

The Warnell Continuing Education Program

Daniel B. Warnell School of Forestry and Natural Resources

Spatial Capture-Recapture Modeling

July 12-15, 2016

Instructors: Dr. Richard Chandler and Dr. Andy Royle
Warnell School of Forestry, Building 1, Room 304



WARNELL
SCHOOL OF FORESTRY AND NATURAL RESOURCES
THE UNIVERSITY OF GEORGIA

Overview

This course will introduce key models used in the analysis of spatially-explicit capture-recapture data, following closely material from the book “Spatial Capture-Recapture” (Elsevier, 2014). This book will be provided to each attendee as part of the cost of the course. Participants will learn how to estimate population parameters and model spatial and temporal variation in density and vital rates using a variety of data types, including data from camera traps, hair snares, live traps, and mist-nets. Models to be covered include closed and open population models, models of landscape resistance, mark-resight models, and integrated population models. Software coverage will include the R packages “secr” and “oSCR” as well as JAGS and WinBUGS.

Who Will Benefit?

Research biologists interested in the analysis of capture-recapture data

Instructors

Richard Chandler (University of Georgia) and Andy Royle (Patuxent Wildlife Research Center)

Computing

People must bring their own laptops with a recent version of R, WinBUGS and JAGS installed and functional .

Course requirements

This is an intermediate-level workshop with topical lectures followed by work sessions where we analyze data and solve exercises. Participants should have (1) good working knowledge of modern regression methods (regression, ANOVA, generalized linear models, random effects); (2) experience analyzing data in R; (3) familiarity with using WinBUGS or JAGS; (4) knowledge of basic capture-recapture concepts and methods.

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Course Itinerary (9:00 AM - 12:00 noon, 1:00-5:00 PM daily)

Day	Session
Tuesday, July 12	AM - Workshop introduction. Fitting basic statistical models (regression, GLMs) in WinBUGS/JAGS, from R, using the R2jags or R2WinBUGS packages.
	PM - Introduction to Bayesian analysis of ordinary capture-recapture models: Model M0, Mb, Mh, individual covariate models, distance sampling, etc.
Wed, July 13	AM - General formulation of SCR models: basic models and their analysis in WinBUGS. Poisson and Bernoulli models for trapping arrays (camera traps, hair snares, etc.), multinomial encounter models. Multi-session models.
	PM - Likelihood analysis concepts. Using the 'secr' and 'oSCR' R package. Spatial modeling of density
Thurs, July 14	AM - Modelling landscape connectivity and resource selection
	PM - Open population models, survival and recruitment
Friday, July 15	AM - Open population models, transience and dispersal
	PM - Integrated population models and mark-resight models

Hotel Accommodations

A block of rooms has been set aside at the Holiday Inn Express (706-546-8122) for attendees of "Spatial Capture-Recapture Modeling" for the nights of July 11-15, 2016. The hotel address is 513 West Broad Street, Athens, GA 30601. Rooms are \$89.00 per night plus % 14 percent sales tax and a \$5.00 state transportation tax. Please use the code "SCR" for making reservations.

Cancellations

In the event that you need to cancel, in order to receive a refund you must contact Ingvar Elle (706-583-0566 or ingvar@uga.edu) by June 28, 2016.

Parking and Directions

A visitor parking deck is located just north of the Georgia Center. Parking is \$10.00 per day. For a map and directions go to: http://www.warnell.uga.edu/h/aboutWSFR/directions/index_html

Special Needs

If you require special services or dietary considerations, contact Ingvar Elle at 706-583-0566 or e-mail him at ingvar@uga.edu prior to June 21, 2016.

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Registration Fee

USD\$550 (normal rate), USD\$350 (student rate), which includes lunch, refreshment breaks, and instructional materials. The deadline for registration is May 1, 2016.

Register and Pay Online

<http://conted.warnell.uga.edu/courses/cap-recap2016>

Hard Copy Registration

We accept personal or company checks for payment if registering using the hard copy form below, in which case a check must accompany the form to guarantee your place in the course.

Registration Form

Name - please print

Preferred name for badge

☐ Business mailing address or ☐ Home address (please check one)

City State Zip County, if Georgia

Home phone Work phone Fax

Email address ☐ Please send me e-mails about other Warnell Continuing Education programs.

Position Organization/employer

By registering for this event I agree to comply with all event and lodging cancellation policies.

Spatial Capture-Recapture Modeling

July 12-15, 2016

Normal Rate..... \$550.00

Student Rate..... \$350.00

Enclosed is a check # ____

(payable to Warnell School of Forestry and Natural Resources)

Your registration will not be processed until payment is received.

Mail Payment to: Attn: Ingvar Elle

Warnell School of Forestry & Natural Resources

The University of Georgia

Athens, Georgia 30602