

From: Christina Kennedy
Subject: Position Available: Postdoctoral Research Associate (Ecologist), The Nature Conservancy

Postdoctoral Research Associate: Modeling avian patterns in agroecosystems to co-manage for natural pest control, food safety, and conservation

The Nature Conservancy's Global Lands Program (<http://www.nature.org/ourinitiatives/urgentissues/land-conservation/index.htm>) is recruiting a Postdoctoral Research Associate to work with an interdisciplinary team to examine the ecological roles of wild birds on west-coast organic vegetable farms in California, Oregon, and Washington. Wild birds serve both as predators of herbivorous insects and as vectors of human/livestock pathogens and parasites. This USDA-funded project seeks to understand the trade-offs between avian conservation and farm production to inform practical, science-based recommendations and to tailor tools to farmers for wild-bird management. This research will integrate avian ecology, landscape ecology, molecular biology, host-parasite interactions, and disease modeling in agroecosystems. Project and partners include The Nature Conservancy, Washington State University, Cornell Lab of Ornithology, and University of California-Riverside. For more information, see <http://entomology.wsu.edu/bill-snyder/2011/07/11/ecological-engineering-to-protect-brassica-crops/>.

Position Description:

The Postdoctoral Research Associate will integrate species distribution modeling and land cover data to synthesize relationships among wild birds, on-farm practices, landscape patterns, and food safety and will utilize this information alongside published research to help tailor online tools for farmers. Within this scope, opportunities exist to develop and explore novel research questions of interest.

Responsibilities will include:

- Utilize citizen science datasets on bird spatial patterns (eBird, Breeding Bird Survey data) to model species occupancy and abundance metrics that account for common biases.
- Utilize spatial data on regional land cover/land use and potentially augment with farm-scale habitat features (e.g. habitat patches, paddock trees, hedgerows, field margins) where possible via compilation of multi-resolution imagery and employing image classification techniques.
- Develop statistical models that assess the relationships between wild bird activity, on-farm practices, and landscape patterns based on secondary data sources (eBird) relative to those derived from primary field data.
- Based on modeling work and existing literature, work with project team to tailor existing Bird ID and land mapping tools (i.e., Merlin Bird ID and YardMap) and pilot web content to help farmers identify benefits/risks of birds, and provide site-specific farm-management advice.
- Disseminate research by publishing in peer-reviewed science journals, producing funder reports, presenting at national conferences, and communicating findings within conservation and agricultural communities.

This position will be supervised by Christina Kennedy and will interact closely with faculty at Washington State University (Dr. William Snyder and Dr. Jeb Owen), participating farmers, TNC staff in CA, OR, WA, and Cornell eBird (<http://ebird.org/content/ebird/>) and YardMap programs

(<http://content.yardmap.org/learn/habitat-network-intro/>).

Required Qualifications:

- A Ph.D. in Ecology, Environmental Science, Geography, or related fields.
- Demonstration of robust analytic and spatial skills. Strong background in statistical analysis software (R, Matlab, SAS), and modeling species-habitat patterns. Programming background is strongly desired.
- Experience working with eBird and BBS data and modeling species occurrence patterns using citizen science datasets in a way that accounts for detection biases. Understanding of or interest in learning downscaling of species distribution models.
- Background in community and landscape ecology. Familiarity with landscape pattern analysis and species occurrence/community models.
- Excellent written and oral communication skills with a proven publication record in peer-reviewed scientific journals, and the ability to write technical reports.
- Willingness to work with diverse stakeholders and to travel throughout the project area in the western US.

Desired Qualifications:

- Familiarity with Geographic Information Systems software and Remote Sensing and (ENVI, ERDAS, ArcGIS, QGIS) and related programming/scripting environments (Python, IDL, EML).
- Experience in acquiring, processing, manipulating multi-resolution spatiotemporal data for land cover classification, modeling structural vegetation composition and image analysis.
- Experience in agroecosystems and familiarity with related literature on farm and landscape metrics that impact bird diversity.
- Willingness to learn new statistical models and software as needed for research.
- Ability to work effectively with an interdisciplinary team to meet deadlines. Highly motivated and capable of working independently to complete projects.
- Strong organizational and communication skills (both oral and written).

Benefits:

He/she will be a full-time employee of The Nature Conservancy with competitive salary and benefits. Position will be supported for 1 year with potential of extension for an additional year pending satisfactory progress. Funding is available for travel costs to attend team meetings and professional conferences.

Location:

Preferred location for this position is Fort Collins, CO.

Start Date:

Anticipated start date flexible but no later than June 2017.

Application:

Apply through The Nature Conservancy Careers at:

https://careers.nature.org/psp/tnccareers/APPLICANT/APPL/c/HRS_HRAM.HRS_APP_SCHJOB.GBL?Page=HRS_APP_SCHJOB&Action=U&FOCUS=Applicant&SiteId=1

Apply to position number **45085**, submit letter of interest, curriculum vitae, and contact

information for three references. All applications must be submitted prior to 11:59 p.m. Eastern Time on **March 1, 2017**.

The Nature Conservancy (TNC) is a global, non-profit organization (501c(3) under US Law) that is dedicated to conserving the lands and waters on which all life depends. We seek to achieve our mission through science-based planning and implementation of conservation strategies that provide for the needs of people and nature.

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