



Using natural processes to reduce flood risk

experiences from Trent Rivers Trust.....

Ruth Needham, Trent Rivers Trust



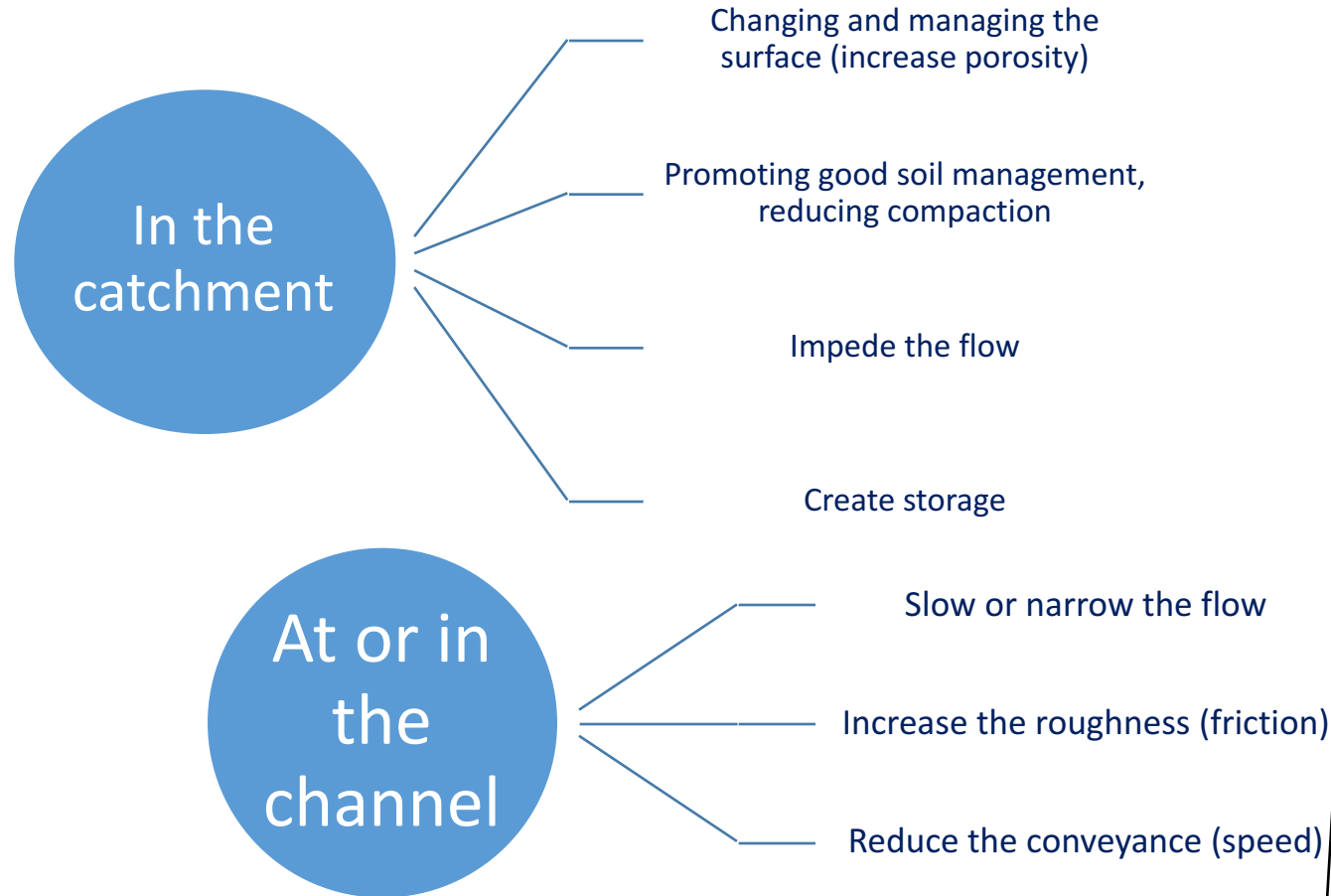
Experiences from Trent Rivers Trust

- What is 'Working with Natural Processes' (WWNP)
- Why do we need WWNP?
- Why is it of interest to Trent Rivers Trust?
- How to go about it
- Some case studies
- A summary



What is 'Working with Natural Processes'

Source control – *work where the rain falls*



Applies in rural **AND** urban areas

Department
for Environment
Food & Rural Affairs



Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales



WOODLAND
TRUST



Working with Natural Processes –
Evidence Directory

SC150005

Hard engineering	Mitigated hard engineering	Soft engineering	Natural flood-risk management	
Heavily modified river or coastline - Natural Processes + (Semi) natural river or coastline				
Example interventions				
Flood walls, pump drainage, dry washlands	Green roofs, permeable paving,	Wet washlands, balancing ponds, regulated tidal exchange, swales	Managed re-alignment, upland grip blocking, re-meandering	Natural floodplain/coastal zone (minimal intervention)
Example outcomes				
Floodplain disconnected from channel/sea, except in exceptional circumstances	Floodplain connected with channel/sea with high degree of control		Floodplain connected with channel/sea with high degree of freedom	

Why do we need WWNP?

Need to broaden our approach to water management

- Increasing flood risk
- Channels at capacity
- Need more than 'defend and dredge'
- Climate change
- Soil loss
- Incorporate a range of techniques
- Requires a Catchment Based Approach
- Involves partners – gets everyone thinking about flood risk

Range of benefits

- Flood risk
- Improved water quality
- Creates habitat
- Reduces erosion and soil loss
- Provides a focus for people and communities
- Cheaper to build than traditional flood management schemes
- Legacy? Long term awareness?



Why is it of interest to Trent Rivers Trust?

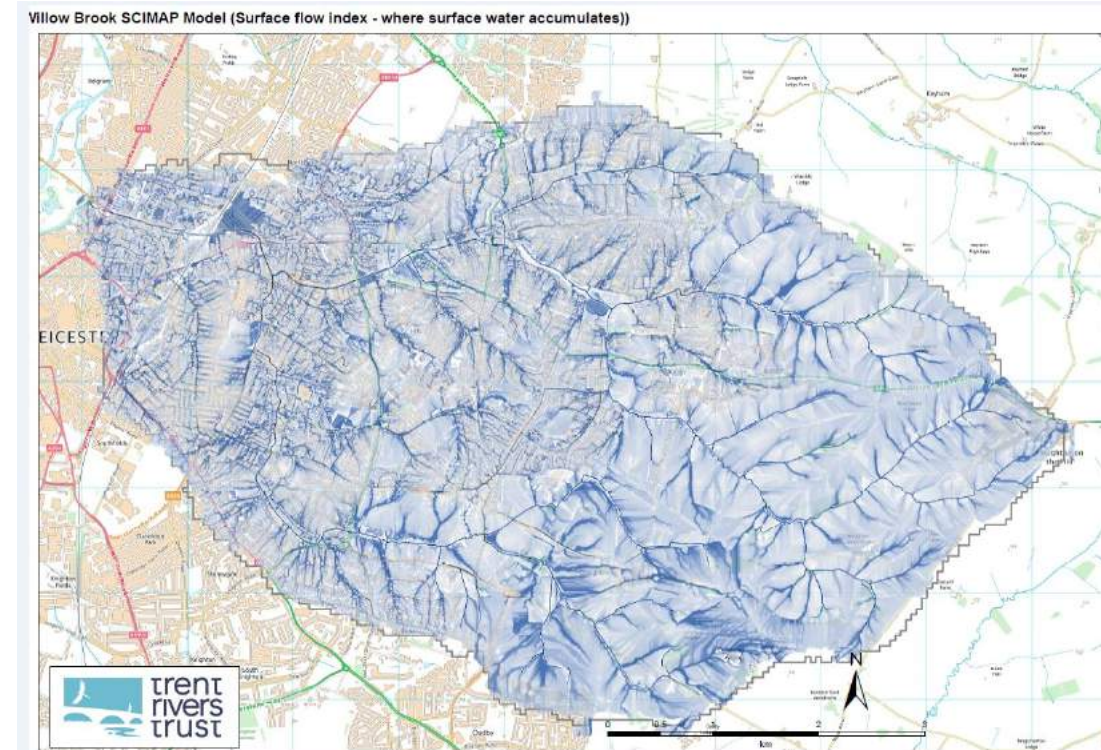


- Delivers a range of water based benefits
- Easier and cheaper to work with smaller volumes of water
- Work at range of scales; site, landscape and catchment. Plays to our strengths (work with farmers, communities, partners)
- Create schemes that compliment the landscape, bespoke solution for individual sites. Solutions are unobtrusive.



How to go about it? What are the pitfalls?

- Allow plenty of time for planning
- Funding – *standard flood risk funding sources not yet tailored well to NFM*
- Partner support – *work with range of stakeholders*
- Use local knowledge, *carry out a desk study*
- Make the most of the data (+/- of modelling)
- Secure agreement from landowners
- Be creative about incentives
- Carry out surveys well in advance
- Think about maintenance as part of your design
- May require Land Drainage Consent (LLFA) and Planning Permission (LPA)
- Include an evaluating and monitoring plan, can be expensive



SCIMAP outputs – highlights where water accumulates

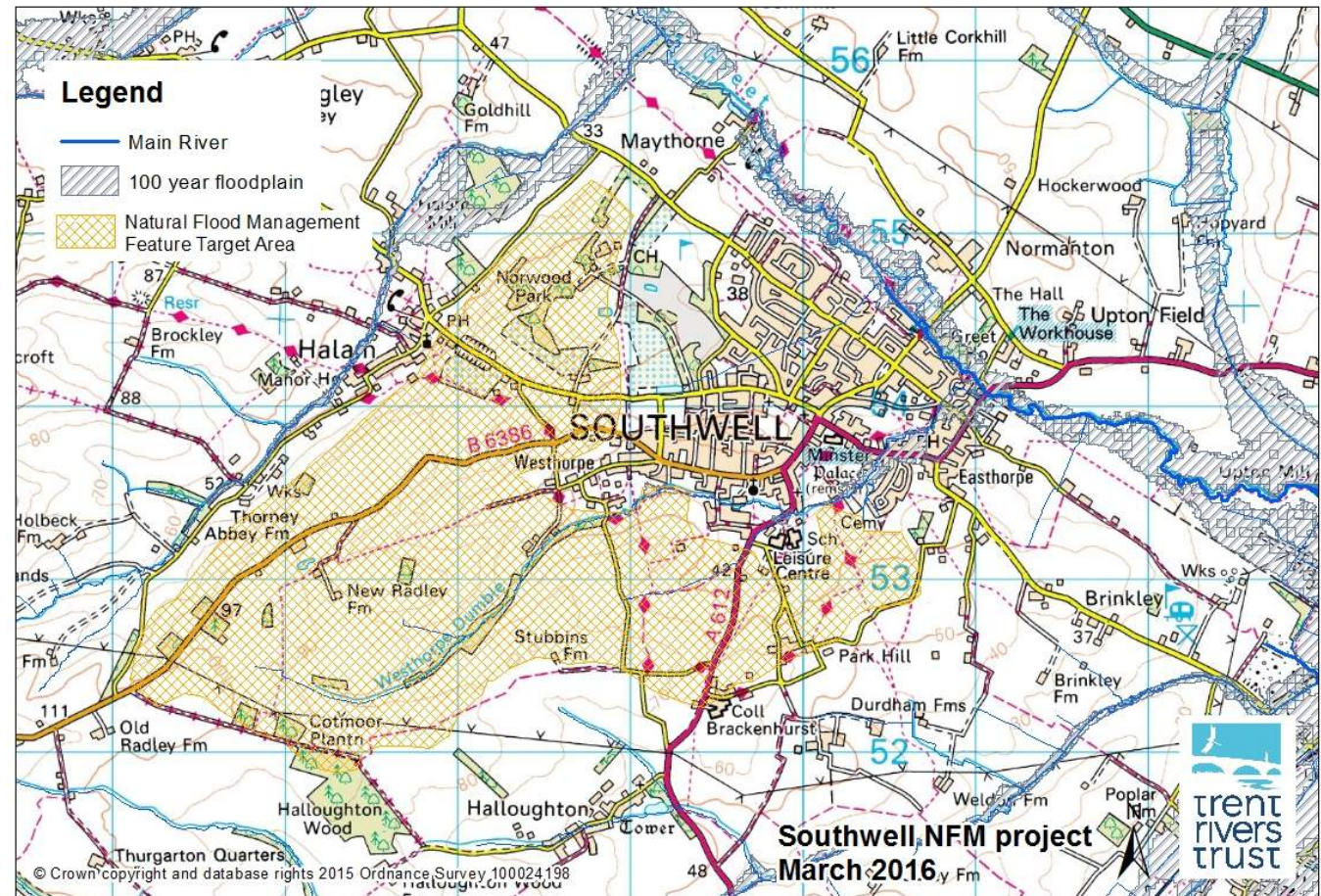
Case Study

Southwell Catchment Project

Interreg
North Sea Region
FRAMES
European Regional Development Fund

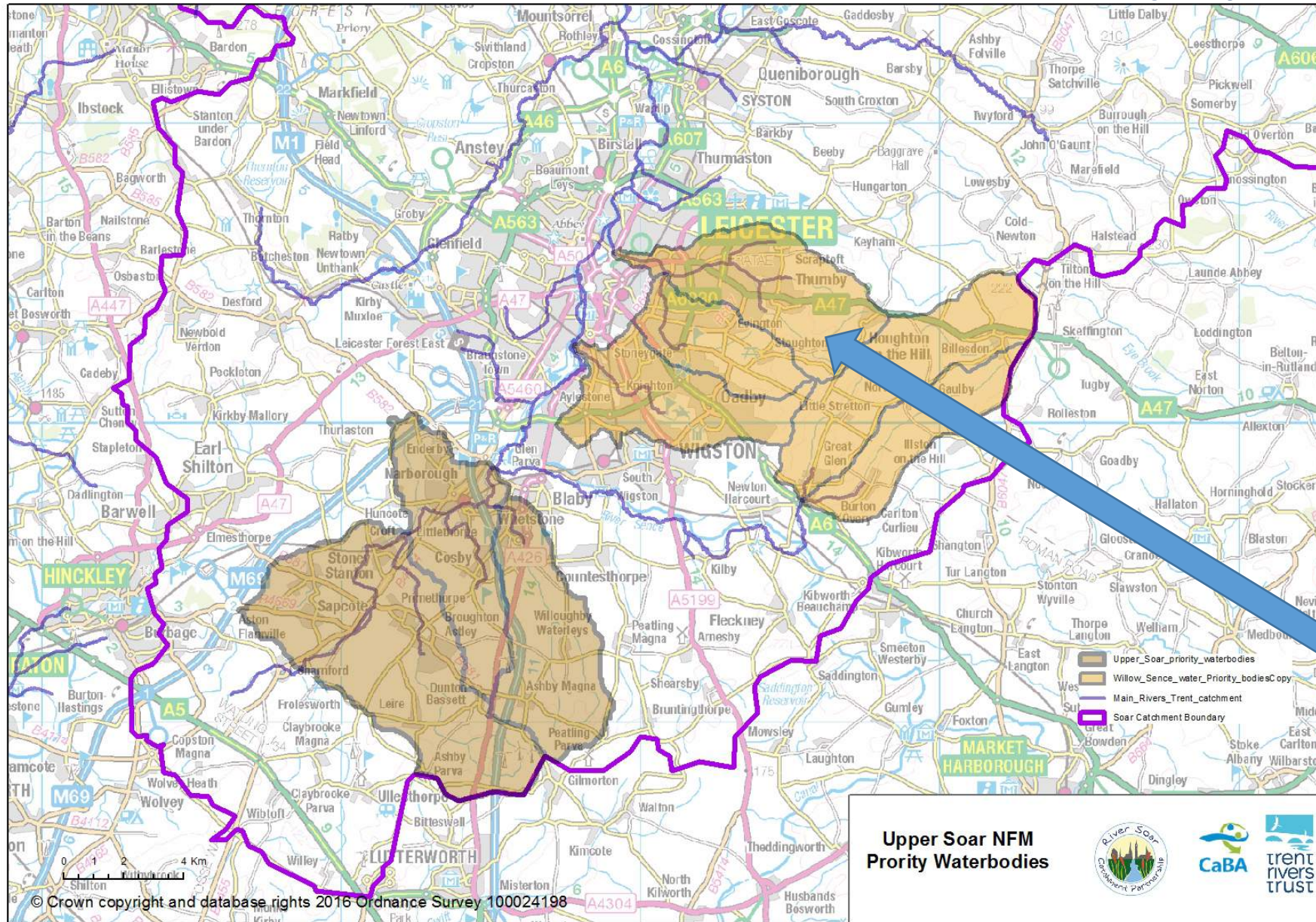


**SOUTHWELL
FLOOD FORUM**
Community Protection & Support

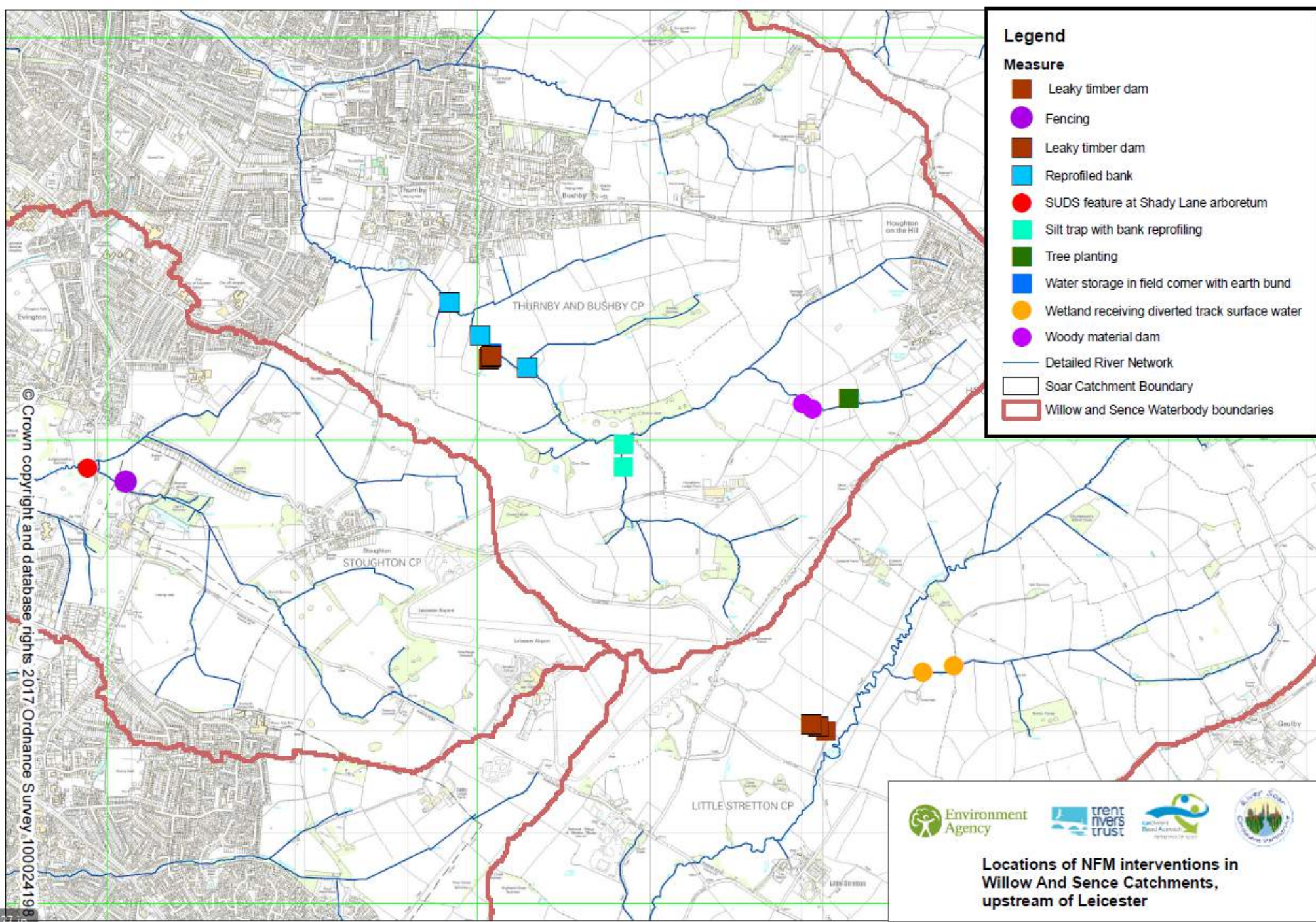


Case Study

Soar NFM project



- Scoping and feasibility project
- Farm advisory project
- Capital projects



Case Study



Leicester SUDS 'n' Schools Project



Shady Lane Arboretum, Leicester

Case Study

Rain Garden at the Strutts Centre, Belper



Britain in Bloom New Landscape of the Year 2015 (East Midlands)

Case Study

Leisure Centre, Measham



Back



Front



Before

After

In summary

- Lots of opportunities
- Be creative
- Need to work in partnership
- Engage with communities and landowners
- Start planning early on, don't underestimate potential for complications
- Think about the maintenance
- Construction cheaper than traditional solutions
- Long term benefits
- Bring about some inspiring sites



Thank you

Ruth Needham

Email ruth@trentriverstrust.org

Mobile 07773 343635

