

ENVS 400:
Environmental Streamflows and Sustainable River Management

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Office hours: 1 hour after class and by appointment

Description: Rivers not only supply water for agricultural, municipal and other off-site uses, they also support transportation, fishing, recreation, and a host of instream uses. Allocating stream flow needed to meet competing on-site and off-site needs in a sustainable manner is a complex problem that involves hydrology, geomorphology, aquatic ecology, economics, and societal considerations. This course will address these issues in the context of determining environmental stream flows, which are generally defined as the flow regime needed to sustain instream environmental resources and services. The first part of the course will cover basic concepts in aquatic ecology, water quality, and the geomorphology of stream channels needed to manage river in a sustainable manner. The second section will focus on how environmental flows and river management plans are developed and managed. Specific topics to be covered include: basic stream hydrology and ecology; evaluating ecosystem services provided by rivers; techniques for establishing environmental stream flows; riparian ecosystems; habitat management; and community participation in Integrated Water Resource Management.

Prerequisites: ENVS 200, a previous course in hydrology is desirable but not necessary.

Format: The course will be based on a combination of lectures and in-class discussions.

Assignment		% of final grade
Problem Sets	Homework problems	40
Abstracts	1 page <i>discussion</i> of assigned readings	20
Term paper	~ 20 page	30
Annotated Bibliography	Compilation of relevant references and web sites related to term paper	5
Oral Presentation and class participation	Class presentation on final project	5

