

WFD RBMP – Economics

Collaborative Research Programme

Prospectus and Business Case

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1 DOCUMENT DESCRIPTION

1.1 Document Stakeholders

Stakeholder Name	Producer	Contributor	Reviewer	Approver

1.2 Change History

Version	Date	Comments
0.1	10/5/04	Initial draft for internal discussion
0.2	18/5/04	Draft for internal discussion
0.3	19/5/04	Draft for circulation to ESG and EASG
0.4	9/7/04	Draft for internal discussion
0.5	1/8/04	Draft for internal and collaborators discussion
0.6	16/8/04	Final Draft for internal and collaborators' comments prior to putting on EA web site

2 EXECUTIVE SUMMARY

This paper presents a prospectus and business case for a proposed draft Collaborative Research Programme (CRP) of work on assessing the costs and benefits of options in River Basin Management (RBM) for Implementing the Water Framework Directive (WFD).

This draft CRP has been developed by the Environment Agency and Defra in order to agree the business case internally to secure the necessary resources. It is also produced to assist other Government Departments, Agencies and Stakeholders in making a similar business case to secure additional funds on the basis of the likely benefits to their organisations.

The draft CRP builds on the three scoping studies that Defra commissioned in 2003/4 (steered by the Economics Steering Group and Economic Advisory Stakeholder Groups) most notably that entitled Cost-Effectiveness Analysis and Developing a Methodology for Assessing Disproportionate Costs.

It identifies and justifies the need for research, outlines the key collaborative requirements and prioritises and schedules the research in the light of the time and likely resources available.

The economic analysis to support the RBMP process is complicated and requires new empirical research as well as a common approach to the problem by all the stakeholders in some cases. Although the Environment Agency and SEPA are the competent authorities for the RBMP process, a wide range of stakeholders are involved. These stakeholders need to be involved in the process, collaboratively, from the start. They need to share the principles of the programme and agree the outputs as far as possible to enhance understanding and resolution of differences of opinion at later stages. Many organisations will directly benefit from a collaborative programme of research and it is right that such organisations make a financial contribution. This reflects the benefits they will receive as well as ensuring an ongoing corporate commitment. Some organisations, with a stake in this research, will however be unable to contribute financially. In recognition of this an executive role is provided for members of the group who will provide financial or agreed in kind support (over and above attendance at meetings etc.). Those unable to provide either financial or in kind support will be able to participate in the programme as observers.

Without a collaborative research programme it would be anticipated that each of the potential members of this programme would undertake their own research to develop methods and to inform their position on the issues addressed by this programme. Without acting in a collaborative manner there is a significant risk of duplicated effort and uncoordinated, conflicting and irresolvable outcomes. All are agreed that a collaborative programme is the best solution. However, as with any collaborative programme this requires some members to start the process to circumvent the traditional chicken-and-egg situation holding up progress. This draft CRP is an attempt to do that by outlining the benefits to the organisations already financially committed and thereby allowing other organisations to join the process. Moreover, to keep on the tight critical path for carrying out this research, we have had to embark on work on the first two tasks (projects 1 and 2), using funds already committed. This approach was endorsed by the ESG/EASG on the 23rd of April.

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As financial commitments are needed from other organisations this inevitably means that, this programme is not yet fully funded, especially in the later stages. But later versions of this business case will track progress as more stakeholders join the programme, and as we can accordingly enhance the scale of the work programme.

Currently financial commitments by Defra, Environment Agency and English Nature, DTI, Scottish Executive and Ofwat amount to almost £645K.

The draft CRP has the following sequential tasks:

1. To set out an initial identification and illustration of the issues related to the economic analysis and its role in the decision making for programmes of measures under the Water Framework Directive.
2. To determine how to assess costs and economic impacts for each of the main types of options affecting the major different sectors that will need to be appraised in River Basin Management Plans (RBMPs) in an even handed manner.
3. To scope and characterise the potentially disproportionately costly cases in RBMPs and the main gaps in information to draw up an appropriate process for assessing them and making best use of original and existing work to fill these gaps. This will include exploring alternative assessment methods.
4. Focus group analyses to specify clearly environmental damages of concern in these cases.
5. Development, trial and refinement of guidance on benefits assessment for RBMPs.
6. New studies to provide better assessments and related demand information of the major environmental benefits of RBMPs.

The timetable for the research may need to be refined in the light of the critical path analysis to be provided in task 1.

Funds committed¹ so far are (approximately): £K

Collaborator	2003/4	2004/5	2005/6	2006/7	2007/8	Total
EN contribution		5	10	10	tbc	25
EA contribution	20	70	90	185	tbc	365
Defra EPE contribution		50	50	50	50	200
Defra WQ contribution	40	tbc	Tbc	tbc	tbc	
DTI contribution		10	10	10	tbc	30
DTI Bus relations		20	Tbc	tbc	tbc	20
SE contribution		25	Tbc	tbc	tbc	25
Sniffer		10	Tbc	tbc	tbc	
Water industry research (UKWIR)			50 (tbc)	50 (tbc)	50 (tbc)	150

¹ The EA funds (365K) and Sniffer (£10k) are a firm commitment as are the funds allocated for 2004/05 to 2006/7. For other organisations, their later year funding is subject to the usual budgetary issues but represents the organisations estimate of what is being bid for from internal funding sources to support the programme. EN's contribution is dependent on the outcome of Haskins. Ofwat will contribute funding to sister projects relating to Water Industry regulation issues. SNIFFER funding of £150K for 2004/5 has been awarded for work on effectiveness, £10k of which will be allocated for work on costs for a Scotland/NI case study.

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Total contributions	60	180	210	305	100	815
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In addition to the above financial resources a number of organisations are contributing resources in kind. These are RSPB and UKMPG.

This funding represents two thirds of the estimated £1.5 million needed to properly fund this research. We seek collaboration and contributions from other organisations involved in WFD. UKWIR – the research organisation for the Water industry - have expressed strong interest in collaborating with this research and are bidding to contribute to the programme.

A DEFRA – Water Quality commitment of £200K per annum is being sought. This would bring the programme funds to £1,415K leaving approximately £100K further to fund the programme fully. However, a decision on this level of funding cannot be taken at this stage as it will depend on the overall Water Directorate research prioritisation exercise, to be started later this year. Risks that this level of funding will not be possible should be noted.

The work will be peer reviewed. There will be review workshops with stakeholders and experts in Autumn 2004/early 2005, end 2005, Summer 2006 and Feb 2008 to review the findings of the work and refine the next steps. There will review points on the shape of the programme in autumn 2004 and especially 2006 (before decisions on new work on benefits assessments).

3 BACKGROUND

Start /End Dates for the programme: April 2004 – March 2008

Organisation: This is a collaborative programme of research which will involve all the major stakeholders in the economic analysis for the RBMP in England, Wales, Scotland and Northern Ireland. Given the different interests of the collaborators, and the relevance of work to their individual circumstances, collaboration is by specific project rather than in terms of the programme as a whole. However, Defra, Environment Agency, DTI and English Nature are committed to all projects within the programme.

The organisational and governance structure for the CRP has yet to be finally agreed. However, the proposal for the draft programme is backed by the UK wide Economic Steering Group (ESG) and the Economic Advisory Stakeholder Groups (EASGs) of England and Wales and Scotland.

The original research proposal² was prepared by the Environment Agency and formally adopted by the Economic Steering Group as a collaborative research programme that would involve members of the ESG and EASG, with a secretariat provided by the Environment Agency. Guiding principles for the group (see Strategy) were discussed and adopted by the groups on the 23rd of April.

² Proposed Research Programme: Assessing costs and benefits of options in River Basin Management (RBM) for Implementing the Water Framework Directive (WFD): Paper for ESG and EASG meeting 23 April 2004 - (E(A)SG3/4/1)

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General business problem being addressed: The economic analysis to support the RBMP process is complicated and requires new empirical research as well as a common approach to the problem by all the stakeholders in some cases. Although the Environment Agency and SEPA are the competent authorities for the RBMP process, a wide range of stakeholders are involved. These stakeholders need to be involved in the process, collaboratively, from the start. They need to share the principles of the programme and agree the outputs as far as possible to enhance understanding and resolution of differences of opinion at later stages. Many organisations will directly benefit from a collaborative programme of research and it is right that such organisations make a financial contribution. This reflects the benefits they will receive as well as ensuring an ongoing corporate commitment. Some organisations, with a stake in this research, will however be unable to contribute financially. In recognition of this an executive role is provided for members of the group who will provide financial or agreed in kind support (over and above attendance at meetings etc.). Those unable to provide either financial or in kind support will be able to participate in the programme as observers.

Without a collaborative research programme it would be anticipated that each of the potential members of this programme would undertake their own research to develop methods and to inform their position on the issues addressed by this programme. Without acting in a collaborative manner there is a significant risk of duplicated effort and uncoordinated, conflicting and irresolvable outcomes. All are agreed that a collaborative programme is the best solution. However, as with any collaborative programme this requires some members to start the process to circumvent the traditional *chicken-and-egg* situation holding up progress. This draft CRP is an attempt to do that by outlining the benefits to the organisations already financially committed and thereby allowing other organisations to join the process. Moreover, to keep on the tight critical path for carrying out this research, we have had to embark on work on the first two tasks (projects 1 and 2), using funds already committed. This approach was endorsed by the ESG/EASG on the 23rd of April.

As financial commitments are needed from other organisations this inevitably means that, this programme is not yet fully funded, especially in the later stages. But later versions of this business case will track progress as more stakeholders join the programme, and as we can accordingly enhance the scale of the work programme.

Currently financial commitments and bids³ by Defra, Environment Agency, English Nature, DTI, Scottish Executive, SNIFFER, Ofwat and UKWIR amount to about £815K.

A DEFRA – Water Quality commitment of £200K per annum is being sought. This would bring the programme funds to £1,415K leaving approximately £100K further to fund the programme fully. However, a decision on this level of funding cannot be taken at this stage as it will depend on the overall Water Directorate research prioritisation exercise, to be started later this year. Risks that this level of funding will not be possible should be noted.

³ Some of these commitments are currently noted as amounts “bid” into existing research budgets and precise amounts will not be confirmed until these budgets are determined.

4 CURRENT SITUATION

In close collaboration with Defra and other Agencies, bodies and stakeholders, the Environment Agency and SEPA need to carry out economic analysis for implementing River Basin Management (RBM) (especially in line with Art 4 and Annex III of the Directive). This follows on from the three scoping studies commissioned by Defra in 2003/4 and similar studies undertaken in Scotland and Northern Ireland. In particular this work builds on the project entitled *Cost-Effectiveness Analysis and Developing a Methodology for Assessing Disproportionate Costs* which was led by UK Economics Steering Group.

Participants in the Collaborative Research Programme require this work to be done efficiently and in particular, they :

- **Need to understand costs of possible programmes of measures.** To this end, there is a need for major innovative work to develop an appropriate method for even-handed assessment of costs and economic impacts of measures across very different sectors (e.g. monopoly water industry, agriculture and other diffuse sources). Moreover, there is a clear need for an appraisal system that is fit for purpose to aid decision-making. Resulting measures need to be transparently, fairly and proportionately determined and applied.
- **Need to enhance understanding of assessments of environmental benefits** about which there are currently, considerable uncertainties (e.g. impacts on natural habitats, aquatic ecosystems, and impacts on amenity and property prices) so as to improve the basis for assessment (including use of benefits transfer) for the WFD.
- **Need to build on lessons** learnt from cost and benefits assessments for AMP4/PR04 in a way that is most appropriate and fitted to the particular needs of the WFD.
- **Need to engage with major parties and stakeholders** in a productive constructive dialogue to arrive at an appropriate method for assessing the costs and benefits of options in RBM and River Basin Management Plans (RBMPs).
- **Need a collaborative exercise**, which will make best use of available internal and external resources, expertise and capabilities.

A range of benefits can be identified for each of the potential collaborators:

For Defra/Scottish Executive/WAG/DoENI

A collaborative research programme for DEFRA/SE/WAG and DoENI is of clear advantage and is set out in the rest of this document. However the principle advantage, other than reducing the risks identified, is in ensuring a process which stakeholders are jointly committed and providing a forum in which technical and other issues are resolved, leaving any real issues, requiring ministerial or policy judgement, clearly exposed.

Financial contributions are currently being made by Defra and the Scottish Executive. A contribution from WAG is currently being considered.

For the Environment Agency/SEPA/EHS

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In addition to the advantages identified above, the Agencies will benefit from having the research clearly geared to policy makers and practitioner users' needs as well as enabling due consideration of practicalities and resource implications so as to arrive at fit for purpose assessment methods. It will also allow them to pool resources and share experiences. It will enable close liaison and integration with their technical teams engaged in work on RBMPs and ensure that the economic analysis and outputs can be readily used by their RBM teams.

A financial contribution is currently being made by the Environment Agency and the Scotland and Northern Ireland Forum for Environmental Research.

For English Nature

For English Nature, the key benefit of the Collaborative Programme will be through ensuring rigorous, transparent and objective analysis of issues, which in turn will enhance consideration of both the ecological and economic implications associated with implementation of the Water Framework Directive.

A financial contribution is currently being made by English Nature.

For Ofwat

A collaborative research programme will help Ofwat direct its activity aimed at improving its economic regulatory framework. In particular a collaborative programme will allow the development of analytical tools to scrutinise the water industry contribution to WFD environmental objectives achievement and related costs. This information compares with outputs of the analysis of other sectors, which are also contributing to the achievement of WFD environmental objectives. All sectors should be compared on equivalent basis. This collaborative research will help achieve this.

Ofwat will commit funds to undertake "sister" projects under the Collaborative Programme.

For other Government Departments DTI/ODPM/HMT/DfT

A range of benefits exist for other Government Departments. In addition to the benefits outlined above, DTI will benefit from the better information on costs and benefits to industry arising from different measures. This will help to ensure that measures that are implemented are cost-effective and do not place disproportionate burdens on UK industry. DTI will also benefit from the active stakeholder participation, which will reduce the risk of possible contention amongst industry when the programme of measures later goes out to consultation.

DTI are currently making a financial contribution. Discussions are ongoing with other Government Departments.

For Industry Groups and NGOs

The possibility to be actively involved in steering the research, to contribute experience and knowledge, and to discuss and resolve issues with other stakeholders are among the key benefits of collaboration for Industry Groups and NGOs. Additional financial contributions from collaborators will obviously also increase the scope and depth of the research that is carried out.

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In kind contributions are currently being considered by UKMPG and RSPB.

5 STRATEGY

The Collaborative Research Programme will be overseen by a Programme Steering Group. This Programme Steering Group, made up of contributing members of the ESG and EASG, will be responsible for the overall strategy. The chairmanship of the Programme Steering Group is still to be determined. The Environment Agency will provide the secretariat. Guiding principles, for the steering group, agreed at the ESG/EASG meeting on 23rd April are as follows:

Overall objective

- To steer the work on developing and applying a methodology and process to assess costs and benefits of options in River Basin Management. The purpose of this work is to assess cost-effectiveness of measures and to aid determination of whether or not they are disproportionately expensive.

Steering Group Membership and Leadership

- The steering group will be made up of organisations from within and outside government who are making financial (or non-financial) contributions to the projects. Organisations not contributing to the projects will be able to participate in the meetings as observers.
- Decisions of the steering group will be consensus based.
- IPR will be jointly owned by the funders. All outputs will be clearly badged as their outputs.

Quality of work

- Accountability for accuracy and thoroughness of the research will lie with the Programme Steering Group.
- Consideration will be given at the outset of each stage in the work, of the need for peer review and quality assurance, for example, by academic experts.
- Care will be taken to ensure that lessons learned from previous work are taken into account.

Compliance with existing government guidance

- The steering group will ensure that all work will comply with the guidance set out in the HMT Greenbook and other guidance on economic appraisal. This will include:
 1. Adherence to the guidance for assessing and quantifying costs and benefits.
 2. Taking a risk based approach to the appraisal of costs and benefits.
 3. Ensuring appraisals are proportionate to the measures being considered and take due consideration of resource implications for carrying them out.

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Approach

- A multi-method approach should be developed, not biased in favour of one approach or another, but selecting the best approach given the specific circumstances, on its merits.
- The approaches need to be fit for purpose for the (number and type of) decisions that will need to be made for RBMPs for the WFD.
- The approaches need to fit closely in with the critical path for analysis to support decision-making needed for RBMPs for the WFD. Setting out a decision-making process for RBMPs and the WFD and the critical path for carrying out and completing economic analysis to support it, will be the essential first step in the foundation work for the research programme.
- The approaches need to be deliverable within the time and resources available to the various parties involved in the work.
- The work will need to be prioritised and scheduled accordingly.
- The approach should recognise the paramount need for an even handed cross sectoral approach and the need to avoid possible biases in the selection of measures.
- The approach should strike an appropriate and agreed balance between the need for new valuation versus the use of benefits transfer – following best practice in this area (the group will need to identify what it considers to be best practice in this area).

Transparency

- The steering group will ensure that presentations and reports will be clear, logical, well founded, and geared towards helping the decisions at hand.
- Reports will provide sufficient evidence to support their conclusions and recommendations. They will provide an easy audit trail for the reader to check calculations, supporting evidence and assumptions.
- Consideration will be given at the outset as to how and when the findings are to be disseminated.
- Consideration will be given to the full range of users of the eventual information and will involve users and practitioners in the definition of outputs, ensuring transparency where possible.
- There will be periodic (approximately annual) workshops with stakeholders and experts to review the draft outputs from the research and discuss the next steps.
- There will be a mid-term review in June 2006 before any new valuation studies are carried out.

5.1 Overview

The final strategy to achieve these objectives will be refined by the Programme Steering Group, however, at this stage the plan is to meet the following specific research objectives.

1. To set out an initial identification and illustration of the issues related to the economic analysis and its role in the decision making for programmes of measures under the Water Framework Directive.
2. To determine how to assess costs and economic impacts for each of the distinctly different sectors for which control options will need to be appraised in RBMPs (agriculture vis a vis water industry). This may need to include analyses of stakeholders' views to specify clearly the costs and economic impacts about which they will be concerned.
3. To scope and characterise the potentially disproportionate costly cases in RBMPs and the main gaps in information on assessment of environmental benefits so as to draw up an appropriate process for assessing them. This could include consideration of developing a benefits transfer function that will enable best use of original survey work to fill these gaps.
4. Focus group analyses to specify clearly environmental benefits of concern in these cases
5. Develop and trial guidance on benefits assessment for RBMPs
6. To carry out original surveys to provide new and better valuations of the major environmental benefits of RBMPs.

5.2 Constraints and risks

The project entails the following risks and constraints concerning:

- i. Identifying a suitable contractor or consortia with the necessary expertise for the proposed individual research projects.
- ii. Developing an appropriate methodology will involve inter-disciplinary work as well as advances in practical application of latest research and methodologies. We need always to ensure that these are practicable and fit for purpose for RBM.
- iii. Identification of suitable study sites will require close co-operation with the Agencies' Head office policy and technical staff and area/region staff.
- iv. Co-operation of key participants and stakeholders such as: Defra, Ofwat, CPA and English Nature, UKWIR, SEPA and Scottish Executive, NFU, RSPB concerned with assessment of costs and benefits in the WFD.
- v. Difficulties in project managing this large programme, especially where it involves extensive liaison and collaboration with other stakeholders.
- vi. Difficulties in managing the financial transactions.

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A number of contractors have been identified as having the necessary expertise to successfully complete the projects. The tendering process will minimise possible risks identified under point (i). There will need to be a careful selection of those contractors best placed to do the work. Contractors will need to be carefully managed to ensure that they deliver the necessary products to achieve objectives on time, and on budget. The projects will have peer review processes built into their planning. It is likely that the work will be let through several contracts. The programme will be undertaken collaboratively with the stakeholders to address (v) and (vi) and also to make best use of the available limited research capacity. Memoranda of Agreement will be drawn up between the collaborators on specific projects to complement the overall Programme MOA. On (vi), it is proposed that collaborators transfer funds to the Environment Agency to manage the specific projects as they are tendered. The Steering Group will be able to review the payments from the funds to the contractors as the project progresses.

Issue (ii) will be addressed by working closely with the other disciplines both within and outside the collaborators in terms of close liaison with other disciplines (eg social issues team) and technical and policy experts in each organisation. Contractors will have multi-disciplinary expertise and a capability to work across the disciplines.

The risks identified under (iii) are common to field based studies and will be controlled by close liaison with policy and technical staff and regional and area staff.

Where there are dependencies on external events e.g. decisions coming from the Water Framework Directive, a phased approach will be adopted with break points at appropriate decision points. This will allow adjustment of projects to reflect external constraints, including the opportunity to NOT progress certain parts in the next phase if this is deemed to be inappropriate. This will optimise resource allocation.

5.3 Assumptions

A number of critical assumptions are made:

- That the overall target budget is met. Currently this is only part funded based on existing commitments. As further commitments are made the situation will improve. But the outputs discussed in this business case are dependant on full funding.
- A programme manager will co-ordinate the work into the overall project for economics in the Agency and in the WFD's projects for RBMP and Programmes of Measures.
- Individual projects will be awarded to appropriate contractors.

5.4 Financial costs

Task	Date for inputs	Planned Expenditure
1: Set out overall appraisal and decision making	2004/5	50
Workshop to discuss findings of 1 and launch programme	2004	10
2. Methodology to assess costs with virtual case studies	2004/6	200
2b:Pro formas	2005/6	120
Workshop 2: to discuss findings of cost methods study	2005/6	10
3: Scope and characterise costly options and their key uncertainties and develop assessment process	2004/6	175
4: Focus group analyses to clarify concerns/benefits 1 per type of scheme (16 @ £10k per scheme)	2005/7	160
Workshops 3+4: (2 day) to discuss findings of tasks 3 and 4 and new research needed		15
5: Guidance on Assessment	2006/8	150
6: 8 New studies at cost of £50-100k per new survey + guidance for doing surveys	2006/7	600
Workshop 5: (2 day) to discuss findings of studies and apply guidance on benefits assessment	2007/8	20
Total		1510

5.5 Non-Financial costs

There will be a cost in terms of staff time. Task one may largely be carried out by Agency and Defra staff with assistance from a contractor. Management of the consultancy work, and contributions to the steering group meetings will also entail a time cost.

5.6 Financial benefits

The benefits of this collaborative research will be to provide the UK with required information needed to meet the water quality standards of the WFD in the most cost effective and efficient way possible. There will be significant benefits, in terms of efficiency savings and avoided infraction costs, on top of the benefits from meeting the water quality standards.

6 RECOMMENDATIONS

It is recommended that those organisations who wish to contribute, commit to this programme as soon as possible, so that the best use can be made of their resources.

7 NEXT STEPS

The immediate urgent proposed tasks that we are currently taking forward are:

1. Task 1 above. It is proposed to carry this out in summer 2004 by economists and their policy colleagues in Defra, WAG, SE, Environment Agency, SEPA, Ofwat, English Nature and other parties involved in RBMP, using a contractor to facilitate the work. A workshop is proposed in autumn 2004 with stakeholders and experts to discuss this work.
2. To commission in early summer 2004 the work on cost-effectiveness to develop methodologies and guidance for estimating costs of the various types of control options and collate data on these costs. It is a priority to start this work now to allow the maximum time to inform the decisions on the draft Programme of Measures.

8 SIGN OFFS

This signoff acts as formal approval of the Business Case and authority to proceed to the next stage of the WFD RBMP Economics Collaborative Research Programme.

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9 ANNEX I – PROJECT DETAILS

Project 1: Set out overall appraisal and Decision-Making Context.

Project 2: Methodology to assess cost-effectiveness even-handedly for main types of options across main sectors

Project 3: Scoping and characterising potentially disproportionately costly options and their key environmental benefits and develop appropriate process for assessing them.

Project 4: Focus group analyses to specify environmental benefits

Project 5: Guidance on benefits assessment for RBMPs

Project 6: New study (or studies) to value the environmental benefits

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Project 1	Overall Appraisal and Decision-Making Context.		
Start Date	April 04	End Date	Late Summer 04
Project Manager			
Summary deliverable			
High confidence that the approach will be able to tackle real-world, most likely, trade-offs by developing a full and shared understanding of the likely appraisal and decision making issues to which economics will contribute. The aim is to provide preliminary information to assist the economic analysis and not to prejudice or otherwise pre-empt the longer term policy development processes.			
Key deliverables			
This project will			
<ul style="list-style-type: none"> • Provide clear policy context and focus for the study to the extent that this is possible at this early stage of the policy development process.. • Set out appraisals and decisions that will need to be undertaken by various parties at various levels (local/RBD by Environment Agency/SEPA and national by Defra, WAG and SE). • Set out the levels (local and national) at which these decisions will need to be made. • Specify the information that will be needed to inform these appraisals and decisions • Specify the form in which the outputs of the economic assessments of costs and benefits need to be presented so as to aid these appraisals and decisions. • Review the currently available economic appraisal systems as to assess their adequacy to appraise these options for the WFD. This includes: whether they can cover the information needed; whether they have a business as usual baseline to enable sound assessment of incremental costs and benefits of the options; whether they set out a linked and iterative qualitative, quantitative and monetary steps in the assessment and determine accordingly how far to go along these steps in defining an appropriate appraisal system. • Carry out an overall virtual exercise of such appraisal and decision-making processes for an illustration of the possible scale and nature of the WFD options for RBMP1. • Set out the critical path for when these decisions need to be made and the lead times for carrying out the cycles of supporting economic analyses. This will require refinement of the supporting economic analyses so that they can be effectively completed in time within the resources available. It will also require careful and close co-ordination with when the technical outputs from the RBC and RBM processes will be carried out. • Outline a basis for a decision-support method to collate and analyse the economic information on costs and benefits to aid these decisions. This will require follow up consultancy work. • Workshop with leading “decision-makers” and the institutions involved and the experts to discuss findings of above research. 			
Key inputs			
Steering group guidance on the Terms of Reference. Consultancy input to scope out the issues and develop an issues paper. Consultancy input to facilitate a decision makers brainstorming session. Input from decision making partners. Consultancy input to synthesis and present results. Feedback from stakeholder group. Project manager input			
Short summary			
This essential preliminary work will be carried out partly in-house by officials (with some small consultancy support) working under the aegis of Defra economists and policy officials and their Economics Steering Group and Economic Advisory Stakeholder Group on the WFD. This work will involve WAG, SE, SEPA, English Nature and Ofwat. There will be liaison with stakeholders on this work.			
It is proposed to hold a workshop towards the end of this project (in autumn 2004). This would be designed to enable funders, stakeholders and experts to set down the issues of concern to them and to scope out the proposed research work programme for tackling them. Naturally the initial proposed projects 2 –5 below would then need to be revised in the light of the findings of this workshop. Moreover, there would be a further review point regarding projects 4 and 5 which would also need to be further refined in the light of the further significant review workshops at the end of project 3.			
Methodology			
This is largely a scoping exercise. It is envisaged that consultants would develop an issues paper, based on initial internal brainstorming which could then be discussed by key decision makers and policy leads. Results would later inform a workshop involving stakeholders. The project will be broken into two phases so that initial outputs on two examples cases can be examined and discussed before progressing to the full analysis.			
Benefits from collaboration			
This is largely an exercise to ensure that technical specialists and policy leads understand each others’ perspectives, particularly on which types of decisions may need to be made, how they would be made and what technical and economic information would be needed to support them. Thus collaboration between economists and policy leads is central. As many of the decision making focus points will involve different partners (Agency, Ofwat, DAs etc.) collaboration here is also key. Input for legal teams will be needed in order to legal issues arising are identified and taken forward.			

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Project 2	Methodology to assess costs and economic impacts for main options for each sector.		
Start Date	June 04	End Date	End 05
Project Manager			
Summary deliverable			
To develop an appropriate methodology for an even-handed assessment of the costs and economic impacts across the different sectors needed to implement measures in RBMPs.			
Key deliverables			
This project will:			
<ol style="list-style-type: none"> a) Firm up list of about 30 main types of programmes of Measures (POM) options that the EA and SEPA will identify to be examined; building on the initial list in Annex 2 of the RPA report for Defra. b) Undertake focus group discussions with affected parties to clarify and specify their concerns regarding the effectiveness, costs and economic impacts of options under RBMPs. These findings will be carefully reviewed to ensure that they cover comprehensively their concerns but without double counting and that they comply with the technical definitions of costs agreed at the Defra workshop. c) Scope and characterise the main different types of options to be examined. It will draw on the analysis of decision-making for WFD in Task 1 above and will set out how the cost data will be used. d) Develop a peer reviewed practical methodology for estimating the financial and economic costs and the distribution of the economic impacts across all the sectors concerned for each of the main types of options to be examined. This will draw on the general methodology and definitions of terms in RPA's study for Defra to derive tailored methodologies for each of the main 32 types of options. e) Pilot trial applications of the methodology in the Agency's Ribble catchment collating the best available unit benchmark costs for the main options for the main sectors. This will be performed in conjunction with a trialing of the Agencies' draft methodology to assess effectiveness of these options (from companion study on effectiveness). This will form the basis for a preliminary cost-effectiveness analysis that the EA and SEPA (in collaboration with Ofwat and other bodies) would probably undertake in 2006 to draw up a proposed environment programme for RBMPs. This would be carried out once the initial iterations of River Basin Characterisation process has identified the water bodies at risk of failing to achieve good status and the specific activities causing such failures and then identified options for addressing these pressures. f) Develop a peer reviewed methodology for assessing effectiveness of the main types of options – this will be carried out in a companion Sniffer funded study that the Agencies will carry out in parallel with this study on costs. g) Collating (if possible in a database) the best available unit benchmark costs for the main options for the main sectors. h) Develop a peer reviewed process of proformas for deriving and presenting cost estimates for this draft RBMP proposed RBMP programme and for checking and validating them. This will include developing tailored proformas for stakeholders (or their representatives) to present the estimates of costs and economic impacts for each sector. i) Pilot trials of the pro forma for water companies, various types of farmers and other pressures in RBM. j) Workshop with leading "decision-makers" and the institutions involved and the experts to discuss findings. 			
Key inputs			
Steering group guidance on the Terms of Reference. Consultancy input to scope out sectoral cost functions and developing a methodology for estimating costs. Peer review. Consultancy input for collating costs. Feedback from stakeholder group. Project manager input.			
Short summary			
Effective and efficient implementation of measures in RBMPs requires an even-handed assessment of the costs, benefits and economic impacts for all the sectors affected by the control measures. This is a particularly important and urgent challenge for the WFD since the sectors concerned are distinctly different, with differing abilities to pass through the costs of RBMP measures into price increases. Therefore there could be significantly different distribution of the economic impacts of options for these different sectors.			
Methodology			
<p>The study will have 3 phases. The study will have 3 phases. Phase 1 will first develop costing methodologies for particular types of options and scope the needs for and availability of cost data (items (a)- (f) above). Phase 2 will then collate cost estimates for use in the preliminary CEA (item (g) above). Phase 3 will develop tailored pro formas (item (h) – j above). This study will be carried out at same time as phase 2 so as to have pro formas ready for use for costing the proposed programme of measures from the preliminary CEA.</p> <ul style="list-style-type: none"> • We may need to refine the Timetabling above to fit in with the critical path analysis from Project 1. • It will be necessary to feed in the findings of this cost-effectiveness analyses for proposed statutory measures 			

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- at an appropriate time to influence any decisions on such measures before any decisions are made on them.
- Alongside these measures above to improve costing of WFD measures, there will need to be a commensurate level of research and economic analysis of other causes of price increases for the main sectors (eg water bills wrt asset management and maintenance for water industry).

Benefits from collaboration

Collaboration will ensure no duplication of effort, and a balanced and well informed approach. In particular, collaboration from stakeholders will be key in establishing the correct cost functions for sectors.

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Project 3	Scoping and characterising contentious options and their key benefits and assess, test and develop appropriate assessment systems		
Start Date	January 05	End Date	August 06
Project Manager			
Summary deliverable			
To provide a sound means of assessing the costs and benefits for all the potentially disproportionately costly cases to be encountered in RBMPs.			
Key deliverables			
<ul style="list-style-type: none"> • Characterisation of the types of potentially disproportionately costly cases likely to be encountered in RBMPs and identification the types of environmental benefits of these cases about which there are greatest uncertainties. • Agreement on a peer-reviewed approach to develop an appropriate assessment method to apply available valuation to all the potentially disproportionate costly cases. • Proposals and specifications for a number of carefully targeted new studies that need to be carried out in project 6 to fill the major gaps in valuations. 			
Key inputs			
Steering group guidance on the Terms of Reference. Consultancy input for all deliverables. Peer review. Feedback from stakeholder group. Project manager input.			
Short summary			
It will be essential to derive an appropriate and fit for purpose way of assessing the costs and benefits of measures that might be disproportionately expensive. There are likely to be many such cases in RBMPs. As it would be too expensive and impractical to carry out original benefits valuation surveys for each case, we will need to explore a wide range of alternative assessment methods and examine how to make best use of the existing studies, supplemented by carefully targeted new studies (see project 6), so to be able to transfer their findings to all the potentially disproportionately costly cases likely to be encountered in RBMPs. This will need to address how to take account of uncertainties concerning the costs and benefits estimates.			
Methodology			
<ul style="list-style-type: none"> • Scope out the scale and nature of options on which such decisions need to be made and set out the levels (local and national) at which these decisions will need to be made (from project 1). • Specify the information that will be needed to inform these appraisals and decisions • Specify the form in which the outputs of the economic assessments of costs and benefits need to be presented so as to aid these appraisals and decisions. • Review the currently available economic appraisal systems so as to assess their adequacy to appraise these options for the WFD. This includes: whether they can cover the information needed; whether they have a business as usual baseline to enable sound assessment of incremental costs and benefits of the options; whether they set out a linked and iterative qualitative, quantitative and monetary steps in the assessment and determine accordingly how far to go along these steps in defining an appropriate appraisal system. • In particular, scope and characterise the types of potentially disproportionately costly cases likely to be encountered in RBMPs. This will build on the RBC assessments of water bodies at risk of failing to achieve good status and the findings of the preliminary CEA. We will then identify the most important types of costs and environmental benefits for these cases about which there are greatest uncertainties. This will draw on recent experience from PR04. • Review views of key experts in Government, agencies, stakeholders and the research community on a wide range of alternative methods of assessing costs and benefits and their views on criteria for assessing their appropriateness to aid decision-making for RBMPs. Key criteria could include: need to be able to handle scale and nature of possible diverse cases; costs and resources and feasibility of applying the methods and their benefits in terms of value added information to aid decision-making; ensuring that all the major environmental impacts are fully considered; addressing income constraints; how link with technical assessments; Need to be able to address critical path for the steps involved in carrying out the technical and economic assessments needed for RBMP (eg when able to specify (from technical assessments) the effects of the measures on environmental outcomes (which is fundamental building basis for any CBA). This can draw on findings from project 1. • Then assess the appropriateness of the possible methods with respect to these criteria, including their applicability to the key scope and characteristics of the problem. • Review availability of valuations for the environmental benefits in an appropriate form that could be applied for RBMP appraisals. • A peer-reviewed approach to develop an appropriate assessment method. This will draw on reviews above. It will explore a wide range of alternatives, including developing a benefits transfer function or similar method to apply available assessments to all the potentially disproportionate costly cases. This method will then be worked up in detail in project 5. This will need to include the existing benefits valuations from existing studies and it could propose and specify a number of carefully targeted new studies that need to be carried out in project 6 to fill the major gaps in valuations for the most important studies. This will need to take due account of the available resources (from all collaborators) for projects 5 and 6 and the extent to which such new studies 			

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will yield better information to aid decision-making. It will also need to include a specification of the secondary source information that will need to be collected in each case to enable the existing studies to be transferred to all the RBMP cases. This must address the key issues of how to improve estimates of the numbers of beneficiaries.

- Test the alternative assessment methods using virtual analyses and then pilot trial applications in the Agency's Ribble Catchment. Assess the usefulness of the options and identify the significance of any gaps in data and the value of obtaining additional information and the most appropriate way in which it could be obtained and readily used by Agency technical area staff.
- One or perhaps two Workshops with leading experts to discuss findings of and get agreement on the new research needed in project 6.

Benefits from collaboration

Collaboration will ensure no duplication of effort, and a balanced and well informed approach. It is essential that this task is carried out thoroughly as it will form the basis for subsequent tasks. Increased resources from collaboration will help ensure this.

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Project 4	Focus group analyses to specify environmental benefits		
Start Date	January 2006	End Date	June 2006
Project Manager			
Summary deliverable			
Specification of the concerns of parties affected regarding the nature of the environmental costs and benefits of options in RBM.			
Key deliverables			
<ul style="list-style-type: none"> • A peer reviewed clear and comprehensive specification of the environmental benefit items of concern to parties affected by options for RBMP. • Identification of extent these impacts could be covered by existing studies and major gaps needing to be covered under new studies (in project 6). 			
Key inputs			
Steering group guidance on the Terms of Reference. Participation from stakeholders. Consultancy input for all deliverables. Peer review. Feedback from stakeholder group. Project manager input.			
Short summary			
<p>Prior to carrying out a valuation study of environmental benefits, it is essential to clarify carefully the nature of people's concerns so that any such study can be appropriately framed and address credibly these concerns. This also enables clear delineation of the impacts that are covered in any one study and those impacts that are not covered in a specific study and therefore need to be covered by a separate investigation and assessment.</p> <p>The Agency review of existing valuation studies for PR04 highlighted that the existing literature does not relate to the types of environmental changes relevant to PR04 and WFD. Even where they are relevant, it is not clear what is covered by the existing valuations and, importantly, what impacts are not covered.</p>			
Methodology			
<ul style="list-style-type: none"> • In-depth discussions with a small number of representatives of the affected parties to clarify concerns about the environmental impacts of options in RBM. This will draw on the findings of the report on integrated appraisal for RBM and the Agency's recent work on consultation processes for RBMP for the WFD. • The findings of the discussions will be carefully reviewed to ensure that the concerns of those involved are covered comprehensively and clearly, without double counting. • There will be close links with experts on valuation surveys to ensure that the reported views relate as closely as possible to existing valuations and, where there are gaps, that these can be practically covered in the new surveys to be carried out in project 6. 			
Benefits from collaboration			
Collaboration will ensure no duplication of effort, and a balanced and well informed approach. Participation from those concerned will be key.			

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Project 5	Guidance on Assessment for RBMPs		
Start Date	July 2006	End Date	March 2008
Project Manager			
Summary deliverable			
An assessment guidance that can be applied for the potentially disproportionate costly cases for RBM			
Key deliverables			
<ul style="list-style-type: none"> • A benefits assessment guidance that can be applied for the potentially disproportionate costly cases for RBM • The guidance will be designed so that the new valuations from the new surveys can be slotted into the final guidance, which would then be applied in spring, summer and autumn of 2008. 			
Key inputs			
Steering group guidance on the Terms of Reference. Consultancy input for all deliverables. Feedback from stakeholder group. Project manager input.			
Short summary			
The peer-reviewed approach to develop an appropriate assessment method to apply available valuation to all the potentially disproportionate costly cases in Project 3 will be worked up in detail to produce a benefits assessment guidance.			
Methodology			
<ul style="list-style-type: none"> • This will build on the scoping study and the assessment method to be determined in Project 3 and the specification of the environmental impacts in Project 4 to develop assessment guidance that could be applied for the potentially disproportionate costly cases for RBM. It will also build on an evaluation of the BAG for PR04. • The guidance will be designed so that outputs from any new studies in project 6 can be slotted into the final guidance which would then be applied in spring, summer and autumn of 2008. 			
Benefits from collaboration			
Collaboration will ensure no duplication of effort, and a balanced and well informed approach. The quality of the output of this task is key for project 6, extra resources from collaborative approach would be very important.			

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Project 6	New benefits valuation studies		
Start Date	July 2006	End Date	February 2008
Project Manager			
Summary deliverable			
To carry out selected new studies to fill the major gaps and uncertainties regarding the valuation of specific major environmental benefits of RBM.			
Key deliverables			
<ul style="list-style-type: none"> • From the workshop for projects 3 and 4, develop a concerted research programme of any new valuation studies agreed at these workshops to fill the most important gaps in benefits valuation and estimates of beneficiaries for WFD. • Develop the necessary secondary source data to enable these findings to be transferred to all the other potentially disproportionately costly cases likely for RBM for WFD. • Develop a peer-reviewed methodology for carrying out these new valuation studies. • Carry out the new valuation surveys to yield clearly presented and reviewed valuations of specific environmental benefits that can be used in benefits assessments for appraisal of RBMPs. • Workshop to review in-depth the findings of the new and existing valuation surveys and make best use of them in the benefits assessment for RBMPs. 			
Key inputs			
Steering group guidance on the Terms of Reference. Consultancy input for all deliverables. Peer review. Feedback from stakeholder group. Project manager input.			
Short summary			
More research and new substantive studies are needed to address the gaps and uncertainties regarding the valuation of environmental benefits for PR04 and for RBM. This study would draw on projects 1-5 and the Agency's benefits assessment work for PR04 to identify and focus on those gaps where further research would best help us to do better benefits assessments for RBMPs.			
Methodology			
This project would build on all 5 previous projects, as well as lessons learned from the Agency's benefits assessment guidance in order to assess benefits of RBMP, where required. Detailed methodology would vary for each benefits assessment study.			
Benefits from collaboration			
Collaboration will ensure no duplication of effort, and a balanced and well informed approach. The more funds available, the more benefits studies can be carried out, leading to more accurate benefit estimates.			