

# 2019 Bioacoustics Team - February 27th, 2019

## **Methods for Bioacoustics**

During the research endeavor at Costa Rica, the Bioacoustics Team will be conducting several methods and techniques to gather information of the sound which animals emit. Here are the list of the methods we will use to collect the data in the rainforest:

### **“Lie and Wait”**

For this method, we will find a place with a lot of animal traffic and wait upon until the animals to surface out. It is crucial for the animals to be accustomed to our presence because if we do not, the sound in which the animals emit will be preferably different from what they usually produce. Additionally, most of the “lie and wait”s happen at night, meaning we would be sitting in the dark, bringing some tarps to sit on, and wait until we hear our target animal or animals making noises.

### **Alarm Call**

Several of the sounds are to be recorded through a method called alarm call - a warning cry made by a bird or other animal when startled. For this technique, we will cooperate with the Birds Team; the Birds Team would catch the birds using their net and the Bioacoustics Team would record the birds' alarm calls congruently.

### **Voice Announcements**

Voice announcements are simply short disclosures at the end of every recording. Within each announcement, the recordist describes themselves and important information about the recording, such as species, current date and time, location, behavioral context of sound, weather or not playback used, number of individuals involved, prominent background species, habitat description, weather, and recording equipment. Voice announcements are crucial because they provide the most relevant information of sound identification on the spot and prevent from losing track of the essential data of the recording.

For instance, a sample voice recording, which will be made this trip, will be similar to the following: “That was a common Pauraque (*Nyctidromus albicollis*). The date is the 4th of March 2018, and the time is 22:00. The location is El Plastico, Selvatica, Costa Rica. That was a night call. Playback was not used. Two people are involved in the recording, and they are Wendy Welshans and Sam Seo. Background noises are the local birds and insects. The habitat is a tropical rainforest. The recording equipment used is the shotgun mic.”

To cover and remember all of these aspects of voice announcements, we will tape a list of bullet points inside of the microphone case.

### **Playback**

Playback is not a method we use to record, but rather, a way to induce potential recordings. For example, playbacks are exercised by playing a recording of an animal in hopes of hearing a response back from the target animal in the vicinity. Though, this is a common way to prompt responses from birds, similar to the previous year, we will not use playback because it often confuses the listeners with the sound of a playback and the sound of a new recording.

### **Data Entry**

At the end of each day, the Bioacoustics Team will enter all of the information, including the voice announcements, into a data sheet on the Bioacoustics Team's computer. By doing so, we will be able to organize our information in a productive manner and set an agenda, goals for the next day.

### **Journal entry**

Besides the data entry which we organize at the end of each day, the Bioacoustics Team will also write journal entries in our Rainforest notebooks to give a further index, summary of the event, discovery, and day. The format of the journal entry is as the following: date, name, location, collaborators, habitat, weather, description of activities, and important biological observations.

A sample daily journal looks like the following: "15, June 2010, Andi Mack. Gahavasuka Provincial Park, EHP (06 °00'53" S, 145° 24'45"E) 2400 m asl. Mid montane forest as described in detail on 13 April 2010. Overcast all day, temp 15~29 C, light mist in the early morning, heavy rain at 1600h. Conducted mist-netting surveys with Paul Igag and Banak Gamui. Opened 15 12, nets along the main trail at 0600 and tended them for birds until closing at 1530 prior to heavy rain. 28 birds captured and banded, noted on data sheets."