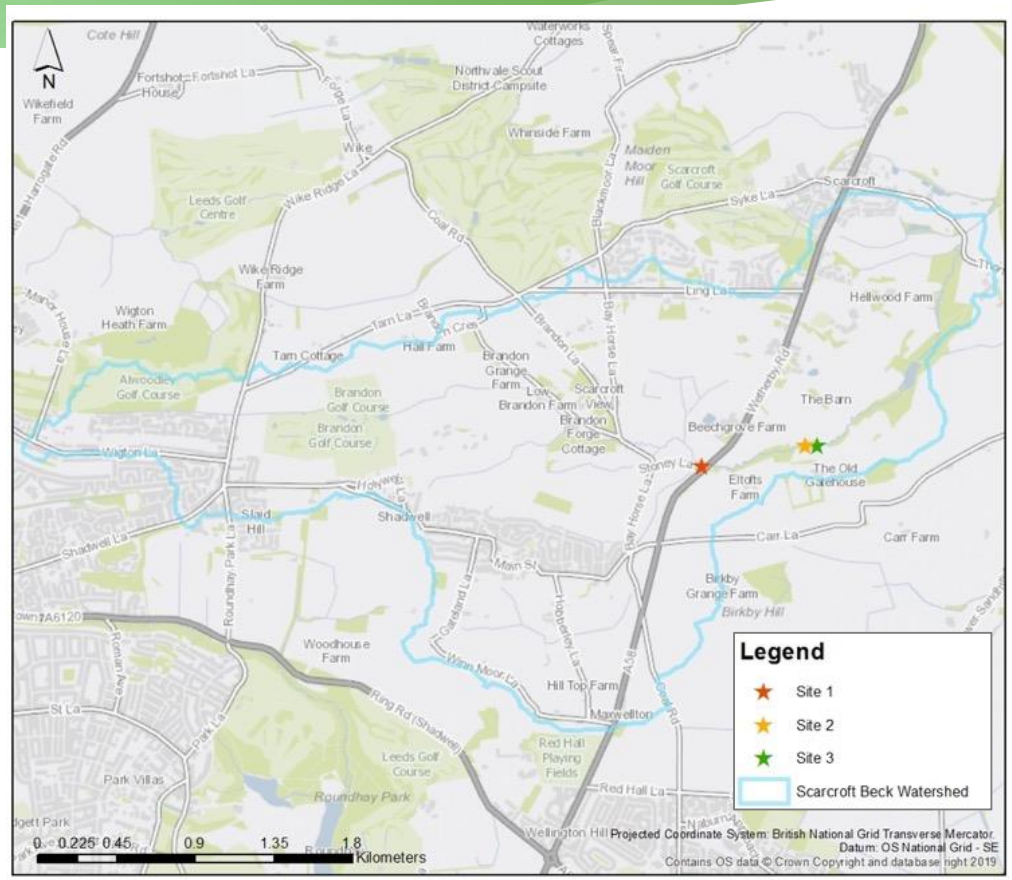
Collingham Monitoring Appraisal and Evaluation

CHLOE GLENCROSS

UNIVERSITY OF LEEDS

Sites

- Three sites were selected for monitoring
- NFM features monitored included:
  - 2 Leaky Boards
  - 1 Scrape
  - 1 Natural Dam



Site 1: Leaky Boards

Site 2: Wetland Scrape

Site 3: Natural Dam

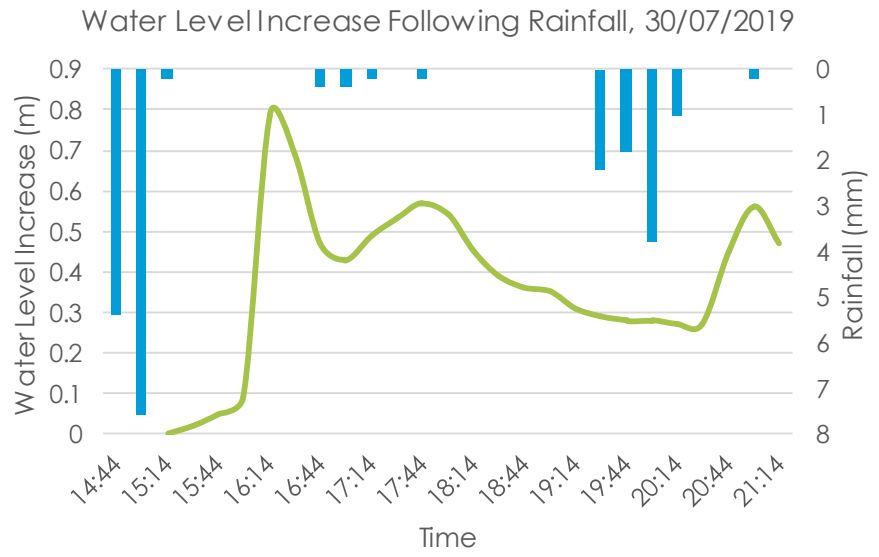
Monitoring successes

- The footage depicts occurrences of floodplain reconnection
- Paired with stage boards the river level rise could be measured
- We can determine how frequently the features are being activated
- We can monitor the impacts to the channel i.e. debris build up and the development of forced sediment bars
- Monitoring has allowed identification of potential improvements

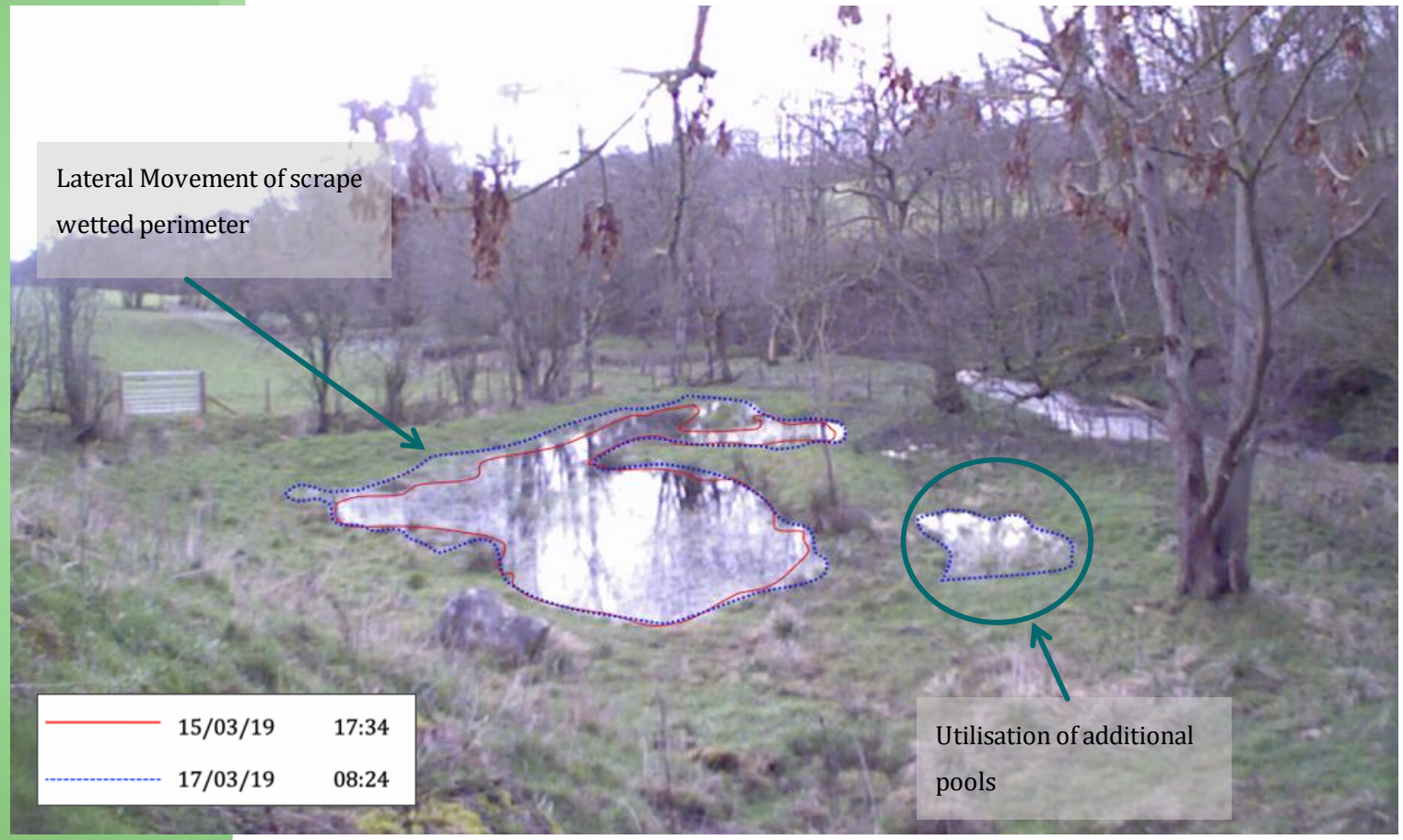

30/07/2019 15:59:04


30/07/2019 16:14:03


30/07/2019 16:54:03

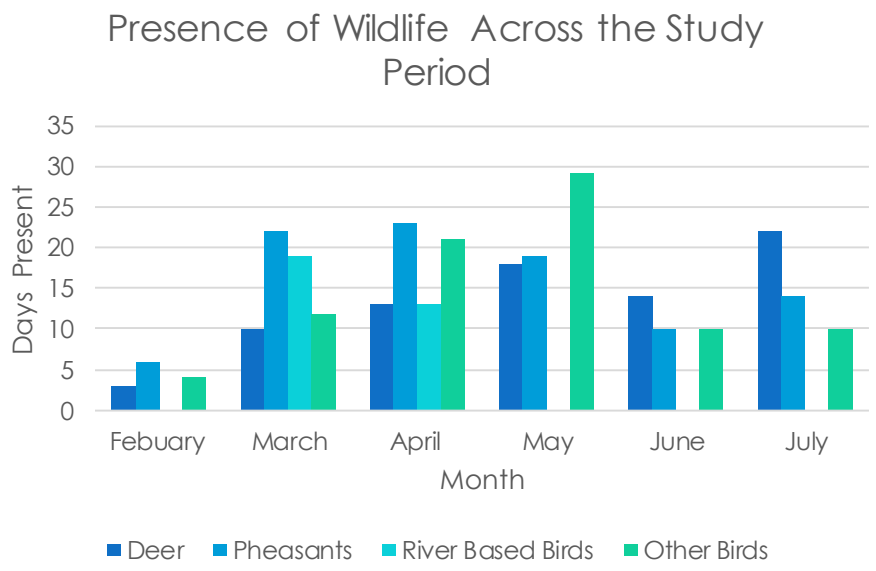

Water Level Increase Following Rainfall, 30/07/2019
Water Level Increase (m)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Rainfall (mm)
0
1
2
3
4
5
6
7
8
14:44
15:14
15:44
16:14
16:44
17:14
17:44
18:14
18:44
19:14
19:44
20:14
20:44
21:14
Time

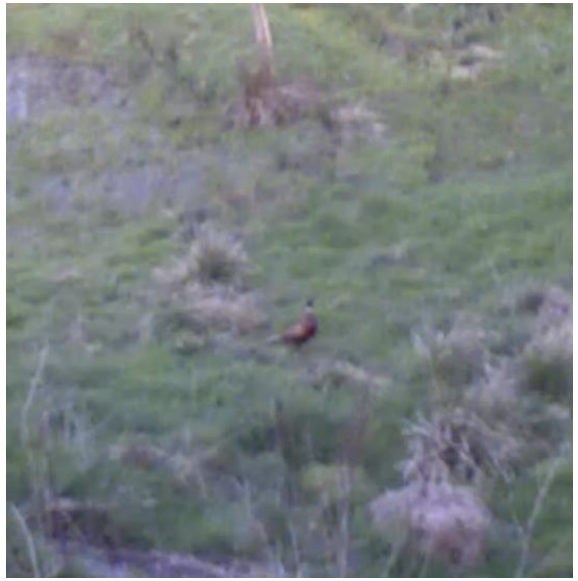
- Monitoring of the wetland scrape during and after rainfall was more difficult
- Visual expansion and contraction was occurring across days rather than minutes/hours
- The visibility during rainfall was restricted as this camera has limited shelter
- Vegetation overgrowth limited this assessment for the latter half of the study



Multiple-Benefits - Habitats

- Additional benefits of NFM are sometimes difficult to determine
- The exclusion of cattle from the sites has allowed vegetation to develop and provided space for habitat development.
- Site 2 regularly attracted deer and has developed conditions suitable for pondlife
- Site 3 appears to be acting as a habitat corridor
- Visibility was reduced by the overgrowth of vegetation



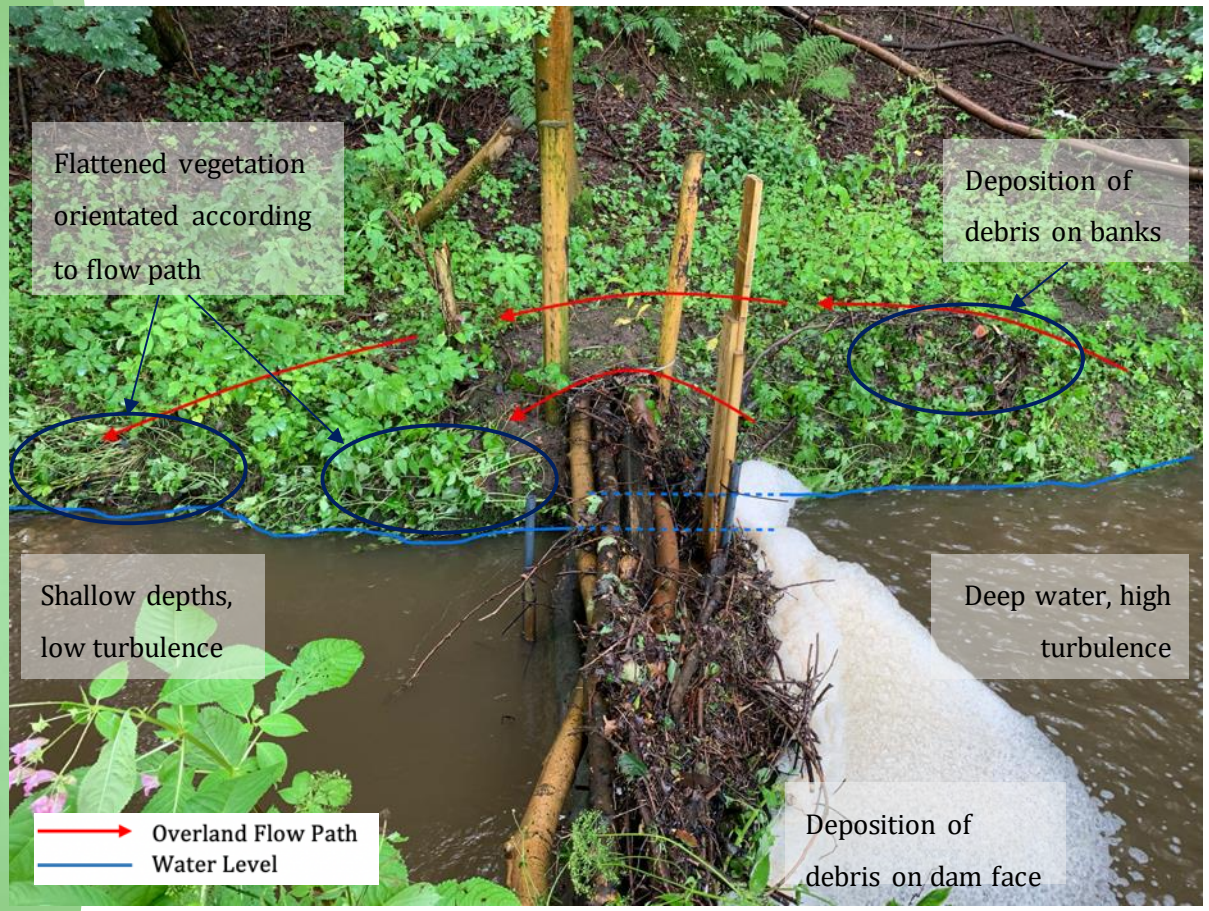





Monitoring Issues Faced

- How regularly should the photos be taken?
- Battery Life and SD Card Storage
- Time taken to visit sites, replace SD cards and batteries
- Time to review footage
- Getting the camera angle/vantage point right

Site visits have still been important for identifying features too small to be visible on camera.



Evaluation

- It is important to have a goal or idea for the footage – will it be just for observing functionality or additional benefits? Cameras should be set up accordingly.
- In this study they have successfully identified where features are not functioning effectively and where features can be improved.
  - Lowering of the 1st leaky board
  - Widening of the natural dam to hold surface runoff on the floodplain
- Site visits can provided additional details regarding activation, function and multiple benefits. Additionally, they are recommended to ensure debris is not limiting the function of features.
- Observations and assumptions made using the time-lapse footage could be backed up with further assessment e.g. habitat surveys, water level loggers, sediment assessments and channel cross sections.

Concluding Remarks

- Time-lapse monitoring techniques can range from simple to complex, depending on the aims/objectives of a project
- To make a project run smoothly ensure cameras are checked, SD Cards emptied and batteries replaced on a regular basis
- More regular photos capture development of features in great detail but fill SD cards faster, less frequent photos capture development to a good level of detail but may not be appropriate for all assessments.
- Cameras can be paired with other forms of monitoring easily to provide various outputs.