Blackfoot CHALLENGE
Better Rural Communities through Collaborative Conservation

Science Director

Terms: 1.0 FTE (full-time exempt), Salary DOE ($75,000-$80,000)
Benefits: Paid Time Off (12-24 days/year depending on tenure), Paid Holidays (10/year), Paid Sick Days (6/year), Paid Health Insurance, Simple IRA with matching employer contribution, Travel Reimbursement, Cell Phone Stipend
Work Location: Missoula or Ovando, Montana, or close proximity
To Apply: Submit cover letter & CV in one PDF document to: info@blackfootchallenge.org
Deadline: June 30, 2024
Start Date: TBD

Join the Blackfoot Challenge Team:
The Blackfoot Challenge (BC) is a nonprofit organization (NGO) and national leader in collaborative conservation with the mission to coordinate efforts that conserve and enhance the natural resources and rural way of life in the Blackfoot watershed for present and future generations. Our programs reflect a convergence of local and national interests and have allowed us to leverage funding, scientific expertise, technical skills, and local knowledge through public and private partnerships that generate lasting collective conservation impacts. Our three decades of community-based conservation are considered a model in the American West.

Position Description Overview:
The Blackfoot Challenge seeks a dynamic, Science Director to oversee research, monitoring, and conservation planning in the Blackfoot watershed and High Divide region located in Western Montana. This position of senior leadership will help guide science delivery within a community-based and collaborative conservation process under the auspices of the Blackfoot Challenge.

The ideal candidate will have a strong quantitative background in conservation biology, applied ecology, biology, watershed management, wildlife biology, or similar natural resource discipline. Additionally, the candidate must have well developed GIS and cartographic skills sets for spatial analysis, database management, and science communication.

The Science Director position is a result of a partnership among the Blackfoot Challenge (BC), the Intermountain West Joint Venture (IWJV), the University of Montana's College of Forestry and Conservation (UM-CFC), and the USDA-Natural Resources Conservation Service (NRCS). This position will improve science delivery in the Blackfoot watershed as well as Southwest Montana's High Divide and possibly additional areas where IWJV Water 4 Programs are focused.

The Science Director must be willing to work as part of a team, collaborating closely with BC and Intermountain West Joint Venture (IWJV) field staff and communicate and build

partnerships with landowners, livestock producers, and additional stakeholders. This position will play a central role in fundraising and proposal writing to support the science delivery program. The position will represent the BC and IWJV on scientific panels, technical committees, and advisory groups, oversee scientific monitoring and research functions, and collaborate with a variety of stakeholders, scientists, agencies, education institutions, and conservation partners to advance the BC's and IWJV's missions.

As part of a small, high-impact team, the Science Director will play a significant leadership role helping the BC and IWJV conserve and steward the Blackfoot watershed and High Divide. As a new position with the BC, the successful applicant will have a unique opportunity to develop a robust and innovative science program, conduct applied research on some of today's most pressing conservation challenges (e.g., climate change, watershed resiliency), and work within a supportive community in one of the most intact, working landscapes left in the American West.

Oversight of the Position:
The Science Director will be housed under the Blackfoot Challenge with approximately 60% of their time focused on science delivery in the Blackfoot watershed and the remaining 40% in Southwest Montana's High Divide area. The Science Director will report to the Blackfoot Challenge's Executive Director and work closely with Blackfoot Challenge staff and board members. The position will also coordinate closely with a work group comprised of the BC Executive Director, and one representative from the University of Montana's College of Forestry and Conservation, the IWJV, and NRCS to provide support and shared oversight for the position.

The University of Montana's College of Forestry and Conservation will provide Research Faculty status for the successful candidate, lab and library access, graduate student access, and support for developing a modest research budget. UM-CFC have two research stations in the Blackfoot watershed—Lubrecht Experimental Forest and the Bandy Ranch that will also help support this position.

Work Location:
The Science Director may work from home or at the Blackfoot Challenge offices located in Missoula, MT, and Ovando, MT. Attendance is required at monthly Blackfoot Challenge Board of Directors meetings, staff meetings and other program committee meetings. Some of these meetings are held via Zoom, however travel will be required to attend many of these meetings. The Science Director will have a flexible schedule and must be comfortable working from home with minimal supervision.

Core Responsibilities:

Aggregate Existing Scientific Data: The Science Director will collect, synthesize, and manage relevant data for improved strategic program delivery in the Blackfoot watershed and High Divide. Tasks include:

- Develop a cloud-based, Geographic Information System (GIS) for spatial data analysis, cartographic display, and for data sharing and decision support. Outsourced / IT technical support to help design, build and manage the portal is welcomed.

- Collect and synthesize interactive GIS layers of natural resource data specific to the Blackfoot watershed.
- Create map-based tools and applications to help staff collect and visualize data.
- In partnership with the Blackfoot Water Steward and state and federal partners, update the Blackfoot Subbasin Plan and Blackfoot Watershed Restoration Plan (two long-range plans developed by state, federal and NGO partners, targeting priority conservation issues and actions) using updated science since those plans were written in 2009 and 2014 respectively.

Prioritize Conservation Delivery: The Science Director will work closely with key BC field staff to develop specific work plans that target conservation. Tasks include:

- Prioritize conservation delivery across all BC field programs.
- Integrate science and conservation priorities across BC field programs to improve efficiency and scale of conservation impacts.

Measuring Conservation Impacts: The Science Director will measure pre- and post-project conditions using before-after-control design (BACI) methods on BC stewardship projects and programs. Core tasks will be to develop a clear data set of watershed-wide baseline conditions and a process for evaluating project impacts. Key tasks:

- Inventory and map baseline conditions including dewatered streams, invasive species, wetland acres, declining aspen stands, native prairie, etc.
- Synthesize existing BACI data for forest treatments.
- Create and maintain a stand-level inventory on private forested lands and the Blackfoot Community Conservation Area (BCCA).
- Monitor pre- and post- project conditions on prescribed fire projects.
- Document pre- and post-practice conditions from regenerative agriculture based on soil health parameters, crop production, and soil moisture.
- Analyze existing trumpeter swan data to evaluate effects of habitat and other parameters on productivity, territory occupancy over time, and how climate impacts influence nesting site habitat over time.

<u>Develop Prioritized Program Science Delivery (based on the following needs)</u>

Quantify Restoration Benefits for Drought Resilience: The Science Director will develop a program to measure stream restoration and long-term conservation actions for drought plans the BC has developed with hundreds of landowners. Tasks include:

- Develop before/after hydrographs for restored stream reaches in drought seasons.
- Monitor stream temperature trends.
- Measure cumulative water savings from water conservation and irrigation efficiency practices used on ranches.

Identify Natural Water Storage Opportunities: The Science Director will research and explore opportunities to provide more reliable water through the natural processes of beaver-mediated restoration and restored floodplain functioning. Tasks include:

- GIS analysis and mapping of priority streams well suited for natural storage projects.
- Identify and verify compatibility of natural water storage projects with native fish species.
- Gather hydrological data on groundwater storage benefits and impacts of flood irrigation including water quality of return flows.

Human-Wildlife Conflict Mitigation Monitoring: The Science Director will monitor human-wildlife conflict trends in the Blackfoot watershed and develop assessment tools to measure benefits of coexistence infrastructure. Tasks include:

- Document reported and verified bear conflicts and livestock losses to wolves.
- Track population estimate trends, presence/absence and estimated wolf pack numbers and persistence.
- Spatially delineate the overall conflict mitigation infrastructure that has been developed over the past 20 years.

Recreation Management: The Science Director will help support monitoring of recreation trends across the watershed. Tasks include:

- Develop key metrics to monitor across user groups at the watershed scale.
- Develop data gap analysis of social and ecological data related to recreation impacts to support long-term recreation planning.

Assess the Value of Improving Soil Health: The Science Director will develop baseline data to better understand where and what types of ranching and farming practices measurably improve soil health, soil biology, and soil moisture holding capacity. Tasks include:

- Identify primary soil health indicators and methods to standardize a testing protocol to measure organic matter, soil carbon, microbial activity, and available nutrients.
- Establish baseline soil data sets; stratified by land use and projects.
- Measure soil moisture and soil health factors on crop land acres treated with biochar.

Forest Restoration Treatments and Water: The Science Director will explore how landscape-level forest restoration treatments impact water storage, flow rates, and water quality in the Blackfoot watershed. Tasks include:

- Measure stream flow trends pre- and post-conifer encroachment and/or fuel reduction treatments.
- Measure water quality response pre- and post-treatments, pre- and post-wildfire, and post-fire recovery.
- Measure snowpack and snow retention responses related to forest treatments.
- Assess potential for private landowners to participate in carbon markets through carbon sequestration projects on forested and rangelands.

Required Qualifications:

- Minimum 1-3 years of experience in applied scientific and ecological research and monitoring preferably at the watershed or landscape scale.
- Ph.D. degree in conservation biology, ecology, watershed management, or related field.
- Strong quantitative skills and ability to use a variety of statistical software packages for data analysis and visual display of information.
- Detailed knowledge of Geographic Information Systems, spatial modeling, and other science tools, as well as their role, utility, and application in characterizing, analyzing, and assessing ecological processes, systems, and conditions, and conducting integrated landscape-level planning.
- Ability to synthesize science and technical information in a meaningful way and translate that information through spatial tools and other means to inform and effect change.
- Detailed knowledge of watersheds, landscape and/or wildlife ecology, and other facets of ecological science utilized in strategic habitat and landscape conservation.
- Ability to write proposals to support the position and organization and to work with BC Fund Development Team to report on and administer grants.

Basic Knowledge, Experience & Skills:

- Must have highly developed communication skills—both written and verbal.
- Must be able to synthesize and communicate complex scientific information for broad audiences; display scientific information in simple and elegant graphical forms.
- Must be familiar with a suite of software packages such as Microsoft Word, Excel, PowerPoint.
- Must support the mission and community-based approach of the Blackfoot Challenge.
- Must maintain working knowledge of Blackfoot Challenge programs organizational goals.
- Appreciation of watershed group dynamics and resource partnerships.

Desired Knowledge, Experience, & Skills:

- Experience working with a variety of private landowners and public managers.
- Commitment to community-based conservation and rural sustainability.
- Positive attitude and a good sense of humor.
- Ability to forge meaningful professional relationships with sense of humility, respect and collaborative spirit.

Physical Demands:

Ability to work in demanding field conditions in all seasons in remote settings. Ability to use office equipment such as telephones, computers and copy machines as necessary. Some light lifting, and bending are also necessary. Some travel will be required; must possess valid driver's license.

The Blackfoot Challenge will conduct background checks on all final candidates, and offers of employment are contingent upon those results. In order to provide equal employment and advancement opportunities to all individuals, employment decisions at the Blackfoot Challenge will be based on merit, qualifications, and abilities. The Blackfoot Challenge does not discriminate in employment opportunities or practices because of race, national origin, religion, sexual orientation, gender identity, age, military status, or mental or physical disability.