**“How to use” guide for the River Restoration Centre’s monitoring Protocol:**

**Key:**

* **Target/why –** What is the overall objective of the works which are to be monitored?
* **What –** What are you trying to observe from your monitoring? E.g. increased sinuosity and habitat heterogeneity through re-meandering and adding large wood / reduction in nutrient inputs by installing SuDS.
* **How –** What techniques are being used to collect data and what assessment methods are you using? E.g. electro-fishing monitoring diversity, abundance, density, length and age.
* **When –** When are you collecting data (month/season)? Duration/length of monitoring period, how many sampling repeats, how regularly?
* **Who –** Who is the individual and/or organisation responsible for monitoring? Will this be done by more than one organisation?
* **Data –** Do you have access to any pre-project data? E.g. monitoring data from the Environment Agency.
* **Cost –** Cost of monitoring. Are all costs in kind, or are there expenditures for e.g. external lab analysis.
* **Which WFD objective is this helping to achieve –** Which WFD quality element will be addressed by your works? If not WFD, does the work/undertaking aim to improve favourable conditions (for designated sites or species, e.g. SSSI/SAC/SPA/BAP) or does it relate to any other policy drivers (e.g. public engagement, socio-economics, flood management, ecosystem services)
* **Priority and confidence:**Priority: High/Medium/Low importance that your monitoring method can show potential improvement of the related WFD quality element; the favourable condition (i.e. designated site or species such as SSSI, SAC, SPA, BAP); and/or other policy drivers (e.g. socio-economics, flood management, ecosystem services).  
  Confidence: High/Medium/Low confidence that the monitoring is robust, suitable and has the potential to show what you are trying to observe within the CRF project time limit.
* **On target –** Are the monitoring tasks outlined running to schedule? If no, why not?

| **Target/Why**  What is the overall objective of the works which are to be monitored? | **What**  What are you trying to observe from your monitoring? | **How**  What methods are you going to use? | **When**  What periods over the year and how often? (to indicate variability)  And where if possible | **Who**  Who is going to do this? | **Data**  What existing data is available in addition to the monitoring being outlined here | **Cost**  (can be in kind) | **Which WFD quality element is this helping to achieve?**  **If not WFD specify (e.g. SSSI, SAC, BAP or other policy driver)** | **Priority**  High/medium/low linked to WFD or other designation | **On target**  Are the monitoring tasks outlined running to schedule?  (if no specify)  NOTE- can use RRC update questionnaires as a start. | **Key reporting tool and reporting output** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Confidence**  High/medium/low robustness of monitoring |
| **Will be different for each project – what is the project aim for the area being photographed?** | A visual change in (please specify) as a result of (please specify) | Fixed point photography – for methodology, refer to RRC’s Practical river monitoring guidance (2011)  X number of photos (state if known) & indicate if RRC have been provided with a map of points (Y/N) | E.g. Before, immediately after and post works recommended (state dates if known, e.g. month and year) | Project team/ Volunteers | State if fixed point photography or any anecdotal/ ad-hoc photography prior to CRF | Through project/  In-kind | State which of the following, the FPP demonstrates:  a) WFD targets,  b) designated river or  c) other e.g. social science targets | Priority: Please state (only grey if High) | Yes/ No | A time-series of fixed point photographs  State if any other analysis is being done |
| Confidence: Please state (only grey if High) |

* **Reporting tool and reporting output –** How will your collected monitoring data be recorded and the analysis outputs reported?

**Example of Fixed Point Photography:**

| **Target/Why**  What is the overall objective of the works which are to be monitored? | **What**  What are you trying to observe from your monitoring? | **How**  What methods are you going to use? | **When**  What periods over the year and how often? (to indicate variability)  And where if possible | **Who**  Who is going to do this? | **Data**  What existing data is available in addition to the monitoring being outlined here | **Cost**  (can be in kind) | **Which WFD quality element is this helping to achieve?**  **If not WFD specify (e.g. SSSI, SAC, BAP or other policy driver)** | **Priority**  High/medium/low linked to WFD or other designation | **On target**  Are the monitoring tasks outlined running to schedule?  (if no specify)  NOTE- can use rrc update questionnaire as a start. | **Assessment**  **Method to be used** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Confidence**  High/medium/low robustness of monitoring |
| **Actions to reduce diffuse pollution;**  **Restore floodplain wetlands at the landscape / catchment scale and undertake other targeted actions informed by farm plans.** | Have wetland / farm advisors been successful in providing practical land management advice which has ensured reduction in catchment scale diffuse pollution and habitat improvement. | Fixed point photography | Where capital works are being delivered- points to be recorded on an OS map  Pre-, during, and post-works | RSBP / SCRT | None |  | Achieve good status or prevent deterioration of WFD waterbodies:  GB531027212100  GB112072065840  GB112072065880  GB112073071260  GB112073071220  GB112073071300  GB112073071050  GB112073071070  GB112073071240  GB112073064450  GB112072065860  GB112072065850 | Priority: High | Yes | Data to be evaluated as part of end of project report - to be carried out by project manager. |
| Confidence: High |
| Specific flagship species monitoring:  Breeding waders | Report for:  Crook Farm,  Lathwaite  Farm, and  New Hall Farm. | RSPB | Report complete | In-kind | Priority: Medium | 2013 survey Completed |
| Confidence: High |

**NB.** The EA determined the condition of these watercourses from water quality data collected at sites including those listed below.   
Further assessments are to be undertaken that will gauge the efficacy of the restoration projects undertaken.

**EA Surface Water Stations:** See <http://www.eea.europa.eu/themes/water/interactive/soe-wfd/wfd-river-basin-district-info-viewer>

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| --- | --- | --- | --- |
| **Project item** | **Waterbody** | **Station** | **Type** |
| Ireland Moss | Leven Downstream – Rusland Pool | NWWIMS88004569 | Water Information Management System |
| Savinhill | River Gilpin PTC River pool | NWWIMS88004402 | Water Information Management System |
| Savinhill | River Gilpin | NWMORPGB112073071300 | Morphological |
| Mireside Farm | Near Dawson Farm | NWBIOS67196 | Biological |
| River Bela fascines | River Bela | NWMORPGB112073071070 | Morphological |
| River Bela fascines | River Bela at Beetham Bridge | NWWIMS88004435 | Water Information Management System |
| River Bela fascines | 200m U/S A6 bridge, Beetham | NWBIOS64127 | Biological |
| Low Borrowdale | U/S bridge nr Whinfell Common | NWNFPD8269 | National Fisheries Database |
| Low Borrowdale | A685 bridge | NWNFPD10082 | National Fisheries Database |
| Tarn Brook Wood | PTC R. Lune | NWBIOS67950 | Biological |
| Holgates | Black Dike | NWMORPGB112073064450 | Morphological |
| Crook Farm | Lower Lune estuary trib. | NWMORPGB112072065870 | Morphological |
| Wyreside Lakes | Wyreside Lakes | NWNFPD16813 | National Fisheries Database |
| Wyreside Lakes | Foxhouses Quarry | NWNFPD16806 | National Fisheries Database |
| Wyreside Lakes | Foxhouses Brook PTC River Wyre | NWWIMS88003826 | Water Information Management System |
| Cockerham Boers | River Cocker at Cocker Bridge | NWWIMS88004088 | Water Information Management System |
| Hew Hall Farm / Lathwaite | At Crimble Farm | NWBIOS65117 | Biological |
| Moss House Farm | At railway bridge, Crag Foot | NWBIOS65419 | Biological |
| Moss House Farm | Quicksands Pool at Crag foot | NWWIMS88004468 | Water Information Management System |
| Jolley’s Farm | Holme Beck | NWMORPGB112073071050 | Morphological |
| Brookside | D/S railway viaduct, Capernwray | NWBIOS66507 | Biological |
| Brookside | River Keer, Capernwray bridge | NWWIMS88004476 | Water Information Management System |
| Old Parsonage | Cowan Bridge | NWNFPD11401 | National Fisheries Database |
| Over Hall | Collingholme Farm | NWNFPD11396 | National Fisheries Database |
| Over Hall |  | NWBIOS65804 | Biological |
| Beck House | Aikrigg Beck (stocking) | NWNFPD16090 | National Fisheries Database |
| Overthwaite | River Bela at Hangbridge | NWWIMS88004422 | Water Information Management System |
| Birk Dault | Leven Upstream | NWWIMS88004564 | Water Information Management System |
| Hay Bridge | Rusland Pool at Crooks Bridge | NWWIMS88022289 | Water Information Management System |
| Force Forge | D/S Rusland Pool bridge | NWBIOS66546 | Biological |
| Force Forge | Rusland Pool D/S Rusland footbridge | NWWIMS88004559 | Water Information Management System |
| Teazel Bank |  | NWBIOS65830 | Biological |