

SEEWIESEN

LECTURE SERIES

FALL/WINTER/SPRING 2020/2021

Max Planck Institute
for Ornithology

MAX PLANCK
GESELLSCHAFT



THURSDAY | February 4th, 2021 | 13.00 | ONLINE

BRETT K. SANDERCOCK, PhD

Norwegian Institute for Nature Research | Host: Küpper Research Group

Use of Occupancy Models in Ecological Monitoring in Norway

The Norwegian Institute for Nature Research (NINA) is a private research institute with responsibility for monitoring of plants and animals of management interest in Norway: invasive species, harvested species, and red-listed species of conservation concern. Long-term ecological monitoring of these taxa requires efficient sampling methods that provide information on population trends and habitat requirements, while controlling for the problem of imperfect detection rates under field conditions. Occupancy models are a mark-recapture model based on repeated sampling that has the advantage that sampling can be based on detections of unmarked animals. Detections can be recorded with a variety of different kinds of sampling gear, including eDNA for freshwater species, Malaise traps for insects, den checks for mammals, or sound recordings for birds. I will introduce occupancy models and available software tools. To demonstrate the utility of occupancy models for ecological monitoring, I will discuss a variety of recent case studies where models based on single season sampling, multilevel sampling designs, and multiple detection states have provided insights into early detection of invasive species, and population trends and key ecological drivers for harvested populations and species of conservation concern in Norway.

WHO IS BRETT K. SANDERCOCK?

- 2017 – present Senior Research Scientist, Department of Terrestrial Ecology, Norwegian Institute for Nature Research, Trondheim, Norway
- 2001 – 2017 Professor of Wildlife Ecology, Division of Biology, Kansas State University, Manhattan KS, USA
- 2000 Killam Postdoctoral Fellow, Department of Forest Sciences, University of British Columbia, Vancouver BC, Canada
- 1997 – 1999 Postdoctoral Fellow, Department of Environmental Science, Policy and Management, University of California, Berkeley CA, USA
- 1997 Doctor of Philosophy, Department of Biological Sciences, Simon Fraser University, Burnaby BC, Canada

SELECTED PUBLICATIONS

- Murray, D.L., and B.K. Sandercock (editors). 2020. Population Ecology in Practice. Wiley-Blackwell, Hoboken NJ, USA.
- Senner, N.R., Y.E. Morbey, and B.K. Sandercock (editors). 2020. Flexibility in the Migration Strategies of Animals. Frontiers Media, Lausanne, Switzerland.
- Sandercock, B.K. 2020. Mark-recapture models for estimation of demographic parameters. In: Murray, D.L., and B.K. Sandercock (editors), Population Ecology in Practice (pp. 157-190). Wiley-Blackwell, Hoboken NJ, USA.
- Sandercock, B.K., M. Alfaro-Barrios, A.E. Casey, T.N. Johnson, T.W. Mong, K.J. Odom, K.M. Strum, and V.L. Winder. 2015. Effects of grazing and prescribed fire on resource selection and nest survival of Upland Sandpipers in an experimental landscape. Landscape Ecology 30:325-337.
- Sandercock, B.K., K. Martin, and G. Segelbacher (editors). 2011. Ecology, Conservation, and Management of Grouse. University of California Press, Berkeley CA, USA.
- Sandercock, B.K., E.B. Nilsen, H. Brøseth, and H.C. Pedersen. 2011. Is hunting mortality additive or compensatory to natural mortality? Effects of experimental harvest on the survival and cause-specific mortality of Willow Ptarmigan. Journal of Animal Ecology 80:244-258.

LINK TO TALK

Join here: <https://gwdg.zoom.us/j/82119107417?pwd=QXZEaGhCQjQ0K3p5bSt0WHpZdjl0Zz09>
Meeting-ID: 821 1910 7417 - for code please contact:

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