

National Data Processing Laboratory (NDPL)

Please review these common mistakes:

1. **Missing serial numbers:** We require the detector serial number in the metadata and as the detector prefix to process the data.
 - Your detector prefix needs to be the detector serial number.
 - Double-check that the correct detector serial number is recorded in your metadata and acoustic files **exactly** as it appears on your detector, in your metadata, and in your acoustic files. The serial number in the WAV filenames should match what is listed in your metadata (detector specific guidance on pg. 7)
2. **Incorrect survey location names:**
 - Use the SAME location name as in previous years with identical spelling.
 - If you do not know what the name should be, check your NABat project or contact your Hub Coordinator for assistance.
 - Ensure that the location name in your folder structure matches the location name used in your metadata.
 - Ensure the serial number in the filenames within your location folder matches the serial number listed for that location in your metadata.
3. **Survey location lat/long does not match listed GRTS cell:** [Check](#) to make sure your survey location (lat/long) actually falls within the boundary of your target NABat cell. Frequently, the recorded coordinates are in a different, adjacent cell when sampling near the edge.
 - If your detector was placed outside of your target GRTS cell, update your metadata and folder structure with the correct cell number.
 - This common mistake is avoided by using Survey123 for metadata collection.
4. **Do not submit duplicated metadata:**
 - **Please** don't submit metadata with Survey123 & Excel. If both formats are submitted, Survey123 will be used.
 - **Delete** accidental or incorrect Survey123 entries; if multiple surveys are submitted for a single location, notify the NDPL which is the correct one to use.
5. **Missing data:** If you know that no files will be submitted for a location, do not include metadata for that location or notify NDPL to exclude that metadata.
6. **Files included that shouldn't be processed** – Only include files that you want processed. Don't include folders that say "failed attempt" or "do not process" – they can be onerous to weed through with our pipeline. Don't include data from prior years that have already been processed or duplicated zipped files of data. For Audiomoth data, don't include T.Wav files in addition to a folder of expanded files – please send just one set.

2024 Stationary Acoustic Data Checklist

I. BEFORE going into the field:

- Check your NABat Project and ensure the cells you will survey are selected. Release any cells that you previously selected that you will not be monitoring.
- Add clong@batcon.org (“Long, Christen”) as a project member (at the “Analyst” level) to your NABat project.
 - Add your respective Hub coordinator if applicable:
 - For the PacWest Hub, add pwhub@batcon.org
 - For the Southwest Hub, add swhub@batcon.org
- Detector Settings:
 - Recorded file prefix should be set to the detector serial number.
 - Detector-specific settings [here](#).
 - Ensure the detector time/date is correct.
 - Format the SD card with the detector.
- Plan for Metadata collection – [Survey123](#) (*preferred*) or [Excel Template](#).

What is metadata?

Metadata is data that provides information about other data
(e.g., recording location latitude and longitude, detector type).

We cannot process your data if we don't receive metadata in the requested format.
Please see the common metadata mistakes (**pg. 1**), so your data processing goes smoothly.

- If using Survey123 for metadata (*preferred*):
 - Download the Survey123 app on your field tablet or cell phone.
 - In Survey123, download the NDPL Stationary Acoustic Site Metadata form from [here](#) or with this QR code:
- If using the [Excel Metadata Template](#):
 - Fill out what you can before going into the field.
 - Do not submit both Survey123 and Excel metadata.



II. WHILE in the field:

- Set up the detector.
 - If the detector has a built-in GPS, update the location each time the detector is relocated.

- Take a photo from behind the detector, in the direction that it is pointing (see example pg. 10).

- For each detector deployed, fill out the metadata:
 - In the Survey123 form, “**Collect**” metadata for each detector and complete four sections:
 - Complete the Visit Info – Arrival
 - Site Info
 - Equipment Info
 - You will start the form but will **not** submit it until you are taking down the detector.
 - Close out of the survey (X in the top left) and “**Save in Drafts**” until you are ready to submit.
 - OR fill out metadata for each detector on the printed fieldwork version of the Excel template.

- Return to the field to collect the detector after at least four nights.

- Complete Metadata when picking up each detector.
 - In Survey123, complete the last section(s)
 - Visit Info – Pickup
 - Submit the completed form by clicking on the checkmark at the bottom right of the form.
 - Note: If you are unable to send the form because of limited cellular/data access, send the form from the Survey123 Outbox once you have service.
 - OR complete the Excel template with the survey date and end time and record any notes about the deployment.
 - Certain columns call for a **single** specific standardized answer. Use NABat-specified categories for microphone orientation, habitat type, and clutter type. Mic height, distance to clutter, and percent clutter must be a single numeric value, not a range.

III. Returning from the field:

- If you used a paper/Excel metadata sheet, transfer all handwritten information to the Excel metadata document. You should have one row per detector or for each monitoring deployment.
 - **Required fields are:**
 - **GRTS cell ID:** Use the GRTS ID and **not** the CONUS ID
 - **Location Name:** No spaces. Only letters, numbers, and underscores. Must match metadata – check spelling and capitalization.
 - **Latitude & Longitude:** Use WGS84 **decimal degrees**
 - **Survey Start Time and End Time:** Local date and time when detectors were set up and taken down
 - use the format MM/DD/YYYY HH:MM.
Note: Provide actual time, not “30 minutes before sunset”
 - **Detector manufacturer and model:** Use the dropdown menu
 - e.g., Wildlife Acoustics SM4BAT-FS
 - **Detector Serial Number**
 - **Microphone type:** Use the dropdown menu
 - e.g., Wildlife Acoustics SMM-U1
 - **Microphone height** in meters.
- Save a backup copy of your raw data.
 - There is always a risk of lost or damaged data when mailing it.
- Organize your data/recordings on your external hard drive in the following way:

Root Folder: GRTS_ID#

Stationary

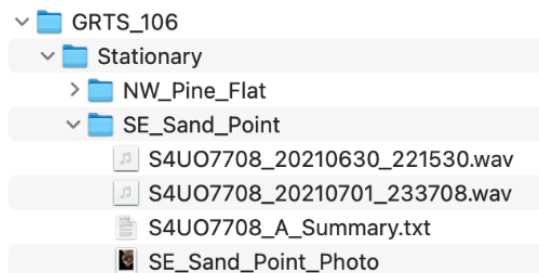
↳ **Location_Name_1** (No spaces. Only letters, numbers, and underscores. Must match metadata – check spelling and capitalization)

↳ Acoustic recordings (.WAV), log file (.TXT)*, photo†

↳ **Location_Name_2**

↳ Acoustic recordings (.WAV), log file (.TXT)*, photo†

For example:



Note: your WAV files can be in a “Data” folder within your Location folder if using a Wildlife Acoustics detector, or in their date folders if using a Titley detector.

- Send the following on an external hard drive to the relevant address below:
 - o Organized recordings and log files
 - o Completed [metadata spreadsheet](#) (if not using Survey123)
 - o Completed & Print Information Form (pg. 6)

- Send an **email to rapid@batcon.org when you put your data in the mail.** Include:
 - o Name and contact information (email) of the preferred point of contact.
 - o Agency/organization name and region/forest/park/etc.
 - o Regional species list(s) and/or considerations (if desired/applicable).

* Include the log or text file associated with those WAV/ZC files within the same folder. These are .txt files associated with the recording files. Examples can be found at the end of this document.

† If you don’t have any new site photos, you do not need to include old photos from previous years.

If you are outside CA/NV/NM/AZ, send to:

Bat Conservation International
145 McAllister Way
Santa Cruz, CA 95060 USA

If you are in California or Nevada (PacWest Hub), send to:

Jessie Bunkley
2265 Patrick’s Point Drive
Trinidad, CA 95570

If you are in Arizona or New Mexico (SouthWest Hub), send to:

Kathy Gerst
5198 N Camino Esplendor
Tucson, AZ 85718



NABat Stationary Acoustic Data Information Form

please print and include this form when mailing data to the
National Data Processing Lab

Sender's Name:

Email address:

Agency or Organization:

Region/ District/ Forest/
Park (as applicable):

NABat Project Name:
(if known)

Return mailing address:
(please no P.O. Boxes)

GRTS cell #(s) included:

Primary contact info:
(if different from above)

Notes

Did you use Survey123?

Yes

No

Filename Prefixes

Below are examples of serial numbers from common sensors:

- **Wildlife Acoustics** sensors: S4U03473 (often start with S4U0 SMU0)
- **AudioMoths**: 24E1440360370D54 (long number with numbers and letters. NOT the number on the barcode sticker, must plug-in device to see serial number)
- **Pettersson**: 51896 (5-digit number often starting with 5)
- **Anabat**: 576087 (often a 6-digit number)

Wildlife Acoustics

SM4BAT FS – Leave as default of serial number

Song Meter SM4BAT FS User Guide

4 Settings

4.3 Setting the Device Prefix for Recorded Files

The prefix appears in the name of every recording file to easily identify the recordings made on a specific recorder or from a common shared schedule. The default prefix combines the model number with the serial number. You can specify a custom filename prefix of up to 12 characters to identify each recorder.

1. Navigate to **Main Menu > Settings > Location > Prefix**.
2. Specify a 1 to 12 character prefix from left to right:
 - a. At the first position, press **▲ Up** to cycle through the alphabetic characters A to Z. Press **▼ Down** to cycle through the numbers 9 to 0. You can also select a hyphen (it is above the digit 9).
 - b. Press **▶ Right** to advance to the next position in the prefix and repeat the previous step.
3. To erase characters, select the blank character that is above the hyphen and below the letter A. All of the characters to the right of the blank character are erased.
4. When finished, press **▶ Right** to advance to the last position and then press **ENTER**.

NOTE: The prefix can only contain capital letters, numbers, and hyphens. When you change the default prefix, the serial number of the recorder no longer appears in the recording file names; however, it does still appear in the metadata inside the file.

SongMeter Mini Bat (2) – Leave as the default of serial number

1. The default “Recorder Name” is the Serial Number
2. It if needs to be changed: PAIR>Configure>
3. Edit Recorder Name

Titley Scientific

Anabat SWIFT

1. Turn on the detector and press the yellow Settings button (gear icon) in the bottom right corner of the screen.
2. Select the 'Recording' menu.
3. Scroll through the first two 'Recording' menu pages until you reach 3/3.
4. Select 'Filename Prefix' and ensure it is set to 'On.'

Chorus & Ranger

1. Choose to use the recorder serial number as a filename prefix in the Recording Settings menu or in the SD Card menu. To change the prefix, use the up/down arrow buttons to select File Prefix, then use the left/right arrow buttons to choose Serial #.

Audiomoth - Do NOT re-name files

Petterson

D500X

1. Rename files by adding the detector serial number as a prefix to the filename.
 - a. With the Rename function, type the serial number into the "Add this as a prefix to all filenames."

Log files/Summary files

Logfiles are important and should not be renamed or deleted. Each detector type creates a different log file.

- Wildlife Acoustics: ~ once per minute during a recording, the SM4BAT FS appends a line to the summary text (.txt) file. This file is in comma-separated values (.csv)
 - Filename: Summary.txt
- Anabat: .txt file diagnostic log files contain information about the recording sessions on the SD card. Information such as temperature, battery voltage, GPS locations, settings and user interactions can be extracted from this file.

Example detector photo



Figure 1. Example photo from behind the microphone, facing the same direction as the microphone, to include with NABat acoustic data submission. The goal is to capture a view of the space the detector is sampling.