



Water Framework Directive

Draft River Basin Management Plans

National Summary Programme of Measures

 **ESB International**

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Draft River Basin Management Plans

National Summary of Programme of Measures

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1 Introduction

This Programme of Measures Summary Report has been prepared to inform the development of River Basin Management Plans for the River Basin Districts in Ireland.

The Water Framework Directive (2000/60/EC) (WFD) came into force in December 2000 and establishes a framework for community action in the field of water policy and for the protection of inland surface waters, transitional waters, coastal waters and groundwater. The WFD is a wide-ranging and ambitious piece of European environmental legislation, which provides for a new, strengthened system for the protection and improvement of water quality and dependent ecosystems. The WFD rationalises and updates existing legislation and provides for water management on the basis of River Basin Districts (RBDs).

The purpose of the WFD is to maintain the “high and good status” of waters where it exists, prevent any deterioration in the existing status of waters and to restore at least “good status” in relation to all waters by 2015. The mechanism by which this is to be achieved under the WFD is through the adoption and implementation of River Basin Management Plans (RBMPs) and Programmes of Measures (POMs) for each of the identified RBDs.

Article 11 of the Directive sets out the type of measures that must be included in the plan. These are basic measures and, where necessary, supplementary measures.

Examples of basic measures include the Nitrates Directive (91/676/EEC), the Habitats Directive (92/43/EEC), the Urban Waste Water Treatment Directive (91/271/EEC) and the Integrated Pollution Prevention Control Directive (96/61/EC). These measures have been implemented by way of National Regulation under various Statutory Instruments. They are legally binding across the State and must be complied with in full.

Other basic measures required under Article 11(3) of the Water Framework Directive must also be addressed e.g. ‘controls over the abstraction of fresh surface water and groundwater’ (Article 11(3)(e)).

There will be certain cases where full application of the ‘basic measures’ will not be enough to achieve the default objective of ‘good status’ by 2015. In such cases, additional supplementary measures need to be identified and considered.

2 Basic Measures

2.1 Basic Measures Required by Existing Directives

The Bathing Water Directive (2006/7/EC)

The purpose of the 1976 Bathing Waters Directive is to preserve, protect and improve the quality of the bathing waters and therefore, to protect human health. The Directive set binding standards for bathing waters throughout the European Union and was transposed into Irish legislation through the 1992 quality of bathing waters Regulations (SI 155 of 1992). A new bathing water directive (2006/7/EC) was adopted in 2006 laying down provisions for more sophisticated monitoring and classification of bathing water. It also provides for extensive public information and participation in line with the Århus Convention as well as for comprehensive and modern management measures. The classification of water quality at a bathing site will be determined on the basis of a three-year trend instead of a single year's result as at present. This means that the classification will be less susceptible to bad weather or one-off incidents. Where water quality is consistently good over a three-year period the frequency of sampling may be reduced. Directive 76/160/EEC will be repealed and replaced by end of 2014 at latest.

The Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC)

Community legislation concerning nature conservation comprises two Directives, the "Birds" Directive and the "Habitats" Directive, which are concerned with the protection of natural habitats, fauna and flora and the creation of a European network of protected sites. The network includes water dependent species and habitats. The conservation aims of both directives are generally the same. Together, the Special Areas of Conservation designated by the Member States make up the European network of protected sites, Natura 2000. All the Special Protection Areas created under the "Birds" Directive form part of this network. The European Union (Natural Habitats) Regulations, SI 94 of 1997 (which have been amended twice by SI 233 of 1998 & SI 378 of 2005) transpose the requirements of both directives.

The Drinking Water Directive (98/83/EC)

The Directive has been transposed into National legislation through the Drinking Water Regulations (SI 278 of 2007). The Regulations concern the quality of water intended for human consumption. The objective is to protect the health of the consumer and to ensure drinking water is wholesome and clean. The Regulations are expected to be updated to synchronise with the provisions of the Water Services Act of 2007. In addition the Water Framework Directive (Article 7) requires measures to be taken to protect drinking water sources.

The Major Accidents (Seveso) Directive (96/82/EC)

This directive concerns the control of major hazards involving dangerous substances and was transposed into National legislation through the European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (SI 74 of 2006).

The Environmental Impact Assessment Directive (85/337/EEC)

The Directive ensures that environmental consequences of projects are identified and assessed before authorisation is given. Environmental Impact Assessment (EIA) is a procedure for; the systematic examination of the likely significant effects on the environment of a proposed development; ensuring that adequate consideration is given to any such effects; and avoiding, reducing or offsetting any significant adverse effects. The public can give its opinion and all results are taken into account in the authorisation procedure for the project. The public is informed of the decision afterwards.

The law governing the planning system, including EIA requirements, is set out in the Planning and Development Acts 2000 – 2006, in the Planning and Development Regulations 2001 - 2007 and in EIA Regulations 1999 - 2006.

The Sewage Sludge Directive (86/278/EEC)

The Sewage Sludge Directive 86/278/EEC seeks to encourage the use of sewage sludge in agriculture and to regulate its use in such a way as to prevent harmful effects on soil, vegetation, animals and man. To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil. The Directive also requires that sludge should be used in such a way that account is taken of the nutrient requirements of crops and that the quality of the soil and of the surface and groundwater is not impaired.

The Directive has been transposed into national legislation through the Waste Management (Use of Sewage Sludge in Agriculture) Regulations 1998 and 2001 (SI 148 of 1998 and SI 267 of 2001). The Regulations prescribe standards and practices to be followed by local authorities for the use of sewage sludge in agriculture. A Code of Practice and guidelines on the use of biosolids in agriculture were published in 1999 aimed at local authorities, wastewater treatment plant operators and farmers.

The Urban Waste Water Treatment Directive (91/271/EEC)

The Urban Waste Water Treatment Regulations 2001 (SI 254 of 2001) deal with the collection, treatment and discharge of urban wastewater and the treatment and discharge of wastewater from certain industrial sectors. These regulations revoke and generally re-enact, in consolidated form, the Environmental Protection Agency Act 1992 (Urban Waste Water Treatment Regulations, 1994, as amended).

The Regulations:

- give effect to provisions of Council Directive 91/271/EEC of 21 May 1991, as amended, concerning urban waste water treatment, and Directive 2000/60/EC of 23 October 2000 - the Water Framework Directive."
- prescribe requirements in relation to the provision of collection systems and treatment standards and other requirements for urban waste water treatment plants, generally and in sensitive areas
- provide for monitoring procedures in relation to treatment plants and make provision for pre-treatment requirements in relation to industrial waste water entering collection systems and urban waste water treatment plants.

The Plant Protection Products Directive (91/414/EEC)

The Plant Protection Products Directive (91/414/EEC) concerns the authorisation of plant protection product for use or placing on the market. Before an active substance can be authorised it must conform to rigid controls specified in accordance with EU legislation. That legislation is designed to ensure that no harmful effects arise for human and animal health and that there is no unacceptable impact on the environment. 'The Authorisations Directive' has been implemented in National legislation through S.I No. 320 of 1981 as amended, SI 83 of 2003 and SI 624 of 2001. The Pesticides Control Service of the Department of Agriculture, Fisheries and Food, is responsible for operating the authorisation system.

The main elements of the Directive are:

- To harmonise the overall arrangements for authorisation of plant protection products within the European Union. This is achieved by harmonising the process for considering the safety of active substances at a European Community level by establishing agreed criteria for considering the safety of those products. Product authorisation remains the responsibility of individual Member States
- To provide for the establishment of a positive list of active substances (Annex I), that have been shown to be without unacceptable risk to people or the environment. Active substances are added to Annex I of the Directive as existing active substances are reviewed (under the European Commission (EC) Review Programme) and new ones authorised. Member States can only authorise the marketing and use of plant protection products after an active substance is listed in Annex I, except where transitional arrangements apply.

The main emphasis of the existing EU pesticide regulatory framework has been the authorisation of plant protection products for the placing of these products on the market. In order to strengthen the overall policy framework for the use and management of pesticides, the EU Commission brought forward a strategy for the sustainable use of pesticides in 2002, which has a stronger emphasis on the use-phase of pesticides.

The draft proposal for a "sustainable use of pesticides" Directive was published in 2006. If adopted by the European Council and Parliament, the Directive will require Member States to establish pollution reduction programmes addressing pesticides within the framework of the River Basin Management Plans. Types of measures currently proposed in the draft directive include the use of mandatory buffer strips or the use of particular technical equipment to reduce spray drift. Member States may be required to reduce or ban the use of pesticides within safeguard zones identified in order to protect drinking water sources as required by Article 7(3) of Directive 2000/60/EC (Water Framework Directive). The draft proposal also currently provides for significantly reduced or zero pesticide use in protected areas designated under other directives such as Natura 2000 sites.

The Nitrates Directive (91/676/EEC)

The Nitrates Directive concerns the protection of waters against pollution caused by nitrates (and also phosphorus) from agricultural sources. Its objective is to reduce water pollution caused or induced by nitrates from agricultural sources and to prevent further such pollution. The directive has been implemented in national legislation through the European Communities (good agricultural practice for protection of waters) Regulations (SI 378 of 2006).

The Integrated Pollution Prevention Control Directive (96/61/EC)

The objective of the IPPC Directive is to minimise pollution from various industrial sources throughout the European Union. The directive has been implemented in national legislation through the Environmental Protection Agency Acts of 1992 and 2003 and the associated licensing Regulations. Operators of industrial installations covered by Annex I of the IPPC Directive are required to obtain an authorisation (environmental permit) from the EPA.

The IPPC Directive is based on several principles, namely (1) an integrated approach, (2) best available techniques, (3) flexibility and (4) public participation. The integrated approach means that permits must take into account the whole environmental performance of the plant, covering e.g. emissions to air, water and land, generation of waste, use of raw materials, energy efficiency, noise, prevention of accidents, and restoration of the site upon closure. The purpose of the Directive is to ensure a high level of protection of the environment taken as a whole. The permit conditions, including emission limit values (ELVs), must be based on Best Available Techniques (BAT), as defined in the IPPC Directive. The establishment of environmental objectives in river basin management plans will require IPPC permits to take full account of these objectives.

2.2 Other Basic Measures Required by Water Framework Directive

The Water Framework Directive, Article 11(3), also requires the implementation of additional new basic measures, which are described briefly below.

Practical steps and measures taken to apply the principle of recovery of costs for water use and measures to promote efficient and sustainable water use

The Water Framework Directive requires Member States to devise and adopt a cost recovery system to ensure that water pricing policies act as incentives towards efficient water usage so as to “contribute to the environmental objectives of the directive” and to recover “an adequate contribution” of the costs of water services from the main user groups, including industry, agriculture and households. The “polluter pays principle” must be applied. Article 9 of the Water Framework Directive provides the overall framework within which water-pricing policy is to be determined and implemented by 2010. The directive furthermore requires measures to promote efficient and sustainable water use.

The Government's National Water Pricing Policy adopted in 1998 requires the charging of non-domestic customers for water and waste water services to recover the full costs of providing such services to these customers. This is in line with EU policy on the application of the "polluter pays principle" and Article 9 of the EU Water Framework Directive. A programme is underway for installation of meters on the supply of non-domestic customers and this will facilitate the equitable, transparent and efficient implementation of water pricing policy. Capital, operational and maintenance costs in relation to the domestic sector are met from public funds. This is permitted for a "given water activity" under Article 9(4) of the Directive where it is "within established practice" and "where this does not compromise the purposes and the achievement of the objectives of the Directive".

Measures taken to protect drinking water sources

The Water Framework Directive requires drinking water resources to be protected. Article 7 requires the identification of all groundwater and surface water bodies that are used, or may be used in the future, as a source of drinking water for 50 persons or more, or where the rate of abstraction is more than 10m³ per day. Deterioration in the quality of these water bodies must be avoided so that less treatment is required to render the water suitable for drinking. The treated water must also meet the standards in the Drinking Water Directive (98/83/EC). Article 7 of the Water Framework Directive indicates that "safeguard zones" may be used by Member States where there is an identified need to protect individual drinking water sources.

The most recent drinking water report by the EPA emphasised the need to adopt a water safety plan approach to ensuring drinking water is safe and secure. The EPA recommended that; "local authorities should adopt the World Health Organisation recommended water safety plan approach to the management of drinking water supplies. The three components of a water safety plan, which should be adopted, are:

- risk assessment,
- effective operational monitoring and
- effective management.

The adoption of this approach will ensure the safety and security of water supplies from catchment to consumer."

Article 7(3) of the Water Framework Directive provides for safeguard zones to be established by the water services authorities within bodies of water where considered necessary. Section 32(3)(o) of the Water Services Act (2007) enables the Minister to make Regulations on source protection if considered necessary.

Controls on abstraction and impoundment with an impact on the status of water

Abstraction legislation is set out in the Water Supplies Act 1942, which governs the abstraction, by local authorities of water from various water sources. The Planning and Development Acts 2000-2006 and associated Regulations set out further provisions regarding water abstraction including establishing a role for An Bórd Pleanála; provisions regarding planning permissions for abstraction; associated consent procedures and public notice/consultation requirements; and relevant environmental impact assessments and associated thresholds.

The Water Framework Directive requires controls over the abstraction of fresh surface water and groundwater, and impoundment of fresh surface water, including a register or registers of water abstractions and a requirement of prior authorisation for abstraction and impoundment. These controls must be periodically reviewed and, where necessary, updated. Member States can exempt abstractions or impoundments, which have no significant impact on water status from these controls.

Detailed technical studies are under way, led by local authorities to establish the amount of water currently abstracted, with predictions for the year 2015. Technical methods are being developed to estimate minimum water resource requirements to protect the ecological status of surface water bodies. This work will assist in setting appropriate and sustainable abstraction rates which will support the objectives established for water bodies in river basin management plans.

Controls on point source and diffuse source discharges with an impact on the status of water

The Water Framework Directive requires prior regulation for point source discharges liable to cause pollution. Controls may include prohibition on the entry of pollutants into water, prior authorisation, or registration based on general binding rules and laying down emission controls for the pollutants.

There is adequate national regulatory legislation already in place to deal with point source discharges. The EPA under the Integrated Pollution Prevention and Control (IPPC) Regulations regulates major industrial activities. Under the Water Pollution Acts, local authorities license all other small-scale industrial and commercial premises that discharge to waters and sewers. More recently the Waste Water Discharge (Authorisation) Regulations 2007 (SI 684 of 2007) were made providing for the authorisation by the EPA of discharges from local authority waste water treatment works and collection systems that are released to all types of receiving waters. In the case of discharges from smaller sewage systems, certificates will apply instead of licences.

For diffuse sources of pollution such as agricultural activities and unsewered properties, the Directive requires measures to prevent or control the input of pollutants. Controls may take the form of a requirement for prior regulation, such as a prohibition on the entry of pollutants into water, prior authorisation or registration based on general binding rules.

The European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006 (SI 378 of 2006) provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources and give further effect to several EU Directives including the Nitrates Directive, dangerous substances in water, waste management, protection of groundwater, public participation in policy development and water policy (the Water Framework Directive).

In relation to unsewered properties, section 70(2) of the Water Services Act 2007 places a duty of care on owners of premises to ensure that treatment systems for wastewater are maintained so as not to cause a risk to human health or the environment.

Authorisations of direct discharges to groundwater

Measures to protect groundwater are required by the Water Framework Directive. Article 11(3)(j) prohibits the direct discharge of pollutants into groundwater, but it permits prior authorisation of a number of specific activities related to the reinjection of waters that have been extracted for particular purposes such as dewatering for mining or construction, exploration for oils and injection for storage of gas. Such discharges are only allowed if the groundwater is unsuitable for any other use. However, the injection of small quantities of substances for characterisation, protection or remediation of groundwater bodies is permitted. Construction or civil engineering works which come into contact with, and could potentially influence the water table require authorisation and general binding rules.

The Waste Water Discharge (Authorisation) Regulations 2007 (SI 684 of 2007) prohibit the discharge by water services authorities of certain dangerous substances to groundwater, and provide for controls by the EPA, by way of a licensing system, in relation to discharges of other such substances by water services authorities. This provision replaces the Protection of Groundwater Regulations (SI 41 of 1999).

Measures to deal with priority substances

Measures are required by the Directive to eliminate pollution of surface waters by 33 priority substances and 8 other pollutants. Measures must aim to progressively reduce pollution from priority substances and cease or phase out emissions, discharges and losses of priority hazardous substances.

Controls on physical modifications to surface waters with an impact on the status of water

The Water Framework Directive requires that the physical conditions of surface water bodies are consistent with the achievement of the required ecological status or good ecological potential for bodies of water designated as artificial or heavily modified. Controls for this purpose may take the form of a requirement for prior authorisation and/or registration based on general binding rules.

Local Authority planning and development processes, OPW approvals and marine licensing systems currently provide a general level of control over physical modifications at the approval stage.

Controls on other activities with an impact on the status of water

The Water Framework Directive also requires measures to be put in place to deal with any other significant adverse impacts on the status of water identified by risk assessment in the Characterisation Report (under Article 5 and Annex II). Controls for this purpose may take the form of a requirement for prior authorisation or registration based on general binding rules where such a requirement is not otherwise provided for under Community legislation.

Invasive aquatic alien species are non-native plants or animals that successfully establish themselves in aquatic and fringing habitats and damage the natural flora and fauna. There is growing evidence that they pose a major threat to the natural diversity of native plants and animals: for example by preying on them, out-competing for habitat or food, altering habitat or introducing pathogens or parasites. The EPA has identified eight aquatic species of main concern in Ireland.

The Department of Environment, Heritage and Local Government is currently considering the introduction of Regulations under Section 52(6)(a) of the Wildlife Act, 1976, for the purpose of "prohibiting the possession or introduction of any species of wild bird, wild animal or wild flora or any part, product or derivative of such wild bird, wild animal or wild flora which may be detrimental to native species".

Measures taken to prevent or reduce the impact of accidental pollution incidents

The Water Framework Directive requires measures to prevent significant losses of pollutants from technical installations (e.g. industrial sites), and to prevent and/or to reduce the impact of accidental pollution incidents, for example, as a result of floods, including through systems to detect or give warning of such events including, in the case of accidents which could not reasonably have been foreseen, all appropriate measures to reduce the risk to aquatic ecosystems.

The "Framework for Major Emergency Management" was published by the Office of Emergency Planning (an agency of the Department of Defence) in 2006. The Framework sets out the arrangements by which the principal response agencies, i.e. Local Authorities (including Fire Services and Civil Defence), An Garda Síochána and the Health Service Executive, will work together in the management of large-scale incidents.

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.

The Framework is designed primarily to provide for the protection, support and welfare of the public in times of emergency. Effective arrangements to ensure public safety in times of emergency also have the benefit of helping to safeguard the environment, the economy, infrastructure and property.

The Major Emergency Plan should identify sites arising from the European Union (Control of Major Accident Hazard) Regulations, i.e. the 'Seveso Regulations', where specific plans/arrangements exist for responding to emergencies. The Major Emergency Plan should set out the generic arrangements governing the response to such sites/events and should contain reference to the specific plans for the site.

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3 Supplementary Measures

There will be certain cases where full application of the ‘basic measures’ will not be enough to achieve the default objective of ‘good status’ by 2015. In such cases, additional supplementary measures will need to be identified and considered. These ‘supplementary measures’ are likely in most cases to be identified and implemented at local level i.e. at the river basin or water body level. The combination of supplementary measures chosen by local authorities should be the most cost-effective combination of supplementary measures identified.

The following is an example of how measures provided for in the Directive might be implemented in practice.

Text Box 2.1 How measures may be chosen

A river water body is badly degraded due to nutrient enrichment from a number of different sources: (i) urban waste water (ii) industrial waste water and (iii) intensive agriculture. The minimum obligation under the Directive is that measures are implemented within the river basin as set out in the Urban Waste Water Treatment Regulations, in the National Regulations that apply to industrial discharges e.g. under the Water Pollution or the Environmental Protection Agency Acts, and in the Good Agricultural Practice for the Protection of Waters Regulations.

If it is the view that these measures alone will not be enough to restore the river water body to ‘good status’ by 2015, then additional measures will have to be identified and considered. These might include, for example, setting more stringent emission controls than is required by the above mentioned legislation for point source discharges, or require (e.g. by way of local bye-law) stricter controls on agricultural activities within the catchment. Other measures that could be considered might include the re-creation and restoration of wetland areas, educational projects, etc. It is likely that the final approach adopted will consist of a combination of some, if not all of these supplementary measures; the final combination chosen will most likely be the most cost-effective combination of technically feasible measures identified.

The combination of supplementary measures identified for a water body must first be checked to determine whether the measures are technically feasible and that they are likely to deliver the required objectives within the required timeframe (by 2015). The measures should also be checked to determine whether they are disproportionately expensive within the timeframe proposed. If it is technically infeasible or disproportionately expensive to achieve the objectives within the timeframe for the first planning cycle (by 2015) then an exemption may be considered, in the form of an extension of time beyond the first river basin planning cycle.

The identification of supplementary measures should be, transparent, proportionate and pragmatic. The most cost-effective combination of supplementary measures to achieve this goal should be identified in each case.

4 Proposed List of Measures

Following publication of Ireland's National Summary Characterisation Report, key pressures were identified which should be addressed in the River Basin Management Planning process. These key pressures were outlined in the public consultation document "Water Matters", published by each river basin district and received general consensus during the public participation process.

As information gaps were also identified, the characterisation process highlighted the need to have a more comprehensive understanding of how a pressure can exert influence on water quality and ecology, the trigger level of that pressure and the identification of measures to mitigate against impact (restore water bodies) or potential impact (protect water bodies). To address these issues and to provide a solid scientific basis to evaluate effectiveness of basic measures and identify any additional supplementary technical measures required, national studies were undertaken into the key pressures and measures by the River Basin Districts working with National Institutions. The National Programme of Measures studies undertaken to support the river basin management plan and programmes of measures are listed in Table 3.1.

Table 3.1 National Studies in Support of Programme of Measures

National Programme of Measures Study	Leading RBD
Industrial and Municipal Discharges	SW-RBD
Unsewered Systems	W-RBD
Forest and Water	W-RBD
Dangerous Substances Usage	SW-RBD
Mobile Organics - risk to groundwaters	E-RBD
Urban Pressures	E-RBD
Freshwater Morphology	Shannon I-RBD
Marine Morphology	SW-RBD
Abstraction	E-RBD
Heavily Modified and Artificial Water Bodies	SW-RBD
Protected Areas and High Status Sites	W-RBD

The national technical studies were completed in 2008 and provided:

- more detailed understanding of the significance of the pressure,
- an assessment of the risk the pressure poses to ecological status,
- further study that may be required to complete our understanding and
- technical measures have been identified to mitigate potential and actual impact.

The output of the studies is summarised in the tables below.

The studies did not address socio-economic aspects. Separate studies are underway into cost effectiveness evaluation of measures, adaptation of the measures to climate change and strategic environmental assessment.

Table 3.1 summaries the basic measures required under existing directives.

Table 3.1 Basic Measures Required under Existing Directives

Basic Measures under Existing Directives
The Bathing Water Directive (2006/7/EC)
Undertake comprehensive monitoring programmes, identify pollution sources and draw up management plans to minimise risks to bathers.
The Birds Directive (79/409/EEC)
A major review of the SPA network is in progress, update Register of Protected Areas as changes are notified. On-going monitoring of bird species to inform conservation measures for Natura 2000 sites in management plans. Avoid adverse impacts in forward planning.
The Drinking Water Directive (80/778/EEC) as amended by Directive (98/83/EC)
Prepare Water Services Strategic Plans.
The Major Accidents (Seveso) Directive (96/82/EC)
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.

Basic Measures under Existing Directives
The Environmental Impact Assessment Directive (85/337/EEC)
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.
The Sewage Sludge Directive (86/278/EEC)
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.
The Urban Waste-water Treatment Directive (91/271/EEC)
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.
The Plant Protection Products Directive (91/414/EEC)
Authorise substances for use or marketing subject to rigid controls.
The Nitrates Directive (91/676/EEC)
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.
The Integrated Pollution Prevention Control Directive (96/61/EC)
Ensure operators of certain industrial installations must obtain an IPPC permit.

Basic Measures under Existing Directives
<p>The Habitats Directive (92/43/EEC)</p> <p>Continued survey and monitoring to confirm location, conservation status and water status requirements of Annex listed habitats and species. Establish protect/restore measures in sub-basin plans with environmental quality standards appropriate to the most sensitive habitat or species receptor. Review and resolve unfavourable conservation status issues arising from abstractions and drainage pressures.</p> <p>Develop and implement management measures and codes of practice; monitor, audit, and adjust management and measures for individual Natura 2000 sites if necessary to achieve and maintain favourable conservation status. Update Register of Protected Areas, and implement administrative and database measures. Avoid adverse impacts in forward planning.</p>

The 'other basic measures' of the WFD are considered in table 3.2.

Table 3.2 Other Basic Measures

Other Basic Measures
<p>Cost recovery for water use and promotion of efficient and sustainable water use</p> <p>Member States must adopt a cost recovery system to ensure that water pricing policies act as incentives towards efficient water usage.</p> <p>The WFD also requires measures to promote efficient and sustainable water use.</p>
<p>Protection of drinking water sources</p> <p>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 10m³ per day.</p>
<p>Abstraction and impoundment control</p> <p>Member States must have controls for significant surface water and groundwater abstractions and surface water impoundments.</p>

Other Basic Measures
Point source and diffuse source discharges control
<p>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.</p>
Controls on physical modifications to surface waters
<p>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.</p>
Prevention or reduction of the impact of accidental pollution incidents
<p>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.</p>
Authorisation of discharges to groundwater
<p>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.</p>
Priority substances control
<p>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.</p>
Controls on other activities impacting on water status
<p>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.</p>

Supplementary measures are listed below in a separate table for each study.

Table 4.3 High Status Sites Supplementary Measures

Supplementary Measures
High Status Sites
Review sites for habitats and species which are at favourable conservation status under the Habitats Directive, and which are not covered by a conservation designation currently; apply an appropriate conservation designation under EU and/or national legislation.
Ensure that all water bodies under consideration for listing as High Status Sites under the Water Framework Directive are at favourable conservation status for any Habitats Directive Annex 1 water dependent habitats and/or Annex 2 species known to be associated with them.
Identify water bodies at high status, water bodies with WFD objective of restoring to high status catchment areas of monitoring sites at high status ((Q5 and Q4.5) in Regional, County and Local Development Plans.
Ensure that the appropriate high environmental quality standards are applied to all water bodies that would qualify for High Status under the Water Framework Directive, but where status has been down-graded to Moderate because an Annex 1 water dependent habitat or Annex 2 water dependent species is not at favourable conservation status under the Habitats Directive.
Ensure that the appropriate high environmental quality standards, as set out in the Draft Environmental Quality Objectives Regulations are applied to all high status water bodies and catchment areas of high status monitoring sites (Biological Quality rating Q4 and Q4.5).
Prohibit point and diffuse source discharges liable to cause water pollution except where such discharges are subject to prior authorisation or general binding rules. Discharge authorisations must lay down emission limits that aim to achieve the environmental objectives/quality standards specified in the draft regulations.

Table 3.4 Unsewered Properties Supplementary Measures

Supplementary Measures
Unsewered Properties
<p>Amend Building Regulations</p> <ul style="list-style-type: none"> - Code of Practice for single houses - Code of Practice for large systems - Certification of unsewered and percolation areas
<p>Assess applications for new unsewered systems by applying risk mapping/decision support systems and codes of practice and require notice to planning authority immediately prior to construction</p>
<p>Establish (a) certified expert panels for site investigation and certification of installed systems, (b) a second panel of hydrogeologists for clusters and large systems and (c) a national group for coordination of consistent approach in emerging and innovative technologies. Establish installation and maintenance training by FAS.</p>
<p>Carry out an inspection programme in prioritised locations for existing systems and record results in an action tracking system</p>
<p>Enforce requirements for de-sludging and implementation of codes of practice</p>
<p>Consider connection to municipal systems</p>
<p>Establish education and awareness programme on outline design, operation and maintenance of systems.</p>

Table 3.5 Agriculture Supplementary Measures

Supplementary Measures
Agriculture
Creation of buffer strips around water bodies to prevent pollutant loss
Installation of fencing to prevent livestock access to watercourses
Reduction of agricultural intensity, e.g. lower stocking density on land, land reclamation
Require nutrient management planning
Set aside of agricultural lands
Increase participation in rural environmental protection schemes
Upgrade farm management systems
Removal by tanker in areas of nutrient surplus
Treatment by digestors in areas of nutrient surplus

Table 4.6 Forestry Supplementary Measures

Supplementary Measures
Forestry
Implement management controls as they become available, e.g. new or improved guidance, new or revised legislation or regulations, codes of practice, ensuring regulations and guidance are cross referenced and revised to incorporate proposed measures
Acidification - Avoid or limit (to below critical thresholds) afforestation on 1st and 2nd order stream catchments in acid sensitive catchments
Acidification - Restructure existing forests to include open space and structural diversity through age classes and species mix, including broadleaves
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.
Eutrophication and Sedimentation - Avoid or limit forest cover on peat sites
Eutrophication and Sedimentation - Change the tree species mix (for example broadleaves) on replanting
Eutrophication and Sedimentation - Limiting felling coup size
Eutrophication and Sedimentation - Establish new forest structures on older plantation sites (including riparian zones, drainage layouts, species mix, open areas)
Hydromorphology - Audit existing drainage networks in forest catchments
Pesticide Use - Maintain registers of pesticide use

Supplementary Measures
Forestry
Pesticide Use - Reduce pesticide usage
Pesticide Use - Pre-dip trees in nurseries prior to planting out
Acidification - Mitigate acid impacts symptomatically using basic material (e.g. limestone or sand liming)
Acidification - Manage catchment drainage to increase residence times and soil wetting, including no drainage installation in some areas
Acidification - Implement measures to increase stream production – for example with native woodland in riparian zones.
Eutrophication and Sedimentation - Establish riparian zone management prior to clearfelling
Eutrophication and Sedimentation - Enhance sediment control
Hydromorphology - Enhance drainage network management – minimise drainage in peat soils
Pesticide Use - Develop biological control methods

Table 3.7 Point Sources from Municipal Wastewater Supplementary Measures

Supplementary Measures
Point Sources from Municipal Wastewater
<p>Measures intended to reduce loading to the treatment plant:</p> <ul style="list-style-type: none"> - 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
<p>Impose development controls where there is, or is likely to be in the future, insufficient capacity at treatment plants</p>
<p>Initiate investigations into characteristics of treated wastewater for parameters not presently required to be monitored under the urban wastewater treatment directive</p>
<p>Initiate research to verify risk assessment results and determine the impact of the discharge</p>
<p>Use decision-making tools in point source discharge management</p>
<p>Install secondary treatment at plants where this level of treatment is not required under the urban wastewater treatment directive</p>
<p>Apply a higher standard of treatment (stricter emission controls) where necessary</p>
<p>Upgrade the plant to remove specific substances known to impact on water quality status</p>
<p>Relocate the point of discharge</p>

Table 3.8 Point Sources from Industry and Businesses Supplementary Measures

Supplementary Measures
Point Sources from Industry and Businesses
Introduce Best Available Techniques (BAT) for industrial discharges
Relocate discharge point

Table 3.9 Sources from Landfills, Quarries, Mines & Contaminated Lands Supplementary Measures

Supplementary Measures
Sources from Landfills, Quarries, Mines & Contaminated Lands
Undertake remediation projects for prioritised landfills, quarries, mines and contaminated lands, e.g. pollution containment measures and monitoring requirements

Table 3.10 Dangerous Substances Supplementary Measures

Supplementary Measures
Dangerous Substances
Review of wastewater and industrial licences
Reduction of pollution by control of point sources through use of pollution reduction programmes
Reduce discharges, losses and emissions from diffuse sources

Supplementary Measures
Dangerous Substances
Relocate discharge point

Table 3.11 Physical Modifications Supplementary Measures

Supplementary Measures
Physical Modifications
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
Support voluntary initiatives, such as wetlands and Integrated Coastal Zone Management schemes
Channelisation investigation
Channelisation impact remediation schemes
Over-grazing remediation
Impassable barriers investigation
Introduce impassable barriers remediation schemes

Table 3.12 Abstractions Supplementary Measures

Supplementary Measures
Abstractions
Modernisation of statutes and regulatory practices, e.g. assigning responsibility for compiling and maintaining a comprehensive, national register of abstractions
Support water conservation measures, e.g. rainwater harvesting schemes, awareness campaigns, introduce best practice guidance
Address data limitations and additional monitoring needs, e.g. improve abstractions register, improve discharge register, validate and develop HSCs, improve hydrometric data, collect bathymetry data for lakes
Examine compensation flow requirements on regulated rivers and maintain minimum flow or flow variability, where applicable
Develop water budgets
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
Increase available water, e.g. promote infiltration of runoff, reuse of grey water or treated wastewater, identify and build infrastructure for alternate sources
Water metering and charging programmes for residential users
Reduce abstraction volumes
Altered abstraction timing

Supplementary Measures
Abstractions
Conjunctive use
Provision of additional storage
Restrict development if abstraction already at capacity

Table 3.13 Urban Supplementary Measures

Supplementary Measures
Urban
Prepare urban asset management plans, which should include surveys, mapping, and research; codes of best practice or legislation; groundwater quality monitoring; improved infrastructure; and planning

Table 3.14 Supplementary Measures for Local Issues

Supplementary Measures
Aquaculture Propose national standards Develop Shellfish Management Plans Designate additional sites
Peat extraction Enforce licencing controls Implement rehabilitation plans
Cruising and boating Enforce pump out controls Enforce speed restrictions
Shared waters Increased transboundary coordination