

MUDDY WATERS

Fisheries News from the Kansas Cooperative Fish and Wildlife Research Unit

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INSIDE THIS ISSUE:

<i>Welcome</i>	1
<i>Staff and students</i>	1
<i>Research projects</i>	2
<i>Recent products</i>	4
<i>Cooperators and collaborators</i>	5
<i>Directory</i>	5

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COOPERATORS



WELCOME!

Welcome to the first issue of Muddy Waters, a newsletter on the fisheries research and news from the Kansas Cooperative Fish and Wildlife Research Unit. The goal of the newsletter is to keep cooperators and interested parties informed on the fisheries activities of the Kansas Coop Unit. The stakeholder and cooperators are the backbone of our organization and our hope is that this newsletter will better inform everyone of what we do.

Assuming there is continued interest in the newsletter, the goal is to distribute two newsletters per year, likely at each semester.

The newsletter will be brief with highlights of ongoing projects, new students and personnel, presentations, publications, and service, as well as any other notable topics. This issue will likely be slightly larger as this is the first.



In addition to this newsletter, I encourage you to visit the fisheries webpage, which I keep updated with various projects, products, and students: www.k-state.edu/fisheries/

I hope you find this newsletter useful and informative. The point is to keep you informed on our activities.

Craig Paukert

CURRENT FISHERIES STAFF AND STUDENTS AT THE KANSAS UNIT

Craig Paukert has been the Assistant Leader-Fisheries at the Kansas Unit since 2003. Prior to coming to Kansas, Craig was a fishery biologist for the Grand Canyon. In addition, Craig has worked for both Minnesota and Wisconsin Departments of Natural Re-



sources early in his career. He has his PhD from South Dakota State University, MS from Oklahoma State, and BS from Minnesota. Craig's primary interests involve using research to address applied management questions. Most of his current work focuses on rivers and non-game fishes, but he has worked on a variety of systems and projects from small lakes to large reservoirs and endangered species to sport fishes.

(Continued on page 2)

HONORS AND AWARDS TO STUDENTS AND STAFF

Jesse Fischer is just completing his term as the President of the Kansas State Student Subunit of the American Fisheries Society. Under Jesse's direction, the Subunit created new Kansas Chapter AFS t-shirts and a new webpage.

Andy Makinster was awarded the outstanding Graduate Student Award from the Kansas Cooperative Fish and Wildlife Research Unit.

Phil Brinkley, an undergraduate working with Jesse Fischer, was awarded the outstanding poster presentation at the Kansas Chapter of the American Fisheries Society Annual Meeting in Hays, Kansas.

Andy Makinster was awarded the Kansas Chapter of the American Fisheries Society Tiemeier-Cross Award as the Outstanding Fisheries Graduate Student.

Phil Brinkley, an undergraduate working with Unit student Jesse Fischer, was awarded the Kansas Chapter of the American Fisheries Society Klassen Award as the Outstanding Fisheries Undergraduate Student.



STUDENTS AND STAFF-CONTINUED

(Continued from page 1)

Joanna Whittier is a Research Assistant Professor at the Kansas Unit and is primarily working on a project developing conservation priorities in the Lower Colorado River. She has a PhD and MS from Oklahoma State University and a BS from Cal Poly-San Luis Obispo. Her research interest and



expertise includes conservation genetics, endangered species management, and GIS. She is our resident GIS and database expert and frequently helps the students with those needs. Joanna's background is diverse, with past professional positions with the US Fish and Wildlife Service and the National Park Service. Early in her career she worked on several projects for various federal agencies on western wildlife issues.

Andy Makinster is a MS student working on the population dynamics of flathead catfish in the Kansas River. Andy received his BS from Northern Arizona University and



worked for Arizona Game and Fish Department as a biologist in Grand Canyon before coming to Kansas. Andy's interests include river fisheries and sportfish management. He plans to work for a

state or federal agency after graduation in December 2006.

Jesse Fischer is a MS student working on stream fisheries conservation in Kansas and Nebraska. He received his BS from the University of Nebraska and worked as a crew leader on Nebraska stream assessments before coming to Kansas in January 2005. Jesse's interests include native fish conservation and stream and river fisheries. He plans on pursuing a PhD after graduation in December 2006.



Jeff Eitzmann began his MS program in January 2006 working on the population dynamics of Kansas River fishes. Jeff received his BS from Kansas State University and worked for various graduate students during his undergraduate career. In addition, Jeff had



an independent study project in 2005 where he evaluated the population dynamics of blue suckers in the Kansas River. This work has been presented several times and will be submitted for publication soon. Jeff's career goals include working for a state or federal agency.

CURRENT FISHERIES PROJECTS AT THE KANSAS UNIT

Evaluation of Trophy Potential for Flathead Catfish in the Kansas River.

This project, which began in 2004 and is funded by Kansas Department of Wildlife and Parks, will determine the abundance, distribution, size structure, growth, and movement of flathead catfish in the Kansas River from Kansas City to Junction City, Kansas, and assess various management alternatives (e.g., length limits) for this species. The project will begin its second field

season in 2006 and will be completed in December 2006. Andy Makinster is the MS student on the project. Please contact him for further details.



(Continued on page 3)

CURRENT PROJECTS-CONTINUED

(Continued from page 2)

Native Fish Conservation in the Great Plains.

This project will determine the instream and landscape-level factors that affect native fish distribution in the Nebraska Sandhills and the Kansas Red Hills. The project, funded by Turner Enterprises, Inc., will also evaluate the standardized sampling procedures by EPA on wadeable streams to see if there are modifications to the protocol that may streamline time in the field. Jesse Fischer is the MS student on the project, which will end in December 2006. Contact him for additional information.



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Lower Colorado River Aquatic GAP.

This project began in 2004 and will continue until 2009 to develop 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.



FISHERIES GROUP DEVELOPS STANDARDIZED FISH SAMPLING STATIONS ON KANSAS RIVER

Fisheries students and staff at the Kansas Unit have developed and implemented long-term sampling on the Kansas River. The work began in 2005 when Andy Makinster volunteered to implement boat electrofishing at 36 fixed stations from Kansas City to Manhattan, Kansas. These stations are set up as six replicates in six areas of the river and are sampled four times per year. Although this is unfunded work, Jeff Eitzmann has recently volunteered to take over the sampling when Andy gradu-

Evaluation of Sampling Methodologies for Missouri River Fishes.

This project will use existing data sets from the US Fish and Wildlife Service to determine the sample sizes needed to detect trends in various fish species in the Missouri River. The project, funded by USGS and the US Fish and Wildlife Service, began in 2006 and a graduate student will start on this project in summer 2006.



Contact Craig Paukert for more information.

Population Dynamics of Kansas River Fishes.

This project, funded by Kansas Department of Wildlife and Parks, will determine the spatial distribution and food web dynamics of Kansas River fishes, with an emphasis on rare species. This project began in January 2006 and Jeff Eitzmann was selected as the MS student on the project. Field work will begin in summer 2006. Contact Jeff Eitzmann for more information.



CRAIG PAUKERT SERVES ON NATIONAL FISH HABITAT INITIATIVE COMMITTEE

Craig Paukert was invited to serve on two committees related to fish habitat. Craig is a member of the Science Committee for the National Fish Habitat Initiative. This committee is charged with developing metrics to assess the state of fisheries habitat for all species throughout the nation. This has been a very challenging task, and the committee will be producing a report soon. The Science Committee consists of 15 scientists from throughout the country. Craig is the only Coop Unit scientist, and one of two scientists from academia selected for the committee. More information can be found at www.fishhabitat.org.

Craig was also invited to participate in a workshop to develop new paradigms in assessing fish-habitat relationships. This work builds on some of the work conducted by various GAP projects around the country, and is attempting to determine the direction of assessing and analyzing fish-habitat relationships.



ates in 2006. Our goal is to continue this sampling so we have baseline data that can be used to assess changes in the biota and habitat of the Kansas River. As long as there are students willing to help out we will continue these efforts. We will periodically present and publish results from this work. If anyone is interested in more information, contact Craig Paukert.

GIS IN AQUATIC ECOLOGY STRONG AT K- STATE

Fisheries staff at the Kansas Unit are part of a growing number of research staff and projects using GIS tools in aquatic ecology. Recently, at least four projects were initiated that use spatial analysis tools to solve research questions in aquatic ecology. These projects were funded by various sources including Kansas Department of Wildlife and Parks, USGS, and NSF as grants to Craig Paukert and Joanna Whittier, as well as Keith Gido and Walter Dodds in the Division of Biology at K-State.



RECENT RESEARCH PRODUCTS AND ACTIVITIES

Publications in 2006:

Quinn, S. P., and C. P. Paukert. In press. Recreational and commercial fisheries for centrarchids. In: S. J. Cooke and D. P. Phillip, editors. *Ecological Diversity of Centrarchid Fishes: Basic and Applied Perspectives*. Blackwell Science.

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*.

Paukert, C. P., L. G. Coggins, and C. F. Flaccus. 2006. Distribution and movement of humpback chub in the Colorado River, Grand Canyon, based on recaptures. *Transactions of the American Fisheries Society* 135:539-544.

Presentations in 2006:

Fischer, J., and C. P. Paukert. Habitat use of stream fishes in South Central Kansas. Kansas State University Biology Graduate Student Research Forum, Manhattan, KS. 11 March 2006.

Fischer, J., and C. P. Paukert. Environmental influences of stream fish in the Nebraska Sandhills. Nebraska Chapter of the AFS Annual Meeting, Gretna, NE. 1 March 2006.

Paukert, C. P. Evaluation of standardized gill netting in Kansas reservoirs: can we detect changes in fish populations? Kansas Department of Wildlife and Parks, Annual Fisheries and Wildlife Division Meeting, Salina, KS. 22 February 2006.

Paukert, C. P. The Cooperative Ecosystems Study Unit: what can it do for you? Kansas State University Division of Biology Ecology Seminar Series. 16 February 2006.

Eitzmann, J., A. Makinster, and C. P. Paukert. Population dynamics of blue suckers in the Kansas River, Kansas. 31st Kansas Chapter of the American Fisheries Society Annual Meeting, Hays, KS. 11 February 2006.

Brinkley, P., J. Fischer, and C. P. Paukert. Effect of fixative on total length of small-bodied stream fish. 31st Kansas Chapter of the American Fisheries Society Annual Meeting, Hays, KS. 10 February 2006. (poster).

Fischer, J., and C. P. Paukert. Fish habitat relationships in South Central Kansas. 31st Kansas Chapter of the American Fisheries Society Annual Meeting, Hays, KS. 11 February 2006.

Franssen, N. R., K. B. Gido, T. R. Strakosh, K. N. Bertrand, C. M. Franssen, C. P. Paukert, K. L. Pitts, C. S. Guy, J. A. Tripe, and S. J. Shrank. Effects of floods and intermittence on fish assemblages in a prairie stream. 31st Kansas Chapter of the American Fisheries Society Annual Meeting, Hays, KS. 11 February 2006.

Makinster, A., and C. P. Paukert. Population dynamics of flathead catfish in the Kansas River, Kansas. 31st Kansas Chapter of the American Fisheries Society Annual Meeting, Hays, KS. 11 February 2006.

Paukert, C. P., and J. H. Petersen. Simulated effects of temperature warming on rainbow trout and humpback chub in the Colorado River, Grand Canyon. Arizona/New Mexico American Fisheries Society Annual Meeting, Flagstaff, AZ. 4 February 2006.

Whittier, J. B., C. P. Paukert, and K. B. Gido. Development of an aquatic GAP for the Lower Colorado River Basin. Arizona/New Mexico American Fisheries Society Annual Meeting, Flagstaff, AZ. 3 February 2006.

Activities:

Craig Paukert attended the Mississippi Interstate Cooperative Resource Association (MICRA) paddlefish/sturgeon committee meeting in St. Louis. Craig will be working on a paddlefish symposium sponsored by MICRA in December 2006.

Jesse Fischer led a team of 6 Kansas State University students and researchers to help with Kansas Department of Wildlife and Parks sample and tag Topeka shiners.

FISHERIES GROUP PROVIDES GIS EXPERTISE

The GIS expertise in fisheries at the Kansas Unit has been recognized nationally. Jodi Whittier co-taught a basic and advanced GIS courses at the American Fisheries Society Annual Meeting in Anchorage, AK. She will also be co-teaching the basic GIS course in fall at the AFS meeting in Lake Placid, NY. Jodi and Jesse Fischer, a grad student in fisheries, also taught a short course on GIS for the Kansas Chapter AFS. Jodi is consistently in demand for her GIS skills in the Division of Biology from other grad students and faculty. We are fortunate to have her expertise.

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 State University, Department of Statistics
Kansas Department of Wildlife and Parks
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.
Arizona Game and Fish Department
Utah Division of Wildlife Resources
New Mexico Game and Fish Department
Environmental Protection Agency
US Forest Service
National GAP program
Kansas Aquatic GAP program
Arizona State University
University of Arizona
Arizona Cooperative Fish and Wildlife Research Unit

