribbons, trim, stickers, 12 X 12 pages, brads, buttons, die cuts, chipboard, eyelets, embellishments, dried flowers, stencils or templates, adhesives, markers or pens, punches, etc.

Thanks in advance, Laurie Connally

NAME THE NEWSLETTER!

Mike Childers

Our newsletter still needs a proper name. Below are the submissions. There is a Master Naturalist newsletter named The Dragonfly so I have eliminated that from consideration. We have several names to choose from:

- Odonata Pond Skimmings
- The Dragon Flyer
- Naturally
- News Naturally
- Naturally, News
- The Highland Lakes Guardian

- The Highland Lakes Advisor
- The Highland Lakes Steward
- Monthly Memoirs
- Chapter Chatter
- Highland Lakes Naturally
- Highland Lakes Natural Masters
- The Kingfisher

I will arrange a vote online on these names in the next few weeks or in person at the next meeting.

VOLUNTEER OPPORTUNITIES AND EVENTS CALENDAR

Mike Childers

JULY VOLUNTEER OPPORTUNITIES		JULY EVENTS	
Electric Boat Jaunts Inks Lake Park	15th 2 and 4 pm	Edwards Plateau Prescribed Burning Assoc Annual Field Day, Fredericksburg Legion Hall	28th 8am - 4:15am
Electric Boat Excursions(Sunset Cruises) Inks Lake Park	16th 7:30-9:30pm		
Canoeing Skills/Tours Inks Lake Park	17th 9-noon		AUGUST EVENTS
Stumpy Hollow Hike Inks Lake Park	17th 9:30-10:30am	HLMN Chapter Meeting TBD	4th
Electric Boat Jaunts Inks Lake Park	17th 2 and 4 pm		
Canoeing Skills/Tours Inks Lake Park	22nd 9-noon		FUTURE VOLUNTEER OPPORTUNITIES
Electric Boat Jaunts Inks Lake Park	23rd 2 and 4 pm	Kid's Day Out Bunet County Fairgrounds	Sept. 11
Fishing with a Ranger Inks Lake Park	24th 8:30-10am	Refuge Week Festival Balcones Canyonlands	Oct. 9th 8:30-4:30
Electric Boat Jaunts Inks Lake Park	24th 2 and 4 pm	Annual Appreciation Luncheon Inks Lake State Park (location TBD)	Nov. 18
Electric Boat Jaunts Inks Lake Park	29th 2 and 4 pm		
Twilight Paddle (Adults only) Inks Lake Park	30th 7:30-9:30pm		FUTURE EVENTS
Canoeing Skills/Tours Inks Lake Park	31st 0900-1202	Instructor's Week TPWD Parrie Haynes	Sept. 21-24
Stumpy Hollow Hike Inks Lake Park	31st 09:30-10:30	Davis Mountains Field Trip Fort Davis, TX	Oct. 17-20
Electric Boat Jaunts Inks Lake Park	31st 2 and 4 pm	Master Naturalist State Meeting T Bar Ranch, New Braunfels, TX	Oct. 22-24
Full Moon Hike and Owl Prowl Inks Lake Park	31st 8-9pm	Becoming an Outdoor Woman Parrie Haynes Ranch, Killeen, TX	Nov. 5-7

Also, for Future Events: There will be an Instructor's Week at the TPWD Parrie Haynes Ranch September 21st through 24th. The details are still being worked on, but this will be a chance for folks to take classes in Project Wild, Growing Up Wild, Angler Education, and possible Archery Instructor and Boater Education Instructor courses. It will be a great opportunity for Advanced Training. Laurie Connally will provide more details in the next newsletter.

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.