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**Development of Activities and Case Studies of 1890s Water Quality Research for Integration into K12 Class-work and College Course Highlights**

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Abstract:

This National Facilitation Project (NFP) to Facilitate 1890 Institutions' Water Resource Education, Extension and Research Efforts requires strong communication with educational settings such as the K12 classrooms and college courses. The following sub-project describes an attempt to increase the involvement of 1890s water research results into the curricula of primary, secondary, and college classes. The intent of this sub-project is to spotlight the particular research of the 1890s institutions within the present teaching and learning objectives of existing K12 and college courses. The K12 integration will consist of activities adapted to contain specific information about 1890s research results. These activities will indicate the alignment to suitable National Education Standards so that the targeted K12 teachers will be readily comfortable with where to insert them into their goals to meet the teaching requirements. The college course connection will be made using more sophisticated and detailed case studies summarized from research results of our 1890s scientists. The college case studies will also indicate the type and level of course appropriate for inclusion. Finally, a market plan will be designed to assist in reaching these target audiences and posted on the web site for this NFP which is being developed by one of the partner institutions. These actions will not only promote water sciences in a broad educational audience, but also increase the awareness of 1890s institutions. Such endeavors will have to promote an increase in public science literacy as well.

Impact Statement:

The USDA NFP coordinated by Tennessee State University is focused on water issues and facilitating the efforts of the 1890s institutions. Addressing the challenges of clean and safe water requires not only science but also policy. Therefore, the main concerns to be addressed by the NFP are hugely reliant upon successful communication. Improvements in communication include better marketing of the scientific results describing what needs to be done about our water supplies as well as how to do it. The land-grant system itself and particularly the 1890s institutions are not well understood by the public. This NFP will experience greater success through better and broader communication. The following sub-project deems to provide an avenue to disseminate the scientific information generated by these 1890s institutions that will not only increase the understanding of the science issues of water quality, but also increase the community awareness of our institutions across the region.

Since there is a special ability that is associated with success in science and mathematics, there needs to be a special way in presenting these materials. Unfortunately, common public sentiment concerning STEM (science, technology, engineering, and mathematics) fields views these special abilities as nearly unattainable. If there are fewer people who are competent in math or science, and fewer still who pursue these areas in career choices, then the populace as a whole will not progress to its full potential. If we try to determine why there are fewer adults who are competent in STEM areas and maintain competency throughout their lives, then we can attempt to address some strategies to improve the odds.

Broader Goals

- Contribute to the increase in science literacy
- Spread the recognition of research success of the 1890s scientists
- Heighten the focus of priorities to include water quality on citizens of the next generation

### Specific Objectives of this Project

- Develop water-related educational activities for use in K8 classrooms and informal education settings
- Illustrate alignment of these activities to national education standards
- Post these activities on the web site
- Suggested marketing plan of these activities to inform teachers that this resource is available
- Case studies developed from 1890s research summaries with indication of specific, relevant college courses in which to highlight and made available to college professors via this NFP's website

Category: Other Water Resource Topics

Type of Presentation: Poster Presentation