

ECOLOGICAL MONITORING TECHNICIANS and CREW LEADS:
Montana, Idaho, Wyoming

OVERVIEW

The Montana Natural Heritage Program, a program of the Montana State Library's Natural Resource Information System operated by the University of Montana (www.mtnhp.org), collects and disseminates reliable, objective information and expertise to support stewardship of our native species and habitats, emphasizing those of conservation concern. Our staff scientists and data managers work in Montana and adjacent states to assist our state and federal partners in managing public lands. We are a part of the NatureServe network, a network of over 80 similar programs in states, provinces and nations throughout the Western Hemisphere, bringing decision makers "big picture" information on the status of species and habitats (www.natureserve.org).

In 2020, we will again partner with the Bureau of Land Management (BLM) to implement their **Terrestrial Assessment, Inventory, and Monitoring (AIM)** strategy, which is targeted at collecting standardized inventory and long-term vegetation data at multiple scales across BLM Districts in the Western U.S. To that end, we are currently recruiting crews for data collection. Each crew will consist of a Crew Lead and one or (occasionally) two Technicians. Crews will be supported in the field by a MTNHP Rangeland Ecologist and the Project Lead. We have multiple projects in Idaho (Upper Snake, Salmon, Challis, Pocatello, Owyhee, Bruneau, Burley, Four Rivers), North-central Montana (Havre, Lewistown, Billings), and Wyoming (TBA).

Terrestrial data collection will include all core methods within the [*Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems – Second Edition*](#), in addition to Plot Characterization and Observation. Specifically, we will measure: (1) line-point intercept (2) vegetation height, (3) gap intercept (4) species inventory and (5) soil stability. Supplemental data collection will include (1) sagebrush shape and (2) basal gap. Additional evaluations of pollinator suitability and Describing Indicators of Rangeland Health (DIRH) protocols, as well as Annual Grass Assessments, will be conducted at a subset of sites in Idaho and Montana.

To assist in this effort, we are recruiting the following field positions:

1. Ecological Monitoring Field Technician 1 (6 positions)
2. Ecological Monitoring Field Technician 2 (higher level, 14 positions)
3. Ecological Monitoring Crew Lead (12 positions)

Our employment policy is straightforward: We hire the strongest candidates, compensate them fairly, train them well and support them throughout the season. We intend for these positions to provide professional development, so we create opportunities to interact with professionals from our partner agencies and to attend additional training events when possible. In return, we expect seasonal staff to commit to the entire field season, practice safety awareness (including vehicle safety procedures), and contribute to building a healthy, productive and enjoyable work environment.

All positions are field-based and require primitive camping in very isolated regions. Sampling locations are occasionally near a small town, but these towns often have few amenities or opportunities for entertainment. Crew members should plan to bring enough food and supplies for each hitch. Cell phone service is poor to non-existent in many areas. Applicants should also understand that this is physically demanding work. Crews often work and camp in inclement weather conditions, frequently navigating rough roads in remote locations and carrying heavy loads over rugged mountainous terrain.

Work will begin with trainings in April 2020 and will continue until September 2020. End dates can be flexible to accommodate academic commitments. Idaho crews will be based in Pocatello, ID and

Montana crews will be based in Helena, MT. The Wyoming crew base will be determined in February, once sampling locations are known. Crews will typically work eight 10-hour days, from Wednesday to Wednesday, with a six-day break between hitches. MTNHP supplies all necessary equipment, including vehicles, to carry out the work. We provide some group camping gear (stoves, coolers) but technicians are responsible for their personal camping gear (tents, sleeping bags).

QUALIFICATIONS

ALL POSITIONS REQUIRE THE FOLLOWING:

- Experience following established field protocols to conduct sampling and field data collection.
- Experience with data entry and management using electronic devices.
- Experience navigating and collecting coordinates with hand-held GPS units.
- Experience with Microsoft Office (Word, Excel, Access) and preferably with Collector for ArcGIS and Survey123.
- Experience driving and maintaining 4WD trucks and other vehicles, especially in off-road situations. Valid driver's license and clean driving record (DUI or other serious convictions need not apply).
- Demonstrated ability to work productively as part of a team to accomplish mutual goals and to work independently as required.
- Experience in and willingness to spend multiple days camping in the field where multiple hazards may be encountered (e.g. snakes, bears, lightning, fires, cold/wet weather, heat/sun exposure).
- Willingness to work irregular hours in harsh environments and challenging weather conditions and ability to carry 40 pounds in a backpack over rugged mountainous terrain.
- Willingness to stay in frequent communication with MTNHP staff.
- CPR and First Aid Certification required; Wilderness First Aid is preferred.

Additional qualifications are specific to each position, and include:

1. Ecological Monitoring Field Technician 1

- A bachelor's degree in botany, soil science, range ecology, natural resource management or related subject. Experience may be substituted for up to two years of education.
- Experience collecting ecological field data.
- Experience identifying rangeland plants in the field and using a dichotomous key OR in describing soil horizons, textures and stability. Several lab courses with extensive field work can satisfy this requirement.
- Willingness to learn and flexibility (this tech will float among crews and fill in when necessary).

2. Ecological Monitoring Field Technician 2 (Higher level)

- A bachelor's degree in botany, soil science, range ecology, natural resources management, or related subject.
- A minimum of one full season of vegetation or soils field data collection in a professional setting.
- Coursework and experience in plant taxonomy or systematics OR in soil morphology and soil classification.
- Ability to identify rangeland plants to species or subspecies in the field using a dichotomous key (e.g. Flora of the Pacific Northwest, Hitchcock and Cronquist), including challenging taxa (e.g., Poaceae, Asteraceae, Cyperaceae) OR to describe soil horizons, textures and stability.
- OR Ability to dig soil pits and familiarity with the Field Book for Describing and Sampling Soils and the Munsell color chart.

3. Ecological Monitoring Field Crew Lead

- A bachelor's or master's degree in botany, soil science, range ecology, natural resources management, or related subject.
- A minimum of two full field seasons or one full year collecting vegetation and soils data in sagebrush-steppe, grassland or similar plant community (BLM Terrestrial AIM experience preferred). A completed master's degree with field work can satisfy this requirement.
- Ability to identify the full suite of rangeland plants to species in the field using a dichotomous key (e.g. Flora of the Pacific Northwest, Hitchcock and Cronquist), including challenging taxa (e.g. Poaceae, Asteraceae, Cyperaceae). Crews may encounter 60-90 plant species in a single plot, in various phenological states. Successful AIM sampling requires rapid and accurate field identification using dichotomous keys and meticulous documentation of unidentified plants.
- Good familiarity with commonly accepted plant nomenclature and taxonomy. Familiarity with rangeland plants of the Rocky Mountain and/or Intermountain West.
- Experience preparing and organizing voucher and herbarium specimens.
- Ability to describe soil horizons, textures and stability and collect soil samples for analysis.
- Experience supervising technicians, volunteers or undergraduate students. Leadership in a volunteer or community organization, or in the military, can satisfy this requirement.
- Experience managing gear and equipment for a crew, lab class, team or other organizational unit.
- Demonstrated experience carrying out data quality checks.
- Demonstrated ability to interact with BLM staff, private landowners and public land users in a professional manner.

POSITION LOCATIONS

Two Montana Field Crews will be based out of our offices in Helena, MT.

Eight to ten Idaho Field Crews will be based in Pocatello, ID.

The base for two Wyoming crews will be determined in February once sampling locations are known.

TRAINING

These positions are ideal for people who are committed to ongoing learning and development. You will receive extensive, paid training on the AIM protocols and associated methodology. MTNHP ecologists will also provide some plant identification training for the area in which you will be working, and ongoing field-based support and training from specialists during the field season. You will have the opportunity to interact with seasoned staff scientists from both the BLM and MTNHP throughout training and field work.

COMPENSATION

Salary is based on qualifications and experience, with the Ecological Monitoring Field Technician 1 starting at \$13 an hour, Ecological Monitoring Field Technician 2 starting at \$15 an hour and the Ecological Monitoring Crew Lead starting at \$18 an hour. All positions include a tax-free \$30 per diem for each field day. While the University of Montana does not provide health insurance to seasonal employees, we do offer Worker's Compensation coverage and other benefits.

HOW TO APPLY

Please submit the following to Dr. Kay Hajek (karyn.hajek@mso.umt.edu) with the subject line **MTNHP 2020 Terrestrial AIM Application**:

1. Letter of interest, including your reasons for pursuing this opportunity and your preferred location.
2. Curriculum vitae, including all degrees and related coursework.
3. Names and contact information for three (3) references. We prefer professional references who can attest to your work ethic and technical abilities, but we will accept academic references or references from organizations.
4. Please rank your location preference (Idaho, Montana, Wyoming).

Application review will begin December 1 and will continue until all positions are filled. We expect to complete hiring no later than February 1, 2020. All applicants will be notified of receipt of their application and the results of the preliminary review (rejected due to failure to meet minimum qualifications or transmitted to hiring team). If you qualify for an interview, you will have an opportunity to speak with staff who worked as Aquatic AIM crew leads last year.

ADDITIONAL INFORMATION

Additional information on the Montana Natural Heritage Program can be found on our [website](#).

Additional information on the [AIM](#) strategy, including the protocols.

Map of BLM Field Office locations in [Idaho](#).

Map of BLM Field Office locations in [Montana](#).

Map of BLM Field Office locations in [Wyoming](#).