Acoustic Recording Unit (ARU) Deployment Protocol

- ARUs for Shrub Planting Cluster: AudioMoths

<u>Preparation before deployment</u>

- Needs 3 AA batteries
- Place SD micro card in the slot
- For configuring the device, connect it to computer using the port
- Make sure that when you place it back in the box, the microphone part of the chip is in the corner where the microphone outlet is (circle in the picture above)

We have also produced a separate YouTube video showing how to program the AudioMoths exactly as should be done for these surveys so please take a look at these too.

Download the following 2 apps from the website onto your desktop/ laptop/ device where you will connect the audio moth:
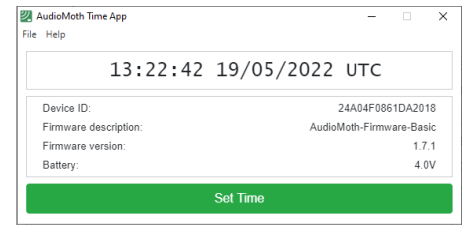
https://www.openacousticdevices.info/applications

  - AudioMoth Configuration App (will work with macOS, Windows, and 64-bit Linux systems)
  - AudioMoth Time App (used to set time on your device)

ARU settings for AudioMoth

1. Switch the device to USB/Off, and connect it to your computer (you will see a green indicator on the device)

2. Use the **AudioMoth Time app** to set the time on your device
   a. Click local time on the AudioMoth Time app
   b. You should see the change in time on your AudioMoth

3. On your **AudioMoth Configuration app**,
   a. Under Recording tab, use following settings:

   > - Sample rate: 48
   > - Gain: High
   > - Enable sleep/record cyclic recording: unchecked
   > - Enable LED: checked
   > - Enable low-voltage cut-off: checked
   > - Enable battery level indication: checked

   b. Look up the local sunrise time of the first date the device is getting deployed.

       i. We would like to obtain covey calling data for 1 hour (45 minutes before sunrise until 15 minutes after sunrise). However, unlike the SM mini recorders the AudioMoths are unable to sync to local sunrise time.

       ii. Therefore we need to add a longer recording period to account for the change in sunrise time throughout the season and for daylight savings. To do this we have decided to add a one hour buffer to each side of recording:

  c. Under Schedule tab, use the following settings:

    1. Start time should be 1 hour 45 minutes before the first local sunrise time on deployment date, for example if sunrise is at 6:30, Start recording would be set at 4:45 am. End recording would then be set at 1 hour and 15 minutes after the first local sunrise time on deployment date so that would be 7:45 am.

    2. This below is an example of what the recording period would look like:

> - Start recording: 4:45
> - End recording: 7:45
> - Click Add Recording period

IMPORTANT: Make sure that your times are in standard time format (not daylight savings)

4. Leave everything else as it is
5. Click Configure AudioMoth button on your app (you should see a flickering green indicator, can see more details about these led indicators on https://www.openacousticdevices.info/led-guide)
6. Unplug your device.

** Before deployment, put it on the Custom switch **

In the field

At a survey location on the site, one audio moth should be deployed as following:

1) Drive a 5-foot metal t-post approximately 15-20 cm into the ground using a mallet.
2) Attach the audio moths to the posts using 2 or 3 zip-ties (or more if needed to secure)
3) Double check that ARU is set to record correctly before leaving
4) Record GPS coordinates of the ARU once when first setting up
5) All ARUs are waterproof so do not need to be placed in a bag/ undercover.