

Behaviour and Environment Evidence Base

Reliability testing procedure - Coordinator



This document outlines the procedure for coordinating reliability testing for the observers at your institution using the Behaviour and Environment Evidence Base (BEEB).

Reliability testing has 3 stages:

1. Ethogram quiz (passed with 80%)
2. Behavioural repertoire video reliability (passed with 75%)
3. ZooMonitor reliability (passed with 75%)

As the coordinator, you will be responsible for scoring each and tracking progress through stages until the observer is reliable. There are several documents to aid you in this process and facilitate scoring and tracking.

Document list:

- Reliability testing procedure- Coordinator (this document)
- ZooMonitor tutorial 2025 (pdf)
- Ethogram (pdf)
- Ethogram quiz answer sheet (Word document)
- Reliability scoring and tracking (Excel sheet)
 - Tabs:
 - Reliability progress tracking
 - Repertoire reliability scoring
 - ZooMonitor reliability scoring

Along with your documents, you will also need to read and review in their entirety, the 'Reliability testing procedure_Observers' guidance document and the 'Video reliability data entry' excel sheet for your observer. Reading these documents at the same time as your own guidance will aid in understanding what your observers are expecting from you and what their process is.

In addition to these documents, **you will need to have existing access to ZooMonitor as an admin** and be familiar with basic admin functions within ZooMonitor. If you are unfamiliar with ZooMonitor, review the observer and admin ZooMonitor tutorials on the [SWAT and BEEB website](#) as a first step in this process before beginning the reliability testing.

These reliability tests are for a taxon ethogram which has been developed into a ZooMonitor community project. This community project is how data will be collected (either by using the project directly or making a copy of the project).

The following is a guidance on the steps to coordinate reliability testing for one observer:

Joining the ZooMonitor Community project

1. Before beginning reliability testing with your observers, you will need to gain access to the taxon's ZooMonitor Community project. This is the code to the private project for bears:
4Prk-9tSE
2. Login to your ZooMonitor admin and go to the Community tab.
3. In the top right corner, click on 'Add Private Study' and enter the code above. This will send a request to the PI to join the project.
4. Once your request has been accepted, the project will appear in your 'Projects' tab.
5. Enter the project and add your habitat map, project animals, and observers.

Getting your observers started with training and reliability

1. Training and reliability are largely meant to be completed independently by the observer using the guidance materials created for them.
2. Provide your observers with the documents they will use to complete reliability testing.
3. Ensure that they have the ZooMonitor training document with the licence key from your institution. And be sure to add them as an observer within your institutions ZooMonitor and then to the respective Community project.

Stage 1: Ethogram quiz

1. Following the guidance, the observer will have studied the ethogram, observed the species with the ethogram at hand to practice recognising the behaviours, and completed the quiz once they were ready. They will return the quiz to you for scoring.
2. The quiz answer sheet will guide you on scoring the quiz.
3. You can then enter the results into the 'Reliability scoring and tracking' excel sheet within the 'Reliability progress tracking' tab.
 - a. Enter the name of the observer in the 'Observer tracking' table. The other fields will populate automatically based on the entries in the other tables. This table will show you the stage each observer is at and how many attempts they have made at each stage. Once they are reliable, this will be indicated.
 - b. Enter the observer's name in the 'Ethogram quiz results' table, spelling it the same way as in the previous table. Fill in the rest of the fields except for the 'Pass/Fail' column which will automatically indicate and highlight in green when the observer has passed the quiz.
4. If the observer has passed the quiz, they can receive their quiz results back with the answer sheet.
5. If the observer **has not** passed the quiz, they should receive their results back **without** the answer sheet. They can then study the ethogram again, focusing on the areas they got wrong.
6. Once they are ready, they will retake the quiz and return it to you once they are done.
7. Once they have passed, they can move on to the next stage.

Stage 2: Repertoire video reliability

1. In this stage, observers will watch a video compilation of several clips which display nearly the entire behavioural repertoire of the animal. They will identify behaviours from clips and record them in their excel entry sheet.
2. The observer will continue to study the ethogram and may do in-person practice observations at any point using ZooMonitor indicating in the notes of their sessions (should they not delete them) that they are practice sessions. These can be done independently, with other training observers, or with you.
3. Once they are ready, they will complete the test and return the excel sheet with the results to you.
4. You will then use the 'Repertoire reliability scoring' tab of the 'Reliability scoring and tracking' excel sheet to score their results.
5. Enter their name, the date they handed in their results, and the attempt number.
6. Copy the entries only from their entry sheet and paste (values only) under the same headings in the scoring tab.
7. The progress tracking tab will update the 'Repertoire reliability results' table automatically with all required fields.
8. If the observer passes, you can copy from the Repertoire reliability scoring tab the answers and their responses along with the headings and paste into a Word document (fit better in landscape). Note that if you paste into another excel sheet, the red highlight indicating which responses were incorrect will move around or disappear.
9. If the observer **does not** pass, you can copy just their responses with the headings, **without** the answers and paste into a Word document to return to them. This will enable them to identify which responses they got wrong and right, and allow them to rewatch the videos to understand their mistakes. Once they have studied their results and feel ready again, they can retake the test with the same video.

Examples of what the returned results would look like (short snippets):

If they have passed:

				Observer	Jane Example
				Attempt #	1
				Date	01/01/2025
				Answers	
Video clip	Beep #	Proximity	Behaviour	Proximity	Behaviour
A	1	Solitary	Keeper interaction: Training	Solitary	Keeper interaction: Training
	2	Solitary	Keeper interaction: Training	Solitary	Keeper interaction: Training
	3	Solitary	Keeper interaction: Direct feed	Solitary	Keeper interaction: Direct feed
	4	Solitary	Enrichment item interaction: Feed	Solitary	Enrichment item interaction: Comfort
	5	Solitary	Enrichment item interaction: Feed	Solitary	Enrichment item interaction: Feed
B	1	Solitary	Head-toss	Solitary	Head-toss
	2	Solitary	Locomotion	Solitary	Locomotion
	3	Solitary	Head-toss	Solitary	Head-toss

If they haven't passed:

		Observer	Jane Example
		Attempt #	1
		Date	01/01/2025
Video clip	Beep #	Proximity	Behaviour
A	1	Solitary	Keeper interaction: Attention
	2	Solitary	Keeper interaction: Training
	3	Solitary	Keeper interaction: Direct feed
	4	Solitary	Enrichment item interaction: Comfort
	5	Solitary	Enrichment item interaction: Feed
B	1	Solitary	Other stereotype
	2	Solitary	Locomotion
	3	Solitary	Head-toss

10. Once they have passed, they can move on to the final stage.

Stage 3: ZooMonitor video reliability

- In this stage, we are testing the ability to conduct a continuous observation session and to use ZooMonitor. The observers will watch a video that simulates a live ZooMonitor observation session and record their responses with the respective ZooMonitor project. They only need to pass one session to finish reliability testing. However, since the sessions are not as diverse in the behaviours presented as is for the repertoire video, if multiple attempts are needed to pass, the observer will be given a different video each time.
- When they are ready to complete the test, you will send them the link to the first video. The links can be found in the 'ZooMonitor reliability scoring' tab in the 'Reliability scoring and tracking' excel sheet. The links will be next to the titles for each answer key table.
- Once the observer has completed their session, they should notify you when they have uploaded their session in ZooMonitor, or a deadline should be agreed upon.
- Once you are made aware that the session is uploaded, you will login to ZooMonitor admin and export their reliability session.
- You will then open the 'ZooMonitor reliability scoring' tab and enter their name and the date they uploaded their session.
- From the session export, you will copy the behaviours necessary to then paste into the respective answer key table.
- If the observer passes, they should be given their results with the answer key in a Word document as described in the procedure for the repertoire page.
- If the observer **does not** pass, they will need to repeat the test with a new video. Because of this, they should be given back their results **with the answer key** to study their correct and incorrect responses. You will also provide the link to the new ZooMonitor video which should be the next video in the succession.
- Once the observer has passed, they are ready to begin observations.

Repeating the process with new observers

- In the excel sheet, if you run out of space to enter observer data in the two scoring tabs, you can copy the observer columns and paste them following the same pattern to the right. This will paste all of the scoring formulas as well. If responses have been pasted, then select the whole response area, right click, and click 'Clear contents'.
- You will also need more space in the tables for reliability progress tracking. You can follow instructions in the progress tracking tab to do this.