Masters research assistantship:
Using hydrologic analyses to quantify invasion risk of oxbow lakes in the Lower Mississippi Alluvial Valley

Project overview and responsibilities: There are over 1300 oxbow lakes throughout the Lower Mississippi Alluvial Valley (LMAV) that provide habitat for native fishes and services for recreationists and commercial fishers. Fish assemblages within oxbow lakes are maintained by hydrologic connectivity to adjacent rivers, but these connections also provide invasion pathways for non-native species including invasive carps. This project will use hydrologic and geospatial analyses to quantify surface-water connectivity of LMAV oxbow lakes to adjacent waterbodies and explore opportunities to use existing water infrastructure to limit invasion risk.

The student will work closely and collaboratively with Drs. Steve Miranda (MS Cooperative Fish and Wildlife Research Unit), Mike Colvin (Dept. Wildlife, Fisheries, and Aquaculture), and Corey Dunn (MS CFWRU) to develop a framework for evaluating tradeoffs between limiting invasion risks and maintaining hydrologic connectivity of oxbow lakes.

Qualifications: Undergraduate degree in geography, hydrology, natural resources or related field, strong written and oral communication skills, and ability to work collaboratively with agency biologists, water managers, and university researchers. The ideal candidate will have a background working with and organizing geospatial and hydrologic datasets. The position may require site visits to oxbow lakes, and the candidate could assist ongoing field projects examining seasonal movements of fish in selected oxbow lakes.

Salary and benefits: Assistantship worth $19,500 per year + health insurance, tuition waiver, support for conference travel and participation.

Start date: review will begin immediately and close on June 21 or earlier if position is filled. Start date is negotiable but targeted for August 1, 2021. Fall semester begins August 18.

Contact: To apply, please email with the subject line “Graduate Application” to Dr. Steve Miranda (smiranda@usgs.gov): (1) cover letter describing experiential background, career goals, and project interest; (2) a resume or cv; (3) email addresses and phone numbers for three references; (4) GRE/TOEFL scores; (5) updated official or unofficial transcripts. The successful candidate will eventually submit official transcripts and GRE scores before admission.

Helpful links:
Dept. of Wildlife, Fisheries, and Aquaculture: https://www.cfr.msstate.edu/wildlife/
MS Cooperative F&W Research Unit: https://www1.usgs.gov/coopunits/unit/Mississippi