Cary Institute of Ecosystem Studies

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Catskill Science Collaborative

Request for Proposals for 2026 Catskill Research Fellowships

Purpose of RFP: The purpose of this RFP is to solicit proposals for *Catskill Research Fellowships.* The Fellowships are student-led research projects mentored by a professor, or other scientist, that address both the research needs of natural resource managers in the Catskill region and provide a positive research experience to the Fellow.

About the Catskill Science Collaborative: The Cary Institute of Ecosystem Studies hosts the Catskill Science Collaborative (CSC), a program funded by the NY State Environmental Protection Fund through a grant from the New York State Department of Environmental Conservation (DEC) and with further support for research from the New York City Department of Environmental Protection (DEP) and private donors. The CSC facilitates and communicates environmental science in the Catskill region through sharing science with the public, promoting science-informed resource management, and enabling data- and idea-sharing among scientists working in the Catskills. More information about the CSC can be found on our website: www.catskillscience.org

Catskill Research Fellowships are offered by the CSC to generate scientific information to inform natural resource management, while providing students applied scientific training in an experiential learning environment. More broadly, the program is intended to strengthen relationships between natural resource managers and researchers and to attract new scientists to conduct research in the Catskills.

Who can apply: College professors and other professional scientists in collaboration with a student interested in conducting research in the Catskills, who will be the Fellow. Fellows may be either graduate or undergraduate students but preference is given to more experienced applicants.

Funding available per fellowship: A maximum of $18,000 -- see budget stipulations below. Please note that fellowship awards are contingent on available funding. On occasion, the CSC will be able to provide supplemental funds to managers and professors who have completed a CSC project in the past three years and have ideas for follow-up work. If you have an idea for a project please contact the CSC Coordinator at damonj@caryinstitute.org.

Research Needs: Appendix 1 lists research needs that have been identified by natural resource managers. All proposals should be targeted to address one of these research needs. Professors and sponsoring scientists may submit more than one proposal and sponsor more than one student, recognizing that the mentor plays a critical role in supervising and overseeing the field research conducted by the Fellow.

Alternate project ideas: We are open to creative project ideas that generally fit the goals of the CSC, but may not align with any of the research topics listed in Appendix I. Because all the research projects are generated by our government agency partners, we are particularly interested in the possibility of public/private partnerships. Within the Catskills Park (the "Blue Line") approximately half of the land is privately owned, and so having appropriate land use for private lands that contribute to clean water and open space preservation within the park is something we seek to promote.

If you have a project that does not currently have funding but you believe to be in line with the CSC's objectives, please contact Joy Damon at damonj@caryinstitute.org so we can discuss whether it might be eligible for funding.

Timeline:

- **Applications are due by Friday, January 9, 2026.**
- Notifications about selections will be made in early February 2026.
- A virtual orientation will be held in April 2026. It is expected that projects will begin around the end of May 2026, although some research may require an earlier start date.
- The Fellow will be required to attend 2-3 in-person CSC gatherings between June and August. The intention of these gatherings is to encourage community building among the Fellows and to provide an educational experience regarding management work in the Catskills.
- Fellows will be expected to present their work at a public webinar in Fall 2026.
- The project must be completed and the final report submitted by December 31st, 2026.

Application: The fellowship is intended to help build relationships between resource managers and researchers. **Academic supervisors are primarily responsible for oversight of research and facilitating coordination with Managers.** Therefore, professors/sponsoring scientists are required to contact the resource manager associated with their research need of interest, as noted in Appendix 1. The purpose of this contact is to gather more information and collaborate on developing a preliminary proposal. It is expected that some refinement of the preliminary proposal may be required prior to awarding the fellowship. Preliminary proposals should contain the following:

1) Cover page including:

- Project Title
- Professor/sponsoring scientist's name
- Student/Fellow name
- College or University Name
- Natural resource manager contact name and agency
- Research need addressed by the proposal (from Appendix 1)

- Certification that the proposal was reviewed and approved by the office at their institution that is responsible for approving external research contracts (e.g. the sponsored programs or grants office) prior to submission.

2) Proposal narrative (maximum 4 pages) including:
- Background on research question
- Goals and objectives
- Methods
- Outcomes and Deliverables
- Timeframes for data collection, analysis and written report (see Timeline and Expectations/Stipulations)

3) Budget with line items for allowable budget categories as discussed in "Budget Stipulations" below. Please also include a budget narrative to describe proposed expenses, fringe benefits rates, etc.

4) Professor/Sponsoring scientist's CV

5) Student's Resume

Applications are made to the Catskill Science Collaborative, not to the managers directly. Please email your proposal **as a single PDF file** to damonj@caryinstitute.org, copied to ginsbergj@caryinstitute.org, with the subject line: **Catskill Research Fellowship Proposal**. We encourage discussion with targeted managers, but please note that **CSC runs the application review process.** Projects for successful candidates will be contracted with the University or Research Institution, not the Fellow or advisor directly.

Application Evaluation Criteria: Applications will be evaluated based on the following criteria:
- Degree to which research design meets the research need
- Evidence of partnership with resource management agency
- Potential for positive research experience for student
- Feasibility of project within the time frame specified
- Degree to which professor's expertise meets research need
- Qualifications of the student
- Safety measures (e.g. field work safety)

Budget stipulations:
- **Maximum award request: $18,000**
- Fellows will be awarded at least $8,500
- Professor compensation allowed up to $2,500
- Indirect costs capped at 20% of total direct costs
- Other allowable budget categories include: Fringe benefits at rates approved by the submitting institution, supplies, travel, communications

Other stipulations:

- Contracts for the Fellowship will be made with the institution, not the student. The mentor must manage communications with the office at their institution that is responsible for approving external research contracts to ensure timely execution of a contract. This is essential for the fellowships to begin on time.
- The Fellow will be covered by college/institutional insurance and workers compensation.
- The Fellow will attend a virtual orientation in April.
- The Professor/sponsoring scientist and Fellow will participate in monthly check-in meetings during the field season with the resource manager and CSC in person, by video conference, or by phone to promote a team culture and ensure all parties are informed about the progress of the project.
- The Fellow will regularly check email and voice messages to facilitate communication between the CSC and Fellowship program operation.
- Fellows working in locations without cell phone service will be required to have a satellite communication device for emergency contact.
- Data generated from the fellowship will be formatted and made available for the CSC to place on the Catskill Data Portal (https://www.uvm.edu/femc/catskill#home), pending data sensitivity and data sharing policies of resource management agencies.
- Fellows will be required to find their own housing, though every effort will be made by the natural resource manager and CSC to help connect them to affordable housing opportunities.

Email the CSC Coordinator at damonj@caryinstitute.org regarding any questions.

Roles & Responsibilities

Fellow Role

Fellows will participate in monthly check-in meetings during the field season with the resource manager and CSC in person, by video conference, or by phone to promote a team culture and ensure all parties are informed about the progress of the project. The Fellow should set the agenda for these meetings and share a progress update, which could include data collection progress and preliminary findings. Additionally, the Fellow will be required to attend 2-3 in-person CSC gatherings over the course of the summer.

Professor/Sponsoring Scientist Role

The professor/sponsoring scientist will be the primary supervisor of the Fellow and will be supportive of and encourage a team culture and collaborative spirit. The professor/sponsoring scientist will be ultimately responsible for deliverables. They are expected to attend an orientation and presentation of the Fellow's work. They are also expected to participate in regular check-in meetings with the fellowship team.

It is the professor/sponsoring scientist's responsibility to manage the contract with the office at their institution that is responsible for approving external research contracts. The CSC is happy to assist in this process.

As part of the responsibility for deliverables, the professor/sponsoring scientist will ensure that all members of the research team are appropriately credited for their contributions. If publications are derived from a fellowship, and long-term datasets provided by the manager or agency are used, the professor/sponsoring scientist will ensure that these data are properly credited and that the manager is offered co-authorship on the paper.

Natural Resource Manager Role:
Natural resource managers are expected to participate in the study design and refinement process. They are expected to be available throughout the study to answer questions that the professor and Fellow may have. They will provide any necessary and agreed upon agency or organizational resources for the study. They will provide an orientation to the Fellow and introduce them to others they may work with. Past Fellows have remarked on the value of meeting and working with professionals in their field and that it was a highlight of their fellowship. Depending on the project, it may be helpful for the resource manager to occasionally visit the Fellow to check in on fieldwork. Resource managers are expected to attend an orientation and presentation of the Fellow's work. They are also expected to participate in regular check-in meetings with the professor, Fellow, and CSC.

CSC/Cary Institute of Ecosystem Studies Role:
The CSC assists in the proposal selection process and the Cary Institute of Ecosystem Studies Grants Office awards the contract to the College or University. The CSC coordinates events and meetings for the Catskill Research Fellowship to ensure communication between all parties and ensure a positive learning experience for the Fellow.

Acknowledgments
The Environmental Protection Fund of New York State, administered by the DEC, provides the core funding for the CSC. **It is required that the DEC be credited on all papers and presentations produced by the Fellow or Mentor that are representing the work done under the fellowship (link to logo).** If a project also receives funding from another source (e.g. the NYC-DEP, USGS, etc), these entities must also be given credit. In addition, we ask that all participants in these research projects (e.g. managers, mentors, and fellows) be given appropriate credit and/or authorship on papers and reports generated by the fellowship.

Appendix I
Natural Resource Manager Research Needs

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1. **Baseline data on natural resources and recreation**

Collect baseline data either for recreational use, visitor experience, or natural resources, focusing on how these fields of observation impact each other. Fellowship projects can be narrowed down to a specific recreational hotspot or ecological component. For example, if researchers are interested in selecting a specific recreational type or hotspot, DEC staff would ask that they focus on the visitor experience and/or the impact of that recreation on the natural resources of the area. Similarly, if they are interested in researching specific plants, animals, natural communities, water quality, etc., we ask that they focus on the impact of recreation on those natural resources, or how the condition of those natural resources impacts visitor experience or recreational activities. Being managers of recreational use as well as stewards of the Catskill Park, DEC staff would find most helpful the type of research that provides baseline data for our visitor use management efforts. We also ask that proposed research projects target areas outside of the Kaaterskill Clove, since that spot is getting enough research attention right now.

Contact: Sara Hart, sara.hart@dec.ny.gov, New York State Department of Environmental Conservation.

2. **Taking a stock of soil organic carbon in Neversink watershed: What is important and what is not for disinfection byproducts formation**

The purpose of this work would be to understand the sources, composition, and quality of organic carbon in the above-ground layer of plant litter and below-ground soil layers. We hypothesize that characterizing plant material into five biochemical groups – cellulose, hemicelluloses, lignin, amino acids, and lipids is important as they are known to differ in their persistence in the environment and reactivity to chlorine during the water disinfection process. Differences in the quality of the organic matter may be arising from differences in the land-cover type (forest – coniferous, deciduous, or mixed; wetlands; agriculture – crop, grass, etc.). In this work, litter samples from various locations and soil samples from different horizons would be collected and analyzed for the different forms of particulate and dissolved organic carbon. Results of this work will inform an eco-hydrological model for the Neversink watershed.

Contact: Rakesh Gelda, rgelda@dep.nyc.gov, NYC Department of Environmental Protection, in collaboration with Riverkeeper.

3. **Assessment of snow cover and snowmelt patterns in the NYC water supply watersheds**

The temporal patterns of snow accumulation and snowmelt have substantial influence on the hydrologic regime in snow dominated watersheds. Climate induced changes in precipitation and temperature are expected to change snow accumulation, snow cover extent, and snowmelt dynamics, with potential implications for both water balance and water quality. The purpose of this study will be to provide insights into the relationships between changes in snow cover extent, snowmelt, streamflow, and water quality. This study will perform geospatial analysis to

explore the relationships between snow cover characteristics, streamflow, and water quality in the West of Hudson New York City water supply watersheds.

Contact: Rakesh Gelda, rgelda@dep.nyc.gov, NYC Department of Environmental Protection.

4. **Economic and ecological impacts of aquatic invasive species**

NYSDEC has invested millions of dollars to implement its aquatic invasive species management plan. These efforts include spread prevention and control/management of select infestations. We are seeking a researcher to help us assess both ecological and economic impacts of aquatic invasive species in the aquatic habitats found in the Catskill Region. Specifically, we would like to learn more about the ecological impacts of northern snakehead in the Delaware River drainage, and we would like to understand better the economic costs of controlling versus not controlling water chestnut in select waterbodies throughout the region. Additionally, the quagga mussel is a species of interest in the Susquehanna watershed. Our goal is to prioritize management strategies and craft outreach messaging based on these findings.

Contact Steve Pearson, steven.pearson@dec.ny.gov, New York State Department of Environmental Conservation.

5. **Reptile and Amphibian Distribution and Habitat Use**

The student would be conducting presence/absence surveys in appropriate habitat including stream systems and ridge areas in the Catskills following appropriate survey protocols. Focal species may include salamander species, and rattlesnake/copperhead. Survey locations will be determined in consultation with DEC staff. Additional surveys of focal species habitat characteristics in study areas would also be collected in hopes of generating occupancy models and maps of important habitat features. Information collected during the organized survey efforts could also be used to update State HERP Atlas data, and help identify management needs for the focal species in the Catskills.

Contact: Lisa Masi, lisa.masi@dec.ny.gov, New York State Department of Environmental Conservation.

6. **Juvenile Wood Turtle Habitat Use and Movement Patterns**

The student would undertake a telemetry based field study of juvenile wood turtles at sites selected in consultation with DEC staff. Habitat characteristics and movement data would be collected. Information on the history of the stream corridor, past storm/flooding history, and stream management would also be researched to pull together an evaluation of current condition conducive to juvenile survival in the study area.

Contact: Lisa Masi, lisa.masi@dec.ny.gov, New York State Department of Environmental Conservation.

7. **Streambank erosion in the Cannonsville Reservoir**

The Delaware County Soil and Water Conservation District (DCSWCD) Stream Corridor Management Program (a partner agency of the New York City Department of Environmental Protection) began estimating nutrient loads due to streambank erosion in recent years. This work is primarily focused on the West Branch of the Delaware River, the source water for the Cannonsville Reservoir. Our work determined that likely 1-2% of the annual total phosphorus (TP) load to the Cannonsville Reservoir was coming from two sites of discrete streambank erosion on the main stem of the river. This begged the question: what percentage of the total TP load to the reservoir is the result of streambank erosion in the Cannonsville Basin?

The impact of streambank erosion on TP load to the reservoir has largely been a question mark while stream assessments by DCSWCD have determined that 11–27% of streambanks in tributaries are actively eroding and ~19% of streambanks on the main stem of the West Branch of the Delaware are actively eroding; many of these eroding banks have a significant fine-earth fraction. Can the TP sources in the basin be identified by unique characteristics, or does the fine-earth fraction of sediment that TP is typically bound or adsorbed to have unique characteristics that would allow for source identification? Such source identification would help DCSWD prioritize its mitigation of high TP sediment sources in carrying out its mission to improve water quality.

Contacts: Michael Coryat, mike-coryat@dcswcd.org, Delaware County Soil and Water Conservation District.

8. **Species richness and diversity in riparian buffer planting sites**

The DCSWCD CSBI program has been planting Riparian Buffers within the NYC DEP West of Hudson Watershed (specifically the Cannonsville and Pepacton Watershed areas) since 2009. Over that time, we have implemented over 200 native riparian planting projects of various sizes and types, covering over 200 acres and over 15 miles of stream. The benefits of streamside buffers are well known. However, we have never had the opportunity to actually study and/or document these benefits locally. These benefits range from decreased soil erosion, excess nutrient uptake, flood protection, carbon sequestration, as well as the increase in wildlife and pollinator habitat and diversity on these sites.

There are many different potential studies of these benefits that can be initiated within these buffer planting sites. However, a couple that are of particular interest would be to 1) compare wildlife and/or pollinator species richness and diversity between planting sites of different ages, and 2) track the changes in species richness and diversity over time, pre and post planting, in proposed and newly established planting sites. In addition to the above, the amount and type of invasive or non-native plant species within these sites varies from site to site. How does this affect the natural regeneration of native plant species at these sites as well as the recruitment of wildlife and pollinator species. How does this affect the ability of these buffers to stabilize soils, or to filter overland pollutants, and more?

Contact: Catherine Skalda, catherine-skalda@dcswcd.org, Delaware County Soil and Water Conservation District.

9. Establishing Best Management Practices for *Persicaria perfoliata* (Mile-a-Minute)

Persicaria perfoliata (mile-a-minute) is an emerging invasive species that threatens forest regeneration in both the East and West of Hudson Watersheds. It is an annual vine that is spread by fruit consumed by birds, deer, and other wildlife. It establishes well in canopy gaps and creates cascading mats that smother all other plant growth, including tree seedlings. New York City Department of Environmental Protection (NYC DEP) has been managing it across a range of sites including blowdowns, forest management, dam removal, and wetland mitigation projects. While small infestations are easily managed with hand pulling, once the population reaches about a half-acre in size, successful management is very challenging. It is likely that mile-a-minute will increasingly impact projects as its range expands throughout the West of Hudson Watershed with increasing costs associated with its management. Research on the relative efficacy of treatment methods is lacking. A thorough analysis of control methods and timing for various pre- and post-emergent herbicides and mowing regimes would provide valuable insights to allow us to best deploy limited resources to manage this species.

NYC DEP Natural Resources Division staff and the Catskill Regional Invasive Species Partnership can facilitate the establishment of test plots at the Honk Falls dam removal project on City lands in Napanoch, NY and can provide access to a certified applicator and herbicides. Researchers would systematically evaluate various treatment methods and produce a guidance document on best management practices for mile-a-minute control to implement on DEP projects and to guide other land managers throughout the Catskills.

Contact: Meredith Taylor, MeTaylor@dep.nyc.gov, NYC Department of Environmental Protection.

10. Effectiveness of boot brush stations in the Catskills

A boot brush station placed at a trailhead is a tool often used to raise awareness about invasive species and reduce the spread of invasive species. The boot brush can be used by hikers to remove foreign material, including seeds, from their shoes before and after they go hiking. Boot brush stations have been established at some NYC DEP trailheads and the Catskill Center is under contract to build boot brush stations at DEC trailheads at the beginning of trails that lead into Invasive Species Prevention Zones. Boot brush stations have been shown to be effective in mitigating the spread of invasive species in other areas (See https://naisma.org/2020/03/12/boot-brush-stations-are-they-effective/), and DEC staff have expressed interest in measuring the use and effectiveness of boot brush stations to slow the spread of invasive species in the Catskills.

Contact: John Thompson, jthompson@catskillcenter.org, Catskill Regional Invasive Species Partnership.

11. Forest Regeneration in Declining Beech Stands

Beech leaf disease nematode (*Litylenchus crenatae mccannii*) can kill beech trees of all ages. Beech is one of the most abundant species in the Catskills. Beech leaf disease (BLD) was first recorded within the Blue Line in 2023 and has spread through beech stands very quickly.

The Beech Leaf Disease Coalition (www.teatown.org/bld/), a consortium of organizations working to mitigate the impacts of BLD, has constructed deer exclosures in beech stands to encourage regeneration of other forest canopy trees to eventually replace the loss of beech. However, in Coalition plots, tree regeneration has been lacking in stands even when there appears to be adequate light availability for regeneration and deer are excluded. Research on forest regeneration in beech stands of the Catskills could be valuable to investigate the impact of beech leaf disease nematode and methods for land managers to mitigate those impacts on forest regeneration and ecological processes.

Contact: John Thompson, jthompson@catskillcenter.org, Catskill Regional Invasive Species Partnership.

12. Catskill Forest Preserve Visitation Data Analyst

Trail based recreation tends to be dispersed across the landscape with many access points. Measuring visitor volumes using traditional data sources like trail register sign in information is time consuming and typically under-representative of actual visitation. New data are available via social media, fitness tracking applications and other novel sources that can supplement traditional on-site counting methods that measure recreation. The original purpose of these "big data" sources was not to count recreation but researchers have developed methods to extrapolate recreational use. Case studies have shown that highly accurate statistical models can be developed using this data to estimate and predict future trail use. The Catskill Forest Preserve novel data position will involve analyzing user data from trail registers, trail counters and smartphone app sources, such as STRAVA and AllTrails to understand patterns and trends connected to visitation to the Forest Preserve. Responsibilities to include calibrating and processing novel data, supplementing that data with traditional data sources like trail counters, and using the findings to inform planning, resource allocation, and user experience on public lands. The CSC fellow will be responsible for data acquisition and processing, data analysis, calibration of that data and production of a report that will display findings and communicate data-driven insights to land managers and stakeholders.

Required skills and knowledge: Strong analytical skills and experience with data analysis and presentation of data to diverse audiences, familiarity with outdoor recreation principles, experience with novel data sources (social media, mobile phone data, GPS data, etc.) understanding of the limitations and strengths of both novel and traditional data collection methods.

Contact: Ian Thompson, ian.thompson@dec.ny.gov, New York State Department of Environmental Conservation.