

# CIRIA guidance discussion

## Topic 1: Design of NFM

We are trying to understand what practitioners want in terms of design guidance, in particular the target audience of community groups, farmers and environmental NGOs. (20mins)

### Questions to COP members:

Group 1, Group 2, Group 3, Group 4

### Do you think rules of thumb are useful?

#### Notes:

- In blanket bog work, when talking to landowners it is difficult due to preconceptions, it is good if you can start from scratch rather than pre-described ideas
- Good starting place as NFM is site specific. Some steep woodland sites would not be the same as woodland sites re habitats. Some rule of thumb about the size of dams etc would be good and it is how the NT has approached it to date.
- Rules of thumb are good as it is a practical way of making decisions quickly - cut to the chase!
- They are good as long as they do not limit creativity and innovative approaches to problems.
- EA justification framework for technical rule of thumb used when planning a project - depends on LAs.
- Predicted average / likely values of storage in each measure would be useful for modelling
- how much detail will be needed by regulators – might not be within remit, but a sense of what modelling and evidence will be proportionate to the scale of project would be very useful
- things are always different at each site – how much use can rules of thumb really be?
- Good, otherwise hurdles around requirements for CDM, which might limit delivery.
- Useful but caveat the differs by site and might need adapting
- Who is the audience – do farmers require that level of detail? Or delivery guides

### Or do they over simplify things?

- Set an expectation that may not be possible. Better to get buy in at the start of the process by landowners, adaptation is key to each site.
- Rule of thumbs very different for different catchments, Example came up in Collingham re: attenuation ponds
- Understanding the total vol and peak flow is important – this is what we want to achieve and your land can achieve X amount – brings together the bigger picture. Hydrological aspect is key
- Good to have an idea of what the feature will look like before but design will change depending on site specific details
- Can't always say what actual storage is, must not promise things that may not happen
- **Emphasis – difference in sites = approach to achieve different outcomes = key point**
  - **difference in sites = different outcomes, some rules of thumbs may not be applicable due to site constraints = key point**
- Rules of thumb useful but accept need for site-specific solutions.
- Will guidance look at methodologies for numbers of homes/business protected for different NFM interventions?
  - Take back to the main group

- How would you work that out? Depends on location of work

- See above re limits to creativity.
- They can do - you need to change a lot of plans as you get into the construction e.g. digging an offline storage pond was in a place where there was field draining that was not known before construction so design needed to be tweaked.
- Is there a need for modelling?! The farmers can tell you the info about the behaviour of the water as they know all the flow paths on their land. Modelling is often too costly in terms of time and money. If they can get the info from the landowner in terms of issues it works better for relationship building. LAs sometimes need answers to support from a funding point of view unless modelling has been done and the number of properties protected have been quantified.

- Possibly – as some might require more detail particularly for consenting

### Have you come across good ones we should know?

#### Notes:

- Slow the flow – or is this more of a principle? – Principles may be better rather than rules of thumb
  - Have their place, but have pitfalls – see above
  - Talking about principles might be better than rules of thumb? Which I think is different. And then emphasising the need to take a site specific approach.
  - STF More of a principle - mechanism how NFM works rather than rule of thumb

- The size and the gradient of the stream we look at.

- YDRT Lowlands and uplands
- Other guides from other parts of country – Sussex flow initiative. Comparing and contrasting important

### Or specific occasions when they didn't work?

#### Notes:

- See above re limits to creativity. Trial and error - working with iCASP looking at interventions to see what has been done where.

### What other design methods/approaches do you use?

#### Notes:

- Start at the top of the hill
- Guidance for farmers in Calderdale
  - WWNP – lots of good guidance
- I've seen good spec for leaky dams as part of a Countryside Stewardship option. Leaky Barriers used to encourage lateral flow onto floodplain, working with attenuation areas rather than just trying to store/slow flow in the channel
- SCIMAP to appreciate gradient and interaction of land with water
- Blanket Bog Guidance from the Upland Managers Group
- EA guidance on risk analysis for leaky dams

- YDRT info sheets are a go to guide as well as Moors for the future on peatland restoration. EA WWNP.

- Modelling is the starting point, then work with what is on the ground to tailor measures to the specific site
- large element of opportunism – need to recognise that this is driving factor in many cases
- mapping land use – very visual guide to where NFM will/might be possible
- often not just NFM – more ‘what is the best thing to do with this bit of land’ for many purposes. Over-weighting the NFM in the design might not be the ‘best’ thing to do – need to capture this and allow for it in the guidance

### How are you designing measures? What do you rely on?

#### Notes:

- Always do a specific survey of place and people
- Ground truthing is very important
- Calderdale score

- Existing guides mentioned above are used to inform design. Also working with University and contractors help.

### How do you ensure that a measure is tailored to the catchment/location?

#### Notes:

- Contractors are good at recommending tailoring. See storage pond mentioned above.
- Quite reliant on materials that are naturally occurring around the areas of implementation – sometimes this works and sometimes it doesn’t - e.g. stone leaky dams.

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### What design documentation are you producing? Are you aware of good examples?

#### Notes:

### Where do you go for guidance on design?

#### Notes:

- YDRT and other guides mentioned above.

### Which is the best guide (bearing in mind the target audience)?

#### Notes:

Extra comments:

- Several Q,s on consenting – complicated as across UK and across councils – maybe sign posting most important. Highlight consent costs not just design and build – costs and time

taken. Seems to differ by councils – individual interventions vs groups. Councils paying for interventions and then charging for consent

## Topic 2: A framework to understand NFM and what it is trying to achieve (10mins)

We are trying to set out useful concepts to enable everyone to understand what NFM is trying to achieve and criteria or success factors that should be achieved in a project. This has been tricky to establish, but we think it's important to set out so that people can understand the interplay of different outcomes and success factors.

### Potential questions

#### Are our aims/outcomes correct?

- Yes
  - NFM the key outcome or one of the outcomes e.g., blanket bog – habitat as well as flood mgmt. – multiple benefits are key
    - Different niches for organisations
    - Multiple benefits are often possible, you can't always prioritise just one, we need to keep sight of the wider benefits, there is no compromise, we can achieve multiple
    - We scored multiple environmental benefits in the Calderdale NFM grant scheme
- Possibly need cross- checking multiple benefits with WWNP benefits from each mechanism
- To improve flood resilience rather than reduce flood risk? NFM will have limited impact on flood risk by itself, depending on catchment
  - Anything missing?

Depends on who is funding and the KPIs those organisations are working towards. Are we siloing NFM into flood risk reduction and not joint-benefits. Lots of partners will be coming from a joint benefit as their priority i.e. biodiversity. The design for FRM might not be the same as a joint benefit slope of a pond side – capacity for storage vs habitat creation.

A lot of interventions have a lot of co benefits by virtue of their installation – 1 pond is better than no pond.

At first impression NFM seems to be being led by the Rivers Trusts not LLFAs – why is this? Issues of confidence compared to traditional hard engineering techniques. Who is responsible should RMA be leading it in terms of flood risk?

- **to reduce flood risk**
- **to achieve this by restoring or mimicking natural hydrological processes**
- **to deliver wider co-benefits**
- **to work with others to maximise outcomes**

- Reverse the order of the benefits listed – working with others is the first thing to do, then if NFM is one of the priorities it needs working into the overall design
- Including flood risk benefits can be a way of enabling other environmental benefits
- environmental benefits can make NFM more successful than standard flood risk management
- 'additional benefits' should perhaps be at the top of the list, not 'additional'

- SR – likes them! Includes soil health under 2

#### Or should they be simplified?

Notes:

## Do they cover everything?

### Notes:

Do you understand the concept of design criteria or critical success factors? Is to give a framework of measurable things that should be considered for in any NFM project? Which terminology is best (consider target audience)

Natural capital – worth introducing (or sign-posting) some sort of costing tool alongside the flood risk benefits? Could use BEST to place a value on the measures, as done at Hardcastle Crags. Or expand on the 'wheel of benefits' concept

### Are they correct?

- **Affordable**

(depends on who you are!!) needs to be affordable and achievable

- **Economically viable**
- **Reduce flood risk**
- **Increase infiltration, slow the flow, store water**
- **Improve water body status/potential**

Other pollutants – fert etc – maybe link to soil loss

- **Reduce soil loss/sediment run off**
- **Provide biodiversity net gain**
- **Provide environmental net gain**
- **Avoid increasing flood/blockage risk**
- **Minimise carbon footprint**
- **Use renewable, natural, sustainable materials**
- **Local materials and people**
- **Eliminate/reduce/control safety risks**
- **Minimise long term maintenance**

Sustainable land management - No specific focus on soil management at present – not in detailed chapters but will be included in part

### Notes (above can be annotated):

- Understanding other schemes in the area – tributary synchronization etc. not impacting further downstream.
    - Need to understand priorities of other projects
  - Q - Is this guidance also being cross referenced with the MM toolkit for Leeds FAS NFM?
- Consents:
- LA or private land, different permissions – inc. land agreements
    - Need future assurances of scheme
    - GIS map – options and if on private or public land
  - Should be mentioned but not local details
  - OWC consistent guidance challenging with different catchment approaches from LLFAs
  - Permissions - isn't there an important distinction between whether main river or not.
    - Important to highlight
  - Need to check local work

**Do you think we need any 'principles' as well? Or is this sufficient? In between the aims and the success factors?**

- Not necessarily a list, but we need to be clear what sort of NFM we're discussing – where are we in that grey area between traditional FCRM and Environmental projects
  - Where does SuDS end and NFM start?
- 
- Do principles just complicate this further? If different parts covered and aims there is there any need for principles

**Notes:**

**Any other thoughts?**

**Notes:**

- Possibly sign post to other iCASP documents e.g. monitoring guidance, soil and sediment
- From a farmer or land owner might need some ELMs style language and reference current payment schemes. Need to consider this is for all countries.
- Is there a need to update upland and lowland guides to reference this? Pitch is towards land owners (informed), rivers trusts, and community groups.