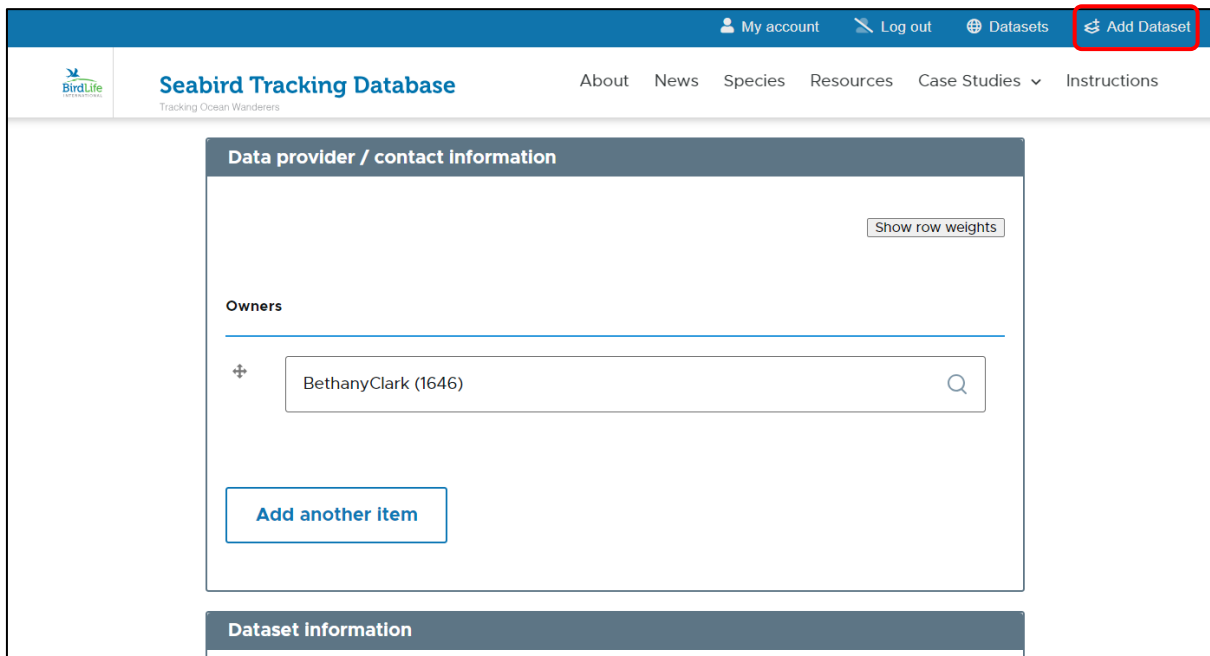# Seabird Tracking Database
Tracking Ocean Wanderers

Instructions to submit data to the Seabird Tracking Database (STDB)

Data standardisation is crucial to building and maintaining a useful database. The STDB has automated methods that facilitate standardisation of data inputs and outputs, reducing the time required for analysis and maximising our conservation impact.

Information stored in our database is organized into two levels – "Dataset" level and "Data points" level. The "dataset" level metadata are provided by filling an online form, and the "data points" level of information is submitted by uploading a csv file.

Dataset submission

1. Log in to your account. If you don't have an account, fill in the form at data.seabirdtracking.org/user/register and we will review your request.

2. Read the terms of use at seabirdtracking.org/terms-of-use.

3. Go to data.seabirdtracking.org and click "Add Dataset" (top right on the page) to get to the submission form:

4. Check and decide whether your data should be submitted as one dataset or multiple datasets.

- Datasets must contain data from only 1 species, 1 colony (specified by a latitude and longitude point), 1 device type (GLS, GPS or PTT), and must be owned by the same data owner or group of owners.

- Datasets can contain multiple trips and/or individuals (of different ages or sexes), during different breed stages, and can include tracks from different years.

- Data owners can choose to split data in multiple datasets however it is most useful. The maximum file size is 255 MB, but we recommend splitting datasets above 40 MB if you have trouble with uploads (E.g. due to an unstable internet connection). If needed/wanted, split your data into multiple "datasets". You will need to fill in a form for each dataset.
- Please **do not** upload multiple copies of the same data – each dataset should contain unique tracks.

5. Fill in the details – see the following for a full explanation of each section.

The "**dataset level**" provides the info associated with each dataset:

- **Co-owners**: name all the people who own the data and can **all** accept or decline requests for the data/
  - o Important note: all data owners should be registered in our website before submitting the data, otherwise it will not be possible to associate their names to the dataset. Data owners who register after the data submission can be added to the dataset by clicking edit under "My Datasets" in the "My Account" page**.**

- **Dataset name:** the title that will be associated to the dataset in the website (example: *Arctic Tern from Greenland, GLS, migration 2007-08*)

- **Species:** chosen from a dropdown menu with a list of seabird species (following BirdLife taxonomy http://www.birdlife.org/datazone/info/taxonomy)

- **Deployment Location (Country/Site/Colony)**: a list of colonies already registered before in our database will be available. If none fits, you can add a new one

- **Device**: GPS, PTT or GLS (Any GLS data must be processed into locations – STDB cannot accept raw light data)

- **Interpolation:** if the data submitted have been interpolated (e.g. to obtain regular fixes)

- **Permissions:**
  - o **Pre-approvals**: how do you prefer to handle "conservation-related" data-requests. Data-owners are asked to specify if:
    - ▪ they agree with BirdLife deciding about the use of the data for all conservation-related uses, independently of who is making the request (in this case, data-owners will receive only a notification of the request); Option: "all conservation-related requests (BirdLife and non-BirdLife) are pre-approved".
    - ▪ they agree with BirdLife using the data for its own conservation-related uses (i.e. the request is being made by BirdLife, and data will be processed only within BirdLife partnership, so no data will be shared with any third party; data-owners will receive only a notification of the request). Option: "all BirdLife conservation-related requests are pre-approved".
    - ▪ if they want to maintain the final decision about the use of their data in all situations. Option: "no pre-approvals".

  - o **Data-requests:** by default, data submitted to the STDB can be requested by a third party (i.e., by another researcher in a collaborative study), although no data will be provided without the consent of the contributor. Contributors will be always contacted by e-mail when their data is being requested. Nevertheless, contributors may choose to have their data as "non-requestable" by others than BirdLife.

  - o **Links to other databases:** by default, the metadata may be shared with other databases, unless you express otherwise.

- **Visibility:** by default, your data will viewable in the website as individual tracks, with no zoom limit, but you can also opt for other options (viewable as individual tracks, zoom to data scale; viewable as dataset map, no zoom limit; viewable as dataset map, zoom to data scale; only as a metadata entry).

- **Aux files**: whether there is other files (images, videos, time depth records files, etc) associated with the data. If yes, please provide the name of the files in the field "notes".

- **Notes**: Please give us any other relevant details related with your dataset (e.g.: if the data being upload have been processed in any special way, as using state space models for GLS data).

6. Format the dataset file in a table/spreadsheet to be uploaded.

The **data points level** is where the actual data (birds' positions at a date-time) are stored – one data point per row. See the template .xlsx file for examples of data from each type of device (screenshots below).

GPS:

bird_id	sex	age	breed_stage	track_id	date_gmt	time_gmt	latitude	longitude	equinox	argos_quality
Bird1	male	adult	brood-guard	Bird1_1	04/08/2007	23:00:38	40.055	3.8697	NA	NA
Bird1	male	adult	brood-guard	Bird1_1	05/08/2007	00:00:38	40.055	3.87014	NA	NA
Bird1	male	adult	brood-guard	Bird1_1	05/08/2007	01:00:38	40.05535	3.87029	NA	NA

PTT:

bird_id	sex	age	breed_stage	track_id	date_gmt	time_gmt	latitude	longitude	equinox	argos_quality
L20002	unknown	juvenile	non-breeding	1	09/09/1994	06:11:03	-34.499	151.412	NA	0
L20002	unknown	juvenile	non-breeding	1	09/09/1994	07:51:03	-34.488	151.373	NA	2
L20002	unknown	juvenile	non-breeding	1	09/09/1994	22:26:03	-34.562	151.443	NA	0

GLS:

bird_id	sex	age	breed_stage	track_id	date_gmt	time_gmt	latitude	longitude	equinox	argos_quality
4053	female	adult	breeding	4053	28/08/2008	01:10:00	33.47	-15.91	no	NA
4053	female	adult	breeding	4053	28/08/2008	13:06:00	32.65	-14.94	no	NA
4053	female	adult	breeding	4053	29/08/2008	01:09:00	31.4	-15.7	no	NA

Categorical information for Sex, Age, Breed stage, Equinox and Argos Quality, must match the preset options.

Field name	Type	Data format	Options												
bird_id	user defined	String													
sex	limited choice	String	female	male	unknown										
age	limited choice	String	adult	immature	juvenile	fledgling	unknown								
breed_stage	limited choice	String	pre-egg	incubation	brood-guard	post-guard	chick-rearing	creche	breeding	fail (breeding season)	migration	winter	sabbatical	pre-moult	non-breeding	unknown
track_id	user defined	String													
date_gmt	user defined	dd/mm/yyyy													
time_gmt	user defined	hh:mm:ss													
latitude	user defined	Decimal Degrees													
longitude	user defined	Decimal Degrees													
equinox	limited choice	Yes/No	yes	no	NA										
argos_quality	user defined	String	3	2	1	0	A	B	Z	G	NA				

- **bird_id**: unique identification of each individual bird (e.g. ring number, or simply bird1, bird2)

- **sex**: sex of the individual bird specified in the previous column; one of the following options are accepted – *male*; *female*; *unknown*

- **age**: age of the individual bird specified in the first field; one of the following options are accepted – *adult*; *immature*; *juvenile*; *fledgling*; *unknown*

- **breed_stage:** the breeding stage of the bird; options are *pre-egg*; *incubation*, *brood-guard*; *post-guard*; *chick-rearing*; *creche*; *breeding*; *fail (breeding season)*; *migration*; *winter*; *sabbatical*; *pre-moult*; *non-breeding*; *unknown*

    - Please provide the most detailed level possible (example: if known, specify which positions were collected during *incubation*, *brood-guard* and *post-guard*; alternatively split only between *incubation* and *chick-rearing*; if not even this is known, tag all as *breeding*). Ideally, the classification should be based on the knowledge of actual breeding stage of each individual tracked at each time (e.g. a non-breeding adult tracked during incubation period should be included as *sabbatical*, *fail (breeding)* or simply as *non-breeding*). Nevertheless, we acknowledge that such information is often missing, so if that is the case the classification can also be based on mean life history schedules of the population (e.g. all positions gathered during incubation would be tagged as so).

- **track_id**: unique identification of each trip of each bird (ex: bird1_t1, bird1_t2, bird1_t3, bird2_t1). This could correspond to unique foraging trips (i.e. all at-sea positions collected between two successive returns to the colony – that may also apply to the entire non-breeding period). If these have not yet been identified, simply set track_id = bird_if

- **date_gmt**: date (GMT) in the following format: *dd/mm/yyyy*

- **time_gmt**: time (GMT) in the following format: *hh:mm:ss*

- **latitude**: in decimal degrees, to the maximum available precision e.g. 12.3456

    - Please check for and remove erroneous points. Commonly these occur at *0, 90, -90.* Another common issue is reversing the latitude and longitude.

- **longitude**: in decimal degrees, to the maximum available precision e.g. -12.3456

    - Please check for and remove erroneous points. Commonly these occur at *0, 180, -180.* Another common issue is reversing the latitude and longitude.

- **equinox** (only for GLS): whether the position correspond to an equinox period or not: *yes; no*.

    - Please include in the notes how the equinox period was defined. If this is not known or for GPS or PTT data, leave the cells blank or filled with "NA" (other forms, such as "N/A", will not be accepted)

- **argos_quality** (only for PTT data): quality of the position; one of the following options are accepted – *3; 2; 1; 0; A; B; Z; G*.

    - For GPS or GLS, leave the cells blank or filled with "NA" (other forms, such as "N/A", will not be accepted).

7. Save the dataset file to the correct format.

- You can save as a csv using a R or other coding languages. Or, you can copy-paste the appropriate template to another Microsoft Excel spreadsheet and, after replacing with your data, save the file as .csv using the "CSV (Comma Delimited) (*.csv)" [do not save as "CSV UTF-8 (Comma Delimited) (*.csv)", "CSV (Macintosh) (*.csv)" or "CSV (MS_DOS) (*.csv)"].

8. Upload the file to the submission form, by clicking "Choose file" and navigating to the folder your file is stored in.

- Please note that there is a file size upload limit. If your files fail to upload are larger than 40MB, please consider splitting the data up into multiple datasets. Please contact us if you require assistance with this.

- Large csvs take longer to upload - **please wait for the spinning blue circle** (right) to disappear before clicking "Submit Dataset".

9. Click "Submit dataset" and the data processing will be attempted. If successful, you will be shown a preview of the map of the dataset and your dataset will be sent to the team for review Please check this map.

- If they are issues, please correct them in your csv and upload the new file.

- If there are errors with the format of the data, there will be an error message relating to the reason why the data was not accepted. Please check your csv against the templates provided and try to upload the dataset again. If you need help with errors, please email seabirds@birdlife.org.

- You can edit the submission after this stage if you need to correct anything.

- The dataset will be assigned a unique ID number (currently 4 digits).

10. The team will check the dataset and then publish it, making it available to be searched, viewed, and requested. If someone requests your dataset, you will receive an email notification.

- You can then download your dataset as a csv with the dataset ID number and all the dataset level data included.

- You can edit dataset after this stage, but they will need to be checked and published again. Please let us know if you want to edit or have edited a published dataset by e-mail at seabirds@birdlife.org

Contact:

If you need any further help, please contact us by e-mail at seabirds@birdlife.org

Thank you for contributing your data to the Seabird Tracking Database!

- The BirdLife International Marine Science Team