Currents and Conversations: NGRREC River Watch Training

Kaz Isibue, Makhia Logan, Sean Brown, Adam Gardner, Nicholas Muppidi-Fowler, James Newsome, Danahe Villasenor; Advisor: Dr. John Matta

Southern Illinois University Edwardsville

Our Research Questions

- What is the difference between environmental education programs?
- How can we bridge the gap between different programs?
- How can NGRREC's River Watch program be redesigned to make it more accessible?

What is NGRREC?

The National Great Rivers Research and Education Center (NGRREC), which is operated by Lewis and Clark Community College is a research and education facility focused on the ecology and management of large rivers, particularly the Mississippi, Illinois, and Missouri Rivers in the United States. NGRREC conducts scientific research, provides educational programs, and collaborates with various partners to better understand and address issues related to river ecosystems and their conservation.

Summer Internship

NGRREC offered our research team 3 years of experience based summer internships so that we can better understand and develop our projects. The summer of 2023 was the foundation for our collaboration with NGRREC.

Current projects include
- Creating a video tour
- Developing educational materials
- Crafting community science programs
- Promoting social media awareness of climate issues and ecology
- Improving accessibility at NGRREC

Meet Our Cohort

Kaz Isibue - Geography
Sean-Jeramie Brown - Psychology and Sociology
Makhia Logan- International Studies
Nicholas Muppidi-Fowler - History and Secondary Education
Danahe Villasenor- Early Childhood Education
Adam Gardener - Computer Science
Derrick Newsome- Business Administration

Recreating the River Watch Training Program

What is Illinois River Watch
"A volunteer stream monitoring program administered by the National Great Rivers Research and Education Center. Established in 2002, NGRREC's scholars and scientists study the ecology of the big rivers, the working of the watersheds that feed them, and ties to the river communities that use them. NGRREC aspires to be a leader in scholarly research, education and outreach related to the interconnectedness of large rivers, their floodplains and watershed, and their associated communities. NGRREC's unique location, strong partnerships, and overall purpose make it an ideal home for administering the Illinois River Watch program."[1]

Goals of River Watch
- To provide consistent high-quality data that can be used by scientists to measure how the conditions of our state's streams are changing over time.
- To educate and inform Illinois citizens about the ecology and importance of Illinois water resources.
- To provide an opportunity for citizens to become involved in the stewardship of the state's rivers and streams.

What is Stream Discovery
Stream Discovery, spearheaded by Dr. Danelle Haake and Hannah Griffis, is an initiative to redesign current River Watch training to make it more accessible to a wider audience. Some of the key issues that were identified with the current River Watch training system included: the amount of time volunteers had to commit to training, the need for travel to an in-person location twice, and the outdated videos it used. To solve this problem, NGRREC plans to redesign the training to include virtual Edpuzzle Modules that will give participants the freedom to train at home on their own time.

Goals of Stream Discovery
- To make River Watch accessible to a wider audience.
- To help bridge the gap between River Watch and educators.

Topics for Edpuzzle

- Community Science & NGRREC
- Watersheds & Streams
- Biomonitoring & Bugs
- Site Selection & Paperwork
- Site Setup & Sketches
- Flow Measurement
- Habitat Survey
- Bug Collecting & Sorting
- Bug Identification & Calculations
- Entering Your Data
- What To Do With Your Findings

Our Survey

Our cohort decided to create a survey to help us gain understanding of current environmental science programs in the US. This survey asks participants about their experience with environmental science, current knowledge regarding environmental issues, and if they would be interested in participating in a community science program. The survey is meant to enhance awareness and engagement in conservation efforts within an educational setting.

Survey Information

Survey Release Date: Mid- to Late-March 2024
Survey Close Date: May 1, 2024
Survey Participation Goal: 100+ People
Survey Demographics: Adults 18+ who attended high school in the US (public or private)

Interviews

As a part of our research, we interviewed NGRREC staff members and partners about their experience with environmental education. Through these interviews, we hope to determine how NGRREC can help fill the gaps in existing programs through various means. We also hope to gain further insight about what makes a good environmental science program.

Interview Highlights
- Learned about significance of River Watch Training and Stream Discovery in the education system.
- Emphasized the need for schools to incorporate more discussions about environmental studies.
- The AI interview provides insight into NGRREC's commitment to program success as well as showcasing how the organization strives for excellence.

References

n.d. National Great Rivers Research and Education Center. Accessed March 15, 2024. http://www.ngrrec.org/.

What Struggles Have We Faced?

- Traveling to meet our partner.
- Grasping the complexities of nature conservation.
- Creating a survey that meets research standards.
- Accessing CITI Human Subjects Research training.
- Submitting an IRB application and revising it to IRB standards.
- Discovering efficient methods of communication.
- Finding an effective method to contact schools.

Goals and Future Plans

As a cohort we plan to continue our research into the next school year. We hope that by the start of the 2024 Fall semester we will be able to begin data analysis and build a full presentation regarding the trends we have observed in our data.

End of this Semester
- Finish gathering our data.
  - Complete all interviews.
  - Have at least 100 participant responses for survey.
- Complete the Edpuzzle modules.
- Build a database showing trends among participant responses.

Long Term Goals
- Help NGRREC reach a larger audience.
- Observe how people react to the online version of the training program.
- Conduct trail runs to test the program's functionality.
- Improve the program and its accessibility.
- Implement a pilot version of the program in schools.
- Witness the program being implemented statewide.

Acknowledgements