University of Birmingham

Alexander Royan

Doctoral Researcher

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About

Alex's project aims to evaluate the influence of river flow-induced disturbance, including extreme events such as flooding and droughts, on the ecology of river birds in Great Britain. He is using data from the British Trust for Ornithology's (BTO) Waterways Breeding Bird Surveys (WBBS) and river flow archives to build species distribution models (SDMs) that relates river bird distributions to hydrological indices of river flow regimes. In particular, he has been developing an index of vulnerability to flow extremes and modeling the impact of climate change-induced changes in river flow on future bird distributions.

Alex's current work is funded by a studentship awarded by the UK National Environment Research Council.

Qualifications

BSc Zoology (University of Glasgow 2007) First Class Honours

Biography

Alex previously studied Zoology at the University of Glasgow, where he participated in a number of tropical research expeditions as part of the university's Exploration Society, before working as a Graduate Teaching Assistant for 6 months. He has since worked as a Species Text Author for the charity Wildscreen, to profile endangered species for their website, **www.arkive.org (http://www.arkive.org/)** , spent a year and a half coordinating conservation research projects in Botum-Sakor National Park, Cambodia, and worked for the RSPB to survey for Black Grouse in the Scottish Highlands.

Doctoral research

PhD title Assessing the vulnerability of river birds to hydrological disturbance. Supervised by Jon Sadler, David Hannah and Jim Reynolds.

Research

Research interests

Avian ecology, statistics, ecological modeling, hydrology, wildlife conservation.

Publications

Peer-reviewed manuscripts

Royan, A., Reynolds, S, J., Hannah, M, D., Noble, D., Sadler, J, P. (In Review). Shared environmental responses drive co-occurrence patterns in river bird communities.

Royan, A., Reynolds, S, J., Hannah, M, D., Prudhomme, C., Noble, D., Sadler, J, P. (In Review). Analyses of functional traits reveal shifts in river bird community structure across land-uses and environmental gradients.

Royan, A., Prudhomme, C., Hannah, M, D., Reynolds, S, J., Noble, D., Sadler, J, P. (In Press) Climate-induced changes in river flow regimes will alter future bird distributions. Ecosphere.

Royan, A., Hannah, M, D., Reynolds, S, J., Noble, D., Sadler, J, P. (2014) River birds' response to hydrological extremes: New vulnerability index and conservation implications. Biological Conservation, 177: 64-73.

Royan, A., Hannah, D.M., Reynolds, S.J., Noble, D.G., Sadler, J.P. (2013) Avian community responses to variability in river hydrology. PLoS ONE, 8(12): e83221. doi:10.1371/journal.pone.0083221 **http://bit.ly/1qLUVIX (http://bit.ly/1qLUVIX)**

Royan, A., Muir, A.P., Downie, J. R. (2010) Variability in escape trajectory in the Trinidadian stream frog and two treefrogs at different life-history stages. Canadian Journal of Zoology, 88 (9): 922-934.doi:10.1139/Z10-059 **http://bit.ly/1p3RF8e (http://bit.ly/1p3RF8e)**

Chapters in books

Royan, A., Metherell, B. (2012) The application of online wildlife imagery as an education conservation tool. In: Blewitt, J. (Ed.) The Media, Animal Conservation and Environment Education. Routledge, London.