Student Conference on Conservation Science 2018

WORKSHOP OUTLINES

There will be workshops on ten topics, held on Tuesday 27 March at 14.00 to 15.30 and after the Poster Session at 18.40 to 20.10 on Wednesday 28 March. Some workshops will be offered only in one of these sessions and some in both. We will inform you about how to sign up for workshops when you arrive at the conference. Meanwhile, **PLEASE USE THESE OUTLINES TO HELP YOU MAKE UP YOUR MIND WHICH ONES YOU WOULD MOST LIKE TO ATTEND. PLEASE DO NOT TELL US YET – YOU CAN DO THAT AT AFTER YOU ARRIVE AT THE CONFERENCE.**

Workshop A: Common pitfalls of social survey design and how to avoid them (Session 1 only: 27 March)

Julia P. G. Jones
School of Environment, Natural Resources and Geography, Bangor University, UK

Many conservation scientists come from a natural science background but there is increasing awareness that successful conservation is interdisciplinary and must use knowledge and methods developed by the social sciences. Conservation scientists may need to collect quantitative data on aspects of human livelihoods e.g. estimates of volumes and spatial patterns of harvesting of a target species may be needed to quantify the sustainability of the harvest, or the likely socio-economic impacts on local people of efforts to reduce the harvest. They may also seek to understand people's attitudes, social norms and other possible influences on their behaviour. All surveys need to be designed to ensure the target population is successfully sampled, that biases are considered and minimised and ethical implications considered. In this brief workshop we will focus on how to minimize bias in a quantitative social survey. The workshop would particularly suit conservationists whose training to date has been mostly in the natural sciences but all are welcome.

Workshop B: Practical Conservation Genetics (Sessions 1 & 2)

Bill Amos
Department of Zoology, University of Cambridge, UK

The role of genetics in conservation is often misunderstood. Some seem to believe genetic analysis is close to magic, while others take the view that gathering genetic data is an expensive waste of effort. Equally, some see genetics as playing a central role in

dictating the health of a population, while others feel it is less important. This workshop aims to give an overview as to what can and cannot be done using current methods. It will also explore some of the key areas of misunderstanding. Although the primary presentation will be in the form of a lecture, I hope people will bring along their own questions that can be discussed in an open forum.

Workshop C: Using Conservation Evidence to answer conservation questions (Sessions 1 & 2)

Claire Wordley and Ricardo Rocha
Department of Zoology, University of Cambridge, UK

How do we answer questions like these:

- Are we using the most effective ways to get bats to cross roads?
- Hot foam, flamethrowers, blackout carpets or pesticides - how should we deal with invasive plants?
- What is the best way to stop seabirds being caught by fishers?

There is increased use of the term 'evidence-based conservation' but little exploration of how evidence should be found and applied in practice. In this workshop we will explore how to use the website www.conservationevidence.com to answer the questions above - and more - without undertaking extensive and expensive literature reviews. We will address why looking at the evidence for conservation solutions is important; explore the functionality and uses of the website www.conservationevidence.com; and undertake small group exercises to put into practice what we have learned and use Conservation Evidence to answer a realistic conservation question. This workshop will be particularly useful for students who aim to work in conservation decision making at any level.

Workshop D: What do you need to know? An introduction to evaluation for conservation projects (Sessions 1 & 2)

Iain Dickson
BirdLife International

To understand the difference we are making, we as conservationists need to be able to effectively evaluate the outcomes and impacts of our work. However, conservation projects are often complex, have a wide range of potential outcomes and impacts and are often severely limited in time and resources, all of which can make it challenging to know where to direct evaluation effort. This workshop will look at how to focus on the

aspects of a project where evaluation will provide the most useful information, while still being feasible to carry out with the capacity, time and resources available. Making use of materials in the PRISM toolkit (www.conservationevaluation.org) we will consider what a project or project action is trying to achieve, what key questions need to be answered and how to select appropriate evaluation methods and analyses. The workshop is open to all and would be particularly useful for anyone involved in or supporting project design, implementation and/or communication.

Workshop E: Expert Judgement (Sessions 1 & 2)

Mark Burgman
Centre for Environmental Policy, Imperial College, London, UK

We use expert judgements when we need to, when the evidence we need is unavailable or incomplete, the decision is pressing and the consequences of a wrong decision are appreciable. But scientists are subject to a host of psychological and contextual biases that make their estimates of quantities or the outcomes of future events unreliable. This workshop will provide an introduction to some simple and effective ways of deciding who is an expert, and how to engage with them to obtain relatively accurate and well calibrated judgements.

Workshop F: A Basic Introduction to Statistics for Conservation Science: Study Design and Analysis (Session 1 only: 27 March)

Alison Johnston
Cornell University, USA and Cambridge University, UK

Good conservation decisions are informed by ecological knowledge, which is obtained by well-designed studies and surveys and appropriate statistical analyses. Therefore study design and analysis are important foundations of conservation science. This is an introductory workshop that will be split into two sections. Firstly, we will introduce some basic principles of study design, including representative samples, stratification, bias and power analyses. We will discuss the importance of these aspects of study design in producing a dataset that is suitable to answer your conservation questions. The second section of the workshop will explore basic principles of statistical analysis, such as statistical significance, identifying important ecological variables and pseudo-replication. The workshop will end with some guidelines for producing graphics, an important aspect of communicating your analytical results in scientific papers and to conservation decision makers. The workshop will cover some basic general principles on all these topics. Due to the limited time, these principles will be generally described, but there will not be time to answer questions about your specific datasets.

Workshop G: How to write a scientific paper, or How to avoid Snoopy's problem... (Sessions 1 & 2)

Martin Fisher
Editor of Oryx, Fauna & Flora International, Cambridge, UK

Would you like this to be you? Are you determined that your first scientific paper will be rejected (so many are!)? Attend this workshop to find out how to ensure that this happens... or perhaps even how to avoid it...

Common pitfalls, glaringly obvious errors, verbosity - all these and more easy strategies to ensure that you receive your first rejection slip will be covered in painful detail...

It's the final year of your PhD, you've finally gathered some data, and you are going to be famous... well, at least you plan to write your first scientific paper... Do yourself a favour, do the Editor a favour, attend this workshop!

Workshop H: Bringing natural capital and ecosystem services into economic decision making (Session 1 only: 27 March)

Ian Bateman
UK Natural Capital Committee and
Land, Environment, Economics and Policy Institute (LEEP)
University of Exeter, UK

Like it or not, the large majority of decision in the world are made using some form of economic analysis. A recognition of this situation is becoming progressively more embedded within environmental policy and decision making – for example a 'natural capital' approach is the cornerstone of the recent 25 Year Environment Plan issued by the UK Government and it underpins much of the work of The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). Given this, a knowledge of the economic thinking underpinning these approaches is extremely helpful if you wish to turn your biological and ecological knowledge into action.

Assuming no prior knowledge of economics, this workshop will provide an overview of how natural capital and ecosystems services can be brought into the decisions made by both Government and businesses. As part of this we will examine how the complex nature of the environment can be incorporated within economic decisions in ways which reflect natural and physical science information. Indeed we will discuss whether economics is the best thing that ever happened to science and the ideal way to get its messages across to policy makers! We will look at examples ranging from the case of the UK Government deciding how to improve land use to the challenges of conserving wildlife in Sumatra. Everyone is very welcome!

Workshop I: Biodiversity and development projects: striking the balance between science and practice in biodiversity offset design (Sessions 1 & 2)

Diego Juffe Bignoli, Edward Pollard, and Emma Hume
The Biodiversity Consultancy, Cambridge, UK

Biodiversity offsetting refers to schemes designed to compensate for adverse impacts of development projects, such as wind farms, roads or ports, on biodiversity, so as to avoid them causing long-term biodiversity losses. To compensate for any biodiversity loss, projects must ensure additional equivalent biodiversity is created somewhere near the project location. This could include, for example, planting a woodland, digging a wetland, restoring degraded native grasslands or forests, reducing illegal hunting or increasing the productivity of fish spawning habitat. Offsetting is becoming a widespread tool in biodiversity management and many countries have enacted laws or introduced

policies requiring biodiversity offsets for the impacts of certain kinds of development projects. Yet there are many practical challenges to the effective design and implementation of offsets. This workshop will introduce the current science and practice of offset design and students will work through an example in small groups. This will be followed by an open discussion on the challenges and limitations of offsetting and participants own experiences of it. Attendees will come away with an understanding of the scientific principles and process behind offset schemes as well as an idea of the stakeholder-led compromises that need to be made to achieve optimal compensatory outcomes.

Workshop J: A beginner's guide to ecological networks (Session 2 only: 28 March)

Benno Simmons
Department of Zoology, University of Cambridge, UK

All species interact with other species. Yet much of conservation only considers species in isolation. Networks are a powerful approach to consider not only a species, but also its interactions with other species in a community. While ecological networks have a lot to offer conservation, they are surrounded by lots of complex terminology, complicated metrics and theoretical models. In this workshop, we will present a beginner's guide to using ecological networks for conservation, simplifying the terminology and metrics so that you can understand networks, how they are used, and why they are useful for conservation. We will also go through how to analyse networks, but no programming knowledge or laptops are required!