

## ACOUSTIC SURVEY METHODS FOR BATS COURSE

*Sample Agenda – Exact Times, Lectures, Demonstrations, Field Trips, and Included Meals will Vary According to Venue*

### **DAY 1: INTRODUCTION TO ACOUSTIC SURVEYS, PROJECT PLANNING, BAT DETECTOR OPTIONS, AND SURVEY SITE-SELECTION**

9:00am—Meet at Venue for Introductions, Orientation, and Training Objectives

9:30am—Lecture: Introduction to Acoustic Monitoring: Basic Considerations for Successful Projects

10:00am—Lecture: Detector Types, Micro-siting, Data Collection, and Deployment Tips

11:00am—Lecture/Demo: Acoustic Analysis Software Types and Hands-on Demonstration of KaPRO and SonoBat

1:00pm—Hands-on Demonstration: Bat Detectors, Settings, and Deployments

3:00pm—Lecture: Passive (Stationary Point) Monitoring Protocols and Applications

4:00pm—Field Trip: Ready Participant Gear for Deployment: Settings, Data Sheets, Meta-data Collection, Go-button Steps

7:00pm—Field Trip: View Bat Out-flight and/or Demonstrate Active Bat Recording and Bat Observation Techniques

10:00pm—Field Trip: Collect Data, Tips for Assessing Proper Detector Function, and Archiving Data and Metadata

### **DAY 2: ACOUSTIC SURVEY DATA, DATA MANAGEMENT, POST-PROCESSING, AND ATTRIBUTING FILES USING KAPRO & SONOBAT**

8:00am—Field Trip: Collect Long-term Passive Data, Confirm Detector Functioning, Record Essential Metadata

10:30am—Lecture: Acoustic Data Management, Tips, and Tricks

1:00pm—Hands-on Demo: Organize Digital File Storage and Create Metadata Files

2:30pm—Hands-on Demo: Using KaPRO and/or SonoBat to Post-process Data, AutoID, and Prepare for Manual Vetting

4:30pm—Lecture/Demo: Understanding KaPRO and/or SonoBat Outputs

6:30-9:00 Field Trip: Passive and/or Active Recording at Local Natural Area

9:00-11:00 *Optional Geek Session - Post Processing Data Using Other Acoustic Analysis Programs*

### **DAY 3: INTRODUCTION TO ECHOLOCATION AND IDENTIFYING BATS ON THE BASIS OF THEIR ECHOLOCATION CALL RECORDINGS**

8:30—Lecture: Introduction to Echolocation and Viewing Bat Calls

9:00—Assessment: Identifying Bats, Non-Bats, Behavior and Call Quality

10:30—Lecture: Qualitative and Quantitative Call Characteristics of High-frequency, Non-myotis Regional Bat Species

11:30—Assessment: Identifying High-frequency, Non-myotis Regional Bat Species

1:00—Lecture: Qualitative and Quantitative Call Characteristics of Low-frequency, Non-myotis Regional Bat Species

2:00—Assessment: Identifying Low-frequency, Non-myotis Regional Bat Species

3:00—Lecture: Qualitative and Quantitative Call Characteristics of Regional Myotis Bats

4:00—Assessment: Identifying Regional Myotis Bats

6:30-9:00 Field Trip: Practice Passive and/or Active Recording at Local Natural Area

9:00-11:00 *Optional Geek Session – Manually Vetting Post-processed Bat Call Data from KaPRO and/or SonoBat Outputs*

### **DAY 4: GENERATING AUTOID COMPUTER OUT-PUTS, MANUAL VETTING EXERCISES, AND REPORTING ON ACOUSTIC DATA**

8:30—Assessment: Identifying Regional Bats

10:00—Lecture: Viewing KaPRO and/or SonoBat Outputs; Excel Tips for Interpreting AutoID's, Preparing for Manual Vetting

11:00—Hands-on Demonstration: Begin Manual Vetting Exercises

1:30 —Hands-on Demonstration: Continue Manual Vetting Exercises

3:00—Lecture: Using Excel to Interpret KaPRO and/or SonoBat Outputs

4:00—Q&A: Individual Issues and/or Lingering Questions

6:30-9:00—Field Trip: Last Chance to Practice Passive and/or Active Recording, Comparing Bat Detectors, Collecting Data

9:00-11:00 *Optional Geek Session - Post Processing data/manual vetting call files upon return from fieldwork*

### **DAY 5: CONDUCTING ACOUSTIC TRANSECTS, GEAR SELECTION, ROUTE SELECTION, DEPLOYMENT TIPS, PRACTICUM**

9:00—Lecture: Acoustic Survey Essentials: Considerations for Compliance Surveys, NABat, and Other Regional Protocols

10:00am—Lecture: All About Mobile Transects, Pros and Cons, Route Selections, Essential Equipment Needs

11:00am—Hands-on Demonstration: Setting Up Detectors and Computer Files for a Mobile Transect

1:30pm—Lecture/Demo: Using Myotissoft Transect to Interpret Mobile Transect Data

2:30—Hands-on Demonstration: Rigging Vehicle(s) For Transect

7:30-9:30—Field Trip: Conduct Mobile Transect

9:30-11:30—Hands-on Demonstration: Off-load, Post-process, Analyze, Manually Vet, and Report on Mobile Transect Data