

# 2010 NATURAL RESOURCE INTERNSHIP PROGRAM

## San Juan Mountains of Southwestern Colorado, USA

**Gain hands-on experience in environmental science, community planning, and management!**



Interns work with natural resource managers, planners, and/or researchers on a variety of projects spanning hydrology, water quality, and ecology, and addressing issues such as mine reclamation, air and water pollution, community resiliency, and ecosystem health.

Internships will be based in Durango and Silverton, Colorado. Interns will participate in a program-wide orientation and field trips. At the end of the program, each intern will prepare a presentation about their experience.

Interns will receive a \$2,000 stipend, housing, and mileage reimbursement for travel to program events. Some positions may require that the intern have their own transportation.

List of Internship Opportunities: Please see the list attached below.

How to apply for an internship: Email an application form (attached below), a one page letter describing your interest and experience, a resume, and one letter of recommendation. Deadline is April 30 (or until positions are filled). Interns must be at least 18 years old.

Internship Coordinator: Koren Nydick, Mountain Studies Institute, Fort Lewis College, Durango, CO 81301; [Nydick\\_k@fortlewis.edu](mailto:Nydick_k@fortlewis.edu); tel. 970-247-7071.  
[www.mountainstudies.org](http://www.mountainstudies.org).



June 7 to August 12  
(10 weeks)

Application Deadline –  
April 30

**Brought to you by the San Juan Collaboratory**



## Application for 2010 Summer Natural Resource Internship Program San Juan Collaboratory

Your application package includes this form, a one-page letter describing your interests and experience, your resume, and a letter of recommendation from your professor or previous employer. Deadline is April 30, 2010 (or until positions are filled).

Email to: Koren Nydick, Mountain Studies Institute, Fort Lewis College, Durango, CO 81301. [Nydick\\_k@fortlewis.edu](mailto:Nydick_k@fortlewis.edu).

Some intern positions may require a phone interview. You will be contacted if you are being considered for one of these positions.

### Applicant Information:

Name:	Phone #:
Address:	Email:
	Institution:
	Department/Degree/Year:
	G.P.A.:

### Letter of Recommendation is from:

Name:	Phone #:
Address:	Email:
	Institution:
	Department:

### Internship Preferences:

First Choice

Third Choice

Second Choice

Fourth Choice

Students interested in receiving academic credit should discuss the potential with a representative from the school with which they are affiliated.

# **SAN JUAN COLLABORATORY – NATURAL RESOURCE INTERNSHIP OPPORTUNITIES FOR SUMMER 2010**

## **1) FORESTRY INTERN, 2 POSITIONS**

Based in Durango, Colorado

Mentored by Sally Zwisler and Laurie Swisher, San Juan Public Lands (USFS/BLM).

Description: The 2 interns will be working with their mentors during their training period, and then will work together as a field team. Interns may assist other field crews on projects as requested. Field work will be located primarily on the Dolores district in the Narraquin Canyon area and on the Columbine district in the Missionary Ridge area, though there may be days spent in other areas on the San Juan Public Lands. (San Juan NF & BLM lands extend from Colorado/Utah border on west to Continental Divide at Wolf Creek Pass on the east, with New Mexico State line on south, and Continental Divide on north). Work will involve gathering vegetation data in old growth stands that have survived recent catastrophic fires. This will include inventory, identification, classification, and mapping of vegetation (trees, shrubs, grass & forbs). Data collected will be used as a baseline for further research on why old growth stands appear to be resistant to fire. In addition, the data will be used to update the Public Lands corporate R2VEG geodatabase, and the Forest Service's FSVEG database. These databases are used for project and forest level planning and analysis. Tasks may also include data entry, data editing, and data preparation and formatting for entry into these corporate databases. Other projects may also include assisting with insect and disease surveys near the Continental Divide at Wolf Creek.

### **MINIMUM QUALIFICATIONS:**

Ability to interpret topographic maps and navigate with compass to find work locations. Ability and willingness to work outside in remote and rugged locations with extreme weather conditions. Ability and willingness to camp out in remote work locations. Has a valid state driver's license and good driving record. Ability to operate manual transmission and 4WD vehicles on rough roads in remote areas. Interest and familiarity with forestry and vegetation, and enthusiasm for learning more. Good organization and communication skills. **PREFERRED ADDITIONAL SKILLS:** Familiarity and knowledge of vegetation sampling techniques and data collection protocols. Knowledge and identification of local plants and plant communities. Familiarity and experience with GIS software (ArcGIS) and GPS devices and applications.

Housing: A shared suite in Fort Lewis College dorm (with small kitchen, living room, bathroom/shower). The intern will be required to supply their own linens. Local students with a current year long lease may request a stipend to assist with housing costs in Durango instead of using the housing at Fort Lewis College.

Transportation: The interns will need their own transportation to the San Juan Public Lands Center. A Government vehicle will be provided for field work. Interns must have valid driver's license, good driving record, and be able to operate manual transmission/4WD vehicles on rough roads in remote locations.

## **2) FIELD HYDROLOGY AND AIR QUALITY, 1 POSITION**

Based in Durango, CO

Mentored by Kelly Palmer, San Juan Public Lands (USFS/BLM).

Description: The San Juan National Forest has several work projects and studies scheduled for the summer of 2010. First is the ongoing inventory of spring water sources across the San Juan Public Lands, which involves fieldwork from alpine settings to the canyon country of the Colorado

Plateau. Springs are recorded with a GPS unit, flow is measured, and condition and other basic information is recorded and entered into a GIS database. Second, stream survey on the San Juan Public Lands includes training in basic hydrologic field methodologies such as cross sections, latitudinal profiles, channel substrate measurements, and discharge measurements. All work will be with field members of the San Juan National Forest hydrology field crew based in Durango, CO. This job offers a tremendous opportunity to do field work in a wide variety of beautiful terrain and locations across the San Juan Public Lands. The intern will learn about hydrologic survey techniques, monitoring projects, and basic Colorado water rights law. The intern will need their own clothing suitable for field work. Sturdy boots, rain gear, and hats/sun wear are necessary for field work in the San Juan Mountains.

Qualifications: Minimum – ability to work under a variety of environmental conditions in the field (snow, rain, hot sunny weather, steep mountain and canyon terrain, high elevation hiking, wading in rivers etc.). Ability to work well with others in a crew situation. Basic knowledge of physical sciences such as hydrology, geology, soil science etc. Ability to read maps and perform basic orienteering. Basic mapping and field note skills. Preferred skills – experience with GPS units, computer data entry in spreadsheets or other databases, basic GIS operation (but we will train if skills are lacking).

Housing. The intern may be housed in US Forest Service government housing (available on a limited basis) or within a shared suite in Fort Lewis College dorm (with small kitchen, living room, bathroom/shower). The intern will be required to supply their own linens. Local students with a current year long lease may request a stipend to assist with housing costs in Durango, CO instead of using the FLC or government housing.

Transportation: Intern will need their own transportation to and from the Public Lands Center but will be provided transportation for work.

### **3) COMMUNITY ENERGY EFFICIENCY INTERN, 1 POSITION**

Based in Durango, CO

Mentored by Teresa Steely, Four Corners Office for Resource Efficiency (4CORE)

Description: 4CORE is a non-profit organization based in Durango whose mission is to promote resource conservation, energy efficiency and the use of clean, renewable sources of energy to reduce energy consumption, decrease the emission of pollutants, lower utility costs, and strengthen the economy. The intern will work closely with the Program Manager, Executive Director, and staff to further 4CORE's mission and values. Job objectives include gaining knowledge in the field of energy efficiency, including experience with: community outreach and education, event planning and coordination, various research efforts, and non-profit office procedures. Job duties (as talents and training time dictates) to include:

*Community Outreach and Education, estimated 20% time.* Update website and graphic materials to be used in our marketing and educational outreach. Topics to be covered include energy efficiency, renewable energy, green building, water efficiency, and sustainable policies.

*Event Planning, estimated 20% time.* Organize educational and fundraiser events for 4CORE. Events may range in scope from small speaking events to large exhibitions. This will also include identifying ways that 4CORE can be a part of existing events as well. Duties could include drafting media releases for review and creating materials to be used during events.

*Research, estimated 10% time.* Research alternative energy methods, as needed. Develop content for our website, blogging, brochures, fact sheets, and other materials.

*Sustainability Plans, estimated 10% time.* Assist in the process to develop a Sustainability Plan and action plans for 5 counties in SW Colorado. This effort may include coordinating stakeholders in the county and region, setting up meetings, taking minutes at meetings,

publishing minutes after meetings, and developing materials for the public regarding the process as it moves forward.

*Administrative, estimated 20% of the time.* Data entry for DonorPerfect, updating website, tracking volunteer hours, and continual administrative tasks related to volunteer management and program management.

Qualifications: Interest in and/or experience with community-based social marketing, working with clients of all income levels, experience with computers and internet, excel spreadsheets, database management, and resource efficiency is desired. The position will also provide training, as needed.

Housing. No housing is provided.

Transportation: No transportation provided.

#### **4) ENVIRONMENTAL SCIENCE: MULTIPLE PROJECTS, 1-2 POSITIONS**

Based in Silverton, Colorado with some work closer to Durango  
Mentored by Koren Nydick and other staff, Mountain Studies Institute.

Description: The intern will work on a variety of projects, such as: 1) abandoned mine lands biochar project described below, 2) high-elevation lake water sampling, 3) study of effect of wildfire on mercury binding in soils, 4) Animas River Corridor Revitalization – trail building project, and 5) Animas River Nutrient study. The intern will be based in Silverton, but will also travel to the Durango area for certain studies and may stay overnight somewhat frequently in the Durango area. This intern needs to be flexible and be ready to enthusiastically fill important roles on multiple projects. This position is a terrific opportunity to work in a beautiful place and gain a wide variety of experience and skills.

#### Qualifications:

Minimum qualifications

- One or more years of undergraduate college or university successfully completed in a related field (biology, environmental science, chemistry, etc.)
- Excellent health and physical ability to be able to conduct field work in difficult terrain under conditions that could range from hot and dry to cold and wet. Ability to hike and carry a moderately heavy backpack in the mountains and high desert.
- A high level of interest in and enthusiasm for environmental science.
- Ability to work in a team, but also take personal responsibility for your work.

Additional preferred qualifications (not required):

- Previous environmental field work and/or laboratory experience.
- Experience or coursework with GPS and/or GIS
- Experience or coursework with spreadsheets (Excel or other software)

Housing. A shared cabin will be provided in Silverton at MSI field station. The intern will be required to supply their own linens. Bathroom/showers, kitchen, and living room are located in the main lodge adjacent to the cabins. When overnight travel to other locations is necessary, accommodations will be provided. Two projects may involve some camping, and it would be helpful if the intern had camping gear.

Transportation: Intern will need their own transportation for certain projects but will be reimbursed for mileage. 4WD may be necessary in some instances. If the intern does not have personal access to a 4WD vehicle, arrangements will be made to get the work done

regardless. Silverton is a charming, small mountain town with a central downtown surrounded by beautiful mountain peaks. There is a small grocery store, hardware store, several restaurants, etc. and plenty of recreational opportunities. Durango is about one hour to the south by car.

## **5) ABANDONED MINE LAND RECLAMATION AND BIOCHAR CARBON CAPTURE STUDIES, 2 POSITIONS**

Based in Silverton, Colorado

Mentored by Koren Nydick, Mountain Studies Institute, in cooperation with San Juan Public Lands (USFS/BLM).

Description: The interns will work on a pilot study of using biochar soil amendments to remediate/revegetate disturbed soil on mine sites. The interns will also conduct leachate tests to determine the potential to bind heavy metals. This project also has a goal of evaluating potential for using biochar for carbon storage on mine sites. Interns also have the opportunity to participate in water quality sampling and interact with BLM land managers and the Animas River Stakeholders (watershed) Group.

Qualifications: Motivation to do a great job is the most important, but good physical condition, attention to detail and experience with field work is preferred. The intern will be hiking (a lot) in mountain areas. The applicant should have a good background in chemistry, environmental science, and enthusiasm for environmental systems study. Applicant should have experience navigating in a backcountry setting and should be prepared to work in a wide variety of weather conditions. The applicant should have the ability to work well with others in a crew situation and have basic knowledge of physical sciences such as hydrology, geology, soil science etc. Ability to read maps and perform basic orienteering, basic mapping skills, experience with GPS units, computer data entry in spreadsheets or other databases, basic GIS operation are preferred.

Housing: A shared cabin will be provided in Silverton at MSI field station. The intern will be required to supply their own linens. Bathroom/showers, kitchen, and living room are located in the main lodge adjacent to the cabins.

Transportation: Intern will need their own transportation but will be reimbursed for mileage. 4WD may be necessary in some instances. If the interns do not have personal access to a 4WD vehicle, arrangements will be made to get the work done regardless. Silverton is a charming, small mountain town with a central downtown surrounded by beautiful mountain peaks. There is a small grocery store, hardware store, several restaurants, etc. and plenty of recreational opportunities. Durango is about one hour to the south by car.

***The Mountain Studies Institute is an equal opportunity employer and all who apply will receive equal consideration without regard to race, color, religion, sex, marital status, age, disability, or national origin.***