Conservation Effects Assessment Project (CEAP)
Salt River/Mark Twain Watershed, Missouri: 2004-2009

Approach

Water sampling:
- Pesticides, phosphorus, nitrate-nitrogen, sediment, and pathogens from livestock manure
- Watershed models: SWAT (Soil and Water Assessment Tool)

Research:
- Effectiveness, economics of various BMPs and weed management methods.

Communicating Results

Three annual progress reports planned. Also, new or re-designed BMPs, decision support system based on SWAT data, recommendations by crop for entire Salt River basin, and journal articles.

Collaborators

- USDA, Natural Resources Conservation Service
- Food and Agricultural Policy Research Institute
- Environmental Resources Coalition
- Missouri Corn Growers Association

Timeline

2003
- Initial funding

2004
- August: CEAP bibliographies
- May: Wetlands peer review

2005
- July: Wildlife literature review (program-based)

2006
- February: Preliminary habitat quality models—Prairie Potholes wetland region
- March: Preliminary National Assessment Report
- December: 2nd ARS Benchmark Watershed progress report

2007
- Fall: National Assessment Final Report
- December: 3rd ARS Benchmark Watershed progress report

2008
- December: 4th ARS Benchmark Watershed progress report

Contacts

Bob Ball, State CEAP coordinator (luana.kiger@ca.usda.gov)
John Sadler, USDA ARS contact (SadlerJ@missouri.edu)
Robert Lerch, Watershed Leader: (LerchR@missouri.edu)
NRCS State Conservationist: Roger Hansen

Aerial photograph of Mark Twain Lake watershed, showing stream corridors, grassed waterways, and the within-field spatial variation that is common to the area.

Student summer intern confirms programming of a sampler that collects runoff from a 65’ x 660’ plot to test nutrient and herbicide loss from conventional and reduced-tillage cropping systems for corn.

Runoff from 80-acre field watershed after storm. The weir allows calculation of flow rate from height measurements, and samplers nearby collect samples for nutrient and herbicide analyses.