



United States Department of Agriculture

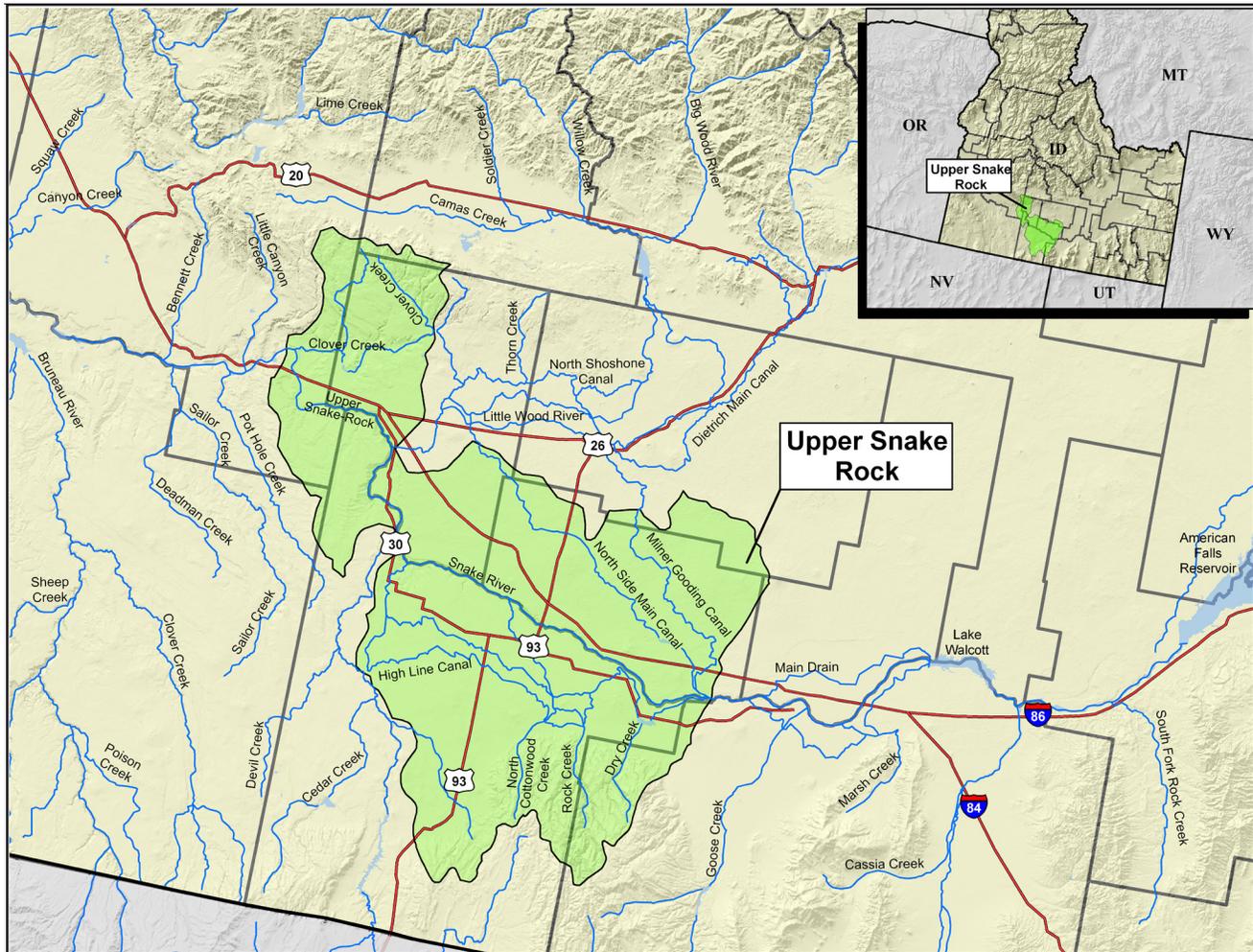
## Conservation Effects Assessment Project (CEAP)

### Watershed Fact Sheet

## Upper Snake Rock Watershed, Idaho: 2006-2011

An ARS Benchmark Watershed, one of 37 CEAP watershed projects.

(formerly an \*NRCSS Special Emphasis Watershed)



## CEAP Assessment

Evaluate the effects of changing surface to overhead irrigation systems on water quality of return flows and the effects of conservation practices on sediment and phosphorus in irrigation return flows.

- 53% rangeland and 41% cropland
- A Total Maximum Daily Load (TMDL) has been established for sediment, pathogens, and phosphorus.

## Watershed Description

- Receives approximately 10 inches of precipitation per year.
- Nearly all water used by crops is delivered by irrigation systems, diverted from the Snake River.
- 1,537,000 acres

Issues: Irrigation return flows laden with sediment, nutrients, runoff from dairies and feedlots; effluent from aquaculture, industrial and municipal facilities; and storm water runoff; water conservation; air quality; soil quality; and wildlife habitat.

\*Natural Resources Conservation Service



Temperature measurement.



Installing a flume.



Wheel line irrigation.

## Collaborators

- USDA Natural Resources Conservation Service
- USDA Agricultural Research Service
- Idaho Farm Service Agency
- Idaho Department of Environmental Quality
- University of Idaho
- Twin Falls Canal Company
- North Side Canal Company

## Contacts

Dave Bjorneberg  
(daveb@nwisrl.ars.usda.gov)

NRCS State Conservationist  
Richard W. Sims

## Approach

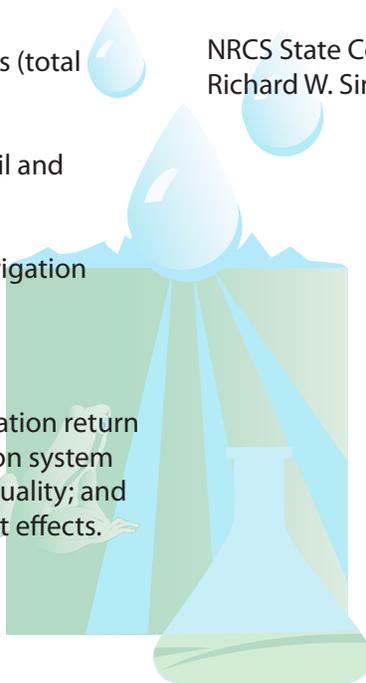
Water Sampling: Sediment, flow, nutrients (total and dissolved phosphorus)

Watershed Models: MODFLOW, SWAT (Soil and Water Assessment Tool)

Water Quality Monitoring: Water flows, irrigation return flows

## Communicating Results

Database development for monitoring irrigation return flows; identification of the effects of irrigation system conversion on irrigation return flow water quality; and identification of irrigation system placement effects.



January 2007

The U.S. Department of Agriculture is an equal opportunity provider and employer.

<http://www.nrcs.usda.gov/technical/nri/ceap/>