Apply statistical methods and geospatial modeling to investigate the effectiveness of multiple conservation practices and determine optimal scenarios for watershed restoration based on physical and socio-economic characteristics.

Watershed Description
- 12,000 acres
- 69.5% cropland, 16% forest, 14.5% urban
- Paradise Creek is an impaired waterbody under the Clean Water Act with an approved Total Maximum Daily Load (TMDL).

Issues: Soil erosion, sediment transport

* Cooperative State Research, Education, and Extension Service
Researchers in the Paradise Creek watershed are trying to clean up the water in the creek by planting forest buffers (background) and a no-till grass buffer strip (lower left) to provide filters for run-off water from the mountains in the background.

A forested buffer strip of small pine trees has been planted in the Paradise Creek watershed to filter run-off water protecting the pond below.

**Approach**

**Water Sampling:** Flow, turbidity, temperature and electrical conductivity (EC), event-based total suspended solids (TSS) sampling, pre-and post-best management practice (BMP) monitoring, water quality monitoring, U.S. Geological Survey daily flows

**Watershed Models:** SMR (Soil Moisture Routing), WEPP (Water Erosion Prediction Project), CCHE1D (AGNPS channel network modeling component)

**Assess Practices:** Direct seed rotation, water and control structures, buffer strips, stream restoration

**Communicating Results**

Three annual reports, scientific meetings, publications.

**Collaborators**

- USDA Forest Service, Rocky Mountain Research Station
- USDA Natural Resources Conservation Service
- Latah County Soil and Water Conservation District
- University of Idaho
- Palouse Clearwater Environmental Institute
- Soil Conservation Commission
- Local farmers and operators

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