



Resource Selection Function Workshop: May 21-23, 2025

The Oregon Chapter of The Wildlife Society (ORTWS) is hosting a two and a half day RSF workshop, taught by Dr. Ryan Long from the University of Idaho. The workshop will be held May 21-23 at Oregon State University, Location Room 118. USB thumb drives containing all workshop materials (presentations, datasets, R code, etc.) will be provided to each attendee.

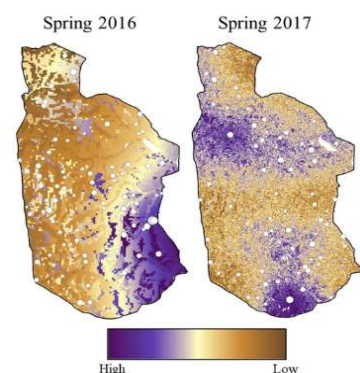
TOPICS WILL INCLUDE:

- Background and theory of resource selection analysis
- Sampling and study design
- Categorical, continuous, and count-based approaches to quantifying resource use
- Mixed-effects modeling
- Model selection and inference
- Predictive mapping

DETAILS: Analysis of Resource Selection by Animals

Course Description

Space-use decisions made by animals in heterogeneous environments can reflect a variety of important processes, including the acquisition and investment of energy, avoidance of mortality from predation or other sources, intra- and interspecific competition, and interactions with both natural and anthropogenic features of the landscape. Consequently, quantifying patterns of resource selection



by animals can provide key insights into relationships among the environment, individual fitness, and population dynamics that are critical for making effective management and conservation decisions. Although powerful model-based approaches to quantifying resource selection have been developed in recent years, many managers and researchers continue to use outdated techniques that provide limited insight into complex wildlife-habitat relationships.

The objective of this course is to provide participants with the skills and confidence necessary to proceed from a raw dataset of animal locations and habitat characteristics to a final resource selection function using modern modeling techniques. Course structure will consist of lecture modules in the mornings (roughly 30% of the course) focused on key elements of the background and theory of resource selection analysis, and hands-on computer labs in the afternoons (roughly 70% of the course). Some previous experience with ArcGIS and/or R statistical software will be helpful.

Example Course Topics

Introduction to resource selection analysis

- Central definitions and concepts (use, availability, selection, preference, etc.)
- Spatial and temporal scale (1st through 4th order selection and the importance of daily and seasonal patterns of selection)
- Sampling and study design (the various sampling schemes and units typically associated with resource selection studies)
- Categorical data and selection ratios (2D vs. 3D selection ratios, selection ratios as the response variable in a modeling framework)
- Modeling resource selection (advantages, disadvantages, goals, and steps)

Logistic regression

- The logistic model and classic logistic design
- Difficulties of the classic approach
- Mixed-effects logistic regression (with a discussion of conditional logistic regression)
- Hands-on computer lab: Modeling resource selection using mixed-effects logistic regression

Modeling use as a continuous variable

- Resource utilization functions (RUFs; Marzluff et al. 2004, Millspaugh et al. 2006)
- Negative binomial regression (Sawyer et al. 2006, 2007, 2009)
- Hands-on computer lab: Modeling variation in intensity of use

Registration Details

Registration is limited to 24 attendees, so ACT NOW!
ORTWS is sponsoring 2 undergraduate and 2 graduate
student attendees. Select this link to apply:

<https://forms.gle/T6vVDxiGq398KsEF9>

Registration Deadline: 16 May 2025, or when maximum is reached

Workshop Start: 21 May 2025, 9am

Workshop End: 23 May 2025, noon

Location: Oregon State University, Corvallis, OR
Hall Room 118

Snacks and coffee provided, lunch on your own

Registration Fees: \$400 – ORTWS members
 \$450 – non-ORTWS members

Instructor Contact Information

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For questions related to workshop registration please contact: Kim McCune, kimmccune@ortws.org

For questions related to workshop content and logistics, please contact: Dr. Ryan Long, ralong@uidaho.edu