

R202 Community analyses using R

Monday 30th November – Tuesday 1st December 2009

Course Director: **Dr. Mark Gardener**

This course is designed to show you how to use the powerful (and free) R program to carry out a range of community studies. It assumes you have some prior knowledge of R, for example the previous course, R101.

We begin with a review of some basic community statistics and a refresher on the use of R itself. Next we look at diversity and community structure. We then build on these themes by examining hierarchical cluster analyses and show how to draw dendrograms to visualise similarities between communities. Then we will start to look at multivariate analyses and will cover a range of methods including correspondence analysis. These methods produce a wealth of output and we will look at a variety of ways to de-clutter the results and draw appropriate conclusions by producing detailed graphs.

Main themes covered:

Review of community statistics.
Diversity and community structure.
Hierarchical cluster analyses.
Introduction to multivariate analyses...
Principal Components Analysis.
Correspondence Analysis.
Canonical Correspondence Analysis.
Detrended Correspondence Analysis.

R is free and Open Source software. If you have not already got a copy on your computer, copies of the program (from the R foundation for statistical computing) will be provided along with additional analysis

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.
19th-20th October 2009

R201: Advanced analyses in conservation using R.
21st-2nd October 2009

R202: Community analyses using R.

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

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



R202

Community analyses using R

30th November – 1st December 2009

Monday – Tuesday

Arrive in time for 1:00pm lunch on Monday

Depart 4.00pm on Tuesday

Course directed by:

Dr. Mark Gardener