

Draft Catchment Based Approach Flood Working Group (FWG): barriers to successful natural flood management (NFM), guides and tools



Photo above: Brunel Flood and Coastal engineering students visiting Stroud rural SUDs/NFM project and Arborfield nature-like bypass channel with live willow retained to enhance wet woodland.

This summary is drawn from:

- 1) 2019 NFM Interim Lessons Learnt – Environment Agency (EA) reporting initial findings from £15m Defra NFM programme [here](#).
- 2) 2018 EA Barriers and solutions to mainstreaming NFM in the capital programme.
- 3) JBA Barriers report also available – example presentation [here](#).

Guides, tools and evidence:

The CaBA FWG will keep you posted via CaBA News and update our webpage [here](#). We also input to CaBA Integrated Catchment Delivery events [here](#) building capacity for successful NFM and tackling these barriers. 30+ activities on NFM planned and free to attend.

- **NFM Guides**
 - 1) CaBA NFM guide [here](#)
 - 2) Assessing potential hazards of using Leaky Woody Structures for NFM [here](#) - ADEPT, Environment Agency, Forestry Commission and Forestry Research guide
 - 3) Environment Agency Working with Natural Processes to reduce flood risk and the evidence base behind NFM [here](#)
 - 3) Yorkshire's practical guide to NFM for farmers [here](#)
 - 4) NFM Measures: practical guide for North West farmers [here](#)
 - 5) Devon and Cornwall soils and NFM [here](#)
 - 6) CaBA watercourse maintenance – a landowner's guide [here](#)
 - 7) Managing woody debris [here](#)
 - 8) Stroud Rural SUDs/NFM videos [here](#)
- Click [here](#) - CaBA £15m Defra NFM programme ArcGIS Online monitoring and evaluation tool

- Click [here](#) - CaBA online data and evidence – over 150 data sets including Scimap
- Click [here](#) - EA catchment training sessions example on flood risk, history and catchment information – contact EA Modelling and Forecasting Team. Also, EA Quick guide to managing wood in rivers and River Blackwater management document.

1) Defra NFM Interim report:

4 themes - Developing a programme, Valuing benefits and project assessment, Partnership working, Responsibilities and maintenance. Five key lessons:

1. Clarity on how projects proposals assessed and steps to deliver projects, before proposals are invited. Additional help for organisations who have limited experience in dealing with public money.
2. Project teams asked to commit to NFM interventions and an overall timetable up-front. NFM projects need adaptable approaches, should not be seen as fixed before practicalities agreed locally.
3. Difficult to produce evidence of benefits proposed for business cases for NFM investment. Teams need further information and expertise how to assess and value benefits and costs of NFM work.
4. Clear need for investing time and funding engagement. Crucial to gaining support from landowners and other local people, and to forming and sustaining the partnerships needed for NFM.
5. Engaging with landowners and managers to agree details of NFM works and clarify responsibilities is critical. Designs and timings can change as a result.

16 lessons were identified in total, each with actions. These actions are not all for the Environment Agency to deliver, however, the EA will take an overview role to ensure progression.

2) Barriers and solutions to mainstreaming Natural Flood Management in the EA Capital Programme

A 2018 survey exploring NFM barriers in the EA FCRM Capital programme. 126 people from the EA responded. A more detailed report is available [here](#) **ADD**.

Identifying NFM opportunities:

84 out of 126 people, want earlier consultation. NFM is often ruled out too early in scoping, a wide range of teams are not consulted or teams involved not comfortable with NFM. It's important to think big (geographically) to share understanding of sources of flooding in a catchment/area of coastline and identify solutions in project mandate/scope.

Developing a project:

A range of barriers at business case stage makes it hard to fund NFM projects:

- Obtaining partnership funding for NFM projects. This can be difficult because it is hard to demonstrate properties can be moved from one banding to the next.
- Successfully writing compelling business cases which include sufficient and proportionate evidence bases to satisfy project assurers.
- A perceived lack of NFM training for project assurers making it hard for them to know what a good NFM business case should look like.
- Understanding what extent of flood risk evidence is needed to make the case for NFM in a business case, including feeling confident enough to challenge request for modelling when disproportionate or not needed.
- Assessing environmental risks and opportunities on a project to ensure legal compliance.

- Knowing how to assess and value the ecosystem service benefits by an NFM scheme to gain business case approval and secure other sources of funding.
- Getting a project's scope right at the outset so that it does not omit potential partnership funding opportunities by focussing too narrowly or at the wrong scale.

Procuring a project:

For effective NFM delivery, a range of skills needed not easily available in EA current procurement frameworks. Need to procure skills to design and construct NFM features, current frameworks do include individuals with these skills they may be less familiar with how to do NFM in smaller less engineered measure types which are more often installed by NGOs or agricultural contractors. NFM require continuous and iterative engagement with communities, partners and landowners requiring specialist skill sets which differ engaging on large capital projects. Respondents saw best successes where community owns project and installs measures.

Constructing a project:

Consenting and permitting can be costly and lead to delays. Legal concerns on how to ensure our non-framework contractors or partners to whom we are administering funds adhere to HSE and CDM Regulations e.g. liability if structures fail or cause H&S incident?

Maintaining a project:

Maintenance and liability, lack of guidance and clarity on who maintains NFM structures long term, what maintenance involves and how much it costs.

Working with others externally on NFM can be challenging and sometimes confrontational. Difficult to gain consensus on which measures to install and best locations. This differs from conventional FCRM projects in that NFM tends to cover much larger geographical areas so developing a project and describing it in a business case is more time consuming and iterative. Suggested that internally EA would benefit from greater training and guidance on how to work with external stakeholders. Felt that other risk management authorities and eNGOs would also benefit from NFM training.

Working with colleagues internally:

Cultural differences depending on backgrounds means that some staff think NFM is just: *'a fashion not a bricks and mortar solution'*, *'a nice to do not a must do'* or *'eco-bling.'* Many found these views hard to work with and asked for greater leadership at area and national levels on NFM. Ask for greater clarity at an area level on roles and responsibilities of different teams in delivering NFM. Survey showed the EA are inherently risk averse, we struggle to deal with projects where the flood risk benefits are uncertain. Often default to commissioning or using models because we find comfort in the *'illusion of precision'*. Area project managers can find themselves mandated by a client to deliver NFM, but NFM is a new concept and there may be no training or resource to support them. This can make delivery very challenging.

Conclusion:

- In 2020 to 2022 realise opportunities and feed NFM partnership projects into next investment plans – River Basin Management Plans and Flood Risk Management Plans: informing the 2021-27 programmes for FCRM and Environment, Drainage and Wastewater Management Plans, Local Industrial Strategies and others.
- CaBA FWG to work with RFCC Conservation Members, colleagues, build on existing learning and help resolve the most significant barriers to catchment partnerships, local authorities and communities achieving successful NFM and integrated FCRM approaches.