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# THE COMMUNICATOR

NEWS FROM THE NEBRASKA COOPERATIVE FISH & WILDLIFE RESEARCH UNIT

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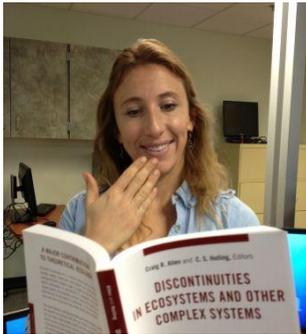
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Volume 9, Issue 1

May 2013

## New and Changing Faces

We welcome **Hannah Birge**, **Nathan Stewart**, and **Rodney Verhoeff** to the Coop Unit.



**Hannah** is a Ph.D. student in the IGERT program and will be working in the Niobrara Valley using a systems-approach to disentangle the various ecological impacts of mid-contract management in CRP fields. She is advised by Craig Allen.



**Nathan** is a master's student who comes to us from Wisconsin and is being advised by Kevin Pope. He will be working on population assessments of temperate basses in Nebraska Reservoirs.



**Rodney** is the new Nebraska invasive species coordinator. Prior to taking this position, Rodney had been involved in natural resources and environmental science for over 17 years throughout Nebraska, Kansas, and Idaho. ❖

## Research Highlight

### *Co-occurrence of Fish Catches: A Unique Approach to a Unique Question*

Anglers can have substantial effects on populations of fish. This can occur through direct removal by harvest but also through mortalities associated with catching a fish. Catch-and-release mortalities tend not to occur immediately and result from trauma associated with factors such as the location of the hook, depth where caught, and conditions in the livewell. Further, there are numerous sublethal (less than lethal) physiological, behavioral, and fitness impairments associated with catch-and-release angling that can affect a population.

Most anglers in Nebraska seek a certain species group during any one fishing trip. Targeting a specific fish often requires the use of a specific type of gear that entices the target species and precludes catching other species. Previous research has shown that anglers primarily catch and harvest the fish species they are seeking but there tends to be a lot of bycatch. This suggests that even though targeting a certain species, several species are attracted to that fishing gear resulting in the higher levels of bycatch.

Insight into the associations and patterns among caught fish in a sportfish community is necessary to begin to develop an understanding of the role that catch-and-release mortality has on a community level.

*Research Highlight continued on page 2*

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**GOALS:** The purpose of this project is to gain an understanding of the interaction of multiple species within anglers' catches. Network analysis will allow the co-occurrence of species in individual angler's catches to be condensed across a reservoir using a bipartite network. The resulting network of nodes (i.e., fish species) and edges (i.e., frequency of catch in the same angler trip) allow more detailed analysis than traditional statistical analysis of co-occurrence.

**CURRENT STATUS:** All angler survey data have been gathered during the ongoing Nebraska Angler Survey Project. Angler surveys from Branched Oak, Harlan County, Holmes, Merritt, Swanson, and Wildwood reservoirs during 2009-2011 were used to analyze co-occurrence of fish in angler catches. Currently, networks of species co-occurrence have been created for each reservoir and are being analyzed. Distinct groups within the networks of co-occurrence were determined using the fast-and-greedy algorithm in the igraph package of R.

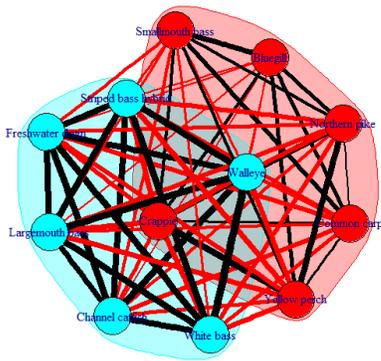


Figure 1. Network of co-occurrence of fish species in angler catches from Swanson Reservoir, 2009-2011. Circles represent fish species, and lines between circles represent frequency of co-occurrence. Group membership is represented by color of circle. Fish species of one color are caught more often with fish species of the same color than species of the other color. Black lines indicate connections between two species within the same group; red lines indicate connections between two species of different groups.

**GRADUATE RESEARCH ASSISTANT:** Dustin Martin

**PROJECT COORDINATOR:** Kevin Pope

**FUNDING:** Nebraska Game and Parks Commission ❖

## Honors and Awards

**Dustin Martin** received a \$100 scholarship to help cover costs for attending the International Symposium on Society & Resource Management, June 4-8 in Estes Park, CO.

**Kent Fricke** received a third place award in the best student poster competition for his poster "Applying adaptive management to invasive species" at the Nebraska Chapter of The Wildlife Society Annual meeting in March.

**Jessica Laskowski and Lindsey Messinger** (and their advisor Dr. TJ Fontaine) were part of a multi-agency team awarded the Outstanding Wildlife Conservationist of the Year award presented at the Nebraska Pheasants Forever State Habitat annual meeting in February. This award was presented to Jessica and Lindsey by Nebraska Game and Parks Commission, Pheasants Forever, and Quail Forever honoring the group's efforts to expand pheasant populations and habitats around southwestern Nebraska.



L to R Jessica Laskowski and Lindsey Messinger

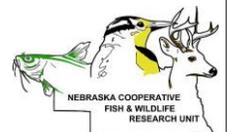
**Kelly Turek** won best poster award at the Nebraska Chapter of the American Fisheries Society annual meeting in February. Her poster was titled "Evaluation of visible implant alpha tags in four fish species." ❖

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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## FOR MORE INFORMATION CONTACT:

NEBRASKA COOPERATIVE FISH & WILDLIFE RESEARCH UNIT  
University of Nebraska–Lincoln  
422 Hardin Hall, 3310 Holdrege Street  
Lincoln NE 68583-0984  
402-472-0449, FAX 402-472-2722  
<http://snr.unl.edu/necoopunit/>

Craig R. Allen Leader 402-472-0229 <a href="mailto:allencr@unl.edu">allencr@unl.edu</a>	Kevin L. Pope Assistant Leader 402-472-7028 <a href="mailto:kpope2@unl.edu">kpope2@unl.edu</a>	Joseph Fontaine Assistant Leader 402-472-0339 <a href="mailto:jfontaine2@unl.edu">jfontaine2@unl.edu</a>
Valerie Egger Admin.Asst. 402-472-0449 <a href="mailto:vegger1@unl.edu">vegger1@unl.edu</a>	Caryl Cashmere Staff Assistant 402-472-0559 <a href="mailto:ccashmere2@unl.edu">ccashmere2@unl.edu</a>	Rodney Verhoeff Inv. Species Coord. 402-472-3133 <a href="mailto:invasives@unl.edu">invasives@unl.edu</a>
Chris Jorgensen Project Coord. Rainwater Basin 308-850-8585 <a href="mailto:cjorgensen8@unl.edu">cjorgensen8@unl.edu</a>	Caroline Jezierski Project Coord. Wind and Wildlife 402-472-8188 <a href="mailto:cjezerski2@unl.edu">cjezerski2@unl.edu</a>	Chris Chizinski Project Coord. Creel Project 402-472-8136 <a href="mailto:cchizinski2@unl.edu">cchizinski2@unl.edu</a>

## Outreach Activities

In February, Christopher Jorgensen was involved in a collaborative effort among various partnering agencies and personnel to establish the Integrated Monitoring for Prairie Grouse Working Group. The working group was created to help facilitate coordination and implementation of a landscape-level prairie grouse monitoring approach across multiple public land management agencies and private ownerships throughout Nebraska. In addition, the group designed a consistent and effective listening survey protocol that detects changes in the number of display sites, also known as leks, at a survey location over time and can easily be implemented by partnering agencies throughout the state.

Caroline Jezierski had an educational booth at the Earth Wellness Festival, March 23 in Kearney, NE. Caroline's booth included handouts, educational displays, and a poster on the 2012 Nebraska Annual Social Indicators Survey (NASIS) results for the wind energy-wildlife portion of the survey.

Caroline also had an outreach activity for fifth grade students at the Earth Wellness Festival held in Lincoln, NE in March. The six groups of 20-25 students were given an overview of wind energy, migration, and information on several bird and bat species that migrate through Nebraska that may be impacted by wind energy development. The students then played a game that further introduced them to the challenges of migration.

Kent Fricke and Dan Uden continue to participate in the UNL chapter of Upward Bound EnvironMentors program. They are serving as mentors for a high school student and assisting the student with conducting a science project. Their project is titled "Keystone XL pipeline in Nebraska- effects of tar sands on plant growth." ❖

## Training

A Creel Survey Workshop was held March 20-22 in Lincoln, NE for the 2013 creel clerks. Beginning in April, the creel clerks will spend seven to eight months interviewing anglers at Nebraska reservoirs (Wanahoo, McConaughy, Merritt, Fremont, Sherman, Calamus, and Harlan) to help understand how participation patterns of anglers influence fish populations.

At the workshop, trainees completed required safety courses, and became familiar with university processes of collecting and transferring data.

The 2013 state-wide creel clerks are: Don Bohnenkamp, Sean Farrier, Joe Fontaine, Jake Koenig, Natalie Luben, Gerald Ryschon, Phil Stollberg, and Jon Yates. ❖

## Moving On

Congratulations to **Jason DeBoer** who accepted a position as a Large River Ecologist with Illinois Natural History Survey. He will be stationed in Havana, IL beginning May 6.

Congratulations also go to **Kristine Nemec** who accepted a position as a Postdoctoral Research Entomologist with the U.S. Department of Agriculture's Agricultural Research Service in Brookings, South Dakota on May 6th. Kristine will be studying the effects of different oilseed biofuel crops on the health and diversity of pollinators.

**Kody Unstad** recently accepted a consultant position with Felsburg Holt & Ullevig in Omaha, NE.

We have several current and past undergraduate technicians that will be graduating in May. The graduates are: Nicholas Arneson, Isaac Mertens, Christopher Shank, Shelby Sidel, and Alec Wong. ❖

## Conferences/Meetings/Workshops

Kent Fricke, Caroline Jezierski, Dan Uden, Ashley VanderHam, and Chris Wiley presented at the Midwest Fish and Wildlife Conference December 9-12 in Wichita, KS. “Implementing adaptive management at alternative scales: Opportunities lost?” was Kent’s presentation. Caroline’s poster was titled “Nebraska wind energy and wildlife project: 2012 public survey results.” Dan’s presentation was titled “Predicted avian responses to biofuel-based landuse change.” Ashley gave a presentation titled “Herpetofauna monitoring to determine wetland restoration success.” Chris’ poster was titled “Does the species-sought characteristic describe catch and harvest?”

“Status and trends of rainwater basin waterfowl carrying capacity” was the title of Chris Jorgensen’s presentation at the North American Duck Symposium, January 27-31 in Memphis, TN.

February 2 in Kearney, NE, Joseph (TJ) Fontaine, Chris Jorgensen, and Lindsey Messinger attended the Pheasants Forever State Habitat meeting. TJ and Chris gave a presentation titled “If you build it, will they come?: Managing pheasants in tomorrow’s landscapes.” “Pheasant behavioral responses to hunting pressure and management actions” was the title of the presentation Lindsey Messinger gave at the Pheasants Forever meeting as well as at the Nebraska Chapter of The Wildlife Society annual meeting March 14 in Chadron, NE.

February 5, Joseph (TJ) Fontaine, Chris Jorgensen and Dan Uden attended the Rainwater Basin Joint Venture Information Seminar in Hastings, NE. Dan and Chris co-presented on the topic “Predicting variation in springtime wetland inundation and flooded area.” Chris and TJ gave a presentation titled

“Ring-necked pheasants in the rainwater basin: The past, present and the future prospects.”

February 7-10, Chris Wiley attended the Southern Division of the American Fisheries Society meeting in Nashville, TN. “Length distributions of channel catfish that were available, harvested and caught at an urban reservoir” was the title of his presentation.

Jason DeBoer, Robert Kill and Chris Wiley attended the Nebraska Chapter of the American Fisheries Society meeting February 12-13 in Gretna, NE. Jason had a poster titled “The influence of a damaged dam on the zooplankton community” as well as an oral presentation titled “Reproductive ecology of female walleye during spawning season.” Robert’s poster was titled “Influence of age-0 survival and missing year classes on the sustainability of a walleye population.” Chris’ poster was titled “Does the species-sought characteristic describe catch and harvest?” as well as a presentation titled “Length distributions of channel catfish that were available, harvested and caught at an urban reservoir” at the conference.

Ashley VanderHam presented “Using herpetofauna monitoring to assess the success of wetland restoration” at the Missouri River Natural Resource conference March 11-14 in Jefferson City, MO.

Kent Fricke and Caroline Jezierski presented at the Nebraska Chapter of The Wildlife Society annual meeting in Chadron, NE, March 14. “Applying adaptive management to invasive species” was the title of Kent’s poster. “Nebraska wind energy and wildlife project: 2012 public survey results” was the title of Caroline’s poster. ❖

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### ***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*

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### **OUR COOPERATORS**

