# A River Runs/Ran Through It:

The interplay between fluvial geomorphology, stream ecosystems and people

***Course Mission:***

- We spend most of our time studying and teaching about rivers in their most pristine, undisturbed condition. Though this provides a mechanism to isolate and understand fundamental physical or biological processes, it does not address the current state of most rivers within our nation and the developed world. This course is an opportunity to directly face the different influences humans (past, present and future) exert on the physical and biological function of the fluvial system. We will also look at the science and practice of the river restoration industry that, since 1990, has invested over $17 billion in 40,000 projects. This course will explore the science, the policy and the philosophy behind how we manage rivers.

***Course Content***

- Using Idaho as a focus point, this course examines three fundamental river characteristics and the activities that affect these:
    - **Sediment Production and Transport**
        - Gravel and/or Placer Mining
        - Forestry and Roads Building
        - Fire
        - Dams
    - **Flow timing, duration and magnitude**
        - Dams
        - Urbanization
        - Climate Change
        - Vegetation Change
    - **Water Chemistry/Temperature**
        - Industrial Pollution
        - Urban Pollution
        - Agricultural Pollution
- For each topic, we will first lay down a theoretical geomorphic or ecological foundation, then discuss the impacts of each activity. Where applicable, we will also discuss remediation or mitigation techniques related these activities.

***Resources:***

- There is no textbook for this class. We will grow our understanding of these subjects based upon a collection of readings from diverse sources. As I cannot photocopy all of these resources myself, I will occasionally draw upon members of the class to help prepare these materials. All substantial reading assignments will be distributed at least two days before they are discussed. We will draw from:
    - Peer-reviewed scientific publications
    - Chapters and portions of textbooks and Non-Fiction works
    - Popular media: Radio, Newspapers, Magazines, Film, TV?
    - Industry and Government documents
    - Websites
    - Guest Lecturers (Baxter, Finney, Savage, Van Kirk, Ames)
        - These lectures may require rescheduling class meetings …

***Evaluation and Assessment***

- Grades for this 3 credit graduate level class will be based on:
    - (10 %) – Participation In Class Discussions
    - (15 %) – Intermediate Assignments (Field Trips/Essays/Etc.)
    - (15 %) – Reading Journal/Blog
    - (25 %) – Midterm Project
        - Watershed Evaluation Project
        - mapping distribution and magnitude of different impacts
    - (35 %) – Final Project
        - Choose your own adventure…field/research/synthesis
        - Must be independent, novel and thorough

***Calendar***

- Jan 28 – Feb27
    - Sediment Production and Transport
- Mar 3 – April 2nd
    - Flow Timing, Duration and Magnitude
- April 2nd
    - Midterm Report Due
- April 4-6 (could change?)
    - Joint Field Trip with U of I, U of Montana
- April 7 – April 30th
    - Final Project Proposal due April 9th
    - Water Chemistry and Temperature
    - Topics of Interest
- May 8th
    - Final Reports Due

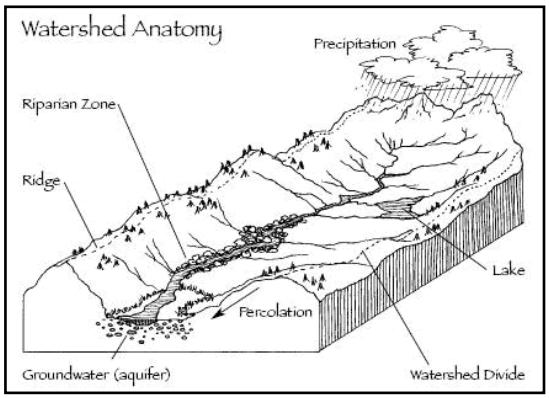

Illustration by Susan Riedley