

T E X A S

Master  
Naturalist™



HIGHLAND LAKES CHAPTER



# Highland Lakes Steward

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Volume 3, Issue 1

## 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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## 2011 WAS A GREAT YEAR!

By Fred Franki

2011 was a great year for HLMN. Our chapter performed more than 12,000 hours of volunteer service in various activities such as bird counts, state and federal park assistance, water quality monitoring, and educational programs. I am pleased that we spent hundreds of hours on education, a primary goal for the Master Naturalist program. We are involved in Bridges to Birding and Going Buggy at Balcones National Wildlife Refuge, a Day in the Park at Blanco State Park, Angler Education, the Native Plant Garden Tour, the Hatchery Outdoor Program, and the Great Outdoor Program at Inks Lake State Park. This not a complete list, but you get the idea. These are fabulous opportunities to engage the community in all topics about Nature. I am proud to be part of such a hardworking and effective group. And we spent hundreds of hours on our own education, mainly for new members, but also on important, continuing education for all members.

2012 will be another great year with ample chances to continue and enhance our past efforts. All the programs mentioned above can grow, reach more people, and incorporate new learning modules. Mother Nature is presenting us with some unique challenges in the form of heat, drought, wildfires, and serious threat to our cherished water resources. It is hard to hear and read about these events in the news, but knowledge is a great antidote for worry and concern. As Master Naturalists, we can make a difference by teaching about fire-wise landscaping, water conservation, and safe practices when cooking, camping, or hiking outdoors, plus many other topics.

Some chapter members volunteer in

citizen scientist projects. Observing, recording, and reporting on birds, amphibians, insects, and rain measurement are extremely valuable now when the climate seems to be changing. I don't know a Master Naturalist who doesn't enjoy just watching and listening to birds, bees, or frogs. And these activities don't require a big block of time, usually an hour here, an hour there.

There will be a new Nature Center at Reveille Peak Ranch with a whole smorgasbord of volunteer opportunities. I encourage you to keep doing the Naturalist activities you love, but I hope you will consider trying something different too. Your efforts matter a great deal. There is much to be done, much worth doing, and many fun prospects ahead in 2012!

## FEBRUARY MEETING

Linda O'Nan

Our next HLMN meeting will be Wednesday, February 1, 2012, at 1 PM at the Kingsland Library. Paul Dorman, Project Leader at Inks Dam NFH, will speak on general operations at the hatchery. Mr. Dorman attended Iowa State University and graduated with a BS & MS in Fisheries and Wildlife Biology. He has worked at hatcheries in 4 different states and has been at Inks Dam NFH for the last 6 years.

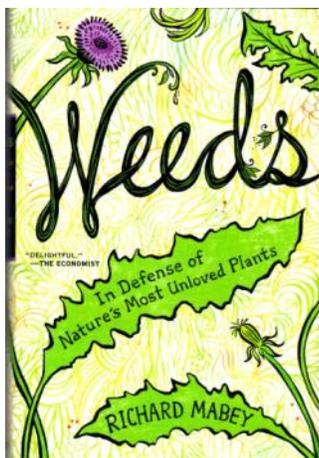


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## BOOK REVIEW - WEEDS

by Margy Butler



Hear it from the experts!  
 “Weeds are flowers too,  
 once you get to know them”  
 – Eeyore in *Winnie the Pooh*, A. A. Milne

Whoever had the temerity to come up with the pejorative term “weeds” in the first place? Or is it an accolade that we just don’t yet quite recognize? In the words of Ralph Waldo Emerson,

“What is a weed? A plant whose virtues have not yet been discovered.”

Richard Mabey, a naturalist and author, is a prolific author and a Brit, and has been lauded by *The Times*

as Britain’s greatest living nature writer. His personal bibliography contains 35 books and a plethora of other publications, including even a movie. He is the recipient of numerous professional awards. He contributes frequently to BBC radio, and made films for the BBC on Kew Gardens and The Yorkshire Dales (Wikipedia).

Mabey’s exceptional tribute to the often lowly regarded plants we call weeds is not only refreshing, it’s also downright enlightening when you see some of his more *ad hoc* statements. Such as quoting nineteenth-century garden reporter J. C. Loudon as he suggests his readers might “compare plants with men, [to] consider aboriginal species [i.e., wild plants] as mere savages, and botanical species [i.e. cultivars] as civilized beings.”

Mabey observes, softly, the nature of the so called weed “...a casual, sprung like the millet that appeared close by, from birdseed, and a reminder that weeds always find their ways back to places they like.”

Mabey says “Weeds thrive in the company of humans. ...They relish the things we do to the soil. ...It would be a tautology to say that these days they are found most abundantly where there is most weeding; but that notion ought to make us question whether the weeding encourages the weeds as much as vice versa.”

The *Sunday Times* calls this book “a profound and sympathetic meditation on weeds in relation to human beings.”

“Mabey argues that we have caused plants to become weeds through our reckless treatment of the earth, and he delivers a provocative defense of the plants we love to hate.” (frontpiece)

In the final paragraph of his book Mabey says “At the start of this book I suggested that weeds were a consequence of our rigid separation of the natural world into the wild and the domestic. They are the boundary breakers, the stateless minority, who remind us that life is not that tidy. They could help us learn to live across nature’s borderlines again.”

You’ve got to read this book. It’s thought provoking. It’s interesting. It’s beautifully written. It’s a gem. It’s an important contribution to comprehending our botanical world.

Thank you, Ray Buchanan, for suggesting this excellent book for review!

# THE EAGLE LADY LANDED - DORIS MAGER AT INKS LAKE STATE PARK, INKS LAKE DAM NAT'L FISH HATCHERY AND JAN.



Photos by Sue Kersey (except the one of her)

## 1000 HOUR PIN AWARDS!



Fredi Franki - President (left) congratulates: Ann Cook (center) and Shirley Winslow (right)

### 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

## INITIAL CERTIFICATION!



Fredi Franki - President (L) congratulates (continuing L to R): Suze Jernigan, Debbie Gallagher, Charles Beierle, Jeffrey Stokes

## 2011 RECERTIFIED MEMBERS



Congratulations from Fredi Frank - President to: Susan Bartoli (seated), Pam Walt (center), and Susan Evans (right), and Terry Bartoli (not pictured).

## FROM THE NATIVE VEIW: SKELETONLEAF GOLDENEYE (VIGUIERA STENOLOBA)

By Sammye Childers



During the recent Native Plant Garden Tour one plant name kept popping up more often than any other when participants discussed the plants that were the best performers during the excessive drought this year. That tried and true performer was Skeletonleaf Goldeneye, sometimes called resin bush.

Skeletonleaf Goldeneye is a perennial native of the Edwards Plateau that will grow moderately fast to 3-4 feet tall (taller in some garden environments) with a 4-6 foot spread. It forms a mound of attractive, fine textured, blue green foliage with yellow daisy-like flowers that last summer to frost. The plant will set new flowers especially after summer rains and is likely to bloom most profusely in the fall. The plant will grow in full sun to part shade, in poor soils, requires very little moisture once established and is very heat tolerant. However, for optimal growth the plant does best in full sun with moderate moisture. Removing spent blossoms will increase flower production and the plant

will benefit from being cut back in mid-summer to maintain a dense shrubby appearance.. Make sure the site chosen for this plant has very good drainage. The plant self-sows freely.

It is very deer resistant as aromatic oils in its leaves make it unpalatable. The flowers attract and are a nectar source for bees, butterflies, moths and other insects and it is a larval plant for butterflies.. The seeds are eaten by birds and the plant serves as cover for birds and other wildlife and provides a nesting site. Sometimes the Skeletonleaf Goldeneye is used as a small flowering shrub or a background planting in a perennial border. It is also very useful in spaces where a tall ground cover is desired. Cut the plant back to 6 inches high in late winter to encourage bushiness. Plants may be difficult to find but can be readily grown from seeds.

## CEDAR WAXWINGS AND WONDERFUL NESTS

By Sherry Bixler



Photo by  
Jerry Stone

Cedar Waxwings are a favorite winter resident in our area. Their beautiful colors, facial mask and upright position make them easy to identify as they consume berries from holly, mistletoe, ashe juniper and many other fruiting plants. They also eat insects, flower petals and sap.

Waxwings are tolerant of humans and generously share their food with others in the flock. They have a reputation for gluttony but, like all wildlife, they are simply taking advantage of good food sources by filling up.

Adult birds exude a red waxy substance which gives them their name although its purpose is not known. Waxwings lay from 2 to 6 eggs in a cup-shaped nest and are very good at rejecting cowbird eggs. They often desert a nest if a cowbird egg is discovered, building a second nest elsewhere.

Breeding grounds include most northern states and Canada. A second waxwing species, the Bohemian Waxwing, is found in the northwest, Canada and Alaska. Both species are found year-round in the center of their range and when ranges overlap, may be found in mixed flocks. Bohemian Waxwings are larger and grayer than Cedar Waxwings but have the same markings.

The waxwing species' cup-shaped nests are typical of many bird nests but nest size can vary from the tiny 1 inch nests of some hummingbirds to the huge,

messy nests of herons and eagles. Birds like condors and killdeer use gravel or rocks rather than building a nest, but most avian species are true architects. Nests may be tightly woven and suspended (orioles), loosely piled (dove), glued with saliva or spiderweb (swifts and hummingbirds), chipped out of trees (woodpeckers) or salvaged from discarded man-made items (wrens).

Nests may include feathers, twigs, leaves, lichens, moss, animal hair, snake skins, shells, stones, mud and a variety of man-made objects. In cemeteries, bird nests may be brightly adorned with plastic flowers. Many nests include adhesive substances such as leaf mold, certain sticky plant fibers and the silk from both spiders and caterpillars. Many birds build a new nest each year (one way to control mites and bacteria) but others return to the same nest or add material to an existing nest. Observers recorded one eagle nest that collapsed after 36 years of use and was found to contain 2 tons of nest material, while in Europe, a single stork nest had been in use for over four centuries.

Birds may make as many as one thousand trips to carry material for a single nest. Nest building is often a part of courtship and often a nest may be built and abandoned, possibly as part of the learning process for young birds. Surprisingly, studies have shown that those birds building the most elaborate nests are the birds that live the longest.

## GALLERY

I looked out toward the lake and under one of my feeding stations was this huge Cooper's Hawk with a Coot he had just killed. He is "manteling" the coot with his wings out to hide the bird. He then tried to pick up the coot and take it away, but that coot had been eating bird seed and was so heavy that as he flew away he dropped it into the water. He was really upset and dove into the lake to try to get his lunch, but could not pick up the bird from the water. He next spent hours in the tree drying and watching. Luckily the waves pushed the coot over to the boat slip and he was rewarded with his very fat, grain fed meal. It was an incredible experience to watch the entire story play out.

— Sue Kersey



Lesser and American Goldfinch  
Jerry Stone

Dark-eyed Junco  
Jerry Stone

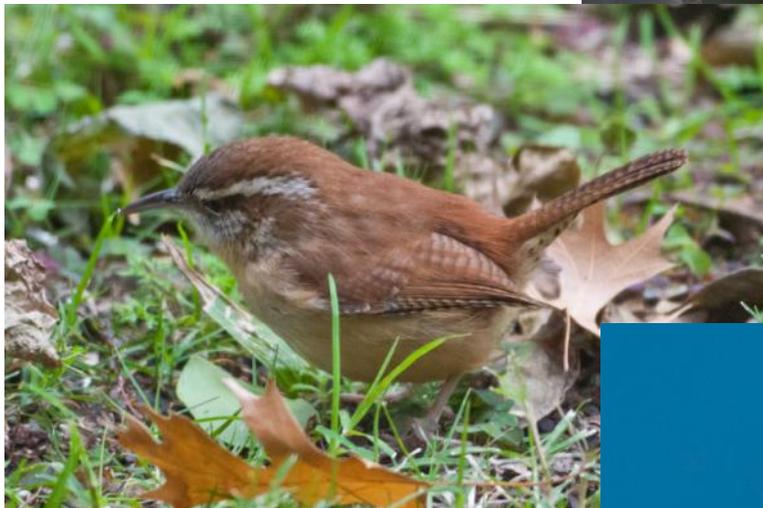




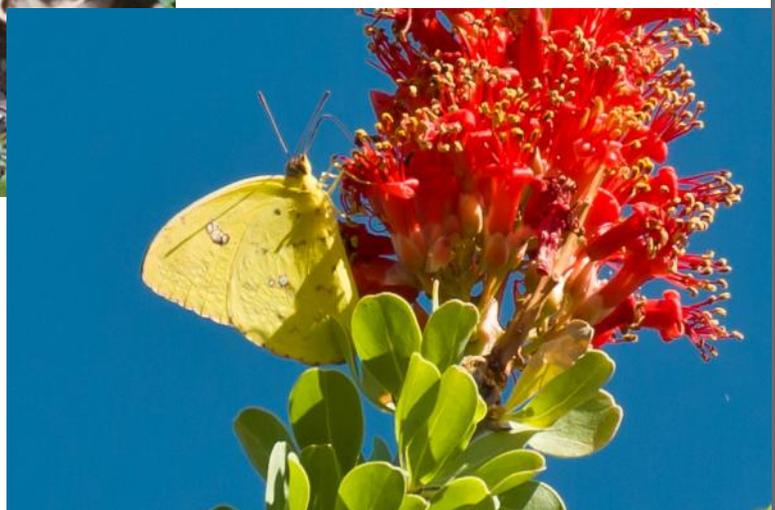
Inca Dove  
Jerry Stone



Dark-crested Titmouse  
Jerry Stone



Carolina Wren  
Jerry Stone



Orange-barred Sulphur on Ocotillo  
at Warnock Center  
Jerry Stone

## *FERNS (PTERIDOPHYTA)*

By Phil Wyde



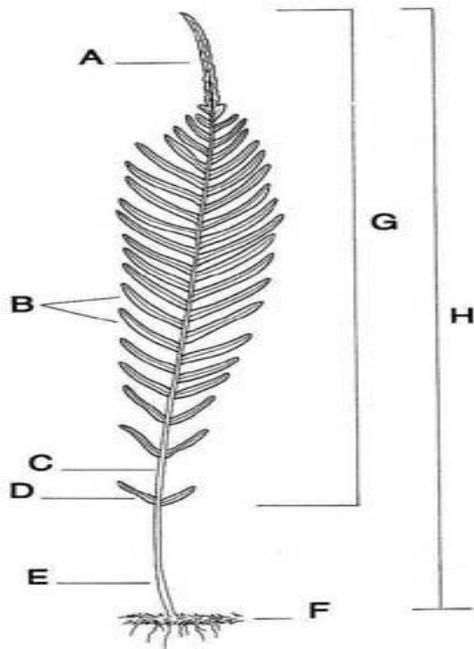
Although it was last year, I am sure that you remember the discussion in The Steward on mosses (December 2011). Today I would like to give a brief overview on another cryptogam, ferns. (The name “cryptogam” refers to plants and plant-like organisms such as fungi that do not reproduce by seeds.) As with the mosses, I would like to limit most of my comments on ferns to those that would be of use to Master Naturalists on interpretive hikes, scavenger hunts and during the profound discussions that are often entered into at wine and cheese breaks during Master Naturalist events.

To start with, I think that it is interesting that cryptogams make up about 84% of the world’s “botanical” diversity (<http://www.rbge.org.uk/science/cryptogmic-plants-and-fungi>). I mean we are talking about things that average people know and/or care very little about such as hornworts, liverworts, fungi, lichens, horse-tails, mosses and algae. I think that we can all agree that none of these cryptogam groups that I just listed can match the majesty of a huge red oak, the stunning beauty of a large field of blue bonnets or the flashiness of a group of Pride of Barbados plants. However, considering their very long history (some have been around for hundreds of millions of years), their great diversity (84% of all botani-

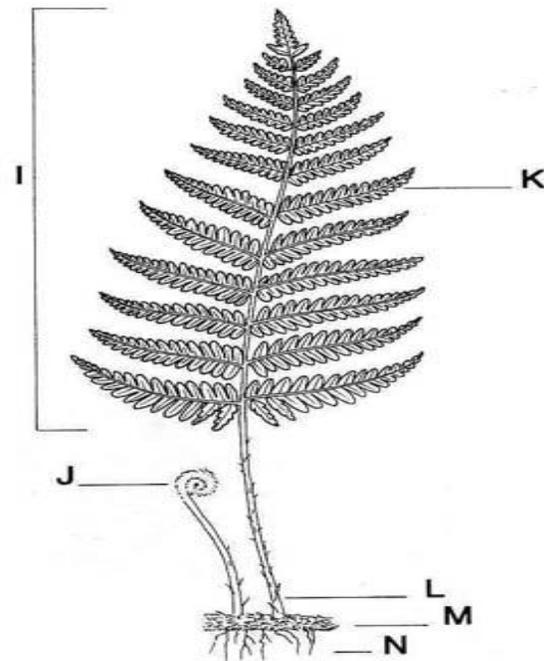
cal species) and biologic success (they are everywhere), I think that cryptogams deserve a special niche in the minds and hearts of above average people, such as Master Naturalists – and ferns especially so.

Fern morphology is interesting and differs significantly from that of “classical” plants. The most evident part of a typical fern is its fronds. These usually have two main parts, the stipe (leaf stalk or petiole) and the blade (the leafy expanded portions of the frond; see **Fern Morphology** diagrams next page). Fronds vary greatly in size, from those of tree ferns which can be 12 foot long to those of mosquito ferns which are often only 1/16 of an inch long. Rhizomes, the part of ferns that would be comparable to “stems” in the flowering plants are usually inconspicuous and commonly run along (often called a stolon when this happens) or beneath the ground. Rhizomes of tree ferns may be 2 foot in diameter and up to 36 foot tall. In contrast to ferns that grow in the ground, the rhizomes of epiphytic ferns (ferns that grow in trees) are often quite visible. Regardless, fronds usually arise from the upper side of the rhizomes or occur in one or more rows laterally on each side. The rhizomes contain vascular bundles (i.e., the xylem and phloem conducting tissues) that carry water, minerals and nutrients throughout the

## Fern Morphology



A=Frond tip or apex; B=Pinnae;  
C=Rachis; D=Basal pinnae;  
E=Stipe or petiole; F=Rhizome;  
G=Blade; H=Frond or leaf



I=blade  
J=crozier or fiddlehead  
K=pinna  
L=stipe or petiole  
M=rhizome

Drawings by Anna Stone from *Hawai`i's Ferns and Fern Allies*, Daniel D. Palmer, 2003 (<http://hardyfernlibrary.com/ferns/glossary/>)

fern plant. Roots are formed from the bottom of the rhizomes or stipe. These roots both anchor the plant to the ground and absorb water and minerals. (This is different from mosses. If you remember, it is the leaves of mosses and not the roots of mosses that absorb water.)

The sporangia are the reproductive structures of the ferns. They are miniature sacks or capsules, often found on the underside of the fronds. Sporangia arrangements vary among fern species. Most sporangia that I have seen are orange or reddish-brown in color when mature. At this stage they produce the dust-like spores that are the "seeds" by which ferns propagate. (Several sporangia grouped together are called a sorus.) Many times, but not always, the ferns develop a pro-

tective covering for the sorus called an indusium.

It is worthwhile thinking about reproduction using spores as opposed to reproduction using seeds. The inability of a plant to produce seeds is a very big disadvantage. Thus although spore forming plants produce millions, and even billions, of spores during their lifetimes, very few of these spores actually land in a spot suitable for growth, and without an energy source to help them during initial germination, VERY FEW (e.g., maybe one in one million) will actually successfully result in a full grown plant. That said, the system works; ferns long predate flowering plants and they are still present in large numbers in a wide variety of habitats (there are about 12,000 species of ferns) after millions of years

in an ever changing world.

Although ferns primarily propagate via spores, there are other ways that they can procreate. (Spore formation is actually a form of sexual reproduction.) During dry conditions some ferns can produce sporophytes without fertilization (i.e., asexually) by a process called apogamy (see December 2011 article in *The Steward* on mosses). Indeed, some ferns that are adapted to life in desert regions use this form of reproduction more frequently than any other method of reproduction. Ferns can also propagate vegetatively. In this method, pieces of the fern rhizomes can break off (or be broken off) and start new plants. This is especially common in infertile hybrid ferns, of which there are quite a few. In fact, in some of these hybrids, this is their only form of propagation. As an aside, this would be a very good time to think very seriously about the advantages and disadvantages of sexual and asexual reproduction in general.

Fern species live in a wide variety of habitats ranging from remote mountain elevations to dry desert rock faces. However, "Ferns in general may be thought of as largely being specialists in marginal habitats, often succeeding in places where various environmental factors limit the success of flowering plants." (This quotation is taken from [www.en.wikipedia.org/wiki/fern](http://www.en.wikipedia.org/wiki/fern).) This specialization can be seen by the places that ferns thrive. For example bracken fern are a very serious weed species in the rough, demanding Scottish highlands. They also grow abundantly in moist, shady forests; in crevices in rock faces, especially when sheltered from the full sun; in acid wetlands including bogs and swamps; and in tropical trees, where many species are epiphytes." This information makes me smile. When I take visitors to the "top of the hill" at Inks Dam National Fish Hatchery we always see the ferns in crevices or in the shade at the bases of big boulders. I always tell the children and adults listening to me that these ferns (and cactus and other little

plants) on top of the hill may look small and weak, but they are among the toughest of plants. These are the plants that they can take the harsh, exacting environment found on the hill top.

Ferns generally are not of major economic importance. Some have been grown and used for foods (e.g., bracken and cinnamon ferns). Others have been used as landscape plants, for cut foliage and as house plants. Some of the most popular ferns used as landscape or house plants include the Boston fern (*Nephrolepis exaltata*), the bird's nest fern (*Asplenium nidus*) and the staghorn fern (genus *Platycerium*). *Rumohra adiantiformis* (floral fern) is widely used in the florist trade. Ferns have also been used in mythology and art, and have been associated with cultural identity. This is particularly true in New Zealand where the silver fern has been used as the emblem for many of the country's top national sports team, where there is currently a significant effort to change the national flag to that of a fern leaf and where the indigenous Maori use an unfolding fern leaf (crosier) as a symbol of the renewal of life.

### Suggested Reading

Pryer, Kathleen M., Harald Schneider, Alan R. Smith, Raymond Cranfill, Paul G. Wolf, Jeffrey S. Hunt and Sedonia D. Sipes. 2001. Horsetails and ferns are a monophyletic group and the closest living relatives to seed plants. *Nature* 409: 618–622.

Pryer, Kathleen M., Eric Schuettpelz, Paul G. Wolf, Harald Schneider, Alan R. Smith and Raymond Cranfill. 2004. Phylogeny and evolution of ferns (monilophytes) with a focus on the early leptosporangiate divergences. *American Journal of Botany* 91:1582–1598.

Moran, Robbin C. (2004). *A Natural History of Ferns*. Portland, OR: Timber Press. [ISBN 0-88192-667-1](https://doi.org/10.1007/978-1-4020-8819-2).

**VOLUNTEER OPPORTUNITIES AND AT/EVENTS CALENDAR**

Mike Childers

<b>JANUARY - FEBRUARY EVENTS &amp; VOLUNTEER OPPORTUNITIES</b>	
Invasive Mussels and the Highland Lakes 3 indential 2.5 hour programs at Burnet, Marble Falls, and Kingsland Libraries	Jan 18-19
TPWD Wildlife for Lunch Webinar Series - Prescribed Burning for Wildlife <a href="https://texas-wildlife.webex.com">https://texas-wildlife.webex.com</a>	Jan 19
Highland Lakes NPSOT Meeting - Alien Invaders - Invasive Plants of BCNWR Marble Falls Library	Jan 21 1pm
UT Natural Science Center Identification Day University of Texas	Jan 22 1-4:45pm
Sparrowfest Flying X Ranch, Balcones Canyonlands NWR	Jan 28 7am
HLMN Monthly Meeting - Overview of Inks Dam National Fish Hatchery Kingsland Library	Feb 1 1-3pm
Highland Lakes Bird and Wildflower Society Marble Falls Library	Feb 2 10am
Lithics: Reading Stone Artifacts - <a href="http://www.txarch.org/activities/academy">www.txarch.org/activities/academy</a> Uvalde, Texas	Feb 4-5
Balcones Training Workshop for Bridges to Birding and Going Buggy Programs Balcones Canyonlands National Wildlife Refuge - Flying X Ranch	Feb 16 9am-4pm
TPWD Wildlife for Lunch Webinar Series - Feral Hogs <a href="https://texas-wildlife.webex.com">https://texas-wildlife.webex.com</a>	Feb 16
2012 NPSOT Spring Symposium - <a href="http://www.wildflower.org/springsymposium/">www.wildflower.org/springsymposium/</a> Lady Bird Johnson Wildflower Center	Feb 25-26
<b>FUTURE EVENTS &amp; VOLUNTEER OPPORTUNITIES</b>	
2012 Master Naturalist Training Program Begins	Mar 1
Ceramics: The Stories Found in Pottery - <a href="http://www.txarch.org/activities/academy">www.txarch.org/activities/academy</a> College Station, TX	Mar 3-4
TPWD Wildlife for Lunch Webinar Series - Pond Management <a href="https://texas-wildlife.webex.com">https://texas-wildlife.webex.com</a>	Mar 15
2012 Lawnd and Garden Show Burnet Community Center	Mar 31
Great Outdoor Program Inks Lake State Park	Apr 17-20
Great Outdoor Program Inks Lake State Park	Apr 24-27
Day in the Park Blanco State Park	May 11

For volunteer opportunities and events scheduled at Inks Lake State Park, Blanco State Park, and Balcones Canyonlands, Balcones Canyonlands Preserve, check these websites for information:

[http://beta-www.tpwd.state.tx.us/state-parks/parks/find-a-park/inks-lake-state-park/park\\_events/](http://beta-www.tpwd.state.tx.us/state-parks/parks/find-a-park/inks-lake-state-park/park_events/)

[http://beta-www.tpwd.state.tx.us/state-parks/parks/find-a-park/blanco-state-park/park\\_events/](http://beta-www.tpwd.state.tx.us/state-parks/parks/find-a-park/blanco-state-park/park_events/)

<http://www.fws.gov/southwest/refuges/texas/balcones/>

<http://friendsofbalcones.org/>

<http://www.ci.austin.tx.us/water/wildland/onlineregistration/ecowebevents.cfm>

Please submit pictures, articles, reports, stories, calendar and event entries, etc. to [chili865@gmail.com](mailto: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.