**“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 questionnaires as a start. | **Key reporting tool and reporting output** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Confidence**  High/medium/low robustness of monitoring |
| ***Improve the habitat of estuarine beaches of the Kent, Leven and Duddon.*** | Successful engagement of volunteers, building volunteer capacity for the Morecambe Bay Partnership | Record number of people engaged in events, number of volunteers on beach clean days. | At each event | Morecambe Bay Partnership | See below | In kind | Improve the condition of WFD waterbodies:  GB112073071420  From bad to moderate | Priority: High | Yes | To be evaluated at end of the project in short report. To be carried out by project manager. |
| Confidence: Medium |
| Beach litter cleans, especially to remove plastics | Record volume of litter removed (weight) and length of beach cleaned. | Priority: High | Yes |
| Confidence: High |

**Morecambe Bay Partnership (Love My Beach) - Beach Cleans**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Project | Date | Location | No of volunteers | No of leaders | Weight of rubbish (kg) | No of bags  (assume 1.5kg/bag) |
| 1 | 9 | 14-Jul-12 | Middleton Towers | 9 | 1 | 160.0 |  |
| 2 | 9 | 18-Jul-12 | Sandscale Haws | 4 | 2 | 7.5 | 5 bags |
| 3 | 9 | 19-Jul-12 | Sandscale Haws | 5 | 2 | 16.5 | 11 bags |
| 4 | 9 | 28-Jul-12 | Sandscale Haws | 29 | 2 | 10.5 | 7 bags |
| 5 | 9 | 05-Sep-12 | Holgates | 17 | 1 | 10.0 |  |
| 6 | 9 | 08-Sep-12 | Hest Bank | 3 | 1 | 12.0 |  |
| 7 | 9 | 20-Oct-12 | Morecambe Lodge | 14 | 1 | 38.0 |  |
| 8 | 9 | 20-Oct-12 | New Barns, Arnside | 13 | 2 | 25.0 |  |
| 9 | 9 | 25-Oct-12 | Sandscale Haws | 3 | 1 | 10.5 | 7 bags |
| 10 | 9 | 27-Oct-12 | Sandscale Haws | 15 | 2 | 30.0 | 20 bags |
| 11 | 9 | 21-Nov-12 | Silverdale Shore | 14 | 2 | 27.5 |  |
| 12 | 9 | 24-Nov-12 | Hest Bank | 9 | 1 | 37.0 |  |
| 13 | 9 | 06-Mar-13 | The Cove, Silverdale | 6 | 1 | 13.0 |  |
| 14 | 9 | 01-Dec-12 | Humphrey Head | 6 | 1 | 15.0 | 10 bags |
| 15 | 9 | 06-Feb-13 | Holgates, Nr Silverdale | 6 | 1 | 11.5 |  |
| 16 | 9 | 09-Mar-13 | Humphrey Head |  | 1 |  |  |
| 17 | 9 | 16-Mar-13 | Morecambe Lodge | 4 | 1 | 50.0 |  |
| 18 | 9 | 04-Apr-13 | Sandscale Haws / Roanhead | 7 | 2 | 60.0 | 40 bags |
| 19 | 9 | 06-Apr-13 | Potts Corner, Carr Lane | 8 | 1 | 360.0 |  |
| 20 | 9 | 20-Apr-13 | New Barns, Arnside | 12 | 1 | 34.5 |  |
| 21 | 9 | 20-Apr-13 | Hest Bank | 14 | 1 | 41.0 |  |
| 22 | 9 | 04-May-13 | Middleton Towers, Carr Lane | 6 | 1 | 103.0 |  |
| 23 | 9 | 11-May-13 | Morecambe Lodge | 13 | 1 | 40.0 |  |
| 24 | 9 | 14-May-13 | Arnside Shore | 9 | 1 | 5.5 |  |
| 25 | 9 | 01-Jun-13 | Potts Corner, Carr Lane | 8 | 1 | 84.0 |  |
| 26 | 9 | 08-Jun-13 | Humphrey Head | 5 | 1 | 12.0 |  |
| 27 | 9 | 15-Jun-13 | Hest Bank | 8 | 1 | 29.0 |  |
| 28 | 9 | 18-Jun-13 | Holgates | 12 | 2 | 11.0 |  |
| 29 | 9 | 13-Jul-13 | Sunderland Point | 30 | 1 | 57.0 |  |
| 30 | 9 | 17-Jul-13 | Far Arnside | 12 | 2 | 9.0 |  |
| 31 | 9 | 27-Jul-13 | Morecambe Lodge | 3 | 1 | 25.0 |  |
| 32 | 9 | 03-Aug-13 | Potts Corner, Carr Lane | 4 | 1 | 65.0 |  |
| 33 | 9 | 24-Aug-13 | Hest Bank | 7 | 1 | 17.0 |  |
| 34 | 9 | 31-Aug-13 | Silverdale Shore | 12 | 2 | 16.0 |  |
| 35 | 9 | 14-Sep-13 | Morecambe Lodge | 8 | 1 | 20.0 |  |
| 36 | 9 | 14-Sep-13 | The Cove, Silverdale | 14 | 2 | 9.0 |  |
| 37 | 9 | 14-Sep-13 | Middleton Towers, Carr Lane | 4 | 2 | 56.0 |  |
| 38 | 9 | 21-Sep-13 | Humphrey Head | 10 | 1 | 19.0 |  |
| 39 | 9 | 09-Oct-13 | New Barns, Arnside | 10 | 1 | 8.5 |  |
| 40 | 9 | 26-Oct-13 | Sunderland Point | 14 | 1 | 120.0 |  |
| 41 | 9 | 26-Oct-13 | Hest Bank | 7 | 1 | 20.0 |  |
| 42 | 9 | 09-Nov-13 | Holgates | 10 | 1 | 17.0 |  |
| 43 | 9 | 05-Feb-14 | Silverdale Shore | 6 | 1 | 17.5 |  |
| 44 | 9 | *25-Feb-14* | *Sandylands, Morecambe* |  |  |  |  |
| 45 | 9 | 08-Mar-14 | Holgates | 12 | 1 | 27.8 |  |
| 46 | 9 | *08-Mar-14* | *Humphrey Head* |  |  |  |  |
| 47 | 9 | 08-Mar-14 | Sandscale Haws (Scarth Bight) | 12 | 1 | 320.0 |  |
| 48 | 9 | *05-Apr-14* | *New Barns and White Creek* |  |  |  |  |
| 49 | 9 | *05-Apr-14* | *Sunderland Point* |  |  |  |  |
| 50 | 9 | *12-Apr-14* | *Sandscale Haws/ Roanhead* |  |  |  |  |
| 51 | 9 | *22-Apr-14* | *Cote Stones shore (TBC)* |  |  |  |  |
| 52 | 9 | *07-May-14* | *Holgates, Silverdale* |  |  |  |  |
| 53 | 9 | *04-Jun-14* | *Arnside Shore* |  |  |  |  |
| 54 | 9 | *21-Jun-14* | *Humphrey Head* |  |  |  |  |
| 55 | 9 | *05-Jul-14* | *Far Arnside* |  |  |  |  |
| 56 | 9 | *02-Aug-14* | *Sunderland Point* |  |  |  |  |
| 57 | 9 | *20-Sep-14* | *Humphrey Head* |  |  |  |  |
| 58 | 9 | *06-Dec-14* | *Humphrey Head* |  |  |  |  |