



**UNIVERSITY  
OF TURKU**

## ***Investigating conservation actions improving bird responses to climate warming in Europe***

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**Application deadline: 31 January 2022.**

A fully funded 4-year PhD position in conservation biology is available at the University of Turku (Finland).

### **Project background:**

How biodiversity will respond to climate warming is one of the most challenging issues for conservation. Species can cope with climate warming by shifting their distributions or persist in local micro-refuges (Dawson et al. 2011), but these responses have been found insufficient to ensure long-term biodiversity conservation. Inside protected areas, species responses to climate warming are facilitated (Thomas et al. 2012; Gaget et al. 2021), but so far, we are ignorant of what actually are the conservation actions that causes protected areas to help species respond to climate change (Gaget et al. in press). In other words: What would be the best conservation measures to set up a climate adaptation strategy? This project aims to answer this question for birds at the European level, by making a cost-effectiveness assessment of the conservation actions that affect species responses to climate warming, considering conservation priorities and species ecological niches. Bird responses to climate warming are currently insufficient and although birds are specifically targeted by European Union conservation policies, no specific conservation measures have been designated to facilitate their responses to climate warming. This project will thus contribute to our understanding of bird species responses to climate change, identify conservation actions improving their resilience or distribution change in response to climate warming and help planning more effective conservation measures for future protected areas.

### **PhD tasks:**

This four year PhD project will be situated at the University of Turku (Turku, Finland) and supervised by Dr. Elie Gaget and Prof Jon E. Brommer, in collaboration with Dr. Martin Jung from IIASA (Laxenburg, Austria). The project will use information about the management practices funded under the EU LIFE programme inside Natura 2000 protected areas, and 40,000 abundance time series of almost 450 bird species (breeding and non-breeding) across Europe. Using hierarchical modelling based on local abundance time series, the candidate will quantify past and forecast future population changes with regards to interactions between conservation measures and climate warming. The framework will take into account species habitat preferences, functional traits and shifts in ecological niches over time to provide additional context to the expected species population changes. The project will yield a minimum of four scientific publications and the results will be discussed with stakeholders in Europe.

### **Qualifications:**

Essential qualifications for this position are: (1) MSc in Biology, preferably with a Major in Ecology or

related field; (2) quantitative skills and comfortable working in R; (3) strong communication skills, with abilities to speak and write in English. Desired qualifications include technical skills in one or more of the following areas: (1) Handling large databases; (2) hierarchical modelling and/or species distribution models; (3) ornithology and/or protected area management. We are looking for a candidate with a strong interest in conservation biology, clear capacity to self-organize, and a communicative personality who works team-oriented.

**Terms:**

The positions are open to domestic and international candidates and we encourage all qualified individuals to apply. Applications will be accepted until January 31, 2022. Start dates are flexible but will ideally be during the first six months of 2022. The PhD student will be supported by a scholarship of 30 000 €/year over four years (excluding tax) and will be covered by national health benefits. The position starts with a trial period of 6 months.

**Place of work:**

The Ph.D. position is based in the Department of Biology situated in the main campus of the University of Turku ([www.utu.fi](http://www.utu.fi)), close to the centre of the city of Turku. The city of Turku is a small town that hosts two Universities with an active student life, and is situated in the south-west corner of Finland. Finland was in 2021 ranked as the happiest country in the world for the fourth year in a row in the World Happiness Report. The Ph.D. student will be part of a community of about 90 Ph.D. students in the Doctoral Program in Biology, Geography and Geology that provides additional support for completing the Ph.D. degree.

Applications should include: cover letter in English describing your motivation, research interests and previous relevant experience with respect to the above listed requirements; Curriculum vitae including contacts of two referents; copies of MSc/BSc/Diploma certificates. Interviews will be conducted in a virtual format in early February.

Please send all documents before the 31/01/2022, or any questions concerning the project/application process, to Dr. Elie Gaget ([elie.gaget@gmail.com](mailto:elie.gaget@gmail.com)).

**Cited references:**

Thomas, C. D., et al. (2012). Protected areas facilitate species' range expansions. *Proceedings of the National Academy of Sciences*, 109(35), 14063-14068.

Gaget, E., Johnston, A., Pavón-Jordán, D., [...] & Brommer, J. E. Protected area characteristics that help waterbirds respond to climate warming. *Conservation Biology*, in press.

Gaget, E., Pavón-Jordán, D., Johnston, A., [...] & Brommer, J. E. (2021). Benefits of protected areas for nonbreeding waterbirds adjusting their distributions under climate warming. *Conservation Biology*, 35(3), 834-845.

Dawson, T. P., Jackson, S. T., House, J. I., Prentice, I. C., & Mace, G. M. (2011). Beyond predictions: biodiversity conservation in a changing climate. *Science*, 332(6025), 53-58.

*Le contenu de cette offre est la **responsabilité de ses auteurs**. Pour toute question relative à cette offre en particulier (date, lieu, mode de candidature, etc.), merci de les contacter directement. Un email de contact est disponible: [elie.gaget@gmail.com](mailto:elie.gaget@gmail.com)*

*Pout toute **autre** question, vous pouvez contacter [sfecodiff@sfecologie.org](mailto:sfecodiff@sfecologie.org).*