the River Restoration Centre
Working to restore and enhance our rivers

ef Esmée Fairbairn FOUNDATION

Planning your river restoration project

This factsheet provides a short summary on how to plan each stage of your river restoration project, set out under the following headings relating to each stage:

1. **Setting objectives**
2. **Project planning**
3. **Project delivery**
4. **Monitoring and evaluating**
5. **Post-project maintenance**

1. Setting objectives

Before setting objectives

Before you can start planning, it's good to undertake an initial assessment of hydrology, sediment and water quality. Assessments may indicate that river restoration techniques will not, on their own, improve conditions so these aspects must be rectified first. Understanding your river in a catchment context and identifying issues helps determine what your river needs to be able to function more naturally. This crucial precursor to planning will be covered in a separate factsheet, *'Understanding your River'*.

How to set your objectives

Setting objectives, i.e. clearly stating what you are trying to achieve, is the first step in planning your project. They are essential to project success and will guide your work priorities and decision-making.

The following are things to consider when setting your objectives:

⇒ Ideally, your objectives should be **'SMART'** - do your objectives meet each of the criteria below? See Section 4 of RRC PRAGMO for detailed guidance or see our summary here.

| **S**pecific | **M**easurable | **A**chievable | **R**elevant | **T**ime-bound |

⇒ Make your objectives reasonably high-level and outcomes-based, i.e. **focus on the desired outcome** rather than just the actions you plan to undertake, as illustrated in Box 1.

⇒ It is often possible to obtain multiple benefits in a single project, e.g. refuge fish habitat, flood mitigation and improved water quality may all result from a floodplain reconnection (Figure 1).

⇒ Consider **project monitoring and evaluation** as you will need to demonstrate the success of your project. We have created a monitoring planner to help with this.

2. Project planning

Once you have set project objectives, you need to plan how best to achieve them. The following section details five key areas to consider when selecting a suitable restoration method/methods.

Available funds

An estimate of likely costs is required at this stage to determine what you are **realistically able to achieve**. Factor in **costs for all stages** of the project including design, technical advice/flood modelling, consents, stakeholder and community engagement, contractors, materials, removal of any waste from site. Not all of the previous may be relevant to your project but consider all areas which will require funding. Don't forget to **allocate funds for monitoring** - this is commonly disregarded but monitoring can be essential for community engagement and securing funds for future projects and maintenance.

## Box 1: High-level outcomes-based objective example

Say your project aims to improve fish spawning habitat by narrowing a channel and increasing flow speed so that silt is washed off the gravel on the river bed.

Actions-based objectives might include the terms *engage landowner, undertake baseline habitat survey, source x no. pieces of woody material, install woody material in channel* etc.

Outcomes-based objectives might include the wording *Increase fish spawning habitat by exposing x% of the gravel in a 30m reach.*

While actions are important to think about, outcome-based objectives communicate more specific information so are more useful to educate partners, funders and stakeholders on what your project is trying to achieve and why they should support it. This type of objective also helps to guide project decisions, for example, what you should monitor to meaningfully measure success of the project. Outcomes can be harder to measure than actions, but are usually worth the effort.

Setting objectives is fundamental to the success of a project and they should answer the question 'What do we want to achieve through this project?'
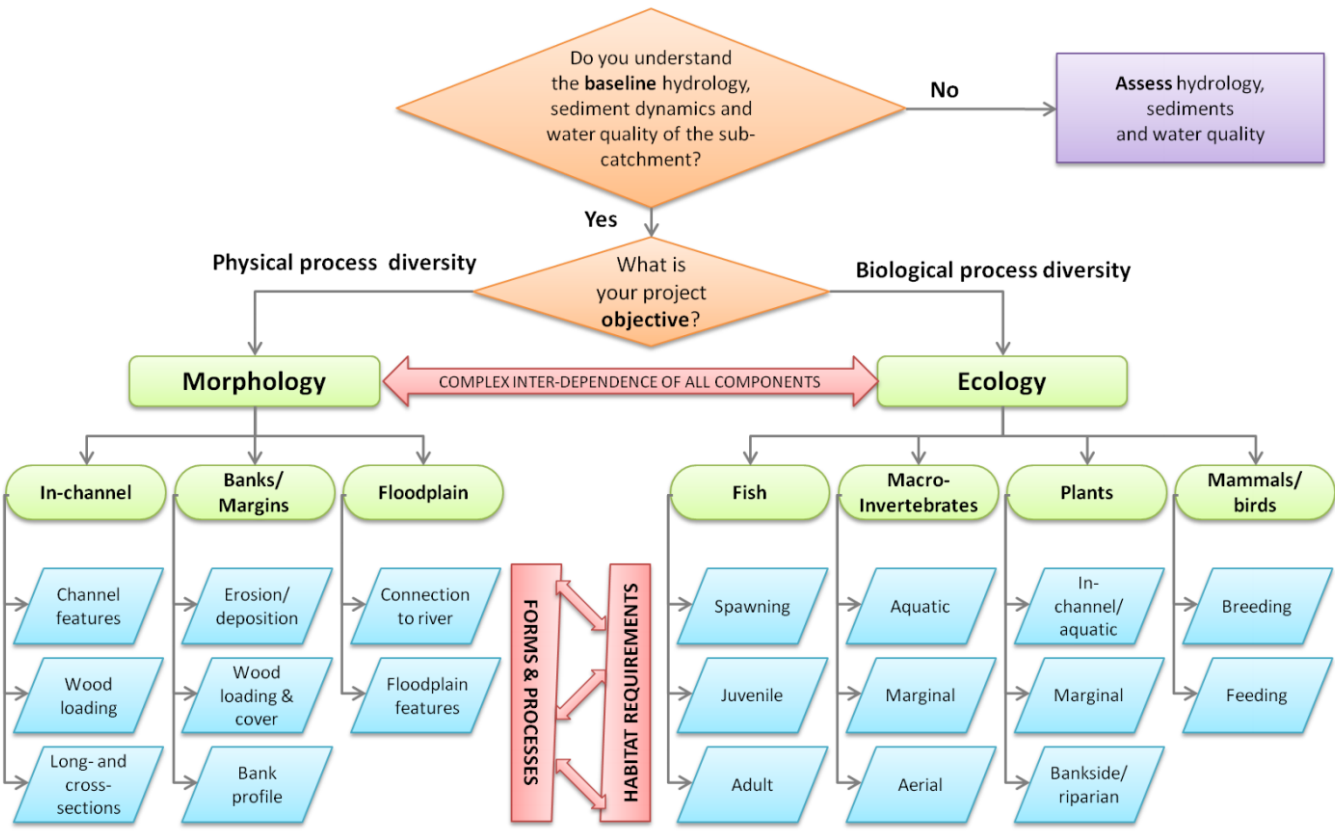
Figure 1 Flow chart to help determine what your project is setting out to achieve from a natural processes or ecological perspective (Diagram from RRC - for more information on creating objectives that link morphological and ecological aspects click here).

Collaborative opportunities

Collaboration with interested parties can benefit your project as the combined resources can extend the reach of your project. For example, landowners, community groups, environmental charities, universities, schools, local businesses, angling clubs and members of the public may be willing to **contribute knowledge, funds, labour, publicity or another form of support**. The Catchment-Based Approach (CaBA) (Figure 2) aims to promote collaboration within the 100+ Water Framework Directive catchments in England and those which cross border with Wales.

Figure 2 CaBA is a community-led initiative that engages people and groups interested in restoring rivers within a catchment - a good place to start your planning! (Image from CaBA)

Required consents

Consents relating to flood risk, planning permission, private land access, local authority byways and waste disposal may be required – though this is not a definitive list. It's advisable to **allocate plenty of time** into your project plan for gaining consents. You need to consider what activities are easy to get approval for, and which may be subject to lengthy approval processes. To avoid any surprise costs or delays, **get consenting organisations on board early** in the project planning phase. They will be able to advise what is required, and may be able to suggest project designs that will be more easily approved.

When planning river restoration projects think long term – what will happen in five or ten years' time? Projects should aim to deliver long term benefits as well as short term ones

Community and stakeholder engagement

Are you likely to have community support for this work? Who else should get involved? **Developing a shared vision** is an important way to improve the chances of community support for your project, which can greatly improve chances of success. Genuine engagement with all stakeholders should happen at an early stage of the project, so that all views and ideas can be considered and local people will feel a **greater sense of ownership** over their river and the project (Figure 3).

Figure 3 Involvement of local people from the outset can provide benefits during the rest of the project and can get people engaged in their river and the environment (Images from RRC)

3. Project delivery

Once project delivery is underway, there are a number of things you can do to make sure it runs smoothly and you get the best results possible:

⇒ **Work closely with your project team** to ensure there are no miscommunications. Being involved throughout is the best way to see and monitor progress and will improve your knowledge of project delivery, building your confidence for future projects.

⇒ There should be a methods statement outlining how you and your team will **minimise impacts to the environment during construction**. Is a silt screen required? Is there sensitive habitat to be aware of? Communication with all those involved is key to make sure you are comfortable to proceed.

⇒ Write down **lessons learned** as you go. What would you do differently next time? This is essential for planning future projects and can make producing project outcome documents much easier when the project is complete.

⇒ **Take photographs** of the delivery stage, as well as before and after. These are valuable for communicating with project stakeholders when the project is complete as well as sharing your knowledge for similar projects. Consider the use of **fixed point photography** as this can be the most effective way to illustrate change - see our Fixed Point Photography factsheet for more details.

⇒ Take opportunities to **engage others with the project** wherever possible, whether through information boards in public places or by answering questions from passers-by during delivery.

⇒ **Volunteer time is valuable** and should not be underestimated so keep records. This can be used in future funding bids to demonstrate local interest and give an estimate of labour hours needed.

Communication between all organisations and individuals involved plus regularly monitoring progress will help a river restoration project to be delivered smoothly

4. Monitoring and evaluation

As already mentioned, monitoring and evaluation of river restoration projects is essential to the success of your project and to securing funding for future projects. A separate factsheet has been dedicated to providing advice on monitoring and evaluating. Uploading your project to the RiverWiki is a useful way to add to the growing number of project examples available - find our more in our RiverWiki factsheets.

5. Post-project maintenance

Post-project maintenance is often overlooked in project planning but it is almost as important as the project itself. Consideration of post-project management of the site can **ensure the benefits from your work continue** - if your project is damaged in a flood or overgrown by weeds after completion and no maintenance work is undertaken to address this these benefits may be lost.

When planning for this stage of the project you should consider:

⇒ **What maintenance is required, how often and who will deliver it?** This might include litter pick ups (Figure 4), weed control, fence repairs, emptying of silt traps, clearing of blocked drains or replacement/repair of materials after a flood.

Figure 4 Keeping your restored river free from litter, especially in a public area, can maintain aesthetics and show that the environment is cared for (Image from RRC)

⇒ Maintenance effort and cost to keep your project on track can be quite small if the project is designed well and implemented effectively.

⇒ Allocate **maintenance responsibilities** up front as it is a common source of disagreement after the project has been delivered. If the project is on private land and the landowner is supportive of the project, they may be willing to look after any ongoing maintenance.