Exploring Water Conservation through *There's No New Water!* Youth Curriculum

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Managing water resources is a critical 21st century global environmental issue (Brown & Flavin, 1999). Clean, available water is critical for life on the planet and needs to be managed carefully to ensure adequate supplies for the ecosystem and human consumption. Supported by the University of California's Division of Agriculture and Natural Resources (UC-ANR) strategic Initiative to Improve Water Quality, Quantity, and Security, UC is committed to extending scientific knowledge to California communities for water management education (Regents of the University of California, 2009).

Youth science literacy also represents a critical national issue. Assessments over the past two decades have indicated low levels of science literacy among school-age youth (Baldi, et. al., 2007; Gonzales, et al., 2008; Grigg, Lauko, & Brockway, 2006). These assessments have implications for individual's success in the 21st century along with concerns about American's long term economic prosperity and national security.

UC-ANR has made a commitment to target improved science literacy among California's youth. In connection with the Initiative to Increase Youth Science Literacy in Natural Resources, Agriculture, and Nutrition outlined in the UC-ANR's *Strategic Vision* 2025 (Regents of the University of California, 2009), the California 4-H Youth Development Program developed and tested a curriculum focused on water conservation and quality that targets science and environmental literacy for high-school-aged youth.

The *There's No New Water!* curriculum is based on the idea that water is a finite natural resource whose quantity and quality must be responsibly preserved, protected, used, and reused. Pedagogically, the curriculum is framed around effective educational methods – experiential learning and inquiry. With respect to content, the curriculum begins with an exploration of the natural water cycle; explores human impacts on water quality and quantity; examines the effects of the urban/rural interface; and includes service-learning projects that address local water issues.

An outcome evaluation was conducted in spring 2010 at two high schools. Students (n=65; ages 14-17; 57% female) participated through an Earth Science class or afterschool science club. UC Davis undergraduate students facilitated curriculum activities once per week for eight weeks. Data on content knowledge and life skills acquisition were collected using a retrospective survey that employed Likert scale questions. Paired t-test comparisons revealed improved content knowledge understanding relative to all questions ($p \leq 0.0002$). Most youth reported "some" or "a lot" of improvement on a majority of the life skill questions.

The outcome evaluation results are positive and suggest that the *There's No New Water!* curriculum could be useful for Extension outreach and education programming with youth.