



USDA-CSREES 2007 National Water Quality Conference

Effective Strategies for Reducing Nutrient Loads from the Opequon Creek Watershed

This poster details a project that is using a comprehensive, watershed-based approach to implement proven and innovative best management practices (BMPs) to accelerate nutrient reduction in a Chesapeake Bay basin priority watershed that faces agricultural and urban nonpoint source (NPS) loads and a point source waste water treatment plant that is in urgent need of expansion capacity. The project is using a systems-based approach that includes implementation, monitoring, and modeling to guide adoption of cost-effective nutrient reduction practices, achieve significant impact in the watershed, and quantify the impact. Partnerships across state lines help ensure the consideration of broader issues and improve transferability of knowledge across the Chesapeake Bay basin. The specific project objectives are to: 1. Evaluate nutrient-reduction performance and cost effectiveness of innovative BMPs; 2. Develop, implement, and evaluate strategies to overcome barriers to adoption of selected BMPs; 3. Identify and evaluate NPS offset alternatives for a waste water treatment plant in Virginia, and develop model offset implementation protocols under the water-quality trading framework that focus on the multiple sources (point and nonpoint) under the jurisdiction's control; and 4. Develop a comprehensive nutrient-reduction strategy for the Opequon Creek watershed.

Author: Conrad Heatwole

University Affiliation: Virginia Tech

Co-Author(s): Brian Benham, Mary Leigh Wolfe, Cully Hession, Kurt Stephenson, Alan Collins, Gerard D'Souza, Tatiana Borisova and Mike Strager