



NABat

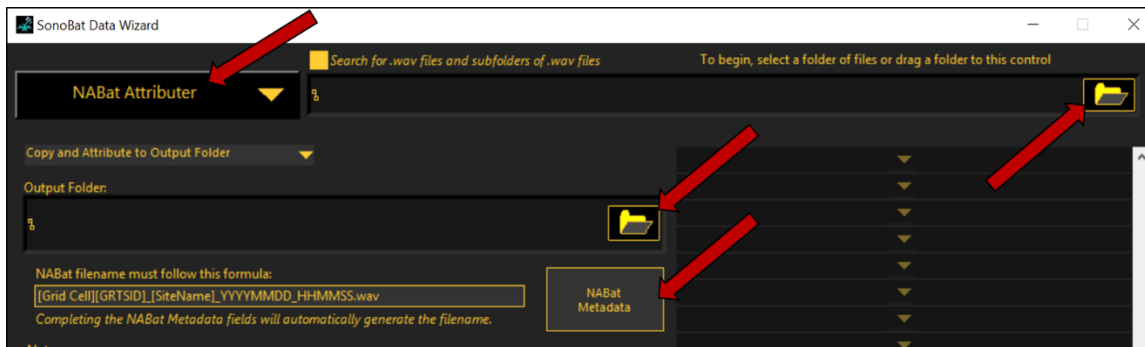
Embedding and Exporting Mobile Transect Metadata in SonoBat

The following document provides guidance for embedding and exporting metadata in bat acoustic recordings collected during mobile transect surveys using SonoBat auto ID software. Guidance for processing stationary point data can be found at https://www.sciencebase.gov/catalog/file/get/5e3de185e4b0edb47be3d6e6?name=Exporting_NABat_metadata_SonoBat.docx

<u>Attribute Metadata</u>	1
<u>Rename Files</u>	5
<u>Noise Scrubbing</u>	6
<u>Assign Species IDs</u>	7
<u>Export Metadata</u>	9
<u>Column Headers for the NABat Bulk Upload Template</u>	14
<u>Save Transect Route as Spatial Object</u>	15
<u>Drawing Transect Routes</u>	15
<u>Uploading Transect Routes as KML/GeoJson Files</u>	17

Attribute Metadata

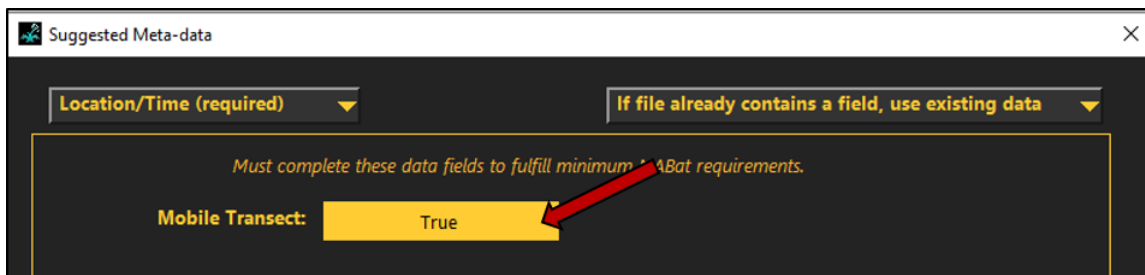
1. Open SonoBat Data Wizard.
2. Click the folder icon in the top right corner of the window and navigate to the folder containing your .wav/.zc files.



NOTE: In order to embed and export metadata, mobile transects must be processed individually. Select a folder containing data for a single mobile transect.

3. To add/update NABat metadata, select "NABat Attributer" from the dropdown menu in the top left of the window. For users with older versions of SonoBat that do not feature the NABat attributer, select "Attribute Files." Check to ensure that the input folder is still correct and navigate back to the desired folder if necessary. Once the correct input folder is selected, specify an output directory location to save the final files (there is also an option to "rename and attribute in place"). Notice that the right panel of the application fills with a display of the existing GUANO metadata in the file. This will be augmented with NABat metadata fields. **Required NABat fields and optional NABat fields are outlined on pages 3-4.** Users with SonoBat versions that do not include the NABat Attributer can skip to step 9.

SonoBat versions that include the automatic NABat metadata attributer, click the "NABat Metadata" button. In the pop-up window, click the box to confirm that you are processing mobile transect data.



The SonoBat NABat attributer is somewhat out of date, and several fields can be ignored while others must be manually entered (outlined in step 9). However, this tool is useful for entering required fields. **If your mobile transect passes through > 1 cell and you have a record of the X,Y location where each call was recorded (using an external GPS or a GPS enabled detector), leave the Start/End GPS and NABat Grid Cell ID fields blank. The NABat system will use the X,Y locations to auto-assign the correct Grid Cell to each call. Otherwise, calls recorded outside the primary cell will produce a Lat/Long-Grid Cell mismatch error.**

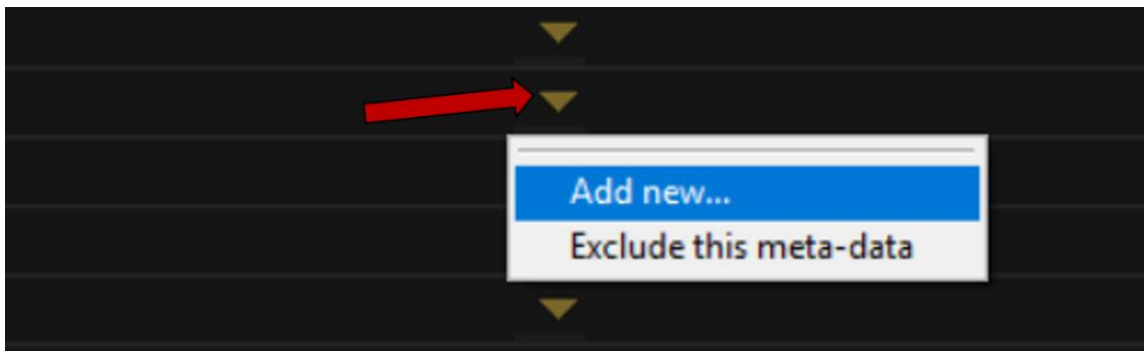
If you are unable to provide the X,Y location where each file was recorded, the NABat system will estimate the location based on user-provided spatial information for the route, timestamps of each

file, and the start/end times of the survey. In this case, it is critical that users provide a spatial object for the route prior to uploading metadata, ensure timestamps are provided for each file, provide start and end times of the route, and leave the GRTS Cell ID column of the metadata upload blank. Refer to page 15 of this document for instructions on uploading or drawing a spatial object for the route.

4. Complete the fields for **Site Name**, **Monitoring Start Time**, and **Monitoring End Time**, and click the arrow (bottom right) to proceed to the next page. These are required fields and must be completed before uploading data to NABat.
5. Complete the fields for **Surveyor** and **Habitat Type** (not required) and ignore the remaining fields. Click the arrow to proceed to the next page.
6. Complete fields for **Detector Type**, **Detector Serial Number**, and **Microphone Type** (not required) and ignore the remaining fields. Click the arrow to proceed to the next page.
7. Click "Finish" in the bottom right.
8. **Software Type** and **Species List** are required fields that must be entered manually. **Microphone Serial Number**, **Microphone Placement**, and **weather covariates** are not required, but must also be entered manually if you wish to include these data. Guidance for manually adding metadata fields is listed in step 9.

* *Guidance on creating a species list is available at https://sciencebase.gov/catalog/file/get/5e3de185e4b0edb47be3d6e6?name=Create_NABat_Species_List.pdf*

9. For users with older versions of SonoBat that do not include the NABat attributer, you must manually add metadata fields for which you have data using the instructions below:
 - a. To manually add a new metadata field, click on one of the yellow dropdown triangles and select "add new..."



- b. In the pop-up menu, enter one of the NABat field names exactly as it appears below (include the NABat| as well).
- c. Click the drop-down menu in the bottom left corner of the window and select "Create advanced metadata field" from the available options.
- d. Input the value for that field and click "Accept."

- e. Repeat the above steps for all NABat metadata fields for which you have data.

Required NABat metadata fields:

NABat Grid Cell GRTS ID *	NABat Activation start time *
NABat Latitude **	NABat Activation end time *
NABat Longitude **	NABat Software type
NABat Site Name	NABat Species List

** Either GRID Cell GRTS ID **OR** Latitude/Longitude are required if no spatial object for the route is provided. If Lat/Long are provided and GRTS Cell is unspecified, NABat will auto-assign the appropriate cell. The SonoBat metadata form will automatically extract Lat/Long from files that contain embedded X,Y locations. Guidance on manually adding X,Y locations downloaded from an external GPS unit begins with step 9 of the Exporting Metadata section of this document.

Optional NABat Metadata fields:

NABat Detector type *	NABat Comments	NABat Nightly High Weather Event
NABat Detector Serial Number	NABat Unusual occurrences	NABat Nightly Low Wind Speed
NABat Microphone type *	NABat Nightly Low Temperature	NABat Nightly High Wind Speed
NABat Microphone Serial Number	NABat Nightly HighTemperature	NABat Nightly Low Cloud Cover
NABat Microphone Placement	NABat Nightly Low Relative Humidity	NABat Nightly High Cloud Cover
NABat Habitat type *	NABat Nightly High Relative Humidity	
NABat Contact information	NABat Nightly Low Weather Event	

* These fields require specific formatting/values and the NABat system will produce errors for unrecognized values. Accepted values for each field are provided below.

Accepted NABat metadata formats/values

NABat|Activation start time:

YYYYMMDDTHHMMSS (e.g. 2019-08-13T19:30:00) * Date and time must be separated by T

NABat|Activation end time:

YYYYMMDDTHHMMSS (e.g. 2019-08-15T06:30:00) * Date and time must be separated by T

NABat|Detector type:

BINARY ACOUSTIC AR125|BINARY ACOUSTIC AR125-FG|BINARY ACOUSTIC AR180|BINARY ACOUSTIC AcroBat|BINARY ACOUSTIC iFR-V|PETTERSSON D1000x|PETTERSSON D240x|PETTERSSON D500x|PETTERSSON M500|TITLEY AnaBat Express|TITLEY AnaBat SD1|TITLEY AnaBat SD2|TITLEY AnaBat Swift|TITLEY AnaBat Walkabout|WILDLIFE ACOUSTICS EM-Touch|WILDLIFE ACOUSTICS EM-Touch2|WILDLIFE ACOUSTICS EM-TouchPRO|WILDLIFE ACOUSTICS EM3/EM3+|WILDLIFE ACOUSTICS SM2Bat+|WILDLIFE ACOUSTICS SM2Bat-192|WILDLIFE ACOUSTICS SM3Bat|WILDLIFE ACOUSTICS SM4BAT-FS|WILDLIFE ACOUSTICS SM4BAT-ZC|WILDLIFE ACOUSTICS SMMINI-BAT

NABat|Microphone type:

Pettersson M500 | TITLEY AnaBat Swift | Wildlife Acoustics SM3-U1 | Wildlife Acoustics SMM-U1 | Wildlife Acoustics SMM-U2 | Wildlife Acoustics SMX-U1 | Wildlife Acoustics SMX-US | Wildlife Acoustics SMX-UT | generic Directional | generic Internal | generic Omni-directional

NABat|Software Type

SonoBat 3.x | SonoBat 4.2 | SonoBat 4.x

Rename Files

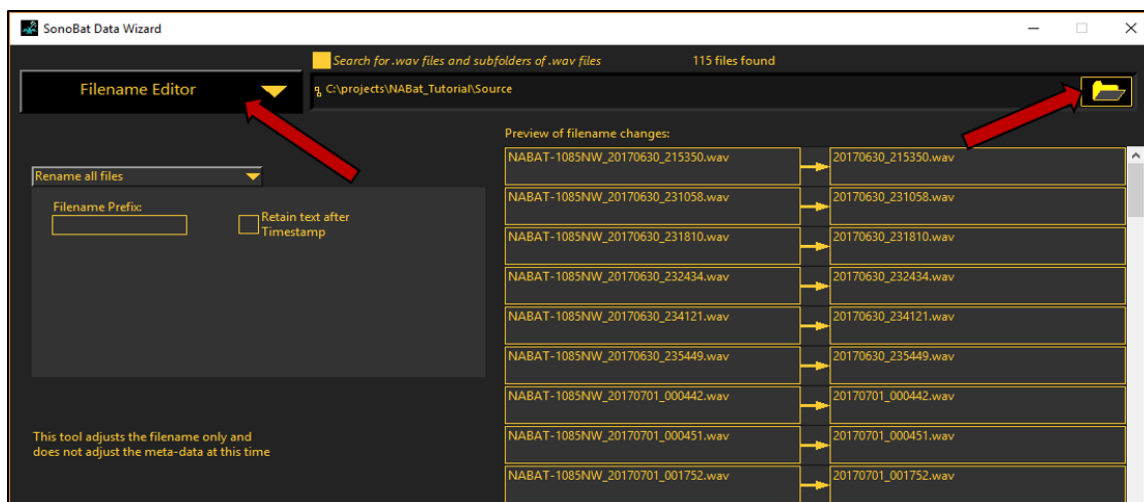
Users who attributed metadata using the NABat attributor can skip the renaming steps. The NABat Metadata attributor automatically renames files based on user-provided metadata.

1. If your detector automatically embeds a date/time stamp into call files, these data should auto-populate and appear in the "Audio Recording Time" column of the SonoBat output in step 4 of the Exporting Metadata section. If so, files are not *required* to follow the NABat file naming format. However, following the NABat naming format is still strongly advised. Users should ensure that files contain an embedded date/time stamp before skipping the renaming process. Otherwise, file names must adhere to the NABat naming format outlined in the guidance below.

NABat naming format: **GRTSID_SITENAME_YYYYMMDD_HHMMSS.wav/zc**

(e.g. 3773_SW_20190813_215333) **Fields MUST be separated by an underscore. Any other symbol or character will cause errors and files won't be recognized by the NABat system.*

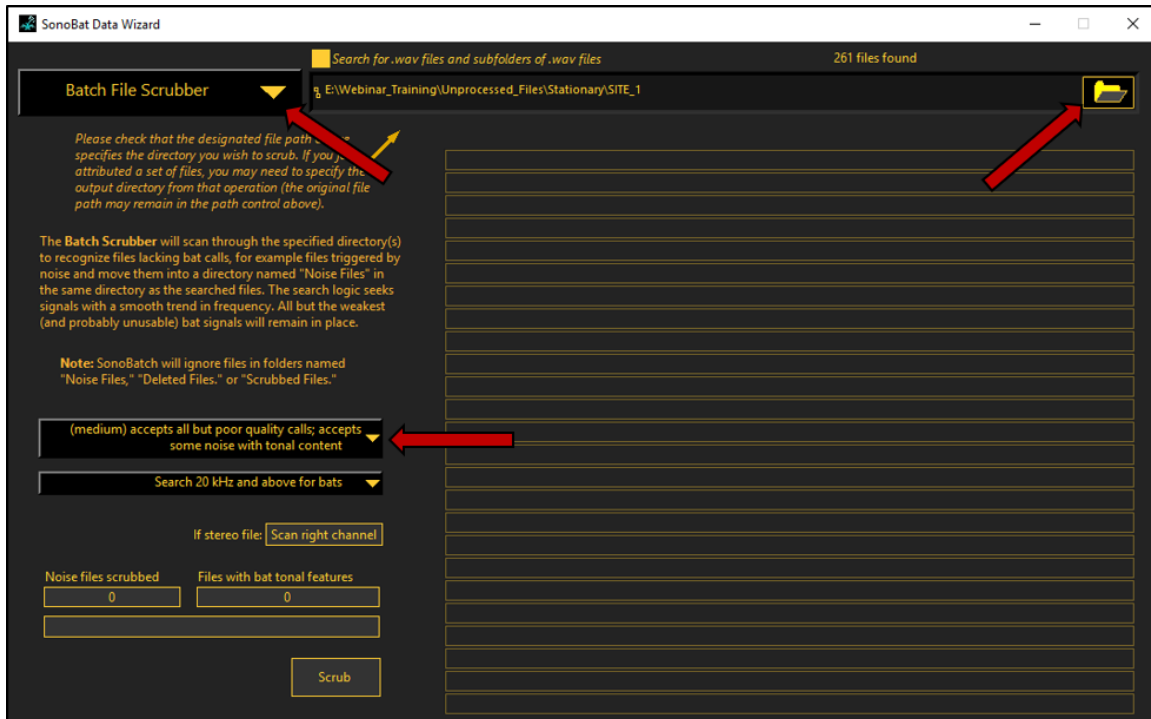
2. Select "Filename Editor" from the drop-down menu in the top left of the SonoBat Data Wizard.



3. Add the Grid Cell GRTS ID and Site Name in the renaming window. This strips the text before the date/time stamp and adds a new prefix. *However, the system may separate the new prefix and the date/time stamp with a dash rather than an underscore. All fields MUST be separated by an underscore. This can be corrected using the "rename with wildcards" function, available from the drop-down menu above the prefix box.*
4. Use the "rename with wildcards" option to perform a "find-and-replace." Enter the text you wish to replace in the "search pattern" field and the text you wish to replace it with in the "replace search pattern with" field. A preview of the resulting file names is provided, so you can tweak the formula before making final changes. Click "Edit Filenames" when you're ready to update the file names. You might need to make multiple file renaming runs to achieve the desired format.

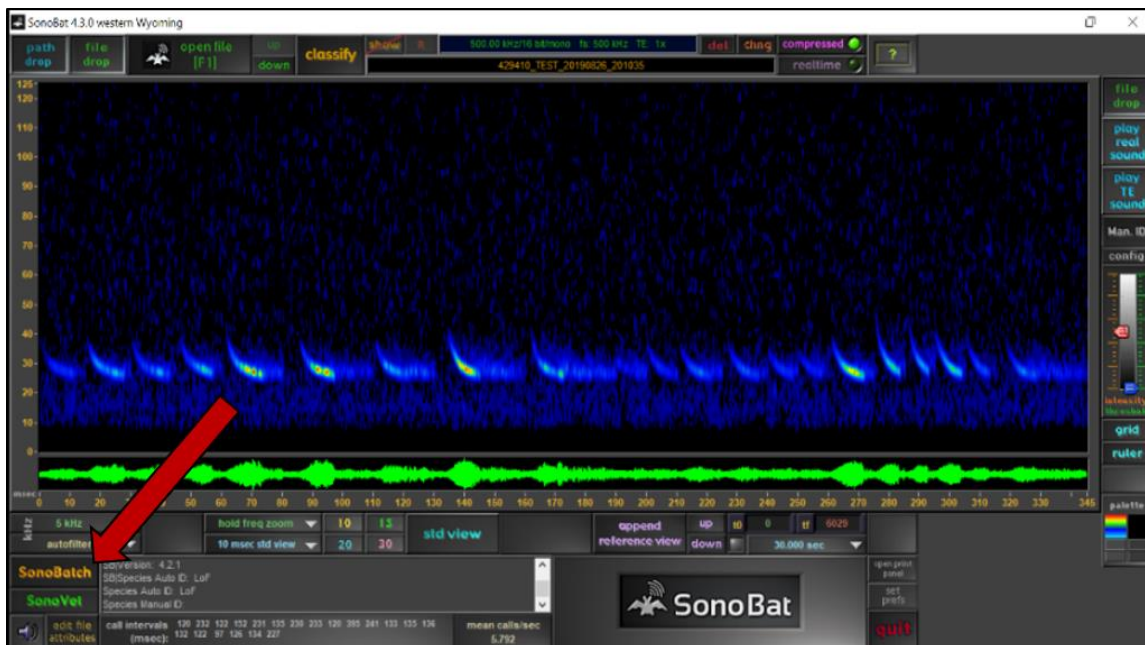
Noise Scrubbing

1. Open SonoBat Data Wizard.
2. Click the folder icon in the top right corner of the window and navigate to the folder containing your .wav/.zc files.
3. Click the drop-down menu in the top left and select "Batch File Scrubber."
4. Select "medium" from the filter options and ensure the appropriate frequency filter is selected.
5. Click "Scrub" in the bottom left of the window.

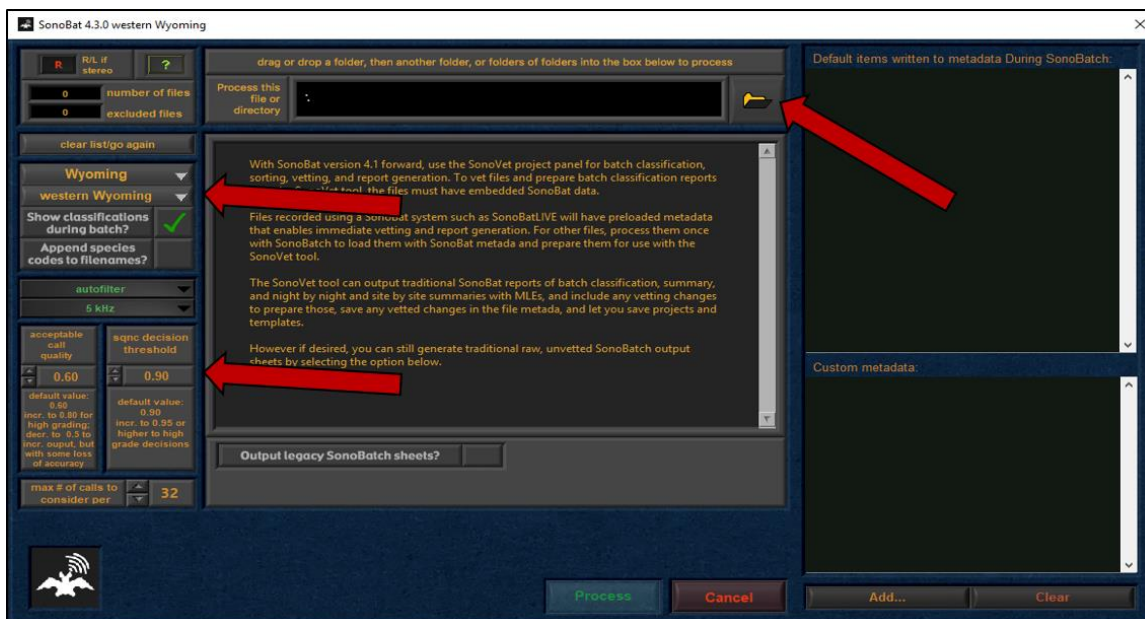


Assign Species IDs

1. Open SonoBat universal and click the "SonoBatch" button in the lower left corner.



2. Click the folder icon in the top center of the window and navigate to the folder containing files you wish to process.
3. Select the classifier most appropriate for your location and recording conditions using the drop-down menus on the left side of the window.
4. Ensure "Append species codes to filenames?" is **not** selected.
5. Select "autofilter" in areas without low-frequency bat species and "auto-low" in areas with low-frequency bats present.



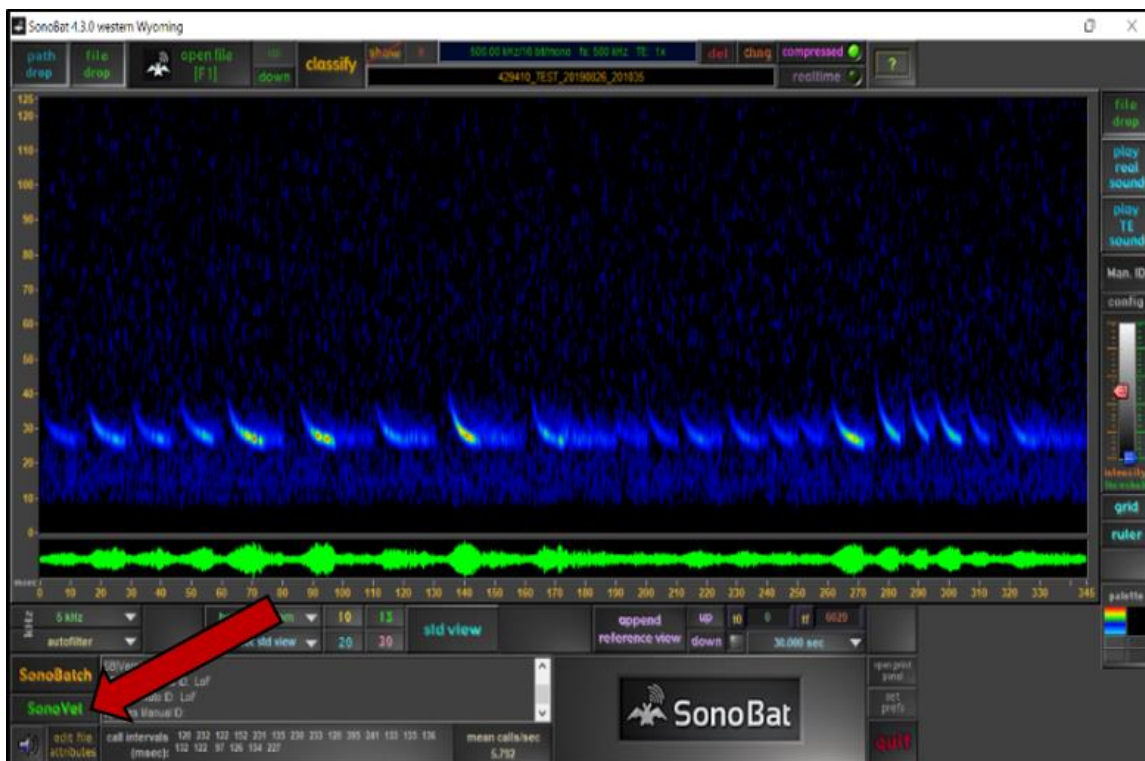
6. Set "acceptable call quality" to 0.80.
7. Set "sqnc decision threshold" to 0.90.
8. Set "max number of calls to consider" to 16.
9. Click "Process" in the bottom center of the window.

The "Guide to Processing Bat Acoustic Data for the North American Bat Monitoring Program" (https://62dc12a5-f8a6-4e76-9a85-99a0a4197512.usrfiles.com/ugd/62dc12_177ea7985796420699d87e630f9ca053.pdf) provides detailed guidance for assigning species IDs using SonoBat and the manual vetting process.

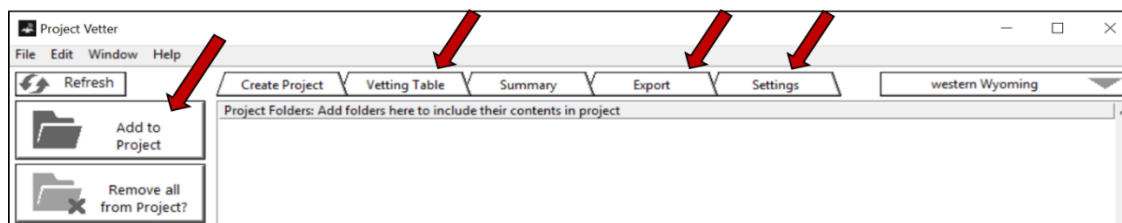
Export Metadata into NABat Bulk Upload Template

The following steps can be used to export metadata from all processed deployments, resulting in a single CSV with metadata from numerous sites. Simply select the parent folder that contains all your processed deployments and follow the steps outlined below. The presence of non .wav files in the folder will not interfere with this process. SonoBat will ignore non .wav files.

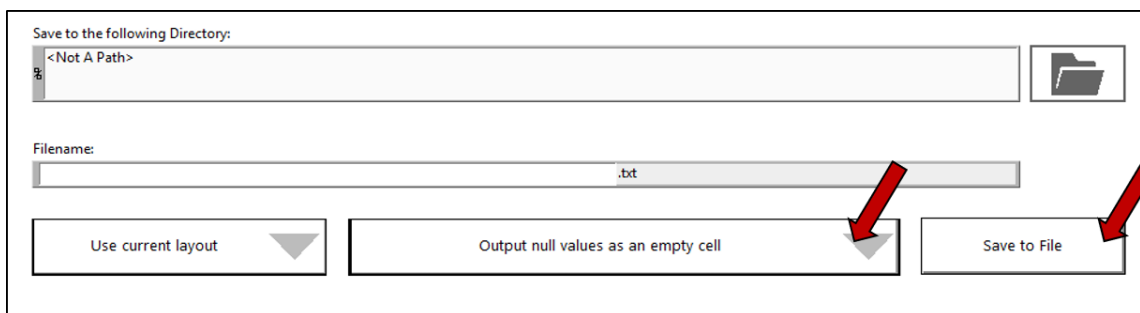
1. Open SonoBat universal and click the "SonoVet" button in the lower left corner.



2. Click the "Add to Project" button in the Project Vetter window and navigate to the folder containing .wav/.zc files that have been processed, renamed (if necessary), and contain all required metadata. **NABat requests that users provide metadata for scrubbed NOISE files. However, SonoBat automatically ignores any folder labeled "Noise Files", "Deleted Files", or "Scrubbed Files." To ensure scrubbed files load in the SonoVet table, rename folders containing scrubbed files as "NOTBAT" before loading folders in SonoVet.**
3. Click the "Settings" tab on the top menu bar and click the "Load Layout" button to load the NABat metadata form, available for download at https://www.sciencebase.gov/catalog/item/5dcdd2b5e4b069579760b15a?name=NABat_Metadata_SonoBat_Mobile.xml.
4. Click the "Vetting Table" tab from the top menu bar. Make sure all required fields have values and that all fields for which you entered data are filled.



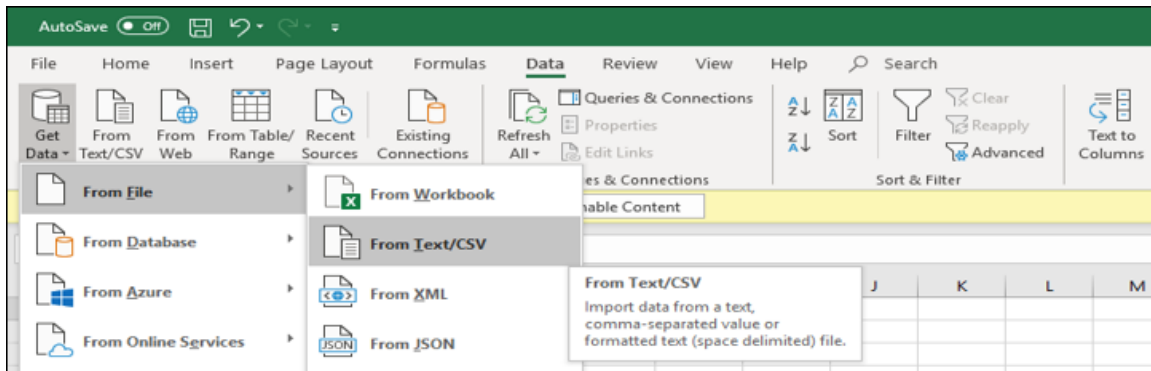
5. If everything is correct, click the "Export" tab from the top menu bar. Select a destination folder to save the metadata file and select "Output null as "" " or "Output null as an empty cell" from the dropdown menu in the bottom center of the window.



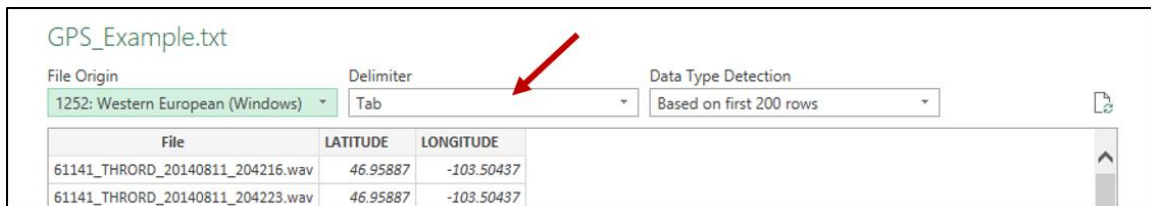
6. Click "Save to File."
7. The resulting .txt file must be converted to a .csv file. To convert the file in Excel, open a new workbook, click the Data tab → "Get Data" → "From File" → "From Text/CSV."
- * Note: depending on your version of Excel, the process may vary slightly.
8. In the pop-up window, navigate to the SonoBat text file and click "Import." Select "Tab" as the "Delimiter" and click "Load" in the bottom right of the window. Your data will now open in an Excel spreadsheet.
9. Users who recorded latitude and longitude of calls with an external GPS unit must manually add X,Y locations to the bulk metadata spreadsheet. To begin, download the locations file from your GPS unit. This is typically in the form of a text file with a column for filename, latitude, and longitude. Users with GPS enabled detectors that embed X,Y locations into call files (the latitude/longitude columns of your CSV will already contain data) can skip to step 16 (page 12).

File	LATITUDE	LONGITUDE
61141_THRORD_20140811_204216.wav	46.95887	-103.50437
61141_THRORD_20140811_204223.wav	46.95887	-103.50437
61141_THRORD_20140811_204235.wav	46.95869	-103.50472
61141_THRORD_20140811_204242.wav	46.95820	-103.50483
61141_THRORD_20140811_204249.wav	46.95794	-103.50497
61141_THRORD_20140811_215151.wav	46.94906	-103.50163

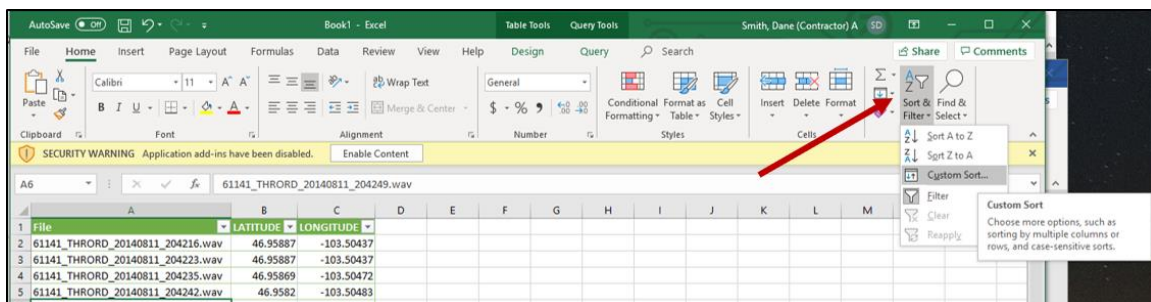
10. Next, import the text file into Excel:
 - a. Open a new spreadsheet. Click the "Data" tab and select "Get Data" → "From File" → "From Text/CSV."
 - b. Navigate to your GPS text file and click "Open."



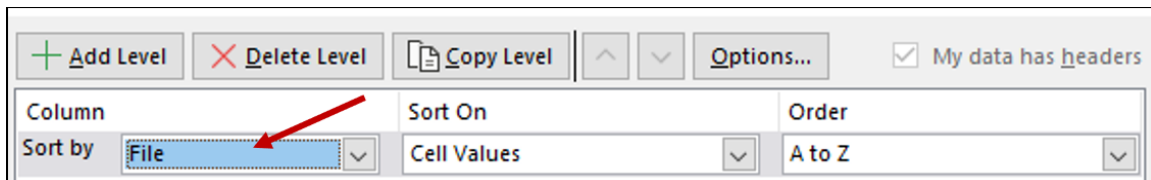
- c. A dialogue box will appear with a preview of the data to be imported. The GPS text files are typically tab delimited. If your data are properly sorted into columns, click "Load." If not, use the "Delimiter" drop-down menu to select the appropriate delimiter and click "Load."



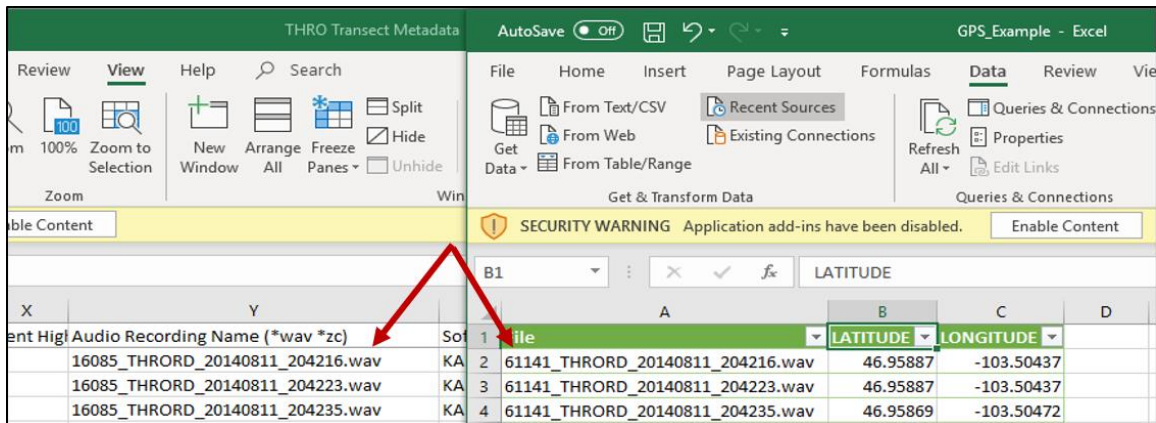
11. When your data are loaded into an Excel spreadsheet, click the "Sort and Filter" button (under the Home tab) and select "Custom Sort."



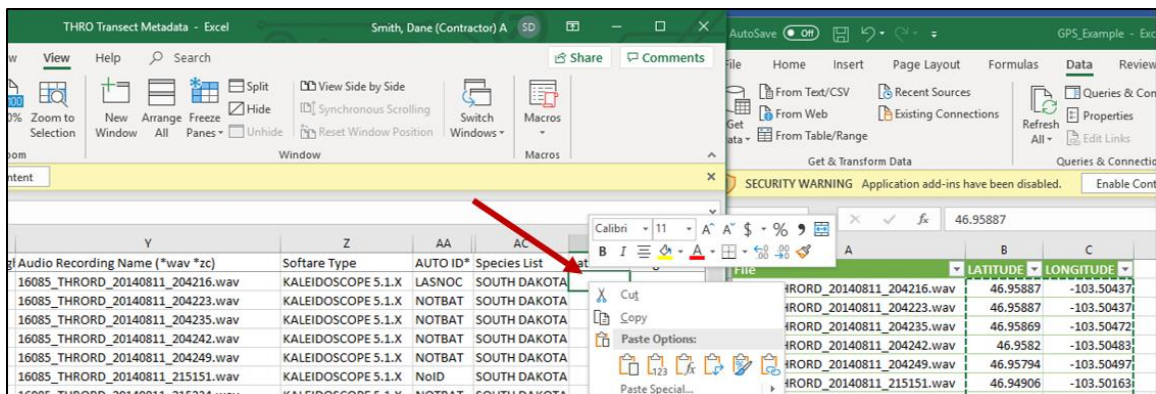
12. In the dialogue box, sort the document by the column containing your filenames.



13. Next, open the CSV containing your transect metadata. Follow steps 11-12 to sort the metadata document by the Audio Recording Name column.
14. The two Excel documents (metadata CSV and GPS spreadsheet) should now be sorted by filename. Double check to ensure that the filename columns match.



15. If the documents are sorted properly, you can now copy and paste the latitude and longitude columns from the GPS file into the metadata CSV. Select the latitude and longitude columns of the GPS document. Highlight the latitude and longitude columns, right click, and select "Copy." Next, select the Latitude cell of the first call for the deployment, right click, and select "Paste." The Latitude and Longitude columns should now be filled with the corresponding values.



16. For the NABat system to read your metadata, the column headers created by SonoBat must be replaced with the metadata field names from the NABat template. To do so: select and copy all the tab-separated column headers from Table 1 (page 14), select cell A1 of your spreadsheet, and paste the new column headers (which will now fill the first row of your spreadsheet).
17. The specific software version must now be manually added. Highlight the "Software Type" column, and using the find/replace function, replace "SonoBat" with "SonoBat 3.x," "SonoBat 4.2," or "SonoBat 4.x," depending on your specific software version.
18. Click File → Save As, select the folder where you wish to save the metadata spreadsheet, give the file a unique and descriptive name, and select "CSV (Comma delimited)" from the "Save as type" dropdown.
- * The NABat system will automatically overwrite duplicate file names with the most recent version, so it is critical that your file name is unique.
19. Your metadata is now ready for upload to the NABat Partner Portal. Open your NABat project page, click the blue "Upload Survey Data" button in the top right, select "Mobile Acoustic Transect," click "Full Metadata," and navigate to the metadata file you just renamed.

Table 1. NABat metadata column headers for mobile acoustic surveys.

GRTS Cell Id	Location Name	Survey Start Time	Survey End Time	Detector
	Detector Serial Number	Microphone	Microphone Serial Number	Microphone Placement
	Contact Comments	Unusual Occurrences	Event Low Temperature	Event High Temperature
Event	Event High Weather Event	Event Low Relative Humidity	Event High Relative Humidity	Event Low Weather
Cloud Cover	Event High Cloud Cover	Event Low Wind Speed	Event High Wind Speed	Event Low
Longitude	Software Type	Audio Recording Name	Audio Recording Time	Latitude
	Auto ID Manual Id		Species List	

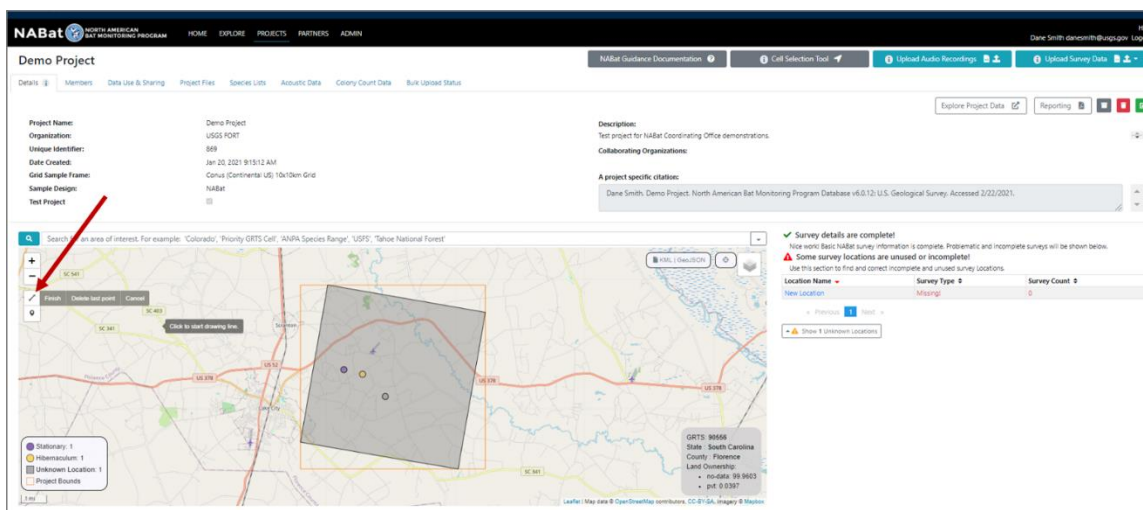
Saving Transect Routes in NABat

Although it is not required, providing spatial data for the full transect route is important for future analyses. Users can easily upload/save mobile transect routes in NABat by drawing the route in NABat's cell selection tool (guidance below) or uploading a KML or geojson (page 17).

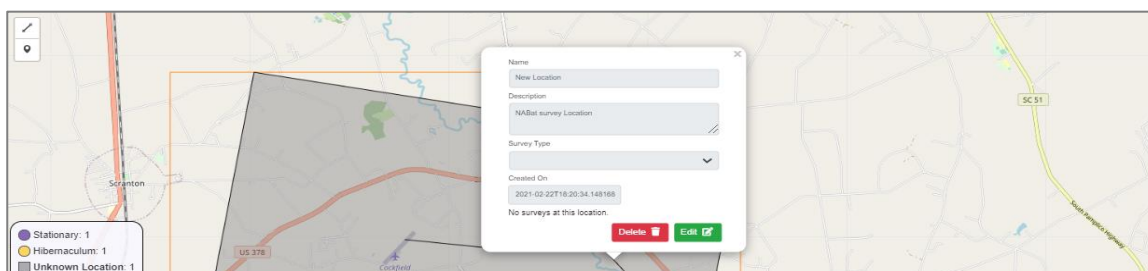
Drawing Mobile Transect Routes

For users who did not record transect routes using a GPS unit (recommended), NABat provides the ability to draw mobile transect routes using the cell selection tool. This process should be completed before uploading route metadata. However, if metadata were added before adding route data, complete the steps below to add route data, then click the "Bulk Upload Status" tab from the project homepage and click the "Reprocess" button beside the upload that contains route metadata.

1. From your project homepage, scroll down to the project map, located below the project details.
2. Navigate to the GRTS cell where you wish to draw a mobile transect route (the search bar above the map includes a variety of filters including GRTS Cells, land jurisdiction, state, county, etc.).
3. Click the "Mark a transect route" button in the top left of the map to begin drawing the transect.




4. Click along your desired route. The mapping tool will drop points with each click and connect the points with a line. The mapping tool will also display the total length of the route.
5. When finished, either click "Finish" beside the "Make a transect route" button or click the last point on the route.
6. A dialogue box will appear with the option to edit route details. Name the transect, provide a description (if you wish), select "Transect Route" from the Survey Type drop-down menu, and save.

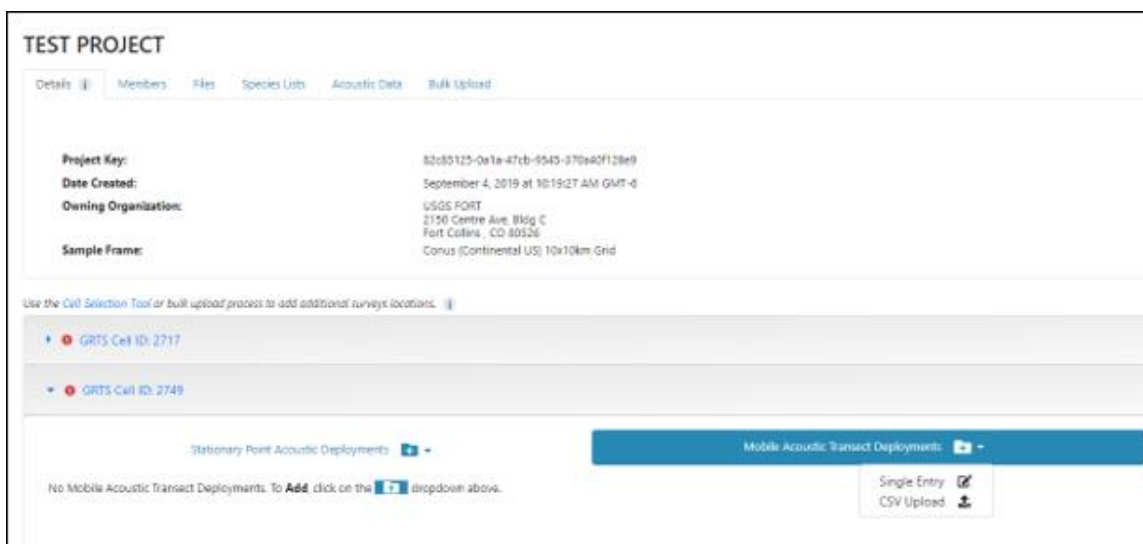


7. The route can now be linked to your transect metadata in two ways:

- a. List the transect name you just saved as the "Location Name" in the transect metadata upload. The names *must match exactly*. This will link the route you just saved to the route metadata. If metadata were uploaded before drawing the route, name the route (step 6) with the same name listed as the transect "Location Name," navigate to the "Bulk Upload Status" tab of the project homepage, and click "Reprocess" beside the upload that contains route metadata.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	GRTS Cell ID	Location Name	Survey Start Time	Survey End Time	Detector	Detector	Microphone	Microphone	Microphone	Broad Band Contact	Contact	Comment	Transect C
2	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
3	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
4	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
5	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
6	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
7	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
8	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
9	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
10	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
11	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
12	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
13	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
14	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	
15	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics EM3/EM3+			56789	Roof			agricultural.danesmith@contractor.usgs.gov	

- b. Create a new mobile transect deployment in the user interface by navigating to the corresponding cell number on your project homepage, clicking the triangle beside the cell number to expand, clicking "Mobile Acoustic Transect Deployments," clicking , selecting single entry, and using the "Survey Features" drop-down menu to select the route you created in steps 1-6 (Figure 1, Figure 2). Complete the rest of the required metadata and then click the green "Save" button in the bottom right. This method can also be used to add route information to transect metadata that has already been uploaded to NABat. In this case, users must select the existing route (following the guidance above), expand the route information, and click the green "Edit Deployment Details" button in the top right of the deployment screen. Users can then select the saved route using the "Survey Features" drop-down menu (Figure 3).



The screenshot shows the NABat project homepage for a "TEST PROJECT". The page has a navigation bar with "Details", "Members", "Files", "Species Lists", "Acoustic Data", and "Bulk Upload". Below the navigation bar, there is a section for project details:

- Project Key:** 82c85125-0a1a-47cb-9545-370a0f128e9
- Date Created:** September 4, 2019 at 10:19:27 AM GMT-6
- Owning Organization:** USGS FORT
2150 Centre Ave, Bldg C
Fort Collins, CO 80526
- Sample Frame:** Conus (Continental US) 10x10km Grid

Below the details section, there is a message: "Use the Cell Selection Tool or bulk upload process to add additional surveys locations." Below this message, there is a list of GRTS Cell IDs: 2717 and 2749. At the bottom of the page, there is a section for "Mobile Acoustic Transect Deployments" with a plus icon and a dropdown menu. The dropdown menu is currently closed, showing "Single Entry" and "CSV Upload" options.

Figure 1.

Figure 2.

Figure 3.

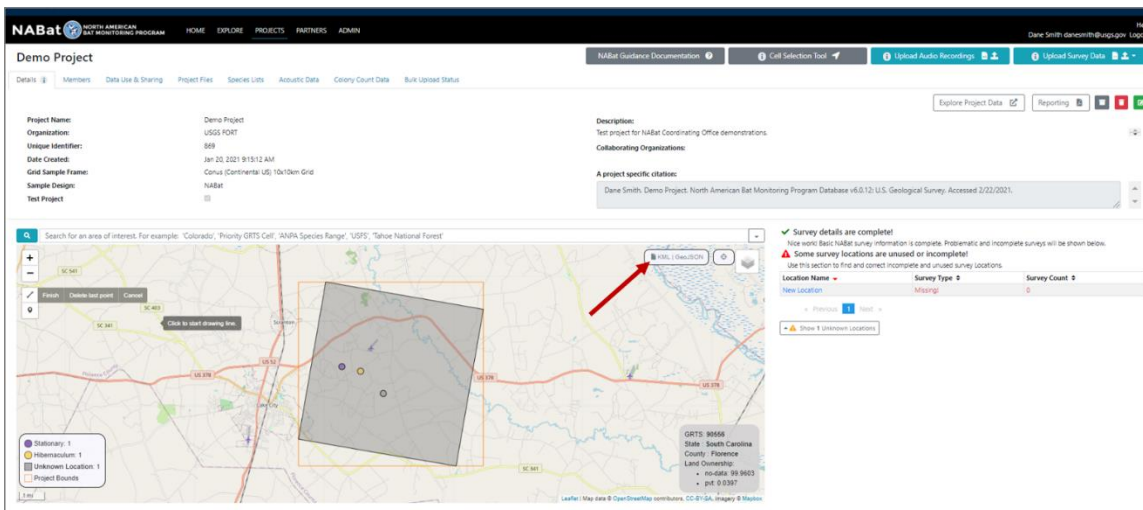
Uploading Route Data in the Project Map

Users who record mobile transect routes using a GPS unit can upload that data directly into the project map as a KML or geojson file and save the route data as a spatial object. This process should be completed before uploading route metadata. However, if metadata were added before adding route data, complete the steps below to add route data, then click the "Bulk Upload Status" tab from the project homepage and click the "Reprocess" button beside the upload that contains route metadata.

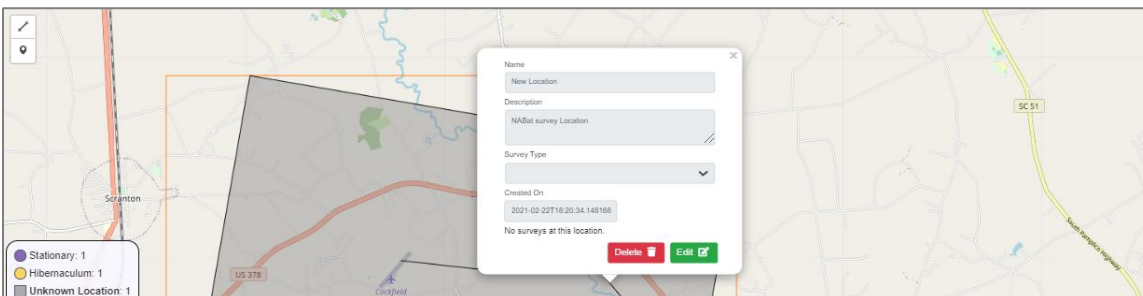
Most GPS units save and export spatial data as GPX files, and many users are unfamiliar with the geojson and KML file formats. Luckily, most spatial file formats can easily be converted to KML or geojson using free online conversion tools. Simply perform a web search for "*convert **your file format** to geojson/KML*" for a long list of options. Once the file has been converted, follow the guidance below.

1. From your project homepage, scroll down to the project map, located below the project details.

- Click the "KML | GeoJson" button in the top right of the map.




- Navigate to the .geojson/.kml file and click "Open."
- A dialogue box will appear with the option to edit route details. Name the transect, provide a description (if you wish), select "Transect Route" from the Survey Type drop-down menu, and save.



- The route can now be linked to your transect metadata in two ways:
 - List the transect name you just saved as the "Location Name" in the transect metadata upload. This will link the route you just saved to the route metadata. The names *must match exactly*. This will link the route you just saved to the route metadata. If metadata were uploaded before drawing the route, name the route (step 4) with the same name listed as the transect "Location Name," navigate to the "Bulk Upload Status" tab of the project homepage, and click "Reprocess" beside the upload that contains route metadata.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	GRTS Cell ID	Location Name	Survey Start Time	Survey End Time	Detector	Detector	Micropho	Micropho	Micropho	Broad Hab	Contact	Comment	Transect C
2	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
3	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
4	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
5	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
6	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
7	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
8	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
9	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
10	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
11	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
12	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
13	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
14	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			
15	16085	Test Route	2014-08-11T20:40:00-06:00	2014-08-11T21:15:00-06:00	Wildlife Acoustics	EM3/EM3+	56789	Roof	agriculturi	danesmith@contractor.usgs.gov			

- b. Create a new mobile transect deployment in the user interface by navigating to the corresponding cell number on your project homepage, clicking the triangle beside the cell number to expand, clicking "Mobile Acoustic Transect Deployments," clicking , selecting single entry, and using the "Survey Features" drop-down menu to select the route you created in steps 1-6 (Figure 4, Figure 5). Complete the rest of the required metadata and then click the green "Save" button in the bottom right. This method can also be used to add route information to transect metadata that has already been uploaded to NABat. In this case, users must select the existing route (following the guidance above), expand the route information, and click the green "Edit Deployment Details" button in the top right of the deployment screen (Figure 6). Users can then select the saved route using the "Survey Features" drop-down menu.

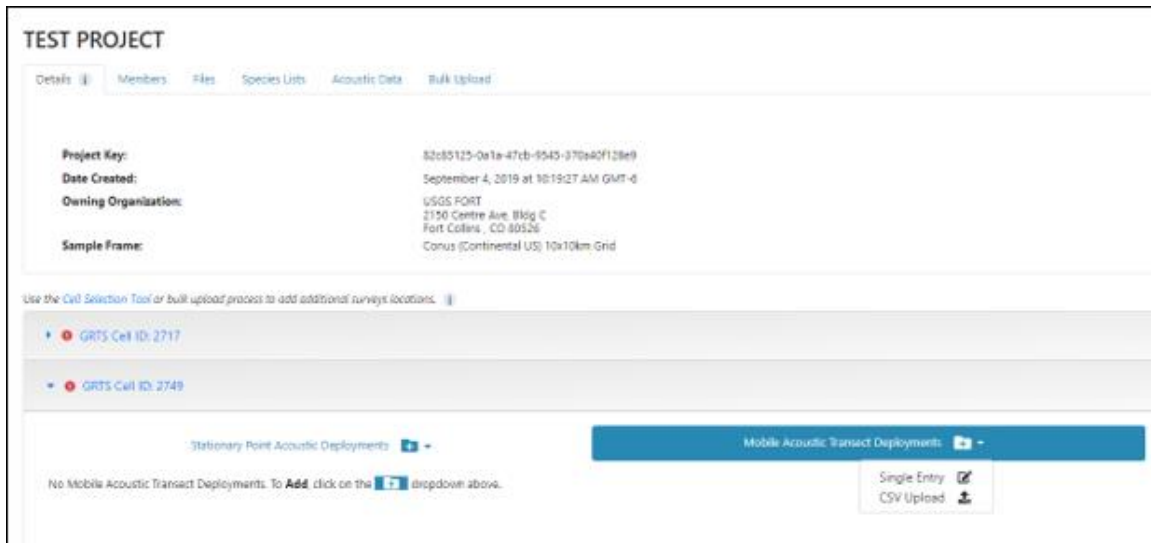


Figure 4.



Figure 5.

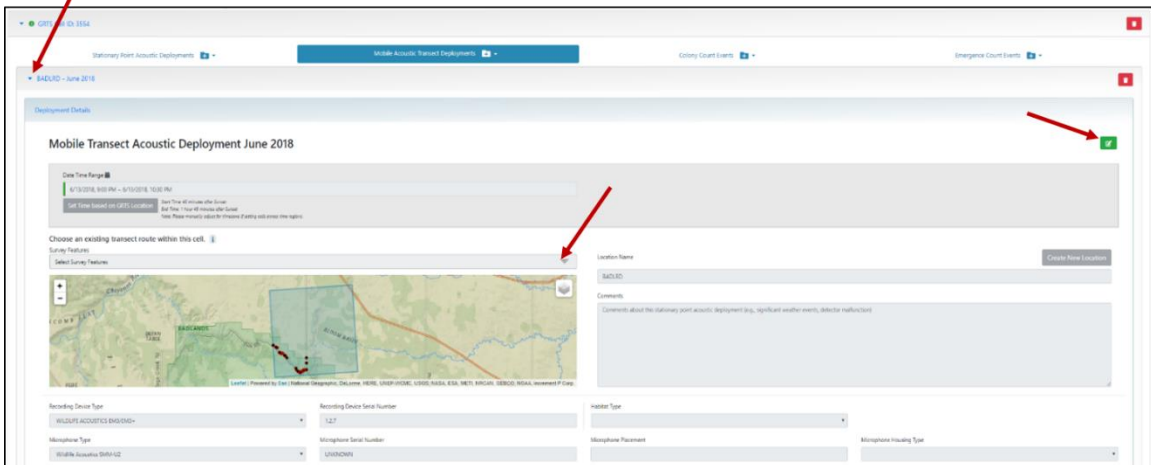


Figure 6.