

Fish Ecology Lab

at George Mason University

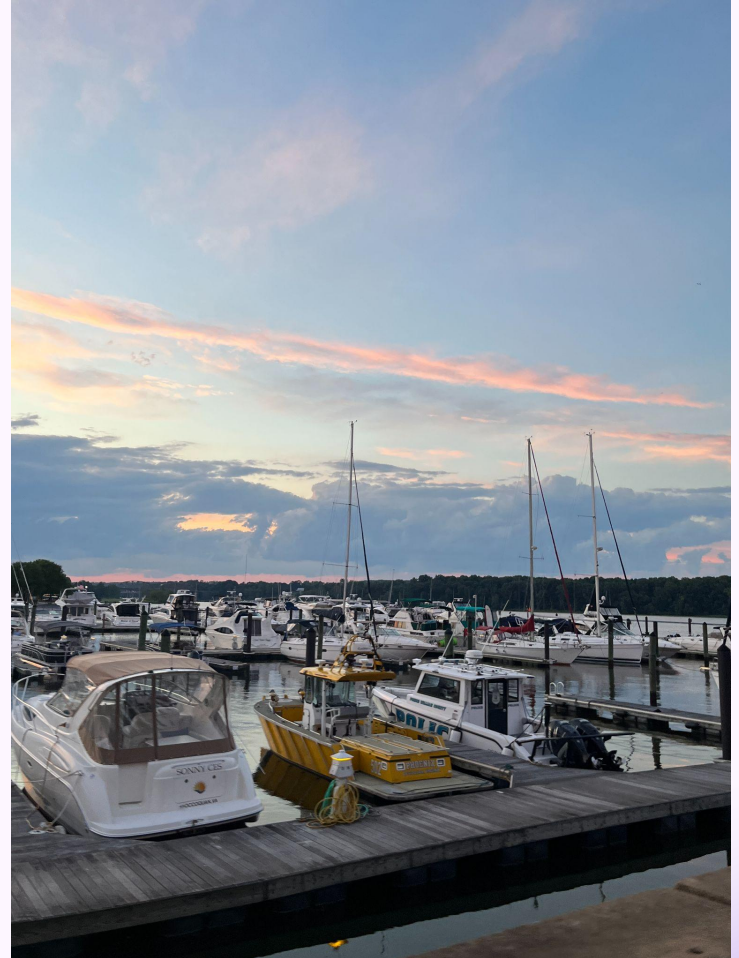
Summer 2025

About Me!

- Virginia Tech
- Class of 2026
- Ecological Restoration
- GIS and Blue Planet
- Graduate school in wetland restoration or related field
- Potomac Environmental Research and Education Center in Woodbridge, VA

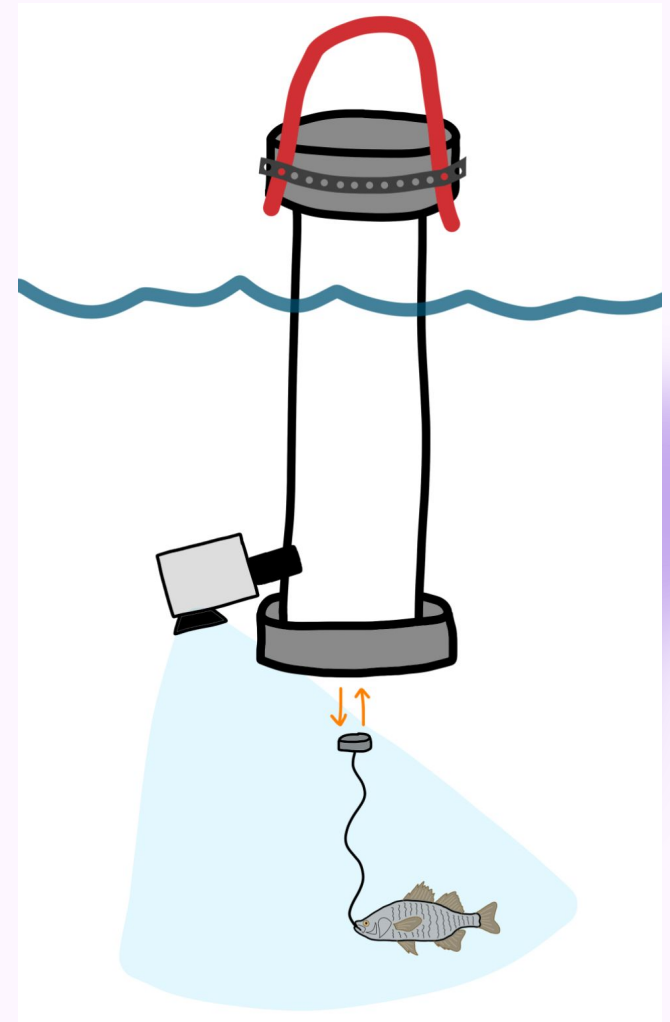
My Role

- Assisting PhD students
- Assistant Professor
T. Reid Nelson's fisheries ecology lab
- Working part time
- Several projects
- One small part of a larger research project

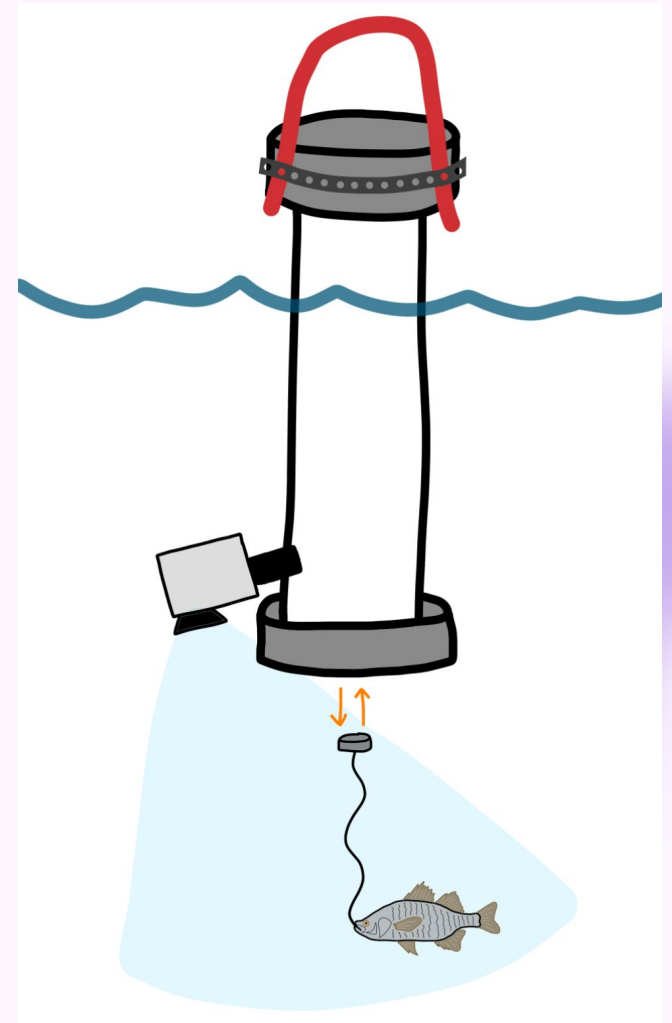


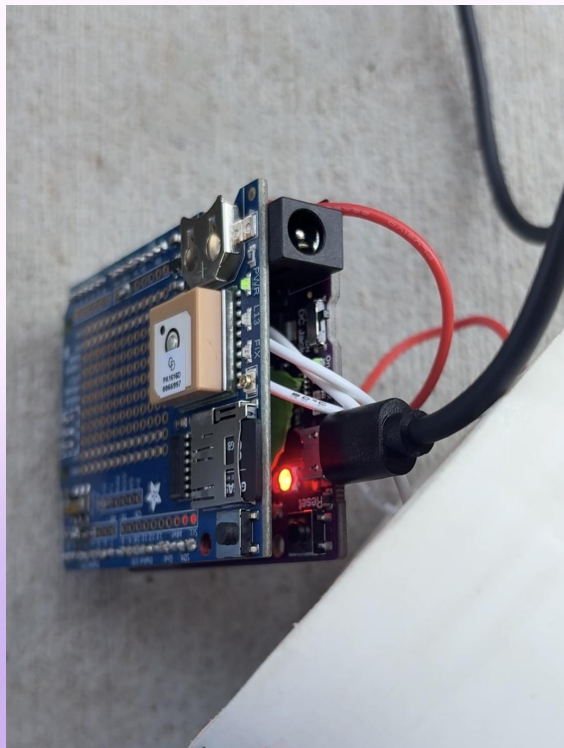
Predation Event Recorders

- PVC pipe
- Bait fish attached by magnet
- Underwater camera
- Arduino board



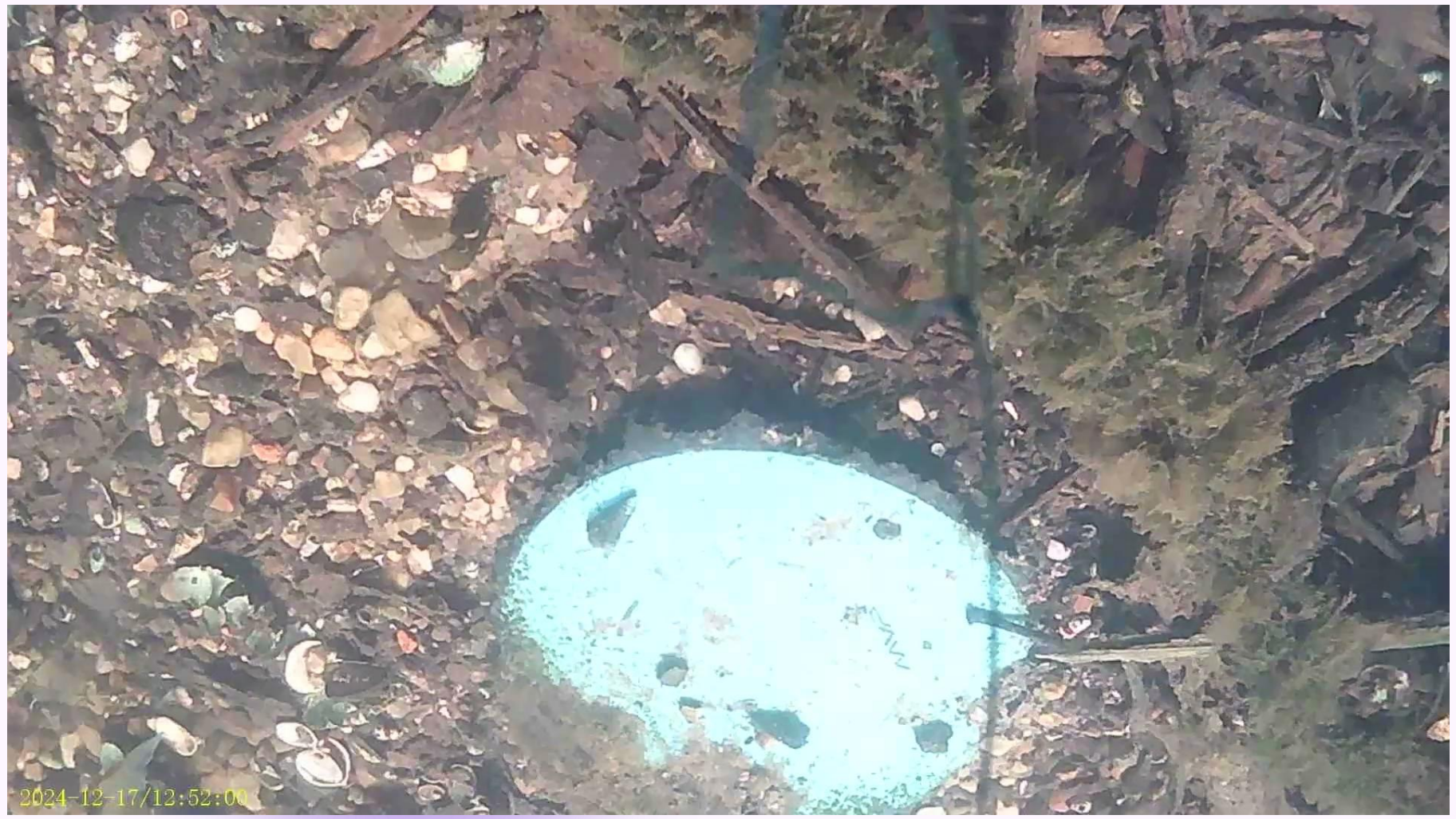
1. Start recording
2. Trial is initialized
3. .csv file is created
4. Predator eats prey
5. Magnet is removed
6. Time and GPS coordinates recorded



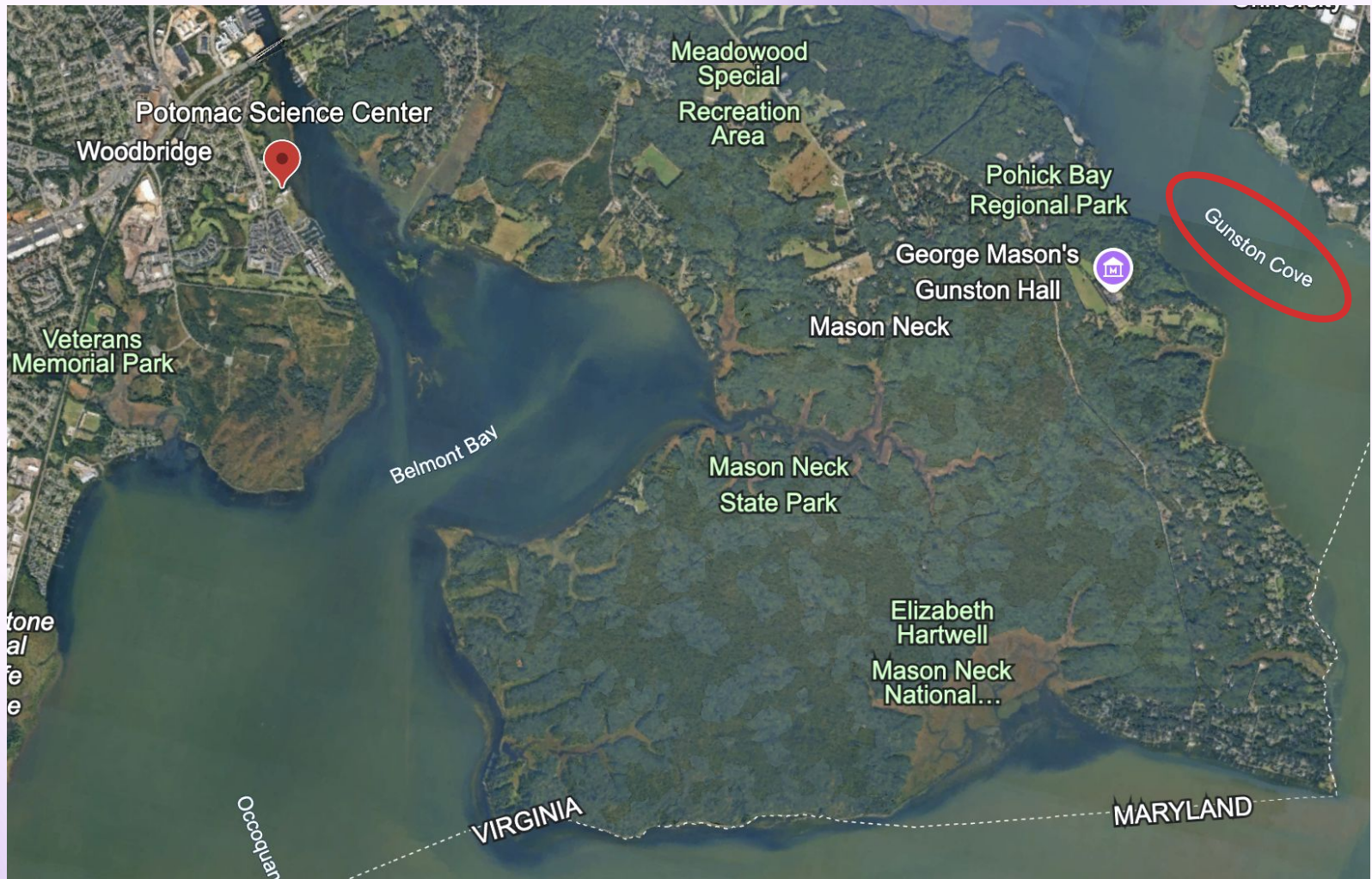




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Electrofishing

- Shock boat
- Fish were stunned
 - Snakeheads & Blue Catfish
- Floated to the surface
- Collected in nets
- Euthanized
- Took back to the lab
- Removed stomachs for diet analysis





Fish Community Monitoring

- Twice a month
- 7 locations in Pohick Bay
- Shifts in populations due to changes in SAV, water temperature, flow
- Seine net and trawl net
- Record measurements and fish IDs
- Return to water







Competency: Systems Thinking

“Cognitive process to understand how a system's constituent parts influence each other, and how the system behaves over time and within the context of larger systems”

- Fish ecology serves as an indicator of water quality, and therefore, the larger ecosystem
- Presence or absence of specific fish populations
- Fish in Pohick Bay that weren't seen in previous years (Smallmouth Bass)
- Shifts in levels of specific fish populations, tracked since 1984
- More algae eating fish may indicate more eutrophication as a result of pollution

Thank you!

Riley Moreau, Professor T. Reid Nelson, Rachel Kelmartin,
Gabriella Giordano & Potomac Environmental Research and
Education Center staff!

Questions?

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