



Natural Water Retention Measures

Web-based knowledge
Community of practice
NWRM practical guide



Pilot Project - Atmospheric Precipitation - Protection and efficient use of Fresh Water: Integration of Natural Water Retention Measures in River basin management

Service contract n°ENV.D.1/SER/2013/0010

Recap from the First Western Network Workshop

Heather Williams
AMEC





Recap from the first workshop

Key points:

1. The focus was on Natural Flood Management



Recent flooding in Scotland
Photos courtesy of Roy Richardson, SEPA



Afforestation for Natural Flood Management
Photos courtesy of Roy Richardson, SEPA

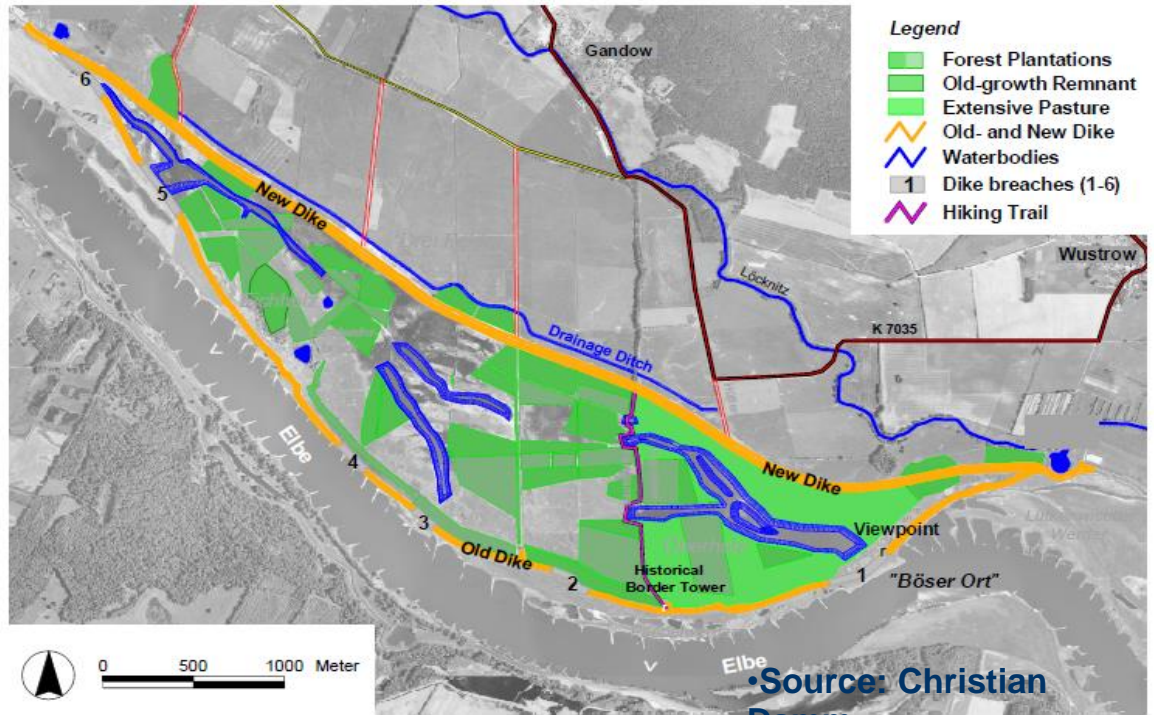




Small-scale Runoff Attenuation Features
Photos courtesy of Mark Wilkinson, James Hutton Institute



•Source: Christian Damm



•Source: Christian Damm



•Source: Nora Künkler

Large-scale Floodplain Restoration (dyke relocation)
Photos courtesy of Thomas Borchers



Re-meandering for river restoration and flood management
Photos courtesy of Chris Spray, University of Dundee



Sustainable stormwater management
Photos courtesy of Peter Close



Recap from the first workshop

Key points:

1. The focus was on Natural Flood Management
2. Main drivers:
 - Flood risk management
 - River restoration
 - Biodiversity- nature conservation projects
 - ... not WFD, for any of the case studies!

So how can it be tied more closely to WFD?



Recap from the first workshop

Key points:

1. The focus was on Natural Flood Management

2. Main drivers:

- Flood risk management
- River restoration
- Biodiversity- nature conservation projects
- ... not WFD, for any of the case studies!

So how can it be tied more closely to WFD?

3. Because of this: may be seen as a burden rather than an opportunity- just something needed for compliance

- How can this be overcome?

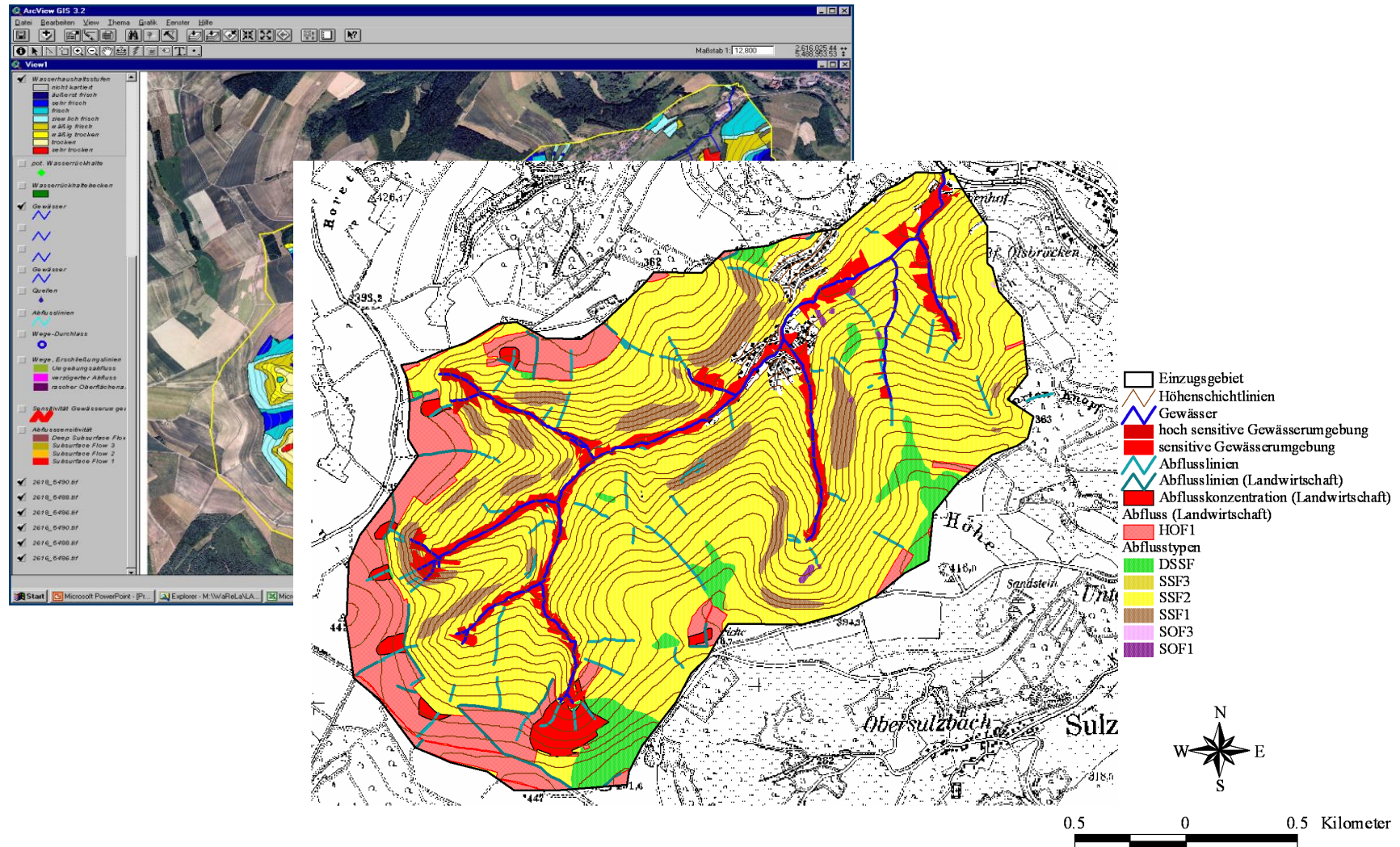


Recap from the first workshop

Key points:

4. Catchment-scale application is key, both for:
 - Effectiveness:
 - Placement of measures in the catchment
 - Cumulative/ downstream benefits
 - Will it provide a benefit everywhere, or are there trade-offs?
 - Implementation: Partnership working

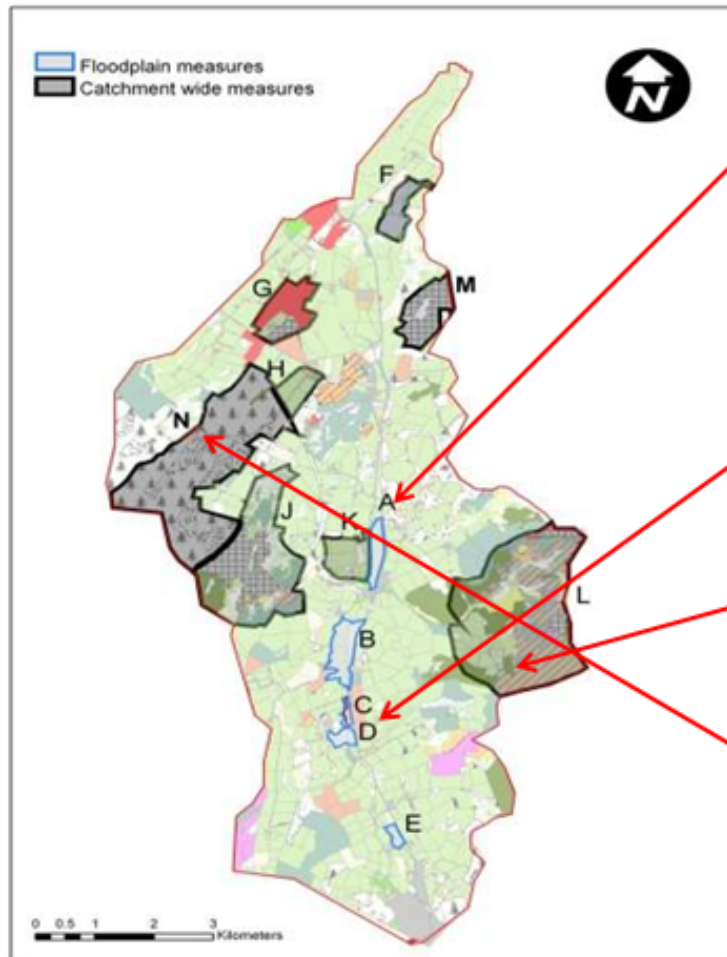
Forested headwater catchment, Germany



Courtesy of Gebhard Schueler

Eddleston Water, Scotland

Identified potential options to restore the river: - reduce flood risk and improve habitats - in different locations (sources and pathways)



Selected options/measures:

A: breach/set back embankments, new fence margins, riparian woodland, wet woodland,

C: re-meander channel - Cringeltie

L: Reduced stocking density, tributary woodland, floodplain forest – Longcote burn

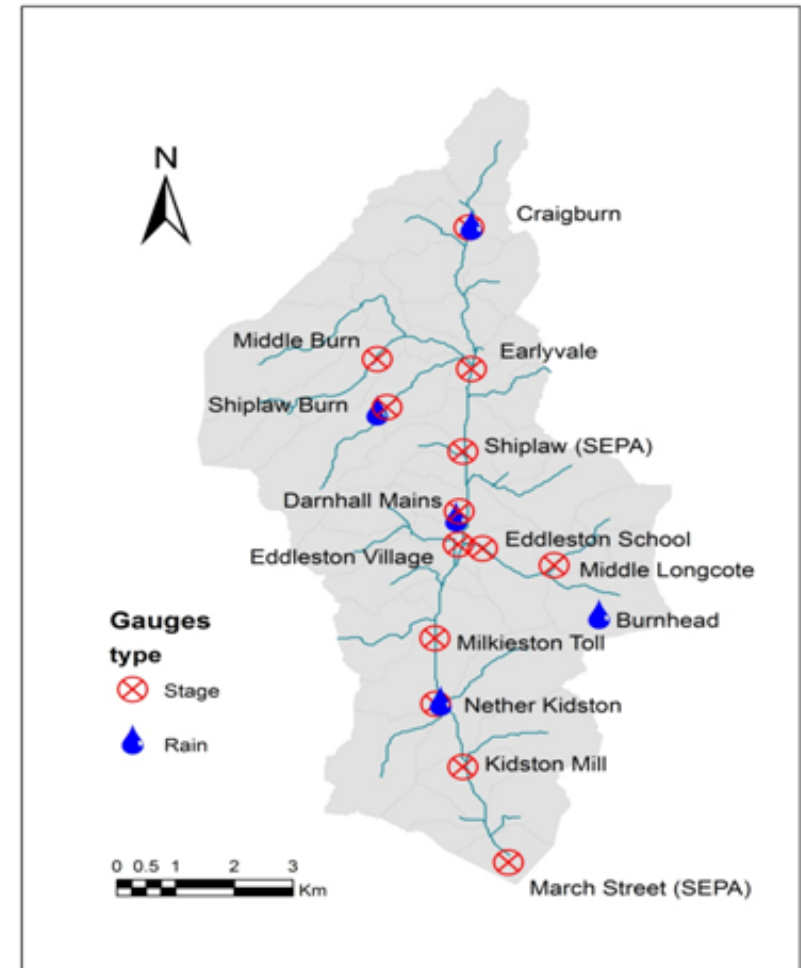
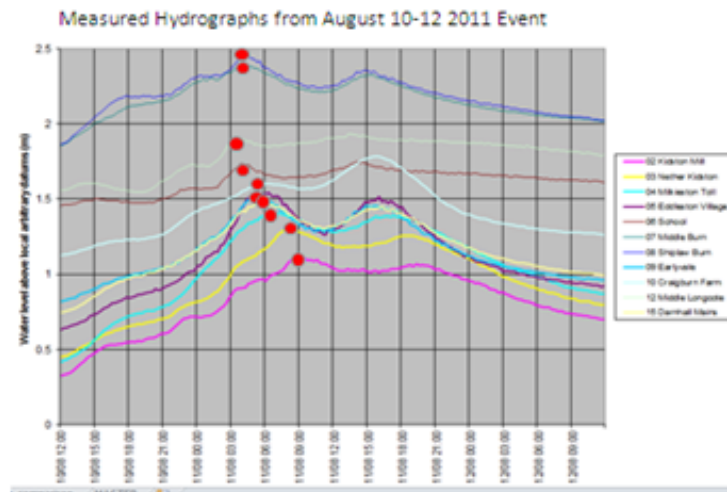
N: create ponds, wetlands, riparian woodland block ditches, engineered log jams – Middle burn

Courtesy of Chris Spray

Eddleston Water, Scotland

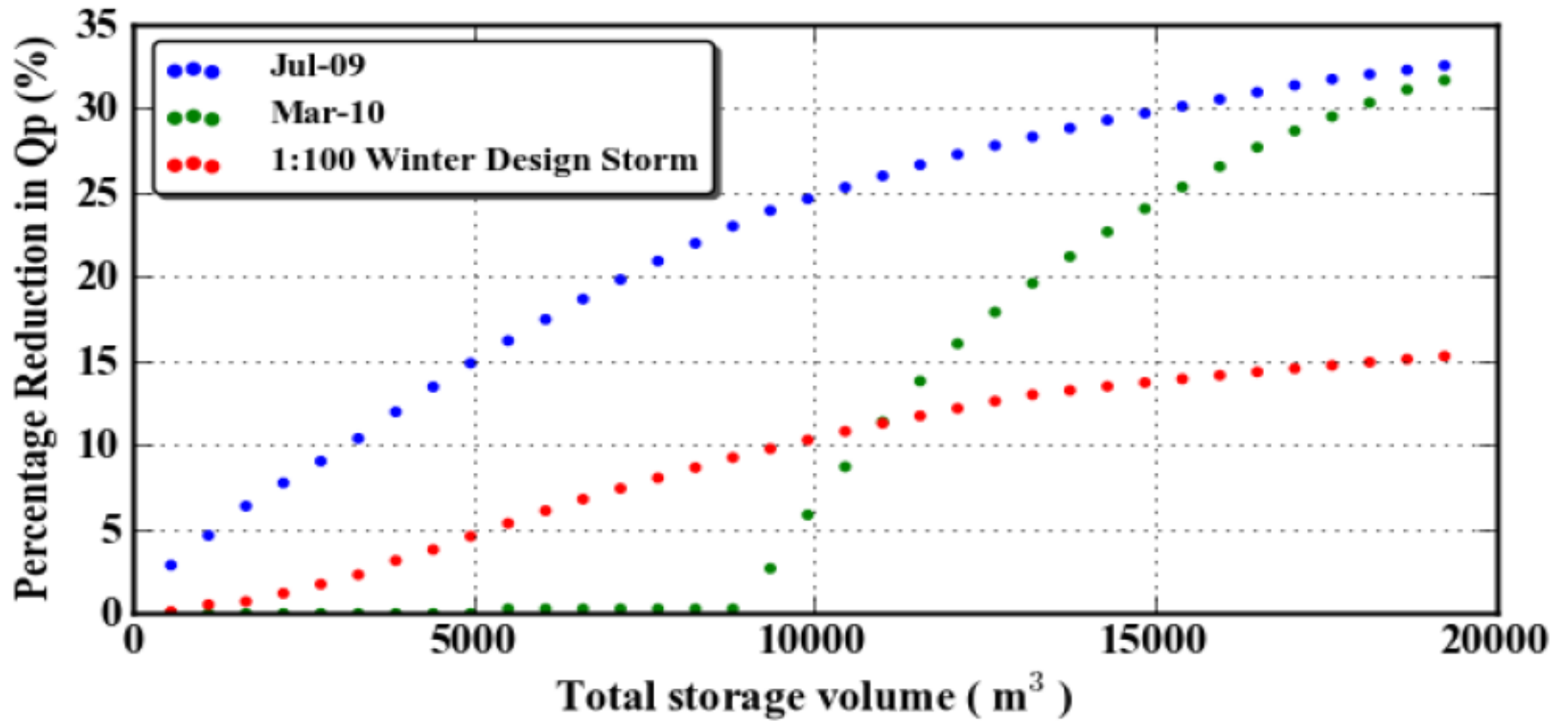
Installed Monitoring network for Catchment flood flows

- Installed a new detailed Hydrometric Network to record river levels and flood flows. Also Weather stations
- Identification of how and where flood runoff is initiated and its conveyance downstream, causing flooding



Courtesy of Chris Spray

Belford, England



Courtesy of Mark Wilkinson



Key considerations for this workshop:

Incorporating NWRMs in to catchment management

- Getting the scale right
- Recognising multiple benefits
 - Making multiple benefits work
- Financing opportunities
- Strengthening links between Directives
 - E.g. meeting the aims of one directive through another

Thank you

