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THE COMMUNICATOR

NEWS FROM THE NEBRASKA COOPERATIVE FISH & WILDLIFE RESEARCH UNIT

Volume 7, Issue 1

April 2011

New and Changing Faces

We welcome **Robert Kill, Chris Wiley, and Chris Dietrich** to the Coop Unit.

Kevin Pope is advising two new students.



Masters student **Robert Kill** will be working on the recruitment of Walleye and white bass in irrigation reservoirs.



Chris Wiley is working on angler behavior in response to management actions in Nebraska reservoirs. Chris will become a master's student in August.

Research Tech **Chris Dietrich** is working on angler behavior in response to management actions in Nebraska reservoirs. ❖

Publications

Coop Unit scientists developed a special issue on *Adaptive Management for Natural Resources*. Guest editors are: Craig R. Allen, Kevin L. Pope and Joseph J. Fontaine. The May 2011 issue was published by the *Journal of Environment Management* and features thirteen articles from authors at eleven institutions, including some of the most prominent scientists involved in the development of adaptive management. The cover of the special issue was designed by Sarah Rehme (M.S. 2010). The national office of the USGS Cooperative Research Units Program provided the funding for this special issue. The articles are available on line at www.sciencedirect.com. Search for Journal/Book title "environmental management", Volume "92", Issue "5". ❖

Research Highlight

Estimating river otter density using non-invasive genetic techniques

GOALS: This project used DNA from river otter scat to estimate otter density in the Big Bend Reach of the Platte River and evaluated the feasibility of using the technique to estimate otter population densities throughout Nebraska.

CURRENT STATUS: This project began in September of 2009 to compliment two ongoing otter projects. Since river otters were reintroduced to Nebraska in 1986 little research has been conducted on their ecology or the status of the populations throughout the state. In 2006 Sam Wilson of the Nebraska Game and Parks Commission and Coop Unit graduate student, began a study to examine river otter home range and habitat use in the Big Bend Reach of the Platte River, a biologically unique landscape. Graduate student Amy Williams joined the project in 2008 to study the effects of *Phragmites australis*, an invasive plant species, on otter den use. In 2009 she added this genetic study to estimate otter density.

Density was estimated using DNA from scat and mark-

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recapture methods. Otter scat was collected along 29 kilometers of the Platte River during two independent sampling sessions in fall of 2009. DNA was extracted from the scat samples and genotyped at 10 microsatellite loci. Unique individuals were identified for both sampling sessions, noting recaptures between sessions. River otter density was 0.99-1.13 otters/kilometer. The density is higher than previously reported for otters in North America. The complexity of the central Platte River, the prevalence of sand pits, and the fact that this population has been unexploited since its initial reintroduction, likely accounts for the relatively high density.

This project not only provided valuable insight into the status of a reintroduced otter population, but also demonstrated the relative ease and efficiency with which this method can be utilized to estimate otter density throughout Nebraska's rivers.

This project was completed in January 2011 and the Nebraska Game and Parks Commission plans to utilize these techniques in the future to obtain a state-wide population estimate to evaluate the success of the reintroduction.

GRADUATE RESEARCH ASSISTANT: Amy Williams

PROJECT COORDINATOR: Craig Allen

FUNDING: Nebraska Game and Parks Commission, UNL Center for Great Plains Studies. ❖



Graduate Student News

Congratulations to **Sarah Rehme** who accepted a position as an avian biologist with an environmental consulting firm in the Kansas City area. Sarah graduated in December 2010. Her thesis was titled, *Ecology, stable isotopes, and management of Grassland songbirds at National Park Service properties on the Great Plains.*

Congratulations to **Ryan Lueckenhoff**, who took first place in the student papers contest at the 2010 Midwest Fish and Wildlife Conference in Minneapolis, MN. His paper was titled

“Morphological variation between juvenile white bass and hybrid striped bass.”

Alexis Maple has finished her field and laboratory work and is currently writing her thesis. Lexi joined the U.S. Fish and Wildlife Service in Annapolis, Maryland in February where she is working with both the Chesapeake Bay Field Office and the Maryland Fishery Resources Office.

Michelle Hellman won best student presentation at the Missouri River Natural Resource Committee Conference held in Nebraska City, NE March 9-11. Shelli's presentation was titled “Monitoring of Herpetofauna in Wetland Restorations: Anuran Occupancy in Southeast Nebraska.”

M.S. student, **Ryan Lueckenhoff** successfully defended his thesis in November, and in January, M.S. student, **Amy Williams** successfully defended her thesis. Both will graduate in May.

Congratulations to **Jessica Laskowski** who won a \$3000 William J. Curtis Endowed Fellowship award. Jessica will be a master's student with Joseph Fontaine in the fall.

Teaching

This spring semester, **Craig Allen** and **Kevin Pope** are both teaching classes. Craig is teaching, *Foundations of Ecological Resilience*. This course develops an understanding of the concept of resilience, especially ecological resilience. Students will explore both theoretical and applied aspects of ecological resilience, and the development of resilience theory. To further explore these concepts, students will develop and complete a group project focusing on a resilience appraisal of a system of people and nature in Nebraska. At the conclusion of the course, students will have knowledge of a number of prominent issues in resilience theory, its development and application.

Kevin is team teaching, *Managed Aquatic Systems* with UNL Associate Professor, Mark Pegg. This course is designed to increase students' understanding of ecological processes that occur in regulated river basins and associated problems or opportunities that arise with fishery management. The focus is primarily on fishes and understanding how structure, process and function of aquatic systems are influenced by human

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Editor, Caryl A. Cashmere

Welcome to the Nebraska Coop Unit newsletter! The newsletter will be distributed two or three times a year.

Questions or newsletter ideas can be directed to ccashmere2@unl.edu, or 422 Hardin Hall, 3310 Holdrege, Lincoln NE 68583-0984.



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activities. Topics covered include continuum concept, Thorton's reservoir continuum model, nutrient cycling, population dynamics, biotic interactions and river-reservoir interfaces. A unique aspect of this course is the presence of both professors in the classroom; that is, this course is truly team-taught, providing students the formal opportunity to interact with two faculty members that have differing experiences and sometimes differing opinions. ❖

Outreach Activities

In January, Karie Decker participated in a Lincoln, NE radio show, *Nebraska Outdoor Radio* where she participated in a discussion "Invasive species in Nebraska and beyond." Karie also provided expert testimony for legislative hearings LB 391 and LB 392, relating to invasive species. In March, Karie set up an educational/outreach booth at the Association of Field Ornithologists/Cooper Ornithological Society/Wilson Ornithological Society in Kearney, NE as well as at the

Rainwater Basin and Playa Lakes Joint Ventures Joint Conference in Grand Island, NE.

March 9-10, Carla Knight attended the Triumph of Agriculture Expo at the Qwest Center in Omaha, NE where she conducted her fish identification quizzes. Participants were asked to examine the fish models and identify the species. Information gained will allow Carla to quantify anglers' current abilities to correctly identify fish species, and evaluate several different products designed to educate anglers about fish identification.

Karie Decker was also instrumental in getting a billboard placed in Omaha and one to soon be placed at Lake McConaughy to boost the public's knowledge and awareness of invasive species in Nebraska. ❖



Lake McConaughy Billboard

Training

In early March, Karie Decker obtained certification training in Stage II Inspection and Decontamination. This training will allow Karie to train and educate boaters and state agencies on how to inspect and decontaminate boats, jet skis and boating equipment for invasive species (i.e. zebra mussels, etc). The spread of zebra mussels/quagga musels and other aquatic nuisance species needs to be stopped because these destructive non-native species can clog intake pipes, disrupt ecosystems, cause health effects to humans and do billions of dollars of damage in a short time.

A Creel Survey Workshop was held March 23-25 in Lincoln, NE for the 2011 creel clerks. Beginning in April, the creel clerks will spend seven to eight months interviewing anglers at Nebraska reservoirs to help understand how participation patterns of anglers influence fish populations.

At the workshop, trainees completed required safety courses, became familiar with university processes, and were trained in the process of collecting and transferring data. The twenty-four participants and presenters included the creel clerks, university staff, USGS staff, and biologists from the Nebraska Game and Parks Commission. The 2011 Creel Clerks are: Tyler Anderson, Don Bohnenkamp, Ron Grandi, Rhonda Lawing, Dennis Liess, Jared Meiergerd, Minnie Petsch, Bret Roberg, Gerald Ryschon, Tyler Sanders, Shelby Sidel, and Phil Stollberg. ❖

Conferences/Meetings/Workshops

Sam Wilson gave the presentation “Mountain Lions in Nebraska” at the following meetings:

- In Chadron, NE, on December 2, 2010 for the Nebraska Cattleman and the general public.
- In Lincoln, NE, on December 15, 2010 for the Department of Environmental Quality.
- In Hastings, NE, on January 7, 2011, for the Hastings Rotary Club.
- In Lincoln, NE, on February 10, 2010 for the Wachiska Audubon Society.
- In Lincoln, NE, on February 24, 2010 for the Hastings Kiwanis Club.

On January 21-22, Jason DeBoer gave an oral presentation titled “Scale influences our understanding of fish recruitment” at the Midwest Fisheries Student Colloquium in Brookings, SD. Jason also delivered two oral presentations at the Great Plains Fishery Workers Conference in Sidney, NE, January 31-February 2 titled “Scale influences our understanding of fish recruitment” and “A LK @ 2DAYS ANGLR: How technology reveals patterns in the internet age.”

Dustin Martin and Jason DeBoer attended the Nebraska Chapter of the American Fisheries Society Meeting February 15-16 in Gretna, NE. Jason gave a presentation titled “Scale influences our understanding of fish recruitment.” Dustin’s presentation was titled “Angler Social Networks: What can we learn?”

February 15-17, Alexis Maple attended the USFWS Region 5 Biologist Conference in Baltimore, MD.

On February 24, Sam Wilson attended The Wildlife Society Meeting in Hastings, NE.

Michelle Hellman attended and presented at the Missouri River Natural Resource Committee Conference held March 9-11 in Nebraska City, NE. Her presentation was titled “Monitoring of Herpetofauna in wetland restorations: anuran occupancy in southeast Nebraska.”

Chris Jorgensen, Sarah Rehme, and Ryan Stutzman attended the Cooper’s Ornithological Society/ Association of Field Ornithologists/Wilson’s Ornithological Society meeting March 9-11 in Kearney, NE. “Assessing landscape and habitat attributes at multiple scales: what drives avian abundance and distribution in grasslands?” was Chris’ presentation. Sarah’s presentation was titled “Can nesting songbirds reveal adult breeding site fidelity?” Ryan’s presentation was titled “Land use change: Migrant responses and implications.”

March 14-18, Ryan also attended the Waterbird Society meeting in Grand Island, NE and gave his presentation “Land use change: Migrant responses and implications.”

Kristine Nemecek attended the Resilience Alliance Young Scholars 2011 Workshop March 9-11 at Camp Tontozona, AZ, as well as Resilience 2011, an international conference in Tempe, AZ, March 12-16.

Craig Allen co-organized the Panel on Resilience and Law at the Resilience 2011 Conference, Tempe, AZ, March 12, 2011.

April 8-9, Carla Knight attended the Fremont Rural Living Expo in Fremont, NE.

Karie Decker gave numerous presentations on invasive aquatic species at various public meetings throughout Nebraska. ❖

Our Mission

Train graduate students for professional careers in natural resources research and management

Conduct research that will create new information useful for management of natural resources

Provide technical assistance to cooperators

OUR COOPERATORS

