

## Summary: Intervention & Options

<b>Department /Agency:</b> Department of the Environment Northern Ireland	<b>Title:</b> Strategic Regulatory Impact Assessment (sRIA) of Northern Ireland Water Framework Directive (WFD) First Cycle River Basin Management Plans (RBMPs) – Additional Measures	
<b>Stage: Draft</b>	<b>Version: 0.1</b>	<b>Date: 6th October 2009</b>

This is a Summary Report produced in addition to the Full Strategic Regulatory Impact Assessment. All further details and background are provided within the Full report.

### **What is the problem under consideration? Why is government intervention necessary?**

71% of all waterbodies within Northern Ireland are currently not meeting Water Framework Directive (WFD) objectives.

Without Government intervention, and the implementation of additional measures, there is a significant risk that water environment improvements required by the WFD will not be realised and may well put Northern Ireland at risk of infraction proceedings by the EU, with the further risk of a fine or the requirement to introduce measures which are less cost-effective than it would otherwise adopt.

### **What are the policy objectives and the intended effects?**

Under the WFD, a Programme of Measures will be implemented following publication of the RBMPs with the aim of achieving Good Ecological Status (GES) or Good Ecological Potential (GEP) by 2015. The Programme of Measures consists of policies and strategies, such as monitoring programmes, that are intended to reduce the risk to water bodies and allow them to attain good status. Existing measures (referred to as “Basic Measures” within the Directive), will achieve significant improvements to the water environment. However, additional measures (referred to as “Supplementary Measures” within the Directive), will be needed to achieve further improvements by 2015.

It is these, proposed additional measures which are the subject of this strategic assessment.

### **What policy options have been considered? Please justify any preferred option.**

Policy options considered:

- 1) Reference case or baseline, against which options have been considered.
- 2) Implementation of all additional measures from 2010 with the aim of achieving GES by 2015.

### **When will the policy be reviewed to establish the actual costs and benefits and the achievement of the desired effects?**

The implementation phase of the WFD will include identification of the use of specific additional measures or combinations of measures where appropriate to each River Basin District (RBD), and may also include taking forward measures in a subsequent river basin planning cycle. Further identification of costs and benefits will be possible at that time.

## Summary: Analysis & Evidence

All Additional Measures	Strategic Regulatory Impact Assessment (sRIA) of Northern Ireland Water Framework Directive (WFD) First Cycle River Basin Management Plans (RBMPs) – Additional Measures
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<b>COSTS</b>	<b>Total costs</b>		<p>Description and scale of <b>key monetised costs</b> by ‘main affected groups’</p> <p>Northern Ireland Water (NIW) and/or householders with septic tanks through the provision of wastewater sewage from currently unsewered properties.</p> <p>Voluntary sector, recreation, NIW, the Rivers Agency and Northern Ireland Environment Agency (NIEA) through the control of invasive alien (non-native) species. However, costs may also extend to other sectors including agriculture, forestry, and fisheries.</p> <p>NIEA, DCAL and DARD through administrative costs (development of tools, regulation and further investigations).</p>
	<b>Administration (undiscounted)</b>		
	<b>Yrs</b>		
	<b>£ 12,196,500</b>	<b>3</b>	
	<b>Compliance Costs (3.5%)</b>		
	<b>Annual (one-off)</b>	<b>1</b>	
	<b>£2,000,000</b>		
<b>NPV (range)</b>	<b>15</b>		
	<b>£ 3,000,000 – 15,000,000</b>		
<p><b>Other key non-monetised costs by ‘main affected groups’</b></p> <p>The agricultural sector could face significant costs depending upon the outcome of measures including the review of the need to give statutory effect to phosphorus balances at a farm-level; and potential measures for off-farm solutions for the pig and poultry sectors.</p> <p>There may also be some costs associated with locally (River Basin District) defined measures e.g. commercial fisheries which have not been identified at the national level, as well as further administrative costs unknown at this date.</p>			

<b>BENEFITS</b>	<b>ANNUAL BENEFITS</b>		<p>Description and scale of <b>key monetised benefits</b> by ‘main affected groups’</p> <p>Direct benefits to the economy of Northern Ireland from reduced eutrophication and phosphate levels.</p> <p>NIW reduced treatment costs through phosphate-free laundry detergents.</p> <p>Charitable sector as Rivers Trusts providing benefit through improvements to the water environment.</p>
	<b>One-off</b>		
	<b>Yrs</b>		
	<b>£ None</b>		
	<b>NPV (range)</b>	<b>15</b>	
	<b>£23,110,380 – 25,110,380</b>		

### Other key non-monetised benefits by 'main affected groups'

Significant benefits to the tourism and recreation sectors due to general improvements to the water environment.

Significant benefits for the non-water environment including biodiversity and soil quality, and benefits of adapting to climate change and greater flood resilience.

Potential savings at farm-level through catchment management plans and measures to target diffuse pollution.

Moderate savings possible through water efficiency measures in reduced water bills to consumers, business and agricultural sectors (depending upon measures agreed and taken forward).

Avoided costs to NIW, NIEA, and the Rivers Agency (and potentially other sectors) through early-warning mechanisms to guard against invasive alien (non-native) species. Improved biodiversity from removal of invasive alien (non-native) species and river restoration activity.

### Key Assumptions/Sensitivities/Risks

Cost and benefit estimates provided in this document are for costs incurred in addition to the reference case.

Monetary estimates are subject to considerable uncertainty, particularly where the measures are proposals for further research or the development of information tools, and as the number of sites across Northern Ireland at which it will be necessary to take action is not known.

The costs and benefits included here are based on national estimates and status of water bodies at the national level (by number) and will be further refined in the individual River Basin Management Plans for River Basin Districts.

Risks associated with individual measures are identified within the Full report.

What is the geographic coverage of the policy/option?		Northern Ireland		
On what date will the policy be implemented?		From 2010		
Which organisation(s) will enforce the policy?		Various NI		
What is the total annual cost of enforcement for these		See Full Report		
Does enforcement comply with Hampton principles?		Yes		
Will implementation go beyond minimum EU requirements?		No		
What is the value of the proposed offsetting measure per year?		N/A		
What is the significance of changes in greenhouse gas emissions?		Thought to be minor but individual measures may have capacity to reduce carbon emissions.		
Will the proposal have a significant impact on competition?		No		
Annual cost (£-£) per organisation (excluding one-off)	Micro	Small	Medium	Large
Are any of these organisations exempt?	N/A	N/A	N/A	N/A

<b>Impact on Admin Burdens Baseline (2009 Prices)</b>					(Increase -
Increase	£ 12,126.5 k	Decrease	£ 0	<b>Net</b>	<b>£ + 12,126.5 k</b>

## Summary: Analysis & Evidence

**All Additional Measures**

**Description: Implementation of all additional measures across Northern Ireland – Strategic Assessment.**

Based on existing knowledge of the proposed measures, the assessment identifies an:

Estimated **administrative costs** total £12.2 million.

**Strategic benefits and compliance costs** where they could be determined and monetarised include:

Measure to ban phosphates in laundry detergents will provide £14.1 million benefits plus £6.9 million to Northern Ireland Water in treatment cost savings.

Benefit from all other measures to reduce eutrophication of £2-4 million.

£100,000 possible benefits through works completed by Rivers Trusts (assuming further trusts are established within Northern Ireland and complete similar works to those already in existence).

Provision of wastewater sewerage from currently unsewered properties at £2 million to complete (one-off).

Development of an Alien Species Strategy could lead to works costing 3-5 million.

In addition, the assessment indicates where further significant costs and benefits may fall, depending upon the outcome and subsequent actions of measures. These are likely to fall to:

Agricultural sector – significant costs and benefits possible through off-farm waste measures

Fisheries sector – significant benefits to the Northern Ireland economy and at a local, river basin district level

Protected areas – significant benefits depending upon actions determined and carried out within the Species Action Plan for fresh water pearl mussels

Tourism/Recreation – significant benefits are likely to follow the planned improvements in the quality of the water environment

Numerous sectors (including households, agriculture, business and water industry) – the promotion of efficient water use could provide significant benefits through reduced abstraction and reduced costs to households, and businesses if these benefits are passed on.

# 1 What is the problem under consideration? Why is government intervention necessary?

The initial 2005 WFD characterisation assessment indicated that overall around 90% of water bodies in Northern Ireland were at risk of not meeting the Directive's environmental objectives, including 538 rivers, 23 lakes, 7 transitional, 19 coastal and 15 groundwater bodies<sup>1</sup>. These figures were based on an assessment of risk, and further monitoring and assessment undertaken by the Northern Ireland Environment Agency (NIEA) indicates that currently 71% of all water bodies are not meeting WFD objectives, as detailed in Table 1.1

Table 1.1: Northern Ireland WFD compliance 2009

	Number of water bodies	2009	2015	2021	2027
<b>Rivers</b>	<b>Good/GEP or better</b>	116	325	535	563
		<b>20.2%</b>	<b>56.5%</b>	<b>93.0%</b>	<b>97.9%</b>
	<b>Less than Good/GEP</b>	459	250	40	12
		<b>79.8%</b>	<b>43.5%</b>	<b>7.0%</b>	<b>2.1%</b>
<b>Lakes</b>	<b>Good/GEP or better</b>	6	7	14	22
		<b>27.3%</b>	<b>31.8%</b>	<b>63.6%</b>	<b>100.0%</b>
	<b>Less than Good/GEP</b>	16	15	8	0
		<b>72.7%</b>	<b>68.2%</b>	<b>36.4%</b>	<b>0.0%</b>
<b>Coastal</b>	<b>Good/GEP or better</b>	8	12	20	20
		<b>40.0%</b>	<b>60.0%</b>	<b>100.0%</b>	<b>100.0%</b>
	<b>Less than Good/GEP</b>	12	8	0	0
		<b>60.0%</b>	<b>40.0%</b>	<b>0.0%</b>	<b>0.0%</b>
<b>Transitional</b>	<b>Good/GEP or better</b>	0	1	4	7
		<b>0.0%</b>	<b>14.3%</b>	<b>57.1%</b>	<b>100.0%</b>
	<b>Less than Good/GEP</b>	7	6	3	0
		<b>100.0%</b>	<b>85.7%</b>	<b>42.9%</b>	<b>0.0%</b>
<b>Groundwater</b>	<b>Good or better</b>	65	65	66	67
		<b>97.0%</b>	<b>97.0%</b>	<b>98.5%</b>	<b>100.0%</b>
	<b>Less than Good</b>	2	2	1	0
		<b>3.0%</b>	<b>3.0%</b>	<b>1.5%</b>	<b>0.0%</b>
<b>All Water bodies</b>	<b>Good/GEP or better</b>	195	440	635	679
		<b>28.2%</b>	<b>63.7%</b>	<b>91.9%</b>	<b>98.3%</b>
	<b>Less than Good/GEP</b>	496	251	56	12
		<b>71.8%</b>	<b>36.3%</b>	<b>8.1%</b>	<b>1.7%</b>

<sup>1</sup> Article 5 Report for Northern Ireland (2005)

The main pressures and issues for those waters in Northern Ireland not achieving good status or better are as listed below. These have provided the basis for the identification of additional measures to improve water status, and provide a structure for assessing the impact of the proposed measures:

- Abstraction and flow regulation;
- Diffuse pollution from rural and urban land, including nutrient enrichment;
- Point source pollution from sewage and industry;
- Changes to morphology (physical habitat); and
- Invasive alien (non-native) species.

## **2 What are the policy objectives and intended effects**

Under the WFD, a Programme of Measures will be implemented following publication of the River Basin Management Plans (RBMPs) with the aim of achieving Good Ecological Status (GES) or Good Ecological Potential (GEP) by 2015. The Programme of Measures consists of policies and strategies, such as monitoring programmes, that are intended to reduce the risk to water bodies and allow them to attain good status. Existing measures (referred to as “Basic Measures” within the Directive), will achieve significant improvements to the water environment. However, additional measures (also referred to as “Supplementary Measures” within the Directive), will be needed to achieved further improvements by 2015.

It is these, proposed additional measures which are the subject of this strategic assessment.

## **3 What policy options have been considered?**

### Options

#### Baseline or reference (do nothing)

1. The first option is to ‘do nothing’. This refers to the current water quality situation (2009) as outlined in Table 5.1 Continued use of relevant existing standards and basic measures that make up the programme of measures are assumed to be in place. In practice, this is not a realistic option as it will lead to failure to achieve WFD objectives by 2027 and may well put Northern Ireland at risk of infraction proceedings by the EU, with the further risk of a fine or the requirement to introduce measures which are less cost-effective than it would otherwise adopt.

#### Implementation of Additional Measures

2. This option is to begin implementation of all remaining additional measures, as determined by the NIEA, from 2010. The measures are those identified within the draft RBMPs for Northern Ireland, with further measures suggested from consultee responses. It has been recognised that these measures (also referred to as “Supplementary Measures” within the Directive), will be needed to achieve improvements to the water environment by 2015, in addition to “Basic measures”.

Consideration has not been given to a broader number of other options, such as alternative additional measures to achieve WFD objectives, or phased approaches to delivery of measures. This has not been possible given the limited time to complete this assessment (September 2009). However, further details of the measures and their associated impacts, costs and benefits will become known as the WFD implementation process progresses. The implementation phase will include the identification of the use of alternative additional measures and combinations of measures at the river basin district level, and may also include taking forward measures in a subsequent planning cycle.

Table 3.1 lists the 40 additional measures along with their respective sectors and pressures, and identified costs and benefits.

Note, that measures 10, 21 and 26 are the same measure, as are measures 20 and 24. They are enabling measures developed to improve knowledge across a number of sectors (Agriculture, Industry and other businesses, and Urban development).

Table 3.1 also categorises each measure type, according to whether it is:

**enabling** – measure to improve regulator’s understanding and knowledge of a pressure e.g. development of a GIS tool.

**regulatory** – measure designed to impose a form of regulation on a sector.

**working with charitable sector** – measure to facilitate and fund work being undertaken by the charities for improvements to the water environment.

**voluntary** – working with an industry to identify further measures to improve water status.

The type of measure (as identified in table 3.1) is important in terms of assessing its impact.

Enabling measures, which make up the large majority of the proposed measures, **will not in themselves impose any costs on the sectors, or easily quantifiable benefits**. They have been proposed to improve the level of understanding within NIEA or other Government organisations. The cost-effectiveness analysis (CEA), used as the basis of many of the costs and benefits identified within this assessment, notes that these types of measures are inherently cost-effective. However, they are likely to be followed by further, regulatory measures to improve the water environment which will have compliance costs and wider benefits. Where possible, a likely indication of these further costs or benefits has been provided (within the full report).

Table 3.1: Summary of costs and benefits of proposed additional measures

Sector	Pressure	Measure number	Measure description	Type of Measure	Total estimated Administrative cost (unfunded) (£k) 2010-2013	Compliance cost (PV) (15 years at 3.5%) (£k)	Benefits (PV) (15 years at 3.5%) (£k)
Water supply, hydropower and flood control	Abstraction and flow regulation	1	Monitor actual abstraction and compensation flows	enabling	50		
		2	Develop biological tools to assess the ecological impacts of changes in hydrology	enabling	211.2		
		3	Further develop Northern Ireland's Monitoring Programme to cover four biological elements and fish to directly monitor impacts and to incorporate the newly developed biological monitoring tools (Measure 2)	enabling	638.4		
		4	Research to further develop our understanding of the relationship between groundwater and surface waters	enabling	58		
		5	More detailed assessment of water resource availability and management priorities	enabling	162		
		6	Developing a tool to assess the extent to which barriers impede migration of a wide range of fish species	enabling	100		

Sector	Pressure	Measure number	Measure description	Type of Measure	Total estimated Administrative cost (£k) 2010-2013	Compliance cost (PV) (15 years at 3.5%) (£k)	Benefits (PV) (15 years at 3.5%) (£k)
Agriculture	Point and Diffuse pollution	7	To promote best management practices including using feedstuffs designed to minimise phosphorus in excreta without compromising animal health (advisory resource to promote best practice in farm yard management and nutrient management. With research funding into poultry diets.)	voluntary	2,120	None	Potentially significant at the RBD level
		8	Work with the intensive pig and poultry farming sectors for an off-farm solution to dealing with manures and thereby reduce phosphorus surplus (technical and policy work relating to development of alternative technologies)	enabling	28	Likely to be significant if subsequent measures can be identified	Likely to be significant if subsequent measures can be identified
		9	Review the need to give statutory effect to phosphorous balances on individual farm holdings	enabling	No further funding required		
		<b>10</b>	Develop GIS-based tool to further identify and regulate diffuse pollution (from agriculture) (same measure as 26 and 21)	enabling	321.2 (to also cover measures 21, and 26)		
		11	Develop catchment management plans to identify and target diffuse pollution from agriculture.	enabling	726.60		Benefit from reduced eutrophication of £2,000 – 4,000 from all measures to address pressure.

Sector	Pressure	Measure number	Measure description	Type of Measure	Total estimated Administrative cost (£k) 2010-2013	Compliance cost (PV) (15 years at 3.5%) (£k)	Benefits (PV) (15 years at 3.5%) (£k)
		40	Effectiveness of wetlands in the reduction of nutrient loadings	enabling	-		
Collection and treatment of sewage	Point and Diffuse pollution	12	Review of wastewater consents	enabling	197.70		
		13	Provision of wastewater sewerage from currently unsewered properties	regulatory	-	2,000 (on-off)	Potentially significant
		14	Improved policy, guidance and development control for septic tanks	enabling	25		
		15	Research mapping and investigation of further controls for large unsewered populations.	enabling	-		
		16	Phosphate-free laundry detergents	regulatory	No further funding required	None	14,100 plus 6,910.38 to NIW
		17	Development control in relation to sewage treatment capacity and receiving water bodies	regulatory	121.2	-	-
		38	Installation of reed beds and constructed wetlands for sewage treatment	voluntary	-	Per application and installation	Minor Localised
		39	Awareness programme on septic tank maintenance, installation and design	enabling	-		

Sector	Pressure	Measure number	Measure description	Type of Measure	Total estimated Administrative cost (£k) 2010-2013	Compliance cost (PV) (15 years at 3.5%) (£k)	Benefits (PV) (15 years at 3.5%) (£k)
Urban development	Point and Diffuse pollution	18	Draft Strategy to manage stormwater using SUDS	regulatory	-	-	-
		19	Strategy for better management of misconnections	enabling	202.80		
		20	Development of an extended regulatory toolkit for diffuse pollution (same measure as 24)	enabling	Same work as Measure 24. Not yet assessed.		
		21	Update diffuse pollution screening and modelling tool (same measure as 26 and 10)	enabling	Under same budget as Measures No. 10 and 26.		
		22	Good practice for the storage and handling of hazardous chemicals	regulatory	-	-	-
Forestry	Point and Diffuse pollution	23	Reduce nutrient loading from forestry in sensitive areas	regulatory	202.8	Costs to agricultural and forestry sectors likely	Likely to be significant depending upon measures identified
Industry and other businesses	Point and Diffuse pollution	24	Development of an extended regulatory toolkit for diffuse pollution (same measure as 20)	enabling	Same as 20. Not yet assessed.		
		25	Review of consents for point discharge controls	enabling	-		

Sector	Pressure	Measure number	Measure description	Type of Measure	Total estimated Administrative cost (£k) 2010-2013	Compliance cost (PV) (15 years at 3.5%) (£k)	Benefits (PV) (15 years at 3.5%) (£k)
		26	Update diffuse pollution screening and modelling tool (same measure as 21 and 10)	enabling	Under the same budget as Measures No. 10 and 21.		
Historical engineering, Urban development, Public water supply, Hydropower, Agriculture and Forestry	Freshwater morphology	27	Review of controls on hydromorphology	enabling	met within existing resources		
		28	River restoration measures review	regulatory	2,927.50		
		29	Strategic appraisal of barriers to fish (Ongoing measure, already funded)	enabling	Funded within existing resources	Measure outside scope sRIA	Measure outside scope sRIA
Ports and Harbours, Aggregate & Fishing/Aquaculture industry (Marine)	Marine morphology	30	Development of a Protocol for Maintenance Dredging	regulatory	-	Insignificant	-
All sectors	Invasive alien species	31	Invasive Species Ireland Project	enabling			

Sector	Pressure	Measure number	Measure description	Type of Measure	Total estimated Administrative cost (£k) 2010-2013	Compliance cost (PV) (15 years at 3.5%) (£k)	Benefits (PV) (15 years at 3.5%) (£k)
		32	Development of Alien Species strategy	enabling	595.50	3,000-15,000	Significant avoidance of further costs possible
Fisheries	All pressures	33	Implementation of Eel Management Plans	regulatory	1,750 (to 2015)		Significant benefits for NI economy and at a local level
		34	Mitigation to impacts of drainage maintenance works on habitat	regulatory	1,050	None	
Protected areas	All pressures	35	Development of action plans for designated freshwater pearl mussel SACs	regulatory	392.4 (if Interreg funding not won)	Dependent upon results of action plan	Dependent upon results of action plan
Public participation	All pressures	36	Facilitate establishment of River Trusts across NI	Working with charitable sector	180.0	None	100
		37	Promotion of efficient use of water	voluntary	136.2		Depending on measures taken – could be significant

Notes:

Measures 10, 21 and 26 are the same measure but as applied to different sectors

Measures 20 and 24 are the same measure

'-' denotes value not known at time of assessment.

## 4 Methodology

### 4.1 Strategic Regulatory Impact Assessment

It should be noted that clear guidance is not available on the completion of a 'Strategic' RIA (sRIA). Accordingly, we have interpreted the requirements as such:

- Costs and benefits will be assessed at a high level, that is, across the country of Northern Ireland as a whole;
- Impacts will be considered as they apply to Northern Ireland: its regulatory framework, natural environment, citizens and economy;
- Information from all three RBMPs and accompanying Strategic Environmental Assessments (SEAs) will be considered as a whole. However, this does not preclude the inclusion of more specific, localised information where it is judged relevant to the achievement of WFD objectives by 2015; and
- As many of the additional measures are still at an early stage of development, it may not be possible to determine precise detail on the costs and benefits attributable to them at this stage. Therefore, a strategic RIA will assist the policy process in determining likely costs, benefits and risks (where information is available) to guide further development of policy options.

The decision to complete a Strategic RIA fits with much of the assessment of the draft RBMPs, completed at the Northern Ireland scale, and the expectation of further detail on the 40 measures being available during the implementation phase.

### 4.2 Approach to cost and benefit assessment

The assessment of costs, risks and benefits is based on data collection and expert judgement, with input and review from NIEA, DCAL, DARD and external stakeholders. Interviews have been completed with members of NIEA, DCAL and DARD to establish the nature of the proposed measures, those impacted and their likely administrative costs. External stakeholders, drawn principally from the WFD National Stakeholder Group, were also consulted on the likely impacts<sup>2</sup>.

Costs and benefits have taken account (as far as possible) of the range of economic, social and environmental factors. Impacts have been monetised as far as possible and the potential significance of non-monetised costs and benefits are highlighted where significant.

Information has principally been drawn from:

- The UK's Collaborative Research Programme (CRP) reports and databases; and
- Other relevant data and research; including RIAs, government reports, and academic research.

Costs and benefits estimates should be taken as indicative.

The assessment should be viewed as best current knowledge as of end September 2009.

#### 4.21 Administrative Costs

Implementation of the additional measures within Northern Ireland will result in costs to Northern Ireland Departments and competent and responsible authorities. The administrative costs are those related to the work required to implement the additional measures. These costs

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<sup>2</sup> Noting only a very short consultation period was allowed for external consultees due to time limitations.

fall principally on NIEA, and telephone or one-to-one interviews have been used to discuss associated costs.

These costs have generally been estimated for the next three years, starting in 2010, and are not funded at the present time.

#### **4.22 Compliance costs**

Compliance costs are made up of capital and recurring costs and can include costs related to design, new equipment/machinery/land/buildings; installations; staff training costs; changes in processing, inputs or overheads.

Where possible compliance costs are calculated at net present value and are discounted at 3.5% over 15 years.

#### **4.23 Assessment of benefits for the water environment**

The benefits for the water environment that follow from the implementation of the additional measures can be reported in a number of ways:

- Qualitative descriptions of the types of improvements that will follow from the measures;
- Number of water bodies that will see improvements and comply with “good status” by 2015; and
- Monetary valuation of water quality and morphological improvements.

A qualitative description can be based on the expected improvements in the water quality and other characteristics of the water environment. This would be linked to the benefits identified in the Strategic Environmental Assessment (SEA) for the RBMPs.

Monetary valuations of benefits are often more difficult to calculate, and qualitative data has more often been used.

#### **4.24 Non-market benefits**

Non-market benefits include mainly the recreational values of improved water quality and the non-use values of the same water environmental improvements. A possible quantification of recreation benefits could be done through the following steps:

- Number of additional recreational visits and activities; and
- Estimation of the value of each visit or activity.

Existing studies and literature has been reviewed in order to draw conclusions and consider their applicability within Northern Ireland.

For non-use values (i.e. where a benefit does not have a recognised monetary value) only a qualitative description has been provided.

Where possible benefits are calculated at net present value and are discounted at 3.5% over 15 years.

## **5 Implementation issues**

### **5.1 Geographic coverage**

This assessment covers the whole of Northern Ireland at a Strategic level.

### **5.2 Commencement**

It is assumed that all measures will be implemented from the start of the 2010 financial year.

### **5.3 Compensatory Simplification**

At this stage no options for compensatory simplification have been identified.

### **5.4 Carbon Impact Assessment**

These proposals are not considered to have a significant impact on the overall carbon emissions at a strategic level. However, some measures in themselves may have the potential to reduce carbon emissions.

### **5.5 Small Firms Impact Test**

The sectors affected by the additional measures include a number of sectors with a high proportion of SMEs, including agriculture, forestry, commercial fisheries, recreation and water-based transport.

Each of these sectors is likely to experience both benefits and costs associated with the implementation of the measures. The impact on small firms is difficult to determine at this stage and at a strategic level, as the impacts will depend heavily upon the programmes of measures adopted within each RBD in the course of the implementation process.

### **5.6 Impact on Administrative Burdens**

The impact upon administrative burden is identified through estimated administrative costs.

## 5.7 Competition

Table 7.1 General statements based on 'Competition Filter' following Guidance on Regulatory Impact Assessment (Cabinet Office, 2003).

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*Q1: In the market(s) affected by the new regulation, does any firm have more than 10% market share?*

The only market sector where this may be the case is the water industry and forestry sector.

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*Q2: In the market(s) affected by the new regulation, does any firm have more than 20% market share?*

Forestry sector.

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*Q3: In the market(s) affected by the new regulation, do the largest three firms together have at least 50% market share?*

Potentially within the eel fisheries sector.

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*Q4: Would the costs of the regulation affect some firms substantially more than others?*

Yes, potentially, depending on location and the extent of activities (e.g. size and location of farm) and choice of programme of measures.

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*Q5: Is the regulation likely to affect the market structure, changing the number or size of firms?*

No, with the possible exception of impacts on agriculture and commercial fisheries, depending on the extent of the measures required by arable and livestock farmers in particular locations, and the recovery of fish stocks as part of the implementation of the EEL management Plans.

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*Q6: Would the regulation lead to higher set-up costs for new or potential firms that existing firms do not have to meet?*

No

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*Q7: Would the regulation lead to higher ongoing costs for new or potential firms that existing firms do not have to meet?*

No

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*Q8: Is the sector characterised by rapid technological change?*

Numerous sectors are likely to be affected, but the main affected sectors are the water industry and agriculture which are not characterised by rapid technological change.

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*Q9: Would the regulation restrict the ability of firms to choose the price, quality, range or location of their products?*

Potentially, depending on the programme of measures adopted within the implementation phase to meet the objectives for each river basin district.

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