NFM – floodplain reconnection

River Quaggy Flood Storage Area at Sutcliffe Park, South London,

River Leith, Cumbria

Evidence from the R. Quaggy: creation of wetlands through Sutcliffe Park in South London created 85,000 cubic metres of flood storage and significantly reduced the flood risk to 600 properties

NFM - SuDS

Surface water collection pond, Dunfermline

Green roof, London

Cheltenham Rain Gardens

Evidence from Environment Agency Introduction to SUDS: On average, urbanisation without SUDS trebles the rate of run-off during storm events

NFM - SuDS

Hollickwood Primary

Susie Earnshaw Theatre School

Queen Elizabeth Girls' School, Pymmes Brook catchment, North London

Evidence from Lamb Drove SuDS project: Maintenance costs associated with the Lamb Drove SuDS were 4% lower than those for equivalent pipe drainage systems

NFM – coastal realignment

Steart Peninsula, Severn Estuary

Medmerry, Sussex

Alkborough Flats, Humber Estuary

Evidence from EA Ecosystem Services Case Studies report: 400 ha Alkborough Flats managed realignment scheme cost app. £10M and provided £12M of storm protection to land and property. Other ecosystems services benefits = app. £1M p.a.

Putting it all together

Grip-blocking and tree planting

High level timber dams

Timber barriers across floodplain

Flood storage area

Evidence from Pickering Beck, East Yorks: NFM measures reduced peak flows by 15-20% in Dec 15, prevented flooding that would otherwise have occurred to a small number of properties in Pickering

Putting it all together

Re-wetting upstream bog

Leaving woody debris in situ

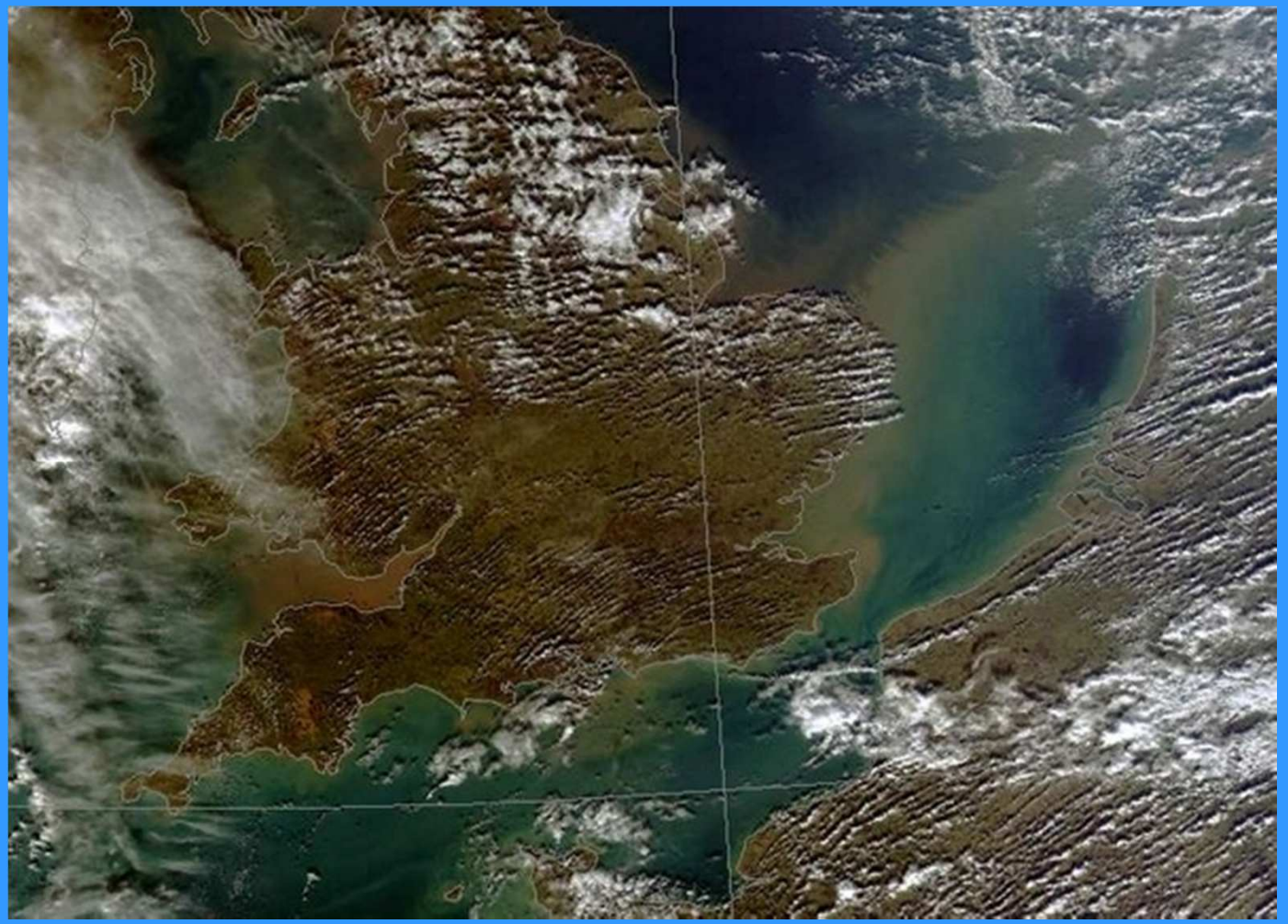
Downstream woody debris combined with floodplain attenuation

Evidence from Holnicote estate – Somerset: £160K NFM work reduced flood peak by 10% and prevented £30M of assets (90 properties) from flooding during a 1 in 25+ year flood event on Xmas Eve 2013.

NFM – soils – “the elephant in the room”

Evidence from Cranfield Univ research report on soil degradation for Defra 2011: The total cost to society of soil degradation in England and Wales is £1.2Bn per annum, of which 19% (£228M) are flood damage and flood risk management costs

NFM – soils – “the elephant in the room”



Evidence from Defra Soil Strategy for England 2009: 2.2 million tonnes of silt is lost from the land each year in the UK.

NFM key messages

- **NFM includes any catchment restoration intervention for which the best available evidence suggests it can make a contribution to reducing flood risk - no matter how small**
- **NFM is not the silver bullet for solving all flooding problems. Usually a mix of NFM and "traditional" civil engineering solutions will be necessary**
- **Successful NFM can be achieved in larger catchments through large numbers of carefully targeted smaller scale interventions**
- **All NFM interventions deliver additional benefits for people and wildlife**
- **The small scale and localised nature of most NFM solutions mean that it is an excellent way to involve local communities and individuals in decision-making and delivery**
- **All NFM interventions contribute in some way to the spectrum of rewilding !**