

Illinois Natural History Survey - Great Rivers Field Station
National Great River Research and Education Center
Annual Products: 10/01/05 - 9/30/06

Publications

- Chick, J. H., M. A. Pegg, and T. M. Koel. 2006. Spatial patterns of fish communities in the Upper Mississippi River System: Assessing fragmentation by low-head dams. *River Research and Applications* 22:413-427.
- Dolan, Chad R., James T. Lamer, and John K. Tucker. 2006. Distributional Note: *Chrysemys picta*. *Herpetological Review* 37(1):104.
- Dolan, Chad R., James T. Lamer, and John K. Tucker. 2006. Distributional Note: *Rana sphenocephala*. *Herpetological Review* 37(1):102.
- Dolan, Chad R., James T. Lamer, and John K. Tucker. 2006. Distributional Note: *Trachemys scripta elegans*. *Herpetological Review* 37(1):105.
- Dolan, Chad R., James T. Lamer, John K. Tucker, and Eric J. Gittinger. 2006. Distributional Note: *Graptemys ouachitensis*. *Herpetological Review* 37(1):105.
- Dolan, Chad R., John K. Tucker, and Thomas T. Timmermann. 2006. Distributional Note: *Siren intermedia*. *Herpetological Review* 37(1):97.
- Dolan, Chad R., James T. Lamer, and John K. Tucker. 2006. Distributional Note: *Ambystoma maculatum*. *Herpetological Review* in press
- Dolan, Chad R., James T. Lamer, and John K. Tucker. 2006. Distributional Note: *Rana areolata*. *Herpetological Review* in press
- Hoff, Mary Jane, James T. Lamer, John K. Tucker, and Chad R. Dolan. 2006. Distributional Note: *Notophthalmus viridescens*. *Herpetological Review* in press
- Janzen, Fredric J., **John K. Tucker** and Gary L. Paukstis. 2006. Experimental analysis of an early life-history stage: direct or indirect selection on body size in hatchling turtles. *Functional Ecology* in press.
- Lamer, James T., John K. Tucker, and Chad R. Dolan. 2006. Distributional Note: *Bufo americanus*. *Herpetological Review* in press
- Lamer, James T., John K. Tucker, and Chad R. Dolan. 2006. Distributional Note: *Pseudacris crucifer*. *Herpetological Review* in press

- Lamer, James T., Chad R. Dolan, and John K. Tucker. 2006. Distributional Note: *Pseudacris crucifer*. Herpetological Review in press
- Lamer, James T., Chad R. Dolan, and John K. Tucker. 2006. Distributional Note: *Apalone spinifera*. Herpetological Review 37(1):104.
- Lamer, James T., Chad R. Dolan, and John K. Tucker. 2006. Distributional Note: *Chelydra serpentina*. Herpetological Review 37(1):104.
- Lamer, James T., Chad R. Dolan, and John K. Tucker. 2006. Distributional Note: *Chelydra serpentina*. Herpetological Review 37(1):104.
- Lamer, James T. and John K. Tucker. 2006. Distributional Note: *Apalone spinifera*. Herpetological Review 37(1):104.
- Lamer, James T., John K. Tucker, and Chad R. Dolan. 2006. Distributional Note: *Apalone spinifera pallida*. Herpetological Review 37(2):239.
- Lamer, James T., John K. Tucker, and Emily Dustman. 2006. Distributional Note: *Siren intermedia*. Herpetological Review 37(1):97.
- Myers, E. M., F. J. Janzen, D. C. Adams, **J. K. Tucker**. 2006. Quantitative genetics of plastron shape in slider turtles (*Trachemys scripta*). Evolution 60(3): 563–572.
- Petzing, John E., Jennifer M. Mui, Michael J. Dreslik, Andrew R. Kuhns, Donald B. Shepard, Christopher A. Phillips, **John K. Tucker**, Jonathan K. Warner, David Mauger, Thomas G. Anton, **Eric Gittinger**, Timothy R. Hunkapiller, Benjamin C. Jellen, and **Rob Cosgriff**. 2006. Filling the gaps II: new Illinois amphibian and reptile county records from 2000-2005. Herpetological Review in press.
- Reehl, Megan, Jesse Thompson, and **John K. Tucker**. 2006. Preliminary survey of aquatic turtles in a riverside pond. Transactions of the Illinois State Academy of Sciences in press.
- Rowe, John W., David L. Clark, Colleen Ryan, and **John K. Tucker**. 2006. The effect of substrate color on pigmentation in midland painted turtles (*Chrysemys picta marginata*) and red-eared slider turtles (*Trachemys scripta elegans*). Journal of Herpetology in press.
- Steen, David A., Matthew J. Aresco, Susan G. Beilke, Bradley W. Compton, Erin P. Condon, C. Kenneth Dodd, Jr., Harriet Forrester, J. Whitfield Gibbons, Judith L. Greene, Glenn Johnson, Tom A. Langen, Michael J. Oldham, Damien N. Oxier, Raymond A. Saumure, Frederick W. Schueler, Jonathan Sleeman, Lora L. Smith, **John K. Tucker**, and James P. Gibbs. 2006. Relative vulnerability of female turtles to road mortality. Animal Conservation in press.

- Taylor, Christopher A. and **John K. Tucker**. 2005. New distributional records for Illinois crayfishes (Decapoda: Cambaridae) with comments the continued spread of non-native species. Transactions of the Illinois Academy of Sciences 98(1/2):75-80.
- Tucker, John K. and James T. Lamer. 2004. Another challenge in snapping turtle (*Chelydra serpentina*) conservation. Turtle and Tortoise Newsletter 8:10-11.
- Tucker, John K. and James T. Lamer. 2005. Natural History Note: *Sternotherus odoratus* (Common musk turtle) clutch size. Herpetological Review 36(3):314.
- Tucker, John K. 2006. Oxytocin dosage in turtles. Chelonian Conservation and Biology in press.
- Tucker, John K., James T. Lamer, and Chad R. Dolan. 2006. Distributional Note: *Chelydra serpentina*. Herpetological Review in press
- Tucker, John K., James T. Lamer, and Chad R. Dolan. 2006. Distributional Note: *Hyla cinerea*. Herpetological Review in press
- Tucker, John K., James T. Lamer, and Chad R. Dolan. 2006. Distributional Note: *Necturus maculosus*. Herpetological Review in press
- Tucker, John K., James T. Lamer, Chad R. Dolan, and Emily A. Dustman. 2006. New record carapace lengths for six turtle species from Illinois. Herpetological Review in press.
- Warner, Daniel A., John K. Tucker, Nirvana I. Filoramo, and J. Brian Towey. 2006. Claw function of hatchling and adult red-eared slider turtles (*Trachemys scripta elegans*). Chelonian Conservation and Biology in press.
- Willette, Damian A. S., **John K. Tucker**, and Fredric J. Janzen, 2005. Linking climate and physiology at the population level for a key life-history stage of turtles. Canadian Journal of Zoology 83:845-850.

Reports

- Bartels, A., M. C. Bowler, S. DeLain, **E. J. Gittinger**, D. P. Herzog, K. S. Irons, K. Mauer, T. M. O'Hara, **E. Ratcliff**, and J. Ridings. 2006. 2004 Annual Status Report: A summary of fish data in six reaches of the Upper Mississippi River System. U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin. Web-based report LTRMP 2006-W002 available online at http://www.umesc.usgs.gov/report_publications/ltrmp/fish/2004/fish-srs.html (Accessed June 2006, revised July 2006.)
- Yin, Y., H. Langrehr, T. Shay, T. Cook, **R. Cosgriff**, and M. Moore. 2006. Vegetation sampling in the Upper Mississippi River System: Annual update. U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin. An LTRMP Web-based report available

online at http://www.umesc.usgs.gov/reports_publications/ltrmp/vegetation.html . (Revised and accessed May 2006, with 2005 data.)

Yin, Y., H. Langrehr, T. Blackburn, T. Cook, **R. Cosgriff**, and M. Moore. 2005. Vegetation sampling in the Upper Mississippi River System: Annual update. U.S. Geological Survey, Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin. An LTRMP Web-based report available online at http://www.umesc.usgs.gov/reports_publications/ltrmp/vegetation.html . (Revised and accessed April 2005, with 2004 data.)

Presentations

Invited Lectures/Seminars:

Chick, J.H. – U.S. Environmental Protection Agency, Great Rivers EMAP Workshop – 2005

Contributed Presentations:

2006 Thomas Timmerman, Chad Dolan, and John Chick. Habitat Changes Reflected in the Diets of Common Carp (*Cyprinus carpio*) from Swan Lake, Calhoun County, Illinois. Annual Meeting for the Illinois Chapter of the American Fisheries Society at Rend Lake, Illinois.

2006 Alex Levchuk, John Havel, Jeff Jack, Kim Medley, John Chick. Enumeration of Zooplankton Samples: Effects of Mesh Size on Density Estimates of Copepods, Cladocerans, and Rotifers. Annual Meeting for the Illinois Chapter of the American Fisheries Society at Rend Lake, Illinois.

2006 John K. Tucker. Common Snapping Turtle (*Chelydra Serpentina*) Demographics. Annual Meeting for the Illinois Chapter of the American Fisheries Society at Rend Lake, Illinois.

2006 Alex P. Levchuk, John H. Chick, Kim A. Medley, John E. Havel, Jeff D. Jack. Effects of mesh size on density estimates of copepods, cladocerans, and rotifers. Annual Meeting of the MRRC, La Crosse, WI.

2006 John K. Tucker. Common snapping turtle (*chelydra serpentina*) demographics. Annual Meeting of the MRRC, La Crosse, WI.

2006 Thomas Timmerman, Chad R. Dolan, John H. Chick . Habitat changes reflected in the diets of common carp (*cyprinus carpio*) from Swan Lake, Calhoun county, Illinois. Annual Meeting of the MRRC, La Crosse, WI.

2006 Chick, J.H., R.J. Cosgriff, and L.S. Gittinger. Fish as potential dispersal agents for floodplain plants: first evidence in North America. Annual Meeting of the Ecological Society of America in Memphis, TN.

- 2006 Dolan, C.R., J.T. Lamer, and J.H. Chick. Swan Lake habitat rehabilitation and enhancement project (HREP): post-project biological and physical response monitoring. the Annual Meeting of the Ecological Society of America in Memphis, TN.
- 2006 Gittinger, L.S., and J. E. Havel. Effects of turbidity and food levels on performance of native and exotic Daphnia. the Annual Meeting of the Ecological Society of America in Memphis, TN.
- 2006 Levchuk, A.P., J.E. Havel, J.D. Jack, K.A. Medley, and J.H. Chick. Effects of mesh size on density estimates of copepods, cladocerans, and rotifers. the Annual Meeting of the Ecological Society of America in Memphis, TN.
- 2006 Ruetz, C.R., J.C. Trexler, N.J. Dorn, **J.H. Chick**, and W.L. Loftus. Seasonal use of alligator ponds by wetland fishes: dealing with drought. the Annual Meeting of the Ecological Society of America in Memphis, TN.
- 2006 Timmermann, T.R., C.R. Dolan, and J.H. Chick. Changes in backwater lake habitat reflected in the diet of common carp (*Cyprinus carpio*) from Swan Lake, Calhoun County, Illinois. the Annual Meeting of the Ecological Society of America in Memphis, TN.
- 2006 Sampson, S.J., J. H. Chick, and M.A. Pegg. Dietary overlap of Asian carp and native filter feeding fishes in the Upper Mississippi River System. The Invasive Asian Carps in North America: A Forum to Understand the Biology and Manage the Problem. Peoria, IL.
- 2006 Barko, V.A., **J.H. Chick**, M.T. O'Connell, and A. M. Uzee O'Connell. Use of long-term monitoring data to evaluate potential impacts of Asian carp on native filter-feeding fishes in the Upper Mississippi River System. The Invasive Asian Carps in North America: A Forum to Understand the Biology and Manage the Problem. Peoria, IL. (poster)
- 2006 Lamer, J.T., C.R. Dolan, J.H. Chick, and J.M. Epifanio. Hybridization between silver and bighead carp in the Mississippi and Illinois rivers. The Invasive Asian Carps in North America: A Forum to Understand the Biology and Manage the Problem. Peoria, IL. (poster)
- 2006 O'Connell, M.T., A.M. Uzee O'Connell, V.A. Barko, and **J.H. Chick**. Silver carp (*Hypophthalmichthys molitrix*) and bighead carp (*H. nobilis*) in the Mississippi River Basin: Occurrence data and dispersal patterns. The Invasive Asian Carps in North America: A Forum to Understand the Biology and Manage the Problem. Peoria, IL. (poster)
- 2006 Pegg, M.A., and **J.H. Chick**. Use of a bioacoustic fish fence to prevent the spread of Asian carp to the Great Lakes: importance of acoustic signal specificity. The Invasive Asian Carps in North America: A Forum to Understand the Biology and Manage the Problem. Peoria, IL. (poster)
- 2006 Dolan, C.R., J.T. Lamer, and J.H. Chick. 2006. Swan Lake habitat and rehabilitation project (HREP): post-project biological and physical response monitoring. USFWS Region 3 Refuge Biological Workshop, La Crosse, Wisconsin.

Research Support

- 2006 Factors affecting establishment and growth of aquatic vegetation in Swan Lake. United States Fish & Wildlife Service, Two Rivers Refuge. Principal Investigators: John H. Chick and Chad R. Dolan. 05/01/06 – 12/31/06. \$ 3,500.
- 2006 Plankton and biogeochemical indicators of reference conditions in great rivers: analyses for the EPA EMAP program. United States Environmental Protection Agency - through the United State Geological Survey, Upper Midwest Environmental Sciences Center. Principal Investigator: John H. Chick. 08/15/06 - 08/14/08. \$241,853.
- 2006 Environmental Monitoring and Assessment Program Great River Ecosystems (EMAP-GRE) - INHS/GRFS Field Work. United States Environmental Protection Agency - through the United State Geological Survey, Upper Midwest Environmental Sciences Center. Principal Investigator: John H. Chick. 1/01/06 to 12/31/06. \$90,124.
- 2006 Long term resource monitoring on pool 26, Mississippi River: Request for fiscal year 2005 funds. United States Geological Survey - Biological Resources Division, Upper Midwest Environmental Sciences Center. Principal Investigator: John H. Chick. 10/01/05 to 12/30/06. \$295,689.
- 2006 Long Term Resource Monitoring on La Grange Reach, FY'06. United States Geological Survey - Biological Resources Division, Upper Midwest Environmental Sciences Center. Principal Investigator: John H. Chick. 10/01/05 to 12/30/06. \$290,747.
- 2006 Environmental Monitoring and Assessment Program Great River Ecosystems (EMAP-GRE) - INHS/ILRBS Field Work. United States Environmental Protection Agency - through the United State Geological Survey, Upper Midwest Environmental Sciences Center. Principal Investigator: John H. Chick. 1/01/06 to 12/31/06. \$67,047.
- 2006 Illinois River Basin Watershed Assessment and Indicator Development. Illinois Department of Natural Resources. 10/01/04 to 03/31/07. \$125,004.

Outreach (highlights)

Eric Ratcliff, Eric Gittinger, and Ben Lubinski gave a demonstration on fish sampling and John Chick discussed Mississippi River ecology and fish population dynamics for a Principia College Freshwater Ecology class. 11/8/05.

Eric Ratcliff provided information on the life histories and impacts of Asian Carp on native species to the owner of a fee fishing lake in Raleigh, North Carolina, 11/1/05.

Eric Ratcliff provided information on the life histories of Asian Carp to a concerned citizen in Chicago. 1/24/06.

Eric Ratcliff provided Asian Carp information and photos for an exhibit titled "Neobiota-In the tracks of the People" to be displayed at a natural history museum in Potsdam, Germany. 02/16/06.

Eric Gittinger provided information and is in the process of coordinating with CNN news a series of interviews to do a story about Asian carp. March 2006

Ben Lubinski discussed bighead carp with Clifton Jackson, fisheries biologist with the Arkansas Game and Fish Commission, and sent him pictures of bighead carp for their possible use in an exotic fish ID brochure. March 2006.

John Chick, Chad Dolan, Jim Lamer, and Tom Timmerman attend a meeting with personnel from the U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service, and Southern Illinois University Carbondale to present and discuss research findings on Swan Lake.

Eric Ratcliff and Eric Gittinger gave presentations on fish ecology and large river ecology to 2000 middle school students at the annual Water Festival held at Lewis and Clark Community College, Godfrey, IL May 5, 2006.

John Chick, Chad Dolan, Jim Lamer, and John Tucker provide a lecture on backwater lake management and field trip to Swan Lake for Interns with the National Great Rivers Research and Education Center. May 29, 30.

Eric Ratcliff, Eric Gittinger, Ben Lubinsky, and Jim Lamer taught fish identification skills and gave presentation on fish ecology at the US Fish and Wildlife Services Two Rivers Fishing Fair, at Pere Marquette State Park, Grafton, IL June 10

John Chick, Eric Ratcliff and Rob Cosgriff hosted outdoor writer Jessica Maxwell for field trips on the Mississippi and Illinois rivers. Ms. Maxwell is writing a story on Asian carp for Forbes Magazine, and will feature interviews with John Chick and Rob Maher (DNR Fisheries). July 6, 7, 2006.

Eric Gittinger was interviewed by Timothy Martin of the Wall Street Journal about the ecology and jumping behavior of Asian carp in the Mississippi and Illinois Rivers.

Eric Ratcliff provided information about Asian carp to a reporter from the Racine Times, Racine WI, July 13, 2006

Jim Lamer gave a live animal presentation of Illinois herptofauna at Delhi Elementary School, Delhi, IL. (September 2006).

Data and Specimen Requests (highlights)

Illinois Department of Natural Resources – LTRMP fish data (black bullhead, yellow bullhead, shovelnose sturgeon)

Illinois Department of Natural Resources - location data on the crawfish frog (*Rana areolata*)

Nebraska Game and Parks Commission – LTRMP Monitoring Procedures

Sheppard, Morgan & Schwaab (engineering firm)/City of Alton – LTRMP water quality data

U.S. Fish & Wildlife Service Two River Refuge – Swan Lake project data (macroinvertebrates, mussel fauna, aquatic vegetation, fishes, sediment hardness)

U.S. Army Corps of Engineers St. Louis District – Swan Lake project data (sediment hardness, GIS maps)

U.S. Fish & Wildlife Service Carterville Office – fish specimens

Triad High School, Troy Illinois - collection of preserved Mississippi River fishes

Southern Illinois University Carbondale – Swan Lake project data (sediment hardness, GIS map)

Arkansas State University - Illinois Chorus Frog (*Pseudacris illinoensis*) vouchers

Center for North American Herpetology - tissue from western chorus frog (*Pseudacris triseriata*), the spring peeper (*P. crucifer*), and the Illinois chorus frog (*P. illinoensis*)

University of Arizona - Tissue from Illinois western box turtles (*Terrapene ornate*)

Illinois State University - blood and tissue samples from the red-eared slider (*Trachemys scripta elegans*)

University of Illinois - red-eared slider (*Trachemys scripta elegans*) and snapping turtles (*Chelydra serpentina*)

Iowa State University – blood from red-eared sliders (*Trachemys scripta elegans*)

Iowa State University - map turtles (*Graptemys* spp.)

Iowa State University - hatchling red-eared sliders (*Trachemys scripta elegans*)