Project title: Effectiveness of virtual electronic cattle fencing to address management challenges within the Flint Hills of Kansas.

Virtual fencing is an innovative technology that offers ranchers and landowners an opportunity to significantly increase the precision and flexibility of their grazing practices. This project, with partners including The Nature Conservancy, Kansas State University, National Park Service, Kansas Grazing Lands Coalition, and private producers, aims to explore the ecological and biodiversity outcomes of incorporating virtual fence technology on two neighboring properties: Tallgrass Prairie National Preserve (owned by The Nature Conservancy and co-managed with National Park Service) and a neighboring ranch operated by Mushrush Red Angus. The purpose of this project is to assess the effects of virtual fencing of cattle from the riparian zone and other sensitive areas (bird habitat) in tallgrass prairie watersheds compared to those where cattle are allowed full access to the stream through the riparian zone.

This project is a collaboration among Dr. Alice Boyle and Dr. Walter Dodds (K-State Biology) and collaborate closely with Tony Capizzo (The Nature Conservancy; Tallgrass Prairie National Preserve) and managers from the partner ranch.

The Dodds lab is responsible for the aquatic portion of the work. This includes assessment of water quality, riparian vegetation, and stream invertebrate biodiversity. Some press includes KSU media and an **NPR story**