



National Audit Office

Environment Agency

Tackling diffuse water pollution in England

Methodology

JULY 2010

Methodology

The main elements of our fieldwork, which took place between May and July 2009, were:

| Method | Purpose |
|---|---|
| <p>1 Semi-structured interviews</p> <p>We conducted semi-structured interviews with a range of Agency staff at a national level in both operations and policy.</p> <p>We also conducted interviews with key stakeholders, including:</p> <ul style="list-style-type: none"> ● government bodies: Department for Environment, Food and Rural Affairs, Natural England, Communities and Local Government, British Waterways, and the Highways Agency; ● water industry representatives: Water UK and Ofwat; ● conservation and environmental organisations: Royal Society for the Protection of Birds and the Angling Trust; ● farming organisations: National Farmers Union and Linking Environment and Farming; and ● industry and business groups: Construction Industry Research and Information Association, Country Land and Business Association, and Chartered Institute of Water and Environmental Management. <p>We also received email submissions from a number of other stakeholders of interest, including: the Association of River Trusts, the Association of Drainage Authorities, Surfers Against Sewage, and the Shellfish Association of Great Britain.</p> | <p>To assess:</p> <ul style="list-style-type: none"> ● the impacts, sources and costs of diffuse pollution; ● the effectiveness of the Agency's key programmes and projects and its implementation of the Water Framework Directive; ● how the Agency works with key stakeholders; and ● how the Agency engages with, and is perceived by, key polluter groups. |
| <p>2 Case studies</p> <p>We selected eight sites in England to assess the Agency's work at a local level. The locations were selected to ensure we covered all the major diffuse pollution issues and all seven of the Agency's regions. We used a variety of methods to select case studies, including the Environment Agency's draft River Basin Management Plans, national water quality data, and recommendations made by the Agency.</p> | <p>To assess:</p> <ul style="list-style-type: none"> ● the difference in the impacts, sources and costs of diffuse pollution in various regions and areas; ● how the Agency tackles diffuse pollution at a local level and how national policy is delivered on the ground; ● how the Agency uses its regulatory and enforcement powers at a local level; ● how the Agency uses education and incentives to change attitudes and behaviours; |

| Method | Purpose |
|--|--|
| <p>2 Case studies continued</p> <p>We visited the following regions and areas covering the issues noted:</p> <ul style="list-style-type: none"> ● Anglia – North Norfolk: Agricultural and costal issues and the England Catchment Sensitive Farming Delivery Initiative; ● Thames – Cherwell: Agricultural pesticide issues and water protection zones; ● Midlands - Cropston Reservoir: Agricultural pesticide issues and water protection zones; ● Midlands – Telford: Urban development issues and pollution prevention; ● Southern – Stour: Urban development issues; ● North West – Derwent: Agriculture and the England Catchment Sensitive Farming Delivery Initiative; and ● North East – Newcastle: Urban development issues and pollution prevention. <p>Case studies involved interviews and workshops with Agency managerial and operational staff and key local stakeholders. Stakeholders interviewed during case studies included:</p> <ul style="list-style-type: none"> ● Local authorities; ● Water companies; ● Natural England; ● The Forestry Commission; ● Farming organisations: ADAS, Farming and Wildlife Advisory Group, and National Farmers Union; ● Conservation organisations: National Trust and Broads Authority; and ● Developers and business representatives. <p>During our agricultural case studies we also visited local farmers who had previously worked with the Agency in some capacity.</p> | <ul style="list-style-type: none"> ● the effectiveness of the Agency’s key programmes and projects and its implementation of the Water Framework Directive at a local level; ● how the Agency works with key stakeholders at a local level; and ● how the Agency engages with, and is perceived by, key polluter groups at a local level. |
| <p>3 International comparison</p> <p>We engaged PriceWaterhouseCoopers to conduct an international benchmarking exercise to compare the Agency’s work with the following eight comparator countries: Australia, Denmark, France, Germany, Ireland, The Netherlands, New Zealand, and Scotland.</p> | <p>To benchmark the Agency’s work internationally by looking at other countries’:</p> <ul style="list-style-type: none"> ● balance between regulation, education and incentives; ● enforcement powers; and ● initiatives and programmes to tackle diffuse water pollution. |

| Method | Purpose |
|--|---|
| <p>4 Survey of farmers</p> <p>We engaged Ipsos Mori to conduct a telephone survey of farmers in England. Ipsos Mori conducted 607 interviews from a sample of 3,600 provided by the Department for Environment, Food and Rural Affairs. A quota system was used to ensure an adequate response from farmers in nitrate vulnerable zones, England Catchment Sensitive Farming Initiative Areas, and Environment Agency regions. Weighting was also used to ensure that any response or sample bias was precluded. The survey was developed by the National Audit Office in consultation with Ipsos Mori. The survey was conducted over a two week period in July/August, including a one day pilot.</p> | <p>To assess:</p> <ul style="list-style-type: none"> ● farmers' awareness, knowledge and interest in diffuse pollution issues; ● improvements that farmers have already made, or plan to make, to tackle diffuse pollution, and reasons for these changes; ● types and degrees of engagement with the Agency and farmers' assessment of the Agency's role; and ● barriers to changing farmers' behaviours and practices. |
| <p>5 Survey of Agency staff</p> <p>We conducted three e-surveys of Agency and Natural England staff. These included:</p> <ul style="list-style-type: none"> ● A survey of 84 Environment Officers – we randomly selected 12 Environment Officers from each of the Agency's seven regions. Seventy one (85 per cent) responded to the survey. The total number of Environment Officers estimated to be involved in tackling diffuse pollution is 350. ● A census of all 48 Catchment Sensitive Farming Officers – 38 (79 per cent) responded to the survey; and ● A survey of 27 Agency managers – we selected one Regional Water Quality Planner for each of the Agency's seven regions and one Environmental Planning Manager from each of the Agency's 20 area offices. Twenty nine (100 per cent) responded to the survey – this included an additional 2 Environmental Planning Managers who had been provided the survey by colleagues. | <p>The Environment Officers survey covered:</p> <ul style="list-style-type: none"> ● attitudes of, and engagement with, polluter groups and stakeholders, the key factors in successfully engaging with them, and any potential barriers to engagement; ● the Agency's strategic approach; ● the Agency's use of monitoring and enforcement; and ● the adequacy of training and support provided to Environment Officers. <p>The Catchment Sensitive Farming Officers survey covered:</p> <ul style="list-style-type: none"> ● attitudes of, and engagement with, farmers and stakeholders, the key factors in successfully engaging with them, and any potential barriers to engagement; ● the impact and targeting of the England Catchment Sensitive Farming Delivery Initiative; ● the Agency's strategic approach; ● the Agency's use of monitoring and enforcement; and ● the adequacy of training and support provided to Catchment Sensitive Farming Officers. |

| Method | Purpose |
|---|--|
| <p>5 Survey of Agency staff continued</p> | <p>The Agency managers survey covered:</p> <ul style="list-style-type: none"> ● attitudes of, and engagement with, polluter groups and stakeholders, the key factors in successfully engaging with them, and any potential barriers to engagement; ● the Agency's strategic approach; ● sharing of best practice; ● the Agency's role in the local planning process; ● the Agency's use of monitoring and enforcement; and ● the adequacy of training and support. |
| <p>6 Document review</p> <p>Our review included corporate documents from the Agency and the Department, such as strategies, project plans and evaluations, and internal audit reports. We also reviewed a range of technical, scientific and academic documents on various aspects of diffuse pollution.</p> <p>Key corporate documents reviewed included:</p> <ul style="list-style-type: none"> ● Future Water: The Government's water strategy for England, the Department for Environment Food and Rural Affairs, 2008; ● Creating a Better Place: Corporate Strategy 2006-2011, the Environment Agency, 2006; ● Water for Life and Livelihoods: Draft River Basin Management Plans, Environment Agency, 2008; ● Creating a Better Place: Environment Agency Corporate Strategy 2010 – 2015, draft for consultation, 2009; ● Departmental Report, the Department for Environment Food and Rural Affairs, 2009; and ● The Unseen Threat to Water Quality, the Environment Agency, 2007. | <p>To assess:</p> <ul style="list-style-type: none"> ● the Agency's and Department's current targets for water quality and their strategic approach to tackling diffuse pollution; and ● the effectiveness of the Agency's key programmes and projects and its implementation of the Water Framework Directive. |

| Method | Purpose |
|---|---|
| <p>6 Document review continued</p> <p>Key technical reports reviewed included:</p> <ul style="list-style-type: none"> ● England Catchment Sensitive Farming Delivery Initiative evaluation report, Department for Environment Food and Rural Affairs, 2008; ● Diffuse Pollution Impacts: The Environmental and Economic Impacts of Diffuse Pollution in the UK, the Chartered Institute of Water Management, 2000; ● Estimating impacts of ELS on key biodiversity indicators and diffuse pollution of surface waters by nutrients, Central Science Laboratory, 2008; and ● The Protection of Waters Against Pollution from Agriculture, Consultation on implementation of the Nitrates Directive in England, Department for Environment Food and Rural Affairs, 2007. | |
| <p>7 Review of quantitative data</p> <p>We reviewed a range of quantitative data provided by the Agency and third parties, including: water quality data, financial data, water industry costs data, regulatory enforcement data, and farming survey data. Data and reports we reviewed included:</p> <ul style="list-style-type: none"> ● Environment Agency water quality data 1990-2009; ● England Catchment Sensitive Farming Delivery Initiative Farmer Impact Survey, Ipsos Mori, 2009; ● Ofwat data on water industry expenditure; ● Environment Agency pollution incidents data 2004-2008; ● Water Resources Act prosecution data 2004-2009; ● Farm Practices Survey 2008 and 2009, Department for Environment Food and Rural Affairs; and ● Annual report of Accounts 2008-2009, Environment Agency, 2009. | <p>To assess:</p> <ul style="list-style-type: none"> ● the current standards of water quality in England and pollution incident trends; ● the Agency's expenditure on tackling diffuse pollution; ● the costs faced by the water industry in managing diffuse pollution; ● the Agency's use of its enforcement powers; and ● the impact of the Agency's programmes and projects. |

| Method | Purpose |
|--|---|
| <p data-bbox="453 443 624 465">8 Expert Panel</p> <p data-bbox="453 497 895 548">We liaised with a small panel of individuals with relevant expertise:</p> <ul data-bbox="453 568 895 974" style="list-style-type: none"><li data-bbox="453 568 895 620">● Rob Cunningham, Royal Society for the Protection of Birds;<li data-bbox="453 640 895 692">● Dr Robert Ferrier, Head of Catchment Management, The Macaulay Institute;<li data-bbox="453 712 895 763">● Professor Alan Jenkins, The Centre for Ecology and Hydrology;<li data-bbox="453 784 895 869">● Professor Penny Johnes, School of Human and Environmental Sciences, University of Reading; and<li data-bbox="453 889 895 974">● Justin Taberham, Director of Policy, Chartered Institution of Water and Environmental Management. | <p data-bbox="967 497 1070 519">To discuss:</p> <ul data-bbox="967 539 1374 607" style="list-style-type: none"><li data-bbox="967 539 1374 562">● The proposed scope of the report; and<li data-bbox="967 582 1374 607">● The emerging findings. |
