**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.

| **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 photographsState if any other analysis is being done |
| Confidence: Please state (only grey if High) |

* **On target –** Are the monitoring tasks outlined running to schedule? If no, why not?
* **Reporting tool and reporting output –** How will your collected monitoring data be recorded and the analysis outputs reported?

**Example of Fixed Point Photography:**

| Target/WhyWhat 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 objective 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 **Confidence**High/medium/low robustness of monitoring | **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** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Woodland planting** |  Increased floodplain woodland and creation buffer strips | Fixed point photography | Before works and up to 3 years after works |  NRT |  No | None | Fish and phytobenthos (diffuse pollution) | Priority: H  | Yes |  Comparisons of floodplain before and after works. Would be useful to take photos in flood situation (before and after) as a comparison |
| Confidence H |
|  **Vehicle Crossings improvement** |  Reduce sediment release when vehicle crossing in use | Fixed point photography |  Before and after photos/video when crossing in use  |  NRT |  No | None | Fish and phytobenthos (diffuse pollution | Priority: H  | yes |  Visual comparison of amount of sediment entrainment before and after the crossing is installed |
| Confidence H |
| **Creation of Wetland Scrapes** | Water retention during floods, floodplain habitat improvement | Fixed Point photography | Before works and up to 3 years after works |  NRT and schools |  None | Negligible | Fish and phytobenthos (diffuse pollution  | Priority: H  | yes | Observation of birds using scrapes, type of vegetation growing |
| Confidence H |
| Macroinvertebrate sampling eg Pond dipping (possibly by school children) | Immediately after works , then repeated 6 months on and 1 year on (riverfly monitoring) |  NRT and schools (visits organised) |  None  | Negligible | Priority: H  | yes |  assessment of numbers of macroinvertebrates, and changes in assemblages |
| Confidence M (within CRF limit; High - if continued) |
| 6 School visits | To create awareness of aquatic issues, plant trees and set up monitoring network | Reports from school children on what they have learnt | After school visit | NRT | none | £6,000 |   | Priority: H  | Yes | Assessment of reports from school children on what they know about the aquatic community |
| Confidence H |
| Fish passes | Fish passage | Electrofishing  | Before works, 6 months after , then 1 year after | TRT | EA and TRT | £5,000 | Fish | Priority: H  | Yes | Looking for salmon parr, will also help spot any invasive crayfish |
| Confidence M (within CRF limit; High - if continued |
| Catch returns from fishing clubs | Before works, then 1 year after | TRT | Yes – angling clubs catch returns | none | Priority: H  | Yes | Compare catch returns before and after works. It is accepted that this is anecdotal information but may prove useful along with results of electrofishing |
| Confidence M (needs good baseline data and accurate records) |
| Sheep dip awareness raising events |  Best practice being used on sheep dip stations  | Through licensing and EA input to see how many farms are using sheep dips   |  Between 6 and 12 months after farm visit   | NRT and EA | Yes  | £2,000 | Fish and phytobenthos (diffuse pollution  | Priority H |  |  Interview farmers  |
| Confidence M (not sure how it cab be proved that awareness raising has worked, though results might be interesting and probably some usefull lessons learnt) |
| Stock Fencing  | Reduced sedimentation  | Macroinvertebrate (Riverfly) monitoring  | Before works and up to 3 years after works  |  NRT and Volunteers and schools |   no | £1,000 | Priority: H  |  | Comparison of dominant macroinvertebrate assemblages before and after works. Plan is to continue monitoring after project has ended  |
| Confidence M (within CRF limit; High - if continued)  |
| Fixed point photography  | Before works and up to 3 years after works  |   NRT |   None | none | Priority: H  | yes | Photograph of sediment load in the water before and after fencing, needs to be done at a similar time of year |
| Confidence H |
| Turbidity measurement (taking water sample and allowing sediment to settle out | Before works and up to 3 years after works | NRT and schools | none | Negligable (part of school visits | Priority: H  | Yes | Comparisons of water turbidity before and after works completed. Needs to be done at similar time of year and at a similar flow, identical measuring tube used.  |
| Confidence M (Timing of measurement needs to be selected carefully)  |
| Buffer Strips | Reduced sedimentation | Turbidity measurement (taking water sample and allowing sediment to settle out | Before works and up to 3 years after works | NRT and Schools |  None | Negligable (part of school visits |  Fish and phytobenthos (diffuse pollution | Priority: H  | Yes | Comparisons of water turbidity before and after works completed. Needs to be done at similar time of year and at a similar flow, identical measuring tube used. |
| Confidence M (Timing of measurement needs to be selected carefully) |

Reporting Note: Annual review of findings March 2013 and March 2014, final review and analysis Oct-Nov 2014