



*Identifying where land contamination is causing
WFD surface water failure - an approach in one
Environment Agency region*

Sue Goodman

Technical Specialist (Contaminated Land)

SOBRA Conference, 21st December 2011

Context



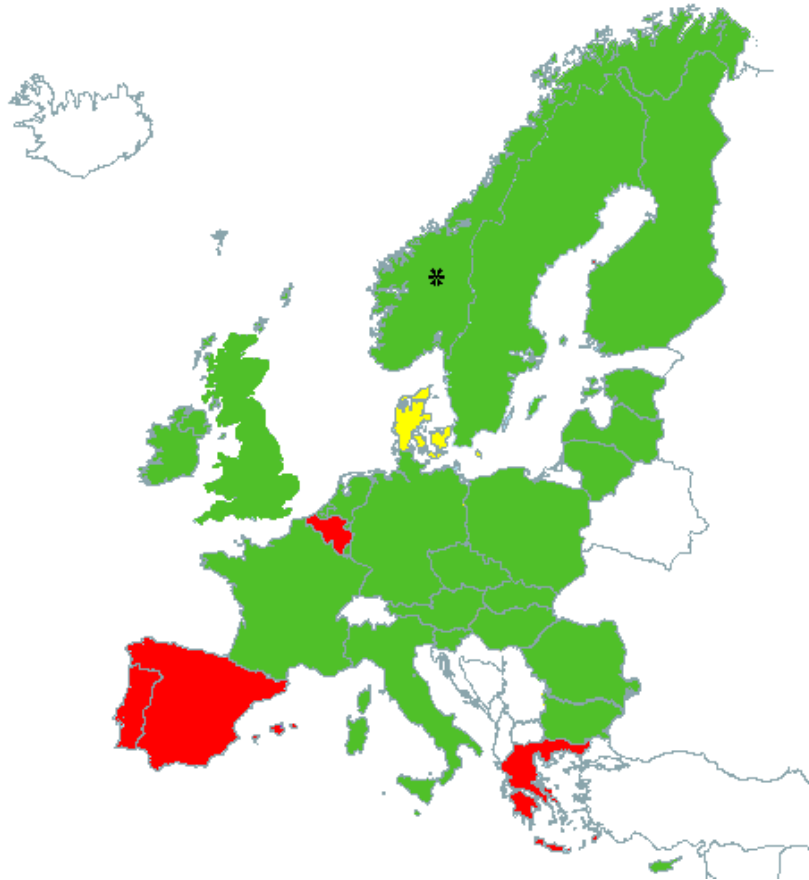
What is the Water Framework Directive?

- ➔ European legislation that came into force in Dec 2000 and became part of UK law in Dec 2003
- ➔ The WFD establishes new and better ways of protecting and improving the water environment
- ➔ Includes:
 - ➔ freshwater (including lakes, streams and rivers)
 - ➔ groundwaters
 - ➔ groundwater dependant ecosystems
 - ➔ estuaries
 - ➔ coastal waters to 1 mile from low water

Objectives of WFD

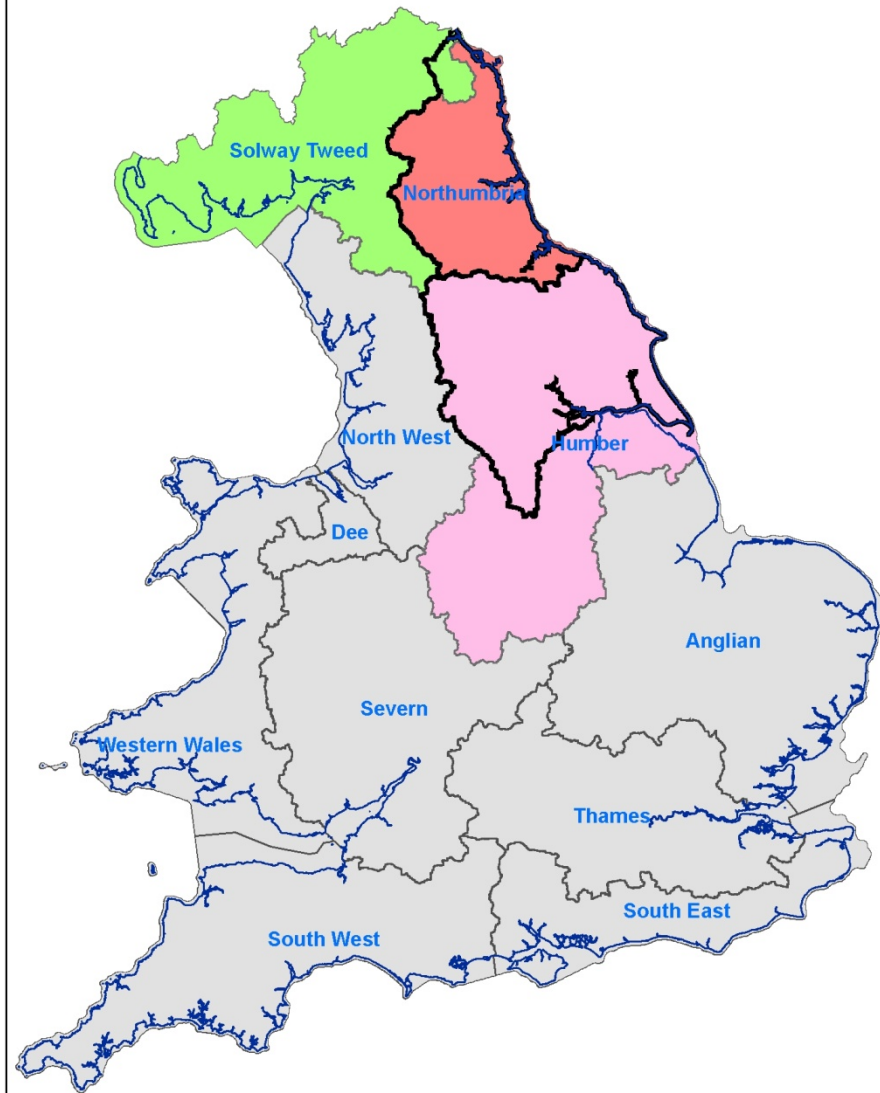
- ➔ prevent deterioration of aquatic ecosystems
- ➔ improve the ecological condition of waters
- ➔ achieve at least good status for all waters by 2015
- ➔ promote sustainable water use
- ➔ reduce pollution

River Basin Management Plans



- ➔ key tool for implementing WFD
- ➔ sets out actions required to achieve the WFD objectives
- ➔ the first River Basin Management Plans were published on the 22 December 2009
- ➔ six-year cycle

Yorkshire and North East - Overlapping River Basin Districts



The timescales for next 18 yrs

2009 (December)	1st River Basin Management Plans published.
2009 - 2012	implement the plans.
2012	Programme of measures (actions) made operational and progress report submitted in December.
2013 - 2015	review the 1st cycle and prepare for 2 nd cycle.
2015	1st cycle of River Basin Management complete. Meet WFD objectives for first River Basin Management Plans.
2015-2021	2 nd cycle
2021	review of the 2nd cycle and prepare for 3rd cycle.
2027	completion of the 3rd plan cycles and achievement of WFD objectives.

Ecological status

Biological quality elements

H	H	H	H
G	G	G	G
M	M	M	M
P	P	P	P
B	B	B	B

Lowest classed element

General chemical and physicochemical quality elements

H	H	H	H
G	G	G	G
M	M	M	M

Lowest classed element

Specific pollutants

G	H	G	H	G	H	G	H	G	H
M	M	M	M	M	M	M	M	M	M

Hydromorphological quality elements

H	H	H	H
G	G	G	G

Lowest classed element

Chemical status

Priority substances and other EU-level dangerous substances

G	G	G	G	G	G
F	F	F	F	F	F

Lowest classed substance

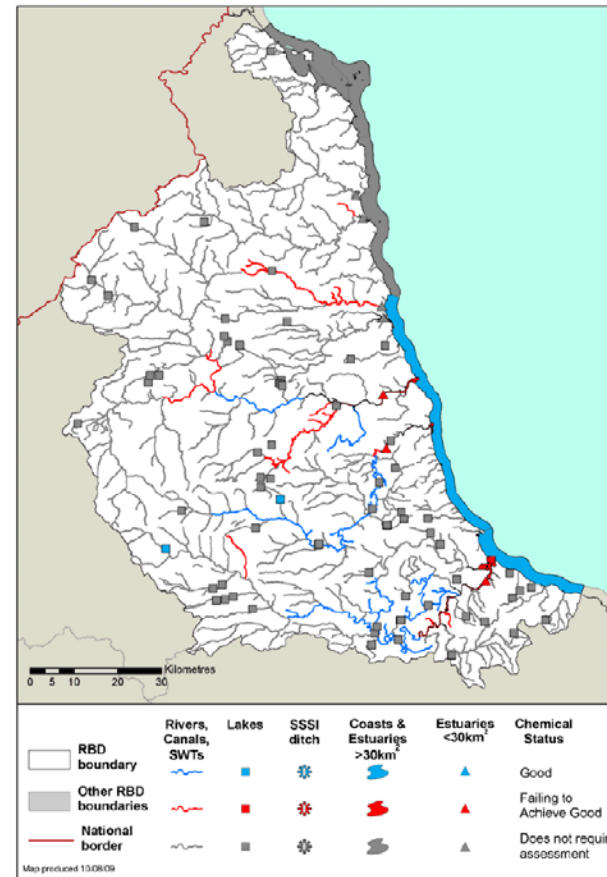
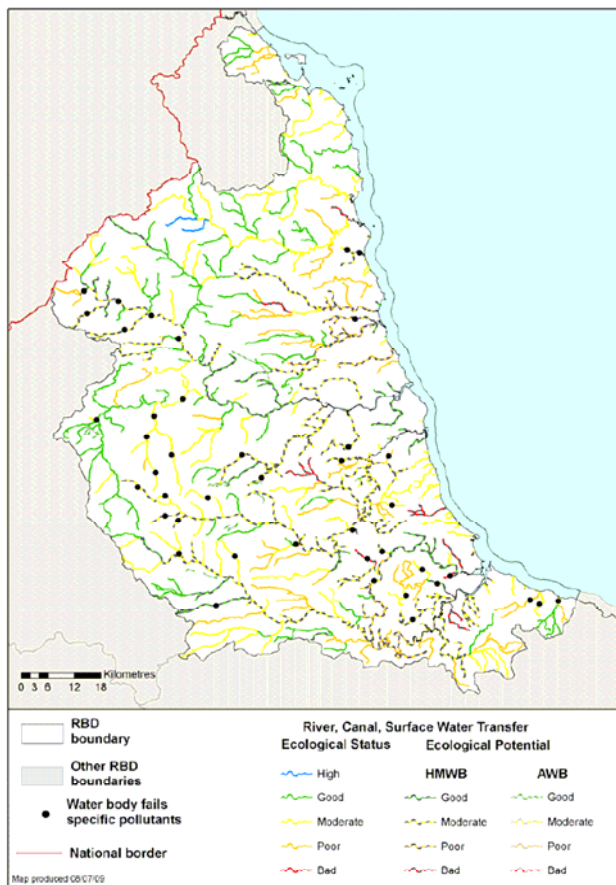
Surface water status

Alien species check

High
Good
Moderate
Poor
Bad

Good
Fail

Status in North East area



Reasons for Failure

- ⇒ Unknown - uncertain there is a failure / impact
- ⇒ Unknown - reasons for failure unknown
- ⇒ Suspected - Abstraction groundwater
- ⇒ Suspected - physical modification flood protection
- ⇒ Suspected - point source water industry sewage works
- ⇒ Suspected - diffuse source agricultural
- ⇒ Suspected - diffuse source contaminated sediments
- ⇒ Confirmed - Acidification (acid deposition)
- ⇒ Confirmed - point source trade industry - EPR (non water industry)
- ⇒ Confirmed - Disused mines point and/or diffuse source
- ⇒ Confirmed - diffuse source contaminated land (inc. landfill, excl disused mines)
- ⇒ Confirmed - diffuse source natural mineralisation

Sites where land contamination identified as reason for failure





WFD land contamination evidence base project

Objective

- ➔ To identify where land contamination is/is potentially impacting on surface water quality and causing the waterbody not to meet good ecological and/or chemical status

How are we going to do this?

- ➔ Step 1 - Identifying potentially contaminative land-use
- ➔ Step 2 – Correlate with WFD failures
- ➔ Step 3 – Pro-actively identify where land contamination may be a contributing factor???
- ➔ Step 4 – Input to investigations???

Complicating factors

- ⇒ Numbers of failures
- ⇒ Multiple reasons for failure
- ⇒ Limitations of monitoring data
- ⇒ Location of monitoring points
- ⇒ Chemistry data limited to known discharges
- ⇒ Ecology failures
- ⇒ “Does not require assessment”

Dealing with land contamination impacting on WFD status

- ⇒ Regulatory regime applicable?
- ⇒ Influencing to achieve voluntary action
- ⇒ Planning
- ⇒ Regulatory action e.g. P2A, anti-pollution works notices

Issues for the future

- ➔ Identifying source of problem
- ➔ Multiple land contamination sites contributing to failures
- ➔ Voluntary action
- ➔ WFD and P2A

Sources of information about WFD

- ➔ <http://www.environment-agency.gov.uk/research/planning/33362.aspx>
- ➔ <http://www.defra.gov.uk/environment/quality/water/legislation/water-framework-directive/>
- ➔ <http://www.wfduk.org/>
- ➔ http://ec.europa.eu/environment/water/water-framework/index_en.html



Any comments, questions or
suggestions?

sue.goodman@environment-agency.gov.uk