

Guidelines for Mobilizing Camtrap Data Packages to GBIF with IPT

Authors: Jeroen Creuwels¹; Niels Raes¹

¹NLBIF/Naturalis Biodiversity Center

Date: 2026-05-18, 2026-05-26

Version: 0.1 *Draft version for BMD-workshop*

Version: 0.2 *Added Project data BMD*

Comments and suggestions on this draft manual are very welcome, please send them to jeroen.creuwels@naturalis.nl

Content of this manual

1. Scope	2
1.1 Camtrap Data Packages	2
1.2 For who is this manual?	2
2. Obtaining login credentials	2
3. Accessing the IPT and create a new Data Package	2
4. Check the Data Package	4
4.1 Source Data	4
4.2 Data Mappings	4
4.3 Metadata	4
Basic Metadata	5
Geographic Scope	5
Taxonomic Scope	6
Temporal Scope	6
Keywords	7
Project	7
Citation	7
Other Metadata	8
5. Publishing the Camtrap DP on the IPT	8
5.1 Visibility	9
5.2 Publication	9
5.3 Registration	11
6. References	12
7. Troubleshooting	13
Casus 1: DP does not appear on IPT	13
Casus 2: An error occurs when trying to publish	13
Casus 3: DP is registered with GBIF but shows only zero records	13

1. Scope

1.1 Camtrap Data Packages

Camtrap Data Packages is a data exchange format for camera trap data. This is the recommended form of publishing with GBIF. DP's are specifically designed for Cam trap data and can retain more information than a Darwin Core Archives and can be directly published with GBIF through an Integrated Publishing Toolkit (IPT).

1.2 For who is this manual?

This manual is intended for nature managers, researchers, biomonitoring community and others. We focus on publishing data of camera traps with prefabricated DPs with the IPT. Therefore, we are not describing the R package `camtrapdp` which is able to read and manipulate Camera Trap Data Packages (Camtrap DP) and other tools such as e.g. `camtraptor` or `camtrapR` (more info in Bubnicki *et al*, 2023).

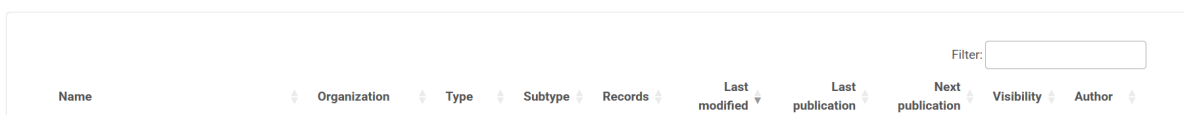
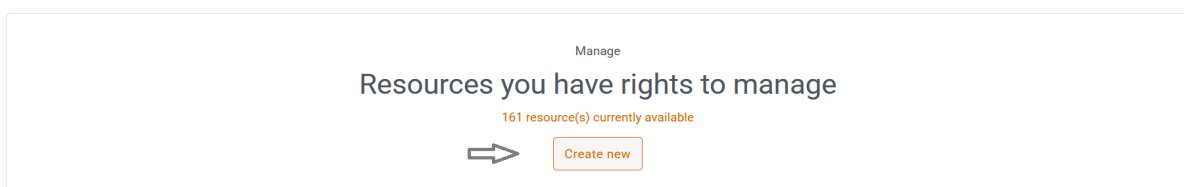
2. Obtaining login credentials

To gain access to the IPT, request an administrative account from the manager of the IPT-instance that you will use. The manager of the IPT provides you with the login details to change a resource (a dataset or a DP) or to create a new resource. You are only allowed to change datasets if you have been registered as an administrator of that particular dataset.

3. Accessing the IPT and create a new Data Package

Following steps will create a new data package.

1. Log in to the IPT instance with your own login details.
2. Navigate to **Manage Resources**.
3. Select **Create New**.



4. Provide a meaningful **Shortname**, without blank spaces!
5. Set **Type** to *Camtrapping DP*.
6. Click *Import from an archived resource*
7. Click **Choose File**
8. Choose your Camtrap DP file
9. Click **Create**.

Manage

Create New Resource

Create
Cancel

You can create a new blank resource, upload an existing resource saved as a zipped Darwin Core Archive, or upload an existing IPT resource using its zipped resource configuration folder. Please refer to the User Manual for more specific instructions. Both short name and type are required.

Shortname *

Type *

Select a type

Import from an archived resource ⓘ

Archive to load:

Choose File

10. When a data package has been uploaded to the IPT, you will see something like this:

✔ Data package metadata read
✕

✔ Imported existing data package. 3 source(s) were imported and 3 mapping(s) created.
✕

Manage / Overview

speciesnet-430 media items

Camtrap DP
 Private

created by **Jeroen Creuwels** on May 13, 2026

Delete
Cancel

Resource overview. Upload or connect to source data, map data to Data Schema, complete metadata, publish the resource and register it with the GBIF network.

4. Check the Data Package

In the resource overview of the IPT you will have to check the Source Data, the Data Mappings and the Metadata. The latter is most of the work, but is important and needed for a successful publication of the data.

4.1 Source Data

Inspect Source Data. Three files should be visible: deployments, media, observations. See figure below 4.2.

4.2 Data Mappings

Inspect Data Mappings. The same three files should be visible with their mappings. See figure below.

An overview of Source Data and Data Mappings:

The screenshot shows two main sections: 'Source Data' and 'Data Mappings'. The 'Source Data' section, titled 'Source Data' with an information icon and '+ Add' button, shows three data files: 'deployments' (1.2 KB, 10 rows/8 columns), 'media' (101.3 KB, 430 rows/9 columns), and 'observations' (24.5 KB, 106 rows/16 columns). The 'Data Mappings' section, also titled 'Data Mappings' with an information icon and '+ Add' button, shows three mappings: 'deployments → deployments' (8 fields), 'media → media' (9 fields), and 'observations → observations' (16 fields). A left sidebar contains navigation links: Source Data, Data Mappings, Metadata, Visibility, Publication, Registration, Networks, and Resource Managers.

4.3 Metadata

- Go to **Metadata**. After adding Source Data and the Data Mappings, the metadata needs to be edited. This is indicated by the flag “Invalid”.
- Click Edit

The screenshot shows the 'Metadata' section, titled 'Metadata' with an information icon, '+ Edit' button, and 'Options' dropdown. Below the title, it says 'Last modified 8 Apr 2026, 14:55:13'. A red pill-shaped badge with the word 'Invalid' is followed by the text 'Your resource metadata.'

The next screen you will see is **Basic Metadata**. Left of this page, an overview is given of all the different sections of the Metadata that have to be checked.

Manage / Overview / Metadata

Basic Metadata

speciesnet-430 media items

Basic Metadata

Geographic Scope

Taxonomic Scope

Temporal Scope

Keywords

Project

Citation

Other Metadata

Title *

Description *

Basic Metadata

- Make sure that you fill out at least all mandatory fields (with a red asterix):
 - a. **Title***
 - b. **Description*** (it is good practice to give a concise, informative description)
 - c. **Contributor - Title*** (with **+Add new contributor** if you can add more contributors)
 - d. **Data license***
 - e. **Media license***
- Click **Save**.

Geographic Scope

If data is visible in **Geographic scope** you will see something like:

Infer metadata automatically ?

Type	Polygon
Bounding Coordinates	[[[3.963, 51.3178], [3.963, 53.3352], [6.1173, 53.3352], [6.1173, 51.3178], [3.963, 51.3178]]]

Input custom GeoJSON object

- If no data is visible,
- click **Infer metadata automatically** and
 - click **Re-infer**

Infer metadata automatically ⓘ

↻ Re-infer

No data

- Click **Save** if you have changed information on this screen, otherwise go to the next screen.

Taxonomic Scope

In Camtrap DP it is mandatory to include taxonomic data! If data is visible in **Taxonomic scope** you will see something like:

Infer metadata automatically

Scientific Name	Taxon ID
animal	
Homo	
Homo sapiens	
vehicle	
Tapirus terrestris	

If no data is visible,

- click **Infer metadata automatically** and
- **click Re-infer**

- Click **Save** if you have changed information on this screen, otherwise go to the next screen.

Temporal Scope

If data is visible in **Taxonomic scope** you will see something like:

Infer metadata automatically

Start / End	
	2021-07-16 / 2024-10-20

If no data is visible,

- click **Infer metadata automatically** and
- **click Re-infer**

Click save if you have changed information on this screen, otherwise go to the next screen.

Keywords

It is recommended to include keywords in the next tab.

- Click **Save** if you have changed information on this screen, otherwise go to the next screen.

Project

This is an important screen with important information on the data package. Fill out at least the following mandatory fields:

- **Title***
- **Sampling design*** (click on the field to see all the options)
- **Capture method*** (click on the field to see the options: “timeLapse” or “activityDetection”)
- **Observation level*** (click on the field to see the options: “media” or “event”)

Below an example is given for the BMD - Project data. You can copy the text from

6. References

Title *

Biodiversity Meets Data

Description

A Biodiversity Explorer for high-throughput biodiversity monitoring tools, biodiversity data, and biodiversity analyses for better conservation across Europe. BMD (Biodiversity Meets Data) receives funding from the European Union's Horizon Europe programme under grant agreement nr. 101181294. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.

Acronym

BMD

Path

Sampling design *

simpleRandom

Capture method *

* activityDetection

Observation level *

* media * event

Individual animals

- Click **Save**.

Citation

The citation of this data package (including title, authors, version and DOI) will be generated automatically.

In **Bibliographic Citation** you can add bibliographic citations related to this data package .

- Click **Save** if you have changed information on this screen, otherwise go to the next screen.

Other Metadata

Check the Observation level of your data package. The default setting is “event”.

If you have a series of images which are considered to be an event every row will contain a value for the eventID. Keep the default setting “**event**”

If you have a media file with individual images every row will contain a value for the mediaIDs (and maybe not eventID are filled out), choose “**media**”

!! Please note that the value of Observation level in Other Metadata does not have to be equal to the Observation level in Project.

- Click **Save**
- Click **Back** to return to resource overview page

5. Publishing the Camtrap DP on the IPT

Before we start publishing the Camtrap DP we need to renew the mappings. (*This might be a bug in the current version of the IPT, but we recommend doing this always before taking the other steps in publishing*).

- Click **Back** to return to the resource overview Data Mappings
- Click on the rubbish bin after each mapping (deployments, media, observations) to remove all mappings.

Data Mappings + Add
Last modified 13 May 2026, 20:24:21

Your mapping between the source data and Data Package schema.

- ↕ **deployments → deployments**
8 fields | 13 May 2026, 20:24:21
- ↕ **media → media**
9 fields | 13 May 2026, 20:24:21
- ↕ **observations → observations**
16 fields | 13 May 2026, 20:24:21

- Create a new mapping with “**+ Add**”, eg. deployments
- Create the other two mappings with “**+ Add mapping**” (eg. media and observations)

Camtrap DP *
deployments

Source data *
deployments

Camtrap DP *
media

Source data *
media

Camtrap DP *
observations

Source data *
observations

+ Add mapping

Remove mapping

- Click **Save**

5.1 Visibility

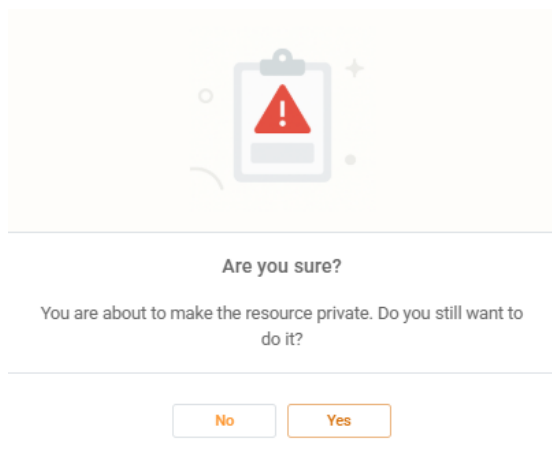
The data of the Camtrap DP should be made open for everybody.

Visibility

 [Change](#)

This resource is private to managers. To make this resource available to everyone, please make it public.

- Navigate to **Visibility** in the resource overview
- Click **Change**
- Set “Change visibility to Public” on **Immediately**
- Click **Submit**
- Click **Yes** on the screen “Are you sure?”



5.2 Publication

When you upload the Camtrap DP data to the IP, you have to add the Publishing Organisation of this Camtrap DP.

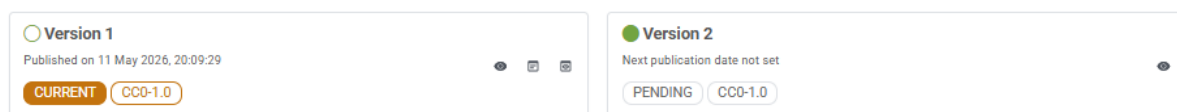
If the Publishing Organisation has already been registered you will see something like the picture below.

Publication

 [Edit](#)  [Publish](#)

Publishing Organization: *Netherlands Biodiversity Information Facility (NLBIF)*

A preview of your pending published version compared with the current version if existing.



- Click **Publish**
- Give a very short description of the changes (or simply “publication of a new dataset” if this

is the first publication)

- Click **Publish** again

- If successful, you see a screen with Publishing Status like this.

Publishing Status

Publication started: Thursday, 23 April 2026 at 23:55:25 Coordinated Universal Time


Publication time: 00:00:04

Status:  Completed

Publishing version #1 of resource first6mndsdata finished successfully

- Navigate back to the resource overview of the IPT

If the Publishing Organisation is not registered, you have to add the organisation that is publishing this dataset. You will see a screen like this:

 Publication

 Edit  Publish

A preview of your pending published version compared with the current version if existing.

 **Version 1**


Next publication date not set

PENDING No license set


- Click **Edit**

- Click on the field **Publishing Organization** to choose the Publishing organisation.

If your organisation is not listed, please contact the manager of the IPT and ask that your organisation is added to the list.


 Publishing Organization

Publishing Organization *

Netherlands Biodiversity Information Facility (NLBIF) 

 Auto-publishing

 Edit

 Auto-publish is inactive. Your resource may be published manually with the Publish button.

Auto-publishing is optional and will be in most cases left inactive.

- Click **Save**

- Click **Publish**

- Give a very short description of the changes (or simply “publication of a new dataset” if this is the first publication)

- Click **Publish** again

- Navigate to the resource overview of the IPT

If you are not successful with publishing we refer to the section “Troubleshooting”.

5.3 Registration

Registration of the Camtrap DP means that the dataset has been published with GBIF. This is the final step! You must publish the dataset on the IPT first, to be able to register the dataset with GBIF.

- Click **“Register”**

If successful you will see in the resource overview the GBIF registration data: the name of the dataset, the unique identifier and the publisher.

Registration

 Register

GBIF registration data.

 **speciesnet-430 media items**
1b78f1ff-d826-4647-bfd8-2c1d2b22711c | Netherlands Biodiversity Information Facility (...)

If you click on this field you will see the registered dataset on the test-environment or production environment of GBIF, depending on which one you are working.

Occurrence dataset | Registered 11 May 2026

speciesnet-430 media items

Published by Netherlands Biodiversity Information Facility (NLBIF)

Windsor H Licence CC0 1.0 106 occurrences

[About](#) [Project](#) [Metrics](#) [Download](#)

This is a test site. Data from this site should NOT be used or cited.

Description

Publication date: 11 May 2026

speciesnet-430 media items

Data have been standardized to Darwin Core using the [camtrapdp](#) R package and only include observations (and associated media) of animals. Excluded are records that document blank or unclassified media, vehicles and observations of humans.

On this page

- [Description](#)
- [Geographic scope](#)
- [Temporal scope](#)
- [Taxonomic scope](#)
- [Contacts](#)
- [GBIF registration](#)
- [Citation](#)

[View on GBIF.org](#)

Statistics

Occurrence records	106
Species	2
Year range	From 2021 to 2024

Data richness

Number of occurrences

Identified to species	36
With coordinates	106
With year	106

If you are not successful with publishing we refer to the section “Troubleshooting”.

6. References

Reyserhove L, Norton B & Desmet P (2023) *Best Practices for Managing and Publishing Camera Trap Data*. GBIF Secretariat: Copenhagen. <https://doi.org/10.35035/doc-0qzp-2x37>

Bubnicki J W, Norton B, Baskauf S J, Bruce T, Cagnacci F, Casaer J, Churski M, Cromsigt J P G M, Farra S D, Fiderer C, Forrester T D, Hendry H, Heurich M, Hofmeester T R, Jansen P A, Kays R, Kuijper D P J, Liefiting Y, Linnell J D C, Luskin M S, Mann C, Milotic T, Newman P, Niedballa J, Oldoni D, Ossi F, Robertson T, Rovero F, Rowcliffe M, Seidenari L, Stachowicz I, Stowell D, Tobler M W, Wieczorek J, Zimmermann F & Desmet P (2023) *Camtrap DP: an open standard for the FAIR exchange and archiving of camera trap data*. *Remote Sensing in Ecology and Conservation*. <https://doi.org/https://doi.org/10.1002/rse2.374>

Project data BMD: text to be copied into Metadata-Project

Title: Biodiversity Meets Data

Description: A Biodiversity Explorer for high-throughput biodiversity monitoring tools, biodiversity data, and biodiversity analyses for better conservation across Europe.

BMD (Biodiversity Meets Data) receives funding from the European Union's Horizon Europe programme under grant agreement nr. 101181294. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.

Acronym: BMD

7. Troubleshooting

Casus 1: DP does not appear on IPT

- Check Visibility (should not be on PRIVATE)
- Check if all mandatory fields in Metadata are filled out

Casus 2: An error occurs when trying to publish

An error message will appear like this:

Publishing Status

Publication started: Tuesday, 5 May 2026 at 15:59:28 Coordinated Universal Time

Publication time: 00:00:03

Status: ● Failed

Publishing version #6 of resource first6mdata failed: Archive generation for resource first6mdata failed: Error validating primary keys: Field eventStart provided value 0f104208-3d8d-4e59-b5df-f652b0658dbd is not of datetime type.

The message is that at least one of the mappings is wrong.

- Throw away all the mappings
- Create the mappings again and
- try to publish.

In many cases this has solved the issue.

Casus 3: DP is registered with GBIF but shows only zero records

The Camtrap DP has a unique identifier and a DOI and is visible at GBIF. However, the dataset shows only zero records.

- Check the **Observation level** in Other Metadata.

If the DP is media-based (like the ARISE data packages) then this field should be “media”!