The Warnell Continuing Education Program
Daniel B. Warnell School of Forestry and Natural Resources

Spatial Capture-Recapture Modeling

March 9-12, 2015

Instructors: Dr. Richard Chandler and Dr. Andy Royle

Warnel School of Forestry, Building 1, Room 304

WARNELL
SCHOOL OF FORESTRY AND NATURAL RESOURCES
THE UNIVERSITY OF GEORGIA

Overview
This course introduces some key models used in the analysis of spatially-explicit capture-recapture data using Bayesian and classical (likelihood) methods. It closely follows 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.** The workshop will cover basic model and data analysis concepts in R and the BUGS language (using WinBUGS or JAGS), analysis of classical capture-recapture models (models M0, Mb, Mh, etc…), concepts and methods of spatial capture-recapture models and their analysis using the R package "secr" (M.G. Efford) and also using BUGS.

Who Will Benefit?
Research biologists interested in the analysis of capture-recapture data

Instructors
Dr. Richard Chandler (University of Georgia), Dr. Andy Royle (Patuxent Wildlife Research Center), and Dr. Jared Laufenberg (University of Georgia).

Computer to bring
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.
Course requirements include:
1. A good working knowledge of modern regression methods (regression, ANOVA, generalized linear models, random effects);
2. Experience with the R programming language at a level higher than "beginner". You should be a regular R user. Manipulating data in R should be routine for you.
3. Familiarity with using WinBUGS or JAGS. You should have no problem fitting a basic regression model in WinBUGS.
4. Knowledge of basic capture-recapture concepts and methods. E.g., the Otis et al. monograph, Pollock's Robust Design, distance sampling.

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

Day	Session
Monday, March 9	**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.
Tuesday, March 10	**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' R package. Spatial modeling of density
Wed. , March 11	**AM** - Modelling landscape connectivity and resource selection
	PM - Unmarked individuals and mark-resight data
Thurs., March 12	**AM** - Open population models, transience/dispersal in SCR models
	PM - Integrated population 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 March 8-12, 2015. The hotel address is 513 West Broad Street , Athens, GA 30601. Rooms will be $72.00 plus %14 percent sales tax. For this discount please give code "CRM".

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 February 23, 2014.

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 February 23, 2014.

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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 February 6, 2015.

Register and Pay Online
http://conted.warnell.uga.edu/courses/spatial-crm

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
March 9-12, 2015
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