



The Chachalaca

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RGV TEXAS MASTER NATURALISTS

THIS CHAPTER IS AN AFFILIATE OF THE TEXAS MASTER NATURALIST PROGRAM JOINTLY SPONSORED BY TEXAS AGRILIFE EXTENSION AND THE TEXAS PARKS & WILDLIFE DEPARTMENT.

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President's Message *by Linda Butcher*

Hello Master Naturalists,

It's hard to believe that spring is finally here. The cold dreary weather should be behind us now. Let's get outside and volunteer.

Our chapter has gone through some growing pains, but having two chapters in the Rio Grande Valley will provide better access for both the Upper Valley and the Lower. I think it is a great step forward.

I want to congratulate all of our trainees and address them directly. You have almost completed your training. I know you have been exposed to such a variety of subjects that you could feel overwhelmed. Just focus on your favorite interests and you will thrive. Volunteer as much as you can and attend the meetings. You will be surprised at the knowledge that's available out there just waiting to be absorbed.

I would like to thank all those who have been volunteering at Ramsey Park in Harlingen. The Park is really looking great. If you're interested in butterflies, there have been some real beauties just begging to be photographed. If you're a birder, the spring migration seems to be underway. Hope to see everyone at graduation.

Linda ♦

Milestones.

by Frank Wiseman



Jolaine Lanehart receives her 4,000-hour pin and Presidential Award and letter from Linda Wallis Butcher.



Sherry Wilson gets her 250-hour pin from Linda.



Gloria Nelson receives her 250-hour pin from Linda.



Kristen Kline receives her 250-hour pin from Linda.



Jim Najvar receives his 500-hour pin from Linda.



John Yochum of Texas Parks and Wildlife addresses RGVCTMN on Interpreting.



Recertification for 2015: Cecelia Montalvo, Barbara Lindley, Anita Westervelt, Joyce Hamilton, Linda Butcher, Robert Archer, Larry Culp, Jimmy Paz. ♦

A New Sea Turtle Costume

by Kathy Mauer Tonn

Kat Lillie of Sea Turtle, Inc., and I recently volunteered at the Coastal Expo in Edinburg. After the event, she asked if I could design and sew a new sea turtle costume — the old one was starting to show signs of wear and a slightly larger size was needed for adults. I consulted with several of my “quilting” friends, and Henriette Tremblay agreed to help us tackle the project. With her expertise as a dress designer, we were able to prepare a pattern for the turtle back, front, flippers and head.



Next, we had the challenge of purchasing “seaworthy” fabrics to reflect the colorations of the turtle yet maintain durability. We spent many hours working on a prototype and finally had all the correct dimensions to tackle the final layout. Between the two of us, we were able to combine machine sewing and hand stitching to create the costume.



Our goal was to complete the costume within two weeks, as Kat had many events scheduled that required the old outfit — and ideally, the new one too. We learned a few new tricks in sewing the turtle back — as the material was a leather-like fabric, we used a thin paper between the machine and fabric to prevent any rips from the sewing foot.



The flippers needed reinforcing to prevent a floppy look . We used a thin roll of plastic along the edges and between spots.



The toughest part was the turtle's head. We spent numerous hours reshaping it with different types of stuffing, and we eventually found the perfect fit. We installed turtle eyes and then lined the inside.



Needless to say, Kat was very pleased with the results, and we are happy to welcome RIDLEY to Sea Turtle, Inc. Watch for the costumes at future events!

Old Costume:



New Costume:



Garden Party at Resaca de la Palma

by Joni Gillis

On Friday, March 6th, RGVTMN members and trainees cut back lantana, crucita, mist flower, and Turk's cap in the butterfly garden of the Resaca de la Palma park so that these plants would not run all over the place and so that they would bush out. We had to stop for a brief downpour but were fairly successfully in trimming most of these plants in the garden. Stephanie Galla, the park's habitat conservation coordinator, was great at explaining and sharing information about the plants in the garden. We are thankful for the rain of late because the trimmed plants will now have nourishment to grow.



Sherry Wilson, Rosa Perdomo, Miranda Caquias, Stephanie Galla, Tamie Bulow, and Joni Gillis. ♦

Valuable Plants of the Arroyo Colorado

by Christina Mild

Note: Christina Mild is an honorary RGVCTMN member. Editor of the Native Plant Project's "The Sabal" (<http://www.nativeplantproject.com>) and native plant columnist for the Valley Morning Star (1995-2000), she is a founding member of the Arroyo Colorado Audubon Society and an active long-term (18 years) volunteer in re-vegetation of Harlingen's Ramsey Nature Park.

There are several short-growing, woody, colony-forming plants that inhabit the banks of the Arroyo Colorado in places where the banks have received sufficient moisture and have not been disturbed. These plants are vital in holding the highly erodible clay and sand that make up the banks. The plants have vast root systems; several of them root at the nodes where they contact the soil. If the Arroyo's banks are mown, these plants cannot fulfill their potential in providing food and shelter for wildlife. If the banks are sprayed with herbicide, the short-growing colony-formers will undoubtedly die first. The large, woody stems of *Baccharis* with its extensive root systems, for which the herbicide applied by the International Boundary and Water Commission is intended, will be much more difficult to kill.

On wide, shallow banks of the Arroyo are grasses and wildflowers. However, the edges of the banks do not generally grow short grasses. For many years, I have canoed the Arroyo Colorado. Usually there are many eroded areas where construction has occurred, where livestock has come down to drink and wherever mowing has occurred. Usually the valley does not receive enough rain for vegetation to return to disturbed areas along the Arroyo's banks.

This is the first year I have seen the banks completely blanketed with dewberry vines, which have great potential to both hold the banks and provide food and shelter for wildlife. Dewberry is excellent cover for former ravines, checking erosion. Walking along the banks at Ramsey Park, I've also noted the return of several colony-forming plants including dewberry, hachinal, sea ox-eye daisy and Sprawling Lippia. Their resurgence is probably due to the 2010 floodwaters, which kept the banks underwater for 43 days in Ramsey Park.



Dewberry Bloom on an Arroyo bank.



Dewberries covering an Arroyo ravine.



Hachinal colony.



Sea ox-eye daisies.



Sprawling Lippia.

Here, on the other hand, is damage done to the banks of the Arroyo.



Damage on an Arroyo bank.



More bank damage.



Trees uprooted. ♦

Opinion: Clearing of the Arroyo Colorado Channel

by Christina Mild

Presently, along the banks of the Arroyo Colorado within the city limits of Harlingen, International Boundary and Water Commission (IBWC) work crews based in El Paso, TX, are creating environmental havoc. They are even working overtime; IBWC is a federal agency, but on Saturday, Feb. 21st, crews are working. Despite repeated complaints by environmentalists, IBWC has not altered its management practices along our waterways in more than five decades.

In recent public comment sessions held by IBWC in Weslaco, IBWC officials stated that they “will be” removing obstacles from the “channel” of the Arroyo Colorado. This appeared as a headline in a recent Valley Morning Star article. In fact, in my interviews on two recent occasions with IBWC crew members now working in Ramsey Park, workers admitted that they have no equipment suited to removing vegetation or other obstacles from the actual channel of the Arroyo.

A critical bottleneck for IBWC work is a vegetation-covered island in the narrowest part of the Arroyo's channel, west of Ramsey Park, but IBWC has done nothing to mitigate this potential problem. This bottleneck occurs in the very neighborhood which experienced the worst flooding during Hurricane Beulah. For years, IBWC has maintained that a wide strip of the arroyo's natural banks must be mown in a way that removes all vegetation other than woody stubs. Who among us would willingly pay someone to mow our property so severely that no trace of grass or groundcovers remains?

IBWC has also maintained that no trees should be allowed to grow on the Arroyo's banks within IBWC predefined parameters. It saddens me no end that the Arroyo's banks, adjacent to the river itself, must be managed by IBWC dictates as a barren wasteland rather than as a diverse riparian wildlife habitat.

The heavy machinery employed by IBWC to manage the Arroyo banks for flood control is, in fact, preparing those banks for imminent ecological disaster.

- Steep slopes have been left devoid of vegetation. Water will rush down those slopes when we receive rain, carrying massive quantities of sand and clay silt into the arroyo's channel. Water quality in the Arroyo will be severely affected, killing fish and other creatures that depend upon the Arroyo for survival. Kingfishers and other water birds have been left without perches, and the fish they're after will be gone or invisible through the muddy sludge.
- Entire, healthy trees have been uprooted, disturbing the soil in which they grew. More silt will flow into the Arroyo. (IBWC talks about increasing flow rate to send floodwaters out to the bay quickly. Massive erosion of silt into the arroyo channel will result in sludge, which one might compare to moving ketchup out of the Heinz bottle in terms of how flow rate will be affected.)

- Clay soils on the Arroyo's banks have been compacted by massively-heavy equipment, which has traversed the banks for weeks. It is difficult for most plants to become established in such compacted soils. Water tends to run off those areas, with little moisture absorbed for the germination of seeds.

The views held by IBWC regarding proper management of arroyo (and river) banks for flood control are in direct contradiction to the policies and findings of other environmental groups and researchers here and abroad.

- The Nature Conservancy has developed a program entitled 'Floodplains by Design,' which it is promoting all over the country. To summarize: "Healthy floodplains act as sponges that absorb the impact of heavy storms..., filters that keep sediment and runoff out of rivers, and maintain incredibly productive fish and wildlife habitat." The Nature Conservancy continues: "Perhaps the biggest challenge of all is that discussion over floodplain management has often been characterized as an either-or proposition, pitting environmental concerns against economic and social interests." The Nature Conservancy's approach considers all entities that lie within the floodplain of any given river and utilize a wide array of methods to mitigate potential flood damage for all parties involved.
- "Friends of the Cacapon," one of the oldest watershed associations in West Virginia, provides information on how river banks can be maintained as "healthy" floodplains: Here are excerpts from the Friends' webpage:
A major key to protect ... river property is to maintain, stabilize, and repair (the) riverbank. This river edge is the bulwark that holds in the soil and prevents your property from washing away. It is an essential part of the whole ecosystem.

If your riverbank has been scoured bare of vegetation, you are causing problems to yourself and to the river. The worst problem for the river ... is sediment dispersing and settling of small particles of soil washing from your banks and settling into the river, smothering spawning beds of fish, killing aquatic organisms, and ruining good water quality.

Here are some causes of stream bank deterioration:

- Mowing grasses at the edge of your bank; cutting down trees, or removing other vegetation.
- Permitting ...activities that compact the soil and destroy plants.
- Permitting all terrain vehicles (ATVs) to tear up the bank.

Stabilize your riverbank. Vegetation is an excellent bank stabilizer, and you should make every effort to keep existing trees, shrubs, flowers, and grasses intact. These plants hold the soil in place with their root structures, as well as provide shade and habitat for fish and wildlife.

If your bank is in good condition, maintain it and fortify it by planting patches of low-growing groundcover plants ...; or taller plants such as ... milkweed; native shrubs such as buttonbush ...; understory trees; and canopy trees such as river willow...

- Purdue University's website addresses “SOILS, AGRICULTURE, AND ENVIRONMENT”. Here are excerpts from that source:

Soil erosion is the most serious soil-degrading process, not only in Indiana, but also in the rest of the world. Each year, over 100 million tons of soil erodes from Indiana’s cropland, pastures, forests, and other places where people live and work, such as residential areas, industrial areas, and parks. Another 17 million tons of soil erodes from stream banks, gullies, roadsides, and construction sites.

... soils low in organic matter (clay, in this area) are more erodible than those high in organic matter (dark colored).

Length of slope ... Long slopes erode much more than short ones because the amount of runoff water increases with distance down the slope.

- Gradient (%) of slope... Water runs faster on steep slopes than on nearly level ones, and faster moving water can remove and carry more soil material.
- Also, percent slope greatly affects erosion ..., but in the forest there is very little erosion regardless of slope.

(The forested area that lined our Arroyo banks has now been removed, at taxpayer expense, by IBWC.)

- Another scientific journal addresses the issue of trees and stream banks. These excerpts are from “*Arboriculture & Urban Forestry*, 36(5): September 2010”:

Trees can also play an important role in stream bank stabilization. In urban areas, storm water runoff results in widely fluctuating water levels in streams, leading to channel erosion and impaired water quality. An in-situ study of vegetated stream banks showed that an increase in the volume of roots with diameters of 2-20 mm was correlated with reduced soil erodibility. In 2004, other researchers compared root distribution and density in stream banks inhabited by both herbaceous and woody vegetation. Their findings suggest riparian forests may provide better protection against stream bank erosion than herbaceous buffers.

Root Contributions to Environmental Sustainability. Tree roots have the potential to positively influence soil quality, hydrology, and biogeochemistry in urban settings. More specifically, the roots of trees improve soil physical properties; maintain or enhance soil organic matter, N₂ fixation, and nutrient uptake from below the reach of crop roots; increase water infiltration and storage; decrease loss of nutrients to erosion and leaching; decrease soil acidity; and improve soil biological activity.

Soil Structure. There are many factors in the urban environment that contribute to degradation of soils and in particular, soil structure. Thus, the potential of tree roots to influence soil structure is of considerable interest. Tree roots are primary contributors to the development of soil structure and, in the longer term, soil formation. This new appreciation of the influence of roots on soil is redefining and enlarging our concept of rhizosphere: the area where soil interacts directly with living roots. Tree root contributions to soil structure not only affect plant growth, but a host of other soil functions that

provide ecosystem services such as storm water runoff mitigation through enhanced soil permeability.

We in South Texas are not alone in this fight to preserve our precious riparian ecosystems. The Montana Audubon has created “Learning to Go with the Flow: Streams and Bank Stabilization.” It tells us that healthy, functioning floodplains, with their full complex of riparian vegetation, serve many useful purposes, including:

- Reducing flood heights by soaking up, storing, and slowly releasing floodwaters;
- Decreasing stream velocities and soil erosion;
- Improving water quality by filtering and reducing nutrients, pesticides, salts, sediments, organic wastes, and other pollutants running into our streams and, ultimately, our drinking water; and
- Providing the most diverse fish and wildlife habitat ...

Over the long-term, bank stabilization can cause the channelization of our rivers and streams as floodplains narrow or disappear, natural stream migration is prevented, and, ultimately, riparian vegetation does not regenerate. Channelization also affects the health of rivers and streams by exacerbating the severity, duration, and frequency of local flooding events and erosion downstream; preventing the maintenance and formation of sandbars and backwater areas; and degrading critical fish and other habitat required in aquatic systems. At a time when government agencies and the private sector are spending billions of dollars each year to address these issues, it seems penny wise and pound foolish to eliminate the natural features that provide these same services at practically no cost.

What’s a Person to Do? As property values increase along our streams, the demand for bank stabilization projects is increasing. The solutions to reverse this trend are complicated and not always obvious (<http://www.mtaudubon.org>):

- Avoid projects that remove native shrubs and other woody plants from the stream bank and adjacent floodplain.
- If vegetation is disturbed by a project, insist that native riparian plants are planted (and established) when the project is complete.
- Don’t plant lawns or other non-native vegetation along stream banks.

David Morris, an Australian researcher, published his dissertation in 2004, a comprehensive study on “The Dynamic Capacity that Humus Has to Increase Soil Water-Storage Capacity.” He found that one part of soil humus was able to store approximately four parts of water, demonstrating significant potential gains in soil water storage capacity at a catchment level.

Fresh water, fertile soils, and clean air are the natural foundations of life and form the basis of a safe, peaceful, and prosperous society. It is the responsibility of every society that these basic elements are passed on to future generations in abundance, just as they were passed onto past and present generations.

Here is Morris's conclusion:

It is therefore in the soil's water-storage capacity that the greatest hope lays for reducing land and water degradation issues and ensuring sustainable cycling of agricultural and natural resources, including water. The primary objective of land management beyond 2004 must centre entirely on improving the constant formation, quantity and cycling of soil HUMUS.

And here is my conclusion: Scraping, excessive mowing, and removal of all vegetation along the banks of the Arroyo Colorado directly contradict the findings of many organizations and researchers concerned with flood prevention, as well as with protecting and enhancing our environment. It is beyond the time for IBWC to cede its authority over the amazing wildlife corridor we call the Arroyo Colorado. ♦

Congratulations to New Valley TMN Graduates!

The Upper Valley TMN Class of 2015 will celebrate its graduation on Tuesday, April 7th at 6:00 p.m. at Estero Llano Grande State Park, Camp Thicket Group Area, Warbler Hall. Speaker at the evening celebration is Jesús Franco of the American Bird Conservancy. TMN Officers and Board Directors are invited but should RSVP to Tom Butler, 2tmb@earthlink.net, by May 31, 2015.

The Lower Valley TMN Class of 2015 will celebrate its graduation on April 14th at the SPI Birding Center. Because space is limited, guests are restricted to one per graduate. For more information, contact Susan Kerens at suzyq50@sbcglobal.net. ♦

