

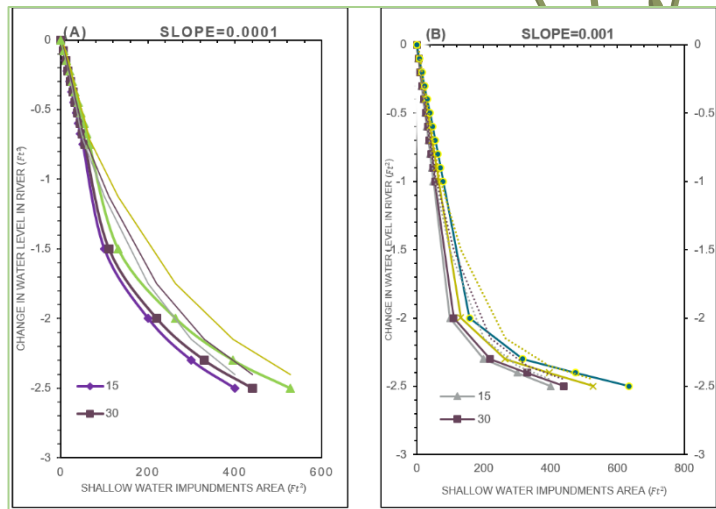
FIELD WORK 25-29 JULY 2023

BIG MUDDY RIVER



IMPORTANCE OF THE TRIP

Ducks Unlimited fellows Stevens Charles and Dennis Granados Duran went to the Big Muddy River next to the Shawnee National Forest, IL to gather data and understand the effects of impoundments on flooding. This information will be used to build an idealized model based on accurate data which determines the optimal number and size of impoundments needed to reduce river flooding.



PERFORMED ACTIVITIES



Soil samples: Soil was sampled in each inside meander to determine the roughness coefficient.



Impoundment recognition by drone: An identification of each impoundment's current state was made through a drone's flight over the entire study area.





Inland recognition: some of the places were necessary to walk in to look at the vegetation, water level, animal species, how it was built, and the behavior at impoundments' outlets.



Navigate the river: We navigated the Big Muddy River for approximately 9 hours; it was a great experience to learn about the river's properties, water properties, and the ecosystem.



HIGHLIGHTS:

- We learned about the impoundment's construction and how some of them were built ten years ago, and how they changed over time.
- We learned how to take soil samples of the river's bank, and we felt the texture/color of varied samples downstream.
- We determined that some impoundments had a different behavior in real life than the modeled results.
- We saw the weirs function in some of the impoundments.
- During the trip, we visited different sites of Ducks Unlimited projects over Illinois, Iowa, and Missouri.
- We realized the strenuous nature of fieldwork, and how to deal with all the possible scenarios that can interrupt sampling.

