

Biowet data protocol, developed at WWT Martin Mere, UK

March 2019

Water conditions

| Unit | |
|-------------------------|-------------|
| Regular measuring point | pH |
| Trend | Temperature |
| | Rainfall |
| | Phosphates? |
| | BOD? |

Reedbed surveys

| Unit | |
|-------------------------------|---|
| 1 square metre | density of reed plants average height of stems |
| Multiple plots in one habitat | |
| Seasons | |
| Trend | |

Animal sightings

| Unit | |
|-----------------------|-------------|
| Bounded field/habitat | Count |
| Wetland centre | Male/female |
| Trend | |

Lapwing survey

| Unit | |
|-------------------|-----------|
| Wetland centre | Count |
| Management system | Phenology |
| | |

Owl pellet analysis

| Unit | |
|---|---|
| In or around nest box | Count of: femur left, femur right, cranium left, cranium right, mandibles left, mandibles right, per species of mammal/amphibian; |
| Wetland centre | |
| Trend (at genus level; species level where possible) | |
| | count yes/no for bird, insect, earthworm. |



Remember to...

Chose a plot that is safe to access; record its location on a map, relative to paths and waterways.

Remember to...

Note how many of you are observing, and for how long.

Invertebrates

| Unit | |
|------------------------|---------|
| Moth trap | Species |
| Regular spot at centre | |
| Season | |

Invasive species

| Unit | |
|------|------------------|
| | Himalayan balsam |
| | Spanish bluebell |
| | Catfish |

Communications

| Unit | |
|----------------|---|
| One-on-one | Photographs anecdotes of experience; |
| Instagram | Invasive species (photos over time) |
| Wetland centre | |

Structures & procedures

The core participants of Biowet are funded under the EU's Erasmus+ programme, so an essential element is travel across Europe to meet peers and learn together; as such the structure would be different where the study is carried out only by students local to the wetland centre. In these cases a much more streamlined process would involve:

1) *Interaction between school and wetland centre in advance.* This is to provide classroom content on the wetland centre and climate indicators (such as included in this kit); and practical arrangements about when and how to visit the centre.

2) *Classroom preparation.* Introduce climate change; the role of wetlands in climate change and locally; and the Biowet project.

3) *Visit to the wetland centre.* Carry out the relevant observations and make sure you have recorded the data correctly.

4) *Tidy and analyse the data.* In the classroom, look at and plot what data you have; compare it with the other data on the Biowet pages of the WLI website wli.wwt.org.uk/biowet. Share your observations and analysis with the other participants by email to wli@wwt.org.uk

Under the Erasmus+ programme

Organisers met in advance by Skype, and then in person at the first venue. The teachers or education staff then prepared lessons on wetlands and climate change, and the project. Each centre then provided a video, either by the participating students or the centre, introducing themselves and their centre in the context of climate change. We presented these videos during a webinar with all the students and relevant wetland centre staff. Next step was the actual visit to the wetland centre by all participants (where possible within the funding framework). Each day the participants worked on what variables and constants they can study, and writing up their observations. On the final day we had a feedback session. The participants continued to work on the data in school, and one month later presented their conclusions to the whole group via webinar.

Annexe: sample forms

If you are submitting observations to Biowet, please use the blank spreadsheet called Biowet data form, downloadable from wli.wwt.org.uk/biowet. Below, please find two examples of the data you need to consider while making your observations.

Reedbed survey form

You can download this as a separate spreadsheet file on wli.wwt.org.uk/biowet

| Plot ID | Height of Reeds (cm) | % cover of reeds | % cover of non native invasive species | % cover of native negative indicators | Water depth (cm) | % cover of water | Depth of litter (cm) | Notes |
|---------|----------------------|------------------|--|---------------------------------------|------------------|------------------|----------------------|-------|
| | | | | | | | | |

Biowet bat pellet analysis recording form

Please download the blank form as a PDF from wli.wwt.org.uk/biowet. It is for data-collection, rather than submission. When submitting your findings, please use the abbreviated version, found as a sheet in the blank Biowet data form.

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

