R101
Using R for analyses in conservation - An introduction

Monday 19th – Tuesday 20th October 2009

Course directed by: **Dr. Mark Gardener**

This course is designed to give you an introduction to the powerful (and free) R program. The emphasis is on learning how to use R to undertake your analyses rather than on the mathematical mechanisms. It would be useful to have an underpinning knowledge of analytical methods used in conservation biology, such as those covered in courses D101, D201 and D202.

The R program is a huge Open Source project. R itself is a powerful and flexible program that can undertake most type of data manipulation. It is also free and this means that you do not have to buy and learn a new program every time you need to undertake a different test. This course is designed as an overview of the R program and you will learn how to use it to carry out a wide variety of data analyses. We will begin by introducing the program itself and learning how to get data into it ready for analyses. Then we will move on to cover a wide range of statistical tests, starting with basic data summary, differences (e.g. t-test) and correlation. Later we will learn about more complex analyses like ANOVA and multiple regression. We next come to community analyses and look at clustering and multivariate tests.

Main themes covered:
How to use R e.g. inputting data, saving your work.
Basic statistics, summarising data.
Differences tests t, U, paired tests.
Correlation tests, Spearman, Pearson.
Association tests: Chi Squared.
Analysis of Variance, Multiple Regression.
Hierarchical cluster analysis and multivariate analyses.

R is free and Open Source software. Copies of the program (from the R foundation for statistical computing) will be provided along with additional analysis packages as required.

© R Development Core Team (2007). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0.

This course is suitable for anyone who would like to analyse and present their biological data professionally using what is fast becoming a recognised academic standard package. Benefits include:

- Scientific rigour and credibility
- A professional approach to data handling and presentation
- Enhancing analysis skills to apply to many conservation situations
- Enhanced awareness of the correct use of a statistical approach.

It is designed specifically for the conservation sector. Example participants on similar courses have included Masters students and those employed or volunteering for Government Agencies, Recording Societies, Ecological Consultancies, Wildlife Trusts and County Councils.

What to Bring:
A laptop with administrator rights and a 'Memory Stick'. Preston Montford shop stocks memory sticks and can provide a laptop **if notified in advance.**

Courses in data analyses in Conservation and Ecology

These courses are designed to form an integrated approach to data handling and analyses in conservation biology and ecology.

All courses will be practical and inter-active and will focus on examples from a range of biological recording areas.
Examples and handout material will be provided on a CD-ROM with a course file along with software as required.

There are 6 courses in the series:

D101: Data analyses in conservation biology.
10th-11th August 2009
D201: Advanced data analyses in conservation biology.
12th-13th August 2009
D202: Diversity & community analyses in conservation biology.
15th-16th September 2009
R101: Using R for analyses in conservation - an introduction.
R201: Advanced analyses in conservation using R.
21st-22nd October 2009
R202: Community analyses using R.
28th-29th November 2009

COURSE FEES AND WHAT'S INCLUDED

Single Room Resident:	£185 incl tuition, full board and accommodation
Shared Room Resident:	£175 incl tuition, full board and accommodation
Non-resident:	£145 incl tuition, lunches and evening meals

Please note that this course finishes the day before the next course in the series begins. If you require to stay between courses – we can offer dinner bed and breakfast for the night of Tues 20th October for an additional £35 per person.

COURSE TIMES

Course members, both resident and non-resident, should plan to arrive in time for lunch at 1.00pm. There will be staff on reception to welcome you from 12:00am onwards.

It is sometimes possible for visitors on courses to stay over additional nights - please don't hesitate to ask if you would like this facility.

BOOKING PROCEDURE

To book a place on this course please complete the booking form and send it together with a deposit of £50 (cheque payable to Field Studies Council) to the address below. Payment of the balance of the course fee will be due 30 days before beginning of course. Cancellation after this date may leave the customer liable for the full amount - a condition which is accepted when the booking is confirmed. You are recommended to take out personal cancellation insurance to cover this eventuality.

Field Studies Council

Preston Montford Field Centre

Montford Bridge, Shrewsbury, SY4 1DX

Tel: 01743 852 040 Fax: 01743 851 066

Email: enquiries.pm@field-studies-council.org

ACCOMMODATION AT PRESTON MONTFORD

Our Darwin building has twin bedded rooms, each with en suite facilities; as a general rule, we will allocate these rooms (if available) to couples and people willing to share - thus giving more people the benefit of these facilities. People paying the single room fee will be guaranteed a room to themselves (with wash hand basin); toilets, showers and bathrooms are along an adjoining corridor.

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PRESTON MONTFORD

R101

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19th – 20th October 2009

Monday - Tuesday

Arrive in time for 1:00pm lunch on Monday
Depart 4.00pm on Tuesday

Course directed by:

Dr. Mark Gardener