Table 3 Required Measures Contained in Existing Water Protection Directives as listed Annex VI Part A of the WFD

Associated Regulations	Key Authorities	Actions Required
The Bathing Water Directive (76/160/EEC) as amended by Directive (2006/7/EC)		
IRE: Quality of Bathing Waters Regulations (SI 79 of 2008)	IRE: Local Authorities	IRE: Undertake comprehensive monitoring programmes, identify pollution sources and draw up management plans to minimise risks to bathers.
NI: Quality of Bathing Water Regulations (Northern Ireland) 2008 (S.R. 2008/231)	NI: Department of the Environment	NI: Undertake comprehensive monitoring and establish bathing water profiles. Implement measures where bathing waters are subject to pollution and poor water quality.
The Birds Directive (79/409/EEC)		
IRE: European Union (Natural Habitats) Regulations (SI 94 of 1997 as amended)	IRE: Department of the Environment, Heritage & Local Government	IRE: Establish conservation measures for Natura 2000 sites in management plans.
NI: Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (S.R. 1995/380) as amended by S.R. 2004 No.435, S.R. 2003 No.46 and S.R. 2007 No. 345	NI: Department of the Environment	NI: Set out measures for the conservation of natural habitats and of wild flora and fauna. Selection, registration and notification of sites to be protected, development of management agreements and the requirement for appropriate assessment of plans and programmes.
NI: Offshore Petroleum Activities (Conservation of Habitats) Regulations (S.R. 2001/1754)	NI: UK Secretary of State	NI: Implement Birds Directive in relation to oil and gas activities carried out wholly or partly on the UK continental shelf.
NI: Offshore Marine Conservation (Natural Habitats etc.) Regulations (S.R. 2007/1842)	NI: Department of the Environment (and any other NI Department with relevant functions)	NI: Implement Birds Directive with regard to offshore marine areas, offshore marine installations and certain ships and aircraft.
The Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC)		
IRE: Drinking Water Regulations (SI 278 of 2007)	IRE: Local Authorities	IRE: Prepare Water Services Strategic Plans.
NI: Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (S.R. 2007/147)	NI: Department of Regional Development	NI: Provide wholesome, clean water for human consumption
The Major Accidents (Seveso) Directive (96/82/EC)		
IRE: European Communities (Control of Major Accident Hazards Involving Dangerous Substances Regulations (SI 74 of 2006)	IRE: Health and Safety Authority	IRE: Organise a system of inspections or other suitable control measures for relevant establishments. Internal and external emergency plans must be prepared by operators and by a nominated local competent authority in Ireland.

Associated Regulations	Key Authorities	Actions Required
NI: Control of Major Accident Hazards Regulations (Northern Ireland) 2000 (S.R. 2000/93), as amended by S.R. 2005 No. 305 NI: Planning (Control of Major Accident Hazards) Regulations (Northern Ireland) (S.R. 2000/101)	NI: Department of Enterprise, Trade and Investment, Northern Ireland	NI: Operators at all sites covered by these regulations must take measures to prevent major accidents and limit their consequences to persons and the environment. They must also establish a major accident prevention policy. NI: Requires that the objectives of preventing major-accidents and limiting the consequences of such accidents are taken in to account in land use planning policies.
The Environmental Impact Assessment Directive (85/337/EEC)		
IRE: Planning and Development Regulations 2001 (SI 600 of 2001 as amended) IRE: European Communities (Environmental Impact Assessment) Regulations (SI 349 of 1989 as amended)	IRE: Relevant Planning Authority IRE: Relevant Planning Authority	IRE: Take account of the Water Framework Directive in regional planning guidelines, county development plans and local area plans during their review process to ensure that new projects will consider river basin management objectives.
NI: Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999 (S.R. 1999/73), as amended by S.R. 2008 No. 17)	NI: Department of the Environment	NI: Take measures necessary to make sure that projects likely to have significant effects on the environment by virtue of their nature, size or location are subject to an Environmental Impact Assessment (EIA).
NI: Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2006 (S.R. 2006/3295)	NI: UK Secretary of State	
NI: Roads (Environmental Impact Assessment) Regulations (Northern Ireland) (S.R. 1999/89)	NI: Department of the Environment	
NI: Environmental Impact Assessment (Fish Farming in Marine Waters) (Amendment) Regulations (Northern Ireland) (S.R. 2007/23)	NI: Department of Agriculture and Rural Development	
NI: Harbour Works (Environmental Impact Assessment) Regulations (Northern Ireland) S.R. 2003/136	NI: Department of Regional Development & Department of Agriculture and Rural Development	
NI: Drainage (Environmental Impact Assessment) Regulations (Northern Ireland) (S.R. 2006/34)	NI: Department of Agriculture and Rural Development	
NI: Environmental Impact Assessment (Uncultivated Land and Semi Natural Areas) Regulations (Northern Ireland) (S.R. 2006/90)	NI: Department of Agriculture and Rural Development	

Associated Regulations	Key Authorities	Actions Required
NI: Environmental Impact Assessment (Forestry) Regulations (Northern Ireland) (S.R. 2006/518)	NI: Department of Agriculture and Rural Development	
NI: Environmental Impact Assessment and Natural Habitats (Extraction of Minerals by Marine Dredging) (England and Northern Ireland) Regulations (S.I. 2007/1067)	NI: UK Secretary of State	
NI: Environmental Impact Assessment (Agriculture) Regulations (Northern Ireland) (S.R. 2007/421)	NI: Department of Agriculture and Rural Development	
NI: Offshore Electricity Development (Environmental Impact Assessment) Regulations (Northern Ireland) (S.R. 2008/55)	NI: Department of Enterprise, Trade and Investment	
NI: Marine Works (Environmental Impact Assessment) Regulations (S.I. 2007/1518)	NI: UK Secretary of State & Department of the Environment	
NI: Offshore Petroleum Production and Pipe lines (Assessment of Environmental Effects) Regulations (S.R. 1999/360)	NI: UK Secretary of State	
NI: Water Resources (Environmental Impact Assessment) Regulations (Northern Ireland) (S.R. 2005/32) as amended by S.R. 2006 No. 483	NI: Department of the Environment	
The Sewage Sludge Directive (86/278/EEC)		
IRE: Water Management (Use of Sewage Sludge in Agriculture) Regulations 1998 and 2001 (SI 148 of 1998 and Si 267 of 2001)	IRE: Local Authorities	IRE: Prepare Sludge Management Plans in line with Code of Good Practice for the Use of Biosolids in Agriculture, maintain a register of sludge/biosolids movement and provide advance notification of spreading in accordance with a nutrient management plan.
NI: Sludge (Use in Agriculture) Regulations (Northern Ireland) 1990 (S.R. 1990/245)	NI: Department of Agriculture and Rural Development	NI: The Regulations prohibit the use of sewage sludge from treatment plants unless certain requirements are met. For example, soil and sludge must be tested before application to land, no fruit or vegetable crops should be growing or be harvested at the time of use, and the sludge producer must keep a register of the quantity and composition of sludge supplied.

Associated Regulations	Key Authorities	Actions Required
The Urban Waste-water Treatment Directive (91/271/EEC)		
IRE: Urban Waste Water Treatment Regulations 2001 (SI 254 of 2001) NI: Urban Waste Water Treatment Regulations (Northern Ireland) 2007 (S.R. 2007/187)	IRE: Local Authorities NI: Department of the Environment & Department of Regional Development	IRE: Undertake monitoring at treatment plants and make provision for pre-treatment requirements for industrial wastewater entering the collection systems and treatment plants. Prepare Water Services Strategic Plans. NI: Provide and maintain collecting systems and treatment plants. Specific requirements for provision of treatment within specified dates.
The Plant Protection Products Directive (91/414/EEC)		
IRE: SI 320 of 1981 as amended, SI 83 of 2003 and SI 624 of 2001 NI: Plant Protection Products Regulations (Northern Ireland) 2005 (S.R. 200/ 526), as amended by S.R. 2007 No. 251	IRE: Pesticides Control Service (Department of Agriculture, Fisheries and Food) NI: Department of Agriculture and Rural Development	Authorise substances for use or marketing subject to rigid controls in both Ireland and Northern Ireland.
The Nitrates Directive (91/676/EEC)		
IRE: European Communities (Good Agricultural Practice for Protection of Waters) Regulations (SI 378 of 2006) NI: The Protection of Water Against Agricultural Nitrate Pollution Regulations (Northern Ireland) 2004 (S.R. 2004/419) as amended by S.R. 2005 No. 306 NI: Nitrates Action Programme Regulations (Northern Ireland) 2006 (S.R. 2006/489), as amended by S.R. 2008 No. 196.	IRE: Local Authorities, EPA, Teagasc and the Department of Agriculture, Fisheries and Food NI: Department of the Environment & Department of Agriculture and Rural Development NI: Department of the Environment & Department of Agriculture and Rural Development	IRE: Carry out monitoring surveys of water quality and agricultural practices, including studies of agricultural mini-catchments. Identify waters which are polluted or are liable to pollution and development and implement action programmes. NI: The regulations make provision for the Department of the Environment and the Department of Agriculture and Rural Development to adopt an action programme for territory in Northern Ireland. NI: Introduce an action programme applicable to all farmers. The action programme will be reviewed in 2010.
The Integrated Pollution Prevention Control Directive (96/61/EC)		
IRE: Environmental Protection Agency Acts of 1992 and 2003 NI: Pollution Prevention and Control Regulations (Northern Ireland) 2003 (S.R. 2003/46) as amended by S.R. 2004 No. 507, S.R. 2005 No. 285, S.R. 2005 No. 454, S.R. 2006 No. 98 and S.R. 2007 No. 245	IRE: Environmental Protection Agency NI: Department of the Environment	IRE: Ensure operators of certain industrial installations must obtain an IPPC permit. NI: Establish a regime for the control of industrial and all other installations that have a considerable impact the environment. Develop an integrated approach to controlling pollution from industrial sources by regulating emissions into air, water and land through a permit system, based on the principal of Best Available Techniques.

Associated Regulations	Key Authorities	Actions Required
NI: Offshore Combustion Installation (Prevention and Control of Pollution) (S.I. 2001/1091)	NI: UK Secretary of State	NI: Impose a pollution control regime for offshore combustion installations e.
The Habitats Directive (92/43/EEC)		
IRE: European Union (Natural Habitats) Regulations (SI 94 of 1997 as amended)	IRE: Department of the Environment, Heritage and Local Government	IRE: Establish conservation measures for Natura 2000 sites in management plans.
NI: Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (S.R. 1995/380) as amended by S.R. 2004 No.435, S.R. 2003 No.46 and S.R. 2007 No. 345	NI: Department of the Environment	NI: Set out measures for the conservation of natural habitats and of wild flora and fauna. Selection, registration and notification of sites to be protected, development of management agreements and the requirement for appropriate assessment of plans and programmes.
NI: Environmental Impact Assessment and Natural Habitats (Extraction of Minerals by Marine Dredging) (England and Northern Ireland) Regulations 2007 (S.I. 2007/1067)	NI: UK Secretary of State and the Department of the Environment	NI: Establish a scheme which regulates marine minerals dredging in English and Northern Ireland waters.
NI: Environmental Impact Assessment (Agriculture) Regulations (Northern Ireland) (S.R. 2007/421)	NI: Department of Agriculture and Rural Development	NI: Require an assessment of whether projects above certain thresholds are likely to have significant effects on the environment.
NI: Offshore Petroleum Activities (Conservation of Habitats) Regulations (S.R. 2001/1754)	NI: UK Secretary of State	NI: Implement Habitats Directive in relation to oil and gas activities carried out wholly or partly on the UK continental shelf.
NI: Offshore Marine Conservation (Natural Habitats etc.) Regulations (S.I. 2007/1842)	NI: UK Secretary of State	NI: Implement Habitats Directive with regard to offshore marine areas, offshore marine installations and certain ships and aircraft.

Table 4a Other Required Measures as listed in Article 11(3) of the WFD

Implementation in N. Ireland	Implementation in Ireland	Actions Required	Assessed?
WFD 1: Cost recovery for water use and promotion of efficient and sustainable water use			
Currently non-domestic customers are charged for water consumption and sewerage and trade effluent discharge by Northern Ireland Water. The Northern Ireland Executive is currently considering charging methodologies to introduce charging for domestic users. The proposed Water Supply (Water Fittings) Regulations (Northern Ireland) 2009 when finalised will replace the Water Regulations (Northern Ireland) 1991 and will reduce possible contamination of the public drinking water supply through prescribing appropriate backflow prevention devices to prevent contaminated water from entering the public supplies. The proposed regulations represent the final stage in the Water Safety Plan approach and are designed to ensure that water systems in premises do not contaminate the wider mains water supply. A key priority for Northern Ireland Water is to reduce water leakage to the Economic Level of Leakage, this is a calculated level of leakage at which any further reduction in the leakage level would incur costs in excess of the benefits derived from the savings. The current figure to be achieved by March 2010 is 135.5 mega litres per day. However in accordance with industry best practice the Economic Level of Leakage figure is currently being reviewed.	Ireland's National Water Pricing Policy Framework requires charging of non-domestic customers of water and wastewater services to recover the full costs of providing such services and provides for the recovery of domestic capital cost from the Exchequer and domestic operational costs through the Local Government Fund. Water meters will be installed on all non-domestic supplies by the end of 2008. A national water leakage reduction programme is being implemented	Member States must adopt a cost recovery system to ensure that water pricing polices act as incentives towards efficient water usage. The WFD also requires measures to promote efficient and sustainable water use.	See **Table 5** for assessment.
WFD2: Protection of drinking water sources			
Northern Ireland Water (NIW) has initiated a programme to develop Drinking Water Safety Plans by 2010. As part of the development of water safety plans NIW and the Northern Ireland Environment Agency will develop a risk assessment approach to identify where action is required to reduce the risk of pollution which could affect public drinking water sources.	Ireland is considering making a policy in relation to using "safeguard zones" where there is an identified need to protect individual drinking water sources.	Protect all ground and surface waters that are used, or may be used in the future, as a source of drinking water for more than 50 people, or where the rate of abstraction is above $10m^3$ per day.	See **Table 5** for assessment.

Implementation in N. Ireland	Implementation in Ireland	Actions Required	Assessed?
WFD3: Abstraction and impoundment control			
The Department of the Environment introduced Water Abstraction and Impoundment (Licensing) Regulations (Northern Ireland) 2006 (S.R. 2006/482) in 2006. The regulations came into effect on the 1st February 2007 and involve licensing and charging for all applications above abstracting volumes above 20m^3 per day. Abstractions below this threshold are required to adhere to Permitted Controlled Activity Conditions. The regulations also require authorisation of impounding works/structures that control water levels upstream.	Ireland's abstraction laws need to be updated to protect waters adequately, with a modern system of registration and prior authorisation for significant water supplies. The DEHLG will propose new regulations creating a single registration and authorisation system. Authorisations would apply to surface water and groundwaters and may be risk-based including registration of all abstractions above threshold values, general binding rules, notification or licensing depending on the abstraction volume.	Member States must have controls for significant surface water and groundwater abstractions and surface water impoundments.	See **Table 5** for assessment.
WFD4: Point source and diffuse source discharges control			
There are many measures and activities in place to prevent and control point and diffuse source discharges, some of these include: • Regulation of wastewater discharges under the Water and Sewerage Services (Northern Ireland) Order 2006 (S.I. 2006/3336); • Northern Ireland Water Capital Works Programme; • Regulation of industrial discharges under the Water (Northern Ireland) Order 1999 (S.I. 1999/662); • Review of discharge consents to meet WFD environmental standards; • Regulation of major industrial activities under the Pollution Prevention and Control Regulations (Northern Ireland) 2003 (S.R. 2003/46) as amended by S.R. 2004 No. 507, S.R. 2005 No. 285, S.R. 2005 No. 454, S.R. 2006 No. 98 and S.R. 2007 No. 245; • Regulation non-mains sewage under the Water Order (Northern Ireland) 1999 (S.I. 1999/662); • Nitrates Action Programme under the Nitrates Action Programme Regulations (Northern Ireland) 2006 (S.R. 2006/489), as amended by S.R. 2008 No. 196; • Phosphorus use in Agriculture Regulations (Northern Ireland) 2006 (S.R. 2006/488);	Point and diffuse source pollution controls are supported in Ireland through a series of pollution reduction plans and programmes that are either already in place, or will be introduced shortly to support the Water Framework Directive, these include: • Pollution Reduction Programmes for Surface Water; • Water Service Strategic Plans; • National Action Programme under the Nitrates Directive; • Integrated Pollution Prevention Control licensing programme; • Local Authority Programmes of Discharge Authorisations; • Pollution Reduction Programmes for Groundwater; • Bathing Waters Management Plans; and • Pollution Reduction Programmes for Shellfish Waters.	Prior regulation is required for point source discharges liable to cause pollution. For diffuse sources of pollution, measures to prevent or control pollutant input are also required. Controls may include: prohibition on the entry of pollutants into water; prior authorisation; or registration based on general binding rules, laying down pollutant emission controls.	See **Table 5** for assessment.

Implementation in N. Ireland	Implementation in Ireland	Actions Required	Assessed?
• Control Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations (Northern Ireland) 2003 (S.R. 2003/319); • Control of waste under the Waste and Contaminated Land (Northern Ireland) Order 1997 (S.I. 1997/2778); • Control discharges to groundwater under the Groundwater Regulations (Northern Ireland) 1998 (S.R. 1998/401); • Surface Waters (Fishlife) (Classification) (Northern Ireland) Regulations 1997 (S.R. 1997/488) as amended by S.R. 2003 No. 194 and S.R. 2007 No. 405; • Surface Water (Shellfish) (Classification) Regulations (Northern Ireland) 1997 (S.R. 1997/489); and • Quality of Bathing Water Regulations (Northern Ireland) 1993 (S.R. 1993/205) For a comprehensive list of point and diffuse source discharge controls please refer to the Northern Ireland River Basin Management Plans (Tier 2) Programme of Measures for point and diffuse source pressures.			
WFD5: Controls on physical modifications to surface waters			
There are a number of existing systems in place for the control of physical modifications in freshwater and marine waters. **Freshwaters** • General control on development under the Planning (Northern Ireland) Order 1991 • Control of culverting through consent or approval under Schedule 6 of the Drainage (Northern Ireland) Order 1973 • Regulation of the removal of material from river beds under the Fisheries Act (Northern Ireland) 1966 (c.17) as amended by 2001 (c.4). • Control of any physical modification in designated areas under the Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2007 (S.R. 2007/345) **Marine waters** • In estuarine and coastal waters the deposit of articles and substances in the sea, including coastal defence structures, harbour works, land reclamation and sea disposal of dredged material require a licence under Part II of the Food and	Ireland's existing planning and development controls and marine licensing systems provide a general level of control for new development. The DEHLG is considering the introduction of new regulations to control physical modifications to surface waters; these regulations may involve an authorisation system. The system may be risk-based: low-risk works may be simply registered while higher-risk works would be subjected to more detailed assessment and more prescriptive licences.	Member States must ensure that the physical condition of surface waters support required ecological standards. Controls can take the form of prior authorisation and/or registration based on general binding rules.	See **Table 5** for assessment.

Implementation in N. Ireland	Implementation in Ireland	Actions Required	Assessed?
Environmental Protection Act 1985. • Control of works in harbours through the Harbour Works (Environmental Impact Assessment) Regulations (Northern Ireland) 2003 (S.R. 2003/136). • The extraction of marine minerals is controlled by a licensing system under the Environmental Impact Assessment and Natural Habitats (Extraction of Minerals by Marine Dredging (England and Northern Ireland) Regulations, 2007 (S.I. 2007/1067). • Control of any physical modification in designated areas under the Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2007 (S.R. 2007/345) The Department of Environment is undertaking a review of existing legislative controls to control physical modifications to surface waters. Further detail on the outcome of the review and any proposals arising from it will be made available in the final river basin plan in 2009.			

Implementation in N. Ireland	Implementation in Ireland	Actions Required	Assessed?
WFD6: Prevention or reduction of the impact of accidental pollution incidents			
There are a number of existing systems in place to prevent or reduce the impact of accidental pollution incidents, they include: • The UK National Contingency Plan which sets out detailed plans to ensure there is a timely, measured and effective response to marine pollution incidents; • The Northern Ireland Coastal Contingency Plan details the actions to be taken to minimise the effects of unauthorised discharges of polluting substances to coastal waters; • NIEA's Water Pollution Response Procedures are aimed at mitigating and reducing the impact of pollution incidents; • Harbour authorities and oil handling facilities of a certain size and or turnover are required to produce Oil Pollution Preparedness, Response and Co-operation Plans to respond to pollution incidents; • In major ports and harbours the Port Marine Safety Code is implemented through Port Safety Management Systems; • NIEA uses a Pollution Risk Assessment mechanism to provide advice and in certain circumstances enforcement options under the Water Order 1999 to negate or prevent accidental pollution ; and • The Water Pollution Hotline has enabled staff from NIEA to take steps to contain pollution and in numerous cases bring successful legal action against individuals and businesses that have been proven to be responsible for pollution events.	Ireland's measures under the Major Accidents Directive include emergency plans for establishments. A "Framework for Major Emergency Management" was published by the Office of Emergency Planning in 2006. Major emergencies include, among other things, severe weather, flooding, chemical spills, transport accidents (air, sea, rail, road), accidents at sea and major pollution incidents at sea.	Measures must be in place to prevent significant losses of pollutants from technical installations, and to prevent and/or to reduce the impact of accidental pollution incidents. These measures include systems to detect or give warning of events and in the case of accidents include all appropriate measures to reduce the risk to aquatic ecosystems.	See **Table 5** for assessment.

Implementation in N. Ireland	Implementation in Ireland	Actions Required	Assessed?
WFD7: Authorisation of discharges to groundwater			
The Department of the Environment introduced the Groundwater Regulations (Northern Ireland) 1998 (S.I. 1998/401) in 1998. These Regulations, along with the Water (Northern Ireland) Order 1999, require the Department of the Environment to prevent the direct or indirect discharge of list I substances to groundwater and to control pollution resulting from the direct or indirect discharge of list II substances. A consultation exercise setting out proposals to transpose the new Groundwater Daughter Directive (GWDD) (2006/118/EC) is ongoing. Following the consultation exercise new transposing Regulations incorporating the existing Groundwater Regulations and the relevant requirements of the WFD and the GWDD will be introduced in 2009.	Ireland's Wastewater Discharge Regulations prohibit discharge of certain dangerous substances to groundwater, and provide controls for discharges of other substances by water services authorities by way of EPA licences. Additional regulatory requirements and further guidance will be incorporated into Irish controls under groundwater environmental objectives regulations to be made in 2009 when transposing the Groundwater Directive. The new regulations will set criteria for status and trends and require measures to prevent or limit inputs of pollutants into groundwaters.	Prior authorisation is required for reinjection of waters for a number of specific activities (such as dewatering for mining or construction, exploration for oils and injection for storage of gas). Construction or civil engineering works, which could influence the water table, also require authorisation and general binding rules.	See **Table 5** for assessment.
WFD8: Priority substances control			
33 Priority Substances have been identified at European level. The Daughter Directive concerning these substances is due to be published in the European Journal by December 2008. The Directive will implement new standards for these substances. After publication, the UK will have a period of up to 18 months to produce new legislation. Under the Daughter Directive, NIEA will be required to establish inventories of emissions, discharges and losses of priority substances by no later than 2010. NIEA is carrying out work to monitor for these substances and will implement the requirements for phase out or reduction of them through pollution reduction plans. The European REACH Regulation will be implemented progressively over a number of years in Northern Ireland with the most hazardous, high volume substances addressed first. Risks to the environment and human health will be identified and, where necessary, controls will be put in place to ensure a high level of protection.	Ireland transposed this requirement into regulations governing environmental objectives for priority substances in surface waters in 2008. These regulations require Local Authorities to establish inventories of emissions, discharges and losses of priority substances and to prepare pollution reduction plans which specify objectives, identify measures and make pollution reduction recommendations. Information is also being collected on the usage, loss and discharges of dangerous substances through compliance with initiatives such as Registration, Evaluation and Authorisation of Chemicals (REACH) and European Pollutant Release and Transfer Register (EPRTR).	Measures are required to eliminate pollution of surface waters by 33 priority substances and 8 other pollutants and must aim to progressively reduce pollution from priority substances and cease or phase out emissions, discharges and losses of priority hazardous substances.	See **Table 5** for assessment.

Implementation in N. Ireland	Implementation in Ireland	Actions Required	Assessed?
WFD9: Controls on other activities impacting on water status			
There are a number of mechanisms in place to control invasive alien species in Northern Ireland, they include: • The Wildlife Order (NI) 1985. The Order contains measures for preventing the establishment of species not native to Northern Ireland which may be detrimental to native wildlife. It is an offence under Article 15 of the Wildlife Order to "release or cause to escape into the wild" any animal that is not ordinarily resident in or is not a regular visitor to Northern Ireland in a wild state. • The Fisheries Act (NI) 1966. Section 13 of this Act is specifically relevant to the control of non-native fish species. Under the Act an order can be made prohibiting the introduction of live fish or eggs of specific species. • The Prohibition of Introduction of Fish Order (NI) 1979. This prohibits the introduction of specified species of fish into inland waters.	Invasive alien species are non-native plants or animals that successfully establish themselves in aquatic and fringing habitats and damage the indigenous flora and fauna. The EPA has identified eight aquatic species of main concern in Ireland. The DEHLG is considering introducing regulations under the Wildlife Act to prohibit the possession or introduction of any species of wild bird, wild animal or wild flora, which may be detrimental to native species.	Measures must be put in place to deal with any other identified significant adverse impacts on water status. Controls can include prior authorisation or registration based on general binding rules.	See **Table 5** for assessment.

Table 4b Measures for Freshwater Pearl Mussel (FPM)

These are a generalised set of measures, based on a pilot plan. It is intended that a detailed plan for each Freshwater Peal Mussel (FPM) catchment will be completed and alternatives considered at that stage will be catchment specific. All of the catchments identified to date are within Ireland; therefore, these measures originate from the Ireland planning process. As these plans are necessary for the conservation of the FPM sites, they are not subject to habitats assessment, however the measures are detailed here for information purposes.

A Northern Ireland Species Action Plan (SAP) for FPM was published in March 2005 and can be found at http://www.ni-environment.gov.uk/fwpearlmussel_pdf.pdf. The Species Action Plan identified a number of targets and actions aimed at improving the conditions for, and ultimately increasing the population of, the FPM. The main objectives and targets of the FPM SAP are to (i) maintain the size

of existing significant populations, (ii) increase the size of these populations and (iii) re-establish populations of FPM in further suitable sites. This plan was separate from the RBMP and as such was not assessed as part of this habitats assessment report.

Source Plan	Measure
Ire	FPM 2 – Hot Fish A survey of the locations of 0+ fish during July to September, and a survey of 1+ fish in June shall be undertaken within mussel habitats. The conservation of fish passage shall be reviewed as per FPM1 above to find a regime that does not interfere with mussel reproduction.
Ire	FPM 3 – Lack of Riparian Buffer Zone A survey shall be undertaken to map the areas where a riparian buffer does not exist. A plan shall subsequently be produced to provide effective buffers in these areas either by fencing off a 5 to 10m strip of rank grassland (and eventual scrub), or native woodland at a distance that will not cause tunnelled shade.
Ire	FPM 4 - Peat Cutting Perpendicular to the River A review of peatland ownership, management and drainage shall be undertaken where appropriate. All drains from peatland will be filled or effectively silt trapped, and an effective buffer zone established to trap any overland peat silt before it reaches the rivers.
Ire	FPM 5 - Road and Bridge Construction Adjacent to River All access roads or bridges of any size have a pollution risk that can cause damage to mussel populations during construction and operation. Any future roads or bridges of any size should be subject to an impact assessment for potential damage to the mussel population alone or in conjunction with other effects.
Ire	FPM 6 - Road and Bridge Construction Adjacent to River A survey of current damage caused by temporary of permanent road and bridge building shall be carried out and recommendations for retrofitting construction through silt trapping, resurfacing and other works that could minimise ongoing damage.
Ire	FPR 7 - Road and Bridge Construction Adjacent to River During the above surveys, the material of road and path surfacing shall be examined. Any hardcore or surfacing that includes substantial limestone content will be removed and replaced by non-alkaline material, following an impact assessment as to what methodology and mitigation measures shall be employed.
Ire	FPM 8 A clear instruction to ensure lime is not used in catchment roads or hard surfaces shall be incorporated into local authority plans and operation organisation.
Ire	FPM 10 - Forestry Develop specific Forestry Management Plans with key stakeholders to address the key pressures identified in each catchment. The plan will include a suite of measures adopted from the following: • All coniferous plantations within the Catchment shall be subject to final felling and replacement with either continuous cover native woodland or semi-natural bog/moor. • establish riparian zone management prior to clearfelling with sufficient time to allow vegetative cover to develop; • change the tree species mix (e.g. broadleaves) on replanting

Source Plan	Measure
	• limit felling coup size to reduce potential sediment and nutrient load pressure • remove bankside trees by hand as whole trees where feasible • enhance sediment control through increased numbers and locations of sediment traps. • Main Silt traps will be large enough for *Margaritifera* conservation purposes (Altmüller & Dettmer, 2006). • Prohibition of aerial fertilisation on sensitive/ protected sites • No replanting on certain hydro geological settings (peat soils) on sensitive sites. • auditing of existing drainage networks prior to clearfelling See Table 9.12 for assessment • enhanced drainage network management – minimise drainage in peat soils • reduction or no pesticide usage – allow clearfelled areas to lay fallow for prolonged periods • pre-dipping of trees in nurseries prior to planting out • use biological control methods • maintaining registers of pesticide use in the catchment
Ire	FPM 11 - Forestry Final felling shall be subject to an impact assessment, felling management plan, and monitoring plan including continuous turbidity meters, carried out in agreed small coupes, using strictly best practice according to the Forestry and *Margaritifera* requirements, with, felling away from the river.
Ire	FPM 12 - Forestry A system of monitoring and management of continuous cover bankside trees shall be initiated, whereby a habitat of dappled shade with no tunnelling is provided for the river. Trees that are at risk of falling into the river shall be removed or partly removed (e.g. where some boughs are falling into the river) by qualified and experienced tree surgeons. Replacement, where necessary shall be by appropriate native species.
Ire	FPM 13 REPS Plans All farms within designated catchments should adhere to a nutrient management plan.
Ire	FPM 14 NPWS Farm Plans NPWS shall reassess measures in NPWS Farm Plans to ensure they are sufficient to promote sustainable pearl mussel populations. Current farm plan guidelines for other species and habitats should not conflict with *Margaritifera* requirements.
Ire	FPM 15 Ditch Management Ditches leading to *Margaritifera* Rivers should not be directly connected to such rivers without effective silt and nutrient trapping. A management plan for ditches needs to include large enough silt trap sizes for effective trapping (Altmueller & Dettmer, 2006), and include an integrated wetland system where approppriate.
Ire	FPM 16 Animal Watering All grazing animals within any designated catchments should be fenced away from the river or connective waterways. Suitable watering troughs should be made available for the animals instead.

Source Plan	Measure
Ire	FPM 17 Septic tank survey, database and remediation A survey of septic tanks and small effluent systems and databasing of results shall be established by the local authority. Each system will be graded as to its age, suitability and effectiveness. Systems that are releasing excessive nutrients shall be upgraded. Instream dataloggers for turbidity and regular water sampling will be required for this and other monitoring.
Ire	FPM 18 Washing machine plumbing The survey of septic tanks should include a check on household plumbing to ensure that all sources of detergent and other nutrients are plumbed to waste water systems.
Ire	FPM 19 Municipal and Industrial Discharge survey, database and remediation A survey of municipal and industrial outfall discharges carried out as part of the River Basin Management Plan shall be prioritised from local authorities to NPWS. Combined sewer overflow details shall be prioritised from local authorities to NPWS. Each system will be graded as to its age, suitability and effectiveness of function. Systems that are releasing excessive nutrients will be upgraded either through improved or enlarged load capability. Emphasis should be given to phosphorus stripping. Instream dataloggers for turbidity and regular water sampling will be required for this and other monitoring. An assessment of the impact from the application of salt to road surfaces, where surface water flow has direct connectivity to the river shall be put in place and mitigation measures proposed where necessary.
Ire	FPM 20 Catchment Flow Database A flow modelling survey for the designated Freshwater Pearl mussel catchments shall be undertaken as appropriate. An analysis of flow, mussel distribution, fisheries and silt distribution shall contribute to a plan for remedial action where needed. The study shall result in recommendations for improvement to flow as per Measure 1 above, and through other measures such as leakage reduction.
Ire	FPM 21 Catchment Awareness Campaign A campaign of awareness and education shall include talks through schools and public meetings and leaflets on pearl mussels and problems caused to them by direct damage, silt and nutrient enrichment. Measures above shall be explained. Litter prevention, low phosphate detergent usage, correct plumbing of washing machines and disposal of oil shall be included in the campaign.
Ire	FPM 22 Catchment Stakeholders Group A committee of stake holder interests shall be facilitated by the RBD projects in consultation with NPWS. In order to promote the conservation of the Clady pearl mussel population and to provide a forum by which progress on all measures can be discussed. Local authority representatives, NPWS, fisheries, angling groups, schools, forestry and farm managers and NGOs should all be represented where possible.
Ire	FPM 23 Leisure management Angling rights holders and angling clubs shall provide managed walkways and control access to unstable river banks.
Ire	FPM 24 Fish poaching Liaison with Fisheries Board with regard to assessment of fish poaching problems should be undertaken, and where possible rectified.
Ire	FPM 25 River bed or bank works

Source Plan	Measure
	Any works in the river bed or bank either for fisheries management, pipeline laying or other purposes shall be subject to an ecological impact assessment. Weirs, croys and stone bank reinforcement are unsuitable for freshwater pearl mussel SACs and alternatives should be found.
Ire	FPM1 Unnatural flows An analysis of flow in managed rivers will be undertaken where necessary. Following the analysis, a plan should be made and implemented in order to control flows in a more natural manner, and one that is suitable for the sustainable reproduction of the pearl mussel. Monitoring of the success of changes implemented should be carried out.
Ire	FPM 9 Channelisation An assessment of channalisation shall be undertaken. A recommendation on the potential improvement in morphology through river restoration shall be made, and implemented if considered to be necessary to the function of the mussel population.
Ire	FPM 26 River bed or bank works survey A survey of current weirs, croys, and river bank reinforcement shall be carried out and recommendations made for their removal if necessary.
Ire	FPM 27 Sand and gravel extraction No sand, gravel or stone shall be removed from rivers designated for Freshwater Pearl Mussel.

As stated, the Plan / POMs include measures required under 11 existing water protection directives, for whose implementation the Plan gives added impetus (**Table 3**); these are described as the **Business as Usual** scenario. While many of these measures are expected to result in improved water quality, some of the actions do not lend themselves to environmental assessment e.g. education and awareness programmes. The types of measures required have been grouped into themes (e.g. education and awareness, monitoring and identification) and an explanation provided as to whether or not assessment of these in the context of the Habitats assessment objective to protect Natura 2000/Ramsar sites is practicable at this time. The 11 Directives contain actions that fall in to one or more of the themes identified below, e.g. The Nitrates Directive actions require monitoring to be carried out (DIR2), and the implementation of action programmes (DIR3). The themes outlined in DIR1 to 3 were deemed to be unsuitable for assessment as explained below, while DIR4 to 6 were assessed as they highlight specific actions which have the potential to impact on Natura 2000/Ramsar sites and which can be afforded a general assessment at this time.

DIR1 Education and Awareness Programmes	Perhaps the most important of all the measures suggested, these types of initiatives and programmes are expected to result in improved water quality through increased public and industry awareness. However, due to their intangible nature, assessment of these with regard to Natura 2000/Ramsar sites will not be included.
DIR2 Monitoring and Identification of Sources of Pressure	These types of measures continue to build a picture of the baseline environment begun during the WFD Article 5 Characterisation process. As such these measures are concerned with information gathering rather than the taking of any concrete actions and as such will not be assessed. They will however ensure water management actions are fully informed and based on scientific data.
DIR3 Introduction of Plans, Programmes, Schemes, Codes of Practice, etc.	There are a number of plans, programmes, schemes, etc. identified as actions as part of the River Basin Management Plan in order to address specific issues or pressures. These include Sludge Management Plans, *Margaritifera* Plans (ROI) and Mini-Catchment Plans, the details of which are not yet available; therefore, it is not possible to assess the impacts associated with these at this time. However, it is strongly recommended that at the time the details of these are known that they are subject to an environmental assessment under the SEA and Habitats Directive Article 6 processes in order to identify any potential impacts. The purpose of this would be to identify focussed mitigation measures aimed at offsetting or reducing any identified negative impacts.
DIR4 Review of Licensing and Introduction of Controls (DIR 1)	Specific details of any changes will be at the local level, and a habitats screening assessment at the time of consideration should be carried out in order to determine the potential for any negative impacts for Natura 2000/Ramsar sites.
DIR 5 Changes to Land Use Planning (DIR 2)	These measures may result in changes in land use planning at the national, regional and local level, potentially resulting in impacts. A habitats assessment of these types of measures should be carried out at the time of implementation.
DIR6 Introduction of Specific Infrastructural Requirements, e.g. pre-treatment facilities (DIR 3)	These types of measures require the installation of specific types of infrastructure. Though specific information is not available, there is sufficient detail available at this time to carry out a general assessment of these types of measures using the objectives of the protection of Natura 2000/Ramsar sites.

In addition to the Business as Usual scenario discussed above, the WFD lists other minimum requirements to be met with under Article 11(3) that must be implemented by member states (**Table 4**). These are referred to in this assessment as the **Business as Usual Plus** scenario. The requirements are based on broad themes, many of which are directly tackled by the additional individual measures developed by each RBD. However, the broad themes have been assessed in the Habitats assessment as they will involve substantially new actions not currently covered by the business as usual scenario alone. As they relate to themes rather than specific actions the assessment is qualitative and outlined in **Table 5** below.

Table 5 Assessment of Measures under the Existing 11 Directive and the Other Required Article 11(3) Measures

Code	Measure group	Discussion on Assessment
DIR 4	Review of licensing controls	This measure is important to ensure the environmental quality standards that are set for receiving waters are achieved. Adequate enforcement of licensing is needed, and particular attention should be placed on discharges to Natura 2000/Ramsar sites in case more stringent standards are required by a licence. This measure is particularly important in order to assess the cumulative impacts from numerous point sources. Catchment nutrient budgets should be prepared and limits set and must take account of the specific requirements/objectives of Natura 2000/Ramsar sites. However, impacts could occur if systems are found to be in non-compliance, and thus require upgrade or new infrastructure e.g. the installation of waste water treatment plants. Where this occurs, Appropriate Assessments for any new infrastructure will be required if potential exists for impacts to a Natura 2000/Ramsar site.
DIR 5	Changes in Land Use	Changes in land use planning that protect the water environment and Natura 2000/Ramsar sites e.g. imposing development controls where there is, or is likely to be in the future, insufficient capacity at waste water treatment plants, are positive if a whole catchment approach is considered as part of the planning process. Changes in land use plans should be assessed to determine if any potential exists for impacts, direct or indirect, to a Natura 2000/Ramsar site.
DIR 6	Infrastructural requirements	New infrastructure if proposed within or adjacent to a protected area, and when screened could potentially impact on a Natura 2000/Ramsar site, should be subjected to Appropriate Assessment and NPWS/NIEA should be consulted. If the new infrastructure is to be located within the catchment (surface and groundwater) of a Natura 2000/Ramsar site, consultation with NPWS/NIEA is only necessary for those water dependent Natura 2000 sites which are listed in the WFD Register of Protected Areas.
WFD 1	Cost recovery for water use & promotion of sustainable water use	This measure while beneficial cannot be assessed from the protected areas perspective. It does have the potential however to encourage water conservation and practices such as leakage reduction which should be encouraged.
WFD 2	Protection of Drinking	Protection of drinking water sources, if coincident with Natura 2000/Ramsar sites or catchments, could enhance the protection

Code	Measure group	Discussion on Assessment
	water sources	afforded to Natura 2000/Ramsar sites.
WFD 3	Abstraction and impoundment control	The control of abstractions and impoundments through licensing is a positive measure, and it is strongly recommended that they are subject to screening for potential impacts on Natura 2000/Ramsar sites. If impacts are identified then the controls should be subject to Appropriate Assessment. However, this is viewed as a positive measure as long as the specific requirements of Natura 2000/Ramsar sites are taken account of.
WFD 4	Point source and diffuse source discharge	It is proposed to prevent or control point and diffuse source discharges through regulations, review of discharge consents, plans and programmes. The details of these controls are not available at this time, however it is likely to include prevention and reduction programmes arising out of existing directives such as the Nitrates, Dangerous Substances, Groundwater, Shellfish and Bathing Water Directives. In addition programmes focusing on IPPC and discharge authorisations are also likely. These are anticipated to have a positive effect on Natura 2000/Ramsar sites, however it is highly recommended that when the specific details of these controls are proposed, that these be subject to screening under Article 6 in order to identify any potential for impacts on Natura 2000/Ramsar sites.
WFD 5	Controls on physical modifications to surface waters	This may include prior authorisation or registration schemes, licensing and other controls. These should all provide protection for the environment from impacts that might accrue from physical modifications. The controls must include consideration of the requirements for Natura 2000/Ramsar sites.
WFD 6	Prevention or reduction of the impact of accidental pollution incidents	These measures should prevent significant losses of pollutants and/or reduce the impact of accidental pollution incidents. The appropriate measures which should be undertaken in such cases should take account of any additional requirements which may be necessary if such incidents occur in protected areas e.g. prioritisation of these areas in order to reduce the risks to protected habitats and species. In addition where controls are put in place for emergencies such as flooding, and these might include the construction of flood defences, that could impact on Natura 2000/Ramsar sites and should be subject to Appropriate Assessment.
WFD 7	Authorisation of discharges to groundwater	Regulations which prevent the discharge of certain dangerous substances to groundwater, and provide control for discharges of other substances, are positive for Natura 2000/Ramsar sites. However, these regulations should taken account of the requirements of Natura 2000/Ramsar sites, as more stringent objectives may be required.
WFD 8	Priority substance control	Plans that target improved prevention and reduction of priority substances will result in less emissions to the environment and consequent improvements in water quality and in turn habitats and species in Natura 2000/Ramsar sites. It may also include other processes for treatment or disposal with the potential to impact on Natura 2000/Ramsar sites and therefore screening under habitats assessment should be carried out in order to determine likely impacts and whether an Appropriate Assessment would be required.
WFD 9	Controls on other activities impacting water status	The main issue for water status is invasive alien species. These controls are to prohibit the possession or introduction of any species of wild bird, wild animal or wild flora, which may be detrimental to native species. This is a positive measure for Natura 2000/Ramsar sites.

Additional measures

Where application of the required measures listed above will not be sufficient to achieve the WFD objective of good status in all water bodies by 2015, additional measures need to be identified and considered. The types of measures considered are at the discretion of the Member State. In Ireland, the additional measures under consideration were developed as a part of the Programme of Measures studies carried out by several of the RBD projects over two years. In addition, the range of additional measures available for use in the RBMP has been informed by the early stages of the SEA process as well as this Screening stage of the Habitats Assessment. The additional measures being considered for the RBMP address the main pressures on our waters and are outlined in the table on the next page. The additional measures have been set out in **Table 6** under each of the pressure topics and have been categorised broadly as measures that will either:

a) **Reduce** the inputs of contaminants;

b) **Replace or Upgrade** infrastructure; or

c) **Relocate** the pressure to an alternative and less sensitive location.

The additional measures represent a range of options which can be selected for the Plan, with the option of choosing one, all or a combination of these, if appropriate. The range of additional measures that can be selected from is provided in **Table 6**. Appendix II provides the full assessment of the potential impacts that might arise from these additional measures, the results of which are summarised in **Table 6**.

These tables include measures considered in both the Northern Ireland and Ireland plan making processes. As most of the measures proposed could be useful in both jurisdictions, the habitats assessment recommends that each of the proposed measures be considered to address their relevant pressures, regardless of the Plan in which they were originally proposed. It is acknowledged that a few of the measures are only applicable in their specific jurisdiction, e.g. legislation; therefore, a reference to the source Plan for each measure is included on the left hand side of the table for clarity.

Not all of these measures are suitable for assessment. Where a measure is unsuitable for assessment, an (X) has been shown on the left hand side of the table, with a commentary on

why an assessment has not been carried out provided in the right hand column. Where a measure can be assessed, this is indicated by a check mark (√) in the left hand column.

It should be noted that the additional measures have been grouped by pressure. In order to maintain consistency between the 2007 SWMI document, the discussions in the SEA Scoping Document, the Environmental Report and the Habitats Assessment Report, it was decided to use pressure headings similar to those included in the SWMI document for these groupings. It is acknowledged that these headings have evolved throughout the plan process and that differences, though subtle, have arisen between the headings originally used in the SWMI and some of those now included in the Plan. Therefore, for clarity and ease of comparison between the Plan and the Environmental Report/Habitats assessment Report, the following table of terminology is provided. In addition, where the Plan terminology differs, the Plan heading is provided in brackets at the start of each table. It should also be noted that there are several new headings, for which there is no direct comparison to the SWMI document. These are also listed below.

SEA Terminology	Northern Ireland Plan Terminology	Ireland Plan Terminology
Wastewater	Collection and Treatment of Sewage / Urban Development	Wastewater
Industrial Discharges	Industry and Other Businesses	Industrial Discharges
Other Point Sources (landfills, quarries, mines and contaminated lands)	Industry and Other Businesses / Waste	Landfills, quarries, mines and contaminated lands
Agriculture	Agriculture	Agriculture
Wastewater from unsewered properties	Collection and Treatment of Sewage	Wastewater from unsewered properties
Forestry	Forestry	Forestry
Usage and Discharge of Dangerous Substances	Included under key sectors under pollution	Dangerous substances and chemical pollution
Physical Modifications	Freshwater Morphology/ Marine Morphology	Physical Modifications
Abstractions	Abstraction and Flow Regulation	Abstractions
Local Issues		Locally focussed and future issues
Alien Species	Alien Species	Alien Species
Cruising and Boating	N/A	Cruising and Boating
Aquaculture	Industry and Other Businesses	Aquaculture
Peat Extraction	Industry and Other Businesses	Peat Extraction
Protecting High Quality Areas	N/A	Protecting High Quality Areas
Shared Waters	N/A	Shared Waters

SEA Terminology	Northern Ireland Plan Terminology	Ireland Plan Terminology
Fisheries*	Fisheries	N/A
Urban Development*	Urban Development	Wastewater / Industrial Discharges

* *new heading*

Table 6 Summary of Habitats assessment Stage 1 Screening (for more detail please see Appendices I&II)

***Note:** *It should be noted that in this case the term Appropriate Assessment refers to the assessment process as specified in Article 6 of the Habitats Directive. This starts with screening to determine whether a likely significant impact from the plan/programme is expected to occur to a Natura 2000/Ramsar site as a result of activities in/adjacent to/in the catchment of a Natura 2000/Ramsar site. If, in accordance with AA guidance (guidance produced by the EU, and DEHLG/NPWS), it can be shown that there is no potential for impact at the screening stage, no further assessment may be required. However when the plan/programme being screened lies within or adjacent to a Natura 2000/Ramsar site then such a determination must be made in consultation with NPWS. If the plan/programme is within the catchment (surface and groundwater) of a Natura 2000/Ramsar site, such consultation with NPWS is only necessary for those water dependent Natura 2000 sites which are listed in the WFD Register of Protected Areas.*

Additional Measures for Point and Diffuse Sources: Wastewater (NI: Collection and Treatment of Sewage/Urban Development)

Source Plan	Assessed ?	Additional Measures	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Reduce				
Ire	√	WW1: Measures intended to reduce loading to the treatment plant: - Limit or cease the direct importation of polluting matter (e.g. liquid wastes, landfill leachate) - Investigate extent of use and impact of under-sink food waste disintegrators and take appropriate actions - Investigate fats/oils/grease influent concentrations and take actions to reduce FOG entering the collection system -Upgrade and rehabilitate Combined Sewer Overflows (CSOs)	Positive: Reduced nutrient loads may improve water quality and reduce the impacts of eutrophication. Elevated levels of nutrients result in un-naturally high levels of food for certain bird species. Reduced nutrient loads may lead to a situation where the composition of the flora and fauna may return to a more natural and sustainable level.	AA required if alternative facility for treatment of waste is constructed e.g. incinerator.
Ire	√	WW2: Impose development controls where there	Positive: This measure will have an overall positive	No mitigation required

Source Plan	Assessed ?	Additional Measures	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
		is, or is likely to be in the future, insufficient capacity at treatment plants	affect if whole catchment loadings are considered as part of the planning process.	
Ire	√	WW3: Initiate investigations into characteristics of treated wastewater for parameters not presently required to be monitored under the urban wastewater treatment directive	Positive: These investigations should be prioritised on the basis of known sensitivities of water dependent habitats and species.	No mitigation required
Ire	√	WW4: Initiate research to verify risk assessment results and determine the impact of the discharge, including impacts to groundwater	Positive: Prioritise work for protected areas, particularly more sensitive areas and take account of more strigent standards, e.g. *Margaritifera* targets.	No mitigation required
Ire	√	WW5: Use decision-making tools in point source discharge management	Positive: All decision making tools should take account of the requirements of protected areas and prioritise such areas for necessary changes in management.	No mitigation required
	√	WW6: Reduction in pollution at source through education campaigns	Positive: Prevention of pollution or limiting the amount of pollutants entering the surface and groundwater networks may have a positive effect on the environment, and may contribute to reduced expenditure on pollution and treatment.	No mitigation required
NI	√	WW7: Reduce loading by introduction of phosphate free products	Positive: Reduced nutrient loads will improve water quality and reduce the impacts of eutrophication. Elevated levels of nutrients result in un-naturally high levels of food for certain bird species. Reduced nutrient loads will lead to a situation where the composition of the flora and fauna will return to a more natural and sustainable level.	No mitigation required
NI	X	WW8: Review consent conditions to ensure adequate controls and emission limits are set to achieve new water quality standards in receiving waters. Further development of mathematical models to examine cumulative impacts of discharges at a catchment scale. Detailed analysis to support the review of the consents for sewer systems and to address the volume	This type of measure is not expected to result in significant environmental impacts and as such has not been assessed. However, impacts could occur if systems are found to be in non-compliant, and thus require upgrade. Therefore, it is anticipated that this measure would be the first step in implementation of measures such as WW10. Consent conditions must take account of Protected Areas.	Not assessed

Source Plan	Assessed ?	Additional Measures	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
		spilt from overflows in urban areas.		
NI	X	WW9: Review the environmental investment required after 2015, prioritise environmental problems and develop indicative lists	Development of lists is part of the information gathering stage of the planning process. This measure could be linked to other measures considered and will be informed by monitoring associated with the WFD and SEA process. Assessment of this measure would be premature prior to a decision being made on the specific projects to be implemented. It should be noted that some of the projects that could be chosen, e.g. installation of higher standards of treatment, are assessed under separate measures where these have been specifically called out (e.g. WW11). It is highly recommended that when specific proposals are chosen, that these be subject to environmental assessment to identify potential impacts.	Not assessed
Replace/Upgrade				
Ire	√	WW10: Install secondary treatment at plants where this level of treatment is not required under the urban wastewater treatment directive	Positive: Reduced nutrient loads may improve water quality and reduce the impacts of eutrophication. Proof is required to show that a new plant will have the desired improvements in water quality for which it is being built i.e. changing one scenario where there are diffuse pressures to a scenario where you have a point source pressure with consequent BOD issues needs to be avoided and there is need to model the changes in the overall nutrient load to the receiving waterbody. Elevated levels of nutrients result in un-naturally high levels of food for certain bird species. Reduced nutrient loads may lead to a situation where the composition of the flora and fauna return to a more natural and sustainable level. A higher standard of treatment is particularly important for protected areas with more stringent objectives, e.g. freshwater pearl mussels or hard water lakes.	AA required if this would involve the building of a new plant or an extension to an existing plant.
Ire	√	WW11: Apply a higher standard of treatment (stricter emission controls) where necessary		AA required if this would involve the building of a new plant or an extension to an existing plant.
Ire	√	WW12: Upgrade the plant to remove specific substances known to impact on water quality status		AA required if this would involve the building of a new plant or an extension to an existing plant.
Ire	√	WW13: Install ultra-violet or similar type treatment		No mitigation required

Source Plan	Assessed ?	Additional Measures	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Relocate				
Ire	√	WW14: Relocate the point of discharge	Positive: This measure potentially could improve the quality in sensitive/protected areas and the measure should prioritise such catchments.	AA required and should show that the relocation will not negatively impact on protected areas.
Ire	X	WW15: Introduce design and construction codes for wastewater infrastructure in areas of groundwater vulnerability. These could include prioritisation of construction supervision and avoidance of Inner Source Protection Zones.	The provision of design and construction codes would contribute to the overall positive impact of the POM as they provide the tools to inform key actions arising from the Plan. However, because the details of what these would include are not available at this time, it is not possible to assess the impacts associated with these. However, they should take account of Protected Areas.	Not assessed.
Ire	√	WW16: Implement Community Digestors for Alternative Energy.	Positive: This measure would potentially lead to improvements in water quality and this may have benefits for terrestrial and aquatic biodiversity if digestors are located in suitable areas.	AA required
Ire	X	WW17: Implement and audit performance management systems at all WWTPs.	This type of measure is not expected to result in significant environmental impacts and as such has not been assessed. However, impacts could occur if systems are found to be performing below required thresholds. Therefore, it is anticipated that this measure would be the first step in the implementation of measures such as WW10 to WW14, which have been assessed.	Not asessed

Additional Measures for Point and Diffuse Sources: Industrial Discharges (NI: Industry and Other Businesses)

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Reduce				
NI	X	IND1: Implement management controls as they become available, e.g. new or improved guidance, new or revised legislation or regulations, codes of practice These may include: Proposed Environmental Impact Assessment (Fish Farming in Marine Waters) Regulations Introduction of codes of practice for potentially polluting activities and consideration of a system of Generally Binding Rules (GBR)	There are a number of management controls identified as potential measures, the details of which are not yet available. It is not possible to assess the impacts associated with these at this time; however, it is strongly recommended that when the details of these are known, they are subject to an environmental assessment to identify potential impacts. All controls must include specific measures/controls/consideration of protected areas, particularly those with more stringent requirements. The overall positive aspect of these measures should be noted as they provide the tools, methodologies and data required to inform key actions arising from the RBMP.	Not assessed
NI	X	IND2: Develop oil storage regulations to reduce pollution impacts	These are proposed regulations, the details of which are not yet available, and therefore cannot be assessed yet, but should take account of the requirements of Protected Areas.	Not assessed
NI	√	IND3: Enforce discharge consent / licence standards to reduce inputs at source	Positive: This measure is important to ensure the environmental quality standards that are set for receiving waters are achieved. Adequate enforcement of licensing is needed, and particular attention should be placed on discharges to protected areas in case more stringent standards are required by a licence	No mitigation required

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
NI	X	IND4: Compile an inventory of management best practice and reduce peat usage	This measure is directed at information/data gathering, and as such as not suitable for assessment.	Not assessed
NI	√	IND5 Further research into diffuse pollution modelling	Positive: This measure is very important for protected areas. There is particular need for models that predict/model the ecological impacts in the receptor. e.g. the Draft Freshwater Pearl Mussel Regulation set targets for diatoms, macroalgae, macrophytes and macroinvertebrates, but models are needed that can determine what reductions in nutrient loads are required to achieve these targets. Models need to be very detailed in order to take account of site-specific issues such as soil-type, water colour/light attenuation, flows etc.	No mitigation required
Replace/Upgrade				
Ire	√	IND 6 Introduce Best Available Techniques (BAT) for industrial discharges	Positive: BAT for industrial discharges may potentially have an overall positive effect on protected sites, and must consider specific requirements of protected areas.	No mitigation required
NI	√	IND7 Improve point source discharge controls after examination of the cumulative impact of discharge consents at a catchment scale	Positive: This measure is particularly important in order to assess the cumulative impacts from numerous point sources. Catchment nutrient budgets should be prepared and limits set and must take account of the specific requirements/objectives of protected areas. This may have a positive result for protected areas.	No mitigation required
Relocate				
Ire	√	IND8 Relocate discharge point	Positive: This measure potentially could improve the quality in sensitive/protected areas and the measure should prioritise such catchments.	AA required and should show that the relocation will not negatively impact on protected areas.

Additional Measures for Point and Diffuse Sources: Other Sources (landfills, quarries, mines & contaminated lands) (NI: Industry and Other Businesses/Waste)

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Reduce				
NI	X	OP1: Implement management controls as they become available, e.g. new or improved guidance, new or revised legislation or regulations, codes of practice These could include: EU Mining Waste Directive Planning Policy Statement 19 on Planning Minerals (NI) Contaminated Land Regulations and Associated Guidance (NI)	There are a number of management controls identified as potential measures, the details of which are not yet available. It is not possible to assess the impacts associated with these at this time; however, it is strongly recommended that when the details of these are known, they are subject to an environmental assessment to identify potential impacts. All new guidance should consider the specific objectives and requirements of protected areas, particularly those with more stringent objectives. The overall positive aspect of these measures should be noted as they provide the tools, methodologies and data required to inform key actions arising from the Plan.	Not assessed
NI	√	OP2: Reduce pollution arising from waste management, e.g. use of Site Waste Management Plans, proper disposal of construction, demolition and electrical wastes, segregated collection	Positive: The prevention of incorrect disposal of waste is a positive measure for protected areas. Proper plans and disposal mechanisms should limit the incidence of disposal in remote areas and within protected areas.	No mitigation required
NI	√	OP3: Introduce a Quality Protocol for the production of aggregates from inert waste to prevent water pollution from contaminated material	Positive: The prevention of pollution from the production of aggregates from inert waste may have benefits to all receiving waters.	No mitigation required
NI	√	OP4: Reduce illegal disposal of waste	Positive: A campaign which would reduce the illegal disposal of waste would have particular benefit for protected areas which, in the majority of cases, tend to be remote rural areas e.g. bogs, which are used for illegal disposal of unwanted	No mitigation required

			materials.	
Replace/Upgrade				
Ire	√	OP5: Undertake remediation projects for prioritised landfills, quarries, mines and contaminated lands, e.g. pollution containment measures and monitoring requirements	Positive: Overall the affects are positive for this measure. This measure must have protected area requirements/ impact on protected areas as one of the criteria for prioritisation. Quarries in particular are very important in terms of sediment loads and chemical changes to receiving waters.	AA required
Ire	√	OP6: Properly dispose of harbour dredgings	Positive: The disposal of harbour dredging should be subjected to screening for impacts if the disposal area is located in or adjacent to a protected area.	AA required
Ire	X	OP7: Monitor shipping activities, including discharges	Monitoring of shipping activities is not expected to result in significant environmental impacts and as such has not been assessed. However, impacts could occur if monitoring results in actions being taken as a result of information gathered. Therefore, any actions arising from this measure should be subject to environmental assessment. It should be noted that the effectiveness of this measure might be limited by the willingness of operators to participate in the monitoring scheme.	Not assessed.

Additional Measures Point and Diffuse Sources: Usage and Discharge of Dangerous Substances (NI: Included under key sectors under Pollution)

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Reduce				
Ire	X	DS1: Improve administration of dangerous substances through use of awareness campaigns, improvement in product labelling, support of auditing and reporting and improved information sharing	No environmental impacts would be expected to occur as a result of implementation of this measure, aside from the positive impacts for water quality.	Not assessed
Ire	X	DS2: Review of wastewater and industrial licences	DS2 is directed at information gathering and, while an important step in the planning process, is not suitable for assessment. However, DS2 is the first step in the implementation of DS3, which is aimed at bringing emissions in line with relevant standards and for which an assessment was carried out. DS2 must take account of protected areas objectives and requirements and prioritise review according to their needs.	Not assessed
Ire	√	DS3: Reduction of pollution by control of point sources through use of pollution reduction programmes	Positive: Pollution reduction programmes are likely to lead to improvements in water quality and biodiversity by reducing chemical pollution to water bodies. This is particularly important in sensitive habitats, in particular for freshwater pearl mussels catchments. Must take account of protected areas objectives and requirements and prioritise review according to their needs.	No mitigation required
Ire	√	DS4: Reduce discharges, losses and emissions from diffuse sources, including in groundwater source protection zones	Positive: May lead to improvements in water quality and benefits for biodiversity due to dangerous substances emissions from diffuse sources especially pesticides and herbicides. Overall positive affect on water quality and biodiversity.	No mitigation required
Replace/Upgrade				

Ire	√	DS5: Upgrade treatment to remove substances from effluent	Positive: May lead to improvements in water quality and benefits for biodiversity due to reduced dangerous substances emissions from effluent. Overall positive affect on water quality and biodiversity.	AA required if this would involve the building of a new plant or an extension to an existing plant.
Relocate				
Ire	√	DS6: Relocate discharge point	Positive: Likely to lead to an improvement in the quality of biodiversity, flora and fauna if relocated away from sensitive/protected habitats and species.	AA required.

Additional Measures Point and Diffuse Sources: Agriculture

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Reduce				
Ire	√	AG1: Creation of buffer strips around water bodies to prevent pollutant loss	Positive: This measure would be desirable and would provide for protection of water courses from nutrient and sediment losses from agriculture. The measure should target nutrient hot spots i.e. standard buffer widths should not be used. These should be designed to cover variable source areas. Drains should be blocked in buffer zones. In Protected Areas care is required to ensure that the change in land management in buffer zones does not directly adversely impact on habitats and species.	AA required
NI	√	AG2: Adoption of Best Management Practices to reduce phosphorus inputs, e.g. use of feedstuffs designed to minimise phosphorus in excreta	Positive: Any measure that potentially may reduce the quantity of phosphorus entering water courses is positive and will lead to a reduction in eutrophication. This would be a positive measure for protected areas, and sensitive protected areas should be targeted for implementation of this measure.	No mitigation required
Ire	√	AG3: Installation of fencing to prevent livestock access to watercourses	Positive: This measure would be desirable and would provide for protection of water courses which are currently under threat from livestock access. In Protected Areas, this may result in some impacts on riparian habitats and species.	AA required
Ire	√	AG4: Reduction of agricultural intensity, e.g. lower stocking density on land, reduction in land reclamation	Positive: This measure would be most effective where currently intensive activities are occurring in unsuitable catchments.	AA required if land use change proposed in a protected area
Ire	√	AG5: Require nutrient management planning	Positive: Should lead to Improvements in water quality and benefits for biodiversity.	No mitigation required

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Ire	√	AG6: Set aside of agricultural lands	Negative: Leaving a proportion of farm land uncultivated or put to non-agricultural use for a period of time can lead to changes in habitat types and associated changes in biodiversity, flora and fauna, which could be both positive or negative depending on how the land is managed. The main concern however with this measure is that set aside of agricultural lands are normally sprayed (pesticides) and this can lead to negative impacts on flora and fauna which are starting to re-colonise. It is recommended that this measure is qualified so that set aside of agricultural lands while beneficial, should not involve the spraying of such lands adjacent or within protected areas.	**Note: Change to the Draft POMs recommended:** Set aside only to be implemented with appropriate guidance for agricultural lands within or adjacent to protected areas (spraying the key concern). AA required
Replace/Upgrade				
NI	√	AG7: Identification of regions where diffuse pollution problems are most severe	Positive: This is a very important measure for protected areas. For nutrient sensitive protected areas identification of critical source areas is needed and development of sensible measures for reducing nutrient loss from them.	No mitigation required
Ire/NI	√	AG8: Increase participation in rural environmental protection schemes/other agri-environment schemes e.g. NPWS farm plans, particularly in priority catchments (Ire) and focus advice and regulatory action in areas where there is a lower uptake in agri-environment schemes (NI)	Positive: Increased participation in agric-environmental protection schemes is likely to have positive benefits for the environment if guidance and advice are produced and disseminated in a consistent manner. By their voluntary nature however, it is difficult to achieve consistent application of these schemes, and therefore they have limitations. However, in general, they are positive.	No mitigation required
Ire	√	AG9: Upgrade farm management systems	Positive: A positive measure which could lead to reduced pollution to waters and improved biodiversity. Grants if made available however must be linked to the availability of appropriate spread lands/receptor sites and not represent an increased risk to water quality.	AA required

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
NI	X	AG10: Examine commercial/technical proposals that have the potential to bring about significant reduction in the phosphorus surplus, e.g. incinerator or digestor	Examination of commercial/ technical proposals is part of the planning process and would contribute to achieving the overall positive impact of reducing phosphorus. Assessment of this measure would be premature prior to a decision on which proposals will be implemented. However, some of the technical proposals that could be chosen are assessed separately where specified (e.g. AG12, AG13). It is highly recommended that when specific proposals are chosen, that these be subject to environmental assessment to identify potential impacts.	Not assessed
NI	√	AG11: Phosphorus balances on individual holdings to be introduced on a phased basis	Positive: This measure should have the desired effect of decreased phosphorus losses from agriculture which would help to reduce eutrophication. This is linked with AG5, and would have major benefits for water quality and therefore protected areas.	No mitigation required
Relocate				
Ire	√	AG12: Removal by tanker in areas of nutrient surplus	Positive/Negative: This measure may lead to improvements in the catchments it is being applied to, but could create problems in catchments where the waste is being spread. Recommend the following mitigation: Should only be considered as a temporary solution and must never be employed in isolation, i.e. must be accompanied by nutrient-reduction plan.	**Note: Change to the Draft POMs recommended:** This measure should be qualified and should only be considered as a short term measure as this does not resolve the issue with the pressure. An AA is also recommended for the relocation area.
Ire	√	AG13: Treatment by digestors in areas of nutrient surplus	Positive: This measure would potentially lead to improvements in water quality and this may have benefits for terrestrial and aquatic biodiversity if digestors are located in suitable areas.	AA required for any new facility.

Additional Measures for Point and Diffuse sources: Wastewater from Unsewered Properties (NI: Collection and Treatment of Sewage)

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Reduce				
Ire	√	UP1: Amend Building Regulations - Code of Practice for single houses - Code of Practice for large systems - Certification of unsewered and percolation areas	Positive: This measure is focussed on pre-planning and therefore addresses the pressure at the earliest pre-planning stage where significant reduction of risk can be achieved simply by ensuring that systems are suitably located and are designed to achieve the intended water management. Amendment of building regulations to include codes of practice and requirements for certification of on-site systems will have positive impacts on the water environment by reducing the cumulative pressures from new unsuitable systems coming on line in the short to medium term once the regulations are passed.	Code should explore whether an AA is required or not
Ire	√	UP2: Assess applications for new unsewered systems by applying risk mapping/decision support systems and codes of practice	Positive: This measure focuses on pre-planning and allows consideration of protected areas to be taken in to account at the earliest opportunity. This measure is highly desirable and should be adopted.	This process should assess whether an AA would be required.
Ire	X	UP3: Establish certified expert panels for site investigation and certification of installed systems	These types of measures are not expected to result in significant environmental impacts and as such have not been assessed. However, impacts could occur if systems fail to achieve certification or are found to be in non-compliance, and thus require upgrade. Therefore, it is anticipated that these measures would be the first steps in implementation of measures such as UP8 which has been assessed.	Not assessed
NI	√	UP4: Change current policy and guidance to improve existing controls and modify development control and enforcement practices to reflect restrictions if required.	Positive: This measure is highly desirable and should take in to account protected areas in order to minimise impacts.	AA required

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
NI	√	UP5: Reduce loading by introduction of phosphate free detergents	Positive: The result is likely to be a decrease in phosphorus levels and eutrophication, and the return of surface and groundwaters to a more natural state as existed pre P products.	No mitigation required
Replace/Upgrade				
Ire	√	UP6: Carry out an inspection programme in prioritised locations for existing systems and record results in an action tracking system	Positive: Positive effects likely from upgrading existing inappropriate on-site systems to better systems with more advanced treatment.	No mitigation required
NI	√	UP7: Following mapping of vulnerable areas, where water quality is threatened, alternate treatment options, such as providing mains sewers or tank maintenance programmes, may be investigated	Positive: This is a positive measure. The significant effects on water quality associated with unsewered properties in terms of nutrient enrichment, particularly phosphorus, and eutrophication give rise to problems for protected habitats, particularly for Freshwater Pearl Mussels and other aquatic species that require high quality waters.	AA required for new structures
Ire	√	UP8: Enforce requirements for percolation and de-sludging	Positive: Desludging of on-site systems could lead to their improved operation, decreased incidents of ponding and thereby reducing impacts from them to nearby surface waters and also to groundwater bodies. Enforcement of percolation requirements is the key benefit of this measure, and could potentially have a very positive effect for protected sites.	No mitigation required
NI	X	UP9: Consideration of grants to improve private sewage discharges	UP9 is not expected to result in significant environmental impacts, aside from positive impacts to water quality due to improvements in private sewage discharges. As such, it does not require assessment.	Not assessed
Relocate				
NI	X	UP10: Identify areas where there are potential constraints on development and address	Development of constraints mapping is part of the information gathering stage of the planning process. Assessment of this measure would be premature prior	Not assessed

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
		these	to a decision being made on the specific projects to be implemented. It should be noted that some of the projects that could be chosen, e.g. connection to municipal systems, are assessed under separate measures where specifically noted (e.g. UP11). It is highly recommended that when specific proposals are chosen, that these be subject to environmental assessment to identify potential impacts.	
Ire	√	UP11: Consider connection to municipal systems	Positive: The benefits for biodiversity, flora and fauna are positive as localised impacts from on-site systems may be removed, and this may be a critical factor in the failure of certain water bodies in rural locations in terms of their WFD status, and also in turn on certain protected sites not achieving their favourable condition objectives e.g. in designated bathing waters.	AA required for new connections.

Additional Measures for Point and Diffuse Sources: Forestry

Source Plan	Assessed?	Additional Measures	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Reduce				
NI/Ire **NI** **Ire** **NI**	X	F1: Implement management controls as they become available, e.g. new or improved guidance, new or revised legislation or regulations, codes of practice These could include: -Improved guidance based on scientific research for highly sensitive areas (e.g. Pearl Mussels) -Ensuring regulations and guidance are cross referenced and revised to incorporate proposed measures -Development of maps indicating where forests should be developed taking account of sensitive and protected areas	There are a number of management controls identified as potential measures, the details of which are not yet available. It is not possible to assess the impacts associated with these at this time; however, it is strongly recommended that when the details of these are known, they are subject to an environmental assessment to identify potential impacts. These are however all viewed as positive measures.	Not assessed
Ire	√	F2: Acidification - Avoid or limit (to below critical thresholds) afforestation on 1st and 2nd order stream catchments in acid sensitive catchments	Negative: This measure may be positive for small catchments as it provides for the protection of small streams in acid sensitive catchments, however, if these areas coincide with Natura 2000 sites, especially Freshwater Pearl Mussel catchments, afforestation should be avoided.	**Note: Change to the Draft POMs recommended** Avoid afforestation on 1st and 2nd order stream catchments in acid sensitive areas in protected areas.

Source Plan	Assessed?	Additional Measures	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Ire	√	F3: Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves	Positive: May increase areas of open space and structural diversity through age classes and species mix, including broadleaves. Although this measure will take some time to be realised, it is a positive one for biodiversity within protected areas. The actions necessary to achieved this may cause some impacts, and should be assessed.	AA required
Ire	√	F4: Acidification - Revise the Acidification Protocol to ensure actual minimum alkalinities are detected (that is ensure sampling under high flow conditions) and revise boundary conditions for afforestation in acid sensitive areas.	Positive: May reduce impacts in sensitive upland headwaters, which are particularly important for Freshwater Pearl Mussels and salmon spawning.	No mitigation required
Ire	√	F5: Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites	Positive: This is a desirable measure for peat catchments, as this would avoid or limit the key pressure which is drainage.	**Note: Change to the Draft POMs recommended** Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites and on errodable soils. AA required if a new plantation on a peat site/errodable soils in a protected area or the catchment of a Protected Area.
Ire	√	F6: Eutrophication and Sedimentation - Change the tree species mix (for example broadleaves) on replanting	Positive: This measure may introduce more diversity in to forestry, including the reintroduction of native species, which is of overall benefit to protected areas.	No mitigation required
Ire	√	F7: Eutrophication and Sedimentation - Limiting felling coup size	Positive: Limiting felling coup size will lead to a reduction in the impacts associated with this activity which include sedimentation.	No mitigation required

Source Plan	Assessed?	Additional Measures	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Ire	√	F8: Eutrophication and Sedimentation - Establish new forest structures on older plantation sites (including riparian zones, drainage layouts, species mix, open areas)	Positive: As with F6, this is a positive measure as it introduces new species mixes, and establishmemnt of the plantation in accordance with best practice. It can therefore take in to account the requirements for protected areas at the pre planning stage.	No mitigation required
Ire	X	F9: Hydromorphology - Audit existing drainage networks in forest catchments	F9 is directed at information / data gathering, and while an important part of the planning process, is not suitable for assessment here. It is anticipated that F9 would be an initial step in implementation of other measures, such as F18, which have been assessed. It is however viewed as a positive measure.	Not assessed
Ire	X	F10: Pesticide Use - Maintain registers of pesticide use	F10 is directed at information / data gathering, and while an important part of the planning process, is not suitable for assessment here. It is anticipated that F10 would be a first step in implementation of other measures, such as F11 and F12, which have been assessed. It is however viewed as a positive measure.	Not assessed
Ire	√	F11: Pesticide Use - Reduce pesticide usage	Positive: This a desirable measure, particularly in sensitive catcments such as the Freshwater Pearl Mussel catchments.	No mitigation required
Ire	√	F12: Pesticide Use - Pre-dip trees in nurseries prior to planting out	Positive: This a desirable measure, particularly in sensitive catcments such as the Freshwater Pearl Mussel catchments.	No mitigation required
Replace/Upgrade				
Ire	√	F13: Acidification - Mitigate acid impacts symptomatically using basic material (e.g. limestone or sand liming)	Negative: The use of basic material should be avoided in protected areas, particularly in Freshwater Pearl Mussel catchments. Recommendation is to avoid this measure in protected areas, and avoid the use of basic material, particularly in sensitive freshwater pearl mussel catchments.	**Note: Change to the Draft POMs recommended** Recommendation is to avoid this measure in protected areas, and avoid the use of basic material, particularly in sensitive freshwater pearl mussel catchments.

Source Plan	Assessed?	Additional Measures	Assessment of likely impacts from additional measures summary (from Appendix II)	*Recommended Mitigation measures for detailed assessments at water body level (from Appendix I)
Ire	√	F14: Acidification - Manage catchment drainage to increase residence times and soil wetting, including no drainage installation in some areas	Positive: This measure is particularly desirable where afforestation on peat has taken place. Increased residence times and no drainage in some areas would be desirable and should be investigated. However, the process may give rise to some additional release of nutrients.	AA required
Ire	√	F15: Acidification - Implement measures to increase stream production – for example with native woodland in riparian zones.	Positive: A return of stream production to natural levels is desirable and would be a positive measure for biodiversity.	No mitigation required
Ire	√	F16: Eutrophication and Sedimentation - Establish riparian zone management prior to clearfelling	Positive: This is a critical measure in order to reduce the impacts of sedimentation during clearfelling. Particular attention should be placed on sensitive protected areas e.g. Freshwater Pearl Mussel.	No mitigation required
Ire	√	F17: Eutrophication and Sedimentation - Enhance sediment control	Positive: This is a critical measure in order to reduce the impacts of sedimentation. Particular attention should be placed on protected area watercourses.	No mitigation required
Ire	√	F18: Hydromorphology - Enhance drainage network management – minimise drainage in peat soils	Positive: This measure is particularly desirable where afforestation on peat has taken place. Increased residence times and no drainage in some areas would be desirable and should be investigated.	No mitigation required
Ire	√	F19: Pesticide Use - Develop biological control methods	Positive: This measure would help reduce the reliance on chemical pesticides and would therefore be a benefit for water quality and therefore protected areas. These methods have however been known to cause some unintended side effects.	AA required
NI	X	F20: Assessment – Assess operations posing a significant threat to water quality on a whole catchment basis	This measure is directed at information/data gathering, and while an important part of the planning process, is not suitable for assessment here. It is however viewed as a positive measure.	Not assessed
Ire	X	F21: Institute a public awareness campaign on the impacts of forestry activities	This measure is directed at public awareness, and is not suitable for assessment here.	Not assessed

Additional Measures for Physical Modifications (NI: Freshwater Morphology/Marine Morphology)

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary	*Recommended Mitigation measures for detailed assessments at water body level
Reduce				
NI/Ire **Ire** **NI** **NI** **NI** **NI** **Ire**	X	PM1: Implement management controls as they become available, e.g. new or improved guidance, new or revised legislation or regulations, codes of practice These could include: -A code of practice for morphology -Introduction of a culverting policy -Review of existing legislative controls on physical modifications to surface waters -Development of a protocol for maintenance dredging -Implementation of a new marine licencing regime and Marine planning system under the (draft) UK Marine Bill -Adoption of operational protocols for impoundments -Increased emphasis on morphology impacts from new development or cumulative pressures during environmental assessment processes	There are a number of management controls identified as potential measures, the details of which are not yet available. It is not possible to assess the impacts associated with these at this time; however, it is strongly recommended that when the details of these are known, they are subject to an environmental assessment to identify potential impacts. All are viewed as positive measures however in terms of increasing knowledge and management of our environment.	Not assessed
Ire	√	PM2: Support voluntary initiatives, such as wetlands and Integrated Coastal Zone Management schemes, including through awareness campaigns	Positive: May led to improvements in water quality and benefits and if these measures are properly planned, they should be of benefit. Planning must take account of all protected area requirements.	AA required

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary	*Recommended Mitigation measures for detailed assessments at water body level
NI	X	PM3: Complete further surveys on all water bodies following review of morphology classification results	PM3 is directed at information/data gathering, and while an important part of the planning process, it is not suitable for assessment here. May led however to improvements in water quality and benefits for biodiversity and if these measures are properly planned, they should be of benefit. Planning must take account of all protected area requirements.	Not assessed
NI	X	PM4: Carry out SEA of tidal energy reserves	If a plan or programme to develop tidal energy reserves is proposed, a SEA may be required under the provisions of the SEA Directive. However, if it is not strictly required under the legislation, carrying out an SEA, or EIA if specific projects are proposed, is still highly recommended. Therefore, a mitigation measure recommending this has been brought forward to Chapter 10 of the SEA environmental report. It is also recommended that an AA would be required for specific projects.	Not assessed
Replace/Upgrade				
Ire	X	PM5: Channelisation investigation	PM5 is directed at further data gathering as part of the planning process and is not suitable for assessment, although viewed as a positive measure.	Not assessed
Ire/NI	√	PM6: Chanelisation impact remediation schemes, such as re-meandering of straightened channels, reconstruction of pools, substrate enhancement, removal of hard bank reinforcement/revetment or replacement with soft engineering solution	Positive: Channelisation/restoration/enhancement schemes will improve previously impacted rivers from these types of works, and this in particular will benefit rivers which were previously straightened, or where habitats for fish	AA required for remediation schemes.

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary	*Recommended Mitigation measures for detailed assessments at water body level
			spawning etc. were destroyed. This in turn will allow naturalisation of the river channel and the flora and fauna to re-colonise areas which were unsuitable as a result of channelisation impacts.	
Ire/NI	√	PM7: Over-grazing remediation, such as stabilisation of river banks	Positive: May reduced impacts on water and associated flora and fauna from soil erosion caused by over grazing.	AA required for remediation schemes.
Ire	X	PM8: Impassable barriers investigation	PM8 is directed at further data gathering as part of the planning process and is not suitable for assessment, although viewed as a positive measure.	Not assessed
Ire/NI	√	PM9: Strategically appraise significant barriers to fish movement and introduce impassable barriers remediation schemes, such as fisheries enhancement schemes, reopening of existing culverts, removal of impoundment and de-silting of impounded reach, desiliting of affected river reaches, removal of barriers to fish migration, updating of existing fish passes and construction of new fish passes	Positive: This measure is overall of positive benefit for fish movement in particular, and for the wider biodiversity in surface waters.	AA required for impassable barriers remediation schemes.

Additional Measures for Abstractions (NI: Abstraction and Flow Regulation)

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary	*Recommended Mitigation measures for detailed assessments at water body level
Reduce				
Ire	X	AB1: Modernisation of statutes and regulatory practices and policies, e.g. assigning responsibility for compiling and maintaining a comprehensive, national register of abstractions	The potential for this measure to result in significant environmental impacts depends on the actions involved. In this case, the example provided, e.g. maintaining a register of abstractions, is primarily concerned with information gathering and is not suitable for assessment though it is anticipated that it would be a first step in implementation of other measures, such as AB4, 5 and 6, which have been. It is highly recommended that when the specific details as to the types of changes to statutes and regulations are proposed, that these be subject to environmental assessment to identify potential impacts. As a measure however this is viewed as positive in terms of data gathering.	Not assessed
Ire	X	AB2: Support water conservation measures, e.g. rainwater harvesting schemes, awareness campaigns, introduce best practice guidance	These measures are primarily directed education and awareness, and while these are valuable measures and should be encouraged, are not suitable for assessment. They are however viewed as positive measures.	Not assessed
Ire/NI	X	AB3: Address data limitations and additional monitoring needs, e.g. monitor abstraction and compensation flows, assess ecology impacts associated with hydrologic changes, improve abstractions register, improve discharge register, validate and develop habitat suitability curves, improve hydrometric data, collect bathymetry data for lakes	Very important measure, especially for Groundwater Dependent Terrestrial Ecosystems (GWDTEs). It is needed to further elucidate the ecological impacts of abstraction, e.g. the impact of lowering base flows on loss of riverine habitat, particularly for freshwater pearl mussels. This measure however is directed at information/data gathering, and while an important part of the planning process, it is not suitable for assessment here.	Not assessed
Ire	X	AB4: Examine compensation flow requirements on regulated rivers and maintain minimum flow or flow variability, where applicable, to maintain good hydrological status and	Positive: The determination of the flow requirements for flora and fauna and applying appropriate thresholds is a desirable measure. Overall could lead to benefits for protected areas but cannot be assessed as the measure	Not assessed

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary	*Recommended Mitigation measures for detailed assessments at water body level
		support ecology	is concerned with investigations that have yet to happen..	
NI	X	AB5: Assess compliance of monitored abstractions and compensation flows with licence conditions	Not assessed as the measure is directed towards assessment of licence conditions, the structure of which is unknown. This should take account of the results from the measure above (AB4).	Not assessed
Ire	X	AB6: Develop water budgets	This measure is directed at developing water budgets the contents of which are unknown. Therefore this measure is not assessed	Not assessed
Replace/Upgrade				
Ire	√	AB7: Reduce abstraction demand, e.g. reduce leakage and unaccounted water, modify plumbing codes to support conservation, daily metering of abstracted volumes, implement small schemes with smaller demand	Positive: May lead to a reduction in the usage of water both in the domestic and industrial setting and would reduce demand on water supplies. Reduced demand for supplies may reduce incidences of over abstraction and therefore reduce impacts on surface and groundwater quantity and quality. This measure may therefore have positive benefits for biodiversity.	No mitigation required
Ire	√	AB8: Increase available water, e.g. promote infiltration of runoff, reuse of grey water or treated wastewater, identify and build infrastructure for alternate sources	Positive: This is overall a positive measure as it should reduce water abstraction and therefore decrease the pressure on water supplies.	AA required for new infrastructure.
Ire	X	AB9: Water metering and charging programmes for residential users	This measure while beneficial cannot be assessed from the protected areas perspective. It does have the potential however to encourage water conservation and rainwater harvesting which should be encouraged.	Not assessed
Ire	√	AB10: Reduce abstraction volumes	Positive: This measure would have a particularly positive effect in over abstracted catchments, and should be implemented once over abstraction has been identified.	AA required.
Ire	√	AB11: Altered abstraction timing	Positive: Would reduce abstractions at sensitive times on water supplies as this measure would focus abstraction to periods when the system has adequate carrying capacity. This would therefore reduce impacts on biodiversity at times when capacity is low e.g. during drought periods.	No mitigation required

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary	*Recommended Mitigation measures for detailed assessments at water body level
Ire	√	AB12: Conjunctive use	Positive: Overall the measure is a positive one as it tries to eliminate the over reliance on one source to the detriment of that sources water quality and biodiversity. However, if this involves the development of a new source, an assessment will be required.	AA required
Ire	√	AB13: Provision of additional storage	Positive: If appropriately sited, storage would help reduce the impacts of over abstraction in times of low flow thereby protecting biodiversity.	AA required for any new storage facility.
Relocate				
Ire	√	AB14: Direct development to areas where capacity exists and restrict development if abstraction already at capacity	Positive: This measure would reduce the potential for development in areas where drinking water sources are not adequate, and ensure this factor is taken in to account when producing development plans. The drinking water resource must be a critical factor in the location of development, and also must not contribute to overdevelopment of areas where this resource is in plentiful supply.	AA required for new abstractions

Additional Measures for Urban Development (Ire: Wastewater/Industrial Discharges)

Source Plan	Assessed?	Additional Measure	Assessment of likely impacts from additional measures summary	*Recommended Mitigation measures for detailed assessments at water body level
Reduce				
NI	X	UB1 Development of draft strategy Managing Stormwater	Development of strategies is part of the planning process. Assessment of these measures would be premature prior to a decision on what the strategies would involve. These measures would however be viewed as positive.	Not assessed
NI	X	UB2 Manage misconnections through development of a strategy		
NI	X	UB3 Education and awareness on applicability of SUDs	These measures are aimed at education and awareness, and while these are valuable measures and should be encouraged, they are not suitable for assessment. They are however viewed as positive measures.	Not assessed
	X	UB4 Introduce school education programme		
NI	X	UB5 Develop an extended regulatory tool kit	The details as to the management controls to be included in the regulatory toolkit are not yet available. It is not possible to assess the impacts associated with these at this time; however, it is strongly recommended that when the details of these are known, they are subject to an environmental assessment to identify potential impacts.	Not assessed
Ire	X	UB6 Prepare urban asset management plans, which should include surveys, mapping, and research; codes of best practice or legislation; groundwater quality monitoring and risk assessment; improved infrastructure, including implementation of SuDS; and planning	There are a number of items identified as potential components of the urban assessment management plans, most of which are aimed at data and information gathering. The only piece of the measure, which could be suitable for AA, is the provision for 'improved infrastructure'. However, the details as to what this would involve in the individual plans are not yet available. It is strongly recommended that when the details of these are known, they are subject to an *AA, if required, or a focussed environmental assessment, to identify potential impacts.	Not assessed
Replace/Upgrade				

Ire	X	UB7 Develop a diffuse pollution screening and modelling tool to assess diffuse loads and allow for prioritisation of new actions	Development of a screening tool is part of the information gathering stage of the planning process. Assessment of this measure would be premature prior to a decision being made on the specific actions to be implemented. It is highly recommended that when specific proposals are chosen, that these be subject to environmental assessment to identify potential impacts. This is however viewed as a positive measure.	Not assessed
NI	X	UB8 Promote and adopt good practice with respect to storage, use and disposal of hazardous chemicals	This measure is aimed at education and awareness, and while it is a valuable measure and should be encouraged, it is not suitable for assessment. This is however viewed as a positive measure	Not assessed

Additional Measures for Local Issues

Source Plan	Additional Measure	Additional measure	Assessment of likely impacts from additional measures summary	*Recommended Mitigation measures for detailed assessments at water body level
Ire	**Protecting High Quality Areas**	Develop national guidance and introduce a web-based register Support nature conservation projects For sites not at Favourable Conservation Status set targets and a timeframe for achieving status	The development of national guidance relating to the protection of high status sites, along with the development of a web-based register, would not be expected to result in significant environmental impacts and therefore does not require assessment. In addition, the support of nature conservation projects would not be expected to result in significant environmental impacts and therefore does not require assessment.	**Not assessed**
Ire	**Aquaculture: (NI: Industry and Other Businesses)**	Propose national standards Develop Shellfish Management Plans Designate additional sites	Without the detail as to what the national standards for aquaculture would contain it is not possible to assess these at this time. However, it is recommended that at such time as these details are known an environmental assessment is carried out to ensure that these standards give consideration to impacts. The designation of additional aquaculture sites would not be expected to result in significant environmental impacts in themselves. However, the management plans that would be needed in order to manage activities within these sites would be required to be subjected to SEA. Specifically, the development of Shellfish Management Plans, currently underway in Ireland, will be subject to a separate SEA.	**Not assessed**

Ire	**Peat extraction: (NI: Industry and Other Businesses)**	Enforce licensing controls Implement rehabilitation plans	The enforcement of licensing controls involves implementation of existing regulations and as such is not suitable for assessment. The implementation of rehabilitation plans on peat extraction sites should be encouraged and be subject to environmental assessment at the time the individual details of these are known to ensure that they are carried out in a holistic fashion and give consideration to impacts.	**Not assessed**
Ire	**Cruising and boating:**	Enforce pump out controls Enforce speed restrictions	The enforcement of existing pump out controls and speed restrictions involves the implementation rules and regulations that are currently in place. As such they are not suitable for assessment.	**Not assessed**
Ire	**Shared waters:**	Increased transboundary coordination	A continuation of, and increase in, the ongoing coordination between Northern Ireland and Ireland in the area of water management is a critical step in the implementation of the RBMP and should be encouraged. However, the administrative nature of these activities would not be expected to result in significant environmental impacts, aside from the positive impacts to water quality resulting from effective implementation of the RBMP, and as such do not require assessment.	**Not assessed**
NI	**Invasive Alien Species:**	Amendments to the Wildlife Order (NI) 1985 Maritime Ballast Water Convention NIEA Natural Heritage Grant Aid Programme Develop risk assessments and contingency and management plans for species that are established or are likely to become established Develop sectoral codes of practice Education and awareness programmes	Several of these measures are aimed at education, developing best practice and information gathering, and while valuable, are not suitable for assessment. The remaining measures are primarily planning related, e.g. amendments to the Wildlife Order, and without the specific details it is not possible to assess the impacts of these at this time. However, it is highly recommended that these be subject to an environmental assessment once the details are available.	**Not assessed**

NI	**Fisheries Conservation**	Commercial Fishing Regulations, e.g. further restrictions on licensed commercial salmon fishermen, prohibition of the sale of rod caught salmon Angling Regulations, e.g. catch and release, use of barbless hooks, early closures and shortened season European Fisheries Fund Grants Advice, education and training Protection and restoration of salmon habitats, e.g. develop further conservation and management targets and CMPs for specific rivers, complete DNA based study to determine genetic structure of salmon populations	For the most part these measures are concerned with data gathering and education and awareness. For those measures, which involve other types of actions, e.g. innovative action plans and angling regulations, these are not expected to result in significant environmental impacts, aside from positive impacts to water quality.	**Not assessed**

3.1.2 Other Policies, Plans or Projects

As outlined in Section 2.0, the purpose of this review is to take into consideration the policy and legislative framework within which the Draft RBMP and POMs are being developed. For Habitats assessment, it is also required to identify all those elements of other plans/programmes, that have the potential for having significant effects on the Natura 2000/Ramsar sites either alone or in combination with each other or with the Draft RBMP and POMs. **Appendix III** outlines other policies, plans and programmes in detail which are relevant to the SERBD and assesses the way the objectives outlined within them, impact in isolation or in combination with each other, or with the Draft RBMP/POMs. The scope of the assessment has been set at RBD level and the review includes national (both Ireland and Northern Ireland), European and International plans/programmes. It does not take into account more localised county specific plans and programmes. Therefore the assessment is qualitative, and generic in nature.

In reviewing other plans/programmes, the following *assessment questions* were asked:

- Will these other plans/programmes lead to the *probability* or the *risk* of having a significant effect on a designated site?
- Are these other plans/programmes likely to undermine the site's conservation objectives?
- Will these other plans/programmes lead to the probability or the risk of having a significant effect on a designated site either;
    a) in combination with other plans/programmes as outlined, or
    b) in combination with the Draft RBMP/POMs

The overall in-combination effect is a key part of the screening process as it ensures plans or policies are captured that would not trigger a likely significant effect on their own.

The process involved the review and assessment of 106 other policies, plans and programmes which are set out in **Appendix III**, and the assessment for those plans/programmes which were identified as having the potential to impact on Natura 2000/Ramsar sites are detailed in **Table 7**. Each plan was firstly considered in isolation for its possible impacts arising from the implementation of it's objectives within, on or in the catchment of a protected site. The second step in the process considered whether the totality of all the plans in question would

have an in combination effect with each other on a protected site. Finally, the third step considered whether the in combination effect identified in step 2 would have an additional impact in combination with the Draft RBMP.

The *criteria* used to assess effects covered both the direct and indirect impacts as follows:

- Will the plan involve a development in or on the boundary of a Natura 2000/Ramsar site?
- Will nationally protected species by directly impacted?
- Will the policy, plan or programme in combination with other projects (existing and proposed) or changes to such projects affect the hydrological regime of sites of nature conservation interest or the habitats of protected species?
- Will the policy, plan or programme lead to the development of infrastructure which will abstract or discharge to a catchment located within or near a protected site?

This process of assessing the effects of other policies, plans or programmes, at this strategic level can only assume the **potential** for direct or indirect impacts to a Natura 2000/Ramsar site. At these levels we do not know the exact foot print of the development, infrastructure, alteration etc. that is being proposed in any given policy, plan or programme. We can only assume the *"worst case scenario"* and recommend where further screening for potential impacts and the need potentially for appropriate assessment when implementing at the water body scale. As more detailed information becomes available from the Draft RBMPs in relation to the specific waterbodies which will be targeted for measures, a more informed decision on in combination effects with other plans/programmes can be made on a case by case basis. However, at this stage in the development of the Draft RBMPs, site specific information is not available. In order to demonstrate how this assessment was addressed in light of this, we provide an example here of the National Development Plan (NDP), the Planning and Development Act, in combination with the Draft RBMP/POMs. New infrastructure under the NDP may or may not in isolation cause an impact on a Natura 2000 site, however "in-combination" with several housing developments under the planning and development act in different parts of a Natura 2000/Ramsar site or adjacent to it, could "in combination" cause unacceptable pressure, damage or loss to the site in question. In addition, if measures under the Draft RBMP then required an upgraded treatment plant for the

increased population, further infrastructure would be needed with the potential to cause further effects. In this case, screening for impacts would be recommended at the earliest possible opportunity e.g. when the infrastructure under the NDP is being proposed, so that other plans/programmes in the area can also be assessed in combination with the new infrastructure, plus the requirement to meet the standards set under the Draft RBMP/POMs.

Following this assessment, 13 policies, plans and programmes were found to have likely potential impacts in isolation, or in combination with each other, and with the Draft RBMP, and these are listed in **Table 7**. This was determined through addressing the first of our three *assessment questions* as outlined above under the criteria outlined above.

Secondly, it was found that when the individual plans, and the effects which were found in isolation, were looked at in totality with all other plans/programmes (excluding those pertaining to the Draft RBMP POMs) the potential for significant in combination effects was identified.

Finally, the effects from all plans/programmes were looked at in conjunction with the Draft RBMP/POMs and an assessment made of the in-combination effects. This final stage in the assessment found that no additional impacts (to those identified in the previous step) would result from the implementation of the Draft RBMP POMs.

Overall, while there are *potential effects* which could accrue from other policies, plans and programmes in isolation, or in combination with each other, these cannot be assessed at present as the extent of their implementation is as yet unknown at the water body level. As these other policies, plans and programmes are implemented at a local level, and the water body specific measures under the Draft RBMP/POMs are identified at this scale, it is advisable to map these out spatially to gain a fuller understanding of their relationship with the protected areas, and an assessment of the potential for impacts on Natura 2000/Ramsar sites carried out. If assessment shows the potential for impacts, an Appropriate Assessment should be carried out.

Table 7 Summary of Habitats assessment Stage 1 Screening for possible impacts from other policies, plans & programmes (for more detail see Appendix III)

Ire/NI	Policy, Plan or Programme	Summary of Objectives	Possible impacts from policy, plan or programmes?	Is there a risk of significant "in combination" effects from policies, plans and programmes, including the Draft RBMP?
European	EU Floods Directive (2007/60/EC)	The Floods Directive applies to river basins and coastal areas at risk of flooding. With trends such as climate change and increased domestic and economic development in flood risk zones, this poses a threat of flooding in coastal and river basin areas.	Yes possible impacts may arise where there is a requirement to provide for new infrastructure such a flood walls or flood defences. Avoidance on or near protected areas should be implemented or where this is not possible favouring of infrastructure that carries a lower risk of damage to protected areas should be emphasised in the plan.	Yes, a risk of significant in combination effects with other relevant plans either inside or outside the plan area may occur. For example in combination with the regional development strategy new developments together with new structures under the Floods Directive could combine to cause unacceptable pressure on a protected site.
Ireland	National Spatial Strategy 2002-2020 (2002)	Objectives of the NSS are to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning.	Yes possible impacts may arise where there is a requirement to provide for new infrastructure. Avoidance on or near protected areas should be implemented or where this is not possible favouring of infrastructure that carries a lower risk of damage to protected areas should be emphasised in the plan.	Yes, a risk of significant in combination effects with other relevant plans either inside or outside the plan area may occur. For example in combination with the regional development strategy new developments together with new structures under the NSS could combine to cause unacceptable pressure on a protected site.
Ireland	National Development Plan from 2007 to 2013	Objectives of the NDP are to promote more balanced spatial and economic development.	Yes possible impacts may arise where there is a requirement to provide for new infrastructure. Avoidance on or near protected areas should be implemented or where this is not possible favouring of infrastructure that carries a lower risk of damage to protected areas should be emphasised in the plan	Yes, a risk of significant in combination effects with other relevant plans either inside or outside the plan area may occur. For example in combination with the regional development strategy new developments together with new structures under the NDP could combine to cause unacceptable pressure on a protected site.
Ireland	Arterial Drainage Acts, 1945 and 1995	Deals with the improvement of lands by drainage and the preventing or sustainably reducing the flooding of lands. Sets up the	Yes, possible impacts may arise where structures such as bridges, weirs and flood prevention measures are put in place at or near a protected site.	Yes, a risk of significant in combination effects with other relevant plans either inside or outside the plan area may occur. For example in combination with the regional development strategy new developments

Ire/NI	Policy, Plan or Programme	Summary of Objectives	Possible impacts from policy, plan or programmes?	Is there a risk of significant "in combination" effects from policies, plans and programmes, including the Draft RBMP?
		process of Arterial Drainage Schemes and provides for the maintenance of these works. Also implements a number of drainage and flood reduction related measures such as approval procedures for bridges and weirs, and iterates reporting requirements for Drainage Districts.	These should not be sited within or near protected sites.	together with new structures under the Arterial Drainage Acts could combine to cause unacceptable pressure on a protected site.
Ireland	Dumping at Sea Act, 1996	Make provision to control dumping at sea, to give effect to the convention for the protection of the marine environment of the north-east Atlantic done at Paris on the 22nd day of September, 1992.	Yes, possible impacts may arise where standards outlined in the RBMP are more stringent than those in the Dumping at Sea Act.	No risk of significant "in combination" effects.
Ireland	The Fisheries Acts 1959 to 1997	Amends and extends the laws relating to fisheries, to prohibit persons from engaging in aquaculture except with and in accordance with a licence, to establish a procedure for the granting, renewal, amendment and revocation of licences, to allow for appeals against decisions relating to licences and for connected purposes.	Yes possible impacts may arise where failures to meet the requirements of a licence may result in deterioration in water quality or the granting of an aquaculture licence may impact on a protected site.	Yes, there is a risk of significant in combination effects. The sitting of new aquaculture sites together with the Dumping at Sea Act could potentially cause unacceptable pressure on a protected site.

Ire/NI	Policy, Plan or Programme	Summary of Objectives	Possible impacts from policy, plan or programmes?	Is there a risk of significant "in combination" effects from policies, plans and programmes, including the Draft RBMP?
Ireland	The Foreshore Acts 1933 to 2005	The Foreshore Acts require that a lease or licence must be obtained from the Minister for Agriculture, Fisheries and Food for undertaking any works or placing structures or material on, or for the occupation of or removal of material from, State-owned foreshore which represents the greater part of the foreshore. The foreshore is the seabed and shore below the line of high water of ordinary or medium tides and extends outwards to the limit of twelve nautical miles (approximately 22.24 kilometres).	Yes, possible impacts may arise where the erection of long-term structures (e.g. piers, marinas, bridges, roads, carparks) and granting of licences for other works (e.g. laying of submarine pipelines and cables) and purposes (e.g. aquaculture) take place. However, these will primarily be at a site level.	Yes, there is a risk of significant in combination effects. The sitting of new structures together with those required under the Floods Directive or arising from the Fisheries Act could potentially cause unacceptable pressure on a protected site.
Ireland	The Waste Management Act 1996 and amendments	Objectives include (amongst others) the more effective and environmentally sensitive management of wastes in Ireland.	Yes, possible impacts may arise where the sitting of new waste infrastructure is in or near a protected site.	Yes, there is a risk of significant in combination effects. The sitting of new structures together with those required under the Floods Directive could potentially cause unacceptable pressure on a protected site
Ireland	Growing for the Future – A Strategic Plan for the Forest Sector in Ireland	Strategic plan for the development of the forestry sector in Ireland	This may have possible impacts if new forest coupes are planted on or near protected areas and should be avoided.	There is an overall risk of in combination effects with all other plans and programmes which have been identified as causing an impact in this table. The cumulative effect of the various PPs identified here could cause unacceptable pressure on a protected site
Ireland	Irish National Forest Standard	Sets out the framework within which the development and evaluation of sustainable forest management will take place in Ireland.	See Growing for the Future – A Strategic Plan for the Forest Sector in Ireland	See Growing for the Future – A Strategic Plan for the Forest Sector in Ireland
Ireland	Code of Best Forest Practice	A Code Of Best Forest Practice designed to ensure that forest operations in Ireland are carried out in a way which meets high environmental, social and economic standards	See Growing for the Future – A Strategic Plan for the Forest Sector in Ireland	See Growing for the Future – A Strategic Plan for the Forest Sector in Ireland

Ire/NI	Policy, Plan or Programme	Summary of Objectives	Possible impacts from policy, plan or programmes?	Is there a risk of significant "in combination" effects from policies, plans and programmes, including the Draft RBMP?
Ireland	Planning and Development Act 2000	Revised and consolidated the law relating to planning and development by repealing and re-enacting with amendments the Local Government (Planning and Development) Acts, 1963 to 1999; to provide, in the interests of the common good, for proper planning and sustainable development including the provision of housing; to provide for the licensing of events and control of funfairs; to amend the Environmental Protection Agency Act 1992, the Roads Act 1993, the Waste Management Act 1996, and certain other enactments.	Yes possible impacts may arise where there is a requirement to provide for new infrastructure. Avoidance on or near protected areas should be implemented or where this is not possible favouring of infrastructure that carries a lower risk of damage to protected areas should be emphasised in the plan	Yes, a risk of significant in combination effects with other relevant plans either inside or outside the plan area may occur. For example in combination with the regional development strategy new developments together with new structures under the Planning and Development Act could combine to cause unacceptable pressure on a protected site.
European	The Landfill Directive (99/31/EC)	The Landfill Directive sets targets to reduce landfilling of biodegradable municipal waste.	Yes possible impacts may arise where reduction measures to landfill are replaced with land spreading on or near a protected site. This would need to be carried out according to best practice guidance.	There is a risk of in combination effects with all other plans and programmes such as the sewage sludge directive which may lead to increased spreading to land. If these processes are carried out at different parts of an SAC/SPA it could potentially damage the protected site.

3.1.3 Identification of Natura 2000/Ramsar sites potentially affected

A key requirement of Habitats assessment, is to identify the location of all European sites (SACs, SPAs and Ramsar sites) that might be affected by the proposed Draft RBMP/POMs. At the currently level of detail available in the Draft RBMP/POMs, the proposed measures could potentially be implemented in any water body, and therefore, a water body by water body assessment of the potential impacts of any measures arising from the RBMP on a Natura 2000/Ramsar site, cannot be carried out. Therefore, a strategic assessment, which identifies the potential for impacts from the Draft RBMP/POMs was carried out in consultation with NPWS. The assessment therefore had to operate under the following assumption: *that any POMs (or number of POMs together) could be implemented in any one or more water bodies which overlap with a Natura 2000 or Ramsar site.* For this reason, the extent of the potential impacts arising from the RBMP have been assessed using the precautionary principle i.e. based on the assumption that all Natura 2000 sites and Ramsar sites could potentially to be affected, either positively or negatively, by the RBMP. This differs from the traditional Habitats assessment which normally is carried out on a specific Plan or Project which is to be applied in a specific area or location. For Plans or Projects in specific locations or areas, it is normally best practice to establish a buffer around the proposed area or location for implementation (e.g. 15km from the plan or project boundary, JNCC) so as to ensure they will not impact on adjacent European sites. For the current assessment however, with the level of detail in terms of the implementation of the POMs, the 'location' affected in this circumstance, could be anywhere in the RBD, and therefore every SAC/SPA and Ramsar site is included in the screening stage (see **Appendix I** for the complete list of these sites in the SERBD), and the screening assessment is carried out at the RBD scale. In the future, once water body specific measures have been identified, it would be possible to carry out a more detailed assessment if deemed necessary, and for this reason this current assessment has recommended where avoidance or mitigation measures may be necessary e.g. for new infrastructure, and these are detailed in **Table 5** for the **required measures** and **other required measures**, and in **Table 6** for **additional measures**.

Importantly, because the additional measures involve new actions for implementation, a detailed assessment of the measures was required and is included in **Appendix II**. A detailed discussion on the potential positive and negative effects of the additional measures, and a conclusion on the *overall* likely impact of the individual measures is drawn out. These conclusions are summarised in **Table 6** for ease of review. At this step in the screening process, any potential negative aspects of the additional measures were identified, discussed

with NPWS, the SEA and RBMP teams, and changes recommended to the additional measures, which would avoid or mitigate impacts. These changes are also highlighted in the summary **Table 6**.

Therefore, the finding from the screening process is;
Where potential impacts from the Draft RBMP/POMs were identified, alternatives have been proposed, and the decision process detailed in assessment/summary **Tables 5, 6** and **7**. These alternatives have been incorporated in to the Draft RBMP. The implementation of the POMs are highly desirable in order to protect, improve or maintain the current favourable conservation status of many of Ireland and Northern Ireland's Natura 2000 and Ramsar sites, however, in their implementation, there is potential for impacts, either directly or indirectly to Natura 2000/Ramsar sites as for e.g. they may involve the construction of new infrastructure in order to reduce waste water loadings to receiving waters. While there are *potential effects* which could accrue from the implementation of such measures as specified in the Required, Other Required and Additional Measures under the POMs, and also from other policies, plans and programmes in isolation, or in combination with each other, these cannot be assessed at present as the extent of their implementation is as yet unknown at the water body level. As these other policies, plans and programmes are implemented at a local level, and the water body specific measures under the Draft RBMP/POMs are identified at this scale, it is advisable to map these out spatially to gain a fuller understanding of their relationship with Natura 2000/Ramsar sites, and a screening exercise under the habitats assessment for potential impacts carried out. If the assessment shows the potential for impacts, an Appropriate Assessment should be carried out. To assist in the screening exercise, this assessment has identified where screening/AA may be required, and where NPWS/NIEA should be consulted.

As mentioned however in Section 1.6, this Habitats Assessment Report does not form the final step in the process. The consultation programme on the draft RBMP/POMs will also provide an opportunity for statutory bodies and stakeholders to comment on the findings of this report. The development of the consultation programmes for the Draft RBMP/POMs, the SEA Environmental Report and the Habitats assessment report are currently underway. Please see the SERBD Project website (www.serbd.com) for details of these which will be posted as they become available. Submissions/observations should be forwarded to the SERBD Project at the details outlined in section 1.6. Following consultation, the comments

received will be considered and a revised RBMP, SEA statement and Habitats Assessment Report, will be completed.

4.0 Conclusions

The Habitats assessment process on the Draft RBMP/POMs for the SERBD has ensured that any potentially significant environmental impacts of the Plan on Natura 2000/Ramsar sites have been identified and a set of alternatives to the measures identified, and subsumed in to the Draft RBMP. However, the nature of the measures mean that there is potential for direct or indirect impacts on sites, and as a result the requirement for the screening for effects or indeed appropriate assessment itself has been identified where appropriate. The implementation of the POMs are overall highly desirable in order to protect, improve or maintain the current conservation status of many of Irelands Natura 2000/Ramsar sites, and the consequences of not implementing the measures to achieve 'good status' under the WFD would have a far more significant effect on these sites, and in particular on sensitive sites (e.g. Freshwater Pearl Mussel sites). While there are potential effects which could accrue from other Policies, Plans and Programmes, these cannot be assessed in combination with the Draft RBMP/POMs as the specific implementation details of the RBMP and these other Policies, Plans and Programmes at the water body level, are as yet undefined. It is therefore the recommendation of this assessment that screening for potential impacts under the Habitats Directive Article 6 process is put in place once the details of the implementation of the POMs under the Draft RBMP are known, so as to ensure no 'in combination' effects with other Plans and Programmes at the time of implementation. The need for screening for impacts was identified, and developed in consultation with NPWS, to offer guidance for future implementation of plans/programmes, however at all times, the appropriate consultation such be carried out with NPWS to determine when Appropriate Assessment is necessary.

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