

# University of Louisville Stream Institute

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## ***Introduction***

The Stream Institute conducts applied research in the assessment, design, and restoration of streams, wetlands, and watersheds. The primary goal of the institute is to improve the techniques and methods used in aquatic resource mitigation; these include watershed and stream assessment methods, practical methods of sediment transport assessment, restoration and construction monitoring techniques, field techniques to calibrate theoretical and laboratory-based equations, and the integration of bridges, culverts, and other structures with stream restoration design. Designs and assessments incorporate the interaction of channel hydraulics and stream morphology with ecological functions so that restored stream systems are physically and biologically sustainable.

## ***Stream Institute Activities***

1. Stream restorations
  - a. Stream restorations may be designed to improve habitat, reduce flooding, stabilize stream banks, protect sensitive areas.
  - b. Frequency: Variable, four projects scheduled for construction this Fall.
  - c. Target Population: Landowners
  - d. Funding: Kentucky Fish and Wildlife (in-lieu fee recipient), US Fish and Wildlife, US Forest Service
  - e. Watershed Management Role: Limited to reach-scale mitigation projects
2. Geomorphic and sediment assessments
  - a. Siltation, or sedimentation, is one of the most common causes of stream impairment in Kentucky, and within the United States in general. ULSI conducts assessments to quantify sediment production and storage at the watershed scale.
  - b. Frequency: 1 project per year
  - c. Target Population: KDOW Watershed Management Branch, KDOW TMDL, Oldham County, Strand Associates
  - d. Funding: KDOW 319
  - e. Watershed Management Role: advisory role for sediment reduction

## ***Funding Sources/ Collaborators***

The Stream Institute works closely with Kentucky Division of Water, USACE, Kentucky Fish and Wildlife (in-lieu fee recipient), US Fish and Wildlife, US Forest Service, Kentucky Division of Forestry, Kentucky Transportation Cabinet-Environmental Analysis Department,

## ***Watershed Plan Engagement Opportunities***

1. Education – ULSI runs a Natural Channel Design Working Group to educate and collaborate with State Agencies involved in stream restoration
2. Identification of BMPs – geomorphic assessment of Curry's Fork watershed will include some measurement of channel condition and identification of the most impaired reaches.

## ***Contact Information***

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