

## POSITION SUMMARY – GEOSPATIAL ANALYST

Apply your geospatial analysis skills in helping Headwaters stay on the leading edge of using remote sensing to solve interesting ecological problems. This position will work to improve large-scale habitat management for endangered species, develop ecologically sound restorations for rivers and wetlands, and conduct water planning and research in the Great Plains and Intermountain West. Enter a unique working environment where the energetic culture of a small, fast-paced, interdisciplinary research group intersects with one of the most successful collaborative endangered species recovery programs in the nation. Connect cutting-edge science to decision-makers responsible for endangered species management and restoration program governance. Invest your time in making a difference.

Headwaters Corporation is seeking a geospatial analyst to serve as a geospatial point-person for a team that conducts interdisciplinary research with a focus on implementation of the Platte River Recovery Implementation Program (PRRIP). Headwaters serves in a unique role as a private consulting firm that carries out the day-to-day functions of PRRIP implementation by providing the Executive Director and all staff. This includes PRRIP administration, managing the PRRIP's land and water resources, and implementation of a robust science program that uses adaptive management and other science tools to inform the use of those resources. The Headwaters technical team includes biologists, ecologists, an ecological statistician, geomorphologists, hydraulic engineers, water resources planners, a biosystems engineer, and a science policy advisor that specializes in adaptive management and restoration program governance. *Candidates must have the independent drive to tackle complex, multidisciplinary problems, and the desire to work for a small firm.*

This position will be the primary point-person for geospatial data, analysis and software at Headwaters and will provide support for a broad range of projects including endangered species habitat use and availability analyses, remote sensing monitoring of vegetation and geomorphology of the central Platte River, time-lapse photo analysis, drone photography acquisition and processing, and other research for the Platte River Recovery Implementation Program. A successful candidate will be creative in their use and application of a variety of geospatial tools to answer complex environmental questions and stay up to date with the evolving technology and techniques.

### Major duties include, but are not limited to:

- Collaborate with project leaders to develop geospatial data acquisition, processing, and evaluation methods.
- Generate and run new and existing scripts using python and R to process large geospatial data sets.
- Review GIS datasets for completeness and accuracy.
- Maintain an extensive catalogue of geospatial datasets including rasters, shapefiles, geodatabases, aerial imagery, and LiDAR.
- Produce presentation quality maps and develop and maintain ArcGIS Online and StoryMaps to communicate project work.
- Field data collection using GPS devices and post processing of results.
- Import and export field data from Trimble GPS products.
- Preparing technical reports and scientific manuscripts in conjunction with senior staff.
- Assist on proposals and scopes of work for existing and future projects.
- Follow Headwaters Corporation's administrative and financial policies and procedures as well as the methods and procedures specific to the work.

### Minimum Qualifications

- Experience conducting geospatial analysis using python and/or R including working knowledge of ArcGIS toolboxes and python/R libraries (e.g. ArcPy, Rasterio, GDAL, or equivalents).
- Proficient with ESRI's GIS mapping software, particularly ArcGIS Desktop/Pro with Spatial and 3D Analyst.
- Experience with acquisition of spatial data through resources such as USGS Earth Explorer, NRCS Geospatial Data Gateway, and others.

- Familiarity or willingness to learn other mapping software, particularly Trimble eCognition, ERDAS, and Google Earth.
- FAA Remote Pilot Certificate and experience operating small drones for spatial data acquisition (or willingness to learn).
- Mature judgment, initiative, imagination, resourcefulness, energy, tact, and integrity.

**Other Desirable Characteristics:**

- Working knowledge of AutoCAD Civil3D.
- GISP certification.
- Background or familiarity with ecology, biology, range management, or other natural resource management area especially landscape ecology, vegetation, and field data collection methods.

**LOCATION**

This in-office position can be located in Headwaters' Kearney, NE or Lakewood, CO offices. Headwaters' engineering staff are located in Lakewood. Headwaters' science, land, and administrative staff are located in Kearney. Periodic in-state and out-of-state travel for fieldwork, meetings, and conferences (3 - 5 days a month) will also be required.

**EDUCATION**

B.S./B.A. required (M.S. preferred) in GIS, Geography, Geospatial Sciences, or natural resources fields with related coursework in GIS, python, and remote sensing.

**EXPERIENCE**

Experience not required for Masters applicants but strongly preferred for Bachelors. Strongly prefer candidates with demonstrated experience with geospatial analysis and remote sensing applications.

**SALARY**

Headwaters Corporation will offer a competitive salary commensurate with experience and qualifications relevant to this position. Starting range of \$50,000-70,000/year with potential for negotiations of higher salary for highly qualified candidates.

**BENEFITS**

Headwaters offers an excellent compensation and benefits package including medical, dental, and life insurance; a 401(K) plan; and paid vacation time and holidays. Headwaters Corporation is an Equal Opportunity Employer.

**APPLICATION**

Application materials should be addressed to:

Justin Brei  
Water Resources & Engineering Manager  
Headwaters Corporation  
405 Urban Street, Suite 401  
Lakewood, CO 80228

*Please send a cover letter, resume, and three references in PDF format to Justin Brei at: [breij@headwaterscorp.com](mailto:breij@headwaterscorp.com). Work examples such as coding work products, ArcGIS Online storymaps, analysis project writeups, etc can also be provided, and may be requested during the application process.*

## OVERVIEW OF HEADWATERS CORPORATION

Headwaters Corporation has offices in Kearney, Nebraska and Lakewood, Colorado. Founded in 2007, Headwaters is a professional services firm that brings common-sense solutions and systems thinking to emergent, complex, and large-scale natural resource challenges. Headwaters specializes in adaptive management and the review and implementation of large-scale endangered species recovery and river/ecosystem restoration programs. We have a small, highly qualified, independent team comprised of leading river restoration program managers and adaptive management practitioners, experts in restoration program governance and function, river ecologists, western water resources experts, biologists, geomorphologists, water resources engineers, and land managers. Our team has many years of experience with river/ecosystem restoration and species recovery programs; utilizing decision analysis tools and linking science to decision-making; working with western rivers and water operations; and facilitating and leading large groups of multi-discipline stakeholders (including Tribes) on complex processes in river basins. To this end, the people of Headwaters are honest brokers working purposefully to tame wicked problems.

Visit our website at [www.headwaterscorp.com](http://www.headwaterscorp.com) for more information on our purpose, our people, and our work.