



Ben Thorne

Somerset 20 Year Flood Action Plan

Work streams and Lead Organisations

- Dredging and river management EA/IDB
- Land management FWAG SW
- Urban run-off District Councils
- Resilient Highway Infrastructure County Council
- Building local resilience Local Councils
- Somerset Rivers Authority County Council/IDB





Joining up the Catchment



'Every farm and every stream has a part to play'





NFM Measures



NFM Interventions

	Number of
335 sites/farms – some with multiple interventions	Interventions
In-channel (leaky dams, check dams, flow spreaders)	339
In-field (filter fences, filter sox, coir rolls)	91
Water storage (leaky ponds, scrapes, floodplain storage,	
bunds)	83
Strategic planting (eg. Trees and hedges)	30
Infrastructure (e.g. cross drains, fencing, yard	
improvements, Levels: droves, culverts)	98
TOTAL	647
Soil husbandry	201
Soil field trials	26





Parrett Catchment Project

- After flooding on Somerset Levels in Autumn 2000
- Ran from 2000-2005
- 'Farming Water Pilots'





NFM and Landowners

- Landowner 'buy-in' essential
- Involve landowner in design and construction
- Landowner/farmer takes liability
- Landowner responsible for maintenance and operation
- Link NFM owners and RMA
- Pay them for maintenance

Finding sites

- Aim for systematic but be opportunistic
- Compromise on ideals
- Build up sites over years
- Work with neighbours
- Use local community to find sites
- Work with other agencies

Working with other agencies



Design phase

- Don't let engineers run the project
- Need engineering input
- Learn as you go
- Less on design and more on follow-up and maintenance
- Be prepared to 'tweak'
- Involve landowner
- Involve contractors in designs



Construction

- Contractor who 'understands'
- Timeliness
- Outlets
- Be careful of 'doing it on the cheap'
- Involve landowner
- Supervise construction phase



Leaky Woody Dams

- Location, location, location!
 - Straight channel
 - Link to floodplain
 - Minor streams
- Maintenance essential
- Design



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Liability problems





Scale

Large storage areas needed to make impact







Working with Flood Wardens



- Liaising with farmers and contractors
- Checking operation and maintenance
- Sustainable
- Protecting their villages



Soils – the 'sleeping giant' of NFM



Soil water storage capacity



Grassland sub-soiling



Infiltration rate (mm/hour)



Haylage Yield at cutting





Outputs & Review





Outputs & Review



Figure 4-5 Hydrographs downstream of the bunded ponds placed within Mill Stream showing the decrease in flow peak caused by inclusion of all NFM features.



Outputs & Review

- Whole catchment, peak flow reductions of all interventions:
 - RP2 5.7% (least accurate)
 - RP5 25.6%
 - RP30 6.8%
 - RP100 8.6%
- Leaky scapes/ponds > woody dams
- Effect diminishes downstream



Lessons learned

- Full range of measures for different locations
- Difficult to get right measure in right place more opportunistic
- Right level of design
- NFM more effective for flashy events than long duration
- Effects felt locally
- Need national and local funding
- Concentrate on aftercare and maintenance
- Soils
- Be brave!

