

MUDDY WATERS

Fisheries News from the Kansas Cooperative Fish and Wildlife Research Unit

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COOPERATORS



HISTORY OF FISHERIES AT THE KANSAS UNIT

In this second issue of Muddy Waters, I thought I would reflect on the history of fisheries research at the Kansas Unit. The Cooperative Research Unit Program began in the 1930s and the first Cooperative Research Unit was formed at Iowa State University. The Kansas Unit is relatively young, being formed in 1991. However, fisheries research at the Unit began in earnest in 1994 with the hiring of Dr. Chris Guy, the first Assistant Leader-Fisheries. Chris began working with the cooperators and developed a broad research program related to applied fisheries issues from sport fish in reservoirs to endangered and non-game fishes in large rivers. Chris left the Kansas Unit in July 2002 to become the Assistant Leader of the Montana Fishery Research Unit, where he remains today. The fisheries position remained vacant in the Kansas Unit until I became the Assistant Leader-Fisheries in November 2003. I also developed a research program designed to meet the needs of the cooperators. My focus has been primarily on river and stream fisheries, but have also worked with sport fish in reservoirs.

Fisheries research at the Unit is constantly evolving and continues to be strong. To date, there have been 9 MS and 3 PhD fisheries graduates from the Unit, with an additional 4 MS students in progress. Initial employment of these 12 graduates ranged from academia (6), federal agencies (2), and state agencies (4). In addition, fisheries Unit scientists have mentioned 11 undergraduate students with independent projects.

The Unit has also been active in disseminating their information in the scientific community. To date, there have been at least 133



presentations by fisheries Unit scientists and students, and at least 75 peer-reviewed publications. These publications also include at least three peer-reviewed book chapters, and two editorships of books. On average, Unit scientists and students publish about six papers and give 10 presentations per year.

Fisheries research at the Kansas Unit has been very productive in the last 12 years and the goal is to continue this high level of productivity. Our goal is to provide relevant science to our cooperators, while also providing graduate education and training to our students. I hope in another 12 years we will reflect on the same productivity we have had in the last 12 years.

Craig Paukert

HONORS AND AWARDS TO STUDENTS AND STAFF

Miles Thompson, an undergraduate research technician with the Kansas Unit, is currently President of the Kansas State Student Subunit of the American Fisheries Society.

Jesse Fischer was awarded a Kansas State University Cancer Research Center Travel Grant to attend the Iowa-Nebraska-Kansas American Fisheries Society meeting.

Kristen Pitts was awarded the Biology Senior of the Year by the University of Wisconsin-LaCrosse.

Craig Paukert was awarded a USGS Science to Achieve Results award for his outstanding performance in the Cooperative Research Units.

JESSE FISCHER WINS REGIONAL AWARD

Jesse Fischer was awarded the 2006 Janice Lee Fenske Memorial Award at the Midwest Fish and Wildlife Conference in Omaha, Nebraska. The award is based on the student's enthusiasm to protect fish and wildlife through management activities, selflessness, motivation to teach others, interest in professional involvement, integrity, positive attitude, and compassion.

Congratulations Jesse on this prestigious award!

FISHERIES STAFF AND STUDENT UPDATES AT THE KANSAS UNIT

Since the last newsletter in May 2006 there have been some personnel changes in fisheries at the Kansas Unit. Two new graduate students, Josh Schloesser and Kristen Pitts (see below) started in summer 2006. In addition, **Andy Makinster** successfully graduated in December 2006 and has taken a job as a Research Fishery Biologist with Arizona Game and Fish Department on Flagstaff, Arizona. Andy will be the lead biologist on the Lee's Ferry rainbow trout fishery in the Colorado River.



Also, a long-time research technician with the Unit, **Phil Brinkley**, will graduate in December 2006 and has accepted a MS position at Colorado State University. Phil will be working with Dr. Brett Johnson to use otolith microchemistry to identify spawning areas on non-native fishes in the Colorado River.



We wish both Andy and Phil well in their future careers!

Josh Schloesser joined the Unit in July 2006 as an MS student working on microhabitat use of Missouri River fishes. He will also be

evaluating sampling methodologies for Missouri River fishes.

Josh received his BS from University of Wisconsin-Stevens Point and has worked

for several agencies in Michigan and Wisconsin before coming to Kansas. He will be working very closely with the US Fish and Wildlife Service in Columbia, Missouri as the data he is using for his thesis is primarily from that office.



Kristen Pitts became a MS student in August 2006. However, Kristen spent the summer in 2004 at Kansas State University as part of the Research Experience for Undergraduates program. Her MS project is

looking at rates of change in fish communities in the Lower Colorado River basin. She will also be developing a threat assessment index for fishes in the Lower Colorado River, which will be used to identify conservation priorities in the region. Kristen received her BS from the University of Wisconsin-LaCrosse, where she was active in many environmental and conservation groups.



CURRENT FISHERIES PROJECTS AT THE KANSAS UNIT

Note that only brief summaries are given of ongoing projects that were listed in previous newsletters. The newly funded projects are highlighted in more depth.

Inventory and Assessment of Road-Stream Crossings for Aquatic Organism Passage, with Recommendations for Culvert Designs.

This project just began and is funded by Kansas Department of Transportation. However, the project will also work very

closely with the US Fish and Wildlife Service (who is working on the first phase of this project) and the Kansas Department of Wildlife and Parks. The



goal of this research is to identify road cross-

(Continued on page 3)

CURRENT PROJECTS-CONTINUED

(Continued from page 2)

ing designs that are the most suitable for fish passage. The project will consist of both field and laboratory work and focus on the federally endangered Topeka shiner. Wes Bouska will arrive in January 2007 and will be the MS student on the project. Contact Craig Paukert for more information.

Development of a Threat Assessment Index and Evaluation of Declines in Fishes in the Lower Colorado River.

The goal of this research is to identify factors that are most affecting declines of native fishes in the Lower Colorado River Basin, and to develop priority areas where resource managers need to focus conservation efforts for fishes. This project is funded by USGS and is part of the Aquatic GAP Program. Kristen Pitts is the MS student on the project and you can contact her for more details.

Evaluation of Sampling Methodologies for Missouri River Fishes.

This project will use existing data sets from the US Fish and Wildlife Service to deter-



mine microhabitat use of various fish species in the Missouri River. The project is funded by USGS and the US Fish and Wildlife Service and began in 2006. Josh Schloesser is the MS student on this project. Contact him for more information.

Native Fish Conservation in the Great Plains.

This project, funded by Turner Enterprises, will determine the instream and landscape-level factors that affect native fish distribution in the Nebraska Sandhills and the Kansas Red Hills. Jesse Fischer is the MS student on the project, which will end in May 2006. Contact him for additional information.

Lower Colorado River Aquatic GAP.

This project will develop conservation priorities for fish conservation in the Lower Colorado River. The project is funded by USGS and is working with stakeholders from state and federal agencies, non profit organizations, museums, and universities in the Southwest. For more information contact Joanna Whittier.

Population Dynamics of Kansas River Fishes.

This project, funded by Kansas Department of Wildlife and Parks, will determine the spatial distribution and growth of Kansas River fishes, with an emphasis on rare species. You can contact Jeff Eitzmann, the MS student on the project, for more details.



FISHERIES GROUP AND AFS HELP SAMPLE CATFISH IN LOCAL WATERS

The Kansas State University Subunit of the American Fisheries Society (KSU-AFS) has initiated a long-term monitoring and tagging program for flathead catfish in the river pond below Tuttle Creek Reservoir. Agency biologists wanted more information on the harvest and exploitation of flathead catfish so Craig Paukert (KSU-AFS advisor) and Miles Thompson (KSU-AFS President and research technician with the Kansas Unit) requested that the KSU-AFS take on the project. About twice per year the KSU-AFS will sample and tag flathead catfish to document harvest and movement data. These data will be presented to the Kansas Department of Wildlife and Parks so they can better manage the fishery.



FISHERIES GROUP SAMPLES DREDGE SITES ON LOWER KANSAS RIVER

Craig Paukert and students from his Advanced Fisheries Science Class (Jeff Eitzmann, Jesse Fischer, Kristen Pitts, Josh Schloesser, and Darren Thornbrugh) conducted a research project evaluating changes in fish communities at two sand dredge sites in the Lower Kansas River. The group sampled the fish community at two control and two dredge sites in October 2006 with seines, trawls, and boat electrofishing. These sites were also sampled in 1979 and 1980 by the University of Kansas. There-

fore, current and historical changes in fish communities can be assessed. This was part of a class project and the results will be presented at the Kansas-Iowa-Nebraska American Fisheries Society meeting in January.





FISHERIES GROUPS HELPS EVALUATE WALLEYE REGULATIONS

The Kansas Unit volunteered to analyze existing data from the Wolf Creek Nuclear Power Plant cooling lake. Josh Schloesser is working with Dan Haines of Wolf Creek Nuclear Operating Corporation to determine the most effective harvest regulations that would allow some harvest of walleyes, but also protect a high density walleye population to help control gizzard shad in the lake. This project is ongoing and a report to Wolf Creek will be developed by January 2007.



RECENT RESEARCH PRODUCTS AND ACTIVITIES

Publications since May 2006:

Paukert, C. P., and J. H. Petersen. In press. Simulated effects of temperature warming on rainbow trout and humpback chub in the Colorado River, Grand Canyon. *Southwestern Naturalist*.

Paukert, C. P., M. McInerney, and R. Schultz. In press. Current and historical black bass regulations in North America. *Fisheries* (Bethesda).

Petersen, J. H., D. L. DeAngelis, and C. P. Paukert. In press. Developing bioenergetics and life history models for rare and endangered species. *Transactions of the American Fisheries Society*.

Franssen, N., K. Gido, C. Guy, J. Tripe, S. Schrank, T. Strakosh, K. Bertrand, C. Franssen, K. Pitts, and C. Paukert. 2006. Effects of floods and intermittence on fish assemblages in a prairie stream. *Freshwater Biology* 51:2072-2086.

Whittier, J., D. Leslie, Jr., and R. Van Den Bussche. 2006. Genetic variation among subspecies of Least Tern (*Sterna antillarum*): Implications for conservation. *Waterbirds* 29(2):176-184.

Whittier, J. B., C. P. Paukert, and K. Gido. 2006. Development of an aquatic GAP for the Lower Colorado River Basin. Gap Analysis Bulletin No. 14 USGS/BRD/Gap Analysis Program. Moscow, Idaho.

Presentations since May 2006:

Fischer, J., and C. Paukert. Environmental influences structuring Great Plains stream fish assemblages. *Midwest Fish and Wildlife Conference*, Omaha, NE. 12/06.

Eitzmann, J., and C. Paukert. Comparison of electrofishing and trammel netting of shovelnose sturgeon in the Kansas River. *Midwest Fish and Wildlife Conference*, Omaha, NE. 12/06 (poster).

Fischer, J., and C. Paukert. Historical and environmental influence on an endemic Great Plains fish. *Midwest Fish and Wildlife Conference*. Omaha, NE. 12/06 (poster).

Fischer, J., and C. Paukert. Factors influencing lotic fish-habitat relationships in the Great Plains. *American Fisheries Society Annual Meeting*, Lake Placid, NY, 9/06.

Makinster, A., and C. Paukert. Flathead catfish population dynamics in a Midwestern prairie river. *American Fisheries Society Annual Meeting*, Lake Placid, NY, 9/06.

Eitzmann, J., A. Makinster, and C. Paukert. Blue sucker population dynamics in a shallow, Great Plains river. *American Fisheries Society Annual Meeting*, Lake Placid, NY, 9/06 (poster).

Activities since May 2006:

Craig Paukert, Jesse Fischer, and Kristen Pitts sampled Topeka shiners at the Univ. of Kansas research facility in Fall 2006. This was a collaborative effort with Kansas St. Univ., the Univ. of Kansas, Kansas Biological Survey, and the US Fish and Wildlife Service.



Craig Paukert met with the US Fish and Wildlife Service, Manhattan Ecological Services Field office employees, and Region 6 Assistant Regional Director Mike Stempel to discuss research conducted by Dr. Paukert and the USFWS on fish passage.

Craig Paukert gave a presentation on current research to the Middle Kansas River Basin Watershed Restoration and Protection Strategy. The presentation was intended to keep stakeholders aware of the research by the Kansas Unit so it can be used for resource management.

Craig Paukert is adjunct faculty at the University of Arizona. He is serving on the committee of Arizona Unit student Anne Kretschmann.

Craig Paukert was invited by the South Dakota Department of Transportation to serve on a panel to develop a request for proposals on the impacts of road crossings in South Dakota.

**CRAIG PAUKERT
PART OF
LEADERSHIP
DEVELOPMENT
PROGRAM**

Craig Paukert was selected to participate in the Cooperative Research Units Leadership and Professional Development Program. This program is designed to help Unit Scientists better understand various policies and procedures of the Unit program. As part of the Program, Dr. Paukert will attend several Cooperators meetings from other Units including Nebraska, Arizona, and Montana.



STAFF AND STUDENT CONTACT INFORMATION

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COLLABORATORS AND COOPERATORS

There are many cooperators and collaborators on fisheries projects at the Kansas Unit. These relationships may be through direct funding of research projects, providing data, intellectual ideas, services, staff, and/or equipment to the Unit. We thank each of these collaborators and cooperators for their support.

Kansas State University, Division of Biology
Kansas Department of Wildlife and Parks
Kansas Department of Transportation
Nebraska Game and Parks Commission
US Geological Survey, NBII
US Geological Survey, Cooperative Research Units
US Geological Survey, Science Support Program
US Fish and Wildlife Service, Columbia, MO Fisheries Office
US Fish and Wildlife Service, Manhattan, KS Ecological Services
US Fish and Wildlife Service, Arizona Fisheries Office
Turner Enterprises, Inc.
Wolf Creek Nuclear Operating Corporation
Arizona Game and Fish Department
Utah Division of Wildlife Resources
Environmental Protection Agency
US Forest Service
National GAP program
Arizona State University
University of Arizona
Arizona Cooperative Fish and Wildlife Research Unit
University of Washington

