



EAGLE COUNTY CONSERVATION DISTRICT

Ecological Field Technician

Natural Resource Data Collection on a Collaborative Virtual Fence Project

Organization: Eagle County Conservation District (ECCD)

Project Manager: Allegra Waterman-Snow (Allegra@ECCDistrict.org)

Location: Eagle County, Colorado

Background:

The Eagle County Conservation District (ECCD) is conducting a multi-year study on virtual fencing, an innovative technology aimed at improving rangeland management and drought resilience. This project is supported by a grant from the Foundation for America's Public Lands, as part of their commitment to boosting drought resilience in the Colorado River Basin.

Virtual fencing utilizes GPS-equipped collars that communicate with a wireless network, allowing ranchers to control livestock movement without physical fencing. The technology enhances grazing management, protects riparian areas, improves forage distribution, and supports ecological health.

Now in its fourth year, this study is a collaborative effort between ECCD, the Natural Resources Conservation Service (NRCS), Bureau of Land Management (BLM), U.S. Forest Service (USFS), and private ranching partners. The project focuses on evaluating the effectiveness of virtual fencing at a rangeland scale and its potential to help ranchers and landscapes adapt to drought conditions.

This position offers an exciting opportunity to work in remote and scenic landscapes in Colorado, gain hands-on experience in natural resource management, and contribute to cutting-edge solutions for sustainable ranching. The role involves extensive fieldwork, including vegetation monitoring, stream health assessments, and wildlife surveys, providing invaluable experience for those pursuing careers in rangeland ecology, wildlife biology, or natural resource management.

Technicians will work in teams of two and must be comfortable navigating remote environments, operating 4WD vehicles, and working in rugged outdoor conditions. Applicants with interests in soils, botany, range science, and/or wildlife habitat are preferred. Experience with GIS or data analysis is a plus.

Responsibilities:

- **Vegetation & Soil Monitoring:**
 - Conduct vegetation surveys to assess species composition and plant functional groups.
 - Perform Line-Point Intercept (LPI) sampling to document ground cover, canopy cover, and species diversity.
 - Receive training in Land EKG rangeland monitoring methods and apply these techniques to assess ecosystem health.
 - Conduct Stream Visual Assessment Protocol 2 (SVAP2) to evaluate stream and riparian conditions.
 - Perform soil and site verification, including slope measurement, soil texture classification, and infiltration testing.
- **Livestock & Wildlife Interaction Analysis:**
 - Conduct dung transects to estimate livestock and wildlife presence.
 - Assess herbaceous utilization levels using key species monitoring methods.
 - Monitor livestock movement patterns and evaluate grazing impacts on vegetation.
- **Infrastructure & Technology Monitoring:**
 - Check grazing exclosures to assess vegetation recovery in protected areas.
 - Monitor soil moisture probes and collect data to evaluate water availability and soil conditions.
- **Data Collection & Documentation:**
 - Establish and maintain long-term monitoring plots using GPS-based methodologies.
 - Capture photopoints and ensure accurate labeling and data entry.
 - Utilize GIS tools and mapping applications (OnX, Avenza, Google Maps) to navigate and log sampling locations.
 - Record and manage data using Microsoft Access and Excel, following strict data quality control protocols.
- **Field Logistics & Collaboration:**
 - Communicate with landowners, land managers, and agency partners (NRCS, BLM, USFS) before conducting fieldwork.
 - Follow safety and ethics protocols, including land access permissions and data confidentiality requirements.
 - Drive and operate 4WD vehicles safely on rough, remote terrain.
- **Research & Professional Development:**
 - Engage in applied research contributing to drought resilience strategies.
 - Gain hands-on experience with virtual fencing technology and adaptive rangeland management techniques.
 - Collaborate with ranchers, conservation scientists, and federal agencies on an innovative land management project.
 - Potential to assist with data analysis using ArcGIS and/or R.

Qualifications:

- 1+ years of field monitoring experience (vegetation surveys, ecological assessments, or related fieldwork).

- Coursework or experience in rangeland ecology, natural resource management, wildlife biology, botany, soil science, or related fields.
- Ability to identify major plant functional groups and use field guides for plant identification.
- Proficiency in GPS navigation and mapping tools (OnX, Avenza, Google Maps).
- Experience with data entry in Excel, Access.
- Valid driver's license and ability to safely operate 4WD vehicles on rough terrain.
- Strong backcountry navigation skills and comfort working in remote, rugged environments.
- Ability to work long hours in variable weather conditions (heat, wind, cold) and carry 30+ lbs of field equipment over uneven terrain.
- Commitment to field safety protocols, ethics, and landowner communication.
- Strong communication skills (written and verbal) for interaction with landowners, agency partners, and research teams.
- Ability to work both independently and in small teams, demonstrating initiative and problem-solving in challenging field conditions.
- Flexibility and adaptability in a dynamic research setting, with schedules that may shift due to weather or project needs.

Duration: Full-time, May – September, with the opportunity to return for following summers.

Compensation: \$26/hr.

Schedule: 40 hours per week (typically Monday-Thursday, 10-hour days, but flexible due to weather and field conditions).

Housing: Housing is not provided by ECCD. The technician must secure housing in Garfield or Eagle County. Long-term camping is an option.

To Apply: Please send a cover letter, resume or CV, and contact information for 3 references to: Allegra@ECCDistrict.org. The deadline to apply is 3/21.

Eagle County Conservation District

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