

Some lessons learnt from the Cumbria NFM Programme



Work at scale, catchment & intervention



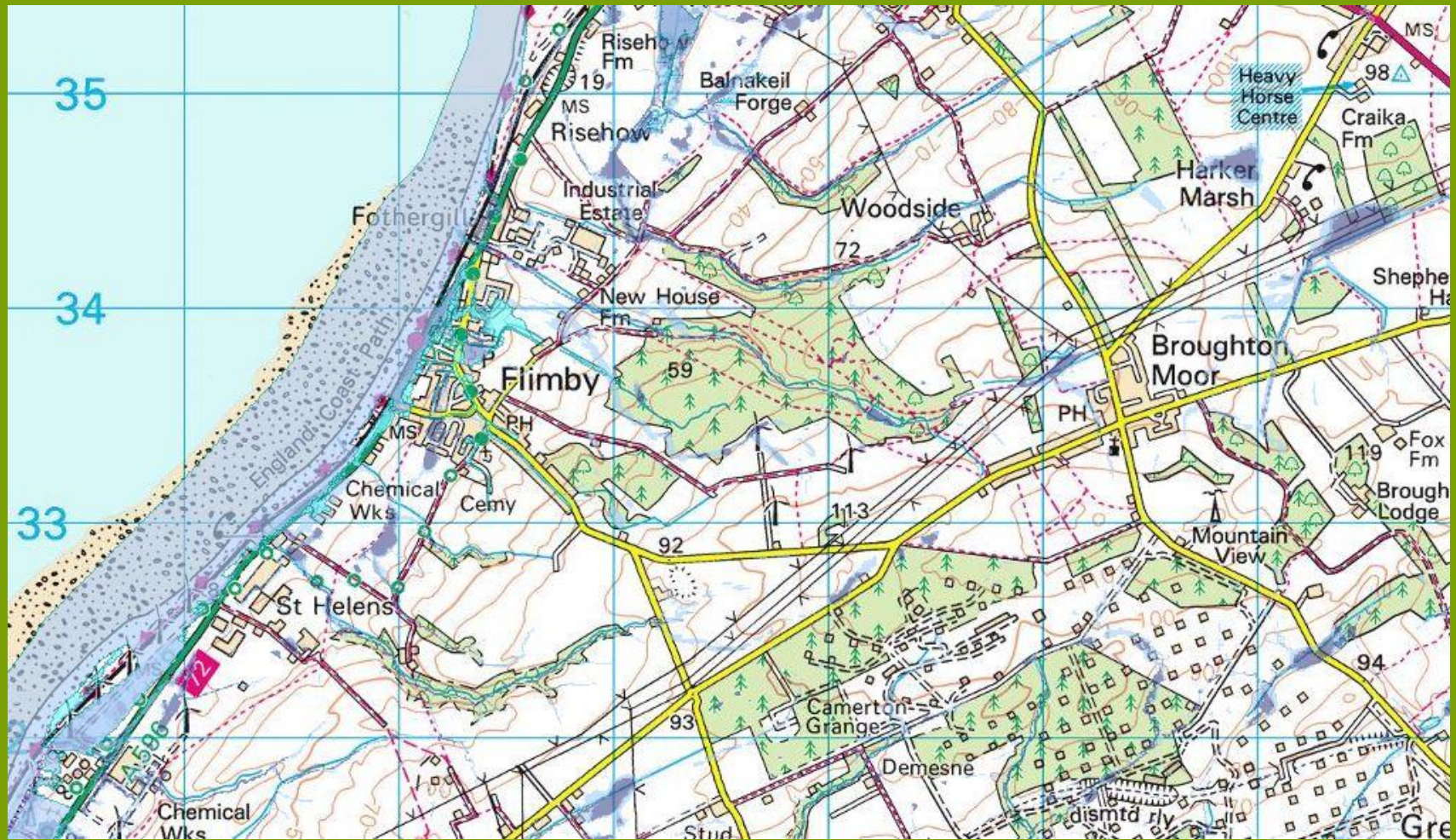
Work at scale, catchment & intervention



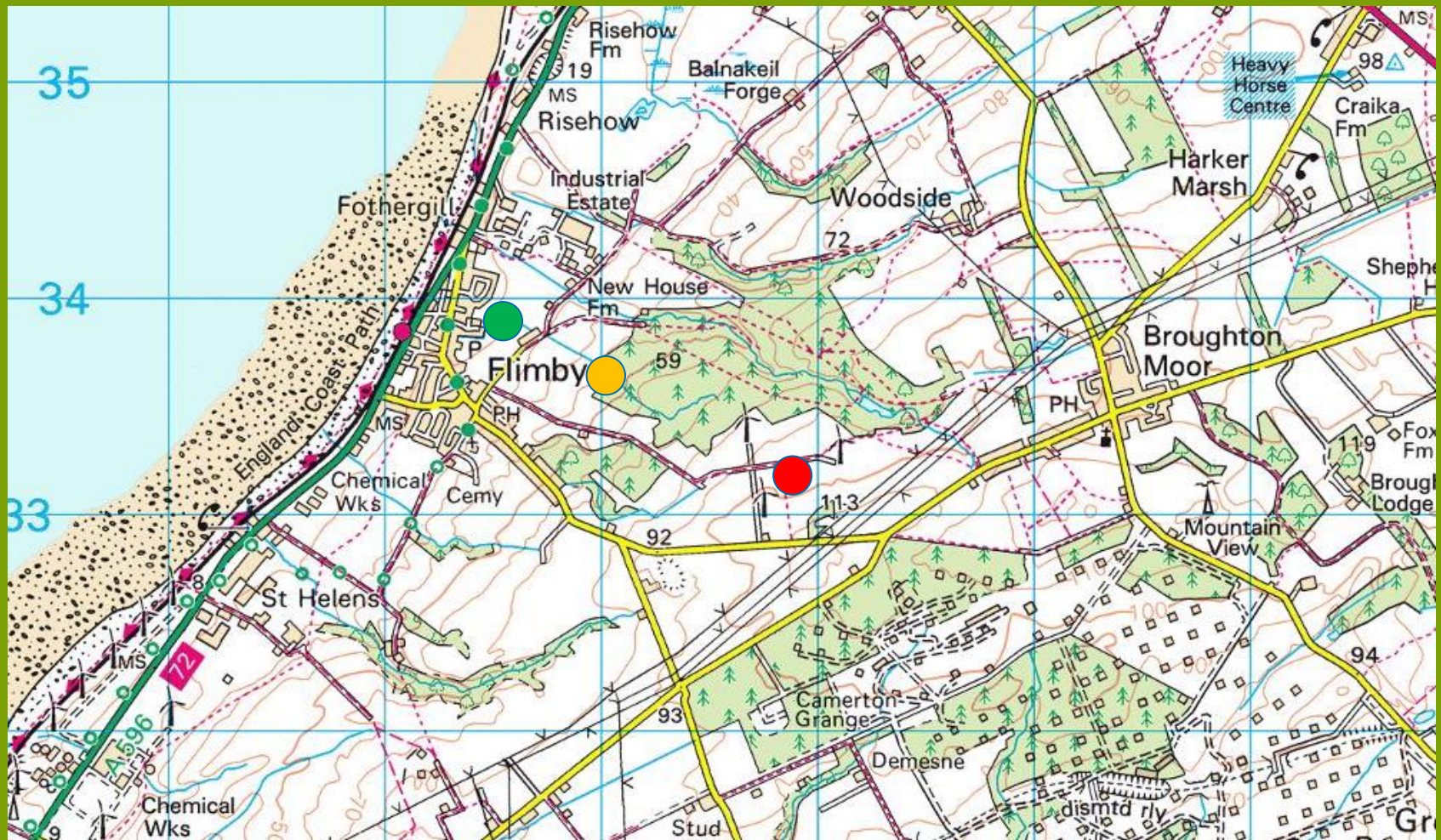
Be realistic about what it will stop



Address the mechanisms of flooding



Capturing the catchment



The right thing in the right place



Work with the landscape



Look at all options to find additional gains



Build in longevity



Using boundaries for storage



Augmenting existing items



Building in redundancy



So it's not all just leaky wooden dams



The benefits from Natural Flood Management.

NFM seeks to emulate natural formations and processes, like the natural versions it can have significant environmental benefits:

- Increase in wet woodlands, a depleted & dynamic habitat type
- Increased variability in channel geomorphology, great for spawning fish
- Creation of ephemeral ponds & watercourses, great for invertebrates
- Increase of natural materials in streams, great for a range of creatures
- Creation & remediation of peatland, great for rare invertebrates & plants
- Naturalisation of streams, creating a rich & diverse habitat type
- And of course the gift of reduced flow and flood risk
- ***So it has multiple benefits that are desirable, but... there are concerns***

Lets see why in the form of a quiz!

The game is called natural or unnatural.

Which leaky dam has occurred naturally or is man made?

Is this natural or man made?



is this natural or man made?



Is this natural or man made?



Is this natural or man made?



Is this natural or man made?



Is this natural or man made?



Man made

Is this natural or made?



Is this natural or man made?



Is this natural or man made?



Is this natural or man made?



Is this natural or man made?



So, it isn't always easy to tell.

Yet a man made NFM feature could need most or all of the following:

- Environmental impact assessment
- Planning permission
- Habitat regulations assessment
- Detailed design (possibly requiring CDM principle designer)
- Heritage impact assessment
- Ordinary watercourse consent
- Flood risk permit
- Fluvial modelling
- Ground investigation

So is it a perception issue?



How do we overcome perceptions and worry?



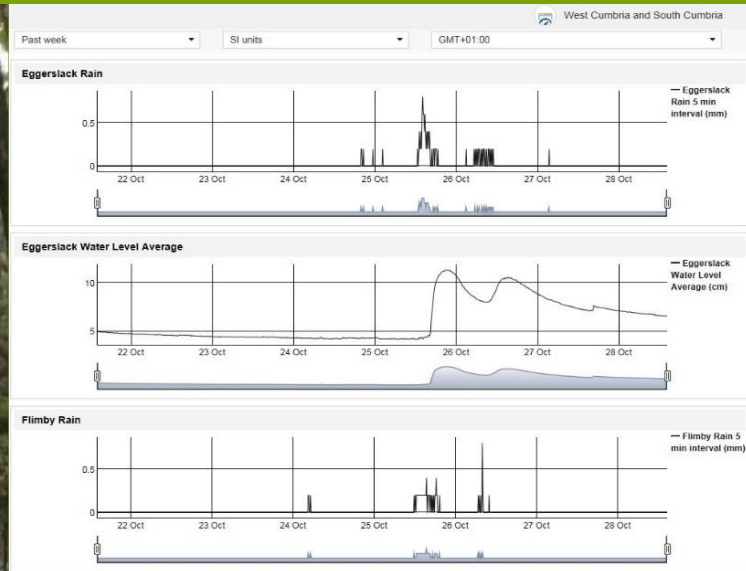
- **Demonstrate what it can do**
- **Prove its longevity and durability**
- **Be realistic about the impact**
- **Upskilling people and organisations to be able to deliver**
- **Taking people on a journey for a more resilient landscape**

An aerial photograph showing a steep, eroded hillside. A small stream flows down the center of the slope, surrounded by green vegetation. The hillside is characterized by distinct horizontal erosion lines and a mix of green grass and brownish soil. The stream is a narrow, dark line winding through the landscape.



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Proving it's value... monitoring



- Cumbria NFM programme closely linked to the Lancaster University/JBA NERC Q-NFM project.
- Gold standard of evidence, 5 minute data sets showing rainfall, level and discharge.
- Agreed spend to continue the monitoring for 5 years beyond life of the project to ensure a decent length of data.
- Results seen so far showing that the features are having a significant effect.

Questions?

