



Project acronym: DPSAW

Project title: Disentangling the Population Structure of Arctic Waders

Project leader: Kees Wanders, University of Bath, UK

Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Kevo Subarctic Research Station (Finland), Sudurnes Science and Learning Center (Iceland)

The project, led by Kees Wanders and supervised by Prof Tamas Székely, aims to clarify the population structure of >10 species of Arctic Waders for the first time using next-generation sequencing data, and to reconstruct past population sizes based on current genetic variation. Such information can then be used to predict which wader species are most vulnerable to climate change driven extinction.

To meet this ambitious aim, we have secured a large grant from the Beijing Genomics Institute for wader blood genome and transcriptome sequencing, as well as NERC and ÉLVONAL funding to cover much of the travel and personnel costs.

Sample collection for the project began successfully at multiple (non-Interact) sites across Russia in 2019, however the scope of the project will be greatly expanded westward with the help of INTERACT transnational and remote access. The requested sites are physical access at Finse and Kevo research stations, where experienced researchers will collect blood samples from local breeding wader populations. This will be replicated at the Sudurnes Science and Learning Centre, with the blood sampling performed by a local researcher, also experienced in capturing and handling waders.

The blood samples will then be transported to Bath, where they will be processed and sent to the Beijing Genomics Institute for sequencing. Bioinformatics analysis will then take place in Bath by an experienced team including Dr Araxi Urrutia, Prof Michael Bruford, and Prof Guojie Zhang.