



The Voice of Outdoor Kansas

**September-
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News & Events

Pages 1-6, 8-9, 17

Anglers & Habitats

Pages 3, 9-10, 30

Hunters & Habitats

Pages 12, 14, 38

Natural Resource Management

Pages 6-8, 10, 13, 15-16, 19-22,
27-29, 32, 37

Outdoor Recreation

Pages 11, 19, 24-25, 34, 37

Kid's Wildlife Friends

Pages 9, 11-12, 18, 26, 28, 31,
33, 36

Go to our Web site,
www.kswildlife.org,
for additional KWF information

KWF CAP winner named presidential award recipient

Denise Scribner, recipient of the Kansas Wildlife Federation's 2015 Conservation Achievement Program (CAP) Conservation Educator award, was recently named the recipient of the Presidential Award for Excellence in Mathematics and Science Teaching. Scribner teaches biology, ecology and forensic science at Eisenhower High School in Goddard. She has been invited to Washington, D. C. in September for the awards ceremony, educational and celebratory events and visits with members of the president's administration.

After working with Girl Scouts for 32 years, Scribner has a remarkable list of accomplishments in the field of conservation education. Denise is currently into her second career and it has been during her nine year tenure as a teacher that her talents as a Conservation Educator have come to the fore.

Scribner has already received several awards for her work, including:

- ◆ a Fulbright Teacher Exchange scholarship to go to Japan and study sustainability education in 2012;
- ◆ awards from KACEE for her excellence in conservation and environmental education, and;
- ◆ the 2012 Presidential Innovation Award for Environmental Education (one of 17 awarded nationally).

Last fall, Eisenhower High School was named one of America's Top Ten Eco-schools by the National Wildlife Federation, an honor that recognized the school's commitment to wildlife protection, sustainability and environmental education. Scribner was instrumental in landing that award, having spent years building an outdoor classroom, planting hundreds of plants and grasses, helping the school become a certified wildlife site and monarch butterfly way station.

Knowing that student engagement drives science innovation, Denise adapts to meet the needs of students and our society by integrating current and projected environmental issues into her lessons and into action. This dedication has resulted in achieving the Green Flag Eco-Schools USA, U.S. Department of Education Green Ribbon Schools, and Kansas Green Schools of Excellence awards. Her students graduate as environmentally literate citizens, advocating for what is best for their world.

Winners of the presidential honor receive a \$10,000 award from the National Science Foundation, to be used at their discretion. This is good because Scribner spends much of her own money buying classroom supplies.

Denise Scribner is the type of teacher everyone would want for their child. The recognition of Denise as the Presidential Award for Excellence in Mathematics and Science Teaching is well deserved.

**Protecting the Land...
Passing on Our Traditions**



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President's Message

*Lazily flying
Over the flower-decked prairies,
West;
Basking in sunshine till
Daylight is dying,
And resting all night
On Asclepias' breast:
Joyously dancing,
Merrily prancing,
Chasing his lady-love
High in the air,
Fluttering gaily,
Frolicking daily,
Free from anxiety, sorrow,
And care!*

— **Professor C.V. Riley**
1898 US Dept. of Agriculture



With the latest news of the continued decline in the monarch populations, it has been inspiring to learn of businesses, schools, organizations and homeowners actively getting involved in the latest movement to plant more native plant species, especially milkweeds. Even several of our KWF Board members have taken the challenge to provide more habitat to our fine-winged pollinators.

Why plant a habitat garden?

Today, with more land covered with lawns, more urban/ suburban sprawl and more land needed for agriculture, the amount of land available as habitat for wildlife and healthy ecosystems is shrinking. Now is the time to ask yourself, am I helping to provide the habitat necessary to ensure there are birds, butterflies and other great creatures for my children and grand-children to enjoy throughout their lives? Am I providing pollinators the ability to thrive and guarantee those agriculture crops continue to provide our food supply?

The Kansas Wildlife Federation, and several other state affiliates, is partnering with the National Wildlife Federa-

tion in working to promote the planting of wildlife-friendly gardens through the National Wildlife Federation Garden for Wildlife Program. Not only can you create your own special wildlife haven, but you can also turn your yard, schoolyard or work greenspace into a Certified Wildlife Habitat and be an inspiration to the rest of the neighborhood.

It's very simple for anyone to accomplish. First, you want to make sure your garden can provide wildlife diverse, native food sources, water, cover and places to raise young. To learn more about what aspects to consider when planning the habitat, visit <http://www.nwf.org/Garden-For-Wildlife>. At that website is where you can certify your special wildlife habitat. By adding pollinator and monarch-friendly plants to your certified garden, the habitat gets counted towards the Million Pollinator Garden challenge. In addition, a portion of the habitat certification fee comes back to your own Kansas Wildlife Federation to help us continue our own projects geared towards improving Kansas habitats.

Helping to preserve a healthy, thriving ecosystem full of wildlife for future generations; certifying your own wildlife garden and engaging others to do likewise; helping the Kansas Wildlife Federation... sounds like a win-win-win scenario to seeing more of those flower-decked prairies filled with butterflies in the future.



Photo by David Zumbaugh

Proposal would make Milford Reservoir blue catfish trophy fishery

Elby Adamson
Clay Center Dispatch

Milford Lake has some really big blue catfish and Tom Bowman should know. He was responsible for introducing blue catfish to Milford Reservoir in the 1980's.

Bowman of Wakefield was with the Kansas Department of Wildlife, Parks and Tourism for 33 years and during that time served as a fisheries biologist for 22 years.

Those original blue catfish from Arkansas weighed about one half pound each.

Today those blue catfish have grown and Milford Lake has become a world-class blue cat fishery, Bowman told a meeting of the Kansas Wildlife, Parks and Tourism Commission at Life's Finer Moments at Clay Center on Aug. 11.

"People come from all over to fish Milford with the expectation of maybe catching the biggest fish of their life," Bowman said.

The fishing pressure on Milford continues to increase with the heaviest pressure yet this year.

There are seven or eight fishing guides working Milford and they do a good job, but more regulation is needed Bowman told commissioners.

"Milford has a mature population of blue



This photo from a youtube.com video shows a 27.5-pound blue catfish caught at Milford Lake in 2015 that measured 39.5 inches. The angler released the catfish back into the lake after weighing and measuring it.

catfish. The life history of blue catfish is such they can't be managed like crappie or walleye. Blue catfish don't become sexually mature until they are six or seven years old. At about ten pounds they really begin to pack on the weight."

Blue cats can live to be nearly a hundred years old, said Bowman.

Continued on Page 5



Denise Scribner, left, is presented with the 2015 Conservation Achievement Program (CAP) Conservation Educator of the Year award by KWF Conservation VP Steve Sorensen.

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KANSAS WILDLIFE FEDERATION

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The Kansas Wildlife Federation promotes hunting and fishing opportunities and associated recreation for the benefit of all hunters, anglers and conservationists.

KWF supports the sustainable use and management of fish and wildlife and their habitats through education, partnerships, outreach and policy oversight.

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Kansas Wildlife Officers Association

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2016 Conservation Achievement Program Awards

You know someone who has volunteered countless hours towards a particular wildlife project or someone who has devoted themselves beyond normal expectations for conservation. It is important for conservationist to give credit to those who deserve it. It demonstrates that we hold these activities in high regard and gives some appreciated recognition to folks who work very hard for something they love. Do your part and consider those you work with or know who have performed beyond the call of duty, someone who deserves to be recognized for their contributions to Kansas' wildlife. Let's not let them go unrecognized for their dedication and sacrifices.

Please make an effort to identify folks who have made special efforts for wildlife in 2015. Those who have received Conservation Achievement Program (CAP)

awards in the past can attest to the pride they felt in being bestowed such a noteworthy recognition. Do your part and make certain we recognize those most deserving at the CAP banquet in February, 2017.

To nominate someone simply e-mail a nomination of 400-500 words (more or less) to info@kswildlife.org. Make sure you put full contact information for yourself and the nominee, including mailing and e-mail addresses and phone numbers. Do it now! E-mail me if you'd like a cyber copy of the form. Thanks for your help with this very noteworthy program for wildlife conservation in Kansas. **Get your nominations to us by November 20.**

Steve Sorensen

CAP Chair

info@kswildlife.org

Ph. 316-214-3001

Official Entry Form 2016 Kansas Wildlife Federation Conservation Achievement Award (CAP)

The Kansas Wildlife Federation CAP awards recognize outstanding accomplishments in Kansas's conservation fields. Nominations should be made for efforts worthy of state recognition. The accomplishment should reflect a long-time commitment to natural resources in Kansas with a significant effort during the past year. Awards are presented in 13 categories to capture the wide range of efforts that benefit wildlife and the cause of conservation. Past year's winners are not eligible for nomination in the same category for three years. Current KWF officers are not eligible.

- **Wildlife Conservationist.** For outstanding achievement in fish or wildlife resource management. Nominees should have demonstrated leadership in management, restoration, or research of habitats or wildlife species.

- **Water Conservationist.** For outstanding achievement in water pollution control, conservation, and protection of rivers and wetlands, prevention of degradation of water quality through effective planning and management or other activ-

ity aimed at maintaining or improving water standards.

- **Land and Soil Conservation.** For outstanding achievement in watershed protection, wetlands development, erosion control, habitat improvement or other management practices that improve land so as to benefit wildlife.

- **Conservation Education.** For outstanding achievement in educating others in conservation. The process may be formal or informal. The nominations may be for leadership, which by example of demonstration, aids in the environmental/wildlife education of others.

- **Forest Conservation.** For outstanding achievement in forest and woodlands management, including reforestation, preservation of wilderness areas and wildlife habitat development.

- **Conservation Communicator.** For outstanding conservation achievement in effectively conveying the conservation message and creating public awareness of conservation issues in the news and other

Continued on Page 5

CAP Nomination Form

To make a nomination, send this form with attached write up to Steve Sorensen, CAP Chairman, info@kswildlife.org. Nominating write-ups should be approximately 400-500 words, and should list the accomplishments of the nominee, especially those accomplishments during the award period (2016). The deadline for nominations is November 20, 2016. Any questions, contact: Steve Sorensen webforbs@cox.net or 316-214-3001.

Name of nominee _____

Address _____

Phone(s) _____ e-mail(s) _____

Award Category _____ (please specify one of the categories, above)

Nominator's name _____

Address _____

Phone(s) _____ e-mail(s) _____

Steve Sorensen
CAP Chair
info@kswildlife.org
Ph. 316-214-3001

CAP

Continued from Page 4

media.

• **Youth Conservationist.** For outstanding conservation efforts for someone under 21 during the contest year. Winners should have demonstrated ability and accomplishment in some phase of conservation. Youth groups are eligible as well.

• **Conservation Organization.** For outstanding achievement by an organization for work in some phase of conservation during the contest period. May include

civic clubs, conservation groups, garden clubs, sportsman's clubs, businesses, professional organizations and others.

• **Stream Team or Stream Monitor.** For outstanding efforts by a group of citizen volunteers or individual in monitoring and contributing to the protection of our state's waterways. Nominees should have demonstrated leadership in stream monitoring, protection and educational efforts.

• **Conservation Legislator.** For outstanding achievement by a legislator in conservation legislation that took place in or culminated in the contest year. Competition is open to state or federal legislators and their staff members.

• **Farmer/Rancher Wildlife Conservationist.** This award is to recognize special efforts of a farmer and/or rancher who has made extra efforts towards conserving wildlife.

• **Outdoor Skills Instructor.** This award recognizes wildlife, nature, shooting, and outdoor instructors for their superior involvement in educating others.

• **Conservationist of the Year.** The Conservationist of the Year will be selected from all the nominations submitted in all categories. This award will be based on exemplary service to Kansas's fish, wildlife and environmental conservation efforts.

CATFISH

Continued from Page 3

"Blue catfish like big water and a current with a lot of area to forage especially as they approach 100 pounds. I know of at least three blue cats caught at Milford this year weighing over 80 pounds. Blue catfish require different management from other fish especially as they mature," said Bowman.

Bowman asked the commission to designate the blue cat fishery at Milford as a trophy fishery with a slot limit of 25 to 40

inches. Fish within the slot limit would be protected and would be released if caught. He suggested leaving the limit at five fish per day but only one fish per day over 40 inches.

"The designation of Milford as a trophy fishery for blue cats would be a boon to the economy, prolong the fishery even as it promotes fishing at Milford," said Bowman.

"We are in danger of losing quality fishing if there are no new regulations. It would be the first trophy fishery in the state. The trophy fishery designation would allow special regulations to be in place for Milford. It takes 20 years to replace a 30 pound blue catfish,"

Bowman said.

Bowman quoted famed fishing guide Lee Wulf as having said, "a big fish is too valuable to be caught only once."

The blue cat fish population in Milford is self-sustaining and will continue to be so if properly managed, Bowman said.

Most Kansas fishermen want future generations to have the same opportunities to catch a really big catfish that they have today. If the Milford blue cat fishery is to be preserved, it needs to be done soon.

The commission is considering his proposal.

Aerial surveys document stable Lesser Prairie-chicken population trends

Biologists note annual population fluctuations, emphasize value of improved habitat

The latest lesser prairie-chicken survey shows bird population trends remain stable after five years of aerial survey data collection. The surveys indicated an estimated breeding population of 25,261 birds this year which scientists say is not significantly different from the 29,162 birds estimated in 2015 given the variability in the survey methodology. This spring's breeding population remains significantly larger than the 17,616 birds that were estimated in 2013 following two years of severe drought.

Lesser-prairie chickens can be found in four ecoregions in five states: Colorado, Kansas, New Mexico, Oklahoma and Texas. Wildlife biologists note prairie chicken numbers regularly fluctuate up and down from year to year due to changes in habitat conditions mainly influenced by rainfall patterns. The surveys this year indicated apparent population increases in the shinnery oak ecoregion of eastern New Mexico and the Texas Panhandle and the sand sagebrush ecoregion of southeast Colorado and southwest Kansas.

The lesser prairie-chicken populations in these regions experienced the most decline as a result of the 2011-2012 drought. Population decreases were observed in the mixed-grass prairie ecoregion of the northeast Panhandle of Texas, northwest Oklahoma and south-central Kansas, and the short-grass prairie region of northwest Kansas.

"Just as with last year's population increase, we shouldn't read too much into short-term fluctuations over one or two years," said Bill Van Pelt, WAFWA grassland coordinator. "The monitoring technique used for this survey is designed to track trends, and both the three and five-year trends still indicate a stable population. Lesser prairie-chickens inhabit a large geographic landscape with highly variable weather patterns, so we expect to see annual and regional population fluctuations. What these numbers show is the importance of maintaining good prairie habitat for long-term population stability. Populations have responded positively in recent years to increased and timely rainfall

in portions of the bird's range most affected by the 2011-2012 drought. Specifically, the population has significantly increased over the last three years in the sand sagebrush ecoregion. Voluntary conservation efforts like the range-wide plan help to ensure that suitable habitat is available so these population increases can occur when weather conditions are suitable."

The Lesser Prairie-Chicken Range-wide Plan is a collaborative effort of WAFWA and state wildlife agencies of Texas, New Mexico, Oklahoma, Kansas and Colorado. It was developed to ensure long-term viability of the lesser prairie-chicken through voluntary cooperation by landowners and industry. The plan allows industry to continue operations while reducing and mitigating impacts to the bird and its grassland habitat. Industry contributions support conservation actions implemented by participating private landowners. To date, industry partners have committed over \$60 million in enrollment and mitigation fees to pay for conservation actions, and landowners across the range have agreed to conserve over 130,000 acres of habitat through 10-year and permanent conservation agreements.

"With continued improvement in nesting and brood-rearing habitat associated with good weather conditions and private landowner conservation actions, we are optimistic about the lesser prairie-chicken's future," said Alexa Sandoval, chairman of WAFWA's Lesser Prairie-Chicken Initiative Council. "Habitat conservation and species recovery is a marathon, not a sprint. We appreciate the continued commitment of all of our partners in our ongoing conservation efforts."

WAFWA news releases available at <http://www.wafwa.org/news/>

Since 1922, the Western Association of Fish and Wildlife Agencies (WAFWA) has advanced conservation in western North America. Representing 23 western states and Canadian provinces, WAFWA's reach encompasses more than 40 percent of North America, including two-thirds of the United States. Drawing on the knowledge of scientists across the West, WAFWA is recognized as the expert source for information and analysis about western wildlife. WAFWA supports sound resource management and building partnerships at all levels to conserve native wildlife for the use and benefit of all citizens, now and in the future.



CAP Award

Thad Rhodes, right, of Wamego, is presented the Elk trophy by KWF President Angela Anderson of Emporia for being selected as the KWF Conservation achievement Program (CAP) Forest Conservationist of the Year for 2015.

St. Francis' Ward Cassidy appointed to Wildlife, Parks and Tourism Commission

Governor Sam Brownback has appointed Ward Cassidy, St. Francis, to the Kansas Wildlife, Parks and Tourism's Commission. Cassidy replaces Roger Marshall, Great Bend, whose term ended in June. Cassidy will serve a 4-year term.

Cassidy has resided in St. Francis since 1969, teaching for 11 years before serving as principal and counselor for 20 years. He coached high school basketball for seven years. Cassidy's wife Gloria taught first grade for 38 years. The Cassidys have two daughters, both married and living in St. Francis. They have six grandchildren.

In 2010, Cassidy was elected to the Kansas House and represented District

120 for two terms. He did not seek re-election in 2014.

"I have been an avid hunter all my life, and one of my greatest pleasures is spending time with my grandchildren in the outdoors," Cassidy said. "I am honored to represent northwest Kansas on the Wildlife, Parks and Tourism Commission."

Mr. Cassidy told Michael Pearce, Wichita Eagle outdoors page writer. "I have four grandchildren who like to hunt and fish, and that's who I'm always looking out for and always want to spend time with," said Cassidy. "I really don't have an agenda (for the Commission). I just know the outdoors is a wonderful place for kids. I'll encourage all we can do for

youth hunting and youth fishing."

The Kansas Department of Wildlife, Parks and Tourism (KDWPT) is advised by a non-partisan, seven-member commission. Commissioners are appointed by the governor and serve staggered 4-year terms. The Commission advises the KDWPT Secretary on planning and policy issues and approves regulations which are adopted and administered by the Secretary. Cassidy will join Commissioners Chairman Gerald Lauber, Topeka; Vice-Chairman Tom Dill, Salina; Aaron Rider, Columbus; Gary Hayzlett, Lakin; and Harrison Williams, Wichita.

Commissioner Cassidy can be reached at ward.cassidy@ksoutdoors.com.

Duck Numbers Hold Steady

Most species remain well above long-term averages

The U.S. Fish and Wildlife Service (FWS) today released its report on 2016 Trends in Duck Breeding Populations, based on surveys conducted in May and early June by FWS and the Canadian Wildlife Service. Overall duck numbers in the survey area are statistically similar to last year and remain steady. Total populations were estimated at 48.4 million breeding ducks in the traditional survey area, which is 38 percent above the 1955-2015 long-term average. Last year's estimate was 49.5 million birds. The projected mallard fall flight index is 13.5 million birds, similar to the 2015 estimate of 13.8 million.

The main determining factor for duck breeding success is wetland and upland habitat conditions in the key breeding landscapes of the prairies and the boreal forest. Conditions observed across the U.S. and Canadian survey areas during the 2016 breeding population survey were generally poorer than last year. The total pond estimate for the U.S. and Canada combined were 5.0 million, which is 21% below the 2015 estimate of 6.3 million and similar to the long-term average of 5.2 million.

The spring surveys provide the scientific basis for many management programs across the continent, including hunting season dates and bag limits. Individual states set their hunting seasons within a federal framework of season length, bag limits and dates. Hunters should check the rules in their states for final dates and bag limits.

2016 WATERFOWL SURVEY ducks.org/ducknumbers				
Species	2016	2015	% change from 2015	% change from LTA
 Mallard	11.793	11.643	+1	+51
 Gadwall	3.712	3.834	-3	+90
 American Wigeon	3.411	3.037	+12	+31
 Green-winged teal	4.275	4.081	+5	+104
 Blue-winged teal	6.689	8.547	-22	+34
 Northern shoveler	3.967	4.391	-10	+56
 Northern pintail	2.618	3.043	-14	-34
 Redhead	1.289	1.196	+8	+82
 Canvasback	0.736	0.757	-3	+26
 Scaup	4.992	4.395	+14	0
Total Ducks	48.363	49.522	-2	+38
May Ponds (US/Can)	5.012	6.308	-21	-4

Numbers in millions. LTA (Long-term Average)

Kansas Alliance for Wetlands and Streams announces new Executive Director

The Kansas Alliance for Wetlands and Streams, a non profit organization dedicated to the conservation of the natural heritage and resources of Kansas, is pleased to announce that Jessica Mounts of Cheney, KS has been named as its new Executive Director. Mounts will fill the vacancy left by Jeff Neel, who will continue his work with KAWS as Program Director of Applied Research, Restoration and Monitoring.

Mounts' resume includes twelve years of experience in fisheries, water conservation and natural resources, as well as successful leadership building teams and programs. She holds a Bachelor's of Science in Biology from Newman University, earned a mini-Master's of Public Administration at Wichita



Mounts

landowners, funding sources and volunteers to build and maintain successful projects will bring continued success to the mission of

State University, and is a graduate of the KU Emerging Leaders Academy.

"We are very pleased to announce this appointment," says Brad Loveless, Board Chairman for KAWS. "Jessica's experience involving the coordination of multiple partners,

KAWS. I am confident that her energy, enthusiasm and skills will be an asset to KAWS as we move forward from our recent reorganization and continue to develop additional program areas." Most recently, Mounts was a key partner in working with the National Park Service to designate the Arkansas River as a National Water Trail, and campaigned for funding to build the first fish passage structure in Kansas on the Arkansas River in Wichita. Her diverse experience includes multiple conservation projects, public service and volunteering, serving on the Friends of the Great Plains Nature Center Board of Directors, and multiple publications, including "A Pocket Guide to the Stream Fishes of Kansas".

The right to hunt, fish and trap heads to November ballot

On March 17th, House Concurrent Resolution 5008, the Right to Hunt, Fish and Trap Wildlife, was unanimously passed by the Kansas Senate—meaning, this November, Kansans will have the opportunity to vote on this state constitutional amendment to create permanent protections for sportsmen and conservation. The Right to Hunt, Fish and Trap Wildlife ensures that wildlife conservation and management decisions continue to be based on sound science in order to preserve Kansas' hunting heritage for generations to come and to protect it against future attacks from well-funded, anti-hunting organizations.

HCR 5008 proposes an amendment to the Kansas Constitution that will affirm that it is a right of the public to hunt, fish, and trap as

such:

The people have the right to hunt, fish and trap, including by the use of traditional methods, subject to reasonable laws and regulations that promote wildlife conservation and management and that preserve the future of hunting and fishing. Public hunting and fishing shall be a preferred means of managing and controlling wildlife. This section shall not be construed to modify any provision of law relating to trespass, property rights or water resources.

Hunting, fishing, and trapping are not only cherished American traditions, but paired with science, are an integral part of wildlife management and conservation. This year alone, Kansas received \$12,833,780 of Pittman-Robertson Wildlife Restoration

Funds thanks to

excise taxes paid by Kansas sportsmen and women on firearms, ammunition and archery equipment. Pittman-Robertson funds fuel important conservation efforts such as the acquisition and improvement of wildlife habitat, wildlife species introduction, wildlife research, public access programs, and hunter education programs. Furthermore, sportsmen and women are an essential part of the Kansas economy. According to the latest data, they spend more than \$629 million annually and support 9,331 jobs.

Misguided extremists have been trying for decades to incrementally or outright ban hunting, fishing, and trapping. Now is the time to safeguard your outdoor heritage.


KWF to accept newsletter ads

Is your business or organization interested in advertising in the Kansas Wildlife Federation's newsletter? If so, contact us at info@kswildlife.org. The newsletter is printed six times a year. Rates are as follows:

Ad size	Annual	6 mos.
Business Card	\$100	\$50
1/4 page	\$200	\$100
1/2 page	\$350	\$175
Full page	\$600	\$300

Advertisers/material is subject to review and approval of the KWF Board of Directors. No refunds.

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KID'S WILDLIFE FRIENDS

Why do birds enjoy a “dust bath” so much?

By eNature

Have you ever seen a bird rolling around on the ground as if it were having a spasm?

Chances are the bird is either dusting, anting, or sunning, all in the interest of keeping its feathers and body healthy.

A Dust Bath To Stay Healthy

Care of feathers is a top priority for all birds, because dependable flight is a matter of survival. The most common way to keep feathers in good shape is to bathe in water and then preen, or comb out the feathers to keep them healthy.

Another is to bathe in dust, by fluttering and rolling around in dry soil. House sparrows are well known dusters. A dust bath not only helps shape the feathers, but it also may help rid the body of parasites.

How Can Ants Keep Feathers Healthy?

Perhaps one of the most effective, and certainly most bizarre, ways birds may rid themselves of parasites is to roll on ant hills, or on the ants themselves. It is believed that the formic acid that ants produce is a kind of pesticide for birds.

Sunbathing is still another way for birds to cleanse their feathers of parasites. Like anting, the behavior of a bird sunning is so strange that people often think the bird is sick.

The hot sun often causes the bird to drop to its belly, spread or droop its wings, fan its tail feathers, and lean to one side. Then it may stare at the sun and gasp for breath as if it were about to die.

Like going to a health club, it takes a lot of work to maintain a sound body.

Have you seen birds enjoying a dust bath? Or any other interesting grooming habits?

We always enjoy hearing your stories!



House Sparrows are often seen dust bathing.

Create Your Legacy – consider the Kansas Wildlife Federation in your financial plans

Many of our generous supporters include the Kansas Wildlife Federation in their annual charitable tax strategy donations. We also welcome legacy gifts from will bequests or estate plan contributions. We can accept cash or equivalents such as certificates of deposit, negotiable and matured stocks, retirement accounts, bond or insurance policy distributions and even real estate. There are usually significant tax

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Zebra mussels found in Cedar Bluff Reservoir

Invasive, sharp-shelled mollusks are among the state's most unwanted species

The Kansas Department of Wildlife, Parks and Tourism (KDWPT) has confirmed the presence of invasive zebra mussels in Cedar Bluff Reservoir in Trego County. The lake is owned and operated by the federal Bureau of Reclamation (BOR). In July, the BOR conducted its annual plankton sampling survey which revealed zebra mussel veligers (larvae). The results were reported to KDWPT aquatic nuisance species staff on Wednesday, August 24. Department fisheries staff began a search on August 25 and found a population of adult zebra mussels near the Muley Boat Ramp on

the south side of the reservoir. Cedar Bluff Reservoir is the western-most reservoir in Kansas confirmed to have zebra mussels. There is no known method to completely rid a lake of this invasive species.

While the reservoir is managed by the BOR, KDWPT manages the fishery. The lake consists of about 6,869 surface acres at conservation level and has a maximum depth of 42 feet. Cedar Bluff State Park and the lake are popular destinations and offer a variety of recreational activities such as boating, skiing, swimming, fishing, camping and hiking.

Lake enthusiasts play the primary role in stemming the spread of zebra mussels to uninfested lakes. “Zebra mussel larvae, or veligers, are microscopic and undetectable to the naked eye, so everyone who visits a Kansas lake needs to be aware that transferring water between lakes can lead to more infestations,” said Jeff Koch, KDWPT Aquatic Research Biologist.

Prevention is the best way to avoid spreading ANS. They often travel by “hitchhiking” with unsuspecting lake-go-

Continued on Page 10

When Mountain Lions are Neighbors

By Collin O'Mara
National Wildlife Federation

I just finished reading the National Wildlife Federation's newest book, *When Mountain Lions Are Neighbors: People and Wildlife Working it Out in California* by our California Director, Beth Pratt-Bergstrom—and it is simply fantastic!

Beth spent three years working on *When Mountain Lions Are Neighbors*, which includes a collection of inspiring wildlife stories from across the Golden State, such as how Los Angeles has learned to coexist with a mountain lion living in the middle of the city, how Californians are welcoming wolves back to the state after ninety years, and how on the Facebook campus in Silicon Valley, Mark Zuckerberg and his staff have provided a home for an endearing family of wild gray foxes.

You can order your copy today at our NWF store, which ensures even more dollars go back to protecting wildlife www.shopnwf.org/CAWILD1 or order and write a review through Amazon <https://www.amazon.com/When-Mountain-Lions-Are-Neighbors/dp/1597143464>, which will help us increase the rating (it's currently #1 in the hypercompetitive "Biology of Cats, Lions & Tigers" category!).

The remarkable stories in the book also celebrate a new paradigm for how we live with (and increase the populations of) wildlife in our rapidly-changing world. As I write in my forward to the book, "The truth is that we can each play an important role in ensuring a bright future for wildlife, no matter where we live, and these California stories serve as examples of how we can each take action, from anywhere across our country and around the world." You can also

watch Beth's related TEDx talk on coexisting with wildlife at <https://www.youtube.com/watch?v=pMO8-f70nFY>

The book is already enjoying great reviews. New York Times bestselling author Mary Ellen Hannibal wrote in the *Huffington Post*, "It's one thing to say we should figure out how to live with other critters and another thing to do it. Beth Pratt-Bergstrom's new book, *When Mountain Lions Are Neighbors: People and Wildlife Working it Out in California*, provides a pretty happy litany of species we do still have around, and positive stories about how folks are getting along with them." See the full review at: http://www.huffingtonpost.com/mary-ellen-hannibal/stand-by-me_b_10778468.html

All proceeds from the sale of this book directly benefit our Federation's conservation work. With our impressive network we can help propel this to the bestseller lists!

Tuttle Creek blue catfish tagged for research

If you catch a blue catfish from Tuttle Creek Reservoir this summer, be sure to check for a little yellow tag just below its dorsal spine. A blue catfish tagging project is underway to help biologists learn more about blue cats in Tuttle Creek. Biologists are collecting blue cats with an electrofishing boat, weighing and measuring all of them. Any blue catfish longer than 14 inches will receive a yellow tag with a unique number so it can be identified.

The blue catfish population at Tuttle Creek Reservoir is still fairly young. Most of the fish being tagged measure between 16 and 22 inches. The largest fish tagged

so far was 27 inches long and weighed 8.3 pounds.

The yellow tags have information printed on both sides. On one side of the tag will be the tag number and a phone number. The other side of the tag will have an email address. Anglers who catch tagged blue catfish are asked to report them using either the phone number or email address, or in person at the Tuttle Creek State Park Office. Biologists want to know the tag number, the general location where the fish was caught, the length of the fish, and if it was harvested or released.

As tagged fish are recaptured over

time, biologists will be able to determine how well the fish are growing. The tagging study will also provide a better understanding of how far fish are swimming upstream of the lake and how many fish are migrating downstream out of the lake.

Fisheries staff want to thank anglers in advance for taking the time to share tag information. With help from anglers, biologists will continue to enhance fishing opportunities at Tuttle Creek Reservoir.

For more information, contact the Tuttle Creek State Park Office at (785) 539-7941 or ely.sprenkle@ksoutdoors.com.

MUSSELS

Continued from Page 9

ers. "Everyone who recreates on Kansas lakes should clean, drain, and dry their boats and equipment before using another lake. In addition, don't transfer lake water or live fish into another body of water, as this is a main way that all aquatic nuisance species move between lakes," Koch said.

Cedar Bluff Reservoir and the Smoky Hill River downstream from the reservoir east to Kanopolis Reservoir will be added to the list of ANS-designated waters in

Kansas, and notices will be posted at various locations around the reservoir. Live fish may not be transported from ANS-designated waters. The sharp-shelled zebra mussels attach to solid objects, so lake-goers should be careful when handling mussel-encrusted objects and when grabbing an underwater object when they can't see what their hands may be grasping. Visitors should protect their feet when walking on underwater or shoreline rocks.

Zebra mussels are just one of the non-native aquatic species that threaten our waters and native wildlife. After using any body of water, people must remember to follow regulations and precautions

that will prevent their spread:

- ◆ Clean, drain and dry boats and fishing and water recreation equipment between uses
- ◆ Use wild-caught bait only in the lake or pool where it was caught
- ◆ Do not move live fish from waters infested with zebra mussels or other aquatic nuisance species
- ◆ Drain livewells and bilges and remove drain plugs from all vessels prior to transport from any Kansas water on a public highway

For more information about aquatic nuisance species in Kansas, report a possible ANS, or see a list of ANS-designated waters, visit ProtectKSWaters.org.

The bald facts — how much do you know about our national bird?



Bald Eagle © Jorg Hempel

By eNature

Patriotism is back in fashion, and one of America's most potent icons is the Bald Eagle.

But how much do you know about our national bird? Find out now by taking the eNature "Bald Eagles by the Numbers" quiz.

Q1. How many species of Bald Eagles are there in the world?

Q2. What's the average number of eggs laid per Bald Eagle nest?

Q3. How many years does it take for a Bald Eagle to reach adulthood?

Q4. What percentage of Bald Eagles actually survive to adulthood?

Q5. What's the depth, in feet, of a large Bald Eagle nest?

Q6. What's the average weight, in pounds, of a female Bald Eagle?

Q7. How many pairs of Bald Eagles are currently nesting in Massachusetts?

Q8. How many years have Bald Eagles used a single nest?



Bald Eagle landing on nest
© USFWS

Q9. What percentage of a Bald Eagle's diet is typically fish?

Q10. In what year was the Bald Eagle pronounced the national bird of the United States?

Q11. How many Bald Eagles can congregate in the fall along the Chilkat River in Alaska?

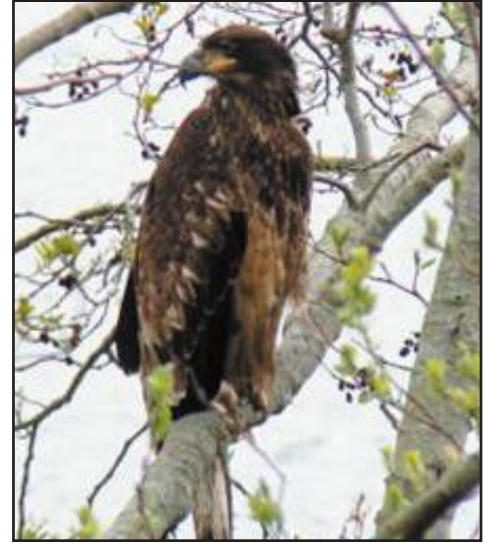
Have any Bald Eagle stories or trivia you'd like to share? Tell us — we love to hear our readers' stories!

A1. One.

A2. Two.

A3. Five.

A4. Ten. Most succumb to starvation as immatures.



Juvenile Bald Eagle, first year
© Walter Siegmund

A5. Twelve. Bald Eagles build the largest nests in the world that are made by a single pair of birds. Some nests weigh over a thousand pounds.

A6. Twelve. In common with most other birds of prey, female Bald Eagles are considerably larger than their mates.

A7. Thirteen. This is up from zero a decade ago.

A8. Thirty-five. Once established, Bald Eagle nests are frequently used perennially.

A9. Eighty.

A10. Seventeen eighty-two.

A11. Four thousand. The eagles visit the area to feed on salmon that are dying after having spawned.

Enter Wild About Kansas photo contest by Nov. 4

Kansas Wildlife and Parks magazine staff invite you to enter your favorite outdoor photographs in the 4th Annual Wild About Kansas photo contest ending Nov. 4. Participants can submit up to three photos in select categories including wildlife, other species, hunting and fishing, outdoor recreation, and landscapes. There is no fee to enter or age restrictions, and both residents and nonresidents may participate.

Participants can submit up to three photos total. Photos must be taken within the state of Kansas and must be the entrant's original work. Images should be in JPEG or TIFF format and file size should be not less than 1mb and not more than 5mb.

Each photo will be judged on creativity, composition, subject matter, lighting, and overall sharpness. Winners will be featured in the 2017 Special Photo Issue of Kansas

Wildlife and Parks magazine.

Only electronic images will be accepted and must be e-mailed, with a completed entry form, to Nadia Reimer at nadia.reimer@ksoutdoors no later than 5 p.m. on Nov. 4, 2016.

Entry forms and additional information are available at www.ksoutdoors.com/Services/Publications/Magazine/Wild-About-Kansas.

Here's why Goldfinches wait until July to begin nesting

By eNature

By July, most songbirds are in the final stages of raising their young, but not the American Goldfinches.

These appealing, colorful birds are just getting started.

Notoriously late nesters, goldfinches have been waiting for the thistles to bloom. When this happens in July, it signals the goldfinches that they can start building their nests which are made primarily of the silver fibers and down of thistle blooms. Generally, the nest is built in the fork of a horizontal tree limb, 4 to 14 feet above the ground.

The female builds a durable, neat cup of thistle and cattail fibers, so dense that it will hold water. In it she lays 4 to 6 pale blue to white eggs and then she incubates them for 12 to 14 days, until they hatch. The attentive male often feeds his mate while she sits on the nest.

By the time the eggs hatch, the thistle has gone to seed, which is perfect timing for feeding young goldfinches. The parents



Male American Goldfinch © Mdf

nourish their chicks by consuming the thistle seed themselves, and then regurgitating the partially digested, milklike cereal into the mouths of their nestlings. This is as close as birds come to mammals that feed their young milk from mammary glands.

Baby goldfinches are fully feathered and out of the nest 10 to 16 days later. Almost immediately, they join their parents at bird feeders across America. That's when many people suddenly notice so many goldfinch-



Female American Goldfinch © Stevehdc

es as the summer progresses.

Have you seen nesting goldfinches yet? Or young preparing to fledge?

Why deer hunters should care about the Conservation Reserve Program (CRP)

By National Deer Alliance

If you are just reading hearing about the Conservation Reserve Program (CRP) for the first time, the best place to start is the U.S. Department of Agriculture (USDA) Farm Service Agency description: CRP pays a yearly rental payment in exchange for farmers removing environmentally sensitive land from agricultural production and planting species that will improve environmental quality. CRP is a program within the Farm Bill, and it was first introduced in 1985. The program has its own page on the U.S.D.A. website here (<http://www.fsa.usda.gov/>).

This once great program supported more than 37 million acres of soil and water conservation and associated wildlife habitat. Unfortunately, Congress reduced the

program to 24 million acres in the current Farm Bill, which has led to USDA turning down thousands of CRP applications submitted by farmers across the country. This has resulted in a devastating loss of habitat for upland birds, waterfowl, freshwater fish, and deer.

CRP is a term that you may have encountered as a deer hunter, particularly if you live or hunt in the Midwest. It is a program that we hope you will not only learn more about, but be willing to contact your federal legislators seeking support for as well.

There are a number of reasons deer hunters should care about CRP. For instance, grasses and legumes are good food sources and serve as quality cover for adult deer, while providing excellent fawning habitat as well. Tall grasses also provide

security by allowing deer to better hide from predators, like coyotes, foxes, bears, and wolves. In addition, CRP practices create edge habitat, which is preferred by all deer species. And if you do a quick search using the terms "big buck and CRP," you will likely be pleasantly surprised by what you will find.

The National Deer Alliance (NDA) recently formed a partnership with Theodore Roosevelt Conservation Partnership and Pheasants Forever/Quail Forever with the launch of CRPworks.org, which seeks to rally conservation advocates who want to see better investments in CRP.

You will be hearing much more from NDA and KWF in the coming months about CRP, and what you can do to help ensure a healthy future for this important Farm Bill Program.

2018 Farm Bill: What about CRP?

By Bruce Knight
Agri-Pulse.com

Although the presidential debates are ahead of us, the debate on increasing the Conservation Reserve Program (CRP) acreage cap has already begun. My concern is that we don't expand conservation on idle lands at the expense of environmental protection on working lands.

The 2014 Farm Bill reduced the CRP acreage cap gradually from 32 million acres to 24 million by 2018, a savings of \$3.3 billion over 10 years. Ratcheting down CRP acres by 25 percent was a deliberate budget saving effort. So, if those acres go up with the 2018 Farm Bill, some other program must be cut to cover the average \$72 cost per CRP acre. Furthermore, there's a good chance that even less funding may be allocated to agricultural conservation in the next farm bill if the House and Senate are inclined to reduce spending overall to control the nation's deficit.

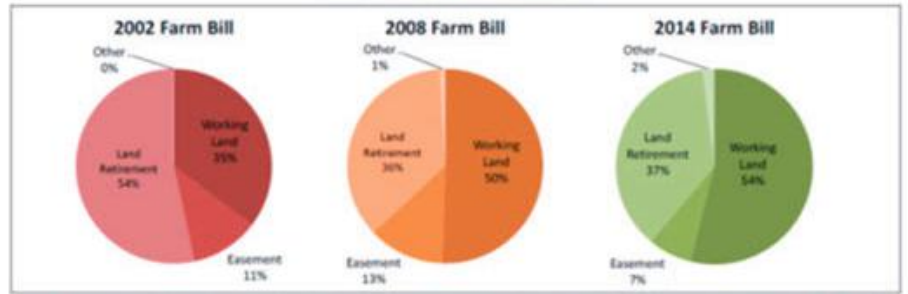
CRP enrollment peaked in Fiscal Year 2007 at 36.8 million acres. Today 23.8 million acres are actually enrolled through more than 650,000 contracts on more than 365,000 farms.

Under the 2014 Farm Bill, the acreage cap for 2017 and 2018 is set at 24 million acres, and the President's FY2017 budget requests a little more than \$1.9 billion to pay for CRP contracts next year. In 2016, about 411,000 acres were approved for CRP under general sign up and 528,000 acres thus far under continuous sign up. About 5.7 million acres are set to expire by September 30, 2018.

Much of the CRP acres that are expiring this year and over the next two years are in grass and trees. There is also significant acreage in permanent wildlife habitat and rare and declining habitat along with filter strips, riparian buffers and wetland restoration.

As we look at renewing contracts on expiring acres or raising the acreage cap, we need to be sure that the program focuses on environmentally sensitive acreage, and we don't wind up with high quality land under CRP contracts. At the birth of the CRP program, it was used to short the corn and wheat supplies - let's

Farm Bill Conservation Programs by Type
(2002, 2008, and 2014 farm bills)



Source: CRS. Compiled from funding levels in annual appropriations, CBO baseline projections, and the CBO conference agreement score, <http://www.cbo.gov/sites/default/files/cbofiles/attachments/hr2642LucasLtr.pdf>.

Notes: Figures include mandatory funding for farm bill authorized conservation programs. The 2002 and 2008 farm bill charts cover the period after enactment to the next bill's passage and are adjusted for reductions, rescissions, and sequestration. The 2014 farm bill chart is based on the CBO estimate of direct spending for the life of the farm bill (FY2014-FY2018). Funding for conservation education, extension and research, and discretionary spending are not included.

not make that mistake again. That is why I have always favored putting conservation on working lands over idling land-programs like the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP). When we use CRP in the conservation portfolio of tools we should use it surgically and strategically to trap and treat nutrient runoff or to provide specific habitat benefits rather than large-scale whole field enrollments.

If there is a case to be made for funding additional CRP acres, we must be sure it is not accomplished by cutting into monies set aside for conservation on working lands. One alternative source of funding we could tap is the Land and Water Conservation Fund (LWCF). Congress has noted that a considerable portion of the funds under LWCF in recent years have been used for federal land acquisition. I would rather see us accomplish conservation on lands that remain in private hands.

LWCF uses a small portion of federal offshore drilling fees to protect and conserve land to benefit wildlife, increase recreational opportunities and conserve forest and ranch lands. I am pleased that LWCF has begun to turn to conservation easements on private land to accomplish its goals, which are similar to those of CRP. Using LWCF monies to fund addi-

tional CRP acres makes a lot of sense to me if we want to increase the acreage cap in the next farm bill.

As we look at agricultural conservation programs for the next farm bill, we may have some tough choices and tradeoffs to make. In that case, I hope that conservation programs for working lands will continue to grow in size and importance as they have in the past few farm bills as shown above.

About the author: Bruce I. Knight, Principal, Strategic Conservation Solutions, was the Under Secretary for Marketing and Regulatory Programs at the U.S. Department of Agriculture (USDA) from 2006 to 2009. From 2002 to 2006, Knight served as Chief of Natural Resources Conservation Service. The South Dakota native worked on Capitol Hill for Senate Majority Leader Bob Dole, Rep. Fred Grandy, Iowa, and Sen. James Abdnor, South Dakota. In addition, Knight served as vice president for public policy for the National Corn Growers Association and also worked for the National Association of Wheat Growers. A third-generation rancher and farmer and lifelong conservationist, Knight operates a diversified grain and cattle operation using no-till and rest rotation grazing systems.

How to train a skunk

Learning to combat a skunk's spray can make you and your dog's time in the field much easier.

By D.M. Zumbaugh
Sporting Classics Daily

Once upon a time, long before professional dog trainers, sophisticated electronic collars, or beauty contests for golden retrievers, our human predecessors were discovering new methods to harness the intellect and capabilities of wolves. It has been documented, beyond a doubt, that the ancestors of our pointers and retrievers were making life easier for cavemen so they would have time to invent the game of golf.

What a shame prehistoric man did not begin to selectively breed out the embittered hatred of skunks in their working dogs. If so, bird hunters of today would be a much more civilized lot and would probably not drink so much.

Although I had heard horror stories of sporting dogs getting sprayed in the hunting fields, it had luckily never happened to any of my mutts. But if you hunt in areas where these big black and white striped weasels exist, it is only a matter of when, not if, a catastrophe will occur. If my awareness would have been just a bit more acute on my first trip to North Dakota, much grief, labor, and lost time could have been mitigated from a skunk encounter.

Maybe white-line fever took over on my long drive, but any nimrod, experienced or not, would have made note of the unusual number of flattened polecats along the highway, signifying a very high density of these duck egg-eating predators.

As soon as I crossed the border into the Peace Garden State, I went to the nearest hardware store, got my non-resident license, and sought to find an inviting pheasant covert to air out the experienced and over anxious wirehair pointer. The map was marked by a blue square, indicating a marshy chunk of public hunting that mandated non-toxic shot even for upland birds. So I obliged, loaded up, and turned the dog into the stiff, bitter wind. She bumped a few hen pheasants before a rise in the landscape offered some handsome looking property. As soon as I crested the hill, a ducky eruption of enormous proportions occurred just below my feet! A snap shot on a quickly departing gadwall resulted in a wounded flyer, which feebly fluttered behind an island in a soggy wetland.

The dog's eyes revealed that she had marked down the victim precisely, so I sent



Photo by Debi Bishop/iStock

her with a strong "Back!" She took the line and disappeared into the cattails, cleared the first spit of open water, and struggled up and over the island's muddy bank. I settled in behind some tall prairie grass near the water's edge and hoped to greet some returning greenheads with a volley of hot steel.

About 15 minutes later I heard the returning retriever's crashes through the weeds, but some strange wheezing as well. I stood up to reconnoiter and when the beast was within 15 yards, an unbelievable cloud of stench announced the commencement of my nightmare. She did indeed have the drake gadwall in tow, but there was no sign of any other creatures in sight, so I assumed she had shaken the polecat to heaven's gate, as this dog also had no tolerance for woodchucks or squirrels infringing on her territory. I had to quickly devise a strategic plan to salvage this long anticipated adventure.

First, with one hand pinching off my nose from the vapors, I very carefully hooked a 15-foot check cord to her collar without touching any fur. Then I posted her downwind in a field near the truck. I emptied everything out of the back of the bed, tossing all gear in the ditch or back seat, then tied the dog up in the bed and headed off to the nearest self-service car wash. I always carry a bottle of commercial "odor-be-gone" in my first-aid bag, and this was my chance to see how well it worked. I strung up that sorry little girl in the rusty corrugated stall and we proceeded to do battle — a war I planned to win.

About six wash and rinse cycles later, I

thought it was time to try the store-bought concoction to eliminate the remainder of the putrid oil, but did not have a bucket to mix it in. Just then, the car wash attendant came by checking on the place, and saw (or smelled) what was going on. He reluctantly donated a five-gallon plastic bucket to my cause, but placed it at a safe distance on the driveway and hastily

sped off to, I assume, happier pursuits.

Now the real bout was starting. The animal was violently yanking on the rope and howling so loudly and fiercely that the entire town of Hankinson, ND, must've wondered what the hell was going on. PETA would have had me brought up on cruelty charges that would have stuck for life. It took three dousings of the foamy liquid to finally cut the fog to a tolerable level, or maybe my sinuses were just so toasted that discrimination of any olfactory stimulants had become impossible. I then spent a half hour and \$20 in quarters to wash out the leftover fumes from my hunting clothes and flush the skunk fluid down the drain, so as not to get arrested for destruction of commercial property.

In subsequent hunts with dogs, not only in Kansas but other known skunk hangouts, I have been involved with many sprayings and the ugly cleanups, but none as wicked as this first encounter. Now I carry a proprietary recipe in my wallet that works better than any commercial application and doesn't bleach black labs to blondes or ruin their noses for the season, but this potion shall remain a privately held, closely guarded secret.

Maybe instead of training dogs to avoid Pepe Le Pew, one of those animal-whisperer types should breed a strain of skunks that would just leave our feather chasers alone. Or perhaps a Harvard geneticist could re-engineer some skunk chromosomes that would make their juice smell just like peppermint; a research project I would donate to generously!

Is it finally time to talk about what Sportsmen need in this election?

With the conventions over, the heat of campaign season is before us—and it's not too late to voice your concern for conservation priorities

By Steve Kline
TCRP Blog

The confetti and balloons have been swept from the floors of both the Republican and Democratic national conventions, marking the traditional beginning of the general election season, a flurry of activity that will run through November 8. We all know what to expect: commercials, debates, door-knocking, bumper stickers, yard signs, and social media posts from our friends. Of course, in the midst of all this, the one thing that all Americans seem to agree on is that they have already grown weary of an election that has been going on for well over a year.

As a delegate myself, to the 2008 Republican National Convention in Minneapolis, I can attest that the messages the parties and candidates seek to deliver, both to those in the room and those watching from their living rooms, are pretty similar and follow a predictable course. A heavy dose of keeping American families safe, growing the economy and creating good-paying jobs, plus assurances of competence and clarity of vision. The formula was alive and well in Cleveland and Philadelphia. It is the tale as old as time.

But after listening to the convention speeches of both candidates, and many other speakers, any sportsman would feel overlooked. Both parties missed a golden opportunity to communicate with an essen-



Image courtesy of Wikicommons

tial constituency, one important to anyone who hopes to actually win a national election. Neither candidate made a direct pitch to the more than 40 million Americans who hunt and fish, and in the process, contribute nearly \$100 billion to the national economy.

What would a real pitch to sportsmen look like? A commitment to renewing the investment in fish and wildlife habitat conservation programs that benefit all Americans. A pledge to defend the values of common opportunity implicit in our national public lands. A vow to support the conservation of our private working lands.

Perhaps a promise to enhance recreational access to our nation's woods, fields, and waters.

Many candidates for elected office at all levels have created, or will soon create, sportsmen's coalitions to support their candidacy, an acknowledgement that hunters and anglers are an important constituency, one that turns out to vote in higher numbers than many other subsets of the population. But we often don't demand enough from candidates in exchange for our votes. So, this campaign season, attend

Continued on Page 18

Congress introduces historic fish and wildlife conservation funding legislation

On July 6, Congressman Don Young (R-AK) and Congresswoman Debbie Dingell (D-MI) introduced the bipartisan Recovering America's Wildlife Act (HR 5650). The legislation calls for annually dedicating \$1.3 billion in existing revenue from the development of energy and mineral resources on federal lands and waters to proactive fish and wildlife conservation. The bill was prompted by the recommendation of the Blue Ribbon Panel on Sustaining America's Diverse Fish and Wildlife Resources. The Panel released its recommendations in March 2016 at the National Press Club as part of the Teaming With

Wildlife Fly-in.

The Young-Dingell bill proposes to invest new funding in the Wildlife Conservation Restoration program that was created in 2000 through the advocacy of the Teaming With Wildlife coalition. The program, which is part of the successful Wildlife and Sport Fish Restoration program, is designed to address the conservation needs of species that are not hunted or fished, including over 12,000 species identified in State Wildlife Action Plans as Species in Greatest Conservation Need. The program can also be used to support conservation education and wildlife-dependent recre-

ation programs.

In the days ahead, members of the coalition will be launching a co-sponsor drive to secure bipartisan support for the bill and will be working with the Senate to introduce companion legislation. The Congressional Sportsman's Caucus and National Wildlife Federation, both members of the Teaming With Wildlife coalition played key roles in advancing House legislation.

Watch for future updates on this important legislation and help spread the word by forwarding this update and using the hashtag #Funding4Wildlife on social media.

The end of an era: A cowboy's last ride

After 40 years of managing Comanche County's Merrill, Dee and Phyllis Scherich retire

By Amy Bickel
Kansas Agland

Getting here isn't easy.

This, after all, is open range. You cross a number of cattle guards on dirt-laden Estill Road, past the cattle grazing by the road, past a weathered sign that says you are now entering Comanche County. The roads meander across the rugged terrain, dotted with only a couple of homes before you see a sign that says the Merrill Ranch.

It's miles from anything – or anyone. The biggest town, Coldwater, the county seat, has 800 residents.

But this spot on the wide-open prairie is where – for 40 years – Dee Scherich and his wife, Phyllis, called home.

Most people his age would have retired long ago. But for 40 years, Dee, 76, has gotten up every morning as the sun is rising – checking on the some 800-plus cattle that roam the 17,200-acre ranch.

He knows every inch of it, too, every wildflower, every grass that grows. This is where he grew up – riding horseback with his father, the previous caretaker. He left for a short while, getting married then teaching high school before he brought his family back to Kansas' Gyp Hills as manager of the Merrill.

It's never been their land – they don't own anything – yet Dee and Phyllis have cared for the Merrill like it was theirs.

But on this June day – Dee stood amid the grass and wildflowers – in a spot where you can see nothing but the Merrill for miles. He reflected back on how the spring wildfire – of historic proportions – narrowly missed the couple's home, as well as the horse-riding accident about a decade ago that nearly took his life.

It's taken a while to let go of the life he and Phyllis love. But he has taken to heart Phyllis' words to him.

"I don't want to leave here by myself," she had said.

It has been the cowboy way of life here at least 140 years.

The Merrill, as folks call it, rests on the edge of the Gyp Hills prairie – rugged red hills only suitable for cattle. Jesse Evans was among the first ranchers – helping form the Comanche Pool – the largest cattle ranching spread in Kansas history. The Merrill was the pool's head-

quarters, which was called Evansville – a small town that had a post office, store and a hotel.

As the land was fenced, the pool dissolved. Evansville ceased to exist as a town, but the area continued to serve a small population as the headquarters for Mortimer Platt's Ranch, followed by the John Arrington Ranch and then the West Ranch of Davis, Nolan and Merrill Grain Co., Dee said.

Dee's father, Virgil, started out on the grain company's ranch in Barber County – which is now media mogul Ted Turner's Z Bar Ranch. By 1945, they moved to the site of the West Ranch. A few years later, the three partners separated and the ranch stayed with the Merrill family.

Time and technology advanced since pioneers first settled here. But at the Merrill, like most ranches – there are still some things that are old-school – like using horses as the main means of transportation.

Dee and his brother, Hank, grew up riding the range, helping their dad and the other crew members with farm labor like checking cattle. In high school and college, summers were spent on horseback, searching for cattle infected with screw worms – which burrowed like a screw into the skin.

That was before the eradication of the screwworm fly by the federal government, said Dee.

"We didn't have one critter that had screw worms, you'd have a whole bunch of them," said Dee. "You just would ride until you found (an animal) lying out in the grass."

He would rope it, dig the worm out of the hole, apply a stinky ointment, then go looking for the next one.

"You would smell like that stuff the rest of the day," he said.

Dee attended Ottawa University and met Phyllis Uhrig of McPherson. She was a city girl, as Phyllis calls herself, recalling the first day she visited the ranch. It was wheat harvest. She wore white pants.

After college, Dee taught for 14 years, first in Troy, Kansas, then 11 years as a science teacher and coach at Inman High School. But in the mid-1970s, with a boom in oil prices, his father's ranch crew began to take jobs in the oil field.

By then, his dad had been ranching

here for 30 years.

"Dad was tired, wore out and frustrated," said Dee. Moreover, teaching was changing amid an era of consolidation. With three boys from fifth grade to high school, he and Phyllis made a decision to move back to the ranch in 1976 and manage it for the H.A. Merrill trust.

"We thought it was a good opportunity to get them on the tractors, have the ranch life," Phyllis said of the boys.

The last battle

Typically, no two days are the same, but for the past several weeks, Dee and the crew have been rebuilding fence – 80 miles or so that the Anderson Creek wildfire damaged.

It will take a few years before they are all done with fence repair, said Dee – adding with humor that he won't see the day it is completed. Not as the manager of the Merrill.

It was the worst wildfire in the state's history, sweeping across 400,000 acres of Barber and Comanche counties in late March. Three times the fire threatened their home. Twice they got the call to evacuate.

Somehow, thanks to fire crews, Dee and their ranch hands, along with their reliable 1960s-era fire truck, Bam Bam, their ranch headquarters was spared.

Three months later, the once charcoal-stained earth has been covered by a carpet of green regrowth, although evidence of the fire still lingers. Skeletons of cedar trees dot the Gyp Hills for miles. Dee pointed to fence row not far from where the cattle are grazing. Pieces of the blackened hedge posts swayed on the barbed wire.

On this June morning, Dee sent his two hired hands to work on the fence line. He and Phyllis drove to check on cattle that were recently returned to the ranch that an area rancher fostered for them after the fire. The grass now is in better condition for grazing and water is flowing better in the creeks.

They stop at the top of a hill dotted with echinacea, yellow cone flowers and silver lake nightshades – the site of Evansville's cemetery. Dee had a well witcher who was searching for oil find the location of the graves – which

Continued on Page 17

SCHERICH

Continued from Page 16

includes the resting spot of two men who died in a drinking gunfight. The witcher found three graves in one location, and Dee marked each with a stone.

"I've never seen so many wildflowers like this year," said Phyllis, noting the diversity of flowers.

They take a tour to find more amid the bluestem and buffalo grasses – crossing the Salt Fork of the Arkansas River – a clear, sandy waterway where their children and grandchildren and their ranch hands' children love to play.

Dee stopped the truck so Phyllis could climb to the top of the hill to scout more flowers. Dee, however, glanced across the prairie.

"I never went back to a classroom after I got out here," he said, adding. "I don't know anything different."

His deep connection to the land and the cattle makes leaving even more difficult.

Yet, he said solemnly, he also knows it is time.

Dee wasn't on his usual horse that day nine years ago when the accident occurred. The horse threw him off – breaking his pelvis and causing bladder injuries.

An ambulance took him to Coldwater, where the airport recently was revamped to take fixed-wing airplanes. That allowed an air ambulance to fly him to Wichita.

He arrived barely alive. Doctors began to repair him a few days later "after they decided I was going to live," said Dee,

who spent four months in the hospital and rehab.

Cowboy's last ride
Now it's the end of an era.

Seventy years of Scherich tradition on the ranch is over this month. No more watching the sun rise on their deck. No more standing amid a stand of buffalo grass with nothing but the sound of bawling calves or birds fluttering. No more checking cattle on horseback.

The Scherich's packed up their house in mid-June – going from the remote countryside to a home with a pool in McPherson – the town where Phyllis grew up. They are still unpacking boxes, said Phyllis.

"It feels like we are just playing house," Dee told Phyllis one evening at the dinner table after spending several days in McPherson.

"It really isn't real, yet," Phyllis said.

Dee plans to make day trips back and forth to help two remaining ranch hands get situated, a team led by hand Jamie Miller.

Miller, who grew up on a hog and row crop farm in Iowa, said Dee is his mentor. He came to the ranch in 2007 to help pour the basement of the Scherich's new ranch house.

"I fell in love with the place," Miller said. But it wasn't until 2012 that he had contact with Dee again. Miller was working for his friends' Pratt-based scrap metal business. Dee had called needing someone to remove junk off the ranch.

Miller asked Dee if he was hiring. Miller and his wife, Tina, and their boys moved to the ranch in January 2013.

Dee is a natural with the cattle, said Miller, adding Dee taught him how to

handle the livestock using low-stress techniques.

"Another thing he is taught me is the love of the land, nature, the flowers, the grasses," said Miller.

Dee taught him to be observant, even stopping to point out the different wildflowers growing.

"You know what it is like living in a populated area," he said. "You fly past things on the road, you don't stop and smell the roses, so to say."

Someday, Miller said, he might have the knowledge of the plants that Dee and Phyllis have, or Dee's way of knowing the livestock so well he could pick individual animals out of the herd.

"The local veterinarian who has dealt with the ranch 25 years told me he had learned more from Dee Scherich than any of the other ranchers," Miller said. "We'll keep on like he taught us."

Leaving is bittersweet, said Phyllis as the couple drove across the ranch on this June afternoon. There have been so many people they shared the ranch with. For years, they welcomed folks for their annual trail rides, which raised enough money to help build the Comanche County Health Clinic. Professors, scientists and others have come to the ranch to study the ecology, including the ranch's bat caves.

"It's such a unique piece of property," said Phyllis, adding, "It was a great place to raise a family."

Like a true cowboy, Dee tries to keep his emotions to himself.

"We've had a good ride," he said softly as he surveyed what little was left in their home on this June day. "We have a new life ahead of us."

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Is a Pawpaw fruit or vegetable? And what does one taste like?

By eNature

Pawpaw season has arrived in the Eastern US. The season doesn't last long, so you'll have to move quickly if you'd like to find some.

So just what is a pawpaw, other than something many of us sang about as children?

And what the heck does one taste like?

It's actually an interesting story...

The Common Pawpaw is the northernmost New World representative of a chiefly tropical family, which includes the popular tropical fruits Annona, Custard-apple, Sugar-apple, and Soursop. It produces the largest edible fruit indigenous to North America.

The plant has large oblong leaves and many observers think it looks like a tropical plant, although it is native to over 25 states in the eastern U.S. It's generally found in patches in well-drained, deep, fertile bottom-land and hilly upland habitat.

The wild fruit was once harvested, but the supply has now decreased greatly due to the clearing of forests. The small crop is generally consumed only by wildlife, such as opossums, squirrels, raccoons, and birds. Attempts have been made to cultivate Common Pawpaw as a fruit tree but it's not commonly found under cultivation.

The pawpaw is an understory tree, often appearing more like a bush than a tree, with fruit found singly or more often in clusters much like bananas. It doesn't self-pollinate, so other pawpaw plants need to be in the vicinity for it to produce fruit.

And from all reports, the fruit is quite tasty to humans with a sweet-smelling, creamy flesh that tastes like a blend of



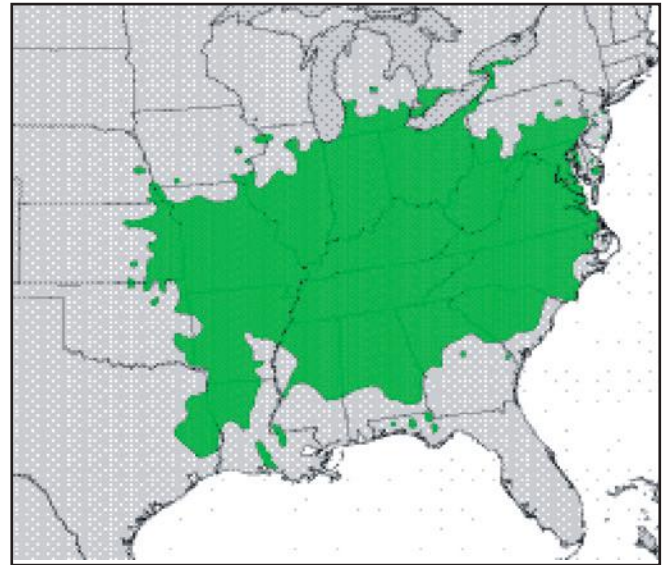
Pawpaw Fruit

papaya, banana, mango and pineapple.

One other interesting fact about the Pawpaw is that it's the host plant for the caterpillar of the Zebra Swallowtail butterfly, which eats its leaves.

The name Common Pawpaw is from the Arawakan name of Papaya, an unrelated tropical American fruit. The plant was first recorded by the DeSoto expedition in the lower Mississippi Valley in 1541.

Ever encountered a pawpaw? How did it taste to you?



Range of Common Pawpaw © USDA

KLINE

Continued from Page 15

a candidate forum or town hall, and ask questions about sportsmen's priorities. Utilize your Facebook and Twitter accounts to put issues important to hunters and anglers in front of the candidates. Email their campaigns, in a thoughtful way, to share the

things sportsmen and women in your part of the world are thinking about.

Candidates often profess to champion what America's sportsmen care about, but it is up to us to let them know.

About the Author: Steve Kline, Director of Government Relations, joined the Theodore Roosevelt Conservation Partnership (TRCP) in April of 2011. Prior to joining TRCP, Steve worked as Senior Govern-

ment Affairs Representative for the Alaska Wilderness League in Washington, D.C., and has also served as Director of Federal Forest Policy for the National Association of State Foresters, and as Associate Conservation Director of the Izaak Walton League of America. An avid waterfowl hunter and angler, Steve surprises even himself with his uncanny ability to miss clay pigeons.

Renovation begins at Neosho Wildlife Area

Neosho Wildlife Area is getting a much-needed makeover. An extensive renovation project that has been in the works for nine years began this summer. Enhancements to the aging infrastructure on the waterfowl management area near St. Paul will be completed in two or three phases over a two-year period. Funding for the project will come from the federal Wildlife and Sport Fish Restoration program, which is derived from excise taxes on hunting and fishing equipment, and a grant from the North American Wetlands Conservation Act.

Phase 1 will subdivide Pool 4 with a new levee and include new water control structures. The levee in Pool 2 will be removed and a new parking area and

two new boat ramps will be constructed. The old water control structures will be replaced and new ones will be joined into the new pumping system. Rip-rap will be placed along the refuge levee and 3/4 of a mile of 24-inch pipe with butterfly valves will be installed to allow each pool to be flooded independently.

Other Phase 1 projects include installing a new pump at the confluence of Flat Rock Creek and the Neosho River. The new pump will operate on a variable frequency drive and pump 2,000 to 12,000 gallons per minute (GPM), depending on river flows and management objectives. Flows from the old 10,000 GPM pump cannot be varied.

During the renovation work this fall, the

marsh will hold very little water. Pool 1, 2 and 4 will be kept dry while dirtwork is completed and the pipeline is installed. The South Unit will be pumped with water as long as river conditions meet Department of Water Resources permit requirements. Pool 5 will not be affected by Phase 1 activities and could hold water if conditions allow it to be filled. Control structures will be closed after contractual crops are harvested on pools that rely on runoff and they could fill with sufficient rain.

The 3,246-acre Neosho Wildlife Area was purchased by the Kansas Forestry, Fish and Game Commission in 1959, and it opened to waterfowl hunters in 1962. In 2015, the wildlife area hosted 3,188 hunters, who harvested 5,432 ducks.

Pokemon GO going wild at Kansas state parks

Elusive Pokemon GO characters have been spotted at many Kansas state parks and nature centers, and there's no better time to join the chase. The Kansas Department of Wildlife, Parks and Tourism (KDWPT) welcomes Pokemon hunters stalking the virtual critters that have popped up at some of the most picturesque and educational places in Kansas. The game is an exciting new way to get outdoors and enjoy all that natural Kansas has to offer.

"Pokemon GO is both fun and distracting, so we encourage players to use common sense and follow certain safety precautions while on a Pokemon quest," said Linda Lanterman, State Parks Director.

Some of the basic safety rules include:

- Be aware of your surroundings, especially along trails, roads, cliffs, stream banks and lakes. It is important to watch where you place your feet to avoid a fall, poison ivy or a venomous snake.

- Stay on trails and don't drive off roads into unauthorized areas.

- Don't trespass on private property which may be adjacent to park boundaries, and don't enter someone else's campsite or recreational vehicle.

- Don't operate a vehicle or boat while distracted by the game. Watch for pedestrians, bicyclists and wildlife along roads, around boat docks and in parking areas.

- State park entrance fees still apply. Any vehicle entering a Kansas state park must

have either an annual entrance permit or a daily entrance permit. The daily entrance permit is \$5 and is available at the entrance gatehouse or kiosk. All state parks are open 24 hours, except for Kaw River State Park, which is open from 6:00 a.m. to 11:00 p.m. and Prairie Spirit Trail, which is open during daylight hours only. Players can use the self-pay stations if a park office is closed.

KDWPT sports 26 state parks and six nature centers where visitors can enjoy the outdoors and learn about the natural history of Kansas. For information about the state parks and nature centers, visit ksoutdoors.com and click on either State Parks or Education.

Bee-friendly gardens are finally becoming safe for bees

TakePart Daily

Whether filled with neatly trimmed hedges and stately roses, towering cages brimming with tomato vines, or a hodgepodge of wildflowers, gardens bring character, beauty, and perhaps something good to eat to towns and cities. In recent years, gardens have come to be seen not only as an idyllic place for the humans who tend to them but as a sanctuary for bees and other pollinators. With colony collapse disorder, disease, pesticides, and other threats to bees becoming both more acute and better understood by the public, bee-friendly gardens are increasingly viewed as part of conservation efforts. The problem

is, some of the bee-friendly plants sold by big-box garden-supply retailers have been treated with neonicotinoid pesticides—which some consider to be one of the chief threats to bee health.

Started in 2013, Friends of the Earth's annual Gardeners Beware report revealed the routine use of neonics on more than half of flowers and other "bee-friendly" plants tested in '13 and '14. Now, according to the 2016 report, those numbers have dropped significantly: Just 23 percent of the tested plants had been treated with neonics. Friends of the Earth and the Pesticide Research Institute tested plants purchased at Home Depot, Lowe's, Ace Hardware, True Value, and Wal-

Mart in 13 cities across the country.

Not only is the number of plants treated with neonics down, but retailers including Lowe's and Home Depot have said that they will phase out the pesticides altogether. Many stores label plants that have been treated with neonics, which was not the case in 2013.

"We felt like it's pretty significant progress overall," said Tiffany Finck-Haynes, food futures campaigner at Friends of the Earth. It's likely that the amount of plants treated with neonics will continue to decline: According to the annual state of the industry

Continued on Page 20

Eight native Kansas milkweeds for Monarchs

By Abby Barber
National Wildlife Federation

The monarch butterfly population in North America has plummeted by over 90% in just the last 20 years. Destruction of America's grasslands ecosystems, commercial agricultural practices and even conventional gardening have all contributed to the precipitous decline of this iconic species. National Wildlife Federation has launched a comprehensive campaign to help save the monarch, and there are many ways you can get involved.

One of the biggest factors in monarch decline is the increasing scarcity of its only caterpillar host plant: milkweed. Without milkweed, monarchs can't successfully reproduce and the species declines. By planting milkweed in your own garden, landscape and throughout your community, you can help reverse the fortune of these beautiful insects.

Meet eight of the most ornamental milkweeds native to Kansas. Make it a goal to include a few plants of at least one native milkweed type to help the monarchs.

Antelopehorn Milkweed (*Asclepias asperule*)



Photo Credit: Seth Anderson, Flickr Creative Commons

Native Range: AZ, CA, CO, ID, KS, NE, NM, NV, OK, TX, UT

Description: Also known as Spider Milkweed, this perennial is clump-forming with stems that are densely covered with minute hairs. As the green seed pods grow, they curve to resemble antelope horns. It has pale, greenish-yellow flowers, tinged maroon that bloom March to October.

Growing Conditions: Needs sunlight, dry or moist soil, medium water use

Plant Size: 1-2 ft (30-60 cm) tall

Common Milkweed (*Asclepias syriaca*)



Photo Credit: Beautifulcataya, Flickr Creative Commons

Native Range: AL, AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

Description: This tall perennial has large balls of pink or purplish flowers that have an attractive odor. The flowers bloom from June to August.

Growing Conditions: Shade intolerant, needs lots of sunlight, moist soil

Plant Size: Usually 3-5 feet (90-150 cm), sometimes reaching 8 feet (240 cm) in ditches and gardens

Swamp Milkweed (*Asclepias incarnate*)



Photo Credit: Tom Potterfield, Flickr Creative Commons

Native Range: AL, AR, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV, WY

Description: Also known as Pink Milkweed, this perennial has large blossoms composed of small, rose-purple flowers. The deep pink flowers are clustered at the top of a tall, branching stem and bloom June to October.

Growing Conditions: Needs lots of water, shade tolerant, moist to wet soil

Plant Size: 2-5 ft (60-152 cm)

Showy Milkweed (*Asclepias speciosa*)



Photo Credit: Lynette, Flickr Creative Commons

Native Range: AZ, CA, CO, IA, ID, IL, KS, MI, MN, MT, ND, NE, NM, NV, OK, OR, SD, TX, UT, WA, WI, WY

Description: This perennial has large, oval, blue-green leaves and spherical clusters of rose-colored flowers. The flowers occur at the top of the stem and on stalks from leaf axils and bloom May to September.

Growing Conditions: Shade intolerant, needs sunlight, medium water use, moist soil

Plant Size: Generally 1 1/2 – 3 ft (46 – 91 cm) but can reach 6 ft (183 cm) under favorable conditions

Purple Milkweed (*Asclepias purpurascens*)



Photo Credit: Christopher Benda, Flickr Creative Commons

Native Range: AR, CT, DC, DE, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, RI, SD, TN, TX, VA, WI, WV

Description: The milky juice from this perennial is known to remove warts. The flowers are deep magenta red and bloom May to July.

Growing Conditions: Needs sunlight and dry soil

Plant Size: 2-4 ft (61 to 122 cm)

**Whorled Milkweed
(Asclepias verticillata)**



Photo Credit: Dan Mullen, Flickr Creative Commons

Native Range: AL, AR, AZ, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, WV

Description: This single-stemmed perennial has narrow, linear leaves whorled along the stem. Small, greenish-white flowers occur in flat-topped clusters on the upper part of the stem and bloom May to September.

Growing Conditions: Low water use, moderately shade tolerant, dry soil

Plant Size: 1-3 ft (30- 91 cm)

**Green Milkweed
(Asclepias viridis)**



Photo Credit: Pinke, Flickr Creative Commons

Native Range: AL, AR, FL, GA, IL, IN, KS, KY, LA, MO, MS, NE, OH, OK, SC, TN, TX, WV

Description: Also known as Green Antelopehorn Milkweed, this perennial has white flowers – mostly one per plant and lacks the “horns” seen on Antelopehorn Milkweed. These milkweeds bloom from May to August.

Growing Conditions: Needs sunlight, cold and heat tolerant, moist soil, low water use

Plant Size: Matures to 4 ft (122 cm) in height

**Butterfly Milkweed
(Asclepias tuberosa)**



Photo Credit: Beautifulcataya, Flickr Creative Commons

Native Range: AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NM, NY, OH, OK, PA, RI, SC, SD, TN, TX, UT, VA, VT, WI, WV

Description: Sometimes called Orange Milkweed or Butterflyweed, this perennial has large, flat-topped clusters of yellow-orange or bright-orange flowers and blooms May to September.

Growing Conditions: Needs sunlight, drought tolerant, dry or moist soil

Plant Size: 1-2 ft (30-60 cm)

Milkweed Resources

Now that you’ve met some milkweeds, head over to the National Wildlife Federation’s Milkweed Resources page to learn about more milkweed species and where you can find milkweed for your garden! Also stay tuned on how to become a Butterfly Hero this March to receive a free pack of milkweed or nectar plant seeds to get your monarch garden started.

Note: *Tropical milkweed available at many retail nurseries is not native to the U.S. However it has naturalized in the Southeastern U.S. Science is discovering that its long bloom time may have some detrimental effects on monarch migration and possibly be a source to spread disease within monarch populations. If you do have tropical milkweed in your garden, it is recommended to cut the plant back in the winter months to encourage monarchs to move on to their natural overwintering sites.*

Dead bees tell a tale of dozens of pesticides

Fifty-seven agricultural chemicals are found in victims of a mysterious colony collapse disorder

Emily J. Gertz
TakePart Daily

As bee colonies continue to collapse worldwide, a team of European researchers has found that poisoned bees carry a lethal cocktail of dozens of pesticides.

“It is the broadest spectrum of pesticides and their metabolites till now detected in honeybees,” according to the study, which appeared in a recent issue of the Journal of Chromatography A.

Bees are among the world’s most important crop pollinators, responsible for roughly one in three mouthfuls of food grown in the United States alone.

A February report from the United

Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services warned that human activities are putting 40 percent of invertebrate species—which include bees, along with 16 percent of vertebrate pollinators—at risk of extinction. The pressure on pollinators could endanger 75 percent of the world’s food supply, the report stated.

The findings are an important step toward pinning down which pesticides and chemical interactions may be causing bee colonies to collapse, according to toxicologist Tomasz Kiljanek of the National Veterinary Research Institute in Poland, who led the study.

Colony collapse rates have surpassed

30 percent in Europe, Kiljanek and his colleagues noted in the study, and are higher than 40 percent in the United States.

“Even at very low levels, pesticides can weaken bees’ defense systems, allowing parasites or viruses to kill the colony,” Kiljanek said in a statement. “Our results will help expand our knowledge about the influence of pesticides on honeybee health and will provide important information for other researchers to better assess the risk connected with the mix of current used pesticides.”

Continued on Page 23

Kansan seeks policy change on depredation permits after finding mutilated deer on state-owned land

Case currently under investigation by
Kansas Department of Wildlife, Parks and Tourism

By Josh Rouse
cjonline.com

A Labette County man stumbled upon a startling scene this week on state property — and now he is pushing for change.

Robert Broadway, of Altamont, said he was walking down the road Aug. 23 near 17500 and Douglas Road on the Big Hill Wildlife Unit when he discovered five mutilated deer carcasses that had been left to rot on state-owned land. Each deer had only its backstrap, a loin of meat consisting of the muscle on each side of the spine, removed before being dumped.

Broadway, angered by the wasteful killings, believed a local landowner used a deer predation permit — a common source of tension between hunters and farmers — to legally slaughter the deer.

“Vehicle access to this location is through a locked gate,” Broadway said in an email to the Kansas Department of Wildlife, Parks and Tourism. “The general public cannot drive to this location. Only the adjacent landowners have the keys.

Furthermore, I think these deer were shot on a KWPT food (clover) plot.”

Game warden Jeremy Stenstrom, who investigated the scene the next day, noted his disgust with the incident in an email to The Topeka Capital-Journal. He said the photographs were “unfortunately a scene that I and my fellow Game Wardens find disturbing and give the law-abiding sportsman a bad reputation.”

Broadway further described the scene in his email to the KDWPT.

“You could clearly see where a truck had backed up,” Broadway wrote. “There were two pools of blood in the road. The deer were slit up the back in the back of the truck, the backstraps removed, and then they were dumped out. You could see where the truck pulled away. These people were not in a hurry. They felt safe. This looks like a landowner behind a locked gate with a depredation permit to me.”

A depredation permit, which Broadway likened to legalized poaching when misused, is issued to landowners — often

farmers looking to protect their crops from deer — to take a set number of deer on their land or nearby properties. The KDWPT also stipulates on its website that landowners who are issued the permits must agree to allow firearms deer hunting on their property during the year’s regular or extended firearms season, though hunter access is at the landowner’s discretion.

In an Aug. 24 email to The Capital-Journal, Broadway detailed his frustrations with the state’s policy regarding depredation permits.

“The questions that need to be asked are: How many deer in Kansas are being harvested legally, but ‘out of season’ by farmers and why are farmers allowed to treat depredation-killed deer like garbage?” he wrote. “Why are they not required to process the deer? This is a case of flagrant wanton waste and apparently, it’s legal. That fact is going to infuriate hunters in Kansas.”

Continued on Page 23

GARDENS

Continued from Page 19

survey published by Greenhouse Growers, a trade publication, 74 percent of the commercial growers that supply retail outlets said they will move away from the pesticides this year.

“The growers are having to change their practices because Home Depot and Lowe’s”—the two largest garden-supply retailers in the country—“have committed to phasing out the use of neonics on their plants,” Finck-Haynes said.

With their combined market share, Home Depot and Lowe’s moving away from neonics might be enough to bring about a tipping point in the retail market, but Friends of the Earth is still pushing for commitments from Ace and True Value—the third- and fourth-largest garden-supply retailers in the country. “We’ve been sending requests for meetings to Ace and True Value since 2013 and 2014,” Finck-Haynes said, and while both compa-

nies have vaguely said that they will follow Home Depot and Lowe’s, Friends of the Earth is seeking solid commitments. (Neither True Value nor Ace responded to a request for comment.)

While the decline of bees and other pollinators is most directly tied to the agriculture industry, which would lose a host of crops if pollinating insects were to disappear, suburban and urban spaces can provide important habitat for bees. From flower-filled gardens to parks to landscaped medians, cities can provide a significant amount of habitat—that is, if those spaces and plants are free of pesticides.

Encouraging retailers to phase out systemic pesticides like neonics, which are present in all parts of the plants—including the pollen and nectar—and educating home gardeners about less toxic ways of dealing with pests is one way to make urban places safe for bees. Progress is being made beyond the consumer marketplace too, according to Finck-Haynes, who noted that more than 30 cities across the country have passed pollinator protection ordinances. Following

the release of the Obama administration’s pollinator protection plan last year, “states are really actively thinking about how they can increase their overall pollinator habitat,” she said.

Even if progress has been made in limiting the use of neonics in garden plants, the pesticides are still routinely applied to a host of crops planted across millions of acres of farmland—including on crops where they have been found to be ineffective in combating the targeted pests. The Environmental Protection Agency is conducting an ongoing review of the pesticides’ safety, focusing specifically on the threat posed to honeybees, but the process has been slow, and environmental groups have criticized the early findings.

“It’s important that we continue to hold our retailers, our city governments, our state governments, and our federal government accountable,” said Finck-Haynes, and to “support a sustainable food system and sustainable land management that’s good for bees, good for the environment, and good for everybody.”

BEES

Continued from Page 21

Kiljanek and his colleagues adapted an analysis method called QuEChERS, typically used to detect pesticide residues in food, to test 74 samples of poisoned bees for 200 pesticides. The samples came from different regions of Poland.

The testing found residues from 57 different pesticides—nearly all legal

for use in the European Union—in the poisoned bees. Only one sample was pesticide-free, while the rest showed exposure to an average of four pesticides. The most contaminated sample contained residues from 13 pesticides.

The pesticide chlorpyrifos topped the list with 38 detections, followed by dimethoate at 30.

Clothianidin, a neonicotinoid, was found in 22 samples. The European Union banned clothianidin, along with the neonics imidacloprid and thiamethoxam, in 2013 because of their risks to

bees.

The United States has not banned neonicotinoids, although in January the Environmental Protection Agency linked one neonic, imidacloprid, to bee deaths.

Last year, a Department of Agriculture scientist, Jonathan Lundgren, charged that the department had suppressed evidence of a link between neonics and bee die-offs.

Emily J. Gertz is an associate editor for environment and wildlife at TakePart Daily.

POLICY

Continued from Page 22

He said several of the does had full milk sacks, meaning some fawns likely were orphaned by the wasteful killing.

“Without a requirement to process the harvest, we can assume much is wasted,” Broadway said. “As a policy consideration, at a minimum, why is there not a requirement to donate the meat to a food bank?”

While Broadway pushed for policy change surrounding the depredation permits — even going as far as to contact the governor’s office — some state officials urged restraint.

Rep. Ken Corbet, R-Topeka, said the matter was “highly susceptible to inflammatory rhetoric and opinions from all sides,” and as such he said it wouldn’t be appropriate to offer his opinion on the case until the investigation had concluded.

“That said, depredation permits are a legitimate use of wildlife management, and when responsibly used in adherence with Kansas law, they can be an effective tool to help control crop damage as well as loss of life, property damage and injury in instances of deer/motor vehicle accidents,” said Corbet, who also owns and operates the Ravenwood Lodge hunting resort in Topeka. “As a sportsman, I do not condone the wanton waste of game.”

Lloyd Fox, big game program coordinator for the KDWPT, oversees the depredation program. He said area wildlife managers typically produce excellent habitat, and many of the areas have high densities of deer. Occasionally, he said, crop damage occurs near lands the agency manages even though it allows open hunter access.

“Our employees would always prefer that hunters took the excess deer in a population and that they followed fair chase with high ethical standards, as well as used

and shared the meat from the animals they kill to its maximum,” Fox said.

However, he said depredation isn’t considered recreational or “fair-chase” hunting, but rather a tool to cull deer to manage their numbers. In Kansas, deer are considered a natural resource, and deer populations are managed through a variety of tactics by the KDWPT.

“We are frequently caught between landowners with conflicting objectives,” Fox said. “That includes landowners growing crops and hunters and landowners growing deer.”

Tim Donges, president of the Quality Deer Management Association’s Bluestem branch in El Dorado, said he understood the challenges involved with balancing the needs of farmers with the needs of hunters and non-hunters. He said the KDWPT and farmers should “exhaust efforts” for the meat to be utilized in some form or to allow some type of doe harvest to occur on and around the property if needed.

“To be honest, the non-hunting public, along with a lot of hunters, would have a serious fit if they knew KDWPT and farmers were shooting deer and letting them be wasted,” Donges said. “At the end of the day, KDWPT and farmers need to be very careful about our conservation image to the public.”

Donges recalled a situation he witnessed where a farmer in West Virginia had shot more than 100 deer next to a public hunting area and left them where they lay. However, he said, the main rifle season the year before had been canceled because of an extreme natural disaster.

Both Donges and the KDWPT agreed that deer depredation permits were at best a short-term solution and more extensive management techniques are needed in the long term. Donges suggested setting up a Quality Deer Management Cooperative — a group of landowners and hunters working together to improve the quality of

deer herds and hunting experiences — in the area to manage the deer population.

However, numbers from a KDWPT report show farmers may already be taking a different tact regarding deer population management.

According to the report, the issuance of depredation permits by the agency in recent years is actually down substantially from the program’s inception in 1999, though still higher than its lowest point in 2004, when only 39 permits were issued. At its peak in 2000, the program issued 284 permits, resulting in between 700 and 800 deer kills. In 2015, just 57 permits were issued — down from 129 in 2010 and 90 in 2013 — and about 150 deer were killed.

The report also shows the harvest of deer by hunters during the 2015-16 seasons was estimated to be 95,813 deer. That number is 2 percent more than the previous year, and of those 23 percent of the hunters were nonresidents.

Fox said the department typically limits the permits it issues to white-tailed deer and antlerless deer, and he deferred to local KDWPT employees who were investigating this individual case.

While Stenstrom said he couldn’t discuss the case until charges had been filed, he applauded Broadway’s efforts to bring the incident to light.

“Through the vigilance of Mr. Broadway, this is an incident where the facts and all competent evidence can be analyzed thoroughly,” Stenstrom said. “Mr. Broadway has shown a great passion in assisting with the investigation and should be commended by all sportsmen in his fight against the injustice of violating wildlife law.”

KDWPT Secretary Robin Jennison, who was emailed regarding the department’s policies on the wanton waste of wildlife, hadn’t responded at the time of publication.

Are we letting our national parks go to ruin?

By Douglas Brinkley
CNN Presidential Historian

On June 6, 1944, arguably the most momentous day of the 20th century, President Franklin D. Roosevelt refused to forget America's national parks.

Just before 1 p.m. ET on that gold-starred afternoon, the entire world transfixed by the Normandy invasion, Roosevelt received the deed from the state of Texas that forever protected the 708,000 acres of West Texas mountain range, Chihuahuan desert scape and a maze of fortress-like canyons made by the Rio Grande.

Six days later, Big Bend National Park was established. (It has since been expanded to 801,163 acres.)

Not only was federal money poured into the Lone Star State to prepare Big Bend for tourists, but FDR also reached out to President Manuel Avila Camacho of Mexico urging him to follow suit with his own Rio Grande park. (Unfortunately, he didn't.)

"These adjoining parks would form an area which would be a meeting ground for the people of both countries," Roosevelt wrote to Camacho, "exemplifying their cultural resources and advancement, and inspiring further mutually beneficial progress in recreation and science and the industries related thereto."

That Roosevelt didn't back-burner the National Park Service with World War II raging, even urging Mexico to emulate Big Bend, should inspire Congress to act with newfound boldness and resolve in upgrading America's priceless natural and cultural heirlooms.

August 25 was the park service's centennial, a golden opportunity to address the maintenance backlog and chronic neglect that many of our National Parks are struggling with.

I recently visited Padre Island National Seashore along the Gulf of Mexico in Texas and was flabbergasted that structures have deteriorated beyond belief. The boardwalk needs immediate replacement. The law enforcement guard station that burned down a decade ago has to be rebuilt. The telephone system is kaput.

It is disgraceful that we treat this Texas gem, the longest undeveloped barrier island in the world, so miserably.

Just as unloved is Fort Sumter National Monument, a sea fort near Charleston, South Carolina, which I also visited recently. It's mind-boggling that this historical treasure, the spot where the Civil War

began on April 12, 1861, has crumbling brick walls, broken-down sidewalks and chronic water seepage problems.

Even though Fort Sumter is a tourist-dollar mainstay of Charleston, we're letting an intrusion of breakwater slowly turn the old fort into a quasi-ruin.

Our national parks are the envy of the world. And the superintendents and their staff are stupendous. Yet due to budget constraints, we're treating these sacred places terribly.

Don't we have an obligation to maintain Philadelphia's Independence Hall and Mount Rushmore in South Dakota? Why are we allowing oil and gas companies to savage the badlands vista surrounding Theodore Roosevelt National Park in North Dakota?

In Everglades National Park in Florida, the Burmese python, an exotic invasive species, is estimated to be responsible for the 90% decline of small mammals in this fragile wetlands ecosystem. The park service needs more federal allocations to properly maintain our system. We need a modern-day Civilian Conservation Corps of young people to rid our parks of invasive species.

At nearby Biscayne National Park, also in Florida, the purposeful and accidental release of aquarium fish specimens is destroying native species. Another distressing problem is the coral reef dying at Biscayne and recent congressional votes to prevent the designation of a marine reserve for a fraction of the reef system in this popular park.

What point is there in establishing national parks — like the Everglades and Biscayne Bay — but not maintaining them and protecting the ecosystem habitat?

About half the park service's infrastructure needs are for maintenance of park roads, including the Arlington Memorial Bridge connecting Washington, D.C., and Virginia and the Grand Loop Road in Yellowstone National Park.

At California's Yosemite National Park, \$80 million in emergency funds are needed to repair three wastewater treatment plants in El Portal, Wawona and Tuolumne. Sewage might overflow into the Merced River and Tuolumne River watershed if this problem isn't addressed soon.

The 84,000 acres of water at gorgeous Voyageurs National Park in Minnesota are at risk due to nearby sulfide mining, according to the National Parks Conservation Association. The Environmental Protection Agency needs to ban these mining

outfits from poisoning some of the most pristine waterways in America.

And Shenandoah National Park in Virginia needs an immediate \$90 million to repair crumbling bridges and replace failing wastewater systems. And so it goes.

To be fair, sometimes the United States Interior Department has been its own worst stewardship enemy.

In Olympic National Park in Washington state, mountain goats were reintroduced in the 1920s. They have bred out of control, eating the high alpine meadows needed for marmots to thrive. One goat recently gored a hiker to death. (These goats need to be removed, which takes federal money.)

Worse yet, too often the National Park Service and US Fish and Wildlife, both agencies of the Interior Department, over-cooperate with nearby ranchers in the American West to the utter detriment of imperiled species.

In Yellowstone National Park, the Obama administration has mistakenly taken steps to undermine the grizzly bear's federal protections under the Endangered Species Act. Bear trophy hunting on the edges of Yellowstone is now unconscionably allowed.

I recently joined a group of concerned citizens — including such luminaries as E.O. Wilson, Ted Turner, Terry Tempest Williams and Doug Peacock — who have pleaded with the White House to reverse the dismal decision.

We pointed out that Yellowstone's bears are a remnant and isolated population. They must be allowed to wander safely outside the park without being shot willy-nilly. Americans would never permit hunting of America's bald eagle. The casual killing of Yellowstone grizzly bears is equally deplorable.

But most of the park service's problems come from congressional indifference. Due to funding shortages, the agency has a \$12 billion backlog in deferred maintenance. That is a high price for sure. But to continue playing ostrich would be disastrous.

A bipartisan congressional coalition should spearhead a great national effort, with the help of Fortune 500 companies, to pay this bill off as the cornerstone of the National Park Service centennial.

Everybody is looking for the new moon shot that will unify our country. Helping preserve our treasured landscapes is both

Continued on Page 27

What climate change is doing to the parks

A sample of the shifts already underway due to a warming climate

Elizabeth Shogren

From High Country News

Climate change has already brought irreversible changes to the national parks. And more are imminent, without major reductions in pollution from cars, power plants and deforestation. Here's a sampling.

MELTING GLACIERS

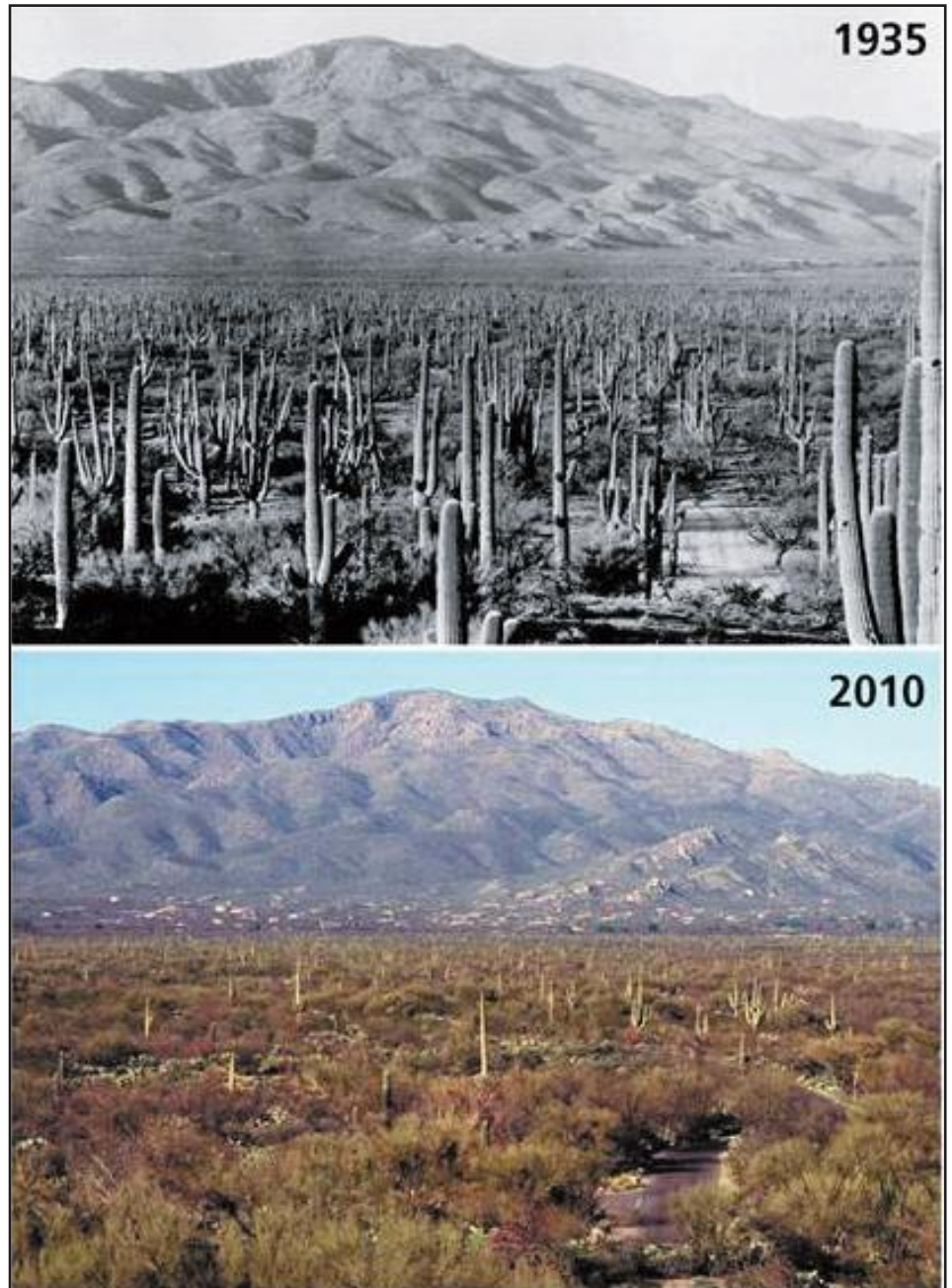
The elevation of Muir Glacier in Alaska's Glacier Bay National Park and Preserve has dropped in places by 2,100 feet since 1948. This is one of many glaciers in southeast Alaska that have shrunk astoundingly in recent decades, dramatically changing what visitors see and contributing to sea-level rise. Scientists estimate that over the latter half of the 20th century, melting ice masses in Alaska and neighboring Canada have increased global sea level even more than the Greenland ice sheet has. Muir Glacier offers a great example of how the rich data from national parks has contributed to the global understanding of climate change. It's among 168,000 glaciers used by the Intergovernmental Panel on Climate Change to determine that human-created climate change is melting glaciers globally.

SHIFTING BIOMES

Since 1880, lodgepole and other pine trees have moved uphill into what once were subalpine meadows in Yosemite National Park. The thirsty trees have helped dry up a wetland ecosystem important for small mammals like marmots as well as high-elevation frogs and salamanders. Yosemite now is working on a restoration project to restore the meadows' hydrological functioning. "You want them to remain wetlands," says Linda Mazzu, Yosemite's resource manager. "When trees invade, it's like a biome shift." A biome is the community of plants and animals in a particular region, and this was one of 23 biome shifts worldwide documented by the Intergovernmental Panel on Climate Change. Other biome shifts are underway — boreal conifer forests moving into tundra and alpine biomes in the Kenai Mountains-Turnagain Arm Natural Heritage Area and in Noatak National Preserve.

VORACIOUS BEETLES

Climate change is causing extensive bark beetle outbreaks across the West, because winters have been too mild to kill the insects and trees are stressed by drought. Rocky Mountain National Park has been hit especially hard, with 90 percent of the park's forested areas affected. Hundreds of thousands of lodgepole, ponderosa, Engelmann spruce and other evergreens have died. Park staff



Saguro National Park in 1935, top, and 2010. National Park Service

remove standing dead trees at campsites and other heavily visited areas so they don't fall on people or property. They also spray insecticide on thousands of tree trunks in non-wilderness areas. But 95 percent of the park is designated wilderness, and the beetles, which are native, have free rein there. The park has planted a small number of trees, but leaves most areas for natural regeneration.

LOOMING DIE-OFFS OF DESERT PLANTS

The exquisite desert plants of Arizona's Saguro National Park are adapted for dry

conditions, but climate change may make their Sonoran Desert home too hot even for them. Scientists project major die-offs of saguaro, palo verde, ocotillo and creosote bush. And even if the planet's people manage to modestly reduce their greenhouse gas emissions, scientists project that 90 percent of Joshua Tree National Park could become too dry for Joshua trees by 2100.

SHRINKING WILDLIFE HABITAT

Continued on Page 26

KID'S WILDLIFE FRIENDS

The secret superpower of birds revealed

Researchers have figured out how some species of birds deploy UV vision

By **Sabrina Imbler**
National Audubon Society

Yes, rainbows are glorious—but from a bird's perspective, they're even more intense. Many avian species have the ability to see a brighter version of the world, filled with a whole range of colors that we literally can't imagine. While scientists have long known that birds like Zebra and House Finches are capable of ultraviolet (UV) vision, they haven't entirely understood how.

A new study, published in July in *eLife*, sheds a little more light on this ability. Researchers from the Washington University School of Medicine in St. Louis have identified the features that enable, and even correct, birds' super-sensory powers: a combination of self-calibrating cone cells and metabolically altered pigments.

First, let's recap the basic anatomy. In both birds and humans, there's a thin lining of tissue in the back of the eye called the retina, which allows the brain to receive and process images. The human retina is a mosaic of three different kinds of photoreceptors, also known as cones, that are named for the colors of light they absorb: red, green, and blue. Avians have an extra, UV-sensitive cone that unlocks a huge spectrum of light hidden to human eyes. All birds have this fourth "violet" cone—but they're split into those that can see UV wavelengths and those that have "violet vision." No species can do both.

Birds with UV vision boast a number of advantages. They're better at foraging for food and are able to spot waxy fruits and berries that reflect UV light. They're also better at wooing mates. The plumage of some UV-sensitive species—European Starlings,

Blue Grosbeaks, and American Goldfinches, to name a few—reflect UV light differently in males than in females, helping the birds distinguish between the sexes. On the other hand, nocturnal birds such as owls retain violet vision because there's no need to see additional colors at night.

The spectrum of light visible to the human eye includes wavelengths between 400 and 700 nanometers (nm). This covers the longer wavelengths of red (620 to 750 nm), to the shorter blue (450 to 496 nm), to the even shorter violet (380 to 450 nm). Humans aren't able to see to the very ends of the spectrum, but birds with violet vision can, making them more able to discriminate shades of violet light. Meanwhile, UV light has even shorter wavelengths, measuring from 355 to 380 nm. Birds that can detect UV have one weakness: They have a "blind spot" that leaves them far less sensitive to light in the violet range, making it difficult for them to discern colors that fall between UV and blue. This is a major disadvantage, given how strongly birds depend on their capacity of sight, says Matthew Toomey, the paper's lead author and a postdoctoral fellow at the Washington School of Medicine.

But the new analysis found that birds solve this problem through a number of different adaptations. To figure out how they compensate for the blind spot, the researchers created computational models of avian vision, using data collected from previous studies on 21 violet-sensitive species and 24 UV-sensitive species. They then homed in on light-filtering pigments called carotenoids, which color birds' feathers and eyes, and classified them as either violet- or UV-sensitive in each species. These stats were plugged into a model to predict how

pigments affect the number of colors birds actually see.

The researchers found that species with UV vision can shift the range of their so-called blue cones to detect the shorter wavelengths of the blind spot. The violet cones also move in sync, revealing a surprisingly coordinated relationship between the two structures. "This finding is exciting because it shows this trait of UV vision relies on a complex set of adaptations, not just shifting the sensitivity of one cone," Toomey says.

To toggle the wavelengths of their blue and violet cones, birds rely on a specialized organelle called a cone oil droplet. These droplets are pigmented with carotenoids that are picked up from food; depending on how they decide to metabolize their carotenoids, avians can absorb longer or shorter wavelengths. Think of them like Instagram filters that let birds see the world in colors of their choosing.

UV vision does come at a cost though. "One of the reasons we think we see this variation among bird species is that UV light is damaging to the retina," Toomey says. Plus, as the wavelengths moves through various media, they can end up with chromatic aberrations, leading to distorted or fuzzy images. Toomey says this pitfall might explain why most UV-enabled birds have small eyes—the bigger the surface, the more room for error.

Eventually, Toomey wants to identify the enzymes that are responsible for generating the "filters." From his point of view, avian eyesight is the perfect model to answer the fundamental questions of evolution. His vision for the field is looking bright—even if he's only got three cones.

CLIMATE

Continued from Page 25

In Mount Rainier, North Cascades and Olympic national parks, scientists predict that climate change will dramatically shrink habitats for high-elevation mammals. As temperatures warm and snowpack decreases, hoary marmot, wolverine, mountain goat, American pika, American marten, snowshoe

hare and Canada lynx will probably lose most of their current turf. Small patches of mountaintop habitat in national parks will become increasingly important for the conservation of these species, because other suitable homes for them are likely to be gone.

SNOW AND SNOWMOBILES

Across the West, snowpacks have plummeted because of human-caused climate change. That trend is likely to continue, disrupting Yellowstone's \$60 million winter tourism industry, among other things, ac-

ording to a paper published this month in *PLOS One* by Michael Tercek and Anne Rodman, the park's acting branch chief for physical science. By the end of this century, they predict that, during 70 percent of the winter season, there won't be enough snow for snowmobiles and snow coaches to drive into Yellowstone from its West entrance. The agency might eventually have to plow its roads for cars, they say, if it wants to maintain high levels of year-round tourism.

Now or Neverglades: A region and a National Park at a crossroads

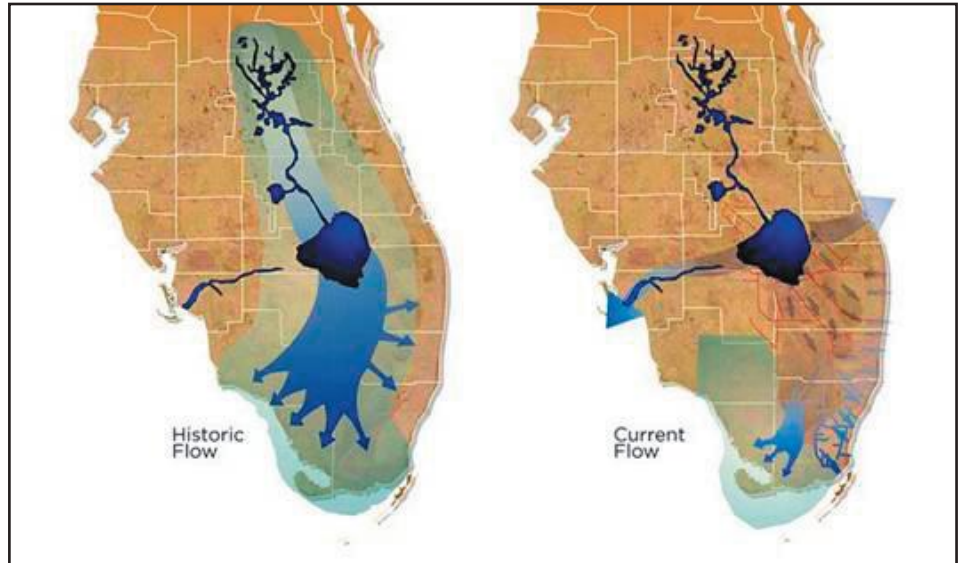
By Ed Tamson
TRCP Blog

Three months ago, for the first time ever, I fell off my skiff's poling platform. I was flyfishing for tarpon in the Everglades with a friend when I lost my balance and tumbled backwards into the water five feet below. I was fortunate to miss the motor prop and only suffered from a painful combo of oyster abrasions, soreness, and wounded pride, plus plenty of mud and water up my nose, but it was a wake-up call.

I'd been thinking about the environmental crisis facing Florida, focusing on all that was wrong and problematic. I wasn't immune to finger-pointing—at the Army Corps of Engineers, state and federal government, Florida agriculture, and unbridled growth—and the more I learned about the problems in Florida, the more stress I felt. Thinking about all of this had turned me into a downer, and frankly I wasn't doing anyone any good by dwelling. My unexpected splashdown made me realize that I had to pick myself up, figuratively and literally, and work toward change.

Our challenges are great. Over the last few months, toxic algae blooms along the east and west coasts of Florida have been the focus of national media attention. Yet, the most significant cause of the disaster, the discharge of untreated and polluted water from Lake Okeechobee into the Caloosahatchee and St. Lucie rivers, still hasn't been resolved. This is an environmental and quality-of-life disaster for sportsmen and women and all Florida residents.

With the National Park Service centennial this month, it's important to point out what this means for Everglades National Park. While the park does protect a fraction of the Everglades' waters from pollution and diversion, an effective conservation plan requires that action be taken over a large geographic, and political, landscape. If we don't care for



The Everglades historically flowed south. Today, high water is diverted east and west to coastal communities. Illustrations courtesy of US Army Corps of Engineers.

the entire watershed—Lake Okeechobee and all the rivers that flow south—then all that will be left of Everglades National Park will be a boundary on a map.

Florida fishermen won't stand idly by and let that happen. As for me, I started with what I know: I love the Florida Everglades, both coasts, Florida Bay, the Florida Keys, and the fish, wildlife, and people these areas support. My local community and the next generation of sportsmen and women deserve to see Florida's fisheries restored. I resolved to do my part in making that happen.

Then I got lucky. Very lucky.

Two months ago, I was hired as the TRCP's Florida field representative and joined a team of colleagues who are focused on solutions for conservation issues impacting sportsmen and women across the country. This has given me hope and purpose.

Yes, I am still concerned about the challenges facing Florida, but I do what I can ev-

ery day to by working with partners, diverse interest groups, and lawmakers to find solutions for the Florida Everglades that improve water quantity and quality for our wildlife, fish, and people. I'm learning that we can all become more effective advocates.

My fellow Florida sportsmen are still out fishing and hunting during this water crisis and, with all the local spending we drive through our sports, this is important. So is collaborating on solutions and presenting a unified front as we appeal to decision-makers to do what's best for fish and wildlife.

That's where you can help—sign the Now or Neverglades Declaration to show lawmakers that you support Everglades restoration. It took a humiliating fall off a poling platform to wake me up, but you can stay dry and make a positive difference today with just a few clicks of your mouse.

PARKS

Continued from Page 24

doable and meaningful. My vote is to bring the private sector and federal government into an unprecedented effort to expand and properly maintain our national parks and historic sites.

Back in 1940, FDR said it best.

"I see an America whose rivers and valleys and lakes — hills and streams and plains — the mountains over our land and nature's wealth deep under the Earth," he said, "are protected as the rightful heritage of all the people."

If we really love our national parks, as millions profess on the eve of the centennial, then we need to care for them

properly. To turn a blind eye on our own "rightful heritage" is a telltale sign of America — not just our national parks — in ghastly decline.

Douglas Brinkley is professor of history at Rice University, CNN presidential historian and author of the new book, "Rightful Heritage: Franklin D. Roosevelt and the Land of America." The opinions expressed in this commentary are his.

KID'S WILDLIFE FRIENDS

Research reveals why males outnumber females in bird world

From The Birding Wire

Female birds 'fly the nest' from sparsely populated breeding sites leaving behind small groups of lonely males – according to new research from the University of East Anglia.

Research published today in the *Journal of Animal Ecology* shows for the first time the causes of skewed sex ratios among small and declining bird populations.

The findings reveal how female birds are thought to be choosing busier breeding locations – where habitat is often better, males are more abundant, and the ratio of males to females is more equal.

Lead researcher Prof Jenny Gill, from UEA's School of Biological Sciences, said: "Many migratory bird populations are declining and very small local populations are becoming more common.

"If females prefer places where males are more abundant, small populations are likely to decline even faster.

"However, the unpaired males will continue singing throughout the breeding season in a bid to find a mate, and so we may be underestimating declines in these small populations. We wanted to find out whether this was happening."

The research team used British Trust for Ornithology (BTO) ringing data to explore the extent, causes and consequences of varying sex ratios in breeding populations of willow warblers (*Phylloscopus trochi-*

lus) across the UK.

Around 8,000 birds were surveyed from 34 sites over 18 years.

Prof Gill said: "Willow warblers are migratory birds that breed in Europe and spend their winters in sub-Saharan Africa. They have a typical lifespan of two years. They are caught and recorded in large numbers at survey sites throughout the UK.

"Their population trends vary greatly across Britain, with small and declining populations in the south-east and larger more stable populations in the north-west.

"This spatial variation gave us the opportunity to explore the links between population size and sex ratios, as well as the associated causes and consequences of skewed sex ratios over a large area."

Lead author Dr Catriona Morrison, also from UEA's School of Biological Sciences, said: "We found that back in 1994, the male-female ratio was pretty much 50:50. But over time the males started to outnumber the females. By 2012, males comprised around 60 per cent of the population.

"But we also found that sites with smaller numbers of birds had a greater proportion of males. So, for example, in sites in the north-west where willow warblers are very abundant, the male-female ratio was still close to 50:50, but a high proportion of males is common on sites in the south-east where the birds are less abundant.

"Unfortunately, the frequency of populations with a larger ratio of males is increasing, probably because small populations are becoming more common through habitat fragmentation.

"In male-biased sites we would expect to find fewer juveniles, and indeed we found that the proportion of juveniles was highest when sex ratios were closest to equality, but declined as ratios became more skewed.

"We also found that females tended to have lower survival rates than males across the board – but that this alone is not enough to drive the skewed sex ratios.

"What this all shows us is that females are probably joining sites with large populations – perhaps because they are attracted to the males, or because there is a larger amount of suitable habitat.

"Having skewed sex ratios is problematic because it means individuals will not be able to find a mate and breed. This could potentially drive faster declines in small populations," she added.

The research team recommends that conservation efforts should focus on maintaining and enhancing sites capable of supporting large populations that are likely to have more equal sex ratios.

'Causes and consequences of spatial variation in sex ratios in declining bird species' is published in the *Journal of Animal Ecology* on July 8, 2016.

Threatened birds recovering thanks to Endangered Species Act protection

By Steve Holmer

American Bird Conservancy

A report released today by American Bird Conservancy contains some good news for U.S. mainland birds: 78 percent of the birds listed as threatened or endangered under the Endangered Species Act (ESA) have populations that are now stable, increasing, or have recovered enough to be delisted. The *Endangered Species Act: A Record of Success* analyzes population trends and recovery success for all U.S. listed birds, including those in the

Hawaiian Islands and U.S. territories.

"Thanks to the Endangered Species Act, twice as many populations of listed birds are increasing as are decreasing," said Steve Holmer, Senior Policy Advisor for American Bird Conservancy and the author of the report. "Meanwhile, species such as the Bald Eagle, Peregrine Falcon, and Brown Pelican have rebounded sufficiently to be taken off the list of endangered species."

"This is a strong signal that the ESA works," Holmer said.

But the report also shows the continuing

problems for listed Hawaiian birds, many of whom face severe threats. Nine listed Hawaiian bird species are currently in decline. Overall, the ESA recovery success rate* for Hawaiian birds is 52 percent, only two-thirds of the recovery rate for mainland birds.

"The dire situation for Hawaiian endangered birds is in part a result of inadequate recovery spending. Hawaiian birds account for more than 25 percent of all listed birds,

Continued on Page 29

New documentary offers a sharp look at the West's water crisis

In 'Killing the Colorado,' people, not nature, are responsible for shortages

By Sarah Tory
High Country News

In 1922, seven Western states agreed to divvy up the water in the Colorado River, paving the way for giant dams, reservoirs and aqueducts to move and store it. Over the next century, the arid region, prone to erratic storms and punishing droughts, saw farms and cities grow and grow — with the belief that the water they relied on so heavily was inexhaustible.

But the Colorado River Compact, as the agreement is known, contained a serious flaw: the states overestimated how much water flowed through the river, which begins high in the Rocky Mountains of Colorado, running southwest for 1,450 miles, before entering the Gulf of California in Mexico. In nearly a century since then, roughly 40 million people have come to rely on an allocation of water that doesn't actually exist.

That miscalculation underpinning management of the West's most important river is one of the many manmade errors that have contributed to the region's current water crisis. That crisis and, more specifically, its human origins are the subject of a new documentary, *Killing the Colorado*, which premiered Aug. 4 on The Discovery Channel. Based on the award-winning series (<https://www.propublica.org/series/killing-the-colorado>) by ProPublica reporter Abraham



Drainage from farms in California's Imperial Valley keeps the Salton Sea full. But as drought cripples the region and farmers use less water, the sea shrinks, leaving the air choked with toxic dust that blows up from the dry lake bed. People in Imperial County suffer from among the highest asthma rates in the state. Jesse S./CC Flickr

Lustgarten, the film examines the Colorado River's growing inability to deliver the water that farmers, cities and entire ecosystems across the West rely on. While a prolonged long dry spell has exacerbated current shortages throughout the region, the film posits that most of the scarcities were not caused by nature but by short-sighted policies and

poor planning. That leaves a harder question: if the real problems are manmade, can't we find a way to fix them?

The film begins in one of the country's most productive agricultural areas, California's Imperial Valley, where huge farms

Continued on Page 30

BIRDS

Continued from Page 28

but received only 6.7 percent of federal recovery spending for birds in 2014," said George Wallace, American Bird Conservancy's Vice President for Oceans and Islands. "The U.S. Fish and Wildlife Service has been working diligently to increase its recovery efforts in Hawaii, and is now spending 18.4 percent of its bird recovery funds on Hawaiian birds, but the population trends indicate still more needs to be done to reverse current declines."

The report also reveals that both mainland and Hawaiian bird populations can recover when adequate resources are made available. The recovery status of the Bald Eagle,

Brown Pelican, Western Snowy Plover, San Clemente Bell's Sparrow, Golden-cheeked Warbler, Black-capped Vireo, Interior Least Tern, Southwestern Willow Flycatcher, Steller's Eider, Millerbird, Hawaiian Crow, Hawaii Creeper, and Nihoa Finch have all improved since 2006, when ABC produced a similar analysis of the ESA's effectiveness.

ABC staff are engaged in recovery efforts for Hawaiian birds, including Palila, a rare native honeycreeper that was among the first species to be listed under the ESA. "To prevent the extinction of Palila, we are working with the State of Hawaii to protect and restore habitat from non-native sheep that damage and kill the native trees used by the birds for food and nesting," said Chris Farmer, American Bird Conservancy's Hawaii Program Director. "And for the Millerbird, a successful translocation from Nihoa to Lay-

san Island was completed in 2012, increasing this species' chances for survival."

Even though the Endangered Species Act is working, it is under attack by some members of Congress. In recent years, individual species such as the Greater Sage-Grouse have been targeted for listing exemptions to prevent ESA protection.

"Instead of undermining this effective law, Congress needs to increase funding for species recovery," said Holmer. "With so many listed bird species showing increased populations, there is hope that we will soon see more of these species no longer needing the emergency protections of the ESA."

*The ESA recovery success rate is defined as the number of stable, increasing, and delisted species divided by the total of species extinct after listing, declining, stable, increasing, delisted, and unknown.

It's good to have sportsmen in the arena on water conservation

By Jimmy Hague
TRCP

Theodore Roosevelt Conservation Partnership's (TRCP) outgoing water policy director looks back on two landmark victories bearing the unmistakable fingerprints of hunters and anglers

If you ever attend a Nationals game in Washington, D.C., leave by the southeast gate, walk through Diamond Teague Park—named for a young man who devoted much of his life to restoring the Anacostia River before his tragic death—and look for the historic Old Pump House. This building used to

pump water to the plant that provides power to the U.S. Capitol before the Anacostia River became too polluted and clogged with debris. The pump house is now home to the Earth Conservation Corps, which is restoring the Anacostia River and improving the lives of at-risk youth in Washington, D.C. On May 27, 2015, it was the site of one of our community's most important victories for clean water and one of the high points of my career in conservation.

A New Era of Clean Water Protection Begins

On that day last spring, sportsmen gathered with some of the most important D.C.

water officials, small business leaders, and even one beer maker, to celebrate the signing of the final rule to improve Clean Water Act protection for trout streams and duck habitat. Once this decision is fully implemented, it will mean more cold clean water for anglers and fewer drained or polluted wetlands.

The fight for better clean water protection had been a long time coming, a battle that stretched back 15 years. And, to borrow from one of Theodore Roosevelt's most

Continued on Page 31

FILM

Continued from Page 29

blanket what was once a desert. The transformation was made possible by water from the Colorado River, piped 80 miles across the desert through the All-American Canal. But in California, Imperial Valley farmers are coming under increasing scrutiny for using the vast majority of the state's water — a pattern that repeats throughout the West, where roughly 80 percent of the available water goes to agriculture.

Blaming farmers for using so much water becomes suspect, however, if you're sitting in New York in the middle of winter, eating an organic kale salad. The greens, as one farmer points out, probably came from the Imperial Valley. For audiences not accustomed to finger-pointing, such examples create an uncomfortable reckoning, as well as an iteration of the film's central theme: that the water crisis is everyone's doing.

The film offers plenty of painful moments, nowhere more so than in its discussion of the Salton Sea. Created by an accidental breach in an irrigation canal, the sea has been kept full for decades by drainage from Imperial Valley farms. But as farmers find ways to use less water, the Salton Sea shrinks, exposing dry beds of toxic dust. The result is an impossible dilemma: Conserve water and worsen the region's sky-high asthma rates, or keep it full by using the region's scarcest resource?

Elsewhere in the West, agonizing questions around scarcity play out over big water projects, such as one proposed for southern New Mexico's Gila River (<http://www.hcn.org/issues/47.9/on-new-mexico-gila-river-a-contentious-diversion-gets-the-go-ahead>).

In early July, the state agency in charge of planning and operating the diversion finally disclosed its plans, setting in motion the environmental review process, which will inform the federal government's final decision on whether to approve the project. Experts questioned the high cost and long-term viability of the project — and the risk of repeating last century's mistakes. But in moving the diversion proposal this far, proponents have played on deeply held attitudes about water in the West: Get as much as you can, before someone else does.

That such fears continue to influence decisions about water management today is one of the film's more pointed arguments. The proposal for the Gila, it notes, is just one of the many new dams and diversions currently planned for the Colorado as states throughout the Upper Basin scramble to claim every last drop they have a right to develop.

As Lustgarten says in the film, "when faced with scarcity, the unfortunate reaction for many is to take a little more."

If pinpointing the problems associated with the water crisis is challenging, the solutions appear even more so. In recent years, for instance, city water providers have been buying up farmers' water rights, addressing the imbalance between urban and agricultural water rights. But the water trading also creates a whole new set of problems.

Those costs are evident in towns like Crowley, Colorado, a community built around irrigation canals and a once vibrant agricultural economy. But beginning in the 1970s, farmers sold off most of their water rights to growing cities like Pueblo

and Colorado Springs. Fields and orchards turned to weeds and as one current resident describes, "Crowley became a ghost town." Today, prisons are the biggest employer in the county. The filmmakers avoid judgment on the issue on water trading, instead offering a cautionary tale about the massive consequences — largely unforeseen — surrounding those decisions.

Meanwhile, as water's scarcity drives up its value, Wall Street investors are entering what is now a multi-billion dollar business in water trading. One of those players is Water Asset Management. The \$500 million hedge fund has invested in everything from Imperial Valley farms with prime water rights to desert cities like Prescott, Arizona, in need of new water supplies to support its growth. In many ways it's a win-win; the hedge fund money is helping farmers and cities find ways to save water and develop, while also securing huge profits for themselves by selling the water saved. The film suggests that markets are going to play an increasingly important role in allocating water in the West, but leaves open the thornier questions of whether, for instance, the growth fueling demand for new water supplies should be revisited, or whether water should be treated solely as a commodity, rather than, say, a basic human right.

If there's a central lesson the film wants to convey, it's that there are no easy fixes when it comes to the West's water crisis. Who, for instance, should bear the cost of using less water?

The answer, at least, seems obvious: everyone.

KID'S WILDLIFE FRIENDS

How many teeth are In a shark's mouth?

By eNature

Sharks have been in the news the past week, with a number of attacks on bathers in the waters worldwide. And the Discovery Channel's annual Shark Week was this week as well.

Whenever sharks are in the news, we tend to get lots of questions about them, especially their teeth. It seems folks are fascinated by shark's teeth—something for which there is no shortage in a shark's mouth!

A Never-ending Supply

Wouldn't it be nice if our teeth replaced themselves whenever we needed a fresh set? No more drills. No more crowns. No more denture adhesives. That's what happens to sharks.

In fact, some sharks replace their teeth every few weeks.

So the answer to the question how many teeth does a shark have is pretty easy... as many as they need!

A Mouthful Of Teeth!

While the number of teeth in a shark's mouth generally ranges about 20-30, depending on the species, many shark species continue to generate teeth throughout their lives. So the never run out...

The teeth inside a shark's mouth are arranged in rows, like seats in a theater. While the outermost teeth do the work of grabbing,



Shortfin Mako Shark © NOAA

cutting, or crushing prey—their function varies from species to species—the inner rows of teeth mature. Then, when the shark sheds the worn outer teeth, the next row takes their place.

It's a process that continues throughout the shark's life, with teeth being replaced more frequently the more actively the shark feeds.

Ever encounter a shark's teeth up close? If

so, you're in a very small minority. Despite all the attention they have received in the news the past few weeks, shark attacks on humans are actually quite rare. They're generally no more eager to meet us than we are to meet them

Even so, it never pays to tempt fate! So pay attention to warnings when you're swimming in areas know to be frequented by sharks.

WATER

Continued from Page 30

famous speeches, some of the credit belongs to the sportsmen "in the arena" for this fight. You could see their fingerprints on the final product.

Ms. Sheppard Goes to Washington

Nearly a year later, I sat in an auditorium at the White House watching TRCP's Mia Sheppard tell President Obama's team why cold, clean streams are important to her, her family, and her livelihood as a fishing guide. Drought is hurting rivers in the West, including the Deschutes River, and its native redband trout, right in her backyard. She told the president about the Deschutes and found herself getting choked up as she told the crowd, "When fish lose, we lose."

Mia came to the meeting armed with 20

recommendations developed by sportsmen that will make our rivers and streams more resilient to the effects of drought and our fish and habitat healthier as a result. By the end of the day, more than half of these recommendations were part of official government policy. Sportsmen again had gone into the arena and left their mark.

Policy Matters

TRCP was formed in the belief that when sportsmen speak with one voice, there is nothing we can't accomplish. Four years ago, the TRCP began to focus on water resources with that same belief. Jim Martin, the retired conservation director at Pure Fishing and a TRCP champion, once said, "The most effective protections [for sustainable fisheries] are embodied in policy and...law." Donning a suit and tie to walk the halls of Congress may not be as exciting as our days on the water or in a duck blind, but sportsmen must remain in the policy

arena to protect what we love. The events at the White House and on the banks of the Anacostia River show how much we've accomplished already.

I came to TRCP at the beginning of this great chapter for our water resources, and I've seen the unique impact sportsmen can have on policy. As I prepare to move on to another conservation leader, The Nature Conservancy, I'll be taking the spirit of Theodore Roosevelt with me, along with his words: "In any moment of decision, the best thing you can do is the right thing, the next best thing is the wrong thing, and the worst thing you can do is nothing."

After more than three years with the organization, I'm confident that sportsmen can count on the TRCP to do the right thing. So I move on to the next chapter in my conservation story believing that Roosevelt would be proud of what we've accomplished for water. It's only the beginning.

Western monarch butterflies get a closer look

A recent study documents the butterfly's decline, while a new project looks at how to improve its population

Anna V. Smith

From High Country News

On warm fall days on the California coast, it's not uncommon to see the iconic monarch butterfly flitting through the sky. In some places, so many butterflies are present that it makes an impressive display. "The air is filled with orange," says Samantha Marcum, the monarch butterfly coordinator for the Pacific Southwest region of the U.S. Fish and Wildlife.

Marcum, who also works on the Western Monarch and Milkweed Habitat Suitability Model Project, is based near the Lighthouse Field State Beach in Santa Cruz, one of the groves where thousands of monarchs come each winter to escape chilly Western winters. On windy, cooler days, the monarchs can be seen up in the Monterey cypress and eucalyptus trees, clinging to the branches with thread-like legs, stained-glass wings winking in the daylight.

In 1997, an estimated 70,000 monarchs came to the grove. At the last count in 2015, that number was down to 12,000. Lighthouse Field State Beach is one of 50 grove sites recently studied by the Xerces Society in a report published in July, *State of the Monarch Overwintering Sites in California*, and funded by the U.S. Fish and Wildlife Service. The authors hoped to illuminate the lives of Western monarchs, an understudied population of the species.

The study and the project Marcum works on looking at habitat and breeding corridors represent a two-pronged effort by conservationists and the U.S. Fish and Wildlife to study and restore the regions where significant parts of the migratory monarch lifecycle take place. By restoring these lifelines, they hope to head off an Endangered Species Act listing. Monarchs were proposed for listing in 2014, and the Fish and Wildlife Service has promised a decision in 2019.

The latest study tapped into two decades worth of data gathered during the Western Monarch Thanksgiving Count, an annual assessment of overwintering monarchs on the California coast. The study found a 74 percent drop in Western monarch numbers over the years, the first time that a definitive number has been placed on decline of Western monarchs. What used to be an arriving cloud of 1.2 million butterflies in 1997 to the coast has dwindled to a wisp of 292,674 in



Monarch caterpillars only eat milkweed. The Xerces Society/Candace Fallon

2015.

Monarchs are perhaps best known for their massive migration from the eastern United States to the oyamel forests of Mexico, where many millions of butterflies cling to the trees like a strange lichen. The Western monarchs are a smaller, genetically similar population, which breeds west of the Rocky Mountains and overwinter primarily in California, as well as some parts of Mexico.

But the Western monarchs are far less studied than their eastern counterparts, which endangered species conservation biologist and lead author Emma Pelton says is due to their smaller numbers and the geography of the West.

"So much of the West is so sparsely populated, like the Great Basin, western Montana, eastern Oregon and Washington and those just aren't areas with a lot of humans out there watching them," Pelton says.

To understand what is causing the decline of the Western monarch, Marcum says that they need more information about where the butterfly's actual habitat is. While the recent study illuminates exactly how much the Western monarch populations have declined, the precise location of their feeding and breeding grounds is still unknown, as well as how many generations of butterflies it takes to get from their feeding grounds to the

overwintering sites in California. Researchers have found that eastern populations with overwintering sites in Mexico take three or four generations of monarchs to get back to the northern United States and Canada. The Western migration is shorter, but much is still unknown about it.

That's why the Fish and Wildlife Service, in collaboration with the Xerces Society, is carrying out the Western Monarch and Milkweed Suitability Habitat Project, which will identify key breeding and migratory sites. The project will provide that information to land managers in Western states to either proactively protect the sites, or begin restoration projects on degraded habitat, which most often includes planting native species of milkweed, the singular plant that monarch caterpillars feast on.

They'll also have to contend with a conundrum: the monarch butterfly is widespread and well known, despite its precipitous decline. Since it's not rare to see one, Pelton says, it can be hard to get the message across that the species is in trouble. It's also difficult to easily sum up what the problem is since many factors are likely driving their disappearance; less habitat, more pesticides, monoculture practices, and climate change all may contribute, Pelton says. "It's death by a thousand cuts for monarchs."

How a Tern broke the record for the longest known migration

Researchers call the bird's journey of 60,000 miles an "underestimate" of how far it actually flew.

**By Sabrina Imbler
National Audubon Society**

This month in Britain, an unassuming little bird broke a huge record. An Arctic Tern clocked a whopping 59,650 miles over the course of its yearly migration from its breeding area on an island off the coast of England to Antarctica, and then back again. The tern's trip marks the longest migration ever recorded—the equivalent of flying around the circumference of the Earth twice, plus 10,000 miles.

Leaving the Farnes Islands last July, the tern reached the tip of South Africa in just one month. From there it flew to the Indian Ocean, where it stayed throughout October until departing for Antarctica. The tern then angled along the edge of the continent and, in early March, arrived in the Weddell Sea, which became its home until April, when it flew back to the Farnes along the west coast of Africa. The epic round-trip journey is nothing short of inspirational.

"We know that terns are moving and flying constantly, even at night. And we know that flying is the most energetic activity that any animal can undertake," said Richard Bevan, a biologist at Newcastle University and one of the study's lead scientists. "How do they do it? We don't yet know, but it is extraordinary." With a record like this already underway, this particular tern may fly more than 1,800,000 miles over the course of a lifetime that could span up to 30 years—the equivalent of traveling to the moon and back four times.

Racking Up the Miles

The study has illuminated the monumental scope of one of the best-traveled creatures in the world. Bevan and Newcastle's Chris Redfern have been studying the birds of Farnes Island for almost 20 years. Approximately 3,200 Arctic Terns breed there, a population that blooms when eggs hatch in June. Then the tern chicks must share cramped island real estate with thousands of hatchlings from some of the island's 87,000 pairs of seabirds, including the Arctic Terns, Atlantic Puffins, Com-

mon Eiders, and Sandwich Terns.

Last year the researchers fitted 29 of the Arctic Terns with geolocators, tiny gadgets weighing 0.7 grams that monitor light levels from bands on the birds' legs. The geolocators record the maximum light level every five minutes, from which researchers can determine the times of sunrise and sunset, the day length, and ultimately the bird's precise location.

The record-breaking bird—which the researchers believe to be female due to its wingspan and the length of its body and tail—is only seven years old. Bevan remembers tagging it as a chick in almost the exact spot where the bird now nests.

The Arctic Tern's extreme flying is rivaled only by the Bar-Tailed Godwit, a truffle-feathered shorebird that has set the record for the longest nonstop flight (not even a brief rest for a drink or food): 7,145 miles in the air. But nothing in the entire animal kingdom beats the Arctic Tern's track record for distance. This bird's near 60,000 miles tops the previous record of 56,544 miles. But Bevan says he won't be surprised if it's soon surpassed by another bird's flight because tracking technology is constantly expanding scientists' understanding of the animals' miraculous feats. So far this year the researchers have recovered 17 of the geolocators from tracked birds, and have sighted another four or five that they hope to catch in the coming weeks, so that new record could come rather soon.

Because they only record the daily positions of the birds, geolocators will always underestimate the total distance the birds fly, Bevan says. GPS satellite transmitters would expand tracking capabilities tenfold, but the technology is currently too heavy for the small birds. "If we can get GPS devices small enough, I think we would see these birds have gone truly phenomenal distances."

A Harrowing Lifestyle

The Arctic Terns' circumpolar migration takes them to every ocean and near every continent. They travel in a seemingly inefficient zigzag of long loops and s-curves.

But there is a method to this madness. Scientists recently discovered the birds make several thousand-mile detours to capitalize on global wind patterns and preserve energy. The sprawling migration represents a necessary hunt for resources, Bevan hypothesizes. After all, the terns rely on the Farnes Island to breed and the Antarctic to eat. "Finding out where they've been going, looking at what resources are there is very important," he says. "The extent of the area that these birds are actually using down south is quite an eye-opener to us."

These are the real implications of the study: zeroing in on the terns' migration hotspots and what threatens them will immeasurably aid their conservation. "Identifying such areas that are going to be important not just for this one bird, but for a lot of the birds," Bevan added. When it comes to conservation, the Arctic Tern's migratory claim to fame also marks its biggest blind spot. With such an extensive range, populations are much more difficult to monitor. "We think of them as our birds, but they're not," Bevan says. "They spend most of their time elsewhere, going into five different oceans and sampling all sorts of environments."

Though the global population of Arctic Terns is not yet threatened, researchers believe they are slipping into a soft decline. The bird's numbers on the Farnes have also slumped, especially after a bout of harsh summer storms last year, events that are predicted to intensify with climate change.

Other colonies in Iceland and Scotland fare even worse, Bevan says. These northern flocks have resorted to traveling farther in pursuit of sand eels—the chosen cuisine of terns, puffins, and auks—which in turn have been drifting to the north to escape rising sea temperatures. It's also possible that sand eels have drifted down into deeper and therefore colder waters, jeopardizing non-diving birds like the tern that can't access prey below the surface.

Arctic Terns feed by plunge-diving, an

Continued on Page 34

Transferring control of federal lands would devastate hunting and fishing

By Hal Herring
Field and Stream

“We have to do this,” Blaine Cooper told me in a rush. “The BLM lit a fire to burn this ranch down because they want the uranium that’s under it! The left blew up buildings, killed people, enslaved people to make this wildlife refuge!”

Cooper was sitting behind the wheel of a white pickup, heater blasting, and talking to me through the open window. It was the middle of last January, maybe 12 degrees above, here at the Malheur National Wildlife Refuge in Oregon, with day just breaking over a universe of frost-whitened sagebrush and 6 inches of old snow.

Duane Ehmer, riding by on his cow horse, Hellboy, was dressed for duty in a furry cap with earflaps and an old red, white, and blue leather jacket and well-worn chaps, plus a cap-and-ball Colt pistol. The big American flag he carried barely moved in the ice-fogged stillness. Later in the day, Ehmer would tell me that he believed that the federal government had “taken away the land from good-hearted American people,” and that soon enough, our public lands would be sold off to help pay the U.S. debt to China. He was worried that he would have no place to hunt or ride his horse if and when that happened. He seemed like a good guy, the kind of person who would be handy to have with you on a tough job, or in a backcountry camp.

I went to the Malheur National Wildlife Refuge to meet these militants who had taken over the refuge headquarters and talk to them about what they were doing, and why they were so opposed to the public lands that are the sole reason I moved to the West 26 years ago and raised a family here. Cooper and some of his companions seemed to be lost in a shadow world of conspiracy theories, false-

hoods, and boilerplate antigovernment fury.

But the friendly Ehmer was at least half correct. There is indeed a carefully crafted movement under way to rob Americans of their public lands. It’s a movement led not by armed and ranting men decked out in militia getups, nor the Ammon Bundy types in their cowboy hats, but by soft-handed politicians in business attire, dreaming of riches and a transformation of our country that will bring us into line with the rest of a crowded world where only the elite and the very lucky have access to wildlife, open spaces, rivers and lakes, and the kind of freedom that we have for so long taken for granted.

Randy Newberg, one of America’s most outspoken public-land hunter-conservationists, points out that transferring control of public lands to the states, or to private hands, is not a political issue—it’s an American issue. “So many people I talk with just don’t seem to know what is at stake,” says Newberg. “The idea of our public lands, in public hands, is one of the greatest contributions that America ever gave to the world—that we the people are invested in our own lands. It’s part of our democracy, and it is exactly what gave birth to the American conservation movement that made us the envy of the world.”

The Great Land Rescue

At Malheur, none of the occupiers I spoke with knew the history of what they claimed to be opposing. Here’s the short version: Homestead acts beginning in 1862 awarded more than 270 million acres of land (about 10 percent of the nation’s land area) to tough, optimistic settlers who staked their claims from the Midwest to the Pacific Ocean (the only requirement was being able to prove that you had never taken up arms against the U.S. government). The Railroad Act of 1862 was the first of a series of grants that gave away another 175 million public acres (much

of it timberlands that could supply railroad ties and other materials) to encourage railroad companies to build the transportation infrastructure that would complete the settling of the West. In the rough-and-tumble closing of the American frontier in the late 19th century, millions of acres that were too remote, dry, or rugged for settlement or other uses went unclaimed. These lands were subjected to a ruthless free-for-all of mining, logging, and grazing that left much of the landscape unusable, and the wildlife threatened with extinction.

It was a dire situation, and the American solution was unique to the world at the time: President Benjamin Harrison set aside the first “forest reserves” from these unclaimed lands in 1891, to protect the mountain headwaters of major rivers that supplied navigation and irrigation. Between 1901 and 1909, President Theodore Roosevelt expanded these reserves, now known as the national forests, to almost 148 million acres. Later, as unclaimed rangelands were severely overgrazed, the Bureau of Land Management was created to restore and oversee 245 million acres of that unclaimed land, which included millions of heavily degraded acres abandoned by homesteaders who had tried and failed to make them produce enough crops or livestock to survive. We were left with 640 million acres of public land—land that has become the cornerstone of American outdoor recreation and represents the best public hunting and fishing country in the world.

From the beginning, the idea of a vast public estate, and especially Roosevelt’s dramatic expansion of the national forests, was greeted with unmitigated scorn by many powerful Westerners. The ruthless Gilded Age robber baron William A. Clark, who built his fortune on Montana’s timber and

Continued on Page 35

TERN

Continued from Page 33

exhausting method that involves flying 30 meters vertically up and down to catch fish at the surface of the water. The geolocators revealed that downtime means nothing to the terns, who are moving and flying constantly day and night. It’s an exhausting

life, and researchers still aren’t sure how they find the energy to do it.

So the Arctic Tern’s sensitivity to such environmental shifts has earned it the moniker of “canary of the sea,” Bevan says. “If anything goes wrong, these birds are the first to be affected.” But this means the location data of the Terns could double as a marker of fish stocks and where they move in response to climate change.

Though Bevan and Redfern will not

track their birds this coming year, they hope to secure enough funding to continue the project in the future. For now, they will thoroughly analyze the migration path of each bird and see where they overlap, hoping to identify conservation hotspots. “We’re at an early state of understanding, but this is an extraordinarily valuable data set that will tell us a lot about how these terns use our planet,” Redfern says. “And I think that’s remarkable.”

LAND

Continued from Page 34

copper, was allied with Idaho's Sen. Weldon B. Heyburn and Colorado's Rep. Herschel M. Hogg, a mining magnate, to block every attempt at creating public lands or conserving natural resources of any kind. Clark often said, "Those who succeed us can well take care of themselves."

The Move to Privatize

In the 1950s, as restoration efforts on BLM and U.S. Forest Service public lands began to improve grazing conditions and reestablish cutover forests, the movement to take these lands began to build. In 1955, the renowned Western historian Bernard DeVoto wrote that "the ultimate objective is to liquidate all public ownership of grazing and forest land in the United States...the plan is to get rid of public lands altogether, turning them over to the states, which can be coerced as the federal government cannot be, and eventually into private ownership."

The Sagebrush Rebellion of the 1970s and '80s was sparked by changes in federal land-management policies mandated by Congress that, in part, required surveys of possible new wilderness areas and studies of the effects of grazing and timbering on wildlife, fish, and recreation. The Sagebrush Rebellion, whose supporters wanted more state and local control of those lands—if not actual transfer of the lands to the states, or outright privatization—had widespread support across the rural West. Even Ronald Reagan, on the campaign trail in Utah in 1980, claimed, "I happen to be one who cheers and supports the Sagebrush Rebellion. Count me in as a rebel."

But the ranchers who were leading the movement began to recognize the possible consequences of individual states taking over management of federal lands. The repercussions would have included the most radical expansion of state government in history to deal with the administration of such marginally productive lands, as well as increased taxes to support it, grazing fees that would rise as much as tenfold, and finally, the inevitable sell-off of most of the lands to private interests that would almost certainly not include the Sagebrush Rebels. It would actually mean the end of small-scale ranching in the arid West.

The precedents then were as clear as spring water—and they are just as clear today:

- Nevada was given 2.7 million acres of

federal land when it became a state in 1864. All but 3,000 acres of that has been sold off.

- Utah has already sold more than 50 percent of the lands granted to it at statehood.

- Idaho has sold off 41 percent of its state lands since gaining statehood in 1890, which equates to 13,500 acres per year going into private hands.

And the history of land under state ownership is not good. A report by Backcountry Hunters & Anglers, a national sportsmen's conservation group, cites these figures:

- In Colorado, only 20 percent of state trust lands are open to the public for hunting and fishing.

- To help ease budget woes in Wisconsin, the state is currently in the process of selling off 10,000 acres of state-owned land.

- In Oregon, as timber revenue from it has declined, the state has been forced to auction off the 92,000-acre Elliot State Forest. Oregon was originally granted 3.4 million acres and has only 776,000 acres left.

- In Idaho, a European-esque hunt club has leased state land for exclusive hunting rights.

The Modern Land Grabbers

The new leaders of the so-called "divestiture movement" are not ranchers, at least not in the conventional sense. They are inspired by the work of theorists and political appointees like Terry L. Anderson, who wrote "How and Why to Privatize Federal Lands" in 1999. They are men like Utah State Rep. Ken Ivory, of the American Lands Council, a group advocating for the transfer of public lands to the states. Ivory, who sponsored legislation that would do just that, told reporters that the transfer of the lands was "like having your hands on the lever of a new Louisiana Purchase." (Of course, in the Louisiana Purchase, the U.S. actually bought 827 million acres from France, paying \$15 million. Ivory makes no mention of buying any public land from the American people who currently own and use it.)

Rep. Ivory is not a rancher. He represents the district of West Jordan, Utah, a suburb of Salt Lake City, but he knows where the money is in American land. His group receives funding from Americans for Prosperity, the main political advocacy arm of Charles and David Koch, of Koch Industries. Ivory's bill, the 2012 Transfer of Public Lands Act, has been followed by similar bills in the legislatures of 10 Western states. The Utah legislature has passed a resolution to spend \$14 million of Utah taxpayers' money on a lawsuit against the federal government, demanding transfer of all public lands within the state.

"The difference between the land grabbers today and in past years is that they are much more organized than ever before. There is a lot more money behind them than there ever has been," says Land Tawney, the executive director of Backcountry Hunters & Anglers.

The public lands that were once viewed as useless have now attained fantastic value, on a planet of 7.3 billion people, in the fastest-growing developed nation on earth. Dramatic, huge-scale private land holdings across the nation have become the norm, from the recent purchase of 330,000 acres of ranchland in the Missouri Breaks of Montana by the Texas-based Wilks brothers, to Ted Turner's 2 million acres, the Koch brothers' 200,000-acre Montana ranch, or the Mormon Church's ownership of 650,000 acres in Florida and a 201,000-acre ranch along the Wyoming-Utah border. There is little doubt that there would be a huge demand for U.S. public lands, both from our own wealthy residents, from investors, and from resource-stressed nations like Saudi Arabia and China.

Basic natural resources are most at risk. "Think about the water we'd lose access to if these lands were privatized—70 percent of the headwaters of our streams and rivers in the West are on public lands," Tawney says. "That is why the lands were set aside in the first place. We knew that under federal management we'd be able to harvest timber and still protect the water resources. With private ownership, there was no guarantee."

And "no guarantee" applies to hunting and fishing, too, Tawney says. "The transfer of these lands to state control would change American hunting forever. State lands have an entirely different set of rules for management. And private lands are mostly not accessible for the average hunter. The experiment, unique to our country, where the fish and wildlife and the public lands belong to the people, well, that would be the end of that."

For Randy Newberg, whose TV shows *On Your Own Adventures* and *Fresh Tracks* are based on nonguided public-lands hunting, the transfer or privatization of public lands is what he calls a "cold dead hands" issue. "I will never give up fighting this terrible idea," says Newberg, who has represented hunters in Congress and state legislatures. "For me, America without public lands is no longer America."

The way to fight it? Contact your congressional representatives. "Tell them you want no part in these schemes to transfer or get rid of our public lands," says Land Tawney. "The system works. Your voice still counts as an American. But only if you use it."

KID'S WILDLIFE FRIENDS

Scientists finally have evidence that Frigatebirds sleep while flying

By Mike VanHelder
National Audubon Society

A common myth once held that albatrosses could fly for years at a time, eating and drinking and mating on the wing, landing only to lay their eggs. Modern science does not support this old wives' tale, but the verifiable truth about avian flight behavior is almost as impressive. The Gray-headed Albatross can circle the globe in only 46 days, making numerous pit stops along the way. And rather than the albatross, it's the Alpine Swift that holds the record for the longest recorded uninterrupted flight by a bird: One logged more than 200 days in the air as it hunted flying insects on its wintering range in the skies over West Africa.

These legendary flights raise a flurry of questions about how the birds pull off such feats, and chief among them is the question of sleep. For many years, scientists conjectured that long-ranging birds could sleep while aloft, despite having no real evidence to support this claim. Until now, that is. A new study about the Great Frigatebird, published earlier this month in *Nature Communications*, supports the conventional wisdom—but in a surprising way.

The Great Frigatebird might not have the incredible range of the Alpine Swift, but its aerial feats are astonishing in their own right. On their wandering flights, frigatebirds can stay aloft for up to two months without touching down on land or water. More importantly, while out at sea, they couldn't even take a break even if they wanted to; unlike most other seabirds, frigatebirds can't swim, becoming waterlogged and eventually drowning if they do encounter water. It's this inability to stop and get some rest while floating that has caused scientists to suspect the bird might sleep while flying, and it's why Niels Rattenborg of Germany's Max Planck Institute for Ornithology (and other colleagues) chose to study their sleep patterns.

Rattenborg was also drawn to frigatebirds for logistical reasons. One nesting population of the species in the Galapagos Islands is "quite tame" after years of constant observation, he says. Rattenborg and his team found it relatively easy to capture 15 of the birds to implant electroencephalo-



Great Frigatebird wearing a neurologger. Photo: Bryson Voirin

graphs (EEGs) into their skulls. Because EEGs measure electrical activity in the brain, the researchers were able to tell when the birds were awake or asleep. An implanted accelerometer clued them into how fast and in what direction the animals flew.

When they downloaded the data from the tiny devices a week later, the researchers found that while frigatebirds do sleep while flying, they sleep very little—about 45 minutes each day in short ten-second bursts, usually after dark. By contrast, on land, the birds sleep one minute at a time throughout the day and night for a total of roughly 12 hours each day.

While sleeping mid-flight, frigatebirds don't go completely on autopilot; the birds often sleep with only one side of their brain, leaving the other side awake. Most animals that sleep half-brained do so to stay alert for predators, but frigatebirds have no natural predators in the sky. Rattenborg suspects that they remain half-awake to prevent mid-air collisions, though none were observed during the study.

Much like hawks or eagles, frigatebirds soar by circling thermal updrafts to gain altitude before gliding straight for long distances, slowly losing altitude until it's time to climb again. All of the sleep recorded in the study occurred during the upwards-cir-

cling portion of the flight; the birds didn't sleep at all while gliding down. Paper co-author Alexei Vyssotski of the University of Zürich, who designed the implantable EEG/accelerometers and performed some of the bird surgeries, says that while it may be more complex, catching a thermal updraft is also the safest part of a flight. "An animal can't collide with the water surface when the altitude rises," he says.

The discovery that birds do in fact sleep on the wing, even if only in short, infrequent bursts, confirms a long-standing scientific theory about avian biology. It also adds to the growing literature about the necessity and nature of sleep in general, even in humans. A few years ago, Rattenborg discovered that Pectoral Sandpipers can survive and even thrive for weeks with very little sleep, and his decades-old finding about Mallard Ducks' half-brained sleeping patterns inspired research about why people sleep poorly in hotels and other unfamiliar places—because one side of our vigilant brain stays a little awake to keep watch.

Could humans also benefit from many short naps over long periods of time? Leonardo Da Vinci is alleged to have slept only 90 minutes a day, in short fifteen-minute bursts every four hours. Maybe he was onto something that frigatebirds already knew.

The worthy effort to keep public lands public

By Whit Fosburgh
President and CEO
Theodore Roosevelt Conservation
Partnership

I grew up in upstate New York, two miles off the paved road and nestled in a seemingly unending landscape of pines and glittering streams. The forest—and hunting and fishing in it—shaped me in a fundamental way. My brother and I spent our formative years wetting lines in native trout streams and pursuing grouse and deer, and I believe it's no accident that we both ended up working in conservation. The hold the outdoors had on us was just that strong.

We now live in an age when many children spend more time with screens than on stream banks, and we are met on our many devices with more news about the ways we are divided—politically, ideologically—than by the issues we should unite to solve.

As our country becomes more and more disconnected from the outdoors,

we are also at risk of losing our public lands legacy. Many of the same forces that fought Roosevelt in the early 1900s are at it again, seeking to turn public assets into private commodities. And there is far less awareness of the contributions that American sportsmen and sportswomen make to bedrock conservation efforts.

Hunters and anglers are among the fiercest advocates for improving fish and wildlife habitat. Theodore Roosevelt, a founding father of the North American Model of Wildlife Conservation, was also a passionate hunter. He created a public lands system of more than 240 million acres, which we still enjoy today, and advocated for the management of wildlife as a public resource, rather than a market commodity, to be maintained in perpetuity. Since Roosevelt's days, those of us who hunt and fish have continued to fund and support conservation through our license fees, excise taxes, donations and volunteer labor.

As CEO and president of Theodore Roosevelt Conservation Partnership, I am

proud to work with our hunting, fishing and conservation partners in an effort to maintain quality habitat and access to it for all. Together, we work on a variety of issues, including the fight to keep public lands accessible for all Americans. Whether you're a trout angler, saltwater reef fisherman, upland hunter or big-game fanatic, we all have a stake in this galvanizing issue. Public lands are where we come together with our families and friends. They're where we remember learning to track an animal or explore the pool around the next bend of the river. They're where we find ourselves challenged by the fish and game we pursue, and by the vastness of our wild places.

But having the opportunity to enjoy public lands unites us as Americans, too. Whether you hunt, fish, hike, bike, paddle, birdwatch, climb, camp or stargaze, these lands are yours. That's why, regardless of our politics, we need to unite outside. Conservation of these iconic places is not red or blue, it's red, white and blue, and it is a big part of what makes our country great.

Invasive species you can eat

From Outdoor News Daily

According to the National Invasive Species Information Center, invasive species are plants or wildlife that thrive and spread aggressively outside their native habitat and cause economic or environmental harm. Many are quite tasty, and eating them helps reduce further proliferation in the environment. As always, learn to identify wild edibles from an experienced forager first.

Asian Carp:

Hypophthalmichthys nobilis (Bighead Carp)

Hypophthalmichthys molitrix (Silver Carp)

Bighead and silver Asian carp were introduced to North America through fish farming operations in the Mississippi River basin, but unfortunately they escaped containment due to flooding in the 1970s. Since then they've traveled upriver, and today many of our waterways are affected. This poses huge ecological concerns because these carp are very large (some can weigh more than 100 pounds), produce a large number of offspring (one female bighead carp can produce nearly 2 million eggs per year), eat voraciously (up to 20 percent of their body weight per day),

live a long time (10 to 20 years) and can pose a risk to recreationalists—silver and occasionally bighead carp may leap several feet out of the water when frightened.

You can help by eating up these invaders, which are highly recommended for everything from fish tacos to steamed flaky meat for salads. Iowa DNR biologist Kim Bogenschutz says the meat itself is firm, white, flaky, and mild tasting, but there are a lot of bones. Luckily, these carp are considered “rough fish” and have no length requirement or bag limit for harvesting, so as long as you have a valid fishing license you can take plenty with a pole or bow.

While carp have not been a popular food fish in the past, it's more of an image problem than an edibility problem. Common carp are bottom feeders and sometimes taste “muddy,” but Asian carp are plankton-feeders with a much milder flavor. These fish are even considered a delicacy in their native ranges. For the best-tasting carp, gut your catch and put it on ice immediately after catching, and rinse the filets well before cooking. This is especially important for Asian carp because the flesh can deteriorate quickly, and transporting live Asian carp is illegal. Other recipes suggest scoring carp

meat thoroughly, spicing it heavily, soaking it in milk or vinegar to remove any unpleasant taste.

For more information on cleaning Asian carp, Bogenschutz recommends the following Youtube video by USGS researcher Duane Chapman: <https://www.youtube.com/watch?v=TINVUV8yhmU>

Russian Olive (*Elaeagnus angustifolia*)

This species is native to Eurasia, but Russian olive occurs throughout Kansas.

This plant is notorious for shading out the competition—individual stems can be more than 20 feet long, and proliferate quickly by producing large numbers of berries that ripen in September. The leaves are long and dark green on the upper surface and silvery white on the lower surface. The tubular flowers are white and fragrant, blooming in May and June.

To combat this invader, collect and eat the yellow to brown berries—they're described as dry and mealy, but the taste is pleasant and described like persimmon. Cooked preparations are ideal because heating the berries kills the seeds inside.

Continued on Page 38

Duck calling teamwork

Two duck callers can be much more effective than one

By Gary Koehler
Ducks Unlimited

The morning dawns cold in northeast Arkansas duck country. There is no ice where we are headed, although a couple of degrees less would make for a close call. It does not take long, however, for the opening in the flooded timber to begin warming up. Not incidentally, I find myself surrounded by what must be considered the equivalent of a duck-calling all-star team.

On one side is Kent Cullum, who represents one-half of the 1999 World Team Duck Calling Championship duet. On the other side, left shoulder propped up against a tree, is his partner, Christian Curtis. Down the line is Charles Petty, a fixture in the final round of the World's Duck Calling Championship for a decade. And, among other assorted accomplices, no one need be told into which end of the call to blow.

Witness the mallards, gadwalls, wood ducks, and wigeon that arrive out of nowhere and flutter down through windows in the tangled overhang to see what all the excitement is about. Cullum, Curtis, Petty, and friends are hosting the party, greeting miscellaneous winged guests with a full-blown repertoire of duck talk that many birds cannot resist. No one person assumes center stage. No one person directs the overhead traffic. This is a team effort, and the raucous method works wonders.

"You can practice it [working with a teammate] but the best thing you can do is hunt together and learn what works that way," says Curtis, a Missourian who spends a good part of each waterfowl season laboring

as a guide. "When two people are calling, and you are working as a team, one can be calling like one or two different ducks, and the other can be calling another way. That sounds like several different ducks."

And that's the whole point of this exercise: creating auditory enhancement so convincing that ducks passing by figure that they owe it to themselves to join in on the fun. This is accomplished by creating the illusion that your decoy spread is a flock of resting or feeding ducks. Mallards, in particular, perceive safety in large assemblages of their brethren. Efficient team-calling techniques enhance your chances of bringing birds to the gun.

"You learn to tell what's going on just by listening to your partner call," says Cullum, an Arkansan who teams with Petty to manage a waterfowling guide service headquartered in Jonesboro. "You blend in your calling with what he's doing. It's not a back-and-forth thing. When we are calling together, I listen to him-to what he's doing-and I try to do something opposite, to sound like more ducks. If he's doing a lazy hen, then I might be doing a coarse hen, or a bouncin' hen."

Both Cullum and Curtis, after spending countless hours listening to live ducks, say they have categorized four types of sounds generated by mallard hens. Recognizing that ducks, like people, speak in different pitches and tones, they have developed a calling style that is a mix of what they consider the basic sounds. This is a personalized method that works for them.

"There's what we call a fine hen, who hardly opens her throat, and whose call tapers off at the end. And a coarse hen, which will

open her throat more wide open. A lazy hen will drag out the notes. And the bouncin' hen, she'll hit a couple of notes and then just bounce it all the way to the bottom, excited," Cullum says. "Those are the four main sounds you'll hear. Get them together with two guys calling and it sounds like a lot of ducks."

Game-call maker Will Primos of Jackson, Mississippi, says team calling may have been around as long as duck calls themselves. Putting a label on this technique may or may not be appropriate.

"No doubt, it's more effective to have more than one caller," Primos says. "I don't do anything but team call. But, we don't really call it that, because we probably take it for granted."

Primos and his cohorts observe a few basic rules when working together trying to pull ducks to their decoys. "There is definitely a right and wrong way," Primos says. "What we do, let's say one guy sees a group of six mallards. He knows right then they need a certain call. He latches on to them. The first thing I do is look at that person to see where he is looking, where the ducks are, because I don't want to be moving around and having them see me. I want to know where the birds are. Then, we key into the birds, feeding off what he is doing. You don't want three guys doing the comeback or the hail call at one time.

"What we are trying to do is add to what he's doing. The guy who latches onto the birds first is in control, and the rest of us are supporting him. If you watch and listen to ducks on the water, one old hen is doing most of the work. We try to mimic that."

EDIBLE

Continued from Page 37

Garlic Mustard (*Alliaria petiolata*)

Even the name sounds tasty! A native of Europe, this herb was introduced to the eastern U.S. in the mid-1800s by settlers. Since then, it has spread all the way to the west coast, Canada, and even Alaska, including the eastern 1/3 of Kansas. This plant owes most of its success to the tremendous amount of seeds each individual can produce—600 is fairly average, but a 1993 study found a robust individual can produce nearly 8,000. Combine that with the plant's ability to self-pollinate, produce allelochemicals (secre-

tions that prevent the growth and survival of other plants), and thrive in deep shade, plus the fact that grazing animals don't like to eat it—you end up with garlic mustard unfortunately but easily dominating understories of forests across the nation.

Luckily for us it's nutritious, available year-round, easy to identify and every part of the plant is edible at one time or another. You can use raw leaves and flowers in salads sparingly all growing season (leaves can be bitter especially if grown in full sunlight), use the root like horseradish any time of year, use young stalks like asparagus, blanch leaves for pesto or simply eat them like cooked spinach. The taste of cooked leaves is similar to broccoli rabe, as broccoli and gar-

lic mustard are from the same plant family.

To find garlic mustard, look for plants with coarse-toothed, heart-shaped leaves. Since this plant has a two-year life cycle, first-year plants will be rosettes on the ground whereas a second-year plant grows a stalk up to three feet high. Clusters of small white flowers bloom at the top of second-year plants from May through June. Go to http://www.kswildflower.org/flower_details.php?flowerID=444 to read up about Garlic Mustard.

Remember: As always, learn to identify wild edibles from an experienced forager first. If you're unsure, don't eat them.

Kansas Wildlife Federation
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The Kansas Wildlife Federation is Working to Preserve a Way of Life for Kansas!

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