

CSU/WRI USDA Watershed Management Internship Host Organization Project Form

Host Information:

Date	<u>7/6/2014</u>
Name of Host Organization	<u>USDA Forest Service, Pacific Southwest Research Station</u>
Type of organization (non-profit, public agency, for-profit business, etc.)	Federal Government research: Fire and Fuels program
Brief description of what your organization does	We conduct research on fire and post-fire effects.

Student Information:

Preferred major(s)	Environmental science, biology, ecology, conservation
Preferred year of study (junior, 2nd year master's student, etc.)	Upper division undergrad or higher
Preferred CSU campus	No preference
Preferred skill sets	Computer literate, some science course work,
Any additional requirements?	Must be physically fit and able to work outdoors
Contact	Julie Lappin, jlappin@csusb.edu or 909-537-7681, if interested in this project

Please answer all questions below within this document in Word format. Completion of this form does not constitute a guarantee an intern will be placed with the host organization. Host organizations must work with the student to complete an Application Form during an open call for applications before a project/intern will be considered for funding.

Project Title: Biodiversity after Close Interval Wildfires

1) Project Description:

Southern California wildfires can be management nightmares for fire and resource professionals. Particularly troublesome are wildland urban interfaces where homes nestle amongst highly flammable chaparral. Wildland fuel reduction has been the mantra for fire prevention for some time. Unfortunately removing woody species from landscapes is not entirely satisfactory for fire prevention or maintaining resilient ecosystems. One fire hazard replaces another as non-native colonizers consisting of species with flashy fuels promote ignitibility, rate of spread and recurrent fire. Recent data shows lighter fuels may lead to more close interval fires which reduce the structural complexity of landscapes and site biodiversity. Furthermore, fire can adversely affect soil stability leading to higher flood and debris flow risk. Post-fire studies conducted on chaparral dominated North Mountain Experimental Area and San Dimas Experimental Forest re-burned in the Esperanza (2006), Silver (2013) and Williams (2003) fires. Pre-wildfire data is difficult to obtain, but was available for these fires. Therefore, we decided to investigate and compare data among these newer wildfires. Pre-established methods and plots are being used for measuring plant cover, abundance, diversity and for collecting soil seed-bank material. Seed propagation is conducted in greenhouses to identify and measure post-fire biodiversity potential. Chaparral recovery and restoration is becoming an important resource management topic. Information on disturbance thresholds for chaparral is a necessary first step in planning restoration needs. Our objective is to produce information that helps predict if repeated close interval wildfires affect chaparral biodiversity and resilience.

2) Identify your Internship location, including name of organization, department (if applicable), and address. USDA Forest Service, Pacific Southwest Research Station, Riverside, CA: Fire & Fuels Program

3) What is the approximate start and end dates of the proposed project?
September 2014 or ASAP until intern has used up their hours.

4) What are the typical hours the intern would be working?
Hours are flexible but having a full day to work will allow greater opportunity to be involved with field work.

5) Are there any special considerations the students need to know?
Interns must be in good physical condition to work in inclement weather over difficult terrain while carrying equipment. They must supply their own hiking boots and be able to sustain repetitive activities. They must hold a valid California Drivers' License. Familiarity with the metric system and computers would be helpful.

6) Describe the specific tasks the intern will perform: (maximum of ten tasks);
The intern will aid scientists and professionals on research related to fire and fire effects. Duties will include field study implementation, data collection, data entry and related activities in a field, lab, greenhouse and office setting. Field work involves use of radios for communications, GPS for locating study plots, plant ID, soil and plant data collection methods, field techniques using plots and transects, data scribe; Greenhouse work involves basic horticultural skills, auto-sprinkler repair, plant ID, data collection/scribe; Lab work includes soil and fuels measurements; Office work will involve Excel and Word competency for computer data entry.

7) Describe the skills and experience the intern will gain:

The intern will assist with and experience on-going, applied, and long-term fire research; its methods and tools. They will be exposed to complex environmental investigations, introduced to local ecosystems and learn about local flora. Work will be conducted on National Forests/ Experimental Areas and at a Federal Research facility employing a diverse group of professionals with expertise in fire, ecology, botany, hydrology and more. They will be trained to work safely in urban and rugged wildland settings. The nature of the work requires the ability to remain thoughtful and inquisitive even when performing redundant tasks such as data collection/entry.

8) Identify the watershed(s) associated with the Project, and describe the benefit of the Project to the management of the watershed(s):

Watersheds benefiting from the project will include those similar to or associated with the San Dimas Experimental Forest on the Angeles National Forest (a designated watershed research area) and the North Mountain Experimental Area on Bureau of Land Management land near the San Bernardino National Forest (an area designated emphasis for improving our understanding of fuel breaks and wildfire). All research related to these areas will increase the knowledge that can be applied to watershed and other resource management particularly related to fire issues and restoration and maintenance of chaparral ecosystems.

9) Identify stakeholders in the watershed area that the intern will contact in the course of the Project: (For example; water agencies, local governments, state and federal agencies, environmental organizations or other):

Employees of the Angeles National Forest, San Bernardino National Forest and Bureau of Land Management.

10) List any transportation expenses which the student will need to complete this internship (NOTE: transportation is reimbursed at the federal rate which is currently 56.5 cents/mile). These expenses must be approved by WRI.

All transportation will be provided from the Forest Service address to field locations.

11) List any supplies and materials which the student will need to complete this internship.

(NOTE: The **total** amount of supplies, materials, and transportation [item 10] cannot exceed **\$560 per internship**). This list must be approved by WRI. All supplies and equipment are the property of the university or host organization, not the student.

All equipment other than items such as boots and personal field gear will be supplied at no cost.