

Postdoctoral Scientist
Integrated Population Model for Maine Black Bears
New York Cooperative Fish and Wildlife Research Unit, Cornell University
Washington Cooperative Fish and Wildlife Research Unit, University of Washington



POSITION: Postdoctoral Scientist

SALARY: \$55,000/year or more, plus benefits; salary commensurate with experience

EMPLOYMENT PERIOD: One year (with possibility of extension pending funding)

APPLICATION DEADLINE: June 3, 2019 or until filled

LOCATION: Cornell University, Ithaca, New York or University of Washington, Seattle, Washington; location to be negotiated

TRAVEL: Occasional travel in the continental US

POSITION SUMMARY:

We seek a postdoctoral scientist with research focused on development of an integrated population model for black bears in Maine. The postdoctoral scientist will work closely with scientists and managers at the Maine Department of Inland Fisheries and Wildlife, in addition to the principal investigators at Cornell University and University of Washington. The postdoctoral scientist will lead all aspects of the project on a day-to-day basis.

BACKGROUND AND DUTIES:

To assist the State of Maine Department of Inland Fisheries and Wildlife in developing a cost-efficient monitoring program to inform their black bear management, the post-doctoral scientist will lead the development of an integrated model for estimation of spatially explicit population size, movement patterns, and demographic rates of the Maine black bear population. The postdoc will evaluate the effectiveness of various currently available data to provide accurate and cost-effective bear population estimates and will generate recommendations whether alternative bear monitoring methods (e.g., citizen science to collect presence/absence (PA) data and/or spatial capture-recapture (SCR) data) may be more accurate and/or cost efficient than current methods. This aspect may involve a simulation study to evaluate different temporal and spatial allocations of SCR and PA data collection under different scenarios of known and potential population sizes and growth rates. A primary duty will involve developing a population model to determine optimal sampling strategies and estimate regional population trends and allowable harvest for black bears in Maine. Finally, the postdoc will produce a user guide to assist staff in using the population model to inform bear management and if necessary provide training on use of the application. We expect this may take the form of an interactive web app (i.e., Shiny app), that will allow users to control parameter values and sampling scenarios in order to generate datasets and run models given management objectives.

MINIMUM REQUIREMENTS:

1. Ph.D. in biology, ecology, or related field, with a focus on quantitative methods in population ecology.
2. Experience with demographic studies.
3. Experience with developing (spatial) capture-recapture models.
4. Demonstrated proficiency with R and excellent programming skills.
5. Demonstrated desire and proven ability to publish in peer-reviewed journals.
6. Excellent written and personal communication skills.
7. The ability to work independently and under limited supervision as well as collaboratively.

DESIRED ABILITIES:

Competitive candidates will have a strong background in development of hierarchical models for analysis of demographic data, and proficiency with JAGS/NIMBLE or similar platforms for hierarchical modeling. Desirable skills and abilities include: experience developing integrated population models; experience analyzing a variety of monitoring data types, including live captures and camera-trapping data; experience with spatial capture-recapture and/or animal movement models and occupancy models; experience in developing or analyzing citizen science datasets; experience with harvest-based models, prior research on bears, and experience working with management agencies.

TO APPLY:

Applicants should email (in a single pdf document): (1) a letter describing background and interests – the letter should address specifically how the applicant meets both the minimum requirements and the desired abilities, (2) curriculum vitae, (3) a technical writing sample, and (4) the names and contact information (phone, email, address) for 3 references to Drs. Angela Fuller (angela.fuller@cornell.edu) and Sarah Converse (sconver@uw.edu). For further information, contact: Angela Fuller (angela.fuller@cornell.edu, <https://blogs.cornell.edu/fullerlab/>); (607) 255-2841 or Sarah Converse (sconver@uw.edu), <http://depts.washington.edu/qcons/>); (206) 221-5791