Environment Agency

water for life and livelihoods

Consultation Response Document to the draft Thames River Basin Management Plan

We are the Environment Agency. It's our job to look after your environment and make it **a better place** - for you, and for future generations.

Your environment is the air you breathe, the water you drink and the ground you walk on. Working with business, Government and society as a whole, we are making your environment cleaner and healthier.

The Environment Agency. Out there, making your environment a better place.

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Key outcomes

The consultation on the draft Thames River Basin Management Plan generated a significant amount of interest, with over 180 different organisations and individuals responding.

Throughout the six month consultation period the Environment Agency held a number of events and meetings to engage interested parties. All of these events prompted lively debate and gave constructive feedback to improve the plan and inform future ways of working.

The range of organisations who responded and the comments made reflect the diverse nature of the Thames River Basin District. This document provides further details on the key points raised and how the Environment Agency intends to deal with the comments.

In summary, a number of key themes emerged, these are:

- Welcome and support for the plan
- Length, complexity and lack of clarity of the plan
- Lack of ambition in the first cycle and justification why targets are so low
- Lack of evidence for how targets will be achieved by 2027
- Absence of data and evidence
- Missing information and errors in water body classification
- Lack of clear evidence for designation of artificial or heavily modified water bodies
- Assessment of quality and confidence
- Lack of transparency in decision-making processes
- Unclear linkages between pressures, water body failures, measures and outcomes
- The need for shared, compatible data to target actions
- Concern over the cost of measures and little evidence sufficient funding is available
- 90% of first cycle costs are ascribed to water companies
- Absence of budgeted plans to deliver diffuse pollution initiatives
- Low emphasis on eco-system resilience
- Links to other plans unclear
- Willingness to work together to deliver the plan

In light of the feedback from the consultation, we have made a number of changes to the Thames River Basin Management Plan. We:

- Reviewed the content and presentation of the main document and annexes
- Updated and reviewed the current status and future objective for every water body
- Reviewed the measures, including feedback from consultation responses
- Added a new Annex J to explain links to other plans
- Added more information to Annex E on how we set alternative objectives

We were pleased that so many organisations recognised that delivering the River Basin Management Plan will require new ways of working together, particularly delivering with and through stakeholder groups. Many volunteered extensive help and information on projects they are currently involved in or plan to deliver.

A balanced approach is needed in the delivery of the plan, and part of the challenge is to ensure that sectors understand the rationale behind the measures and recognise the views of others.

A large number of respondents provided specific information on their local water bodies, often linking pressures to issues and proposing solutions. We have not always been able to include the full detail in the plan; we will retain and use this information for delivering the plan from December 2009 onwards.

Finally, we would like to thank everyone who contributed to the consultation. We look forward to working together to deliver the Thames River Basin Management Plan and to improve our water environment.

It has become somewhat of a cliché but the Water Framework Directive does present a unique opportunity to take a fresh look at the way in which we manage the environment. It is an opportunity that should not be missed particularly with the issue of Climate Change playing an increasingly important role in our thinking on environmental management.

> *"The development of River Basin Management Plans provides an opportunity for holistic thinking and planning in areas such as tackling diffuse pollution, source control measures and cross sector approaches leading to 'joined up' solutions."*
>
> ***A respondent***

Contents

1 Introduction

The Water Framework Directive[1] (WFD) establishes new and better ways of protecting and improving rivers, lakes, groundwater, transitional (where freshwater and sea water mix) and coastal waters. The WFD is based on a six-yearly cycle of planning, action and review called River Basin Management Planning.

The WFD and River Basin Management Planning specifically encourage the active involvement of everyone in planning for, and delivering, a better water environment.

Draft River Basin Management Plan

On 22 December 2008 we published the draft Thames River Basin Management Plan for consultation. The plan set out detailed proposals for improving the water environment for the next six years and beyond. It described the main issues for the Thames River Basin District and highlighted key actions proposed for dealing with them. Supporting annexes to the main document gave more detail on the current state of waters in the river basin district, the actions proposed and the mechanisms that can be used to forward these actions.

We worked closely with the Thames River Basin District and Liaison Panel to develop the draft River Basin Management Plan and promote the consultation. The liaison panel includes representatives of businesses, planning authorities, environmental organisations, consumers, navigation, fishing and recreation bodies, and central, regional and local government, all with key roles in putting the plan into action.

This public consultation ran from 22 December 2008 until 22 June 2009. Responses from the consultation have been used to further develop the plan and its delivery. The Thames River Basin Management Plan will be published on 22 December 2009.

In the Thames River Basin District we actively promoted the consultation to interested parties in the following ways:

Recreation

Sent a briefing note to the River Thames Alliance.	24-Feb
Provided information for Howard Davidson, Thames Regional Director, for a meeting with the London Waterways Commission.	23-Feb
Robert Iles, Technical Officer, gave a presentation to 21 delegates at the Waterways Working Group.	19-Mar
Published information on the River User Group (RUG) and Visit Thames websites.	March
Sent a briefing note to the eight RUG chairmen.	March
Displayed posters at locks, and had flyers available to hand out.	From April
Sent out flyers with boat licences.	From April
Published an article in the River View Magazine, which is sent to everyone with a boat registration.	June

[1] Further information on the Water Framework Directive is available at www.environment-agency.gov.uk/wfd

Business and industry

Published articles in the London Chamber of Commerce and Industry e-bulletin and magazine.	January
Provided briefings for Howard Davidson and Clive Coley, Regional Strategy Manager, for relevant stakeholder meetings.	On-going
Sent a briefing note to contacts via Liaison Panel member.	Mid-June

Environment Agency (internal)

Published items in the Cascade presentation, given to all Thames Region staff.	Jan, Feb and June
Held seven workshops for staff in South East Area. Attended by 157 staff.	Jan - April
Held two workshops for staff in North East Area. Attended by 88 staff.	Jan and Feb
Published a profile of a Water Framework Directive Programme Manager on our intranet site.	January
Published a feature in Our Place, the staff magazine for Thames Region.	February
Held a workshop for staff in West Area. Attended by 35 staff.	10-Feb
Held a workshop for staff who deal with the planning sector. Attended by 30 staff.	13-Feb
Held a workshop for staff in the Thames Estuary Programme team. Attended by 20 staff.	16-Feb

Agriculture

Held a *Farming for water* workshop in Wallingford. 38 farmers attended.	30-Mar
Held a *Common ground* agriculture road show in London. 20 farming advisors attended.	12-Mar
Clive Philips, Agriculture Officer, and Robert Iles gave a presentation at the Country Land and Business Association (CLA) Berkshire Committee meeting.	04-Mar
Clive Philips and Robert Iles gave a presentation at the CLA Buckinghamshire Committee meeting.	06-Mar
Dave Willis, South East Area Manager, attended the CLA Surrey Committee meeting.	09-Mar
Held a *Common ground* agriculture road show in Cirencester. 25 farming advisors attended.	28-Apr
Held a *Farming for Water w*orkshop in Hatfield. 14 farmers attended.	01-May
Held a *Farming for Water* workshop in Guildford. 6 farmers attended.	18-May

Fisheries

Andy Strevens, Fisheries Officer, attended the Thames Fisheries Consultative Council (TFCC). 15 attendees.	16-Feb
Held a workshop in Reading. 15 delegates from the Fisheries sector attended.	18-Apr
Robert Iles gave a presentation to the Upper Thames Fisheries Consultative Council (UTFCC). 10 attendees.	23-Apr
Held a workshop in London. 15 delegates from the Fisheries sector attended.	25-Apr

Greater London Authority / Local Authorities / Regional Assembly

Held a seminar in London. 45 delegates from Local Government attended.	21-Apr
Sent Local Authorities a briefing note. Sent relevant Local Authorities summary sheets on water bodies.	June

Natural England

Held a workshop in London. 12 delegates from Natural England.	04-Jun

Environmental Non-Governmental Organisations (eNGO)

Held a workshop in Reading. 20 delegates from eNGOs across Southern and Thames Regions attended.	02-Apr

River Thames and Ports

Produced a simple guide to WFD for stakeholders.	
Attended and had small stand at the annual meeting of the Thames Landscape Strategy Hampton to Kew.	11-Feb
Update at the Thames Estuary Partnership Fisheries Action Group.	13-Feb
Update at the Thames Estuary Partnership Recreation Action Group.	17-Feb
Update at the Thames Estuary Partnership Education Action Group.	18-Feb
Update at the Thames Estuary Partnership Ecology Action Group.	21-Apr
Attended the navigation and recreation meeting, Institute of Civil Engineers.	23-Apr
Update at the Thames Estuary Partnership Ecology Action Group.	28-Apr
Published an article in the May edition of the Thames Estuary Partnership magazine - Talk of the Thames.	May
Attended Thames Landscape Strategy Hampton to Kew annual event.	01-Jun

Water companies

Link to the consultation on the Thames Water website.	
Published an article in the Thames Water staff magazine.	January
Held a meeting for water companies, attended by three water companies.	15-Jun

Media

Issued a press release to launch the consultation.	22-Dec
Issued a press release as a reminder to respond. Resulted in Myles Thomas giving two radio interviews, and coverage in Surrey Herald series x 4, Reading Post and Oxford Mail.	25-May

Other

Published the draft River Basin Management Plan online on the Environment Agency's website at www.environment-agency.gov.uk/wfd. This website address was actively promoted on all relevant literature and through stakeholder's websites.	22-Dec
Sent a briefing note to all Thames MPs/MEPs.	Dec and Jan

Sent a newsletter as a prompt to large stakeholder list.	Jan
Provided a briefing note for Simon Hughes, West Area Manager, having a meeting with Richard Benyon MP.	March
Robert Iles gave a presentation at the CIWEM Central Southern Branch.	19-Feb
The Defra Minister Huw Irranca-Davies, Defra Parliamentary Under Secretary of State, promoted the draft River Basin Management Plan. Dredging activity on the Lower Lee was a focus for the day.	19-Mar
Provided information for Regional Director's quarterly MEP update.	April
Sent newsletter as a reminder to large stakeholder list.	April
Issued a press release as a reminder to respond. Resulted in Myles Thomas giving two radio interviews, and coverage in Surrey Herald series x 4, Reading Post and Oxford Mail.	25-May
Held a workshop for Medway and Swale. 17 delegates attended.	11-May
Held a workshop for Darent and Cray. 10 delegates attended.	21-May

2 List of respondents

The table below shows which organisations/interest areas responded. Data protection prevents naming individuals who have not given permission for their details to be made public.

Figure 1: Respondents to the Thames River Basin Management Plan Consultation

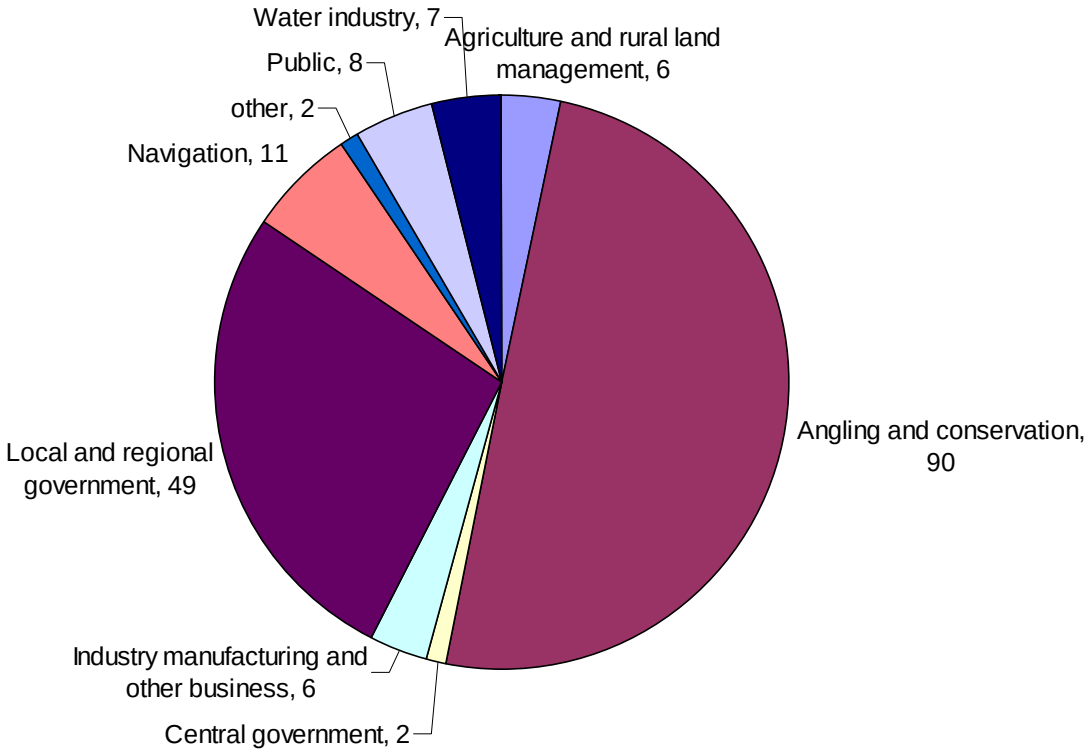
Sector	Organisation
Agriculture and rural land management	• Westmill Bury Farm
	• Broadwell Manor Farm
	• Crop Protection Association
	• Manor Farm, West Overton
	• Country Land and Business Association, National Farmers Union, Agricultural Industries Confederation and Crop Protection Association
Local and regional government	• South Bucks District Council
	• New Romney Town Council
	• Upper Thames Protection Society
	• Hampshire County Council
	• Lee Valley Regional Park Authority
	• East Hampshire District Council
	• Aylesbury Vale District Council
	• Mole Valley District Council
	• Markyate Parish Council
	• Vale Of White Horse District Council
	• East of England Regional Assembly
	• London Borough of Barnet
	• Wandsworth Borough Council
	• London Councils
	• Hart District Council
	• Basingstoke & Deane District Council
	• Gloucestershire County Council
	• Crawley District Council
	• Castle Point District Council
	• London Borough of Hammersmith and Fulham
	• Epping Forest District Council
	• Maidstone DC
	• Bucks County Council
	• Reigate & Banstead Borough Council
	• Woking District Council
	• Essex County Council Historic Environment Branch
	• North Herts District Council

	• South East England Partnership Board
	• The Forestry Commission
	• London Borough of Havering
	• Greater London Authority
	• London Borough of Newham
	• Gravesham Borough Council
	• Natural England
	• Essex County Council
	• City Of London
	• London Borough of Bexley
	• London Borough of Richmond
	• Bracknell Forest Council
	• Elmbridge Borough Council
	• Kent County Council
	• Cliffe and Cliffe Woods Parish Council
	• Tandridge District Council
	• Swindon Borough Council
	• Royal Borough of Kingston
	• Rushmoor Borough Council
	• Westminster City Council
	• Oxon District Council
	• Welwyn Hatfield Borough Council
Navigation	• Inland Waterways Association
	• British Waterways
	• Thames Boating Trades Association
	• The Inland Waterways Advisory Council
	• Port of Tilbury London Ltd
	• Peel Ports Medway
	• British Marine Aggregate Producers Association
	• Port of London Authority
	• Cotswold Canals Trust
	• The British Canoe Union
Water industry	• Ofwat (The Water Services Regulation Authority)
	• Anglian Water
	• Water UK
	• Southern Water
	• South East Water
	• Three Valleys Water
	• Thames Water
Angling and	• Havering Wildlife Trust
	• Chess Valley Anglers Ltd

Conservation	• Blewbury Environment Group
	• Peper Harow Park Flyfishers Club
	• Gloucester Angling Club
	• Savernake Flyfishers
	• Angling Trust member / RFERAC - Clive Dennison
	• Wilde Geese Partnership/The Centre for Strategic Thinking
	• Cotswold Water Park Society
	• Cotswold Conservation Board
	• Kennet Valley Fishery Association / Berkshire Branch Salmon and Trout Association
	• Old Windsor Angling Club
	• Royal Society for the Protection of Birds
	• Darent River Preservation Society (DRiPS), Kent Fisheries Consultative Association (KFCA), Darent and Cray Catchment Consultative
	• Tewin Flyfishing Club
	• Chesham and District Natural History Society
	• Gresham Angling Society
	• Wild Trout Trust
	• Thames 21
	• Kent & Essex Sea Fisheries Committee
	• Loddon Fisheries Consultative Council
	• Kent World Wildlife Fund
	• Upper Thames Fisheries Consultative
	• Wandle Trust
	• Wandle Piscators
	• Action for the River Kennet
	• Thames Rivers Restoration Trust
	• Vinters Valley Nature Park
	• Dacorum Environmental Forum Water Group
	• Chiltern Society
	• South East Protected Landscapes
	• South East England Biodiversity Forum (SEEBF)
	• The National Trust
	• The Woodland Trust
	• Chilterns Conservation Board
	• English Heritage
	• Berk, Bucks & Oxon Wildlife Trust
	• British Dragonfly Society
	• Marlborough and Villages Community Area Partnership

	• 21 Club / Ye Olde Thames Angling Club (YOTAC)
	• Godalming Angling Society
	• Royal Tonbridge Wells Angling Society
Central government	• Oliver Heald MP
	• Ministry of Defence
Industry manufacturing and other business	• Chemicals Industry Association
	• APEM LTD
	• Shellfish Association of Great Britain
	• RWE Npower
	• British Hydropower Association
	• Sea Fish Industry Authority
	• Association of Electricity Producers
	• Mott MacDonald (Personal Submission)
Other	• Tottenham & Wood Green Friends of the Earth
	• Cranford University

Figure 2: Pie chart to show the respondents to the draft Thames River Basin Management Plan by sector



3 Number and types of responses

A range of methods was used to enable organisations and individuals to give their comments on the draft River Basin Management Plan. These are described below:

Online system
An electronic questionnaire was available online alongside the main consultation document, annexes and other supporting information. We received 76 responses via the online system. These were from 34 organisations and 42 individuals.

Responses via emails and letter
We received 96 e-mails (9 via the 'Our Rivers' campaign, set up by environmental non-government organisations in April 2009) and 10 letter responses to the consultation. Many of these responses were from representative organisations on behalf of their members. Some responses followed the set questions that were asked in the main consultation document and others chose to focus on the areas that were important to them.

Consultation queries
There were 17 queries about the consultation, received by letter and email. We answered these to help stakeholders understand the draft plan better.

Local workshops

Workshops were an essential part of our programme to involve key co-deliverers in river basin management. Please see Annex 1 for information on the workshops held in the river basin district. For all workshops, the purpose was to: inform delegates about the Water Framework Directive and its implications; provide an opportunity for delegates to have their say on the sector specific measures in the draft Thames River Basin Management Plan; and encourage involvement in the consultation.

Comments were gathered and the actions the Environment Agency will take as a result of the workshops and meetings are included in section 4, together with other responses to the consultation.

You can request further information on the workshops via the contact details in Section 5.

Other meetings
Please see Annex 1 for information on other meetings held in the district during the consultation period.

4 Summary of responses and action we will take

Over 1200 responses were received to the 11 River Basin Plan for England and Wales. There were 182 comments received on the draft plan for the Thames River Basin. The following pages set out our comments on the responses we received. We have summarised the responses under topic areas and present the action we have taken or will take through the first plan cycle in relation to these topic areas.

The consultation asked the following questions.

This plan sets out objectives for the water environment for the next six years and beyond. To what extent do you agree with what we are planning to achieve?

1. Do you agree with the assessment of problems in water bodies? What would you change?
2. Do you agree with the proposed objectives? What would you change?
3. For some water bodies we have proposed objectives with deadlines after 2015 or a lower overall target. Do you agree with these changes? What would you change?

This plan sets out the actions required to meet the objectives. To what extent do you agree that the right actions have been identified (actions that are proportionate and feasible)?

4. We have followed a process to assess (appraise) these actions. This process is described in detail in Annex E. Do you agree with how we have done this?
5. What comments do you have on these actions? Are there any actions that have been missed, or any changes you would propose?

There are some extra actions that could be put in place if there was more certainty they would be effective. These are listed under scenario C, and we would like to know if you can help to make these actions happen.

6. What comments on Scenario C actions do you have, including any additional information you can supply about specific actions?
7. What support can you offer, such as undertaking any actions or providing resources, to help deliver more for your environment?

Other comments you may have on this plan

8. Do you agree with our assessment of how climate change will affect the pressures on the water environment? What would you change?
9. What other comments do you have on this draft plan?

Some respondents used these questions to structure their response, however most did not. This means it was not possible to provide simple analysis as to the number of people who agreed/disagreed with each question.

Responses received

Overview of main national issues raised by stakeholders and our response

The Environment Agency is extremely pleased with the interest shown in the consultation on the draft River Basin Management Plan. We were impressed with the numbers of people who attended the various meetings and discussions we and co-deliverers organised during the consultation period. We appreciate the number of people who showed interest in the future of their water environment by taking the time to submit their responses to the consultation .

The draft River Basin Management Plan consultation set out a number of questions that we suggested to help those interested to focus on key issues. We believe it is evidence of the care that respondents have for their water environment that most chose to comment on the issues important to them, rather than the questions we had laid out.

Whilst many respondents told us what they would like to see changed in the draft plan, more comments were actually questions about how the planning process worked and how the details of the plan had been developed.

Whilst the Environment Agency sets out here the changes it has made as a result of the responses, we also wish to acknowledge the desire for more background information on what is not just the Environment Agency's plan but one belonging to society as a whole.

This may make the discussion of responses received lengthier than we might have envisaged.

As a brief overview of the responses, and how they have influenced the plan, a brief summary of the main issues is as follows:-

Readability and Accessibility of the Plans

The draft plan consultation was primarily focused at the strategic level, looking for comments on the overall improvement of water bodies. Many respondents wanted to comment in detail on proposals for individual water bodies, of which there are more than six hundred in the Thames River Basin District.

The plans have been substantially modified to improve their readability, eliminating much replication but maintaining a level of clarity on the expectation from delivery sectors.

The focus of activity will turn to the water body level when delivery of the plan starts. When looking at a single water body, it will be possible to present information, both map and data, in a more expansive way than will ever be practicable in a River Basin Management Plan covering many hundreds of water bodies.

From December 2009 there will be further improvement to local map information available on the What's in Your Back Yard (WIYBY) section of the Environment Agency Website.

Clearer information on individual water bodies is now presented in the main water body annex (Annex B) with National Grid Referencing to give another way of navigating.

Ambition of environmental outcomes

Release of the draft plan for consultation was accompanied by a letter signed jointly by the Department for Environment, Food and Rural Affairs (Defra), the Welsh Assembly Government and the Environment Agency that was open about the desire to increase ambition and asked other co-deliverers to come forward with their offers. Whilst useful local initiatives have been identified, unfortunately there have not been any additional measures sufficiently large to raise the status class of any individual water body.

The Environment Agency has worked hard to ensure we are capturing the full potential of available measures in the plan. This has involved harnessing a great deal of local knowledge to consider the potential for improvement at water body level. Defra has made available an additional £10M in 2009/10 that is being used to improve environmental outcomes, prevent deterioration and lay the foundations for future improvement.

Defra have indicated that a number of additional measures are likely to become available during the first river basin planning cycle as long as the appropriate legislation can be secured. These include:-

- Hydromorphology - Defra is aiming to provide the Environment Agency with powers to carry out work to ensure that the physical characteristics of water bodies are such that they are capable of supporting the target ecological status. This will include a duty for flood and coastal erosion risk management authorities to exercise their functions so as to secure Water Framework Directive requirements. Both aspects have been consulted on in the Floods and Water Management Bill consultation and were supported by an overwhelming majority of respondents who commented on the proposals. Amendments will also be made to the Water Resources Act to enable Water Protection Zones to be used to address pressures on hydromorphological conditions such as habitat destruction and remobilisation of sediment, such as might be caused by inappropriate dredging.

- Water Protection Zones (WPZs) - Where voluntary measures do not achieve the required improvement in water quality under the Water Framework Directive, the intention is to use regulation in the form of WPZs. WPZs will be used to tackle both agricultural and non-agricultural diffuse pollution. The Environment Agency is currently developing “proof of concept” WPZ candidate sites. These may or may not develop into full WPZs, depending on the level of evidence gathered. Defra is running a WPZ sector working group with key stakeholders (NFU, eNGOs, ports and navigation, local authorities, small businesses and water companies). The group will discuss the statutory guidance that is being developed by Defra to the Environment Agency, and the designation process of WPZs, evidence required, local information, consultation period and Impact Assessment. The number of WPZs that will be used will be based on an assessment of the impact voluntary measures have had and the evidence required to justify the use of a WPZ. There is more on WPZ’s in section 4.9.

- Sustainable Drainage Systems - A proposal in the Floods and Water Management Bill consultation requires that all new developments and redevelopments (both domestic and commercial) include sustainable drainage systems (SUDS) for the management of surface water. SUDS

mimic natural drainage and help manage surface water flood risk, as well as improving water quality, by naturally filtering water, and providing amenity. Developers will seek approval for drainage systems from a SUDS approving body, to ensure that they meet a set of National Standards before a connection to the surface water or combined sewer can be given. SUDS built to National Standards will then be adopted by the SUDS approving body, and maintained on an ongoing basis to ensure they continue to operate effectively. If the bill is approved, SUDS legislation is expected to come into force in 2011.

- Misconnections - Misconnections occur when a drainage pipe is connected to the wrong type of sewer, for example when a foul drain is connected to a surface water sewer, or a surface water drain connected to a foul sewer. Misconnections can overload sewerage systems and cause pollution. Defra estimate that 300,000 households are currently misconnected, this will rise to 500,000 by 2015. Currently only local authorities can remedy misconnections, water companies must liaise with local authorities to rectify misconnections nationally that they have identified. The Floods and Water Management Bill consultation proposed to give sewerage companies similar powers to local authorities, making it cheaper and easier to fix misconnections. If the bill is approved, it is expected that the misconnections clauses will be introduced in 2011.

- Phosphates in Domestic Laundry Detergents - Defra are proposing to ban the sale of domestic laundry detergents containing more than 0.4% of phosphates. Phosphates cause eutrophication, and a ban will be an important step in improving water quality by reducing phosphate pollution at source, supporting the polluter pays principle. A consultation on a ban received widespread support from industry as it provides a level playing field. If a ban is introduced, Defra are looking at a commencement date of 2015, providing industry with an adequate period of time in which to adapt their processes.

It has not been possible to evaluate the impact of these measures at water body level, but the Environment Agency has a goal of achieving an additional two percent of surface waters at Good Ecological Status (GES) by 2015, to reflect in part the availability of these measures.

Implementation of the plan will be led by the Environment Agency at the catchment level. A variety of methods for working with local co-deliverers and stakeholders will be explored, but it is a confident expectation that by working together with all the co-deliverers and sectors involved and viewing the catchment as a whole ultimately the ambition that is contained in the Thames plan as of autumn 2009 is likely to be exceeded.

High proportion of water industry actions

The River Basin Management Plan is not restricted to measures purely driven by the new requirements of the WFD. Pulling together the total effort on water environment improvement over the next six years, they also incorporate the substantial improvements arising from the requirements of pre-existing Directives. Earlier Directives were very much aimed at dealing with point source discharges, which are predominantly the responsibility of water companies. One of the main pressures needing attention, to move more water bodies towards achieving Good Ecological Status (GES), is phosphate and again water company discharges are an important

source. This combination of work needed to fulfil commitments to older Directives, and phosphate releases from sewage systems explains the high contribution required from water companies in the first cycle.

There are of course other sources of pollutants. Phosphate and agricultural chemicals are particularly important in England. Funded by Defra, the Environment Agency, working alongside Natural England, has a major programme of investment in advice to the farming community on sound, sustainable farming techniques through the England Catchment Sensitive Farming Delivery Initiative. Given the necessary time for improvements to have an impact on environment quality, this initiative will eventually help to reduce the impact of farming activities. If, in certain locations, after voluntary initiatives have been attempted and insufficient progress is made towards Good Ecological Status (GES) and Good Ecological Potential (GEP), firmer regulatory mechanisms such as Water Protection Zones will be available to enforce the required progress. Once piloting of mechanisms has proved their effectiveness the Environment Agency is committed to their use.

With these introductory remarks we now examine the responses in more detail.

Note – we have laid out the following analysis thus:

- **Summary of comments received in consultation responses on a particular subject**

Our response to these comments, what we have changed, explanation of actions etc…

4.1 Principles and general direction

There was general support for the aims of the Thames River Basin Management Plan and Water Framework Directive, and what the Environment Agency set out to achieve.

There was recognition for the scale of the job in putting the draft plan together, and praise for the Environment Agency's efforts within the river basin district to engage stakeholders.

4.2 Presentation and structure

4.2.1 Readability of the plan

- ***Consultation Response***: The main document was broadly welcomed but there was concern over the length and complexity of the plan, accessibility of the annexes and technical language used. It was felt that whilst there was necessarily a lot of detail there, it was not easy to find the most relevant information. Some respondents requested a briefer, more manageable plan. Others requested more information.
- ***Consultation Response***: Respondents asked for greater use of diagrams and tables to explain the statistics in the main document. Particular information was requested on principal causes for failure to achieve good status and key measures proposed to address them. The need to show improvements that will happen to particular elements within 'good status' was also identified.

- ***Consultation Response***: Many commented that it is very difficult to follow the route from the pressure to the river status to the action on a particular water body.
- ***Consultation Response***: The local government sector asked for information to be identifiable according to local authority boundaries.

The Draft River Basin Management Plan set out a strategic approach to environmental improvement at the river basin district scale and presented information at the more detailed water body level. This was a difficult task. The draft plan consultation was primarily focused at the strategic level, looking for comments on the overall improvement of water bodies. Many respondents wanted to comment in detail on proposals for individual water bodies, of which there are over 600 in the Thames River Basin District.

We have substantially modified the plan to improve the readability, eliminating much replication but maintaining clarity about the expectation from all sectors to play their part in delivering the actions. We have shown key improvements more clearly and more prominently in the document.

In response to the consultation we have expanded the description of issues and outlined the solutions at a catchment scale. This explains what will be achieved, what the issues are, their causes and sources, the practicable remedies and the challenges remaining for subsequent river basin planning cycles.

The route from pressure to river status to action on a particular water body has been improved by linking the annexes better and further work during the delivery and implementation of the plans has made this clearer.

In future we will be working on presenting the data in different ways to enable such as Local Authorities to be clear about the issues for their particular interests.

- ***Consultation Response***: Headline messages were requested in the main document text regarding costs and benefits.
- ***Consultation Response***: Respondents often identified other plans and processes that could assist with improving waters, and asked for greater clarity on the relationship with river basin management planning.
- ***Consultation Response***: It was noted that there are some abbreviations in Annex C which are not in the Glossary.

We have included a short section within the main document titled ‘costs and benefits of taking action’. A more detailed analysis is contained in the final Impact Assessment which is made available alongside the plan.

We have created a new Annex (Annex J) that identifies where and how relevant policies, planning processes, management processes, programmes, initiatives and methods are being aligned to deliver more sustainable outcomes for the water environment. Some of the main messages from this Annex have also been incorporated into the main document.

4.2.2 Accessibility of information at the water body level

- ***Consultation Response***: Several respondents commented on the accessibility of information and data, especially at the water body level.
- ***Consultation Response***: Some felt that the 'What's in your backyard' (WIYBY) tool used to help respondents access water body level information was difficult to use and did not hold the same data as Annex B for each water body.
- ***Consultation Response***: Comments were received regarding the maps in Annex B. It was felt these were not clear enough to be able to identify some water bodies with certainty.
- ***Consultation Response***: Many respondents wanted water body Summary Sheets for all water bodies to include the actions required to achieve Good Ecological Status or Good Ecological Potential.

The attempt to show so much background information in the plan which is required by the Water Framework Directive itself, may well have led to confusion for the reader. Detailed water body information was presented in a variety of annexes, and the lack or correlation between the annexes is a frequent comment from respondents. We have now provided clearer information in the main water body annex (Annex B), with National Grid Referencing to allow another way of navigating through the Annex B tables. When the Thames plan is published in December 2009 we have changed the order in which the water body tables appear in Annex B so that as far as is possible, adjacent water bodies appear next to each other. We have now provided better linkage between annexes and more information on the reasons for decisions (particularly choice of alternative objectives as set out in a completely revised Annex E).

The ability to link information in the plan and its Annexes to map based information has been a continuing dialogue throughout production and consultation on the draft plan. We have made digital geo-spatial information more freely available to co-deliverers than it was at the start of the consultation. Interactive map information for the general public will continue to be based on the "What's In Your Backyard" (WIYBY) section of the Environment Agency's website. We have recognised difficulties in interpretation of water body information in this system because of the presentation of background map information. We will improve the display of River Basin Management information when WIYBY is updated in December 2009.

When delivery of the plan starts, the focus of activity will turn to the water body level. When looking at a single water body, it will be possible to present information (both map and data) in a more expansive way than will ever be practicable in a River Basin Management Plan covering many hundreds of water bodies.

The positive response to the Thames River Basin District's water body Summary Sheets which were produced to support the consultation process is pleasing. However, more work needs to be done to improve these and promote them more with local audiences. It will be important during implementation of the Thames plan, to extract key messages and targets and communicate them clearly. These sheets go some way towards achieving this, but they will evolve as the plan is delivered.

For those experienced in data manipulation, more detailed spreadsheet information will be available to download via the Environment Agency website, on publication of the plan in December 2009. Also in December, with hyperlinks throughout the online published plans, ease of navigation will be improved.

4.3 Objectives and ambition

4.3.1 Ambition

- ***Consultation Response***: Some respondents agreed with and supported the proposed objectives, and a staged approach to 2027.
- ***Consultation Response***: Some felt that the level of progress by 2015 was too low to allow confidence that the 2027 targets would be met. They felt that the 2015 target was unambitious and were concerned about how the second and third targets would be met.
- ***Consultation Response***: Others believed that it was too early to state an appropriate level of ambition with regard to absolute quality objectives.

Release of the draft plan for consultation was accompanied by a letter signed jointly by Defra, Welsh Assembly Government and the Environment Agency that was open about the desire to increase ambition and asked other co-deliverers to come forward with their offers. Whilst useful local initiatives have been identified, the consultation did not reveal any additional measures significant enough to improve ambition at the water body, catchment, district or national scale.

The Environment Agency has worked hard to ensure we capture the full potential of available measures in the plan. This has harnessed a great deal of local knowledge, to find improvements at water body level.

Further work during the 6 month consultation on the Draft River Basin Management Plan has secured commitment from Government or third parties to deliver

- Design and development of Water Protection Zones in England;
- projects to tackle invasive non-native species;
- promotion of best practice for use, disposal and treatment of pesticides;
- an enhanced programme of pollution prevention campaigns and enforcement action
- and an extended programme to implement best practice and remediation at abandoned metal mines is currently underway funded by Defra and Welsh Assembly Government.

Through work with Natural England and the Countryside Council for Wales, measures have now been identified and included in the plan to ensure objectives for Natura 2000 Protected Areas are met for water dependent Special Areas of Conservation and Special Protection Areas designated under the Habitats Directive and Birds Directive.

In cooperation with the Drinking Water Inspectorate and water companies, measures and further investigations are now included in the plan for Drinking Water Protected Areas.

Defra has made available an extra of £10M in 2009/10 which is focused on improving environmental outcomes in England.

Defra, in partnership with the Environment Agency, will continue to develop and identify opportunities for appropriate additional measures to be implemented after the Thames River Basin Management Plan has been submitted and approved.

Implementation of the plan will be led by the Environment Agency from the catchment level. A variety of methods for working with local co-deliverers and

stakeholders will be explored. By working together, it is hoped that the ambition in the plan will be exceeded.

The information collected during the preparation of the plan, supplemented by the results of investigations in the next few years, will be an excellent foundation for planning and delivering further improvements in future cycles.

Annex E of the plan contains information on additional measures that may yet be possible to put in place during the cycle, or in cycles 2 and 3. Future plans will need to address those issues where only limited progress is currently possible. This will mean a greater emphasis on addressing the problems of diffuse urban and agricultural pollution, and restoring the physical habitat of the water environment.

Given the scale of improvement required, and the long standing complex pressures on the water environment, for some water bodies it will not be possible to achieve good status by 2027. We are not in a position to identify these particular water bodies yet, but in future cycles greater use of the Water Framework Directive's flexibility to set less stringent objectives will be needed.

- ***Consultation Response***: Respondents stated that objectives should be specific to water bodies, taking into account the characteristics and reasons for failure for each one.
- ***Consultation Response***: The aim of achieving 'Good' status for all ground waters in 2027 is considered by some to be unrealistic due to the time for pollutants to work through the aquifer (up to 50 years).
- ***Consultation Response***: The need was perceived for programmes for improvement of water resources to be long-term to fit in with natural hydrological cycles.
- ***Consultation Response***: Some considered that the monitoring points will not reflect recent trends in agricultural practices.

The objectives set are specific to each water body. At this stage no water bodies have had less stringent objectives set.

The River Basin Management Plan sets out actions to achieve Good Ecological Status / Good Ecological Potential where it can be demonstrated that they are necessary and cost-effective. Action can be taken as soon as it is feasible to do so.

The plan acknowledges that ground waters can be affected by long time lags, and that this can create a complex picture. It is proposed that a new action is considered to investigate the time lags, particularly associated with nitrate in groundwater and current land management. Actions to improve groundwater quality have been included in the plan.

- ***Consultation Response***: A number of respondents considered that the River Kennet should be in good condition by 2015, and that some measures could make a major difference in a few months or years.

All measures in the Thames River Basin Management Plan have to pass two tests: the action must be technically feasible, and it must not be disproportionately expensive. The Environment Agency is also keen to take action where we have confidence (evidence) that an action will be effective. The issues of the Kennet

catchment are complex and the processes which affect the river quality are numerous and not always easy to identify. The Environment Agency is working with all interests in the River Kennet catchment, particularly through routine regulatory work, our restoration strategies and the Kennet Chalk stream Restoration Project. We also work with a number of local partners including the Centre for Ecology and Hydrology. We will continue our lead role in investigating and restoring the Kennet, along with all other river environment related issues throughout the Thames River Basin District.

- ***Consultation Response***: Support was given for the inclusion of WFD objectives in the government Public Service Agreement (PSA) targets, although some were unsure of the appropriateness of this, and clarification was requested on its progress.

The current natural environment Public Service Agreement (PSA 28), which runs until the end of March 2011, contains a water quality headline indicator: Success over the Comprehensive Spending Review (CSR) period. This is a year on year improvement in the biological quality and a year on year improvement in the trend of chemical quality of rivers as reported under the Environment Agency's General Quality Assessment (GQA). It also contains a proxy indicator with regard to the number of water bodies achieving Good Ecological Status. This will need to be reviewed as a result of updated 2009 classification data. Discussions regarding the potential future PSA indicators under the next spending review and the replacement of the GQA assessment as the headline indicator have not commenced and therefore it is not possible at this stage to confirm a new target measure.

4.3.2 Protected area objectives and measures

- ***Consultation Response***: Respondents were concerned that some protected area (Natura 2000 and Drinking Water Protected Areas (DrWPAs)) objectives and measures were not yet fully integrated into the plan. Some were also concerned that the number of DrWPAs does not sufficiently cover the upstream catchments of all current or proposed drinking water abstraction points.
- ***Consultation Response***: Some respondents commented that objectives for protected areas do not address specific measures to meet conservation objectives.

A clear description of the inter-relationship between Natura 2000 'Favourable Condition' objectives and Water Framework Directive objectives is now included in Annex D 'Protected areas'. Measures that have been developed by Natural England and the Countryside Council for Wales, the delivery of which will be overseen by them, are now given in Annexes C and D.

During the consultation period, the Environment Agency has carried out a risk assessment of Drinking Water Protected Areas (DrWPAs). The risk assessment has been informed by water company data, including those provided in Drinking Water Inspectorate returns. Where there is sufficient confidence that deterioration may take place, measures have been proposed and are now given in Annexes C and D. Where a risk has been identified but confidence is low, the Environment Agency will carry out further monitoring and investigation, and propose measures if the risk of deterioration can be confirmed.

DrWPA boundaries coincide with the boundaries of the water bodies in which the abstraction point lies. Safeguard zones will be identified, where necessary, to control activities in the upstream catchment to protect DrWPAs. Work is on-going to define the location and extent of these safeguard zones.

4.3.3 Decisions for alternative objectives

- ***Consultation Response***: Some respondents asked for better justification of extensions to the 2015 deadline. They felt the plan lacked transparency on why extensions (alternative objectives) had been applied.

At the Environment Agency we accept that the draft River Basin Management Plan provided a lack of clarity and transparency on the decisions we made in setting alternative objectives for water bodies.

For the Thames River Basin Management Plan we have:

- o set out more clearly the process for setting alternative objectives in Annex E;
- o provided more information on the reason for failure that has led to the setting of an alternative objective;
- o provided more information on what type of action results from the setting of the alternative objective (e.g. investigation to identify appropriate measures for future cycles);
- o provided more information on the types of measures that may be used to address the problem in future;
- o provided a clear link between each water body element not at good by 2015 in the Annex B table with the decision making process, reasons for failure, types of investigation and potential future measures described in Annex E.
- o provided information on the appraisal of and justification for alternative objectives set for Surface Water Drinking Water Protected Areas and Natura 2000 Protected Areas in Annex D.

4.3.4 Assessment of issues and pressures

The main comments made by respondents on the assessment of issues and pressures included the range of pressures covered, the standards used, uncertainty of source apportionment, and access to data and information.

- ***Consultation Response***: There was a range of views regarding the assessment of problems in water bodies. Some respondents agreed with the assessment, or thought that it was broadly right. Others disagreed, as the draft plan did not contain sufficient information about the water bodies they were interested in, or they had a different view of the problems in water bodies.
- ***Consultation Response***: Some of the issues highlighted by respondents include: road and urban run-off, hazardous substances, river morphology (including dredging), sewage treatment works and combined sewer outfalls, low flow, hydropower, drainage of wetlands, flooding, soils, excess nutrients, sediment, microbiology and future development pressure.
- ***Consultation Response***: Many respondents agreed that the water environment has been transformed beyond all recognition. However, they believed that convincing stakeholders that current status of water bodies is so low despite all the improvements we have experienced is a very difficult message to convey. Some disagreed that not

achieving Good Ecological Status /Good Ecological Potential is a failure.

In developing the draft plan the Environment Agency concentrated on those issues highlighted by Liaison Panels and the results from consultation on Significant Water Management Issues .These were the pressures considered of greatest significance at river basin district level, matching the strategic nature of the plan. We accept that in individual water bodies, there are likely to be pressures and issues which are not reflected across the whole of a river basin district but nevertheless are of local significance.

There have been significant improvements in water quality over the last few decades. The Water Framework Directive raises the bar and introduces new methods of assessing water status that have identified issues that were not apparent previously.

Those interested can see further information about particular water bodies or risk assessments not presented in the plan, on *What's in your backyard* on the Environment Agency's website. This contains all the risk assessment results for all water bodies. Detailed method statements for the assessments are also available on the Environment Agency's website at http://www.environment-agency.gov.uk/research/planning/33238.aspx.

- ***Consultation Response***: There were some comments questioning the standards used in the risk assessments, and whether they were appropriate to assess the risk of failing good status.

o The standards used include those that will be directed in Defra's "Directions to the Environment Agency on Classification". They are set out and justified in the method statements for each assessment. The method statements themselves were developed using guidance provided by the United Kingdom Technical Advisory Group (UKTAG), a group of technical experts drawn from environmental regulators across the UK. It is also worth noting that the risk assessments by themselves do not drive measures in water bodies, but provide the basis for highlighting potential problems and identifying sources. We will be working through the first and future cycles to improve the assessments using the responses gathered during the consultation, as well as other data.

- ***Consultation Response***: The Thames River Basin Management Plan should provide a combined assessment of the problems by river catchment, ranked by priority.
- ***Consultation Response***: Whilst considering issues and pressures, respondents commented that there is a need to ensure rivers are managed for their navigation rights. Water abstraction is important for canals in the summer months, not only for boat traffic but also to maintain the ecology.
- ***Consultation Response***: Some respondents asked for clarity on how transitional and coastal waters will be assessed. Some asked for invertebrate assessment for the Middle Thames to be a priority.
- ***Consultation Response***: There were concerns that the draft Thames River Basin Management Plan fails to properly distinguish between issues affecting freshwater and those relevant to transitional and coastal water bodies, particularly in relation to dredging / navigation.

One of the aspirations of the Water Framework Directive through the River Basin Management Plans is to achieve an integrated approach to managing water bodies. We believe the current plans are a significant step forward and the delivery and implementation of the plans will enable this approach to be adopted at the catchment scale.

Navigation activity is covered under designation of Heavily Modified Water Bodies and Artificial Water Bodies in the plan. However more research is required to better manage abstractions whilst maintaining user levels and ecology in canals.

We have made the classification of invertebrate status for the Middle Thames a priority. The tool to assess the classification was originally produced for coastal waters and is currently being developed for less saline environments. In order to define less saline reference conditions for this model, we require additional monitoring data. This is being gathered and will continue to be gathered over the coming years. Once we have greater confidence in the model we will be able to provide a classification for this water body.

Further details can be found on the UK Technical Advisory Group (UKTAG) web site at
http://www.wfduk.org/UKCLASSPUB/technical_reports/UKCLASSPUB/technical_reports/trac/

We acknowledge that further work is needed to investigate issues affecting freshwater and those relevant to transitional and coastal water bodies, particularly in relation to dredging / navigation.

- ***Consultation Response***: Several respondents wished to ensure that historic socio-economic and ecological issues are given appropriate emphasis, and expressed concern that heritage is not mentioned in the Directive
- ***Consultation Response***: Some were disappointed that there was no section on lakes and reservoirs in the draft Thames River Basin Management Plan

The comments about absence of socio-economic and related ecological issues from the WfD are noted and the specific historic and heritage issues relevant to water body compliance and water quality are recognised in the assessment methods for heavily modified water bodies

We will incorporate recent work we have undertaken to classify artificial water bodies, which include water supply reservoirs, in the Thames River Basin Management Plan. Measures will be identified for artificial water bodies that do not currently achieve Good Ecological Potential.

- ***Consultation Response***: 25% of Chilterns rivers have not been assessed or given a status. Many felt that more priority should be given to Chalk rivers as they are of international importance regardless of their designation. Some wanted to know more about which species are causing biological failures.
- ***Consultation Response***: Some considered that there is sufficient, robust information in relation to nitrate pollution trends in groundwater bodies, and to pesticide pollution trends, for these to

be covered in more detail. They would like to see pesticides included as a specific issue for the Thames River Basin District.

- ***Consultation Response***: There were many comments referring to the uncertainty over the causes of problems and the subsequent uncertainty over appropriate actions to reduce the risk or impact to the water body.
- ***Consultation Response***: Some respondents commented that identification of the source of pesticide pollution is important to enable identification of the correct measures and their accurate, and cost effective, targeting. They considered this to be particularly relevant where the same active ingredient is used in different sectors.

All of the chalk rivers in Thames River Basin District have been assigned a status in the Thames plan. During the first river basin planning cycle we will update the status if more information becomes available. Further information on the reason/s for failure can be obtained from your local Environment Agency office, or through our National Customer Contact Centre on 08708 506 506, or email enquiries@environment-agency.gov.uk.

The chemical status of ground waters is now reported in the Thames plan. Rural diffuse pollution was identified as a significant water management issue in the Thames River Basin District, with pesticides listed as a specific pressure. A number of measures have been included in the Thames River Basin Management Plan to tackle pesticide pollution. More work also needs to be done to identify the source of pesticides, and a new local action is proposed to address this.

There is still substantial work to be done over the first cycle to improve the characterisation of sources and apportionment of pressures and their effect on water bodies. In Annex B it can be seen that there is a large number of water bodies where the reason for failure to achieve Good Ecological Status or Potential is uncertain. We have proposed a series of investigations to improve the confidence of the assessment of status. Several consultation responses indicated specific areas of concern regarding source apportionment. Work is already underway to start to deal with some of these concerns.

For example:

For **abstraction issues**, we are undertaking investigations to determine the ecological significance of reduced flows where we are uncertain that there is an impact. Without these investigations measures to reduce abstraction could be premature and represent a high risk of being disproportionately expensive.

To this end we will:

- review both the derivation and application of the environmental flow indicators for all water bodies in England & Wales, with the aim of improving them to inform the revisions to the River Basin Management Plan in 2015.
- undertake site specific investigations to determine both the size and biological benefits of increased flows and to justify the need for measures to reduce the impacts of abstraction.

All these investigations will be included within the Restoring Sustainable Abstraction programme with the WFD as a driver.

On **water quality** issues, we will be working to reduce the uncertainty that remains regarding:

- status assessments using new classification tools
- whether water bodies are adversely impacted, including adequate biological evidence for sites failing nutrient standards
- the predicted outcome of actions to address protected area requirements.
- the relative importance of different sources of pollution
- how much technology can be developed to enable greater water quality improvements
- the cost-effectiveness and benefit of measures to tackle diffuse water pollution
- the long-term impacts of climate change

And we are

- developing the use of national water quality predictive models
- working with United Kingdom Water Industry Research (UKWIR) on a source apportionment project to develop methodology for targeting measures
- working with a range of industries, including the water industry to better quantify releases of chemicals arising from their activities
- undertaking further investigations into phosphate in groundwater, including the development of robust Source-Pathway-Receptor conceptual models.
- developing and refining the conceptual models for groundwater bodies

On **land quality** issues, we are:

- Developing a sediment management framework to put in place appropriate sediment management plans for particular catchments/sub-catchments. A key part of this will be to develop a 'weight of evidence' that sediment is having an impact on the environment. This will draw a variety of evidence together (not just water quality sample data) to justify action to tackle sediment problems, e.g. biological indices and risk assessment data.

- Managing trial catchments for improving the evidence base and testing that the effectiveness of mitigation measures for hydromorphology has been identified. These trial catchments are identified under the programme of measures in the Thames River Basin Management Plan.

Undertaking improvements in the knowledge and evidence base. For example, improving our understanding of the ecological response to nutrients including the relative importance of soluble and sediment associated phosphorus; the implications of this for source control and improving the effectiveness and targeting of measures.

4.4 Monitoring

- Some respondents felt there was a lack of monitoring on a large number of water bodies and queried why so many were ‘unassessed’ or ‘not requiring assessment’.

In the draft plan the vast majority of water bodies were given a classification based on status. Some of the mitigation measures assessments for heavily modified water bodies were not completed on time, so the overall ecological potential was reported

as ‘not yet assessed’ despite having had ecological assessment. In the Thames River Basin Management Plan all water bodies will have an assessment of status.

The label of ‘not requiring assessment’ is linked to chemical status rather than ecological status. An ecological assessment is required for all water bodies, but a chemical status assessment is only provided if a known priority substance is being discharged in significant quantities. For example, a water body receiving treated effluent from a town’s sewage treatment works will have a chemical status assessment but water bodies in the upper catchment with no significant input of priority substances do not need to have a chemical status assessment.

- ***Consultation Response***: Comments were made on the lack of information on estuaries, coastal waters and canals

The Environment Agency has developed new monitoring programmes for all types of waters, but there is a wide variation in the historic data we hold from previous programmes. As would be expected, there is a comprehensive archive of chemical monitoring data for inland surface waters, particularly below major point source discharges. At the other extreme, regular monitoring for some biological elements in estuaries and coastal waters only commenced in 2007. Practical considerations mean that there will not be data for all these water bodies until 2010. We have reviewed and realigned our monitoring programmes and, with the information others may be able to offer, we will improve status assessments during the first cycle.

- ***Consultation Response***: Clarification was sought regarding what data ranges were used for monitoring.

For many classifications the data we use to make the assessment is very recent. For example, the monitoring programme for physico-chemistry involves taking samples from every monitoring point twelve times a year, every year. We then use the monthly samples for three continuous years to make assessments – so the physico-chemistry dataset is based on 36 samples from 2006-2008 data. Our survey frequencies for biological monitoring programmes vary from one-in-three to one-in-six years, depending on the quality element we are interested in. We use a cut-off date beyond which the data is regarded as no longer being representative of the current environment. In the Thames plan we are using any suitable data from 2003 to 2008 (inclusive).

- ***Consultation Response***: Many respondents considered the proposed investigations essential to achieving improvements in an acceptable timescale. They considered that investigations should therefore be in Scenario B and that there should be a firm commitment to complete all the investigations by 2012.

Actions have been moved from Scenario C to the plan if we have confidence in their ability to improve or increase our knowledge about the water body..

- ***Consultation Response***: A few respondents asked the question about whether the Environment Agency will accept other organisations’ data to complement the monitoring programme.

The Environment Agency welcomes any evidence about the health of the water environment. In most cases this extra information will be most useful when investigating local problems and possibly in designing new monitoring programmes.

So that status assessments are on a level playing field across the UK and the EU most of the classification techniques that the Environment Agency uses are very prescriptive. They require measurements to be conducted in a certain way and data to be held in a specific format. Unless other organisations use the same assessment techniques and apply the same quality assurance measures the data will not be able to be used in status classifications.

- ***Consultation Response***: Information was requested on what the Environment Agency is doing to increase certainty.

The Environment Agency is carrying out further investigations to determine the causes and sources of the failure to achieve good status. This work is referred to in the plan as Investigations. There is a wide variety of possible investigations; some may simply involve one of our local environment officers walking the river bank to identify the source of a visible contaminant, whereas others require more sampling. We can use sophisticated modelling and assessment techniques to establish the reason for water quality problems. Data provided by other organisations can also contribute to our understanding of problems in water bodies. In the plan Annex E states where we need to carry out investigations and explains, in general terms, the nature of these investigations

We are currently in the process of designing our next environmental monitoring programme, which will be implemented in 2010 and will run until 2012. We are focusing on collecting biological data where we have reason to believe that good ecological status might be compromised, to give us a better assessment of the extent to which the wildlife living in our water bodies is damaged.

- ***Consultation Response***: A number of responses highlighted the need for monitoring the River Basin Management Plan. It was noted that without targets or desired outcomes relating to the actions, they will be difficult to monitor. Respondents pointed out that monitoring will need to inform any review process, which should feed into the next six year planning period.

We are currently developing proposals for monitoring and reporting progress with the plans and these will be discussed with Liaison Panels. We are also waiting for guidance from the European Commission on their likely reporting requirements

4.6 Classification

4.6.1 Methodology

- ***Consultation Response***: The classification methodology was felt to be very complex and difficult to evaluate, and it was not clear how it accounts for seasonal variations. There were requests for detailed data underpinning the classification and for consultation on any changes to the classification.

New method statements explaining the approach to the classification system have been published on the UKTAG website. The website documents the method behind each classification tool at various levels of detail. Summaries of the methods can be found here, and more detailed reports for our biological tools are available.

The Environment Agency's monitoring and classification systems are designed to remove the effects of seasonal variations from results. For example:

- water quality sampling is carried out on a monthly basis and the data from three consecutive years is used to classify the water body.
- For some types of biological assessments data from spring and autumn surveys are used and an average taken.

Our classification method statement has more information about the use of data in classifications, including in transitional and coastal waters**.** (http://www.environment-agency.gov.uk/static/documents/Research/Classification_Method_Statement_FINAL.pdf)

Data used to underpin classification results can be requested from your local Environment Agency office, or through our National Customer Contact Centre on 08708 506 506, or email enquiries@environment-agency.gov.uk.

- ***Consultation Response***: Several respondents raised questions over how the water bodies were delineated.

The WFD water bodies were originally identified, delineated and reported to Europe in 2005. The Environment Agency followed specific rules set out by the Common Implementation Strategy and UKTAG Guidance produced for all water categories. In March 2008 we received a Direction from the Secretary of State for England to add in a number of smaller water bodies of biodiversity significance and we made additions to our river network, lakes, transitional waters and coasts. We are aware that there may be some anomalies that still exist in our water bodies and we will be reviewing the water body network for the second round of river basin planning.

- ***Consultation Response****:* Some respondents disagreed with the classifications that were presented and asked whether they could be changed. For example Farmoor Reservoir was assessed as 'bad' status and there was concern over water bodies in the Colne and Lee catchments.
- ***Consultation Response****:* The designation of good or poor water quality of some aquifers does not accord with one water company's interpretation.

The way in which water bodies are classified brings in a new way of thinking about the environment. In some cases there may be a very localised problem within a water body that will not result in the larger water body being downgraded. In other cases a water body previously judged as healthy may have been downgraded due to the results of new biological assessments. The Environment Agency welcomes information to identify gaps in our knowledge and to help us design future monitoring programmes. We have updated the classifications recognising the comments made during the consultation and the new assessments will be reported in the Thames River Basin Management Plan. These assessments make use of results from surveys conducted in 2008 and are based on modifications to some classification assessment techniques. Farmoor Reservoir, which is an artificial water body, has been classified as bad because of the status of its phytoplankton and invertebrates.

Classifications have been updated using the latest available data. We aim to control as many sources of error as is possible in the classifications. Precision and accuracy of laboratory instrumentation, variations in survey techniques, location and time of survey, frequency of sampling and calibration of our models are all potential sources

of error. Because some degree of error always remains we have decided to report the level of certainty we have in the classifications. In Annex B of both the draft and Thames plan, we show how certain we are that a water body is failing to achieve good status. Future monitoring will be targeted at those water bodies where we are currently uncertain about the true status.

- ***Consultation Response***: Comments were also received referring to the aggregation of data possibly hiding improvements (for example, the summing of river lengths).

We accept that the classification methodology may mask improvement to specific waters within a water body, as does the 'one-out, all-out' principle. The Environment Agency will aim to report improvements in individual monitored elements and where status is less than good we will analyse the underlying data to ensure that measures are targeted effectively.

- ***Consultation Response***: Some respondents had issues with the standards used – whether the phosphate standard was too high, or too low; and whether the nitrate standard for drinking water was correct, for example.

We have produced classifications and used environmental standards in line with the proposed Ministerial Directions on Environmental Standards and Classification of water bodies. These were subject to a separate consultation (consultation on Directions to the Environment Agency on Classification of Water Bodies October to December 2008). These in turn were based on UKTAG guidance documents, themselves subject to consultation. There were consultations on two phases of environmental standards and one on classification.

4.6.2 Fish classifications

- ***Consultation Response***: There were a number of comments about the accuracy of the fisheries classification in the draft plans, even to the extent of suggesting that the system needed to be completely redesigned.

The Fisheries Classification Scheme (FCS2) is explained in the method statements. It assesses the biological status of rivers on the basis of the abundance of 23 fish species, as determined by our survey data.

FCS2 uses fish to classify based on the Ecological Quality Ratio (EQR), a measure of the observed fish community in relation to the expected fish community in a similar river type under reference conditions (without pressures). This EQR is then converted into one of the five status classes required by the Water Framework Directive (WFD).

The expectation for the number of fish at a site cannot be expressed as a single number, but is expressed as a probability distribution of possible values. This distribution is described in terms of the prevalence (the probability that the species will be present) and average abundance (at sites where the species is present).

The FCS2 model is then used to predict what fish community would be expected for a given river type (defined by the environmental variables and geographic location) under reference conditions.

For each species, the observed number of fish is compared to the model. The difference between observed and expected status is expressed as the probability (0 – 1) of getting an equal or lower number of fish at a comparable reference site. Some species are naturally scarce, or patchily distributed, even under reference conditions, and will provide a less sensitive indication of ecological quality.

The probabilities for each individual species are converted to a combined probability for all species at the survey site. The outcome is called an Ecological Quality Ratio (EQR), which is assigned to one of five ecological quality classes.

The results of the rivers fish classification for the Thames River Basin Management Plan are often markedly different to those presented in the draft River Basin Management Plan. The reason for these differences is due to changes in the FCS2 model and in the data used to produce the classification listed below.

- Additional environmental and pressure variables have been added to the model.
- Sites upstream of natural barriers to fish migration have been identified and predicted fish communities adjusted accordingly.
- Class boundaries for determining the status of water bodies have been modified to bring them in line with the normative definitions of status.
- Survey data from 2003 to 2008 have been used to generate the classification.
- Inappropriate survey sites and data have been removed from the classification results.

4.6.3 4.6.3 Artificial and Heavily Modified Water Body Designation and Classifications

- ***Consultation Response***: There were several comments on the lack of transparency around the identification of Artificial and Heavily Modified Water Bodies and their subsequent classification
- ***Consultation Response***: Some asked why parts of the River Kennet were classified as HMWB even though the river is similar to other chalk streams. Others asked why the Lower Thames water body had not been designated as heavily modified for coastal defence.
- ***Consultation Response****:* Some expressed a view that artificial water bodies should not have to meet the same ecological targets as their natural equivalents.

Artificial and Heavily Modified waters have been identified and designated using nationally available datasets. These datasets provide information on both direct modifications to water bodies (e.g. presence of modifications for flood protection purposes using the national flood and coastal defence database, NFCDD) and on wider catchment scale pressures (e.g. areas of intense urbanisation derived from wider land use datasets).

The designation process detailed in Annex I looked at modifications that affect the whole water body. Considering the size and number of water bodies and available data it is not currently possible to provide detail of individual modifications in every water body.

Assessing the status of a water body was difficult particularly from the hydromorphological perspective. Relevant data is owned and collated by a number of external organisations. These external organisations differ in their ability to make relevant hydromorphological pressure data available for consultation. The

Environment Agency has started a project to develop a centralised and fully supported database for all morphological data.

For the Thames plan, all designations and classifications have been reviewed by local Environment Agency staff familiar with each water body and where possible, they have been discussed with other local bodies such as Internal Drainage Boards. As a result, the Upper Kennet has been re-assessed as a naturalised river and the Middle Kennet will be reviewed. The Lower Thames water body has been re-assessed as heavily modified for coastal defence.

Good Ecological Status is an evaluation of the status of waters as indicated by the condition of a number of 'quality elements' (none of which can be more than slightly altered from their reference, or natural, conditions). Artificial water bodies are required to achieve good ecological potential, rather than good ecological status. In contrast to assessment of the quality of the water, Good Ecological Potential is assessed by considering whether a series of mitigation measures that minimise the impact of the use of the water body are in place, given the artificial characteristics that are required for its use.

We are working with stakeholders to improve the understanding of the appropriateness of mitigations measures, and will undertake trials to assess their effectiveness. This will enable us to focus on implementing those measures where we have high confidence that they will deliver improvements to biological quality elements to bring our assessment of Good Ecological Status and Good Ecological Potential closer together. Mitigation measures will be identified for Artificial Water Bodies that do not currently achieve Good Ecological Potential.

In response to requests from some respondents, the Environment Agency is currently developing an easy guide for the HMWB designation and classification processes, similar to the classification method statement which will be available shortly.

- ***Consultation Response***: A few respondents stated that the Environment Agency had not consulted farmers about the importance of land drainage in the assessment of whether water bodies should be designated as modified.
- ***Consultation Response****:* A few respondents raised concerns over ownership of water bodies and responsibility for consequent measures where they were no longer in use for the purpose they were historically modified for.

It has not been possible in the timescale to consult individual farmers about the designation process for artificial or HMWB's, although soundings were taken from representative groups during the six month consultation. It is also not always possible to identify who should take action to achieve the objectives in relation to morphology. This is especially difficult where the structures were constructed legally under a different statutory regime, perhaps even under requirements of Government; and/or where the ownership or use of the structure has changed over time. As many past damaging activities were delivered and funded through legally compliant schemes in place at the time, and as it is difficult to identify responsible parties, it is unlikely that reliance on the 'polluter pays' principle will deliver the extent of restoration works necessary. The Environment Agency is currently working with Defra to identify possible solutions to this issue.

- ***Consultation Response***: Concerns were raised regarding specific thresholds used as part of the designation process being applied to future management of water bodies and potential impacts on fish stock cultivation

A 15% cultivation spatial cover rule was used as part of the designation process. It is not intended to form a threshold for limiting fishery activity in non-designated water bodies. If fishery activity expands in a water body to an extent where deterioration in status might occur, then the increased activity would be subject to WFD Article 4(7) tests on deterioration in order to ensure directive compliance.

- ***Consultation Response***: Respondents requested that actions regarding easement of fish passage also need to be included for heavily modified water bodies. Others saw no justification for prioritising a program of improvements to obstructions to fish and eels

Where water bodies have been designated as artificial or heavily modified water bodies (A/HMWB) for one of the following uses: water storage and supply, inland navigation, flood risk management, land drainage, urbanisation or coastal flood protection and had an impassable structure in place then the following mitigation measure: 'Structures or other mechanisms in place and managed to enable fish to access waters upstream and downstream of the impounding works' would be required for the water body to reach GEP

4.7 Actions

- ***Consultation Response***: Many respondents welcomed the range of actions in the plan and the emphasis on local detail and projects.
- ***Consultation Response***: There were many comments, particularly from those connected to the water industry on the predominance of actions to be funded by water companies and questions as to whether this complied with the Polluter Pays Principle.
- ***Consultation Response***: The farming sector pointed out that they are already burdened with a number of regulations, such as cross compliance, new increased Nitrate Vulnerable Zone Regulations, Silage, Slurry and Agricultural Fuel Oil Regulations, Groundwater Regulations and many more. They were concerned that further regulations could be overly burdensome.

The River Basin Management Plan draws together the total effort on water environment improvement over the next six years and incorporates the substantial improvements arising from the requirements of pre-existing Directives. Earlier Directives were very much aimed at dealing with point source discharges, which are predominantly the responsibility of water companies.

One of the main classification elements needing attention, to move towards more water bodies at Good Ecological Status, is phosphate and water company discharges are an important source along with losses from agriculture. This combination of work needed to fulfil commitments from older Directives, and phosphate releases from sewage systems explains the high contribution required from water companies in the first cycle.

Nutrient and chemical losses from agriculture are particularly important in England. Funded by Defra, the Environment Agency, working alongside Natural England, has

a major programme of investment in advice to the farming community on sound, sustainable farming techniques. Given the necessary time for changes in techniques to have an impact on environment quality, this will help to reduce the impact of farming activities on water bodies. If, in certain locations insufficient progress towards Good Ecological Status is made, firmer regulatory mechanisms such as Water Protection Zones will be available to enforce the required progress.

A sustainable agricultural industry is vital to maintaining a high class environment and vibrant rural economy. The farming community contributes a great deal to improving the water environment through Catchment Sensitive Farming, the recent Campaign for the Farmed Environment and many other initiatives. Most of the actions in the programme of measures that relate to the agriculture sector are based on existing legislation. Water Protection Zones will be considered where there is clear evidence that voluntary and other mechanisms will not be sufficient on their own to deliver Good Ecological Status or Potential.

The section below on Impact Assessment (4.11) covers economic issues and the burden on the Water Industry

- ***Consultation Response***: Some respondents raised significant concerns about the River Basin Management Plan, but considered that the plan was a positive step forward nevertheless, and offered their help in a number of ways.

Many new actions were identified throughout the consultation and we have added these to the programme of measures. Other actions were amended or reviewed. There were many offers of help, and new co-deliverers and networks of volunteers came forward. The Environment Agency would like to thank all those who contributed to the programme of measures, and we look forward to working with stakeholders and others to deliver the plan.

4.7.1 Scenarios

- ***Consultation Response***: Some respondents found the scenarios confusing, and were not sure how Scenario C actions would be included in the Thames plan. Others suggested changes to the scenarios for some actions.

The first volume of Ministerial River Basin Planning Guidance required the Environment Agency to include in each draft plan a “do nothing” scenario, setting out the baseline if no action was taken for Water Framework Directive purposes, and a small number of other scenarios describing alternative approaches. In developing the first scenario, it became apparent that a title of “do nothing” gave a very inaccurate impression of investment, particularly from the water industry, that was required to achieve compliance with existing Directives. We therefore decided to simply name this “Scenario A”. In line with the guidance, two further scenarios, “B” and “C”, were developed.

Scenario A included actions that were already planned to achieve improvements to the water environment. They were based on existing or secured measures, such as water company schemes included in their current investment programmes, and future planned water company measures as required by the Urban Waste Water Treatment Directive and the Habitats Directive, plus national level actions such as

Catchment Sensitive Farming and pollution prevention campaigns. This scenario included a range of actions to ensure no deterioration, a challenge in itself.

Scenario B included all the measures in Scenario A plus additional measures driven by the WFD alone. These additional measures included those at a national level, those with a national framework, but with regional targeting such as the extension to the Catchment Sensitive Farming work and those at river basin district level such as measures to work with local authorities to ensure no deterioration in status. These were justified in the draft River Basin Management Plan on cost/benefit grounds and largely included measures where we are confident there is a delivery mechanism or a potential funding source.

Scenario C included Scenario A and Scenario B and measures likely to be cost-effective and proportionate, but where we were not as certain as to their effectiveness or likely benefit (or there was no certainty about funding).

Many measures in the draft Thames plan were moved into Scenario B from Scenario C with help and advice from respondents, stakeholders and co-deliverers. These measures are now included in the Thames River Basin Management Plan.

The plan itself does not have scenarios. As required by Ministerial Guidance, the plan sets out "only one approach to the implementation of the WFD in the river basin district" – giving "everyone concerned with the river basin district a degree of certainty about the future of water management in the district". Not all scenario C measures have been incorporated into the plan, but we have done so where we have reasonable confidence that they can be delivered.

- ***Consultation Response***: It was pointed out that there is a partial mismatch between the measures in Scenarios A and B, the schemes in the final Periodic Review (PR09) National Environment Programme (NEP) and some water companies' business plans. These measures need to be aligned in the Thames plan. Some water companies found that the draft River Basin Management Plan did not contain enough detail on their actions to determine whether or not it exactly reflected the schemes contained within the NEP.

Some water company measures were included in error in the draft Thames River Basin Management Plan; these do not appear in the Thames plan.

4.7.2 Confidence for action

- ***Consultation Response***: Concern was raised that where there was uncertainty about the deliverability of measures, particularly that those in Scenario C were not going to be included in the Thames plan.

For the degree of certainty required by Ministerial Guidance it is clear that the plan must be based on measures that are clearly defined, practicable and with a clear delivery mechanism. In other words, the plan cannot contain "wish lists" of ideas for which there could be little certainty about actual delivery. We must be clear that a water body is not a good status. We must also be clear that measures are based on reasonable certainty that the problem causing a water body not to achieve good status has been identified and that the measure proposed will actually address the

problem. This is the approach that has been adopted in developing the Thames River Basin Management Plan.

In Annex E of the Thames plan we have indicated what future actions may take place later in the first cycle or in future cycles when we have more certainty that they are required and can be applied in an effective way. This Annex also contains information on where alternative funding mechanisms have been considered.

- ***Consultation Response***: Some commented that pioneering work should be developed and tested to maximise the potential to improve habitat, in a manner sympathetic with a wide variety of river usage and community needs, by 2027.

Joint pilot projects are under way to deliver multiple aims for different water body users. All future improvement work will be designed with reference to previous work, the lessons learned and best practice. As the implementation phase develops, the Environment Agency will be asking others to work with us to achieve these improvements.

- ***Consultation Response***: There was support for the emphasis on investigations in the Thames plan, in order to avoid unnecessary disproportionate expenditure. There were mixed opinions about the requirement for 95% certainty, some respondents felt it could prevent action taking place, others agreed with a cautious approach to setting of objectives and defining the programme of measures. Clarification was needed between confidence of classification and confidence for action.
- ***Consultation Response***: There was a request for percentage confidence to be provided, rather than expressed as 'low, medium, high'.

Many aspects of water quality are highly variable in space and/or time. It is not possible to monitor all parts of every water body all the time (even if practical, the money would be better spent on making improvements to the water environment). This leads to statistical uncertainty in classification. The Environment Agency calculates this uncertainty and expresses it in terms of our confidence that the water is in a particular class, or better than a class.

Sometimes our expression of confidence will be based on corroborative evidence as well as statistical analysis. This is particularly important for instance when managing water bodies vulnerable to nutrient enrichment. The way in which different water bodies respond to nutrient enrichment can be complicated. Sometimes we find that the water body does not meet the required standard for a nutrient but the biological community shows no sign of damage. In such situations it would be misleading to say we are very certain that the water body is at less than good status. In other situations, the water body does not meet its standard for nutrients, and the nutrient sensitive biological elements – the diatoms and macrophytes – also show signs of damage. The result for each element on its own merit may have low precision and therefore low confidence. But the fact that all elements suggest the same thing – that there is an impact – means that we become more confident there is a problem, so we override the statistical confidence from each test and say that, overall, we are very confident there is a problem and can consider corrective action.

It would be wrong to impose high costs on those who would have to make improvements in cases where we have not been able to determine failure with confidence. In such cases we need to do more monitoring and investigations first.

There is no 'one size fits all' rule for determining the point at which we become confident enough to take action. If it is necessary to justify expensive or controversial actions we will generally need to be at least 95% confident (or have good supporting evidence as described above for nutrients) that the water is truly worse than the class it needs to be in, or faces deterioration. But in other cases the action we need others to take may be agreed more readily and there will be no need to require a 95% level of certainty.

We have improved the terminology of our classifications in the Thames plan. We are saying how certain we are that a water body is less than good status.

- If there is 95% certainty that a water body is at moderate or worse status we say we are very certain that the water body is less than good status.

- If there is 75% certainty we say we are quite certain that the water body is less than good status. We expect this level of certainty to be appropriate in driving most types of action.

- Below 75% certainty we say we are 'uncertain'. Such water bodies will be subject to more monitoring so that we can increase our certainty.

To communicate a simple message to users of the plan we do not include an expression of certainty if a water body is at high or good status, although we will use our understanding of confidence in the data to drive decisions about future monitoring.

- ***Consultation response:*** Some commented that measures should be based on clear science and not on possible outcomes.
- ***Consultation response:*** Some considered there was a lack of evidence to support some of the measures. They commented that there was a need to set out an evidence base to justify and explain some generic measures relating, for example, to navigation impacts. Some considered there was still scientific research and evidence missing, and this was needed to inform decisions and actions, especially on diffuse and point sources of pesticides.

Having determined that there is a real problem to be addressed, we then turn to the need to be reasonably certain that a measure will actually deliver the required environmental improvement. This clearly needs to be based on an understanding of cause and effect. A clear science-based approach to implementing measures will be sought were it does not currently exist.

The potential impact relating to navigation measures is being investigated and clarification will be provided by working in partnership with the sector.

- ***Consultation Response***: Comments were received that, while many problems have already been well researched, there appear to be few suggestions as to how to solve them. Some considered that the Environment Agency's assessment was not extensive enough and that there was not enough specific information on the ecological and biological status, for example, for the River Kennet.

The water environment is a complex system and there are many chemical, physical and biological factors which need to be monitored and assessed against national and international water quality standards in order to fully appreciate the issues of a water body. To represent this in one document would render the document too big and unreadable for many. Instead the River Basin Management Plan uses a classification system which gives a clear combined picture of the chemical, physical and biological factors which are monitored (see Section 4.6).

Over the past few years the Environment Agency and its partners have achieved a great deal. Through the Kennet Chalk stream Restoration Project, for example, we have reduced the licensed abstraction at Axford, established phosphate stripping on all major sewage treatment plants, and restored physical habitat. The project continues to tackle issues including the canal/river interaction, agricultural issues and road run-off. Many more local projects have also been identified in the Thames River Basin Management Plan.

A number of concerns were expressed relating to heavily modified water bodies (HMWB):

- ***Consultation Response***: Some respondents wanted the actions for heavily modified water bodies to be included in the plan in line with the water body Summary Sheets.
- ***Consultation Response***: Some pointed out that flood defence mitigation measures for Good Ecological Potential have not yet been finalised or evaluated.

The designation and classification of HMWB's has been reviewed since the publication of the draft Thames River Basin Management Plan. For Heavily Modified Water Bodies in particular we lack the understanding of the most appropriate mitigation measures needed to maximise environmental improvement; and thereby meet true Good Ecological Potential. There is a clear danger that, without this knowledge, any mitigation measures put in place might prove to be of little value, or even worse have the potential to cause more harm than good. Improving our understanding in this area, through pilot trials etc. is therefore the key measure for the first cycle and our approach to this is given in section 4.6.3.

Before flood defence works are carried out, either to create new defences or to replace or modify existing ones, the options are appraised against a range of technical, economic and environmental criteria. Compliance with WFD objectives and opportunities to meet these objectives are now part of the Strategic Environmental Assessments associated with these appraisals.

4.7.3 Assessment of Actions

- ***Consultation Response***: Some respondents disagreed with the outcome of assessments that had been carried out to determine the actions in the plans. They wanted to understand the process of choosing actions, the cost of implementing particular actions and which actions had not been included and why.

- ***Consultation Response***: Some respondents were concerned that the cost of delivering actions cannot be met from existing budgets, for example the large number of fish passes that the plan requires to be installed.
- ***Consultation Response***: Concern was expressed that some sectors, such as power stations, may be given disproportionate costs for a water body which is failing due to other factors when they are already following best available techniques.

We have revised Annex E (Actions appraisal) to incorporate more detail on the planning process and policy assumptions to ensure transparency of decision making. It includes consideration of technical feasibility and whether costs are disproportionate.

The Annex makes clearer how the process has been used to identify actions to achieve the objectives of good status or good potential for this plan cycle. Where these objectives are not possible for this plan cycle the process shows how alternative objectives have been identified for each water body and the reason for this, with reference to disproportionate costs and technical feasibility.

Consideration has also been given to disproportionate costs when setting water body objectives. The disproportionate cost analysis includes an assessment of the overall costs and benefits as well as consideration of distributional consequences (who pays and who benefits) (see section 4.11). Where it is disproportionately costly to reach good status by 2027, then a less stringent objective may be set.

Where alternative objectives are necessary Annex E considers what types of actions may be needed to achieve good status or potential in the future, with commentary on whether these actions could become technically feasible and proportionate in cost in future plan cycles.

The costs for implementing actions are covered in the Impact Assessments which accompany the plan. The Impact Assessments use the results from the Preliminary Cost Effectiveness Appraisal (pCEA) undertaken as part of the Defra led Collaborative Research Programme. Cost estimates of actions have also been provided by Environment Agency staff and this has been reviewed as part of the process of moving from draft to final Impact Assessment to improve the quality of the estimates. We have gathered more information on costs but it has been difficult to obtain or attribute all of the benefits information.

It is essential that we address our actions to tackle the source of the problem. In some cases we will need to do further investigations to identify the source before we can take action.

- ***Consultation Response***: The relationship between the Water Framework Directive and Habitats and Birds Directives was highlighted. Respondents said the plan should reiterate that where more stringent objectives are required to achieve favourable conservation status in Natura 2000 sites, these should apply. Measures needed to be included to achieve these standards.

Where Natura 2000 Protected Areas are failing their conservation objectives Natural England and the Countryside Council for Wales have identified the measures that

need to be taken to achieve them. These measures are part of a programme of work to achieve the objectives of the Habitats Directive and Birds Directive.

The presentation of the relationship between the status objectives for water bodies (Annex B) with the protected area objectives (Annex D) has been improved in the Thames plan. It is important to note that water body status and protected area objectives are not always directly comparable. Both water body status and protected area objectives may apply in the same location and it is important to read both the objectives set out in Annex B and D in parallel. For example, where Natura 2000 Protected Areas coincide with water bodies we are aiming to achieve both the required River Basin Management Plan status objectives for each water body as well as the objective for the Natura 2000 Protected Area of Favourable Conservation Status. The introductory text to Annex D sets out this inter-relationship in more detail. The water body tables in Annex B indicate when Protected Area objectives also apply, and the Natura 2000 tables in Annex D indicate if, and if so which, water body they overlap with to help the reader understand the parallel objectives that apply to that site.

- ***Consultation Response***: Some respondents commented that actions are unclear and not SMART (specific, measurable, achievable, relevant, time bound).
- ***Consultation Response***: Some asked whether measures could be split into 'delivering an outcome' and 'investigation'.
- ***Consultation Response***: Some respondents felt that actions lacked accuracy and specificity. Some respondents considered there was an inconsistency in the way actions were presented; some were regarded as very specific whilst others were considered to be more generic and strategic.
- ***Consultation Response***: Actions for the Local Government sector were considered ambiguous and poorly worded.
- ***Consultation Response***: Some expressed greater confidence in scenario A actions than in scenario B and C actions.
- ***Consultation Response***: Comments were received that actions should be comprehensively reviewed, and related more closely to the infrastructures and proposed spatial strategies that have been, and will be, negotiated through Local Development Framework processes. There was opportunity for the Thames River Basin Management Plan to be influenced by local evidence, such as Integrated Water Cycle Strategies.

The River Basin Management Plan is a strategic plan and most actions reflect this. By using generic actions we allow an element of flexibility to the actions of the plan, so they can be adapted to the local situation over the six year river basin planning cycle. In some cases where specific local information is known this has been added to the plan.

Actions have been reviewed with the Liaison Panel and consultees and we have worked hard to improve the definition of measures for the Thames plan. This should make it easier to identify actions and investigations.

We sought to address issues relating to wording and content of the actions through our review of local actions, including for the local government sector. We have also reviewed the scenario A actions. Where we have received comments we have used those to review actions in Annex C. We expect this review will increase confidence

in the actions. but as new information emerges it will form part of the evidence base to inform the ongoing delivery of first river basin management planning cycle.

- ***Consultation Response***: Respondents pointed out that the scale of abstraction reductions is not specified in the plan.
- ***Consultation Response***: Actions for the River Kennet were considered too non-specific by many, in view of investigations already done through the Kennet Chalk stream Restoration Project – for example on river/canal interaction. Actions were seen as broadly correct, but rather vague, and with insufficient urgency in application. It was proposed that the programme of actions produced by 'Action for the River Kennet' (ARK) appears clearer, better co-ordinated, and achievable in a shorter timescale.

Actions where there is uncertainty about funding, knowledge or the ability of the action to improve the ecology will be included when these uncertainties are reduced.

Further work is needed to determine the scale of any abstraction reductions that may be required, and investigations will be undertaken during the first river basin planning cycle.

The Action for the River Kennet (ARK) proposals are being considered in line with existing projects and initiatives. We are working together with ARK to assess the project as a practical delivery tool.

- ***Consultation Response***: Respondents suggested that measures should be prioritised on the basis of which of them are the most cost effective.

There are many effectiveness attributes. The Collaborative Research Programme on WFD economics identified some 23 such attributes. While some may be more important than others, they all have an influence on the relative effectiveness of different measures to some extent. One of the most important and often overlooked attributes is the availability of cost effective delivery mechanisms. The only instances where the most cost effective set of measures has not been used are where it would have been disproportionately expensive to do so.

Prioritisation of the measures will also be based on where the biological elements are at less than good status. Opportunities to deliver improvements will be investigated wherever there are clear solutions. Greater clarity on this process will be developed as the Thames plan is delivered at the catchment scale.

- ***Consultation Response***: Some actions were felt to be missing or inadequate, such as those to protect drinking water supplies. These actions would be necessary to reach the targets proposed.

To repeat text from the earlier section on Protected Area Objectives (4.3.2):
During the consultation period, the Environment Agency has carried out a risk assessment of Drinking Water Protected Areas (DrWPAs). The risk assessment has been informed by water company data, including those provided in Drinking Water Inspectorate returns. Where there is sufficient confidence that deterioration may take place, measures have been proposed and are now given in Annexes C and D. Where a risk has been identified but confidence is low, the Environment Agency will carry out further monitoring and investigation, and propose measures if the risk of deterioration can be confirmed.

- ***Consultation Response***: Some felt that the draft plan contained few novel or specific measures, and concentrated too much on existing or planned action.

There is much work to complete as a result of predecessor directives which has been reported in the River Basin Management Plan. There are extensions to Catchment Sensitive Farming and source controls such as banning phosphate in domestic detergent. It is expected that the specific actions in the delivery plans will exploit innovative techniques and actions. Defra is exploring regulations to introduce streamlined Water Protection Zones, to prevent misconnections and deal with sustainable urban drainage and diffuse pollution from urban areas.

- ***Consultation Response***: It was felt that more existing activities should be recognised. Many respondents also made specific suggestions for new actions or re-prioritisation of actions in the draft plan.

It is agreed that existing activities need better recognition in the plan. Specific actions have now been listed in Annex C (Actions to deliver objectives). In other cases they are mechanisms that can be used as a way of implementing a range of specific actions at different locations. These include actions that can be put in place now and those that can be confirmed and implemented during the first plan cycle. These additional mechanisms are included in Annex F (Mechanisms for action).

In response to stakeholders' requests we have included further information on how the plans and programmes of other organisations, particularly public bodies, can be used to help in achieving the objectives of the Thames River Basin Management Plan by incorporating these as policies and objectives for their own plans. This information is summarised in the main document and presented in more detail in an additional annex (Annex J).

- ***Consultation Response***: A small number of respondents were concerned that there was a failure to address source apportionment in the plan.

This is about identifying and allocating a scale to a particular pressure and ensuring the ‘polluter pays’ principle is adhered too. Having a reasonable understanding of the source apportionment of pressures leading to failure to achieve objectives was an important part of appraising the measures. This is particularly the case where regulatory measures are to be used. Before additional site specific measures are required to achieve objectives, source apportionment is considered. Without this it would not be possible to assess the effectiveness and therefore the benefits the potential measures would deliver. We agree there is more work needed in this area during the first plan cycle and as our understanding improves this will allow us to justify the use of additional measures.

- ***Consultation Response***: Some respondents commented that actions to address rural pollution appeared to concentrate on rural land management measures. Improving the performance of small rural sewage works and septic tanks appeared to have been largely overlooked.
- ***Consultation Response***: The Thames draft River Basin Management Plan appeared to some to be addressing only soil erosion caused by land-based activities, and ignoring sources such

as un-kerbed rural roads which have been found to make a significant contribution elsewhere in the UK.

The problems associated with small rural sewage treatment works has not been overlooked and is very much part of the current duties of the Environment Agency. We address rural pollution through our pollution prevention work, for which there is a measure in the Thames plan, and through our pollution incident investigation work. The Thames plan contains local actions to identify drainage pathways and to promote partnership work to address diffuse sediment pollution from highways and rural roads.

- ***Consultation Response***: Several respondents sought prioritisation for control of diffuse pollution at source, especially for priority substances. A reference in the Thames draft plan, indicating that 84% of river length is at risk from diffuse sources, was viewed as giving the misleading impression that the majority of phosphate was from agriculture or other diffuse sources.
- ***Consultation Response***: Whilst the process for appraising actions appeared to be robust, the outcomes were considered by some respondents to be disappointing, particularly with regard to tackling diffuse pollution.
- ***Consultation Response***: Some respondents supported the development of agricultural and non-agricultural diffuse pollution measures but considered that many of these had low ambition or small-scale application. In particular some were disappointed by the limited application of the Catchment Sensitive Farming Initiative, or other specific measures to deal with diffuse pollution, which they regarded as a missed opportunity.
- ***Consultation Response***: Some respondents wanted to see more measures for various co-delivering sectors directed at tackling diffuse pollution within the Water Framework Directive timescales. They would like to see such actions reflected in sector spend profiles, rather than relying on voluntary schemes or initiatives, as they have concerns over the effectiveness of such an approach. It was suggested that measures could be included to address diffuse pollution pressures when licensing new developments.

The plan now includes the development of measures to tackle diffuse pollution. Sectors such as local and central government, land use managers, the water industry and Environment Agency will play a vital part, working together, to implement actions to reduce the impact of diffuse pollution. Further work will be undertaken in the first River Basin Management Planning cycle to identify cost effective measures to tackle diffuse pollution. Those measures attributable to the work of local government have been strengthened in the plan and misleading wording has been changed.

The Thames River Basin Management Plan highlights the potential role of Environmental Stewardship and Catchment Sensitive Farming, and also of Entry Level and Higher Level Stewardship in tackling diffuse pollution, but the limitations of these mechanisms are recognised.

- ***Consultation Response***: Some respondents suggested that the appraisal of cost effectiveness of measures was inadequate and queried why some measures were not assessed.

Work to understand the cost effectiveness of measures started at a national level through Government work to ensure that a full suite of effective measures were in place to meet the Directive's requirements. As part of this work they developed and consulted on a range of new or amended measures to address issues of diffuse pollution and morphology. This work considered the cost effectiveness of different possible measures.

Working with a range of stakeholders, Defra also led the Preliminary Cost Effectiveness Analysis (pCEA). This assessment considered:

- what should be done in the first planning cycle using consistent national measures, and what happens if we take longer to meet objectives;
- the types and costs of measures to be decided at national or river basin district level, reducing the need for further detailed analysis;
- the overall costs and what is affordable;
- the rôle of industry and other organisations in implementing measures;
- what measures could be ruled in or out of the first cycle from a national assessment.

    - ***Consultation Response***: A number of respondents asked for more riparian tree planting to be included, rather than just riparian grass buffer zones. Some pointed out that forestry can be used as a buffer strip and that there are grants available from the Forestry Commission.

We will propose a new action that incorporates using trees to reduce diffuse pollution. We would welcome support and co-delivery with the Forestry Commission..

- ***Consultation Response***: Comments were provided on the actions in the plan in terms of their relevance, the partners required, and on inconsistencies between the main document and the Annexes.
- ***Consultation Response***: Some suggested that measures in Annex C could be presented in a more logical and consistent way, for example with regard to navigation.
- ***Consultation Response***: A few expressed concern that actions were too sector focused rather than cross-sector, and asked for cross-sector benefits to be identified.
- ***Consultation Response***: Some respondents asked for the lead organisation for each action to be identified.

All the actions included in the plan have benefits for the water environment and for people. The plan includes a range of actions, from those on a small-scale, which are often voluntary initiatives that will have benefits locally, through to large-scale and costly actions that will benefit whole catchments.

The main document of the plan aims to summarise the extent of action that will take place and to highlight some of the key actions. Annex C (Actions to deliver objectives) specifies the numerous actions that will be implemented in the river basin district during the first plan cycle. The intention of the description of actions in the main document to the plan is to summarise the extent of action that will take place and to highlight some of the key actions. The Thames plan has made this clearer, but it is not be possible to include the detail here that is in Annex C.

Actions have been included in the plan where assurances have been given that the owners of those actions will carry them out during this first plan cycle. We have improved the definition of measures which is in the Thames plan, and the lead organisation has been clearly identified. Annex C notes the lead organisations and partners for each action. Many measures rely on a number of partners for delivery and there are examples of cross-sector benefits. Some current pilot projects in Thames river basin district aim to demonstrate how multiple benefits can be achieved by working together. In some cases actions would benefit from the participation of further partners, and we encourage them to come forward as delivery plans are developed.

- ***Consultation Response***: Some respondents asked for detail about the measures to be taken at the water body level to be included in the Thames plan, or in supplementary plans.
- ***Consultation Response***: Local authorities asked for actions to be listed according to their areas, to allow councils to clearly identify the measures with which they are able to engage.

It is not possible to include this amount of detail in the main document to the plan. However, where we can unambiguously tie the action to a particular water body we will be able to provide this information, either in Annex C (Actions to deliver objectives) or it will be provided in alternative formats in December 2009. Some measures are deliberately generic to enable detail to be applied appropriately at water body level during the implementation phase.

It has not been possible to list actions according to local authority or other boundaries for this plan. However, we are considering what further steps we can take to present information in the plan so that it is tailored to individual sectors. This will form part of our ongoing work on engagement and implementation during the first river basin management planning cycle.

It should be kept in mind that identifying where the action takes place does not necessarily define where the action will provide its benefits. Actions may have a localised effect within a water body, or could affect a much larger area. For example, all the water bodies downstream of a sewage effluent discharge will benefit from improvement to the sewage treatment works concerned.

- ***Consultation Response***: Local government respondents commented that measures for that sector should reflect the breadth of work and responsibilities of local authorities. The plan should not rely solely on local government responsibilities linked to planning.

We accept that planning work is likely to be one of the key delivery mechanisms for actions in the plan and acknowledge that other departments within local authorities can also play a significant role in realising the objectives. We have sought to develop appropriate actions that address this point.

- ***Consultation Response***: There is general support for the use of sustainable urban drainage systems (SUDS). However, several local authorities responded that SUDS are not always applicable in certain areas (for example, due to local environmental conditions), and the benefits that they can realise may vary.
- ***Consultation Response***: There was a call for clarification over the relative roles and responsibilities in respect of the long-term

management and maintenance of SUDS – with concern that this would potentially become another burden on local authorities.

We have amended the local action relating to the inclusion of SUDS in new development, and it has now been further sub-divided so that there are actions linked to the relevant regional policy framework. It is accepted that SUDS would not be appropriate in every instance, and this will be dealt with in the normal way through the planning system, with the application of material considerations.

Whilst long term management and maintenance of SUDS is clearly a key consideration, this issue could not be tackled within the remit of the River Basin Management Plan. This matter is being addressed in the Floods and Water Management Bill, mentioned earlier.

- ***Consultation Response***: It was pointed out that planning alone cannot deliver water neutrality as the current planning system does not have clear mechanisms for delivering retro-fitting of water efficiency devices. The planning system can, therefore, only assist in delivering water neutrality by ensuring water efficiency standards are applied to new development. Further work will be required on applying the concept of water neutrality before it can be adopted into spatial plans.
- ***Consultation Response***: There was support for the range of actions relating to planning and urban development which were included in the programme of measures (in Annexes B and C). For example: providing advice to local authorities and developers; incorporating water efficiency and groundwater protection policies in Regional Spatial Strategies and Local Development Frameworks; and influencing the content of Local Planning Authorities' 'Green Infrastructure' Strategies.

We agree that the planning functions of local authorities cannot deliver all of the elements required to deliver water neutrality and that further work is needed.

Local authorities and others can contribute to improvements in existing buildings by addressing water efficiency in their own buildings and by helping to promote water efficiency and to engender cultural and behavioural changes. We have reviewed the local actions to better reflect these points.

- ***Consultation Response***: Some water companies stated that it is misleading for investigations into water industry assets, led by the Environment Agency, to be included as water industry sector actions.

Some of the Environment Agency led measures into water industry assets will not appear in the Thames plan as they were included in the draft Thames River Basin Management Plan in error.

- ***Consultation Response***: The power generation sector requested clarification of the consequences of the programme of measures for their sector, because these will influence their future projects.

Measures requiring action by the power generation sector has been grouped under the *Business and Industry* sector in the Thames plan, and those required to play a

part in implementing the measures are identified. The process of implementation is still to be determined.

- ***Consultation Response***: Some respondents considered that the proposals to deal with invasive non-native species (INNS) are insufficient.
- ***Consultation Response***: Most non-government organisations (NGOs) agreed with the need for an invasive non-native species Forum.
- ***Consultation Response***: Natural England (NE)believes INNS activities should be co-ordinated by the National Invasive Non-Native Species Forum. Also, national, regional and local partnerships should, they said, deliver identification guides and awareness campaigns as appropriate.
- ***Consultation Response***: Natural England (NE) considered that all work relating to invasive species should be prioritised in accordance with the 'Invasive Non Native Species Framework Strategy for Great Britain', using a "prevention, containment, control" hierarchy of response. They suggested that actions should be carefully considered, evidence-based, cost effective and proportionate to the level of risk. Some of the actions in the Thames plan needed to make this clearer.
- ***Consultation Response***: Natural England expects to work jointly with the Environment Agency and other partners, as agreed in Defra's water strategy, 'Future Water' (2008). NE has agreed to play a major role in the control of invasive species, provided they are given appropriate powers and a budget.
- ***Consultation Response***: Natural England commented that some NNIS actions were ambiguous. For example some did not describe the scale or nature of what can be achieved realistically.
- ***Consultation Response***: Natural England favoured targeting sites where there is a risk to the integrity of Sites of Special Scientific Interest and Natura 2000 Protected Areas. However they realised that other partners may have different priorities.

The Thames River Basin Management Plan contains actions relating to developing INNS identification guides, training programmes, and education and awareness campaigns. There is also an action to 'undertake research into the effects of INNS on Good Ecological Status'.

The organisation and scale of work that is needed for INNS is being investigated within the Thames River Basin District. We support the view that INNS work should be agreed as part of a forum and will seek to agree with Natural England the most effective way to work together to take actions forward.

We broadly agree with these comments from Natural England and note that they are in accordance with the National Framework Strategy and NE's draft INNS Policy.

The aim of the Thames River Basin Management Plan is for all water bodies to achieve Good Ecological Status or Good Ecological Potential. Where INNS may cause a threat to Sites of Special Scientific Interest or protected areas, we will consider how or other mechanisms could help to highlight work which Natural England believes to be a priority.

- ***Consultation Response***: The programme of measures for estuarine and coastal waters was considered by some to be lacking in content and to rely too heavily on exemptions and deferment of targets.
- ***Consultation Response***: Some requested clarification regarding various measures to remove and control invasive non-native species and asked for evidence of any problems in the Thames estuary.
- ***Consultation Response***: Some also asked whether INNS measures were intended for fresh or saline water bodies, and whether they were aimed at recreational or commercial navigation.

This is a particularly complex issue especially as some estuarine species have a planktonic life stage which is difficult to control. Issues with Mitten Crabs and other riparian INNS in the estuary are well known. We agree that further work is required to ascertain which species can be controlled effectively and what measures are needed to mitigate their effects.

Work will be undertaken in freshwater water bodies based on the priorities for the river basin district. This will be dealt with as part of the work agreed with the regional INNS fora and Natural England.

- ***Consultation Response***: The request was made for a Catchment / River Restoration Fund similar to that in Scotland which would be accessible to the Environment Agency, local government bodies and the voluntary sector.

Defra have already undertaken a scoping project to identify options for the development of a catchment restoration fund. These options will be considered with stakeholders with a view to the establishment of a possible fund from within the first cycle.

As described earlier, Defra have made available £10M to the Environment Agency, the Association of Rivers Trusts, Natural England and others to deliver Water Framework Directive objectives in England this year. A significant proportion of this will go towards addressing priority measures for hydromorphology i.e. removal of priority barriers to fish and sediment controls.

- ***Consultation Response***: Questions were raised about how the success of the actions will be measured.

The objectives for each water body has been set out in some detail in Annex B. Measures have been designed, overall, to contribute to the achievement of these objectives (and the objectives for protected areas in Annex D) and this will be the main measure of their success.

- ***Consultation Response***: Clarification was sought as to who will be responsible for auditing that the actions proposed have been properly implemented and are being monitored

It will be the responsibility of the lead organisation to ensure that a measure is implemented and the Environment Agency will report achievement through water body classification and reporting. The method of tracking progress has not been defined as yet.

4.8 Implementation

- ***Consultation Response***: Respondents largely supported the Scenario C actions. There was a willingness to work with the Environment Agency to implement these actions, and statements about what the respondents could contribute. Some detail was also provided about how the measures could actually be implemented.
- ***Consultation Response***: There were offers of help and requests to be consulted on supplementary plans, possibly at the catchment scale. Stakeholders asked how more stakeholder engagement would happen at the catchment level and more local knowledge be used in implementation. One respondent suggested universities should be considered as stakeholders to facilitate innovation.
- ***Consultation Response***: Some respondents suggested that stakeholders should be engaged in decision making, not just in a consultation exercise, and stakeholder groups should be used to facilitate adaptation instead of using regulation.
- ***Consultation Response***: The river basin approach made it difficult to see the local perspective, some respondents thought, and suggested that inclusion of demographic and development trends would be useful.
- ***Consultation Response***: It was felt that the Liaison Panel role should change to focus on implementation. There were some requests to be involved with the Liaison Panel.

The Thames River Basin Management Plan has been developed following guidance from Defra, and with the advice of the Liaison Panel. The Environment Agency has found the liaison panel approach extremely valuable, and will continue to work with them throughout the plan delivery period.

For the next two to three years, the role of the panel will change to monitoring overall progress of delivery, preparing for the second cycle and encouraging river basin district wide initiatives through their sector representative approach. By 2012 work will be starting to develop the second cycle plan.

Whilst the concept of sector representation at river basin district level has generally worked very well, it has become evident that it is not well suited to locally-based organisations, notably local authorities. Given that delivery of the plan outcomes is focused on ‘on the ground’ activities, it is clear that additional ways of working are needed to ensure maximum involvement and delivery from locally-based organisations and people. We will explore ways of expanding the co-delivery concept that has proved so useful at river basin district level at a catchment level. There is also an expectation that new, innovative ways of working together will help deliver more for the environment than we have been able to capture in the Thames River Basin Management Plan.

We will be working to translate ‘in principle’ support for measures that were included in the draft plan Scenario C into positive action on the ground, by working closely with partners as we develop the detail of implementation

At this stage the Environment Agency does not wish to be prescriptive about the arrangements to be adopted in each catchment. The only pre-requisites that the Environment Agency would wish to promote would be that an integrated, catchment wide approach is adopted, and that delivery should be carried out in the most cost effective and efficient way. This is very likely to mean a sharing of roles and

responsibilities depending on issues and locations. There are clearly administrative support constraints, but it is hoped that, if the delivery arrangements are truly shared, best use should be made of the resources available to co-deliverers as well as the Environment Agency.

- ***Consultation Response***: Respondents pointed out that public engagement can lead to social change and increase public participation, to help deliver the Water Framework Directive.
- ***Consultation Response***: Some voluntary and charitable organisations considered they were not given sufficient recognition as co-deliverers. They pointed out that delivering the Water Framework Directive with and through stakeholder organisations (including voluntary) would aid participation with the public, volunteers, communities and education, with whom they have strong links.
- ***Consultation Response***: Respondents suggested that support be provided to educate and train volunteer groups to facilitate delivery of measures, alongside other co-deliverers.
- ***Consultation Response***: One local group had been unaware of the draft Thames River Basin Management Plan and commented there had been no local advertising of the consultation.

The Environment Agency is keen to take up offers of help from co-deliverers and others during the implementation phase. Partnership working, including work with environmental volunteering organisations will be a priority for implementing the River Basin Management Plan. We recognise and welcome the involvement of partner organisations in helping deliver measures and we will seek to form partnerships as more detailed implementation plans are developed. We are already working with many partners in a number of areas and seek to develop relationships further. We invite organisations to offer their support for individual measures.

- ***Consultation Response***: With public and community engagement requirements included in the Water Framework Directive, it was suggested that a baseline (reference) measurement of current levels of community engagement should be established.

This is a helpful suggestion and we are discussing the value and how best to undertake this work without diverting from progress with the objectives in the River Basin Management Plan

4.9 Legislation and Water Framework Directive interpretation

- ***Consultation Response***: Many respondents felt that new legislation is required to assist with meeting River Basin Management Plan requirements. There was also a call for the Environment Agency to improve enforcement of existing legislation and be given all necessary legal powers. Respondents felt that the Environment Agency should be more willing to use existing powers to tackle diffuse pollution.
- ***Consultation Response***: There was concern over a perceived reliance on soft, voluntary measures. There was a request for a regulatory approach that includes greater use of new mechanisms such as Water Protection Zones.

- ***Consultation Response***: It was pointed out that other drivers can help deliver Water Framework Directive targets with multiple benefits, however it wasn't clear how actions required by other legislation, such as the Water Resources Act, will contribute to good status.
- ***Consultation Response***: One water company was concerned that investigations would not be completed in time to allow them to develop replacement resources for the third cycle of the River Basin Management Plan. Any delay in determining the total sustainability reductions required would equally delay reducing abstraction..

The Water Framework Directive requires member states to have in place "basic measures" for regulation of the water environment. In England and Wales most of these basic measures are already in place through existing legislation – notably the Water Resources Act 1991 and the Water Act 2003.

We have duties and powers to prevent and control pollution. We will continue to use these to set and enforce permits for discharges, to address the risk of pollution incidents, and to tackle diffuse pollution. New conditions in environmental permits will be included where needed to meet the new River Basin Management Plan objectives and requirements. Our incident and enforcement policy will continue to target action in the context of the new objectives and requirements, whilst conforming with the principles of risk based regulation and the Regulators' Compliance Code.

Parts of the Water Resources Act are being transferred into the Environmental Permitting Regulations regime. These will provide a common platform for the enforcement of offences, and for determining all environmental permits. This will simplify and streamline the overall regulatory process and make it more efficient and effective.

Where we believe our existing powers, or softer or voluntary initiatives, will not do the job, we will promote regulatory mechanisms such as Water Protection Zones. We are carrying out a pilot to better understand how Water Protection Zones can be used, and to ensure a streamlined approach to their use in the future.

A small number of pilot Water Protection Zones will be promoted nationally in the first river basin management cycle where there is clear evidence that voluntary mechanisms such as Catchment Sensitive Farming and Pollution Prevention Campaigns will not be sufficient by themselves. New statutory measures will be sought within these Water Protection Zones after full public consultation on the issues involved. The Environment Agency wants to use Water Protection Zones to address the most vulnerable waters and achieve good status. We will prioritise the use of the Water Protection Zones for protected areas, such as Drinking Water Protected Areas, Special Areas of Conservation and Special Protection Areas.

We are also working with Government on a range of other approaches and the best tools for addressing diffuse pollution. Some of these may be for the targeted use of regulatory powers, such as Generally Binding Rules. Others will work through market incentives, the specifications of products, community partnerships and catchment sensitive farming.

The abstraction licensing system set up by the Water Resources Act 1963, and amended in the Water Resources Act 1991 and the Water Act 2003, has generally stood the test of time as a means of authorising abstraction, but has limitations in the ability to review licences. Some currently exempt abstractions such as trickle irrigation, dewatering and navigation, and also areas that are currently exempt from

abstraction licensing will be brought into control by regulations under the Water Act 2003. Additional mechanisms such as Catchment Abstraction Management Strategies (CAMS) and Water Company Resource Plans are providing the means to assess abstraction impacts and to find solutions where the impacts on the environment are not sustainable. We accept that delays need to be minimised as far as possible.

Many existing abstraction licences were granted in perpetuity, and some have the potential to adversely impact the environment. The Environment Agency has been working on this issue for some time under its Restoring Sustainable Abstraction Programme (RSA), but the legal mechanisms for changing these licences may be protracted, and may require the Environment Agency to pay compensation. Water company abstractions that may have the potential to adversely impact Habitats Directive sites are being submitted to the Office of Water Services (Ofwat) through the water company investment periodic review process (PR09) to fund changes. The cost of changing an abstraction/finding a new source of water can be very high and will be borne by the water user. The time to plan and implement these changes may also be long to avoid jeopardising public water supplies.

Defra are consulting on proposals for all abstraction licences to be time limited, which would allow periodic review and changes to be made to abstraction licences.

We will also work with Government to promote legislative change to meet the challenges of climate change, growth, and innovation.

- ***Consultation Response***: Some respondents, including some local authorities, raised the point that the legal duty is only to 'have regard to the River Basin Management Plan'. They could decide to overrule actions set out in the plan if they consider other material considerations to be of a greater priority.

Local authorities have a duty to have regard to the River Basin Management Plan when undertaking their normal planning functions. Were they to go against what is included in the plan, they would need to provide evidence demonstrating why the action in the plan is not viable.

- ***Consultation Response***: There were requests for more information on the link between the Water Framework Directive and the Marine Bill.

The Marine and Coastal Access Bill (currently passing through Parliament) will introduce a new strategic planning framework for the marine environment across England and Wales, underpinned by a UK-wide marine policy statement. There will also be a new marine licensing system, marine conservation zones for protection of nationally important species and habitats and two new delivery bodies for England - the Marine Management Organisation (MMO) and Inshore Fisheries and Conservation Authorities (IFCAs). This new legislation will provide the framework necessary to implement the requirements of the Marine Strategy Framework Directive (for Good Environmental Status) which is complementary to and overlaps with the River Basin Management Plan in coastal waters.

At the coast and in estuaries, marine plans will overlap with River Basin Management Plans. We are working closely with Defra and others to ensure that development of the marine policy statement and marine planning guidance is consistent with, and supports delivery of the River Basin Management Plan measures to achieve good

status. Likewise we are working with Defra to ensure that marine licensing decisions and inshore fisheries management in estuaries and coastal waters will be compliant with objectives of the River Basin Management Plan. The designation of marine conservation zones in these waters provides a further opportunity to contribute to achievement of Good Ecological Status.

- ***Consultation Response***: Respondents enquired how the requirement of Article 4(7) of the Water Framework Directive would be met in the plan and how the new developments will be dealt with.

The WFD requires an assessment of the impacts of all new physical modifications to ensure that they do not cause deterioration in the status of a groundwater body or ecological status or potential of a surface water body or prohibit a water body from meeting its ecological objectives. Article 4(7) sets out circumstances in which failure to achieve certain WFD objectives is permitted. Where a new modification does cause a water body to fail certain WFD objectives but meets a series of tests laid out in Article 4(7) then the modification can be permitted. Article 4(7) has been a requirement since December 2006. Article 4(7) assessments have been carried out for 'new developments' occurring between December 2006 to March 2009 and these are reported in the River Basin Management Plan (Annex B).

Future physical modifications in water bodies will need an assessment to determine whether they will impact on River Basin Management Plan objectives. The Environment Agency is writing a guide for organisations undertaking developments in water bodies. This will outline how to undertake Article 4(7) assessment to ensure compliance with the WFD.

4.10 Climate change

- ***Consultation Response***: Respondents supported the outcome of the assessment in Annex H in terms of changes to risks of pressures as a result of climate change and the effectiveness of the identified actions in a changing climate. However they wanted more information on how the Annex H assessment was performed.
- ***Consultation Response***: Respondents commented on the use of UK Climate Projections 2009 (UKCP09) projections and it was suggested that climate change would need to be considered more in on-going river basin management and that the Environment Agency should set an example in this respect.

Annex H looks at climate change impacts on the pressures, actions and achievement of Water Framework Directive objectives in the River Basin Management Plan. The assessment was qualitative. Measures were screened by considering whether they were likely to be inflexible or vulnerable to conditions under a changing climate. These assessments were not intended to inform decision making on their own. More robust assessments have been done previously on existing measures and those coming through processes such as the Periodic Review 2009.

The information presented in Annex H of the draft plan includes UK Climate Impacts Programme 2002 (UKCIP02) projections and the assessments of pressures and measures were done with these projections in mind. This was the most up to date information available at the time the draft plan was written.

On 18 June 2009 the new UKCP09 projections were released. We have replaced the UKCIP02 information with UKCP09 information in a revised Annex H. We have also re-screened the revised set of measures in the Thames River Basin Management Plan with a consideration of this new information.

- ***Consultation Response***: Respondents identified a number of Climate Change issues which were not listed in Annex H, such as pH changes in seawater.

Additional text has been added in the revised Annex H to fill a number of these gaps.

- ***Consultation Response***: It was disputed whether the carbon impacts of measures had been adequately addressed when considering options for action or that the overall carbon impact of the selected programmes of measures had been adequately assessed.

We have added text into Annex E of the plan to identify how the cost of carbon was included in option appraisal. For the Thames plan it has only been possible to quantify the carbon costs associated with Periodic Review 2009 water quality measures. This is where we expect the most significant carbon impacts will occur because the actions will include requirements for additional treatment, construction of new works or upgrades to existing work. The majority of other actions are likely to have low impact as they are investigations, partnerships or encouraging best practice management. We agree that for subsequent cycles, the carbon implications need to be adequately addressed to promote low energy measures for pressures.

For overall climate impact of the actions in the plan, the accompanying Strategic Environmental Assessment (SEA) report describes the potential carbon impacts of the programme of measures. The SEA report identifies the positive and negative climatic effects associated with the actions in the plan.

- ***Consultation Response***: Respondents identified the need to consider broad-scale policy issues in considering priorities between, for instance, water environment objectives and food production, renewable energy or the wider environment.

We agree climate change will need greater consideration as we develop subsequent planning cycles. A great deal of work is going on within government, the Environment Agency and other organisations.

River Basin Management Plan implementation will help target sites that are already at risk from existing pressures, prevent deterioration and improve the ecological condition of the water environment. As highlighted in “Climate Change, Adapting for Tomorrow” this should build resilience into our aquatic systems from the further risks of climate change. There is also the need to use the capacity of catchments to retain water and to release that water slowly to help avoid climate change impacts from floods and droughts.

Defra, (on behalf of the UK Biodiversity Partnership of which the Environment Agency is a partner) has published ‘Conserving biodiversity in a changing climate: guidance on building capacity to adapt’ (2007).

These both confirm that conserving existing biodiversity and reducing new and existing pressures should be the core principles upon which we build the climate change adaptation strategy for freshwater ecology.

It is also clear is that we will have to find ways to manage our urban and rural environments to balance the delivery of a multitude of objectives such as food security, renewable energy production and environmental quality.

- ***Consultation Response***: A large number of respondents from a broad spectrum of sectors thought that river basin management should be the focus to restore the natural characteristics of catchments to build resilience to climate change impacts. Some wanted policies and regulation for wider, more natural river corridors.

The Environment Agency would generally agree that restoring the “naturalness” of catchments will help protect against the further risk from climate change. To this end we are engaged in the Wetland Vision for England and the Countryside Council for Wales’s similar strategic approach to managing wetlands. Experience gained by partners and ourselves will help to inform work over the first plan cycle.

Actions were already contained the draft plans for England and Wales.

Examples from other plans include:-

- South-West Restoring the Mires on the moors project will restore significant areas of degraded bog and peat habitat. The intended benefits include re-establishing natural stream hydrology and encouraging water retention in the upland wetlands to delay and weaken peak river flows while augmenting low base flows at times of low rainfall. It will also improve water quality benefiting all river life including salmon and trout which are common in Exmoor river headwaters.
- The Sustainable Catchment Management Planning programme (SCAMP) in the North-West which is being delivered by United Utilities and Royal Society for the Protection of Birds. SCAMP is looking to implement land management conducive to meeting SSSI condition and water quality standards. Part of this work is to improve water quality further down the catchment by restoring degraded habitat higher in the catchment.
- Demonstration Test Catchment Projects. This is initially a 5-year Defra/Environment Agency funded programme which will work within three catchments: The Hampshire Avon, Wensum and Eden to implement mitigation measures for reducing diffuse pollution at a catchment scale and monitor their effectiveness on water quality and ecology.

The Projects listed above and many others will increase our knowledge of effective techniques that can be deployed more widely in later plan cycles.

The intent to improve catchment resilience has been reinforced and is now starting to be delivered through, for example, actions coming from the "Pitt Review" which followed flooding in 2007, and through the flood risk management initiative "Making Space for Water". Surface water management plans, which have been proposed from these initiatives, are intended to prevent rapid water runoff by using more natural and sustainable approaches to water management

- ***Consultation Response***: Respondents identified the need to develop monitoring programmes to detect climate change, particularly water

temperature monitoring, and to consider climate change in objective setting.

Water temperature is a useful indicator of climate change and UK organisations collect a lot of data on it. Until now that data has not been stored in one place or analysed for a climate change signal.

We are developing a Water Temperature Archive to address this problem. This will start with river data and move on to lakes and estuary sites. Once this is complete we will look at the long term monitoring network requirements and assessing the importance of any temperature signals detected for the River Basin Management Plan objectives.
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4.11 Impact assessment, costs and benefits

- ***Consultation Response***: There was concern about the very large share of costs falling to the water industry.
- ***Consultation Response***: There were concerns about the size of the increase in water bills necessary to fund the water industry investments, and the impacts on society. Coupled with this was the concern about the introduction of compulsory metering and the potential for 'water poverty'.
- ***Consultation Response***: Some respondents wanted more information on disproportionate costs and technical feasibility.
- ***Consultation Response***: The risk of 'gold-plating', with costs exceeding benefits, was mentioned by some. Some considered that stakeholder expectations may be raised unjustifiably.

The Impact Assessment has been amended in light of the consultation responses. The final Impact Assessment will describe the reference case of existing actions (Scenario A in the draft plan) but the main focus is on the costs and benefits of implementing the main policy option. This relates to the new policy actions arising from the introduction of the River Basin Management Plan on both private and public sectors.

The largest share of the costs in the main policy option will continue to relate to the water sector. This is in accordance with the findings from the Defra led Collaborative Research Programme which undertook a preliminary cost effectiveness assessment (pCEA) of measures. This work highlighted that the greatest certainty of outcomes was via those relating to the water industry rather than other sectors (for example agriculture) where further investigations were needed. It is also consistent with the updated National Impact Assessment published in February 2008 which recommended applying a phased approach to implementing the River Basin Management Plan over the three cycles. The assumption in the National Impact Assessment was that by undertaking investigations in the first cycle a more targeted and cost effective set of measures could be applied in subsequent cycles. This would reduce the overall cost of delivering the target Water Framework Directive outcome.

Our approach since the draft version of the Impact Assessment has been to review the cost information and ensure that only new measures (rather than existing) are included and to ensure that the costs relating to these measures are robust. There were also a number of measures with missing cost information, which we have now included in the assessment.

The Environment Agency has also worked closely with Ofwat and Defra to undertake a distributional cost assessment of water company measures in accordance with the Ministerial River Basin Planning Guidance (volume 2). This work took account of cost benefit and affordability considerations. The Environment Agency has also undertaken a peer review of the benefits values used in the Final Impact Assessment to ensure that the values used are accurate. The approach is clearly explained in a supporting document that will be issued at the same time as the Thames River Basin Management Plan Impact Assessment.

Through a Collaborative Research Programme, Defra developed guidance on the evidence required to justify disproportionate cost or expense decisions under the Water Framework Directive. This is contained in River Basin Planning Guidance Volumes 1 and 2. There is also European guidance on the use of Exemptions and Disproportionate costs, which the Environment Agency has taken into account in its assessments.

The Environment Agency has worked closely with both Defra and Ofwat in following the guidance for disproportionate cost analysis for the water industry. The results from the analysis indicated that WFD PR09 actions had a low overall effect on water customer bills and a negligible effect on water poverty.

Disproportionate cost is not just about the overall balance between costs and benefits, but also about the distribution of those costs and benefits (who pays and who benefits). It should be noted that negative distributional consequences may only be transitory – for example losses of business and jobs may be compensated by increases in the activity of other firms within or outside the area being looked at.

- ***Consultation Response***: Concern was expressed about smaller treatment works which have been little affected by the Urban Waste Water Treatment Directive in the UK.
- ***Consultation Response***: It was suggested that the costs and benefits of addressing phosphate from smaller works should be re-assessed.

We have taken the costs of addressing pollution from small sewage treatment works into account in the River Basin Management Plan impact assessments, where specific sewage treatment works have been identified as needing improvement. However, in some cases the impact of small sewage treatment works is not well understood. There is a measure in the Thames River Basin Management Plan which covers our investigative work to understand the problem, identify sources of pollution and determine cost-effective measures

- ***Consultation Response***: It was pointed out that economic assessments resulting from changes to the National Environment Programme (Periodic Review 2009) will need to be revisited.

The Impact Assessment will be revised in line with the Thames River Basin Management Plan.

- ***Consultation Response***: Some respondents were concerned that the value of features with no monetary worth has been vastly underestimated, for example eco-system services.

- ***Consultation Response***: Local government will be expected to lead on many key actions which have considerable resource implications for local authorities. A number of responses voiced concern about the extent to which the River Basin Management Plan has considered the resource implications for local authorities.
- ***Consultation Response***: If new responsibilities are to be placed on local authorities they feel that additional funding should be sought, and should be commensurate with those responsibilities.
- ***Consultation Response***: Local authorities believe the plan is inadequately resourced and relies too heavily on passing the costs of implementation on to industry and local government. There is limited consideration of the knock on effects to the consumer and prospects of a prolonged economic down-turn, they believe.

It has not been possible at this stage to describe values for ecosystem services so these have not been included, but we have considered resource implications throughout the development of the River Basin Management Plan. This was one of the key discussion points for workshops held with the local Government sector. We have removed actions that were not considered to be viable, due to resource implications for the local authority. The Impact Assessment section of the plan has also informed this process.

5 Next steps

Individuals who wish to follow up their responses, or points made within this document, in more detail are welcome to contact us.

We have used the responses from this consultation to inform the development and/or delivery of the Thames River Basin Management Plan. The plan has set out the issues facing the water environment in the Thames River Basin District and the actions planned to improve it between 2009 and 2015.

All River Basin Management Plans will be presented to Government for approval on 22 September 2009 and will be published on 22 December 2009. Once the plan has been submitted to Government in September you will be able to view what was submitted on our website.

Further information about the Water Framework Directive, the Thames River Basin District and delivery of the River Basin Management Plans can be found on our website at www.environment-agency.gov.uk/wfd. Alternatively you can contact us in any of these ways:

- email at ThamesRBD@environment-agency.gov.uk
- phone on 08708 506506
- post to Environment Agency, Thames Regional Office, Kings Meadow House, Kings Meadow Road, Reading, Berkshire RG1 8DQ.

Annex 1

Responses received from local workshops and meetings

Workshops and meetings were held with all interested sectors throughout Thames River Basin District from February to June 2009. Workshops generally included speakers from the Environment Agency and from the relevant sector, and covered a range of topics and key issues. Presentations and subsequent discussions were aimed at linking the Water Framework Directive and the Thames River Basin Management Plan to the work of the sector. This helped to clarify its relevance and understand how organisations and people can work together to implement the plan.

Workshop sessions focussed on:

- Thames River Basin Management Plan – the directive, the plan, process and timetable;
- how to navigate the plan and give a response;
- scenario C measures – how the sector can contribute.

Attendees' feedback from workshops and meetings was generally extremely favourable, and they were highly engaged in the process. The attendees showed widespread support for the plan and generally agreed that the proposed measures were appropriate.

The following table shows the comments, issues or concerns that workshop attendees raised regarding the plan in general:

Summary of comments

Sector workshops and meetings	Main comments
Water industry meeting	The water industry sector was well-informed about the Water Framework Directive and was engaged in the River Basin Management planning process. Therefore only one meeting was held with this sector during the consultation period. The aim of the meeting was to get an indication of the sector's responses to the consultation, and to provide an opportunity for the sector to raise any questions about the content of the draft Thames River Basin Management Plan. All water companies present at the meeting were intending to respond to the consultation. They raised the following questions and issues: • The classification methodology for artificial and heavily modified water bodies was questionable. • There was apparent disparity between the Catchment Abstraction Management Plans (CAMS) assessments and the Water Framework Directive groundwater classifications. • Potential large costs were associated with small improvement in compliance with 'Good Status' objective. This could discourage other sectors from playing their part. • Measures were still very much focused on end-of-pipe solutions. • More should be done to tackle diffuse pollution through catchment

	control measures. • There is a lack of measures led by local authorities and the Highways Agency. Water companies offered to assist the Environment Agency in engaging with local authorities. • There needs to be more work to engage farmers through others, where this can be more effective. • The draft Thames River Basin Management Plan included water company measures that are not specified in the National Environment Programme. Note: We included these measures in the draft Thames plan in error. We will remove them from the Thames plan. • There was no clear preference for sector- or catchment-based delivery plans. • It needs to be made clear who leads on measure delivery.
Ports sector meetings	The ports sector was primarily represented by Jan Brooke (a consultant appointed by three of the major ports in the district). We raised awareness among the established Dredging Liaison Group, which is hosted by Thames Estuary Partnership and has members of ports and dredging groups in the Thames district. We held meetings and ad hoc discussions. Attendees raised the following questions and issues: • There is potential for conflict between flood defence works and requirements of the Ports to minimise dredging impacts. This will affect Ports' ability to deliver Good Ecological Potential measures. • The links between the Water Framework Directive and Thames Estuary 2100 (TE2100) need to be clear. • Outer Thames and Thames Coastal North water bodies need to be considered for designation for coastal defence. • More detail is needed under the generic measures which have been set out for heavily modified water bodies, to ensure achievement of Good Ecological Potential. • Clarification was sought on how operational structures in the tidal tributaries are reviewed in relation to Good Ecological Potential. • Existing activities which are undertaken by ports under current legislation, should be included as scenario A measures in the programme of measures. • The lack of logic and clarity in measures may impact on the Ports and Navigation sectors. • The National Dredging and Disposal Framework needs to be clarified. • Port sector actions should be re-worded to ensure national consistency.
Business and industry sector	We did not organise specific meetings or workshops with the business and industry sector, instead we sent out briefings (see section 1).
Natural England workshop	We held one workshop with Natural England. Attendees raised the following questions and issues:

	• Natural England has a strong desire to work with Environment Agency to help achieve the Water Framework Directive's aims.
	• Resources need to be targeted better.
	• Existing tools need to be used better, in particular
	  o data sharing
	  o evidence base for actions
	• Environment Agency and Natural England staff need to be linked better on the ground and at events. They need to have a better understanding of what each other does.
	• Existing delivery mechanisms, including Entry Level Stewardship, Higher Level Stewardship, Land Management Advisory Service, Catchment Sensitive Farming and cross compliance, could help deliver the Water Framework Directive measures.
	• There should be a risk-based approach to invasive non-native species, and several methods for control programmes.

Environmental Non-Governmental Organisations (eNGOs) workshop	In addition to the general aims of the workshop, the eNGOs focused on invasive non-native species (INNS) and the need for: • scientifically proven methods of eradication, • more money, • a more co-ordinated approach. The enormity of the task was recognised, and therefore the need to identify and focus on high-risk sites. Attendees raised the following questions and issues: • INNS management needs a Regional forum. • The INNS Regional forum would need to link with local bio-diversity fora to join up work and secure their achievements. • INNS eradication needs to be co-ordinated at a river basin level. • More scientifically proven methods of NNIS eradication are needed. • INNS management needs: a co-ordinated approach, physical and web-based networks, and use of local resources (volunteers). • There is a need to co-operate with academic institutions and other bodies over INNS to help spread the cost and use existing expertise. • INNS high-risk areas should be identified within the river basin district. • An easy reporting system for INNS is required. • There is a lack of funding regarding INNS - we may be unable to achieve our goals without extra resources. • There is a need to ensure public and private bodies are undertaking their statutory requirements regarding INNS on their landholdings. • Economic incentives are required for commercial organisations to help with INNS. • NGOs are well placed to help with INNS, but volunteers and land managers need training if they are going to help manage INNS. • Clear, easy to use identification materials are required for INNS.
Navigation and waterways meetings	We did not hold specific workshops for navigation and waterways because a well-developed communications and information network already existed.

	In addition to the activities listed in section 1, we consulted with key recreational users and leisure boaters through fora such as the Thames Estuary Partnership, Department for Environment, Food and Rural Affairs (DEFRA) sector group (which is dominated by regional officers from London and the south east), and key direct links with national governing bodies for sport. The commercial sector and other navigation authorities were fully engaged through the Association of Inland Navigation Authorities, consultants working on the Directive for the Ports Sector and individual meetings with key harbour authorities.
Agriculture workshops	We held five workshops for the agriculture sector to discuss the Water Framework Directive. Three were area events targeting farmers. Two were regional events targeting farm advisors and agronomists. Attendees raised the following questions and issues • The majority of actions relating to agriculture are promoting best practice and there maybe reluctance to change amongst the more traditional farming communities. However, the industry needs to be aware that further regulation is an option in the future if best practice is not successful. • There is a lack of awareness among the farming community regarding diffuse pollution. • There is a lack of evidence that diffuse pollution is harmful. It is important that the WFD messages do not come solely from the Environment Agency, but also from co-deliverers.
Fisheries and angling sector workshops	We held two workshops for the fisheries and angling sector, and attended existing meetings. Attendees raised the following questions and issues: • The sensitivity and location of fish monitoring sites. • Lack of ambition of the Thames draft River Basin Management Plan. • The use of cost-benefit analysis, in particular methods for quantifying environmental benefit. • The potential impact of hydropower schemes and Gateway port development - how they fit with the concept of “no deterioration”. • Where is the funding going to come from? • Dialogue with delivery partners will be crucial. • The status of monitoring within the tideway. • Potential mitten crab fishery. • More Environment Agency engagement is needed with Kent and Essex Sea Fisheries Committee.

Darent and Cray, and Medway and Swale cross-sector workshops	We held one workshop for Darent and Cray, and one for Medway and Swale. Attendees raised the following questions and issues: • Angling clubs would like to be more involved and help more. • Planners and consultants can enable softer engineering solutions in new developments. • Education of catchment issues in schools and colleges is important. • Good practice should be promoted widely. • Stakeholders want to continue to be included and updated. • There is a need to build on a strong vision and ensure everyone understands it. • More locally run groups and workshops would facilitate better working together. • The impact of road gully pollution needs to be investigated – especially off major highways. • People value their catchment for aesthetics, fishing, amenity, landscape, water quality, recreation and special value (for example chalk).
Local Government Sector Workshops	We held a one day seminar for the local government sector, which was supported by a briefing note prepared for the sector. Discussions surrounded a wide range of key issues for the river basin district, but focused on the measures set out in the draft Thames River Basin Management Plan, and how to achieve them. Feedback from the day was very positive and demonstrated a good understanding of the issues by this sector. Attendees raised the following questions and issues: • The need for a firm, robust evidence to demonstrate that measures will deliver objectives and to warrant expenditure. • The need for evidence to target actions at sensitive or vulnerable areas, or where they will be most effective; and the need for sharing of data and expertise to increase efficiency. • The need to clarify what the measures mean, with 'joined up' advice, technical support and guidance on how to implement measures - especially in relation to how measures can be delivered through planning processes. • Public perception needs to change to make some actions achievable. Increased public understanding will help to achieve goals and justify public spending on measures. • The need for partnership working to achieve delivery of the plan and its measures was seen as very important. In particular, cross-sector working will be key to delivery of certain measure in the plan. • Many measures were seen as general concepts to be adopted, rather than as water body specific, and this raised concerns over deliverability. • The need for greater clarity over roles and responsibilities in relation to

	certain measures – in particular clarity over the lead roles for measures and the resource implications of this. For example, for the identification and rectification of misconnections in existing development. • Many felt that promoting inclusion of water environment quality targets in Local Area Agreements was not within their remit to monitor or control, and they would be reluctant to sign up to this. • Investigating and mapping land drainage discharges, for example from highways, would be complex and expensive. Evidence of the extent of the problem should be clarified (by the Environment Agency). It was felt that the cost of some measures may mean that they cannot be delivered. • Local authorities could act in partnership to tackle diffuse rural pollution (for example from highways), but this would need to be targeted and led by the Environment Agency. • There was overall support for the use of Sustainable Drainage Systems in new development, however, concern was raised about issues of ownership, maintenance costs, responsibilities and the implications of the Pitt Review. Links to flood risk should be considered in actions. • Water efficiency and neutrality were discussed. Support from Government would be needed to help deliver neutrality. Concerns were raised as to what can realistically be delivered by local authorities through the planning system, and as to the economic implications. • Some actions need national or government help, for example to strengthen the Building Regulations in relation to misconnections, and to require monitoring of S106 agreements to ensure they are implemented. • Resources are a key issue to avoid cutting other services. Actions could be cost prohibitive or aspirational but realistically unachievable. It was felt that there was a lack of information on how some actions could be achieved. • There was a perceived need for more standardised approaches across the river basin district. It was felt that help from Government and the Environment Agency would greatly facilitate this. • Existing frameworks could be used as a potential means of delivery of some actions by 2015, for example local partnerships, Local Development Frameworks, Local Area Action Plans, Surface Water Management Plans, Sustainable Communities Strategies, Codes for Sustainable Homes, Section 106 Agreements and planning conditions.

Summary

The Environment Agency received very positive feedback from these meetings and workshops, showing that delegates were well-informed and gained a much better understanding of the River Basin Management Plan and the Water Framework Directive. There was wide and vigorous debate. Several imaginative and creative potential solutions were proposed while the challenges and constraints of new work areas were recognised as extensive. Delegates felt they had opportunity and time to comment. Most delegates were enthusiastic, supportive and keen to be involved. They will be an important strategic resource in implementing the plan. Future support in delivering actions and key messages is essential.

We encouraged everyone we met to raise the issues discussed when making their formal response to the consultation. The actions the Environment Agency will take as a result of the workshops and meetings are included in section 4, together with other responses to the consultation. We will also modify certain measures, elevate some measures from scenario C to B and remove some measures from the River Basin Management Plan.

You can request further information on the workshops via the contact details in section 5 of the response document.

Annex 2

List of acronyms

AWB	Artificial water body
CAMS	Catchment Abstraction Management Plans
CLA	Country Land and Business Association
Defra	Department for Environment, Food and Rural Affairs
DrWPA	Drinking Water Protected Areas
EA	Environment Agency
eNGO	Environmental non-governmental organisation
GEP	Good Ecological Potential
GES	Good Ecological Status
A/HMWB	Artificial / heavily modified water body
LDF	Local Development Framework
NE	Natural England
NFU	National Farmers' Union
NGO	Non-governmental organisation
NNIS	Non-native invasive species
Ofwat	The Water Services Regulation Authority
PoM	Programme of measures
PR09	Periodic Review of Water Price Limits 2009
PSA	Public Service Agreement (Defra)
RBD	River basin district
RBMP	River basin management Plan
RSA	The Environment Agency's Restoring Sustainable Abstraction Programme
RSS	Regional Spatial Strategy (local authority)
SEA	Strategic Environmental Assessment
SIMCAT	The Environment Agency's mathematical river water quality model
SSSI	Site of Special Scientific Interest
TE2100	The Environment Agency's Thames Estuary 2100 project
UKCIP02	UK Climate Impacts Programme 2002
UKCP09	UK Climate Projections 2009
UKTAG	UK Technical Advisory Group
WAG	Welsh Assembly Government
WFD	Water Framework Directive
WPZ	Water Protection Zone

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