

## **JAM 2019 Workshops Overview**

### **GIS/Spatial Workshop**

**Organizer/Presenter: Richard Lawrence (Arizona Game and Fish Department)**

The Mobile GIS Data Collection workshop will feature an introduction to the use of Survey 123 as well as how to create new Survey 123 Surveys. Other potential topics include field usage of a Survey 123 Survey and Data Management.

*Timeline:*

8:30AM – 12:00PM Workshop  
12:00PM – 1:30PM Lunch Break  
1:30PM – 3:30PM Workshop  
3:30PM Adjourn

The afternoon session will be continuation of the morning session. Nothing will be repeated (by design).

### **Piscicide Applications Short Course**

**Organizer/Presenter: James Dominguez (New Mexico Department of Game and Fish)**

Piscicide Applications workshop is a daylong training for those involved with Piscicide treats for the removal of non-native fish. Participants will hear from New Mexico Department of Game and Fish and Arizona Game and Fish Department colleagues currently involved with Piscicide treatments. Topics covered will include New Standard Operating Procedures, Neutralization, Regulatory Overview, and Case Studies.

*Timeline:*

9:00AM – 12:00PM Workshop  
12:00PM – 1:30PM Lunch Break  
1:00PM – 4:00PM Workshop  
4:00PM Adjourn

### **Venomous Reptile Handling Workshop**

**Organizer/Presenter: Dr. Erika Nowak (Northern Arizona University)**

This training is intended for students, resource managers, park rangers, wildlife managers, law enforcement personnel, field biologists, and others who may be called on to safely remove a venomous reptile from a dangerous situation, and for those who wish to better understand venomous reptile ecology and address ophidiophobia. Dr. Nowak will conduct an ~ 1.5 hour interactive presentation using a Powerpoint presentation, handouts, and visual aids to explain common Arizona venomous reptile identification, ecology, and behavior, followed by a ~ 1 hour demonstration and class participation in supervised handling of non-venomous and venomous snakes, using snake-safe tongs and snake-proof holding containers.

*Timeline:*

9:00AM – 12:00PM Workshop  
12:00PM – 1:00PM Lunch  
1:00PM – 4:00PM Workshop

## **An Introduction to Occupancy Estimation and Modeling in R**

**Organizer/Presenter: Adam Duarte (Oregon Cooperative Fish and Wildlife Research Unit, Oregon State University)**

Understanding factors governing spatiotemporal heterogeneity in the distribution of species is a fundamental task in ecology. Indeed, quantifying how species occurrence (e.g., presence/absence) is related to environmental factors enables ecologists to make model-based predictions of species occurrence under various environmental conditions and contribute to the fields of biogeography, evolutionary ecology, invasive species ecology, conservation biology, and natural resource management. Thus, ecologists often invest a substantial amount of resources to collect detection/non-detection data to understand patterns in species distribution. Using these data directly, however, can be misleading because the species of interest may not always be detected when present. Occupancy models are a flexible approach to correct replicate detection/non-detection data for these false absences and allow ecologists to reliably estimate species distribution. The primary aim of this workshop is to provide participants an introduction to different types of occupancy models widely used in ecological studies (i.e., single season, dynamic, multistate, etc.) in a format that does not require extensive quantitative understanding and skills. The course will consist of both lectures and computer exercises that rely on the use of program R. Thus, some familiarity with program R will be helpful and participants are encouraged to bring a laptop computer to complete the exercises.

### Timeline:

8:30AM –12:00PM Workshop

12:00PM – 1:00PM Lunch

1:00PM – 4:30 PM Workshop

4:30PM Adjourn

The workshop will consist of a mix of lecture and hand-on exercises all day.

## **Turtle Conservation and Monitoring Workshop**

**Organizer/Presenter: Michael Forstner (Texas State University), Leland Pierce (New Mexico Department of Game and Fish), and Ivana Mali (Eastern New Mexico University)**

This is a two-part workshop developed in collaboration between New Mexico and Texas professionals. The first portion of the workshop (morning) will use lectures and discussion sessions: 1. to address the historic and current work on individual species or turtles as a group in the two states 2. use those examples to demonstrate how research contributes to regulatory decision-making and 3. to address the knowledge gaps and identify priorities for future research. The second portion of the workshop (Turtle Trapping 101; afternoon) will focus on turtle trapping methodology/survey techniques, marking procedures, and collecting morphometric data. Participants will be introduced to tricks and insights regarding the best practices as well as the inherent but often misunderstood biases associated with survey techniques.

### Timeline:

8:30AM –12:00PM Workshop

12:00PM – 1:00PM Lunch

1:00PM – 3:30 PM Workshop

3:30PM Adjourn