TEXAS TECH UNIVERSITY
Department *of* Natural Resources Management™

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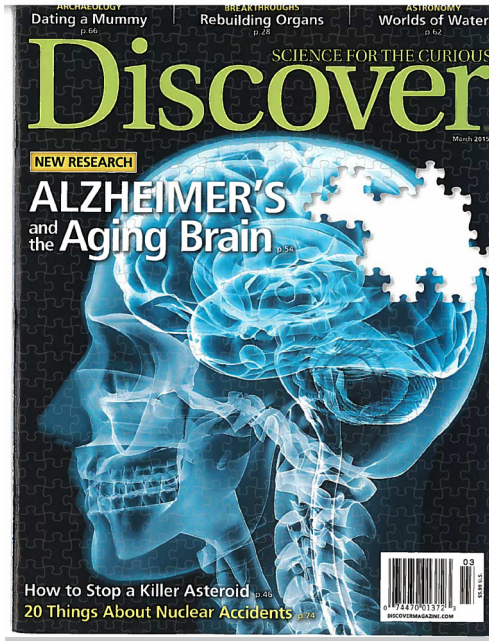
Information & News for Prospective and Current Students and Alumni

Meet Our New(er) NRM Faculty

Dr. Matthew Barnes



Dr. Barnes is featured in a March 2015 *Discover Magazine* article: "If You Can't Beat 'Em, Eat 'Em." Dr. Barnes and his fellow biologists offer a delicious solution to curbing the problem of invasive species: invasivorism. First, find an invasive species--be it crayfish, earthworms, kudzu, or feral pigs. Then, just cook and consume.

To get you started, Dr. Barnes shares his recipe for Chinese Mysterysnail Fettuccine.

"I put on my snorkel and fins and in 20 minutes had a bag full of them," Barnes says of the golf ball-size snails that are scattered in lakes and rivers across North America. Though the story of how the snails spread across the U.S. is still a mystery, Barnes is certain of their palatability. To cut the mud flavor, he feeds them cornmeal for 24 hours before sauteing them in garlic and oil and serving over pasta."

Fall 2014 provided an exciting first semester for the Barnes Lab at Texas Tech. Dr. Barnes has been busy writing grants, initiating new collaborations, and building his research program focused on forecasting biological invasions in aquatic systems and applying genetic tools to detect invaders and other rare species within the environment. It's also been a fun semester of learning names and faces- if you haven't met Dr. Barnes yet, please stop by his office (Goddard 7C) and say hello.

The Barnes Lab is excited to announce that one familiar face, 2013 NRM Alumna Sasha Soto, will be joining the lab this semester to pursue her M.S. degree. Funded by the Army Corps of Engineers, Sasha will apply state-of-the-art species distribution modeling tools to predict the potential range of the invasive aquatic plant Hydrilla verticillata across the US. Sasha also plans to conduct research comparing the performance of several different modeling methods when predicting potential distribution of aquatic invaders.

Zebra mussels

The Barnes lab has funding for up to two additional M.S. students to start next fall. With genetic lab space becoming available in the upcoming spring/summer, it is anticipated that the students' research will focus on genetic detection of aquatic species, including laboratory experiments to improve methodological understanding of genetic detection as well as field applications targeting invaders such as zebra mussels across Texas. The lab also seeks undergraduate researchers looking to provide technical assistance for these efforts or develop their own independent research related to aquatic invasive species. Please spread the word to students in your classes and colleagues at other institutions.

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In addition to fostering his growing lab this semester, Dr. Barnes will be teaching Introduction to Freshwater Ecology and Fisheries (NRM 2305). To keep up with all Barnes Lab activities, please visit the lab page online drbarnes.org or follow Dr. Barnes on Twitter @drbarnes.

To learn more about invasivorism, check out Dr. Barnes' educational, culinary site: http://invasivore.org/

But don't make any dietary changes just yet. While invasivorism sounds like a good idea, Dr. Barnes cautions against using it as the sole means for invasive population control. "There are likely often more effective control strategies than harvest,"--like pesticides, he says in a recent article for *The Guardian* titled "Cooking Can't Solve the Invasive Threat." "We want to avoid undermining those efforts."

A MEGA-RARITY: COMMON CRANE ON THE SOUTH PLAINS

by Justin Bosler

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Top: *Cranes in flight*
Bottom: *Bosler and crane*

On Tuesday, 18 November 2014, I was out scouting the saline lakes at Muleshoe NWR (Bailey County) for Sandhill Cranes returning to rehydrate and loaf for the afternoon. While I was taking a moment to check on the status of a group of late-lingering Snowy Plovers at Goose Lake, I spotted an unusual and remarkably striking crane among the approximately 4,000 Sandhills. It only took a matter of seconds for it to fully register: it appeared to be an adult COMMON CRANE, a species native to Eurasia! An adult Common Crane is a handsomely marked bird with a distinctive black-and-white pattern on the head and neck, a patch of red on the crown and a yellowish-horn bill. Being an avid North American birder and lister, this species had been on my most-wanted list for some time, with exceptionally rare but regular appearances of the species in the Great Plains – specifically the Platte River Valley of Nebraska – where hundreds of thousands of Sandhills stage for multiple weeks during spring migration. With the acquisition of the Sandhill Crane research assistantship in the Grisham lab at Texas Tech University, I knew that my odds of discovering a wayward individual had improved slightly but were still inordinately small. Locating one in North America is the birding equivalent of winning the lottery.

The Common Crane is a common and widespread breeder across a broad swath of the Palearctic from N Europe to N Eurasia to about 150o E in Russia. It winters from S Eurasia south to sub-Saharan E Africa and SE Asia to the Indian subcontinent (Howell et al. 2014). In nearly all respects, Common Crane is the Old World counterpart of our Sandhill Crane. During the breeding season it prefers small wetlands in boreal and mixed forests while further east in Russia it can be found in less typical habitat such as steppe and semi-desert. Open country, including agricultural lands and native grasslands, comprise a bulk of their wintering habitat.

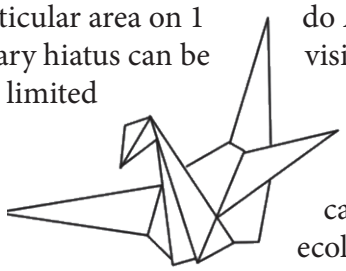
Similar to the Lesser Sandhill Crane, the Common Crane is a long-distance migrant. Occurrences of the species in western and interior North America are presumed to be birds that joined western populations of Lesser Sandhill Cranes in Siberia and accompanied them to and from their wintering grounds (Howell et al. 2014). Arctic weather phenomena may further help explain the occurrence of Common Crane in Texas. An Arctic system dubbed the "Bomb Cyclone" developed over the Kamchatka Peninsula on 10 November and shot south and east through Alaska and W Canada. With the polar vortex persisting just west of Greenland, it forced this massive low-pressure system well south into the Lower Great Plains. Subsequently, tens of thousands of Sandhill Cranes arrived in the region with the passage of this Arctic low, including one or two flocks hosting a Common Crane.

Common Crane is a casual vagrant to North America fall through spring. Most records from North America are centered on the Platte River Valley of south-central and south-western Nebraska in spring (March to April), which, conceivably, pertains to only 3-4 individuals since 1971. In the West, there are single winter records from Nevada and SE Alberta and SW Saskatchewan in Canada. With insufficient hard evidence, a prior sight report from Terry County, Texas in March 1979 was not accepted by the Texas Bird Records Committee (TBRC), though it is largely regarded as accurate (pers. comm. Mark Lockwood). Large numbers of Sandhill Cranes are known to winter in and around Terry County. With the approval of the TBRC, the Muleshoe record will become the first for Texas and the first fall occurrence south of Canada, with previous fall records (mid-to late September) from central Alaska and central Alberta (Howell et al. 2014).

As exciting as one Common Crane was it was about to get a lot more interesting. On 24 November word quickly spread regarding the presence of TWO adult Common Cranes. After close examination of his photographs, Martin Reid was shocked to discover that he had obtained multiple images showing both cranes in the same field of view about 10 Sandhills apart from each other on 22 November. Subsequent observations through the end of the month failed to reveal more than a single individual within the same flock. Then, on 30 November, Jerry Oldenettel discovered an adult Common Crane with Sandhills south of Roswell, New Mexico in Grand Plains. It was soon documented that that flock was roosting and loafing at Bitter Lake NWR. The latest observation of that particular individual is from 15 January at Bitter Lake NWR.

At least one adult Common Crane continued in eastern Bailey County through early December at which time it moved

east into Lamb County to roost at Bull Lake. However, for several days the flock crossed over the county line to forage in a favored, harvested sorghum field. By the second week of December the flock began sticking closer to Bull Lake for food resources. The flock ventured a few to several miles west of Bull Lake to forage over the next few weeks and into 2015 with the last sighting in that particular area on 1 January (fide Susan Heath). An early January hiatus can be contributed to waning interest and overall limited birder coverage in the area.



Contrary to the lack of sightings in the new year, I suspected that the Common Crane was still in the area and that proved to be the case. While I was set up to capture cranes at Muleshoe NWR on 17 January I was shocked when I spotted an/ THE adult Common Crane from my layout blind on the south shore of Paul's Lake. As of this weekend it has been present in the area for two full months. Once again it is believed to be roosting on Paul's Lake at night. The spectacle of thousands upon thousands of roosting Sandhill Cranes on the refuge's saline lakes is a must-see for visiting birders. I encourage everyone to experience either the lift-off at dawn or the return flight at dusk.

So far hundreds of birders have successfully chased this ABA-designated Code-4 rarity, with undoubtedly dozens more planning a visit should it stick around through early spring. From undocumented historical records, in both W Texas and E New Mexico we know that Local Lubbock birder, Anthony Hewetson, and the Llano Estacado Audubon Society are gathering information from visiting birders to track 1) how many make the trip and 2) how much money they pump into the local economy. The importance of Muleshoe NWR to the Mid-Continent Population of Sandhill Cranes cannot be overstated. My research on the wintering ecology of Sandhill Cranes in the area can lead to habitat conservation and management through the identification of critical resources that will sustain a healthy and growing population. The presence of a Common Crane further exemplifies the importance of the refuge and the region to a long-distance, migratory population of Lesser Sandhill Cranes from Siberia.

Sources cited:

Howell, Steve N.G., Will Russell, and Ian Lewington. Rare Birds of North America. Princeton: Princeton University Press. 2014.

Notable NRM Alumni

Richard Casner, a 1984 Range Science graduate from TTU, has been recently hired as General Counsel for Lubbock Power & Light. Prior to joining LP&L, Casner worked as a lawyer in the private sector and as a Natural Resources Attorney for the City of Lubbock.

Dr. Ann Hild, professor in the University of Wyoming Department of Ecosystem Science and Management, has been appointed as UW interim associate vice president for graduate studies. Dr. Hild's research focuses on the impacts of invasive species on shrubland and grassland ecosystems, wildlife habitat, and restoration seedings on wildland fire and anthropogenic disturbance sites throughout the Intermountain West. Dr. Hild received her Ph.D. in Range Science in 1995 from TTU.

Dr. Hild is a 2015 CASNR Distinguished Alum.

Dr. Greg Cuomo recently accepted a position as an associate dean in the College of Food, Agricultural and Natural Resource Sciences at the University of Minnesota. In addition, Dr. Cuomo will continue to head Minnesota's Research and Outreach Center. Dr. Cuomo does research and outreach work in forages and grazing systems. Dr. Cuomo received his M.S. in Range Science from TTU.