**“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 must link to priority of project targets | **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 |
| **Reduce diffuse pollution and implement catchment Diffuse Water Pollution Plan.** | **Has diffuse pollution within the catchment been reduced through catchment sensitive farming practices?**  **including the development of individual farm plans and receptor / constructed wetlands.** | Monthly water quality samples:  Chloride, pH, Total Nitrogen,  Oxidised Nitrogen, Ammonia N Phosphorus | 7 samples monthly from Leighton Moss  6 samples monthly from Hawes Water.  3 samples from Barrow Scout fields and  2 from Silverdale Moss on a quarterly basis.  Totalling:  13 monthly and 5 quarterly samples (see maps) to run through life of project. | RSPB | Leighton Moss since Dec 2000  Hawes Water: 2003-2008, (no samples taken from 04/2005 - 12/2006), Jan 2013 – onwards.  Barrow Scout and  Silverdale Moss 2006-2007, May 2011 - onwards | circa  £300 / month | To improve current WFD failure for water quality for waterbodies:  GB112073071030  GB31229647  From poor to good.  Also implement Leighton Moss and Hawes Water Diffuse Water Pollution (DWP) plan to benefit Leighton Moss SSSI, SPA and Hawes Water SSSI / SAC / NNR | Priority: High | Yes | Data to be evaluated as part of end of project report - to be carried out by project 1 team / manager. |
| Confidence: High |
| Fixed point photography | At strategic points of diffuse pollution across the catchment and where wetlands are being constructed-points to be recorded on an OS map  As a minimum pre-, during-, and post-works. | RSPB /  Rural Futures (contractors) | none | In-kind / part of contractor’s time | Priority: High | FPP not yet set up as sites for improvement not yet identified |
| Confidence: High |

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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| **Waterbody** | **Station** | **Type** |
| At Railway Bridge, Crag Foot | NWBIOS65419 | Biological |
| Quicksands Pool at Crag Foot | NWWIMS88004468 | Water Information Management System |
| Hawes Water, Silverdale | NWLAKEGB31229647 | Lake - (not being monitored by EA at present) |