

**Best Education Practices (BEPs) for Water Outreach Professionals**  
**Defining BEPs, Refining New Resources and Recommending Future Actions**

**RESEARCH PAPER PRESENTATION**  
**(Alternate)**

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**Presenter(s): Elizabeth Bird, Farm and Home Environmental Management Programs, Environmental Resources Center, University of Wisconsin**

**Title: Livestock EMS Pilots: Lessons About Education Strategies**

**Abstract:** Globally, industries seek to meet the International Standard for Environmental Management Systems (ISO 14001). Increasingly, U.S. governmental agencies are promoting this standard to encourage firms to go beyond regulatory compliance. Are formal Environmental Management Systems (EMSs) useful to farmers and helpful to farm environmental protection? If so, This presentation aims to answer these questions for natural resource educators.

Partnerships for Livestock Environmental Management Systems (LEMS project), has been exploring what sorts of educational strategies will most effectively assist farmers with implementation of continuous improvement environmental management systems? The project has established a learning community of extension educators led by Farm and Home Environmental Management Programs at UW-Madison and collaborators at the University of Nebraska and the University of Georgia. Objectives are to determine the following: 1. How can the EMS framework best fit diverse livestock producers' needs and constraints, and integrate with business management? The project includes three state pilot projects each for dairy, beef and poultry producers, each led by an extension professional. 2. What sort of educational interventions are most productive and amenable to livestock producers to induce EMS adoption? 3. What are the barriers to successful EMS implementation, and what incentives might be required? 4. What conditions do the EMSs need to meet to satisfy diverse stakeholder agendas?

Collaborators in each pilot include state agencies, commodity groups, stakeholder groups and other resource conservation professionals. The LEMS project evaluation, conducted with an evaluation professional from the UW-Madison LEAD Center, compares the pilot states' approaches to assisting farmers with EMSs. The evaluation, which includes surveys and interviews with both participating producers and pilot states' project staff, will identify best education practices for engaging livestock producers in committing to and implementing continuous improvements in their environmental management systems. The intentions are to inform policy makers regarding appropriate uses of the EMS approach in agriculture and potential value for achieving environmental protection, and to inform educators about barriers and the most effective strategies to encourage and assist farmers with EMS implementation.

Target Audience(s): Farmers

Educational Purpose: Education;  
Capacity-Building

Contact Information:  
1545 Observatory Dr RM 303  
Madison, WI 53706  
608-265-3727  
eabird@wisc.edu



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**Presenter(s): Michael Marzolla, University of California Cooperative Service Extension**

**Title: Agua Pura And Los Pescadores: Engaging Latino Youth And Families In Water Resource Issues**

**Abstract:** Agua Pura (Pure Water) began in 1999 as a partnership of the University of Wisconsin Cooperative Extension's Give Water A Hand, Santa Barbara County UCCE 4-H Youth Development Program and Santa Barbara City College. Its goal was better understanding of how community educators and youth leaders can involve Latino youth and the Latino community in watershed protection and adaptation of resources to meet the community's needs and interests.

The Santa Barbara County 4-H Youth Development Program has sustained Agua Pura. It is assisting the county in meeting best practices under NPDES (National Pollution Discharge Elimination System) guidelines.

Agua Pura has significantly contributed to engaging the Latino community in watershed resource issues:

- A six-week, hands-on after-school watershed education program that has graduated over 560 Latino children.
- Incorporation of watershed education into a nine-week summer day camp for over 1,200 Latino children.
- The local Housing Authority, whose leadership is primarily Latino, has led in development and delivery of the ongoing "Splash to Trash" watershed education program. Sixty-two Latino young people from public housing have graduated from the program.
- Publication of the Agua Pura Leadership Institute Planning Manual

Agua Pura has served as a model for Latino leadership development involving watershed resource issues at national conferences and in professional journal articles.

Working in collaboration with Adopt-A-Watershed, Agua Pura is developing "Los Pescadores" Latino youth component to address watershed issues related to the threatened steelhead and salmon. It is expected that the curriculum from this project will be made available to west coast educators from Mexico to Alaska.

**Target Audience(s):** Specific ethnic groups-  
 Latino youth and families

**Educational Purpose:** Education and  
 capacity building

**Contact Information:**

305 Camino Del Remedio  
 Santa Barbara, CA 93110  
 805-692-1730  
 ammarzolla@ucdavis.edu



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**Presenter(s): LaDonna McCowan, Oklahoma State University Biosystems and Agricultural Engineering**

**Title: Drinking Water Education For Under-Served Communities**

**Abstract:** This proposal applies a new extension education concept for drinking water protection programs addressed to poor, under-served, minority populations in rural and urban areas. It follows a successful CSREES-funded pilot project that used paraprofessionals from the target community to reach the target audience. This proposal will employ additional techniques such as mobilizing volunteers through local community centers, tap minority landowner organizations, and churches, engage small rural communities with Rural Utility Service, establish riparian demonstration projects, promote environmental quality incentive educational programs, and use GIS techniques to explain risk assessment concepts and promote good decision-making techniques.

The target area is composed of two counties; Okfuskee, and, Okmulgee. These counties are among 1006 counties in the 11 Southern states with rural populations having poverty rates as high as 40% and more than 40% of working age persons without high school diplomas. Coupled with an aging demographic and widespread distrust of government, this target audience poses challenges for any extension educational program.

In the proposed project we will hire paraprofessionals and students from the community, coordinate with community based organizations, promote rural utilities services and engage OSU extension to teach citizens and decision makers to test their drinking water and assess the risks of contamination. GIS techniques will be evaluated as a means of communicating information to rural well users and community decision-makers.

**Target Audience(s):** Under-served minorities in rural households

**Educational Purpose:** Capacity building (community management of the environment)

**Contact Information:**

218 Ag Hall  
Stillwater, OK 74078  
405-744-7532  
mladonn@okstate.edu

