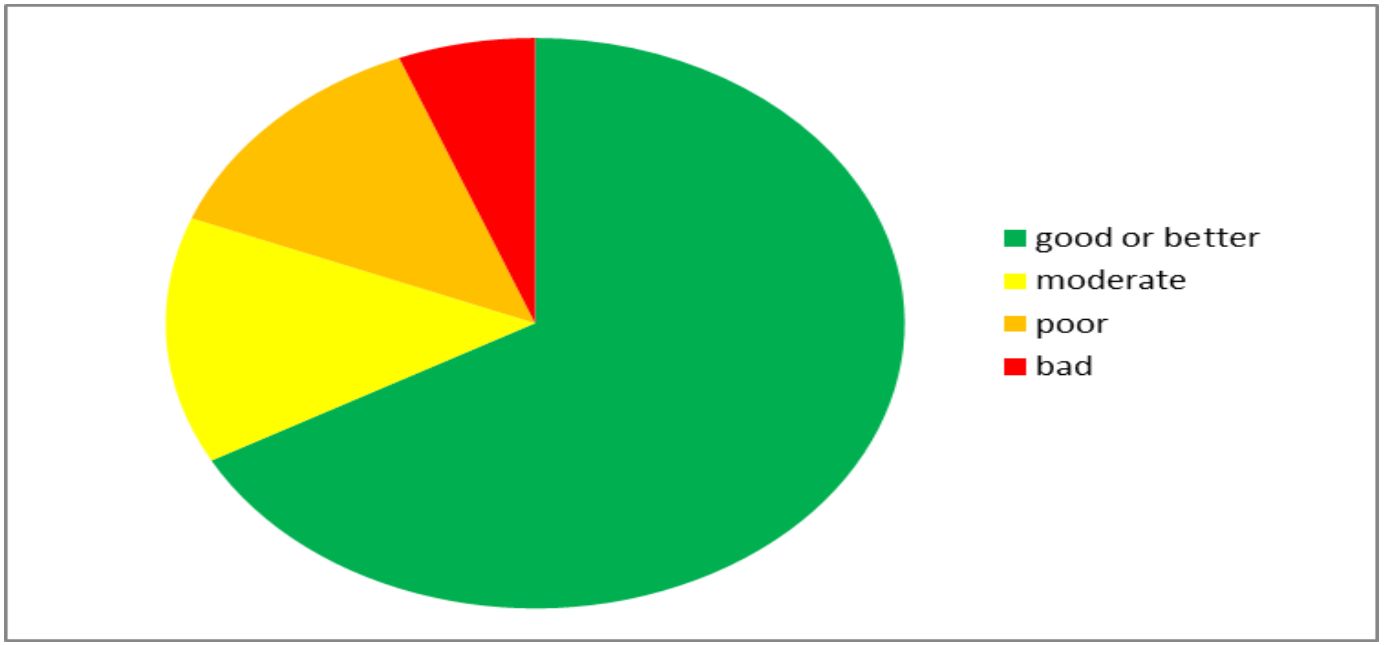
Scotland's Approach to Diffuse Pollution

Darrell Crothers
Scottish Environment Protection Agency
Land Unit

Diffuse Pollution in Scotland

- Current condition of surface and ground water bodies in Scotland River Basin District

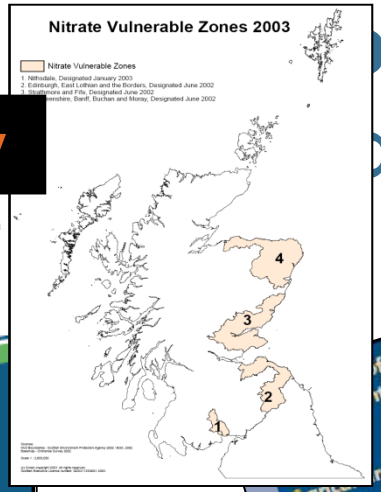


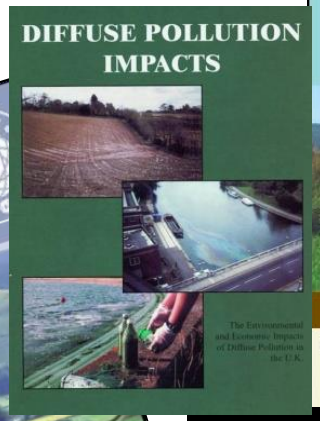
- 18% water bodies downgraded because of diffuse pollution (DP)
- DP from agriculture is largest pollution pressure
- Nutrients, pesticides, soil, faecal contaminants – driven by rainfall and land use

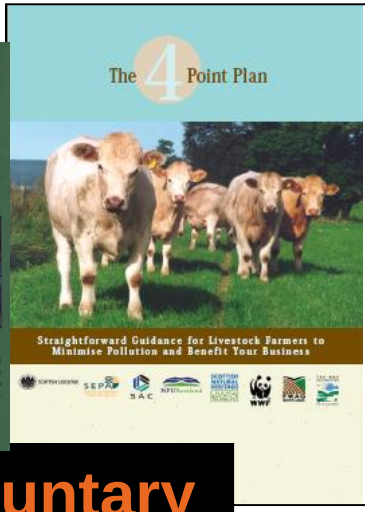
SEPA
Scottish Environment Protection Agency

ols to duce DP…

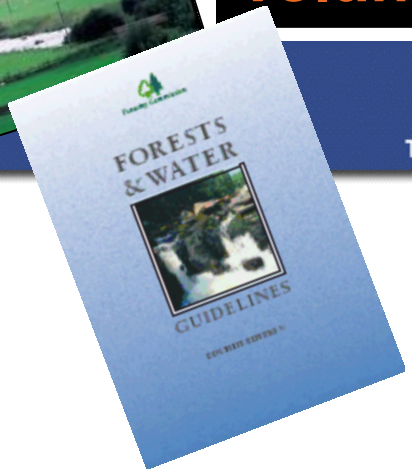
Regulatory







Voluntary



Economic

Fertiliser application & storage

Keeping of Livestock

Land Cultivation

Pesticide application

Sheep Dipping

Scotland and SEPA's Approach to DP Mitigation

Catchment selection based on good science demonstrate impact, pollutant source and pathways.

National approach

Priority catchment approach -

Evidence Base

Awareness Raising

Targeted Engagement

National approach

NEWS

Diffuse pollution – a challenge for Scotland?

Rebecca Audsley, Diffuse Pollution Co-ordinator, SEPA.

In general, Scotland has excellent water quality. However, diffuse pollution is contributing to a downturn in its quality.

Unless action is taken to reduce diffuse pollution risks, diffuse pollution could pose significant problems for water users and contribute to a failure to meet targets under the Water Framework Directive.

DIFFUSE POLLUTION REGULATIONS

Diffuse pollution from rural sources is often mobilised from land by rainfall, therefore how we manage land and manage runoff from that land can have a big impact on surrounding water quality.

The Diffuse Pollution Regulations (DPRs) were introduced in April 2008 to reduce the risk of pollution from rural land use. Based on good practice, steps already included in the PEPFAA (Prevention of Environmental Pollution From Agricultural Activity) code and Forests and Water Guidelines.

The DPRs include steps such as:

- Keeping livestock feeders at least 10 metres away from surface waters or wetlands
- Preventing significant poaching by livestock of land within five metres of surface waters or wetlands
- Storing fertilisers (including manure) at least 10 metres away from surface waters or wetlands
- Keeping pesticide washings out of the water environment
- Leaving a two-metre buffer between watercourses and cultivation operations
- Avoiding using metallic, sulphide rich or strongly acidic materials when building waterbound tracks
- Preventing sheep from entering watercourses if there is a risk of dip getting from their fleece into the water.

Simple steps, such as leaving a buffer strip between in-field cultivation and watercourses, can significantly help to reduce the risk of pollutants finding their way into surrounding waters.

HOW TO ADDRESS DIFFUSE POLLUTION; TAKING THE CATCHMENT APPROACH?

The focus on diffuse pollution has increased; partnership working between land managers and the relevant agencies will be key to identifying practical steps to reduce risks.

More than 100 catchments across Scotland will require a more targeted approach to reduce risks from diffuse pollution. The first 14 of these water body catchments have been selected as 'priority catchments' for action.

Work to improve the condition of rivers, lochs and coastal waters in these priority catchments will see SEPA assessing rivers and burns to highlight problem areas such as land cultivated too near to watercourses, poaching and bank erosion caused by livestock access to rivers and burns, and any other land management or water issues.

The first round of surveys will be carried out during 2009–2010, and a series of events will be held in each catchment to inform land owners about the findings and suggest practical steps.

Some measures may have associated costs, so the meetings will also consider potential funding opportunities.

GOOD NEWS FOR WATER QUALITY

Diffuse pollution poses a difficult challenge. However, even taking small steps to identify and reduce pollution risks could lead to significant benefits for water quality.

Taking a catchment approach supported by a range of partners and with access to funding for land managers, gives even more potential to produce a significant improvement in water quality for all water users and assist compliance with Water Framework Directive targets.

More information on priority catchments is available at www.sepa.org.uk/prioritycatchments

What is diffuse pollution?

Diffuse pollution can be described as the discrete and dispersed loss of pollutants such as nutrients, chemicals, bacteria and soil into the surrounding environment.

Often, these pollutants can be as a result of rainfall washing particles from land or from nutrients or other pollutants being leached to groundwater.

In terms of rural land use, examples include soil losses through harvesting or cultivation operations or bacteria and nutrients from unchecked livestock access to watercourses. All could pose a significant risk, especially when considered alongside the other things that are finding their way into the burn or river from various sources.

For example, runoff containing dung from a livestock yard may not have a noticeable effect on water quality, but what if this is happening on a number of farms across a catchment?

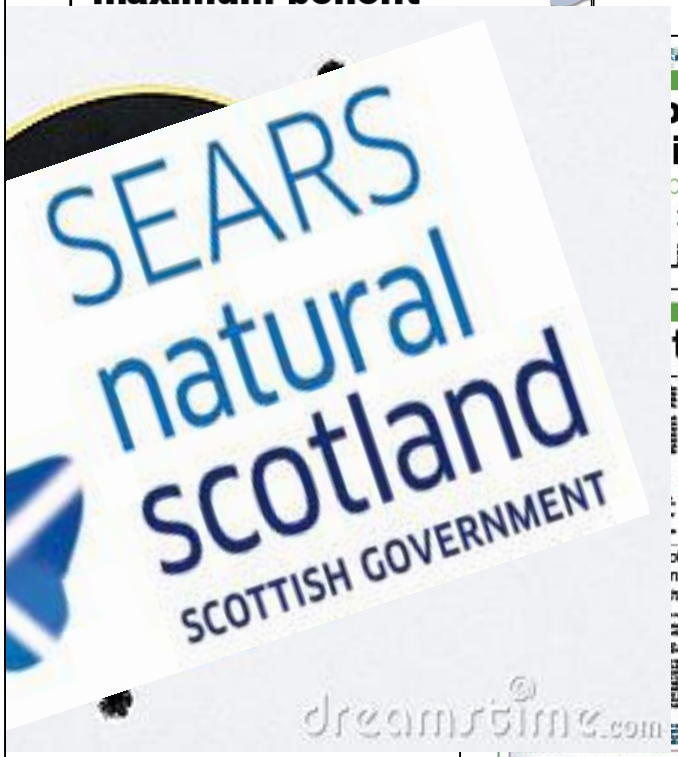
Partnership working to address diffuse pollution

The Diffuse Pollution Management Advisory Group (DPMAG) is a new high profile Scotland-wide statutory stakeholder group established by SEPA in May 2009.

The group comprises key rural stakeholders across Scotland and aims to help to create a robust governance, decision making and coordination framework for the effective delivery of rural diffuse pollution River Basin Management Planning actions across Scotland, whilst also ensuring input from a cross section of rural, environmental and biodiversity interests.

The group reports directly to the River Basin Management Planning National Advisory Group (NAG) and meets on a quarterly basis, with smaller sub groups meeting as tasks require.

Membership of the group includes Association of Salmon Fisheries Boards, Confederation of Forest Industries UK, Loch Lomond and Trossachs National Park (also representing Cairngorms National Park), Forestry Commission Scotland, National Farmers Union Scotland, Scottish Crofting Foundation, Scottish Environment Link, SEPA, Scottish Government, Scottish Natural Heritage, Scottish Rural Property and Business Association, Scottish Tenant Farmers Association and Scottish Water.



Scotland and SEPA's Approach to DP Mitigation

Catchment selection based on good science demonstrate impact, pollutant source and pathways.

National approach

Priority catchment approach -

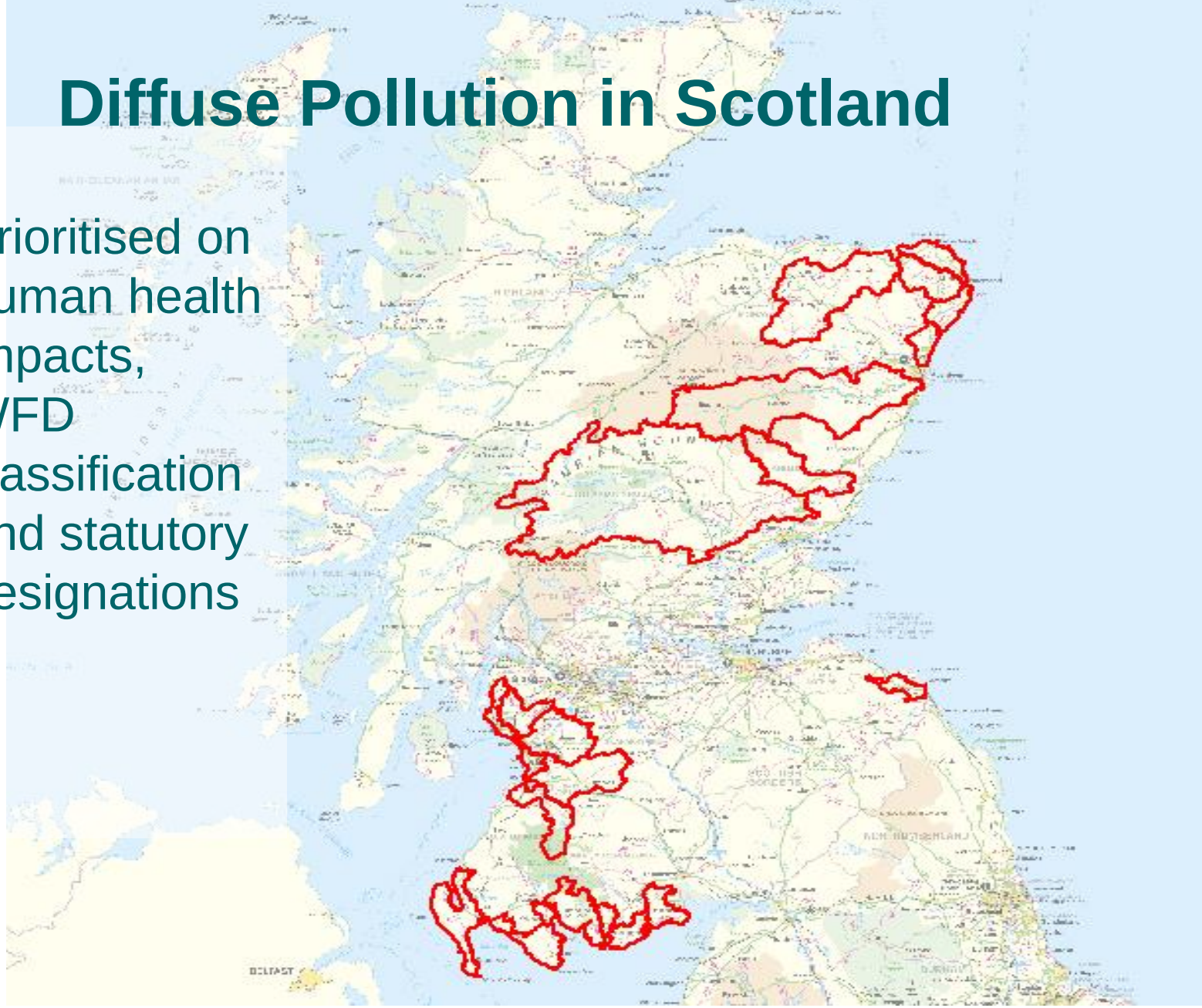
Evidence Base

Awareness Raising

Targeted Engagement

Diffuse Pollution in Scotland

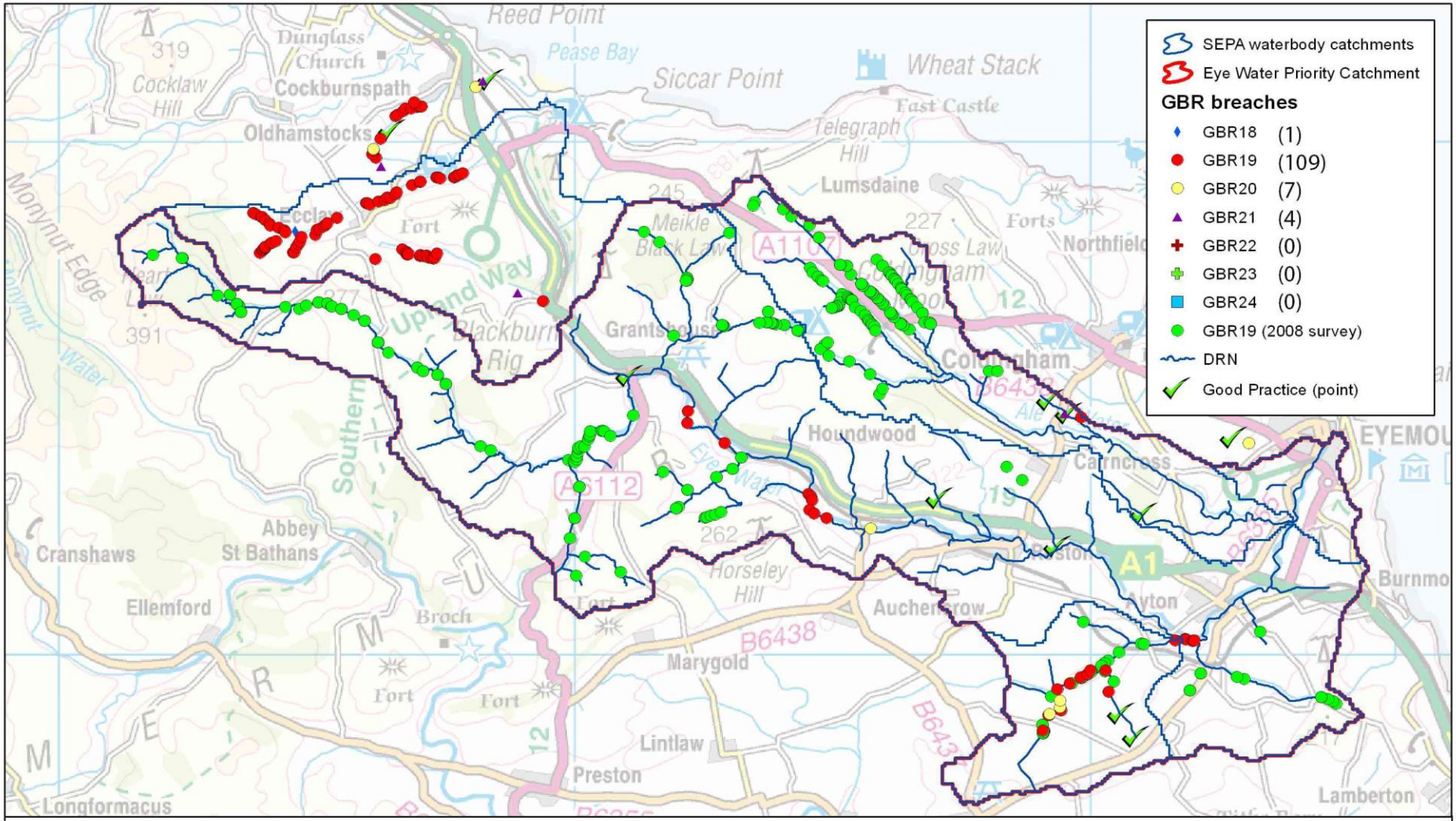
Prioritised on human health impacts, WFD classification and statutory designations



Catchment walking our evidence base

- 18 months
- 5835km walked
- 5169 non compliance with GBR's + other polluting issues

Evidence base – catchment walking



1:98,751

N

0 1 2 4 Kilometres

0 0.5 1 2 Miles

Helpdesk ref: N/A. Produced: 2/03/2011

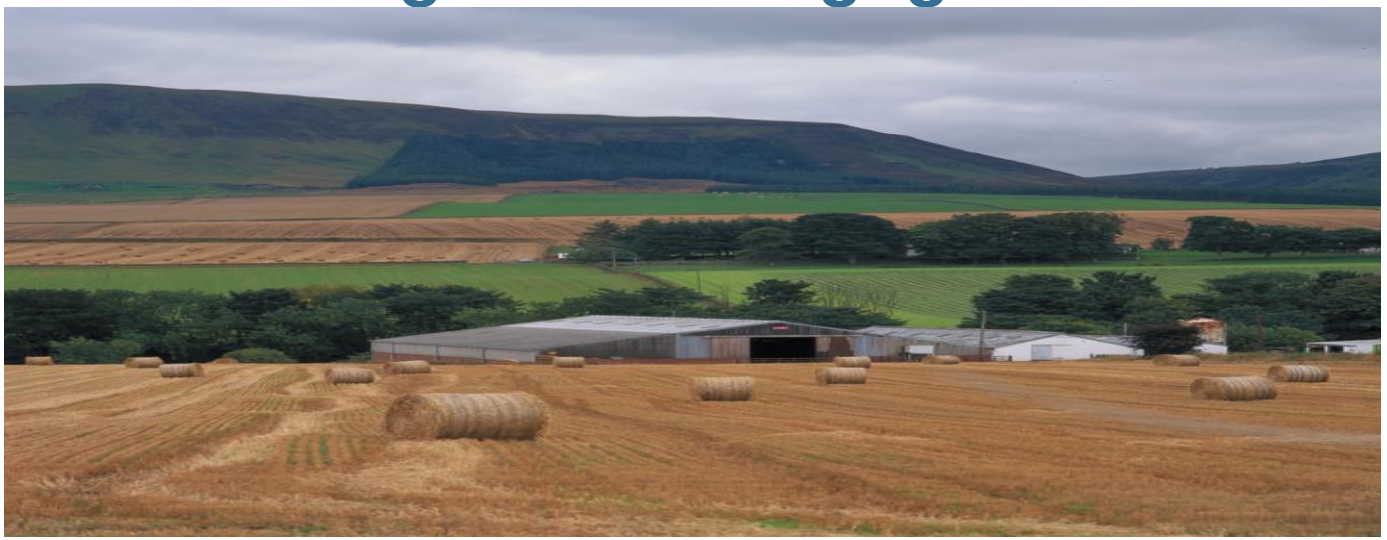
GBR breaches in the Eye Water and Pease Bay catchments

SEPA
Scottish Environment Protection Agency

Awareness Raising

- 4000 letters and leaflets sent to land managers
- Over 300 workshop, events, presentations
- Over 30 Press releases in 6 priority catchment
- 15 Articles in Scottish farmer - PC updates etc
- 15 Articles in other organisations magazine
- Catchment Characterisation Reports in production for each priority catchment, and technical summaries – 7 printed
- 10 radio interviews / 1 TV interview
- Pod cast with SAC
- Text alerts from NFUS and SAC
- Leaflet mail shots – equine
- Golf course managers / green keepers guidance
- Web page links with others
- Twitter

Land manager 1 to1 engagement



- staff specifically trained for farmer engagement
- Farmer visits started in October 2011
- over 3,200 initial engagement visits completed
- farm visit focuses on steading & land use.
- Findings are explained to land managers in a way that enables them to make informed decisions which can improve both their business and environment
- Land manager receive a letter, map based report and mitigation advice and date for follow up visit if required

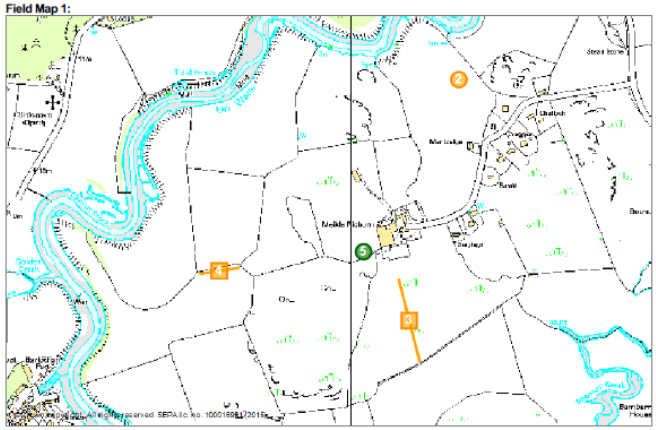
A working document

Non-Compliance			
Map ID	What We Found	What needs to be done For information on Best Management Practices please refer to www.sepa.org.uk/bmp or see contact details above for SEPA.	Timescale
1	The oil storage tank is currently unbunded. Oil storage facilities must have a bund or secondary containment system. The bund must be impermeable to oil and water and be capable of holding 110% of the capacity of the tank. Where more than one tank is being stored together, the bund should be designed to contain 110% of the largest tank capacity or 25% of the combined tank capacity, whichever volume is greater. There should be no taps/outlets for draining off rainwater (OSR).	Bund or replace the existing oil storage tank in line with the requirements outlined.	12 months

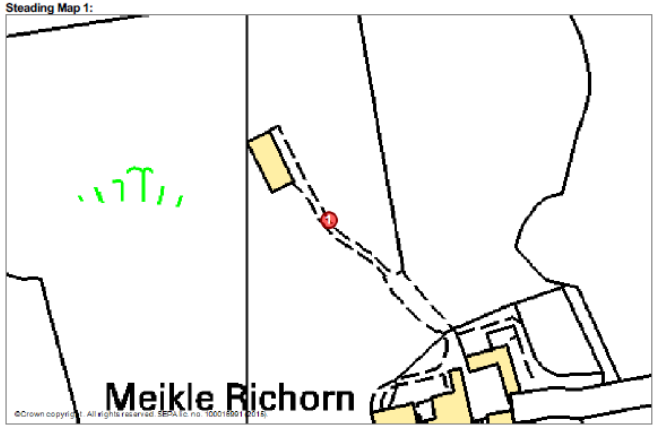
Advisory		
Map ID	What We Found	What should be done For information on Best Management Practices please refer to www.sepa.org.uk/bmp or see contact details above for SEPA.
2, 3, 4	There is a risk of significant poaching or erosion within 5 metres of the water environment.	Poaching can often occur because the area offers shelter and shade to livestock or access to water for drinking. By designing shelter points into your field and providing alternative access to water, you can reduce the amount of poaching that occurs along the banks of watercourses. Consider using temporary or permanent fencing to exclude livestock from these sections of the water environment. This should allow the damaged area to recover naturally. Future grazing will need to be carefully managed and monitored to ensure that significant poaching does not reoccur. There are many different designs for alternative, offline, access to drinking water such as: extension of mains supply if available; extend use of any existing farm bore or spring supply; utilise a water bowser; using a gravity supply from water environment; pasture pump (small herd 20 cow / pump) or abstraction via pump. This will reduce diffuse pollution and may help to reduce the transfer of some animal diseases. Please refer to Best Management Practices 47 to 50 for further advice.

Best Practice	
Map ID	Type
Overall Farm	During the visit it was noted that there is no slurry based system operating at the farm and that any livestock housed are bedded on straw that is mucked out to temporary field middens. Rule 18 requires that you only apply nutrient where there is a crop requirement. It also states that farmyard manure must not be spread on snow covered or waterlogged ground. To help you to comply with this rule SEPA is promoting the use of Planet Scotland to increase business efficiency. Good nutrient management is important for both farm efficiency and protection the environment. The free software is available at www.planet4farmers.co.uk alternatively you can find the information in paper form from your local SAC office.
5	Water Trough

Field Map 1:



Steading Map 1:



Summary of cycle 1

	Task	Outcome	Duration of work
Walking	14 catchments 5835 Km	5169 breaches	March 2010- May 2011
Awareness	Events & guidance	400 attend, leaflets, pod casts, articles	October 2010 – present
1 to1	Visits Farms in operational areas	3221 unit inspected, compliance rate of sector low 30%	March 2011 - Dec 2014
Revisits	To non compliant farms	715 1st visits, 50% compliant, 35% working towards, 15% nothing	January 2013 – to completion

Next Steps

- **Complete work in initial 14 catchments**
- **Start work in RBMP2 catchments**
- **Continue to work with land managers to reach compliance**
- **Step up the awareness campaign**
- **Monitor effectiveness**
- **Look for gaps, septic tanks, targeted rules ……**

Thank you listening

Further information is available at:

www.sepa.org.uk/diffusepollution

www.farmingandwaterscotland.org.uk