The Boise river is currently suffering from nutrient loading from both nonpoint and point sources. However, the nonpoint sources are the most concerning due to the lack of regulation. Currently, there are many options to reduce the nutrient levels in the Boise River to reach the goals of the 2004 TMDL. This project examines the Dixie Drain and the potential for effluent trading but focuses on the importance of agricultural best management practices (BMPs).

Background

Our research focused on Best Management Practices that would be viable for the type of agriculture prominent in the Lower Boise River water district.

Potential BMP Solutions

Drip Irrigation
- **Cost per acre:** $500-$1,200.
- **Mitigation potential:** Irrigation is 90% efficient, with 10% loss that may contribute to leaching.
- **Limitations:** Replacement costs.

Soil Sensors
- **Cost:** $50 per sensor plus $1,000-$5,000 for software and monitoring.
- **Mitigation potential:** May cut as much as 100% of anthropogenic leaching and sedimentation.
- **Limitations:** Costly and technical literacy is required.

Filter Strips
- **Cost:** $600 per acre.
- **Mitigation potential:** Stops siltation, while reducing nutrients and pesticides.
- **Limitations:** Loss of acreage.

Findings

While the costs of implementing BMPs outweigh the benefits for the farmers that would have to make the changes, there is anecdotal evidence that agricultural BMPs are the cheapest, most efficient means of improving water quality in the lower Boise River.

Solutions in the Works:
- Dixie Drain
- Water Quality Trading
  - TMDL will be set by the close of 2014