

Preview of Award 1145616 - Annual Project Report

Cover

Federal Agency and Organization Element to Which Report is Submitted:	4900
Federal Grant or Other Identifying Number Assigned by Agency:	1145616
Project Title:	Collaborative Research: Leaky Rivers: Nutrient Retention and Productivity in Rocky Mountain Streams Under Alternative Stable States
PD/PI Name:	Ellen E Wohl, Principal Investigator David M Walters, Co-Principal Investigator
Submitting Official (if other than PD\PI):	Ellen E Wohl Principal Investigator
Submission Date:	11/01/2013
Recipient Organization:	Colorado State University
Project/Grant Period:	01/01/2013 - 12/31/2015
Reporting Period:	01/01/2013 - 12/31/2013
Signature of Submitting Official (signature shall be submitted in accordance with agency specific instructions)	Ellen E Wohl

Accomplishments

* What are the major goals of the project?

To assess differences in physical channel complexity and biological productivity associated with different volumes of instream wood and associated channel-riparian forest management histories.

* What was accomplished under these goals (you must provide information for at least one of the 4 categories below)?

Major Activities:	We completed the first summer field season of data collection. This was the intensive field season, originally designed to focus on three channel segments (old growth, younger undisturbed, and younger disturbed). We expanded the number of channel segments to 6 (old growth laterally confined high elevation, old growth laterally unconfined high elevation, old growth laterally confined middle elevation, old growth laterally unconfined middle elevation, younger undisturbed, and younger disturbed). This expanded data collection program will allow us to better evaluate the effects of elevation and stream temperature, valley geometry, and disturbance/management history on instream wood and biological processes.
Specific Objectives:	Our specific objectives for this first field season were to accomplish the same types of data collection at each field site. These included the following categories.

1) Physical channel characteristics: Detailed survey of bed and bank geometry; inventory of size, orientation and location of all instream wood and of all logjams; survey of all instream fine sediment and organic matter deposits, including sampling for TOC (total organic carbon) analyses; survey of floodplain geometry and inventory of size, orientation and location of all downed wood.

2) Biological communities: Collected benthic macroinvertebrates and riparian spiders, and conducted fish censuses using electrofishing.

Significant Results: We are still analyzing primary field data, the latest of which were collected in October 2013. No significant results to report yet.

Key outcomes or
Other achievements: Nothing to report yet.

*** What opportunities for training and professional development has the project provided?**

The field data collection involved a post-doc and several graduate and undergraduate students:

Post-doc: Mike Venarsky

Graduate students: Bridget Livers (PhD) and Adam Herdrich (PhD)

Undergraduate students: Lloyd Womeldorph, Ashley Brown, Avalon Schuerman, Tyler Hammans

Undergraduate students remain on the project payroll for processing and analyzing samples. Graduate students involved in the project are using the data collected for their MS or PhD projects, and are now entering and analyzing data.

*** How have the results been disseminated to communities of interest?**

Nothing to report.

*** What do you plan to do during the next reporting period to accomplish the goals?**

We will analyze and begin to interpret the first field season's data, and will conduct a second field season of data collection during summer 2014. This will be the extensive field season, during which we conduct less detailed measurements at a larger number of sites in order to assess the representativeness of the first field season's sites.

Products

Journals

Nothing to report.

Books

Nothing to report.

Book Chapters

Nothing to report.

Thesis/Dissertations

Nothing to report.

Conference Papers and Presentations

Nothing to report.

Other Publications

Nothing to report.

Technologies or Techniques

Nothing to report.

Patents

Nothing to report.

Inventions

Nothing to report.

Licenses

Nothing to report.

Websites

Nothing to report.

Other Products

Nothing to report.

Participants**What individuals have worked on the project?**

Name	Most Senior Project Role	Nearest Person Month Worked
Ellen E Wohl	PD/PI	1
David M Walters	Co PD/PI	1

What other organizations have been involved as partners?

Nothing to report.

Have other collaborators or contacts been involved? N**Impacts****What is the impact on the development of the principal discipline(s) of the project?**

Nothing to report.

What is the impact on other disciplines?

Nothing to report.

What is the impact on the development of human resources?

As noted in the participant section, the training of, and experience gained by, the post-doc, graduate and undergraduate students on the project further develops the human resources associated with early-career and student research scientists. The experience gained by post-doc and graduate student participants in mentoring undergraduate assistants also contributes to developing human resources for participants aspiring to academic careers.

What is the impact on physical resources that form infrastructure?

Nothing to report.

What is the impact on institutional resources that form infrastructure?

Nothing to report.

What is the impact on information resources that form infrastructure?

Nothing to report.

What is the impact on technology transfer?

Nothing to report.

What is the impact on society beyond science and technology?

The September 2013 floods in the Colorado Front Range resulted in substantial wood recruitment to many river channels. City, county and other resource management personnel are now busily removing all of this wood from the channels, although PI Wohl is working with city and county personnel to develop a protocol that facilitates identifying pieces of wood that can be left in river channels without creating hazards for people and infrastructure. We expect that the results from this project will provide a compelling argument as to the biotic value of retaining instream wood.

Changes

Changes in approach and reason for change

Nothing to report.

Actual or Anticipated problems or delays and actions or plans to resolve them

Nothing to report.

Changes that have a significant impact on expenditures

Nothing to report.

Significant changes in use or care of human subjects

Nothing to report.

Significant changes in use or care of vertebrate animals

Nothing to report.

Significant changes in use or care of biohazards

Nothing to report.