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What Factors Influence Water Quality in Lincoln Lake Watershed? Perceptions of Important Stakeholders

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Abstract:

Responses to surveys of three groups of stakeholders: 1) regulators and environmental specialists across Arkansas, 2) agricultural producers and 3) non-agricultural residents and business owners within an impaired watershed - were compared to determine if significant differences existed in each group's perceptions of: 1) watershed water quality, 2) the sources of water pollution, 3) responsibilities for pollution cleanup, 4) effectiveness and affordability of best management practices to maintain water quality and 5) the roles of federal, state and local government in setting and enforcing relevant water quality management policies.

Results suggested that opinions vary widely among stakeholder groups regarding the existence of water quality problems and the potential sources of that pollution. Specialists tended to fall between opinions of agricultural and non-agricultural stakeholders concerning the suitability of Lincoln Lake watershed for drinking, swimming and fishing. However, only a small portion of the three respondent groups felt the water bodies were unsuitable for these uses. Opinions also vary greatly among groups as to the contributors of nutrient and sediment related to water quality problems. Agricultural producers and specialists most often (over 50% of both groups) cited new construction as a large contributor of water quality degradation; non-agricultural residents most often (41%) cited agriculture. However, all three groups both were most likely to indicate new construction, city sewer systems and industry as most deserving of a large responsibility for clean-up.

Survey results have provided three important insights. First, while results suggest that non-agricultural stakeholders are unfamiliar with agricultural BMPs and their effectiveness, these same stakeholders are likely to target agriculture as a large contributor to water quality problems. Second, while agricultural BMP assistance is available from multiple governmental/educational institutions in Washington County, still nearly one-third of the agricultural stakeholders stated they were not sure about the efficacy of six BMPs listed. Furthermore, only seven practices were perceived as efficient by at least two thirds of agricultural producers. Finally, watershed stakeholders perceive a lack of true collaboration with government officials in the policy making process. Neither stakeholder group believes that government officials incorporate their concerns and suggestions into the policy making process. Together all of these results suggested that much work is needed to improve the knowledge base of stakeholders and their interaction with government officials if stakeholder involvement is to contribute to effective environmental policy.

Impact Statement:

This project addresses factors influencing the perceptions of stakeholders regarding water quality problems in agricultural watersheds. The project findings will be useful in designing outreach activities to change behaviour of stakeholders that will result in water quality improvements.

Category: CEAP

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