

The Steward

Spring 2019

Highland Lakes Master Naturalists

Volume 10 Issue 1



Painting by Gary Hampton
Painted from a Member's photograph



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Daniel L. Nutter
January 16, 1932 - March 21, 2019

One of our dedicated members, Daniel Nutter passed away on March 21, 2019 at the age of 87 following an illness. Dan was born and raised in Alcester, South Dakota until parents moved to Denison Texas in his senior year where he graduated. He had a B.A. in History from Southeastern Oklahoma State and two Master's degrees in Library Science from the University of North Texas. Dan was a history teacher until he had the opportunity to fill a librarian position mid-year and found his passion. He had a distinguished career as a librarian at Clarendon College (TX), Southwestern College (KS), and the University of Texas at Brownsville.

Dan retired to Marble Falls with his wife, Elizabeth, and was a certified Master Gardener, and certified to be a Master Naturalist in the Class of 2012. He was also a member of several other local community organizations including the Highland Lakes Birding and Wildflower Society, the Burnet County Fair Board and the First United Methodist Church in Marble Falls.



Dan was preceded in death by his wife Elizabeth. He is survived by his son, Charles, his daughter, Margaret and her husband Jim Wofford, and granddaughter Leslie Wofford.

Dan had a contagious smile, optimistic outlook and a love for people and nature. Dan will be greatly missed by his many friends in the Highland Lakes Master Naturalists and Burnet County.



2019 Board Members

Left to Right: Melissa Duckworth, Kim Shotts, Marvin Bloomquist, Terry Bartoli, Mary Lott, Lindsay Pannell, Susan Montgomery, Mary Ann Holt, Lori Greco, and Susan Downey. Stennis Shotts in back.

Awards and Pins - **Congratulations**

1000 Hour Pin

John Ackerman
Fred Zagst
Kay Zagst





500 Hour Pin Phyllis Hirsch



250 Hour Pin

Mary Ann & Holt
Rob Sproul



2019 Recertification – Warbler Pin

Phyllis Hirsch
Mary Ann Holt
Cris Northrup





2018 Recertification – Ocelot Pin

Vicki Adcock, Suzanne Adkinson, Connie Barron, Morgan Beck, Janet Belz, Jane Brunclik Robin England, Kathy Griffis -Bailey, Gary Hampton, Deborah Kennedy, Marilyn Lagerman Sann Luedecke, Sharon McBride, Cameron McCabe, Amy Molberg, Evelyn Nugent Kristin Rodgers, Jean Schar, Sheryl Smith -Rodgers, Alan Wolfe, Lynn Wolheim and Cynthia Woodhull

Step Back in Time

By Harris Greenwood and Becky Breazeale

Want to step back in time and leave all the hustle and bustle behind? Visit the Sauer-Beckman Farm at the Lyndon B. Johnson State Park and Historical Area in Stonewall. Sauer-Beckman is an operating farm where everything is done like it was done 100 years ago. The volunteers/docents wear period clothing and go about the day-to-day activities of a Texas German Farm in 1900-1918. As they go about their chores, the “family” is very happy to explain or answer questions.

Harris Greenwood who recommended this Farm says “Interpreters demonstrate how they kept and stored food without refrigeration amazing....and occasionally let kids collect the chicken eggs. You can even watch the hog get butchered and processed. They explain the need for lard from the hogs to keep sausage fresh in crocks for up to a year. Interpreters also show how the raw milk is processed by nature into all the different cream, milk, butter, cheese, curds and whey, cottage cheese, etc. and after a week or so what is left goes to fatten the hogs. It is amazing how they lived pretty well without refrigeration”.

The Farm is open daily, except Thanksgiving, Christmas, New Year's Day, and the last Tuesday of every month. It is located east of the Lyndon B. Johnson State Park Visitors' Center just off the Nature Trail. The cost to take your trip back in time is the Park Entrance fee or State Park Pass. For more information about the Farm's hours go to: <https://tpwd.texas.gov/state-parks/lyndon-b-johnson/fees-facilities/sauer-beckmann-farm>

To learn more about the history of the Sauer Beckman farm go to: https://tpwd.texas.gov/state-parks/lyndon-b-johnson/park_history



Photo courtesy of

Texas Parks and Wildlife

Invasives

By Ella Tyler

When I decided to look for a career in a field that was less contentious than law, I decided to study horticulture. Completely different, I thought. Wow, was I wrong! Organic vs. chemical fertilizers. Natural vs. chemical pesticides. Native vs. naturalized vs. imported plants. Each faction having plausible reasons to support its side.

And then there is the issue of non-native invasives. Lots of room for controversy here, beginning with “What is an invasive plant?” Since it is a Class C misdemeanor to sell, distribute, or import a plant on the Texas Department of Agriculture’s noxious or invasive plant list, that is an important question. (1)

To be on the TDA list, a plant species must have “a serious potential to cause economical or ecological harm to the agriculture, horticulture, native plants, ecology and waterways of Texas.” When a plant is submitted for inclusion on the list, the agency evaluates the request and consults with representatives from the agriculture industry, the horticulture industry, the Texas AgriLife Extension Service, the Texas Department of Transportation, the State Soil and Water Conservation Board, and the Parks and Wildlife Department (these are named in the statute) and also seeks input from experts in the area. If these consultations express consensus toward adding the plant species to the list, TDA would publish a proposed rule that goes through the administrative rule-making process. (2)

Not surprisingly, the TDA list is very narrow. There are 26 plants on the TDA’s noxious plants list, including Brazilian peppertree, Japanese dodder, kudzu, saltcedar, tropical soda apple, water spinach, waterhyacinth and water lettuce. The six invasive plants are chinaberry (*Melia azedarach*) Chinese tallow tree, Japanese climbing fern, kudzu, saltcedar and tropical soda apple. (3)



[Kudzu, photo courtesy of U.S. Fish and Wildlife]

However, another definition is that an invasive species is non-native (or alien) to the ecosystem and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

(4)

For example, an invasive plant can become established in natural areas, and disrupt natural communities by outcompeting with native plants for water, space, or even attention from pollinators. They decrease biodiversity by threatening the survival of native plants and

animals. Invasive species threaten to nearly half of the native U.S. species currently listed as federally endangered.(4)

When defined like this, the list of invasives is much longer. The Austin's Guide to Invasive Plants of Central Texas lists:

Trees: Tree of Heaven, Mimosa (Silk Tree), Paper Mulberry, Chinese Parasol Tree, Large Leaf Privets, Chinaberry, Chinese Pistache, and Chinese Tallow;

Shrubs: Small Leaf Privets, Heavenly Bamboo (nandina), Red tip and Tiwanese Photinia, Scarlet Firethorn (pyracantha) Salt Cedar, and Lilac Chastetree (vitex);

Vines: ; Japanese Honeysuckle, Catclaw Vine, Kudzu, and Chinese Wisteria;

Herbs: Maltese Star Thistle, Elephant Ear, Japanese Hollyfern, Annual Bastard Cabbage, and Brazilian Vervain;

Grasses: Giant Cane, KR Bluestem, Bermudagrass, Golden Bamboo, and Johnsongrass. (5)

This list challenges a gardener's commitment to eliminating invasive plants. An invasive species grows/ reproduces and spreads rapidly, establishes over large areas, and persists, meaning that a home gardener cannot rely on her plant staying home. I love vitex, which is not invasive in Houston but is in Central Texas. So it's not in my garden.

[Vitex. Photo courtesy of Home Depot.]



When the committee that picked the Native Plant Garden of the Year visited a half-dozen gardens, the presence of nandina disqualified several very nice gardens. Nandina is blamed for causing the death of a small flock of cedar waxwings in Georgia in 2017. (7)

Most non-native (exotic/alien) species, are not invasive and cause no harm. Most do not survive in the wild, and only about 15% of those that do go on to become "invasive" or harmful.

Non-native plants don't have the benefits of native plants, but only the invasives harm our environment. Avoid planting them and remove them when you can. You'll be doing the environment a favor.

(1) Agriculture Code 71.152

(2) Agriculture Code 71.151

(3) 4 Texas Administrative Code 19.300(a)

(4) <https://www.texasinvasives.org/i101/>

(5)https://www.austintexas.gov/sites/default/files/files/Watershed/invasive/2013_Invasives_guide_small.pdf

(6)<https://decaturish.com/2017/03/invasive-bushes-in-decatur-killing-cedar-waxwings/?fbclid=IwAR0lyj0GQOIHMywnEBhnnThVv5DLykV0khhHUQAPfloYB0mgM7uyTJVHxsSo>

<https://decaturish.com/2017/03/invasive-bushes-in-decatur-killing-cedar-waxwings/?fbclid=IwAR0lyj0GQOIHMywnEBhnnThVv5DLykV0khhHUQAPfloYB0mgM7uyTJVHxsSo>



[Nandina. Photo courtesy of nurdur.com]

Texas State Bird “The Northern Mockingbird”

By Lori Greco

The **Northern Mockingbird** (*Mimus polyglottos*) is the only mockingbird commonly found in North America. It is influential in pop culture, songs and is the state bird for 5 other states. This bird is very intelligent, being able to identify individual humans and return to areas of successful nesting in years prior. They typically live 8 years with captive birds living up to 20 years. The male and female birds look the same with the male being slightly larger. The mockingbird is an omnivore. The birds' diet consists of arthropods, earthworms, berries, fruits, seeds, and seldom, lizards.[9] Mockingbirds can drink from puddles, river and lake edges, or dew and rain droplets that amass onto plants. Adult mockingbirds also have been seen drinking sap from the cuts on recently pruned trees.

Of interesting note, even though they are socially monogamous, the female will continuously evaluate her current position and fly through her mate's and other male Mockingbird territory to check out who has the best accommodations. Divorce, mate switching and extra-pair matings do occur in northern mockingbirds. Also, the unmated male bird will sing constantly (even through the night) and in all directions, to attract a mate. They readily mock our other local birds, but also dogs, cats, car horns, alarms, and whistles. Mockingbirds can sing over 200 song types. Both parents build the nest, feed and protect the nestlings. In fact, high nesting success is associated with highly aggressive males attacking intruders in the territory, and so these males are preferred by females. They will attack domestic cats, dogs and even humans that get near their nests.

On a personal note: I have a male mockingbird who has stayed outside our window for 8 years. The first

spring we lived in Burnet, this bird sang ALL NIGHT outside our window and kept me awake. Today he still hangs out in our front yard on our spineless cactus and is not afraid of me. He sings over my head when I work out front under the Possum Haw and he will mimic the whistles I make. He was my bit of inspiration for this small article. Not all of the facts, but a few interesting tidbits to pique your interest.



Lori's resident Mockingbird

Citizenship and Community: A Review of Aldo Leopold's *A Sand County Almanac*

By TK Rodgers



As we look at the many changes the natural sciences have undergone throughout the years, we must consider the many people who have contributed their talents to the development of these fields as we know them today. While there are many great contributors, one author and devoted naturalist stands at the top of the list of those who inspire us. He is an author whose legacy endures to this day with generations of both traditional and non-traditional students, who continue to pass along his theories, actions and inspirational words. Aldo Leopold's timeless concepts of *community and citizenship inspired me to completely change career paths in what my family are sure was a certified mid-life crisis (although I beg to differ).*

When I became a Master Naturalist I was gifted to receive the most precious book I ever could have imagined. Since then, I have read, and reread *A Sand County Almanac*. I was able to apply the teachings from this book to my new career path; and I continue applying them to my studies as a Graduate student into the present. Leopold's *The Sand County Almanac* set the firm foundation on which I chose to rebuild not only a career path, but my philosophies regarding the role we play in our communities based on his idea of the land ethic. Leopold said "The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land ... In short, a land ethic changes the role of Homo Sapiens from conqueror of the land-community to plain member and citizen of it." This is so true. People have historically disregarded the land as a living being, seeing it merely as a resource, one that is theirs for the taking. They have discounted the intrinsic value of that resource or the impact human plundering will have on an area, a species, or an entire ecosystem.

I truly believe the central idea of the land ethic: that people cannot be conquerors of the land but must be citizens of the land and care for it as part of their community. This is a revolutionary concept, especially at a time when resource depletion and a lack of hunting regulations are creating a scouring of the land and all the wildlife dwelling there. Despite the presence of bioethics in medicine and the placement of laws governing the treatment of people and property within law enforcement, somehow we have evolved lacking a land ethic.

I admire how Leopold, as a hunter, came to this profound understanding of the land ethic through the "fierce green fire in the wolf's dying eyes, known only to her and the mountain;" and at that moment he was a changed man. This passage sends chill-bumps down my spine each time I read it. What a profound realization, as a hunter, to realize the interconnectedness of the wolf to the mountain, of the mountain to the trees, and so forth throughout the hierarchy of the land-community. It seems as though somewhere along the way we neglected to realize our "ethical" place in this world. Maybe we neglected to fully understand the anthropomorphic impacts we can have on the balance of a population, and the impact of those changes on an ecosystem. Whatever the case may be, Leopold's realization that the wolf needs the mountain as the mountain needs the wolf was not only revolutionary, but inspiring, even all these years later. His efforts to promote balance via a land ethic at a time when depletion of our resources is the norm is profound.

I am in pursuit of continually improving the relationship I have with the land and sharing Leopold's teaching with others so they may be inspired as I was. I may be a little crazy to change career paths mid-life and modify our ranch management techniques, but as Leopold said, "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise." I hope I can continue Leopold's legacy of inspiring others to realize (or improve) their relationship with the land on this new path I have been drawn towards. More so, I hope teachings from greats such as Leopold continue to inspire other students, so we may pass down this unwritten land ethic to future generations.

Literature Cited:

Leopold, A., Schwartz, C. W., & Leopold, A. (1949). *A Sand County Almanac*. Oxford

Meet the Members:



Ms. Sunshine Sharon McBride Class of 2017

Where were you raised?

I grew up in Saratoga, in northern California, in an area now referred to as “Silicon Valley”. Between camping with my family, girl scouts, creek walking with friends and my love of biology I have always enjoyed being in and learning about nature.

What is your professional background?

I have a BA in Zoology from UC Berkeley then worked several years as a lab technician in Galveston, Texas. I attended the MBA program at UH Clear Lake and shifted my career path to focus on Human Resources Management and Administration. I worked in a variety of jobs through the years with my last position at Saudi Aramco in Saudi Arabia. When I was a young adult, my parents moved to a small private lake in East Texas.

Tell us about your nature-related passion or volunteer activity.

I loved being able to retire to the Hill Country and feel very fortunate to live next to the Balcones Canyonlands. I am interested in native plants and encouraging others to plant natives rather than invasive ornamentals. I enjoy puttering in my yard and am trying to learn to identify the different species of birds and wildflowers. This is my favorite time of year, when a family of barn swallows returns to nest on my back porch. It’s been such a blessing to be part of a group of like-minded people in HLMN, and getting to know so many interesting and knowledgeable members.

River

Lofty cypress trees
Water cascades over rocks
Sunlit waves sparkle

River Life

Leaping fish catch flies
Turtles tumble off of logs
Lone heron wings past

Canoeing

Canoe cuts water
Glurp, glurp, it licks the boat’s side
Softly bounce downstream

Haiku – by Paula Engelhardt

Haiku is a Japanese poem of seventeen syllables in three lines of five, seven, and five, traditionally evoking images of the natural world

Cypress

Enchanted forest
Lumbering giant cypress
Roots yield fairy homes

Cypress II

Bleached and gnarly wood
Fallen giants lie silent
In the river bed

“More About Nature” Master Naturalist Reading Program

By Ray Buchanan

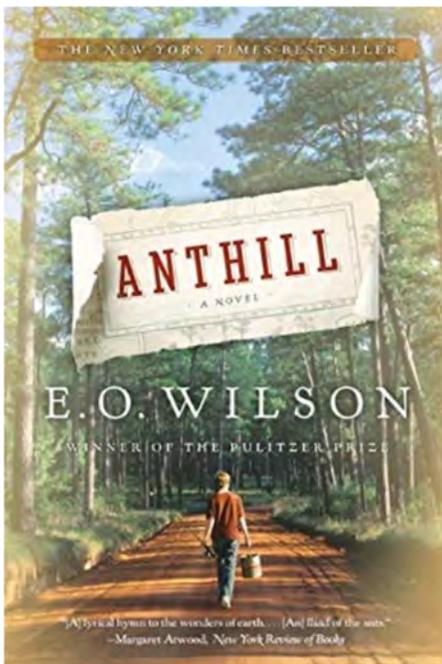
Just think how invigorating it would be to read a summary review of 2-3 books about nature every month in The Steward. During a whole year, you could be in touch with 30 of the best, most interesting, and most up to date books about nature subjects. And think how quick and easy it would be to pick out books you want to read for yourself or to give to friends and/or family! And the most fun might be to read an interesting and insightful book analyzing some aspect of your favorite nature subject and write your own review for The Steward!!

So, you can begin by picking out a book from the list Betsy and I handed out at the March meeting (“Ecology Beyond the Field Guide”, included in this edition of The Steward). Or send us the name of a book you have been wanting to read for these past months (approval by us of the book and of the review is intended to lend some credibility and uniformity to the selections and reviews, the Editors have the final say).

The 1 to 1 1/2 page review should include: author; title; topic; author’s argument, conclusion, supporting evidence; why the book would be a good read for a Master Naturalist; and any good quotes and /or pictures. Send book choice and then review to Betsy Bouchard (bbouchard418@gmail.com)) and/or Ray Buchanan (drraybuch@gmail.com).

When the review is published in the Steward the contributor is eligible to receive 5 Volunteer Service hours.

P. S. Who would like to recommend children's Nature books to grandkids or other children? Find five of the best, most interesting, and clever children's books about Nature. Read and write reviews for The Steward.



Example Book Review

Book Review by Ray Buchanan

Wilson, Edward O. Anthill: A Novel. W.W. Norton & Company, New York. 2010.

The superior capabilities of the Trailheader Colony Hoplite warriors could not prevent their utter defeat by the Streamsider Colony. In battle these giants from both colonies – two times the size of an ordinary worker ant – made up the superior defenses at the front line with their thick, tough, and pitted (shield-like) exoskeletons and their pair of spines which extended backward from the midsection of the body to protect the waist and their pair of spikes that extended forward from the midsection to protect the neck. Their sharp-toothed jaws reached out from their helmet-shaped heads to crush any and all: “they were the iron, the physical power, the instinctual viciousness of the colony,” says Wilson.

Yet, the success of these female warriors in battle depended on the numerically superior support they would receive from the most suicidally aggressive defenders of the colony – the older female workers, as Wilson noted: “where humans send their young to war, ants send their old ladies.” And they also depended on the swift-

ness and agility of the ordinary workers who could bite, sting, or spray their enemy with poison while holding them down, spread-eagled. But the death of the Queen after 20+ years, which crippled the Trailheader Colony's ability to maintain superior numbers, resulted in its ultimate doom – every member of the colony became enslaved or a rich meal for the victorious Streamsider Colony. Following the specialized tastes and smells laid down by its members, the Streamsidiers used their antennae to move through every Trailheader tunnel. They followed the commands of their leaders, communicated by the “thunderous ... pheromonal chatter” that guided their victorious descent into the blackened chambers of their enemy. But then came the Supercolony of ants who, because of a mutation, produced millions of workers and thousands of queens and defeated all the other colonies.

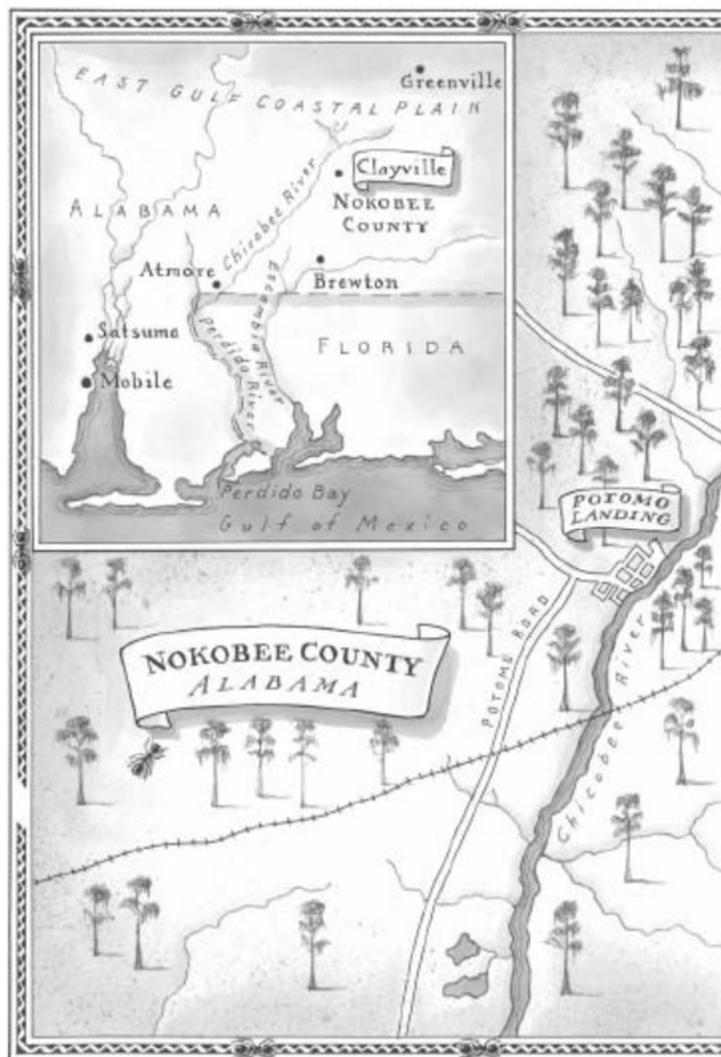
This Colony ferociously occupied the Dead Owl Cove of Lake Nokobee, a pristine hardwood tract of longleaf pine savanna, which provides the setting in Nokobee County Alabama for the novel. In the “Anthill Chronicles” section of the novel, Wilson identifies, through his account of the Supercolony, his environmental concerns for humanity. The Supercolony brings peace, a new system of governance, and a new quality of life. They “mastered the environment”, they “subdued their rivals and enemies”, they “increased their space”, and they “drew down new sources of energy” so they could “raise the production of ant flesh to record levels.” And by doing so Wilson points out, they “traded sustainability of the home for wider dominance”, they “over consumed” and became out of balance with their habitat: so “it resembled the great human anthill above” – Wilson's most pointed charge against the advances of civilization. Soon, the “moving-tree gods”, local Nokobee County citizens, brought poison and destroyed all the ants and all the other creatures in the immediate area.

As a world-renowned biologist and naturalist, a two-time Pulitzer Prize winner for his scientific books, Edward O. Wilson chose the novel format (for the first time) to share his views about preserving a balance between humans and nature with a more general public. And, while the “Anthill Chronicles”, section of the novel captures the immediate attention of the reader with its gripping and detailed analysis of the ant colonies living around Lake Nokobee, the story about humans makes his major point, but with less drama.

The young boy, Raff Semmes Cody, falls in love with the natural area around the Lake. His rich grandfather sends him to college and to Harvard Law School where he becomes a well-trained environmentalist. In return for this major boost in his prospects, Raff goes to work for his grandfather, Drake Sunderland at his company, Sunderland Associates; and, thus, asserts Wilson, he “became the legal arm of one of the most rapacious land developers in South Alabama.” This sets up the dramatic conflict between the environmentalist and the developer about the wilderness tract at Nokobee.

Once as a boy in a confrontation with the “Frogman”, who kept a giant alligator, and then again as an adult faced with gunmen from a radical religious sect, Wilson achieves an exciting level of tension in his story telling.

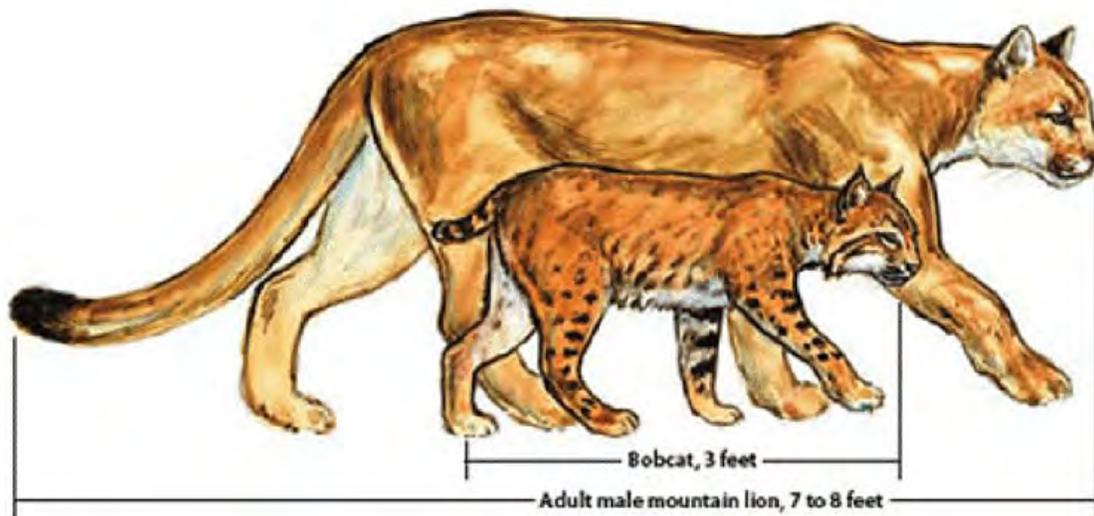
But, confronted with the environmental demands to protect the species of salamanders, a bird, and a turtle listed as vulnerable along with endemic plants in the pitcher-plant bog as well as the impossibility (according to the authorities) of cutting the old growth longleaf pine, Raff offers the “rapacious land developer” a simple solution. That is, put those habitats and species on the profit side of the financial ledger and build around the wild with access to the Lake and the wilderness area as the main drawing-card asset, leaving the remainder of the Nokobee tract in its natural state. Sunderland accepts the argument, which Raff skillfully garnished with



the idea that the governor could there to celebrate the opening day and that the state might declare a botanical site and provide tax deductions. The key arguments appear in brief conversations, but the developers are too gullible and the resolution is too quick and too simple.

All the key words Wilson identifies with the inherent driving forces of the developers are there – larger per-acre profits, public relations potential, tours for the residents, for example – but this confrontation stands at the heart of the matter and it would seem worthy of a much more substantial part of the story. Too easy as the final resolution, yet it clearly indicates Wilson’s theme of how to achieve a balance between human advances and critical natural habitats. Those parts of this drama that Wilson knows best – the examples of the ants and their culture and civilization – are fascinating. And the key elements of the land-use resolution are clever. So, this novel offers much for the naturalist reader.

Mountain Lion - Bobcat Comparison



Clean Sweep at Inks Lake State Park



Lindsay Pannell, Interpretive Ranger at Inks Lake State Park, giving an "effects of fire" review to our volunteers. Photo by George Brugnoli

Inks Dam National Fish Hatchery



Lori and Loretta, Texas Fatmuskett mussels.

They were cultivated at IDNFH in 2017 as part of their production Activities.

Photo by Phyllis Hirsch

First Catch Center at Inks Dam National Fish Hatchery, March 23rd.



Photos by Jeff Conway



Highland Lakes Birding and Wildflower Society

Hike at Haley-Nelson Park, Burnet



Hike was led by Kay and Fred Zagst. Photos contributed by Mark Stracke. Mark commented "It was a very easy and nice walk and it was amazing to me the number of birds so close to Burnet."



New Class of 2019



Week 3

- Ray Buchanan discussing Native Gardens at Upper Highland Nature Center.
- Photo by Rob Sproul

Week 3

- ◆ Billy Hutson explaining the archaeological site at Nightingale Archaeological Center.
- ◆ Photo by Rob Sproul





Week 4

- ◆ New Class learning about edible plants. Jerry Stacy presenting.
- ◆ Photo by Rob Sproul

Week 4

- ◆ Learning about fish production operations at Inks Dam National Fish Hatchery. Jerry presenting.
- ◆ Photo by Rob Sproul



Week 4:



Top Left: Billy Hutson on his favorite topic. Bees.

Top Right: Scott Walker's presentation on Inks Dam National Fish Hatchery's operations.

Bottom Left: The Class listening to Scott's presentation.

Photos by Phyllis Hirsch



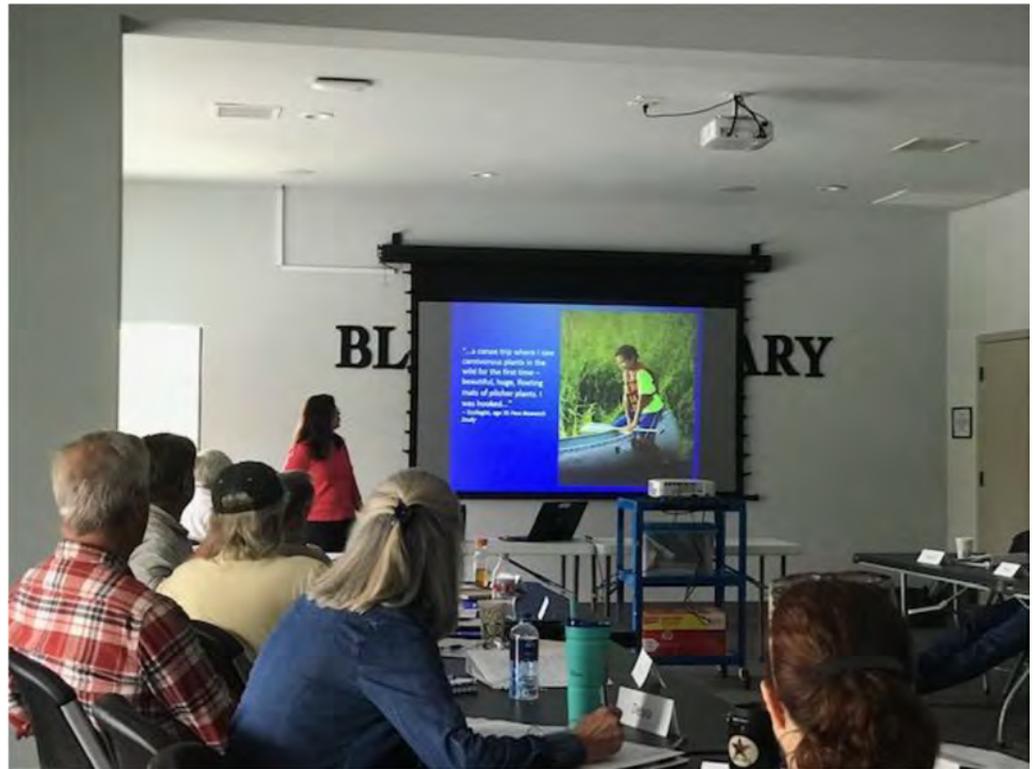
Week 5

- * Johnson Settlement Event Center, Johnson City. Susan Downey, Class Coordinator's opening remarks.
- * Photo by Rob Sproul

Week 5

- * Wade Hibler presenting Land Management in the Hill Country.
- * Photo by Rob Sproul





Week 6 - Kelly Conrad Simon presenting the Future of Wildlife Conservation at the Blanco Library. Photo by Rob Sproul



Week 6 - Sheryl Smith-Rodgers and Spiders at the Blanco Library. Photo by Rob Sproul

The Red Desire

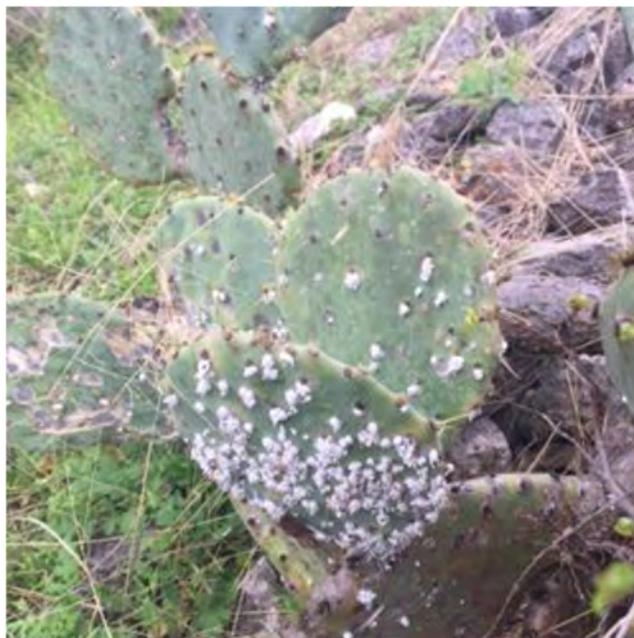
By Becky Breazeale

This is not a book review, but more of a book report. I got interested in the book [A Perfect Red](#), by Amy Butler Greenfield, after reading an article in the *Texas Co-op Power Magazine* (Sheryl Smith-Rodgers has been published in that magazine). The author begins the book discussing the properties of the color red. Red is an ancient term and was used before the colors green, yellow or blue. It has been painted on cave walls, used in burials, called the divine fire, a symbol of love, a signal of danger, and sign of wealth. But most important of all, humans are attracted to red.

Humans' affinity for red led to a quest to find the "perfect red". Artist used ochre and cinnabar, but weren't satisfied and searched for a bright red. Dyers of cloth faced the same problem. Prior to the 1300s, dyes were made from plants. The results from plants was unpredictable because green plants might produce blue dye or red blossoms might turn the fabric orange or yellow and many time the color was not lasting.

In the 1300s, dyers began to use insects. Lichens found on coastal rocks were used, but the fabric tended to fade. Three parasite insects were used with more vivid and lasting color – oak-kermes, St. John's blood, and Armenian red. These produced a scarlet color, but not the "perfect red".

Skip forward a few hundred years to the 1600s, when Spain was exploring the "New World". The Spaniards found the "perfect red" dye which was central to the life and culture of ancient Mexico. This dye was gathered from the cochineal (*coach-in-neel*) insect, *Dactylopius*. The wild cochineal, a member of the scale family, is one-third the size of a ladybug. Cochineals live on and feed off of the Opuntia also known as prickly pear or nopals. They slip their proboscis into the cactus pad and suck out the juices. Female cochineals are the most damaging because they are wingless and spend their whole



life on the pad, making a white nest where they feed and lay eggs.

Males develop wings, but only live half as long as the females. The females have a secret weapon that protects them from predators – carminic acid. It is the carminic acid that produces the red dye. All the dyers had to do was pinch the insect and the "perfect red" dye poured out, they then applied the juice to the cloth, and the cloth would stay red forever.

Cochineals on a Prickly Pear

Cochineals grew well enough in the wild, but Mexican farmers, primarily Aztecs, carefully grew them on their farms, breeding them for size and color. The cochineal business became very profitable. The “perfect red” insect traveled all over the world. Europeans used cochineal to color their hair and textiles, Native Americans decorated their skin with the insect, and the Lone Star flag adopted in 1839 was dyed with cochineal. It has been approved by the Food and Drug Administration to produce natural red colors. Check your labels. Do they say carmine, carminic acid or natural red 4 – that is the cochineal ingredient. Even today, the female cochineals’ secret weapon can be found in fruit juice, ice cream, lipstick, cough syrup, and many other products.

Greenfield, Amy Butler, [A Perfect Red, Empire, Espionage, and the Quest for the Color of Desire](#), HarperCollins Publishers, Inc., New York, 2005.

Selah Bamberger Ranch Preserve

Our mission: To create an outdoor classroom for teaching you the wonders of nature.

Mary Holt explained, “ We are clearing a wooded area along a creek for an outdoor classroom in what is known on the ranch as Turkey Hollow. To get to the Hollow we have to walk down the trail, in, and across stepping stones through a creek. From there we are clearing down to a foot bridge. The creek is beautiful. It runs cool and clear and bounds one entire side of the site. It is hard but wonderful work. We



Making burn piles at Turkey Hollow, Selah Bamberger Ranch, February 15, 2019
Design by Mary Lott, on left with assistant Bernadette McFarling on the right.
Photo by Rob Sproul.



Patty Harrell, Class of 2018, making burn piles in Turkey Hollow
Photos by Rob Sproul

Stephen Harrell, Class of 2018, skillful at chain saw, cutting oak limbs into firewood
Photos by Rob Sproul



Charles Ahrens, Class of 2019, lives in Blanco and is a nature enthusiast
Photos by Rob Sproul



Richard Knowles, Blanco, Not a Master Naturalist, but loves Bamberger Ranch
Photos by Rob Sproul



Steven Harrell and Rob Sproul goofing off.
Photo by Mary Lott



Patty Harrell and Mary Lott in front with Bernadette McFarling and John Vermont in back
Photo by Mary Lott



Counter Clockwise Bernadette McFarling, Patty Harrell, and Mary Lott. Photo by Rob Sproul

Bernadette McFarling pretending to use a chain saw.

Forest bathing. Photo by Mary Lott

Cam McCade using a pole saw to cut Ashe Juniper, March 26. Photo by Rob Sproul.



Tour of Inks Dam National Fish Hatchery

By Phil Wyde

March 9th a group from Nature's Wonder Camps (Austin, Texas) took a tour of the Inks Dam National Fish Hatchery (IDNFH). They arrived at 10:00 a.m.

After being told about the Inks Dam National Fish Hatchery and the U.S. Fish and Wildlife Service, the group was told about our safety rules. Then all proceeded up the hill to the Education Building where they got to look cochineal, flower parts, rocks, soil, fabric and skin using a digital microscope.



Volunteers Earlene Thorne and Kaye Barr

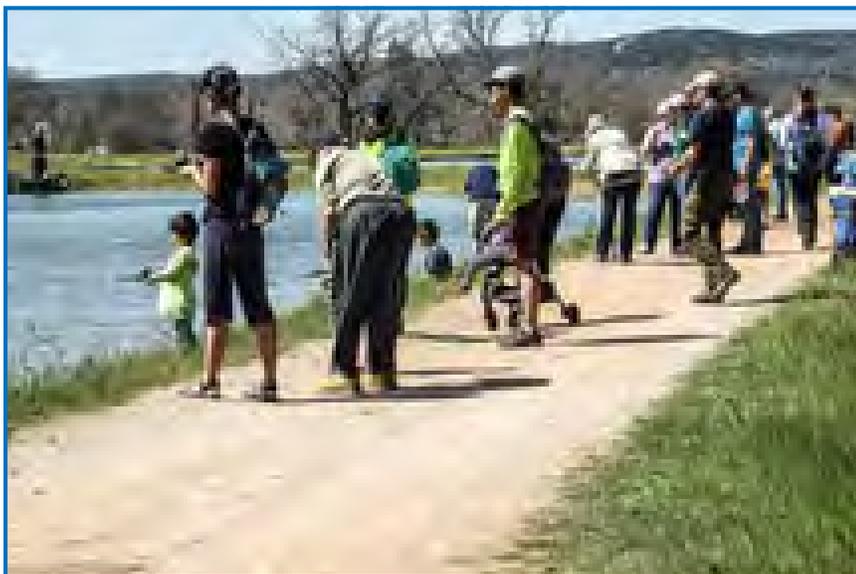
Thirty minutes later the group went on an interpretive hike up the hatchery's Hill Top Trail. The hike was led by Jerry Stacey, They learned about prickly pears, gneiss rock, quartz, different cacti, lichen, vernal pools, and much more. They also got a fine view of Inks Dam, the hatchery's ponds, Packsaddle Mountain and more.



Jerry Stacey leading

The group then walked down the hill where they heard about Fish Production at the Hatchery, Catfish Reproduction, the threatened paddle fish and fresh water mussels, and finally about endangered Clear Creek Gambusia.

The group then moved on to the Master Caster Station where they had to get rubber casting plugs into plastic rings floating in the water. Because of high wind conditions, being accurate was not easy. However, despite the windy conditions many of the participants became Master Casters.



The final event of the day was REAL fishing. All of the children got to fish along the “Derby Pond.” Because it had been quite cool for several days before today and the water temperature was only about 60F, the fish were not expected to be “biting.” However, in the allotted 30 minutes every child caught 1, and several 2 catfish. Every one of them, and their parents, were delighted.



Left: Volunteers Sherry Bixler, left, Pam Walt, right and Jerry Stacy in the back .

Below:

THE BIG ONE!

The tour ended about 1:00 p.m. All of the participants seemed ecstatic with the tour.

Friends of Inks Dam National Fish Hatchery Volunteers included P.R. Wyde, Kaye Barr, Sherry Bixler, Jerry Stacy, Pam Walt, Earlene Thorne, Paula Richards and Phyllis Hirsh. Each of these volunteers were outstanding during the setup, during the actual event.



Climate Watch, a Project from the Audubon Society

Several of our members have signed up to be Local Coordinators and Participants in the Climate Watch Project. Here is some information about the project and you may become interested too.

Climate Watch is like a Christmas Bird Count, but in your own backyard and at anytime during these dates - January 15th through February 15th, 2019 and May 15th through June 15th. The focus is on nuthatches and bluebirds because they are easy to identify and the Audubon Society can reliably predict their range changes. Audubon Society predicts that bird species' range will expand, contract, and move due to climate change. Participants' reported data will help Climate Watch determine how targeted species are responding to climate change.



Eastern Bluebird Brown-Headed Nuthatch

Sialia sialis Sitta pusilla

Participants map out an area to survey with 12 points in that area using their mapping tool. The amount of time spent observing is up to the individual. Results will be reported

Audubon provides online instructional materials as well as training to participants and coordinators.

They also supply digital and printable mapping resources. <https://www.audubon.org/news/coordinator-resources-climate-watch>

If you are interested in becoming a participant?

https://secure.everyaction.com/PzOLOXyFxkm29KXauoT7_A2

If you are interested in being a Climate Watch Coordinator?

<https://secure.everyaction.com/d6cB-jYeo0-7v1mXONMmvg2>

For more information about the Audubon's research and the Climate Watch Project go to

<https://www.audubon.org/news/how-join-climate-watch-community-science-program-audubon#joinCW>

Gratitude for Nature, and for You!

By President Susan Montgomery

Of all the things in life that bring me joy, my new found friends in HLMN are at the top of the list. My life offers so much to be thankful for, and often I reflect on the good things that have happened in my life to help me deal with the difficult times. Like many of you, nature offers me a respite from the stresses of life. Recently, I gained an even stronger appreciation for my friends when they came to the aid of my neighborhood and our precious nature preserve.

As a result of last year's flood the nature preserve in my little town, Cottonwood Shores, was devastated. Being directly behind Wirtz dam, the preserve was severely littered with debris from the devastation that was caused by the flooding. Everything that flowed over the dam was crushed into pieces and much of it was deposited in the nature preserve. The amount of non-biodegradable material was very disturbing to me as I thought about the long-term impact on our eco-system. When I viewed the damage for the first time, I thought that all of the debris would be there for generations as it slowly broke down into small bits and washed into lake Marble Falls and carried downstream.

Our little nature preserve needed help so I turned to my friends. My husband said that we wouldn't be able to make a dent, "there's just too much to move by hand", and I was beginning to feel that maybe he was right. But I asked my HLMN friends anyway, because anything we do will make it that much better. It was no surprise when HLMN responded in force. We had a clean up day and 23 people showed up. The City of Cottonwood Shores brought in some of their workers and equipment. By the end of the day we had moved mountains! (...of garbage). Most of the debris needed to be moved by hand because it was inaccessible by equipment. Our crew moved everything from little tiny balls of Styrofoam to big boat parts. We weren't able to get it all, but the transformation was amazing! We decided to have a second day to finish off anything that we could, and by the end of the second cleanup, almost all of the inorganics had been removed. Today, I believe the nature preserve is cleaner than pre-flood. You can see how nature is recovering with trees sprouting new growth and wildlife returning. Across the lake the ranch has also cleaned up most the debris that was deposited there. You can still see that there was a major flood but we got rid of the garbage and made it safe for people and wildlife.

I'm deeply appreciative of the life I have. I live in a beautiful place where I can spend a lot of time enjoying nature. I have a wonderful group of friends who share my love of nature and enthusiastically volunteer to conserve our beautiful outdoors and educate others so that the coming generations will continue the fight to protect our lands and wildlife. We are a diverse group with a lot of differing opinions but we are united in our efforts to conserve and protect our natural resources. The cleanup at Cottonwood Shores Nature Preserve was just one of the amazing things HLMN has done, but that one was closest to my heart and it makes me even more thankful for the place I live and the friends I've made in HLMN.

Volunteer Opportunities

Balcones Canyonlands Environmental Education	Balcones Canyonlands- Doe Skin	Evelyn Nugent
Garage Sale	Marble Falls	Rob Sproul
H.O.P. 5/14; 9am to 12	Inks Dam National Fish Hatchery	Phil Wyde



“It doesn’t seem to be covered in our invasive species management plan.”

Please submit pictures, articles, reports, stories, announcements, etc. to

becky_breazeale@yahoo.com

Photos should have captions and appropriate credits. The deadline for submissions for each quarter’s issue are located on the HLMN event calendar. Or contact Becky and Martelle.

Thank y’all for all your hard work and contributions!!

T E X A S



MISSION

The Texas Master Naturalist program is a natural resource-based volunteer training and development program sponsored statewide by Texas A&M 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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Photo by Phil Wyde