Youth Water Education Needs Assessment

Background
With the increasing demand of agriculture, urban growth, and climate change on water quality, effective water management is critical. However, before water can be effectively managed, individuals need a solid foundational knowledge of water resources, natural and anthropogenic influences, changing and emerging threats to water, and how local water issues affect the world water supply. Evidence suggests that many Americans lack these foundational components. With water quality and water related issues being a worldwide issue, education of our future leaders is vital.

The youth working group of the North Central Region Water Network is committed to increasing the number of resources surrounding water education and activities for today’s youth. Without effective data on what programs and initiatives are currently in place throughout the region, collaboration and innovation lag.

The youth working group is working to conduct a comprehensive evaluation of the programs and initiatives being conducted to educate youth about water throughout the region and compare those to best-practices for effective youth programming to make evidence-based recommendations for youth water education.

Goals
The goal of this project is to:

- Determine curriculum being used for youth water education in the North Central Region by land-grant universities and partners in the region
- Identify curriculum that make youth knowledgeable, passionate, and active in water related issues
- Identify placed-based education
- Find gaps in programs and curriculum either by age, stewardship or engagement

Addressing the Challenge
The team created and distributed an in-depth survey to both extension and land-grant educators across the region and outside partners who provide youth water education. In total, 230 extension and land-grant professionals from nine different institutions responded to the survey listing the youth water education curriculum used across the region as well as the outside partners they work with, and the challenges to their program’s success.

In addition, the team worked to reach out to outside partners across the region engaged in youth water education to determine the curriculum they use in educating the next generation of youth water leaders, how they work to incorporate citizen scientists into their programming, and their citizen science partners. In total, 71 outside partners from eight different states responded to the survey.

Moving Forward
In total 30 different youth water curriculum were collected through the team’s work for early childhood, early elementary, upper elementary, middle school, and high school age groups. Examples of curriculum ranged
Building Collaboration Between State and Tribal Land-grant Institutions in the North Central Region

Results also demonstrate that both extension educators and outside partners note the importance of educational standards, with the majority using state standards and substantially fewer using next generation science standards and common core standards.

The team is currently in the final stages of analyzing the responses and plans to displaying this data in a user-friendly manner which can be used as a resource to educators both within extension and beyond across the region.

The team is also planning on submitting a manuscript on their findings with recommendations for youth water educational programming for publication.

**RESOURCES**

If you are interested in joining the youth water team, or learning more about the project visit http://northcentralwater.org/youth-water-assessment

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The North Central Region Water Network comprises 12 Land-grant colleges and universities:

from more well known examples, such as Project WET, Project Wild's Aquatic materials and Sea Grant Network curricula, to less well-known programs such as curriculum from the American Canoe Association and Spirit of America.

In addition to curriculum, the team also collected a wealth of qualitative information on the effectiveness of curriculum, the variety of citizen science opportunities in youth water education, as well as the different barriers educators face when conducting this programming.

While the team hasn’t finalized their analysis, initial results demonstrate interesting results. For example, when examining responses for what respondents noted was missing from their youth water education program, the team identified five core themes: program elements, comprehensiveness, funding and sustainability, collaboration and partnership, and materials and information. Interestingly, both extension and outside partners noted program elements (such as curriculum, hands-on components, or service learning, etc.) and comprehensiveness (to whom and how often the program was taught) where missing from their program at relatively high rates, whereas more outside partners felt funding and sustainability was missing from their program than extension respondents. Conversely, more extension educators felt materials and information (such as support materials, expertise to teach, training for curriculum, evaluation, etc.) were missing from their program than outside partners.