

## **Jack Killgore**

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### **Education**

Ph.D., University of Mississippi, 1995; M.S., Sam Houston State University, 1980; B.A. University of Arkansas, 1975.

### **Biography**

I began my professional career with the U.S. Fish and Wildlife, National Reservoir Research Program as a biological technician. A few years later, I began working for the U. S. Army Corps of Engineers (USACE), Engineer Research and Development Center (formerly Waterways Experiment Station) in Vicksburg, MS where I continue today as a technical team leader in the Environmental Laboratory. Working for USACE in the 1980's and 90's allowed me to witness major changes in the environmental ethics of this organization. Our research supported these changes by quantifying environmental impacts of federal water resource projects (e.g., flood control, commercial navigation) on aquatic resources as required by the National Environmental Policy Act. We essentially completed sections of Environmental Impact Statements for USACE Districts. Also in the 1990's, we began developing field protocols and statistical models to determine the benefits of ecosystem restoration as part of the Water Resource Development Acts. Our research resulted in both mitigation and restoration techniques to either offset negative impacts or provide ecosystem benefits.

In the early 2000's, the Team began studying Pallid Sturgeon, a federally endangered species living in the Mississippi River. We were now assisting USACE Districts and Divisions in compliance with the Federal Endangered Species Act. We branched out to include research projects on seven other species of sturgeon that live in our navigable rivers across the United States. About this time, Asian Carp were rapidly colonizing the Mississippi River and tributaries. We assisted USACE and other federal and state agencies in monitoring population expansion, evaluating impacts to native species, and conducting laboratory studies on deterrents to expansion including electrical and hydraulic barriers.

We now have an interdisciplinary research team in the fields of ichthyology, fisheries biology, aquatic entomology, malacology, and watershed assessment. I continue to collect field data and develop products on fishery resources of the Mississippi River and tributaries. As an adjunct professor at Tulane University, I will continue to share these experiences in an applied approach to our river science and engineering courses.

## Selected Publications

Dr. Killgore has authored or co-authored more than 100 professional publications in peer reviewed journals, conference proceedings, technical reports/notes, and chapters in books. Selected publications are listed below.

- Miranda, L. E., J. A. Martinez-Lanfranco, and K. J. Killgore. 2019. Wetlands and development influence fish diversity in a species-rich small river. *Environmental Biology of Fishes*. Published online at <https://doi.org/10.1007/s10641-019-00876-5>
- Biedenharn, D.S., Killgore, K.J., Little, C.D. Jr., Murphy, C.E. and Kleiss, B.A. 2018. Attributes of the Lower Mississippi River Batture. MRG&P Tech Note No. 4. U.S. Army Corps of Engineers, Vicksburg, MS. 14 p. <http://dx.doi.org/10.21079/11681/26582>
- Benjamin, G. L., Angeline. J. Rodgers, and K. Jack Killgore. 2016. Mississippi River Ecosystem Restoration: The Past Forty-Plus Years. Pages 311-350 *in* Y. Chen, D. C. Chapman, J. R. Jackson, D. Chen, Z. Li, K. J. Killgore, Q. Phelps, and M. A. Eggleton, editors. Fisheries resources, environment, and conservation in the Mississippi and Yangtze (Changjiang) River basins. American Fisheries Society, Symposium 84, Bethesda, Maryland.
- Oliver, A. J., C. E. Murphy, C. D. Little, and K. Jack Killgore. 2016. Measuring connectivity of floodplain waterbodies to the Lower Mississippi River. Mississippi River Geomorphology and Potamology Program, MRG&P Tech Note 1.
- Tripp, S., K. J. Killgore, and J. E. Garvey. 2015. Fish movements and passage through a water control structure: River stage and floodplain connectivity. *River Research and Applications*. Published online in Wiley Online Library ([wileyonlinelibrary.com](http://wileyonlinelibrary.com)) DOI: 10.1002/rra.2901
- Killgore, K.J., Hartfield, P., Slack, T., Fischer, R., Biedenharn, D., Kleiss, B., Hoover, J., and Harrison, A. 2014. Conservation Plan for the Interior Least Tern, Pallid Sturgeon, and Fat Pocketbook Mussel in the Lower Mississippi River (Endangered Species Act, Section 7(a)(1)). MRG&P Report No. 4 Vicksburg, MS: U.S. Army Engineer Research and Development Center. <http://hdl.handle.net/11681/3190>.
- Harrison, A. B., W. T. Slack, and K. J. Killgore. 2014. Feeding Habitats of Young-of-year River Sturgeon *Scaphirhynchus* spp. in the Lower Mississippi River. *The American Midland Naturalist*, 171(1):54-67. 2014.
- Miranda, L.E., K.J. Killgore, and J.J. Hoover. 2013. Fish Assemblages in Borrow-pit lakes of the Lower Mississippi River. *Transactions of the American Fisheries Society* 142 (3): 596-605. <http://dx.doi.org/10.1080/00028487.2012.760486>
- Miranda, L. E., J. N. Aycock, and K. J. Killgore. 2012. A direct-gradient multivariate index of biotic condition. *Transactions of the American Fisheries Society* 141: 1637-1648.

- Killgore, K.J., L.E. Miranda, C.E. Murphy, D. M. Wolff, J. J. Hoover, T. M. Keevin, S. T. Maynard, and M. A. Cornish. 2011. Fish entrainment rate through towboat propellers in the upper Mississippi and Illinois Rivers. *Transactions of the American Fisheries Society* 140:570-581.
- Killgore, K. J., Kirk, J., J. J. Hoover, S. G. George, Br. R. Lewis, and C. E. Murphy. 2007. Age and growth of Pallid Sturgeon in the Free-Flowing Mississippi River. *Journal of Applied Ichthyology* 23, 452-456.
- Killgore, K. J., J. J. Hoover, S. G. George, Br. R. Lewis, C. E. Murphy, and W. E. Lancaster. 2007. Distribution, Relative Abundance, and Movements of Pallid Sturgeon in the Free-Flowing Mississippi River. *Journal of Applied Ichthyology* 23, 476-483.
- Killgore, K. J., and J. J. Hoover. 2001. Effects of hypoxia on fish assemblages in a vegetated waterbody. *Journal of Aquatic Plant Management* 39: 40-44.
- Killgore, K. J., S. T. Maynard, M. D. Chan, and R. P. Morgan II. 2001. Evaluation of propeller-induced mortality on early life stages of selected fish species. *North American Journal of Fisheries Management* 21: 521-529.
- Kirk, J. P., J. V. Morrow, K. J. Killgore, S. J. DeKozlowski, and J. W. Preacher. 2000. Population response of triploid grass carp to declining levels of hydrilla in the Santee Cooper reservoirs, South Carolina. *Journal of Aquatic Plant Management* 38: 14-17.
- Adams, S.R., J.J. Hoover, and K.J. Killgore. 2000. Swimming performance of the Topeka shiner (*Notropis topeka*), an imperiled Midwestern minnow. *American Midland Naturalist* 144:178-186.

### **Courses Taught**

- RCSE 6800 – Introduction to River Science and Engineering (co-instructor)  
RCSE 6810 – River and Stream Restoration (co-instructor)  
RCSE 6840 – Methods in River Sampling (co-instructor)

### **Research Interests**

My current research interests are habitat assessment of large river fishes, conservation of endangered species, aquatic habitat restoration, invasive species management, and environmental impact analysis.