

River Basin Management Plans

Programme of measures

Key Sectors — Agriculture

Pressure Type — Diffuse and Point Source Pollution

Introduction

Agriculture and food processing is an important industry in Northern Ireland and the sector accounts for 3.5% of total added value in Northern Ireland's economy. There are currently 26,100 farm businesses in Northern Ireland, of which only 25% are regarded as large enough to provide full-time employment for one or more persons (based on a standardised labour requirement). Farm numbers have been declining at an annual average rate of 1.9 % over the past 10 years and the size of the agricultural labour force has been reducing at an annual average rate of 2.1% over the last 10 years.

Farms cover about 70% of the total land area; therefore this sector has a major role in the protection and improvement of the environment with over one million hectares used for agricultural production. Around 80% of the area farmed is grassland, 15% hill or rough land and 5% is arable or horticulture. Beef, milk, sheep and poultry account for approximately 80% of the value of agricultural produce; meat and milk products are major exports. Average stocking levels on farms in Northern Ireland are 1.3 livestock units per hectare, (1.8 in lowland areas).

Intensive land management including livestock and crop production can give rise to diffuse agricultural pollution. A significant contribution to diffuse pollution is also made from farm yard run-off. Such activities can generate a release of potential pollutants which individually may not have an impact but together, at the scale of a river catchment, can cause environmental, health and economic impacts.

The agriculture sector can provide positive benefits to the environment through enhanced land management practices including:

- Protection and restoration of habitats and species;
- Maintenance of valued cultural and historic landscapes and
- Provision of amenities for public access, recreation and enjoyment.

What causes the environmental impact?

The main water quality problems which may be associated with diffuse and point pollution from agricultural activities arise from:

- Nutrients (nitrogen and phosphorus) – where the inappropriate application and storage of manures and inorganic fertiliser can lead to leaching of excess nutrients to groundwater or runoff into surface waters.
- Organic matter, ammonia and faecal pathogens– caused by animal waste washed from farm yards and fields as well as the direct access of cattle and sheep to rivers.
- Toxic substances (e.g. pesticides) – where use or storage occurs too close to water, spillages in farm yards or where inappropriate disposal of spent products can lead to leaching into groundwater or runoff into surface water.
- Sediment – loss of soil through the erosion of cultivated land or poaching by livestock.

The improper disposal of animal carcasses in watercourses in Northern Ireland is a localised problem and can lead to:

- detrimental effects on the environment, particularly water quality;
- spread of disease to stock on neighbouring farms;
- and potential risks to public health.



Pesticide Spraying

What action are we already taking?

Key legislation

The Nitrates Action Programme Regulations (Northern Ireland) 2006 (NAP Regulations)

These regulations implement The Nitrates Directive (91/676/EEC) aiming to improve water quality by protecting water against pollution caused by nitrates from agricultural sources. Both the Department of Agriculture and Rural Development (DARD) and the Department of the Environment (DOE) have joint statutory responsibility for the implementation of the Directive. In particular, it is about promoting better management of animal manures, manufactured fertilisers and other nitrogen-containing materials spread onto land. The Directive allows Member States to either designate discrete areas of land as Nitrate Vulnerable Zones and apply an action programme or establish an action programme to be applicable to the whole territory. The action programme requires farmers to observe rules to reduce and prevent nitrate pollution, including measures on storing manure and periods when spreading manure and manufactured fertiliser to land is not allowed. A review must be carried out at least every four years

Until 1 January 2007, Northern Ireland had designated seven NVZs on the basis of elevated nitrate levels in groundwaters. These NVZs were very small and covered less than 1% of Northern Ireland's area. However, Northern Ireland also has a widespread problem of eutrophication of surface waters and a large proportion of this nutrient enrichment is attributable to agriculture. Following extensive consultation, the total territory of Northern Ireland was established on 29 October 2004 as the area to which an action programme would be applied under the Protection of Water Against Agricultural Nitrate Pollution Regulations (Northern Ireland) 2004.

On 1 January 2007 the Nitrates Action Programme Regulations (Northern Ireland) 2006 (the NAP Regulations) came into operation. These Regulations apply to all farmers across Northern Ireland from that date apart from some transitional arrangements on closed spreading periods and manure storage requirements. The key measures in the NAP Regulations include:



Glens of Antrim

a closed period for the application of organic and inorganic fertilisers; a minimum livestock manure storage requirement; a limit on the amount of nitrogen that can be applied to land from livestock manures of 170 kg nitrogen per hectare per year; and the inclusion of nitrogen efficiency measures.

One of the key requirements of the Directive is the livestock manure spreading limit of 170 kg N/ha/year. However, to facilitate compliance with the Directive by intensive grassland farms, Northern Ireland was also successful in obtaining a derogation to enable such farms to spread up to a limit of 250kg N/ha/year. The amending Regulations giving effect to Commission Decision 2007/863/EC came into operation on 9 June 2008 and there are approximately 350 farms with approved derogations in 2008. In 2009, 169 farm businesses applied to operate under an approved derogation in Northern Ireland.

The action programme covers the period 1 January 2007 – 31 December 2010 and will be subject to review in 2010. Both DOE and DARD will be working over the coming months to compile scientific evidence on the effectiveness of the current Action Programme. This review will form the basis of a full consultation on the next Action Programme for the period 2011-2014.



The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (SSAFO) Regulations (Northern Ireland) 2003

The SSAFO Regulations cover the design, siting, construction and maintenance of silage, slurry and agricultural fuel oil stores. The Regulations minimise the risk of water pollution by setting minimum standards for the construction and maintenance of these structures. Compliance with the SSAFO Regulations, with regard to livestock manure and silage effluent storage facilities, is now a requirement of the NAP Regulations.

The Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2006 (Phosphorus Regulations)

The Phosphorus Regulations control the application of chemical phosphorus fertiliser and were introduced, by DOE, on 1 January 2007 to complement the NAP Regulations in support of its environmental obligations. These Regulations were introduced as it was recognised that phosphorus played a key role in freshwater eutrophication and to ensure that chemical phosphorus fertiliser was not applied in excess of crop requirement.

The Water (Northern Ireland) Order 1999

This legislation aims to prevent pollution of all waterways and groundwater. It is an offence under the Water Order to knowingly, or otherwise, make a polluting discharge into a waterway or underground strata without the consent of DOE. Under the Order a range of notices may be served to prevent pollution from occurring or to remedy pollution that has already occurred.

The Pollution Prevention and Control Regulations (Northern Ireland) 2003 (PPC Regulations)

The PPC Regulations implemented the Integrated Pollution Prevention and Control Directive (91/61/EC) and extended an environmental permitting system to a range of new sectors including intensive rearing of pigs and poultry above certain thresholds (40,000 places for poultry, 2000 places for production pigs >30kg or 750 places for sows). IPPC farms which spread slurry/manure to land are required to demonstrate that they have sufficient land to take the quantity of manure generated on the installation. New or expanded farms are being asked to demonstrate that they have either sufficient land to spread slurry or manure in accordance with crop requirements or have an alternative means for utilizing the material before they are permitted. For existing farms, a staged approach is being taken whereby applicants had to submit a nutrient budget and identify the extent of nutrient surpluses at the application stage. They were then allowed until 6 months after the issue of a permit to come up with firm proposals to resolve any shortfall in available spreading land or to identify possible alternative uses.

Waste Management Licensing Regulations (Northern Ireland) 2003 (WML Regulations)

The storage and application of certain industrial organic wastes to agricultural land including the application of wastes from the dairy products industry, is controlled through the WML Regulations. The application of the waste must result in either “benefit to agriculture” or “ecological improvement”. Benefit to agriculture is assessed against specific criteria including the nitrogen, phosphorus and other plant nutrients in the waste, the soil nutrient status, other sources of nutrient supply and the needs of the planned crop rotation. Furthermore the material must be applied in accordance with the NAP Regulations.

Agricultural waste exemptions are required when using lined biobeds, which can effectively retain and/or degrade pesticide residues, when spreading diluted milk from a farm on land for agricultural benefit and when treating land with spent mushroom compost for agricultural benefit or ecological improvement etc.

The use of willows/reed beds for bioremediation is regulated by NIEA. Depending on the circumstances they may need an exemption from the Waste Management Regulations. Activities exempt from waste management licensing are still subject to statutory controls to prevent environmental pollution.

The Sludge (Use in Agriculture) Regulations (Northern Ireland) 1990 (The Sewage Sludge Regulations)

The Sewage Sludge Regulations implement the Sewage Sludge Directive (86/278/EEC). This legislation applies only to the application of sewage sludge and septic tank sludge to commercial food crops, including for stock rearing purposes. These Regulations prohibit the use of sludge in agriculture as described above unless specified requirements are fulfilled. These include spreading controls, crop nutrient requirements, harvesting timetables, controls on the addition of certain metals and requirements to supply information. Both the sludge and the soil must be tested regularly to avoid a build up of nutrients and heavy metals.

The Groundwater Regulations (Northern Ireland) 2009 (Groundwater Regulations)

The Groundwater Regulations implement the Groundwater Directive (80/68/EEC) which seeks to protect groundwater by preventing the direct discharge of certain hazardous substances and subjecting the discharge of other substances to an authorisation procedure. For the majority of farms in Northern Ireland this means an authorisation is required for the disposal of waste sheep dips and pesticides. The terms of any authorisation including record keeping must be followed. Farmers must also ensure that direct and indirect discharges do not occur, such as from a poorly maintained sheep dipper. The Groundwater Regulations (Northern Ireland) 2009 were made on 2 July 2009 and came into operation on 10 August 2009. The new transposing Regulations incorporate the existing Groundwater Regulations and transpose the new Groundwater Daughter Directive (2006/118/EC)

The Environmental Impact Assessment (Agriculture) Regulations (NI) 2007

These Regulations implement the EIA Directive and the Habitats Directive in that they:

- Replace the existing EIA Regulations applying to projects for the use of uncultivated land and semi-natural areas for intensive agricultural purposes; and
- introduce new rules applying to projects for the restructuring of rural land holdings.

The Regulations require an assessment of whether such projects, above certain thresholds, are likely to have significant effects on the environment. If so, an environmental impact assessment and public consultation must take place before a final consent decision is made.

Food and Environmental Protection Act 1985, Chapter 48, Part III

This legislation provides the powers to make secondary legislation for the control of sale, supply, storage, use and advertisement of pesticides. The term 'pesticide' includes herbicides, fungicides, insecticides, rodenticides, soil sterilants, wood preservatives and surface biocides. Under this legislation, which is enforced by the Health and Safety Executive, it is an offence to:

- Pollute the environment and / or use a pesticide in such a way that would be likely to cause harm to humans and animals;
- Not follow the instructions in the statutory box on the pesticide label;
- Spray pesticides on land without a certificate or competence if born after 31 December 1964.

Control of Pesticides (Amendment) Regulations (Northern Ireland) 1997

Devastating effects to river life and water supplies can occur if pesticides are stored carelessly or applied / disposed of in a careless manner. The Regulations place restrictions on use of pesticides or any substance that is used for protecting plants or wood. Any pesticides that are used on farms in Northern Ireland must be approved by DARD. In order to be approved the product is tested for safety, harmful effects on wildlife, mobility in soil and potential contaminate to groundwater.

Plant Protection Products Regulations (Northern Ireland) 2005

This legislation controls the sale and supply of plant protection products, mainly agricultural pesticides. Under this legislation it is an offence to use or distribute a non-approved pesticide. The Regulations are enforced by the Health and Safety Executive for Northern Ireland.

Fisheries Act (Northern Ireland) 1966

Part 4 of the Act relates to the supervision and protection of fisheries. Under this legislation it is an offence to :-

- Use or possess deleterious matter for the capture, destruction or injury of fish.
- Pollute a watercourse.
- Take, sell, purchase, possess, obstruct the passage, injure or disturb the spawn or fry of salmon, trout or eels or injure or disturb spawning beds where the spawn or fry of salmon, trout or eels exist.
- Remove any material from the bed of a river without the consent of DCAL.
- Disturb spawning salmon or take unseasonable salmon.
- Possess immature salmon for sale, or take undersized salmon.
- Obstruct the passage of fish or fail to protect fish where water is abstracted and requires the construction of a fish pass where a weir is built or an existing weir is reinstated or altered.

The Department of Culture, Arts and Leisure (DCAL) is responsible, under the provisions of the Fisheries Act (NI) 1966 as amended (the Fisheries Act) for the salmon and inland fisheries of Northern Ireland. The Loughs Agency of the Foyle, Carlingford and Irish Lights Commission (FCILC) is responsible for enforcing the provisions in the Foyle and Carlingford catchments.

Private Water Bailiffs can be appointed under the Fisheries Act through DCAL. NIEA is currently engaging with stakeholders to examine and progress appointment of private water bailiffs to take water samples in pollution incidents.



Foyle and Carlingford N Ireland Fisheries Order (2007) / Foyle and Carlingford Fisheries Act (2007)

This legislation concerns the protection of the aquatic environment, specifically fisheries and is cross-border in nature. Provisions include making it an offence to permit any deleterious matter to enter any river.

Local Environment Risk Assessment for Pesticides (LERAPS)

Certain pesticides have a buffer zone requirement to afford protection for aquatic life against pesticide spray drift. For those pesticides with a buffer zone requirement there is a legal obligation to carry out and record the results of a Local Environment Risk Assessment for Pesticides (LERAPS). Different products carry different buffer zones. The scheme has been in force for ground crop sprayers since 1999 and is now extended to broadcast air assisted (orchard) sprayers. LERAPS are only necessary when pesticides are applied next to watercourses such as streams and ponds. The Health & Safety Executive enforce controls over the storage and use of pesticides, including monitoring work to ensure that users carry out appropriate LERAPS when using pesticides near to watercourses.

Financial incentives

Cross Compliance

From 1 January 2005 as a condition of receiving direct payments (including the Single Farm Payment), farmers must demonstrate for all the land on their holding, that they are meeting the requirements of certain existing European laws (known as Statutory Management Requirements, SMR) covering the environment, food safety, animal and plant health and animal welfare, as well as maintaining their land in Good Agricultural and Environmental Condition (GAEC). The GAEC requirements comprise a framework of basic environmental management practices designed to avoid land abandonment and environmental degradation and DARD are the competent authority in relation to compliance with these requirements. The EC Birds, Habitats, Groundwater, Sewage Sludge and Nitrates Directives are the 5 environmental SMRs under Cross-Compliance. NIEA on behalf of the DOE is the competent control authority for these 5 SMRs. From 1 January 2010 a new standard under Good Agricultural and Environmental Condition (GAEC) on "establishment of buffer strips along water courses" will be introduced to retain the environmental benefits of set-aside and improve water management. However regions which have designated their total territory as a Nitrate Vulnerable Zone will already meet this standard.

Agri-environment Schemes

DARD's agri-environment schemes support agricultural production methods which protect the water quality of rivers and lakes. The schemes reward farmers for carrying out their activities in an environmentally friendly manner to bring about environmental improvement on farms. Effective pollution control is a requirement of all agri-environment schemes and scheme participants are provided with farm nutrient and pollution control advice as part of their application process. Since May 2005, the advisory visit has included guidance on the preparation and maintenance of a 'Farm Waste Management Plan'. By the close of the Northern Ireland Rural Development Programme (NIRDP) 2000-2006 some 13,000 farmers were participants in agri-environment schemes, with approximately 455,000 hectares of land under agreement or 45% of farmed area under agreement. DARD actively promote the Agri-environment schemes at present and have a target to have 50% of agricultural land under environmental enhancement agreement by 2013.

The Northern Ireland Countryside Management Scheme (NICMS) is an integral part of the NIRDP 2007-2013. Under the NIRDP, the NICMS further enhances the agri-environment programme's ability to reduce water pollution from agricultural sources and to improve water quality on farms. NICMS participants will continue to draw up obligatory farm waste management plans and in addition they will have the option of taking up new farm waterway and riparian zone management measures which aim to enhance river and riverbank biodiversity and help local agriculture meet the requirements of the EU Water Framework Directive. Funding is available for Special Environmental Projects under the NICMS. Examples of SEP work include water protection projects and habitat creation, where this is not addressed by existing NICMS options.

NIRDP funds Focus Farms which have been selected throughout Northern Ireland representing a range of farm businesses and locations to 'promote good practice by example' on their farms. A number of these farms have been selected to demonstrate best environmental practice. These farms will then be available for groups to visit, where they can learn, share experiences and solve common problems through discussion, farm walks and demonstrations, led by the Focus Farmer. Topics covered will include: Farm Waste Management, Cross Compliance, Field Boundary Restoration and Habitat Improvement.

There are around 11,000 beef and sheep farmers taking part in a farm quality assurance scheme involving audits and environmental care.

The Organic Farming Scheme (OFS) is an integral part of the NIRDP. The OFS has been set up to encourage farmers to convert to organic farming to meet the demand for organic food and benefit the environment.

Farm Modernisation Programme

The Farm Modernisation Programme is funded under Axis 1 of the Rural Development Programme. It aims to contribute to improving the competitiveness and economic performance of agricultural and horticultural businesses in Northern Ireland. This programme will provide financial support for farm business across all sectors to modernise their holdings and improve their production techniques through on-farm investments in new plant, machinery and equipment over six priority investment areas one of which being increased energy efficiency and enhanced environmental status. A sub-programme, the Manure Efficiency Technology Sub-Programme, aims to encourage uptake of specific advanced slurry spreading distribution systems. These technologies will help farmers to achieve greater nutrient efficiency from manures and slurry and reduce the environmental impact.

Farm Nutrient Management Scheme

The Farm Nutrient Management Scheme (FNMS) was introduced by DARD in 2005 to assist farmers to comply with the Nitrates Directive and reduce water pollution by improved storage and use of livestock manures. Increased storage facilities enable farmers to spread manures when weather, soil conditions and crop uptake of nutrients are optimum. This minimises the risk of water pollution and ensures that farmers can comply with the closed period for manure spreading required by the NAP Regulations.

The FNMS provided 60% capital grant support towards the cost of building slurry and manure storage facilities, up to a maximum grant limit of £51k. The average investment per project was approximately £50k. 3938 farmers completed works under the scheme. The facilities were built to standards set by the SSAFO Regulations and have a minimum 20 year design life. The scheme closed on the 31 December 2008.

The FNMS is the largest capital grant scheme ever run by DARD, providing grant aid of over 120m. A total investment of some £200 million has been made to improve farm infrastructure which will lead to a reduction in agricultural pollution and improve the water quality of our rivers and lakes.

Woodland Grant Schemes

To encourage woodland establishment, DARD offers two grant schemes. Both schemes are administered by the Forest Service and are part funded by the European Union (Council Regulation 1257/1999). The Woodland Grant Scheme (WGS) offers grants towards the costs of establishing and maintaining woodlands. The Farm Woodland Premium Scheme (FWPS) offers annual payments, to compensate for agricultural income foregone.

Codes of practice and guidance

Pollution Prevention Guidelines (PPG)

The pollution prevention guidelines on 'Sheep Dipping', PPG12, have been drawn up to assist all who are involved in dipping sheep, including farmers and contractors. They should be followed in order to reduce the risk of pollution of watercourses and groundwater. Aspects covered include the siting of sheep dips, design of sheep dip baths and holding pens, sheep dip concentrate storage, preparation of wash solution, operation of bath, disposal of spent dip and disposal of containers and contaminated materials.

Code of Good Agricultural Practice (COGAP)

DARD recently issued a new Code of Good Agricultural Practice (COGAP) for the prevention of pollution of water, air and soil. The Code is designed to provide practical guidance for farmers and growers in relation to pollution control. It also serves as a reference document for those involved in providing pollution control advice to farmers.

Guidance notes

NIEA and SEPA have developed a design manual for constructed wetlands for use under certain agricultural situations as natural treatment systems 'Design Manual for Scotland and Northern Ireland'. NIEA has produced guidance on the construction of swales on poultry farms to treat lightly contaminated run-off.

Education and awareness

Advisory roles and information for farmers

The delivery of the objectives in this plan is dependent upon farmers themselves taking the initiative to meet accepted standards of good practice to reduce pollution. To do this, farmers need information and support so that they can modify the way they manage the land. A range of guidance documents and support tools (e.g. farm nutrient management calculators) which assist farmers to comply with various regulations have been produced by NIEA and/or DARD and distributed to the sector.

In the period from April 2004 to April 2009 the College of Agriculture, Food and Rural Enterprise (CAFRE) have held 1,492 training workshops that included coverage of Cross Compliance, Field Boundary Management, Dealing with Farm Wastes, Nitrates Information and Nitrates Derogation. A total of 20,016 persons attended these courses.

Voluntary Initiatives

The Voluntary Initiative for pesticides

The Voluntary Initiative (VI) is a programme of self regulation measures proposed by the agricultural and agrochemical industries to minimise the environmental impact of pesticides and has been agreed by government. Farmers are asked to participate in the areas related to the application of sprays, crop protection management plans and appropriate training. The Voluntary Initiative has produced a water protection booklet for farmers and advisers.

Storing pesticides - BASIS

BASIS (Registration) Ltd is a voluntary system of self-regulation to establish and assess standards in the pesticide industry relating to storage, transport and competence of staff involved the agricultural and agrochemical industries. It is recommended that all those with large volume pesticide stores register with BASIS.

Research and development

In relation to the effectiveness of the NAP Regulations the European Commission has requested research should be carried out into the following:

Closed periods	Environmental justification for continuing to permit manure applications in early October and February.
Dirty water	Development of new treatment methods to avoid land application of dirty water in the winter months.
Minimising phosphorus losses	Development of practical methods for reducing the hazard of phosphorus losses to water from manure applications.
Minimising nitrous oxide losses	Development and definition of manure application methods which minimize nitrous oxide losses to the atmosphere.

In addition, where derogations have been approved there is a requirement to carry out reinforced water monitoring and studies to collect detailed scientific information on intensive grassland systems.

What improvements will current measures achieve?

A key existing (basic) measure for agriculture is the implementation of the Nitrates Directive. The current action programme covers the period 1 January 2007 – 31 December 2010 and will be subject to review in 2010. This review will examine the effectiveness of the action programme in meeting the environmental aims and objectives of the Nitrates Directive.

It has been assumed that a 20% reduction in phosphorus loadings will be delivered by all of the existing agricultural measures listed above in order to achieve the objectives set in this plan. Further research is being undertaken to determine whether these measures have been successful or whether additional measures will be required. The report on the research undertaken will be made publicly available when it is completed.

What further actions will deliver environmental improvements?

The following tables summarise the existing/ planned measures and supplementary measures for Agriculture.



Key Sector: Agriculture**Pressure Type:** Diffuse and point source pollution**Summary of existing and planned measures**

Improvement Required	Actions	Delivery mechanism	Lead Department / Agency	Support Provider	Deadline for delivery of mechanism (year end)
Reduction in nutrient inputs & Reduction in organic waste (organic matter, faecal pathogens, & ammonia)	Compliance with closed spreading periods for the application of organic manures and chemical fertilisers	Nitrates Action Programme Regulations (Northern Ireland) 2006 (NAP Regulations)	DOE/DARD		In place
	Meet land application restrictions e.g. distances from waters, weather and ground conditions and application methods	Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2006 (Phosphorus Regulations)	DOE		In place
		Silage, Slurry and Agricultural Fuel Oil (SSAFO) (Northern Ireland) Regulations 2003	DOE		In place
	Determine chemical nitrogen and phosphorus fertiliser application needs to meet the crop requirement	The Pollution Prevention and Control Regulations (Northern Ireland) 2003	DOE		In place
	Meet requirements for livestock manure storage i.e. capacity, construction standards and maintenance	Single Farm Payment scheme - Cross-Compliance including Good Agricultural and Environmental Conditions	DARD/DOE		In place
		The Farm Nutrient Management Scheme(FNMS)	DARD		Complete
	Calculate livestock manure loading to land	Northern Ireland Countryside Management Scheme (NICMS)	DARD		In place
		The Sludge (Use in Agriculture) Regulations (Northern Ireland) 1990 (The Sewage Sludge Regulations)	DOE		In place
	Adopt land management practices which reduce nutrient run-off	Waste Management Licensing Regulations (Northern Ireland) 2003	DOE		In place
	Implement nutrient management planning	Environmental Impact Assessment (Agriculture) Regulations (NI) 2007	DARD		In place
	Regulate controls on application of organic wastes including sewage sludge, dairy sludge and fish farm waste	The Code of Good Agricultural Practice for the Prevention of Pollution of Water, Air and Soil (COGAP)	DARD		In place
		Advice, education and training	DARD		In place
		Manure Efficiency Technology Scheme (METS)	DARD		In place

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Improvement Required	Actions	Delivery mechanism	Lead Department / Agency	Support Provider	Deadline for delivery of mechanism (year end)
Reduction in pesticide inputs	Regulate pesticide use and storage	Cross-Compliance Statutory Management Requirements	DARD	DOE	In place
	Comply with restrictions on pesticide marketing	The Code of Good Agricultural Practice for the Prevention of Pollution of Water, Air and Soil (COGAP)	DARD		In place
	Control pesticide spraying	Groundwater Regulations (Northern Ireland) 2009	DOE		In place
	Ensure appropriate disposal of dilute pesticides and washings	The Water (Northern Ireland) Order 1999	DOE		In place
	Ensure standardised sale and supply of approved pesticides	Foyle Fisheries Act (Northern Ireland) 1952	Loughs Agency		In place
		Fisheries Act (Northern Ireland) 1966	DCAL, Loughs Agency		In place
	Use of crop protection management plans	Food and Environment Protection Act 1985 (FEPA) Part III	DARD		In place
	Ensure safe transport of pesticides	The Control of Pesticides (Amendment) Regulations (Northern Ireland) 1997	DARD		In place
	Certify competence of operators	Plant Protection Products Regulations (Northern Ireland) 2005	DARD		In place
		Waste Management Licensing Regulations (Northern Ireland) 2003	DOE		In place
		Voluntary Initiative for pesticides (VI)	DARD	DOE	In place
		BASIS (Registration)	DARD	DOE	In place
		Local Environmental Risk Assessment for Pesticides (LERAP)	HSENI		In place
		Pollution Prevention Guidelines (PPG)	NIEA		In place
		Advice, education and training	DARD		In place

Key Sector: Agriculture**Pressure Type:** Diffuse and point source pollution**Summary of supplementary measures**

Improvement Required	Actions	Delivery mechanism	Lead Department / Agency	Support Provider	Deadline for delivery of action (year end)
Reduction in Phosphorus inputs	Reduce P content of feedstuffs in NI and undertake a study to assess the reductions in P and the environmental benefits of lower P levels in diets	Voluntary agreement	DARD	DOE, AFBI	2010
	Ensure sustainable use of manures with a high phosphorus content, particularly poultry and pig manures	Voluntary agreement	DARD	DOE, AFBI	2012
	Produce a report on the current P budget for NI to support a review of the need to give statutory effect to phosphorus balances	Research and development	DARD	DOE, AFBI	2009
Address diffuse pollution from agricultural sources	Develop a diffuse pollution model to identify areas affected by diffuse pollution	Research and development	NIEA	DARD	2011
	Develop and implement Local Management Area action plans to target advice and regulatory action	Local Management Area plans	NIEA	DARD	2010
Reduction in nutrient inputs & Reduction in organic waste (organic matter, faecal pathogens, & ammonia)	Review and investigation of the effectiveness of wetlands in the reduction of nutrient loadings	Research and development	NIEA	DARD	2012

