



Annual Environmental Report 2008
P0501-01

March 2009

Bord na Móna today operates 5 main subsidiary companies in more than 20 locations throughout Ireland, the UK and USA. The principal businesses are in the Energy, Resource Recovery, Horticulture, Home Heating and Wastewater Treatment and Air Pollution Abatement markets. The company also engages in an extensive rehabilitation program to develop its peat lands in an environmentally sustainable manner. The company turnover for 2007/8 was €370m.



Bord na Móna has long recognised the need to diversify its activities in order to secure a sustainable future. In this context we identified the energy and resource recovery sectors as appropriate areas of growth and development, given our assets, strengths and skills. Significant challenges face Ireland in meeting the country's needs to provide secure sustainable energy and manage waste while minimising the impact on the environment.

Bord na Móna is in a strong position to contribute to dealing with these challenges. We have a unique mixture of assets, experience and innovation which will enable us to cross-link our activities in energy, water and resource recovery to provide products and services which will meet Ireland's needs. We also have the capacity to become an exemplar for others to follow in these fields.

With this background we have scoped out a new vision for the future sustainable development of Bord na Móna.

Following on from our vision, we have developed a new mission for Bord na Móna which the Company is committed to achieving.

In 1934 the Turf Development Board was formed to 'develop and improve the turf industry.' The experience of fuel shortages during the war re-enforced the Irish State's commitment to developing the country's bogs. In 1944 the TDB was asked to devise and submit a comprehensive programme, the outcome was the transformation in 1946 of the TDB into Bord na Móna. The Board was given a mandate to increase the use of peat as a fuel and in energy production. Markets for the use of moss peat in horticulture were also developed.

In 1990 Bord na Móna implemented a divisionalised and decentralised structure, designed to delegate responsibility downwards ensuring a sharper focus on each profit centre and a greater spirit of enterprise.

Group

Vision



The vision statement defines the Company's purpose, in terms of its values.

Values are guiding beliefs about how things should be done.

The vision statement communicates both the purpose and values of Bord na Móna.

For employees, it gives direction about how they are expected to behave and inspires them to give their best. Shared with customers, it shapes the customers' understanding of why they should work with Bord na Móna.

Bord na Móna will seek solutions that optimise the creative energy and potential of the organisation, driven by long term goals and the organisation's vision and mission.

In this context our devolved business units will align their vision and strategic planning with the global direction provided.

Consistent with our vision, innovation will once again return to the core of everything we do. We will capitalise on opportunities to cross fertilise our unique range of skills and technologies that add value and are socially and environmentally sustainable.

Greater focus will be placed on managing and developing our land assets in a responsible and sustainable manner. Our award winning initiatives at Lough Boora (Co. Offaly) and Oweninny (Co Mayo), provide shining examples of what can be achieved

Group

Mission

We conduct our affairs with openness, honesty and integrity.

We are Ireland's leading environmentally responsible integrated utility service provider encompassing electricity, heating solutions, resource recovery, water, horticulture and related services.

We capitalise on international opportunities where we have a competitive advantage.

We achieve continuing growth through superior customer service, outstanding quality and innovation delivered through the excellence and commitment of our people.

We engage in sustainable profitable business in the communities we serve, which is rewarding and challenging for employees and other stakeholders.

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1.0 Introduction

1.1 IPPC Licence No 501-01

1.2 Name & Location of Site

Name:	Bord na Mona Energy Limited.
Address:	Derrygreenagh Works, Rochfortbridge, Mullingar, Co. Westmeath
Telephone No:	044 9222181
Contact Name:	Eamonn Mulhall
Position:	Resource Manager
National Grid Reference:	E249450 N 238140

1.3 Description of Activities

Peat Milling Operations.

For milled peat production the bog is laid out in a series of rectangular fields of varying length and 15m wide with drains located between. There are essentially four operations involved in milled peat production:

Milling.

Harrowing.

Ridging.

Harvesting.

Milling.

Special milling machines work their way along the fields, milling approximately 15mm of peat from the top of the bog in a pass.

Harrowing

In the course of drying, the milled peat is turned a number of times to avail of the drying conditions. This is achieved with a machine called a harrow. The milled peat is harrowed until its moisture content is down to approximately 40-50%, which can take up to two to three days, weather depending.

Ridging

The dry peat is then scraped into long ridges running down the centre of each field. This is done with a ridger, a machine consisting of a series of blades in the shape of a v that opens the full width of the field.

Harvesting

During harvesting every eleventh field is used to stockpile the peat, with this field receiving the milled peat from the five fields either side.

The milled peat is then transported via the existing network of peatland railways or via road to one of the following locations.

Power station

Horticultural Factory.

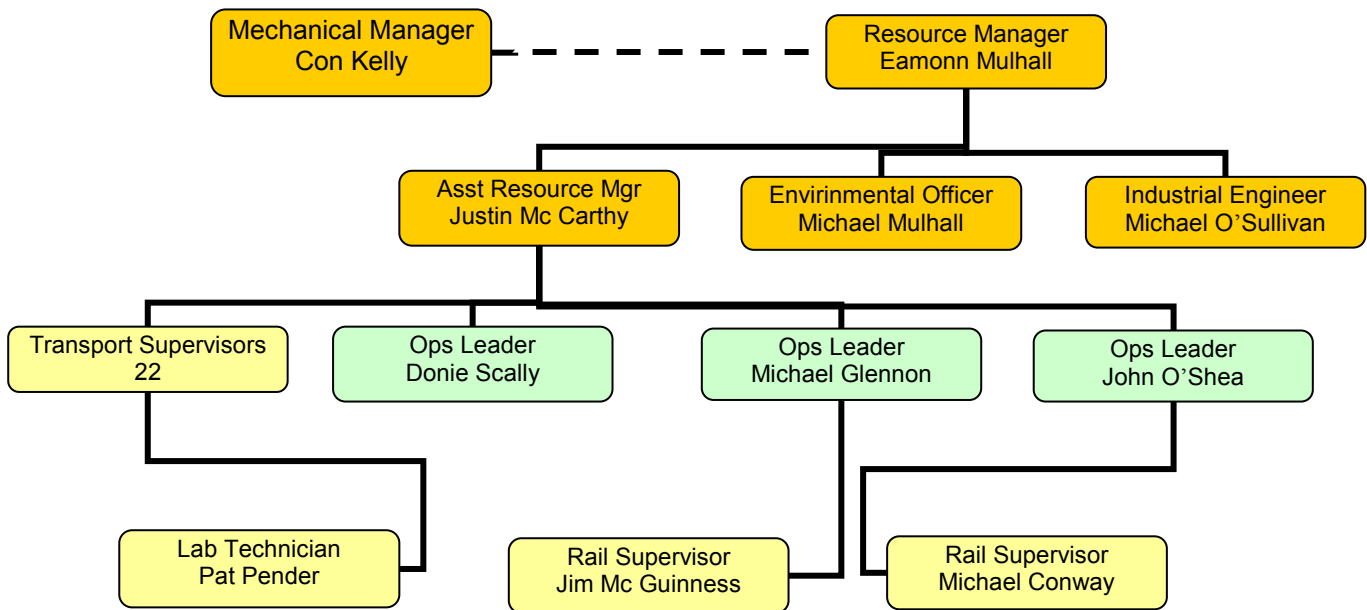
Briquette Factory.

1.4 Environmental Management of the Company

The organisational structure within the Derrygreenagh Group is presented in the flow chart below.

Group

Environmental Responsibilities



1.5 Environmental Policy



Bord na Mona Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

Bord na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and the importance of Irish peatlands.

Bord na Mona Energy Limited recognises the importance of peatland conservation.

Bord na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of a high environmental value.

Bord na Mona Energy Limited seeks to conduct all aspects of its business in an environmentally sensitive value.

Bord na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts.

- Discharge to water.
- Emissions to atmosphere.
- Waste disposal.
- Use of natural resources.
- Noise, vibration, odour, dust and visual effects.
- Natural environment and eco-system.

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord na Mona Energy Limited will continue research and development into all aspects of its environmental impact.

This statement is published and is available at all locations within the division and its Contents are brought to the attention of all employees.

2.0 Summary Information

2.1 Emissions to Water Summary

2.1.1 Silt Pond Emissions

Surface Waters

Comment

Surface water monitoring was carried out four times during the reporting period. In total analysis was carried out at six different locations. These locations are as follows, Derryhinch @ SW1, Drumman @ SW6, Toar @ SW14, Bracklin @ SW30, Carranstown @ SW32 and Rossan @ SW43. The parameters measured during each sampling event were as follows. Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD. In general results were constant across all parameters at each monitoring location. August was the wettest month with 210.7mm of rainfall recorded and May the driest with 14.6mm recorded. Flow rates appear to have had no adverse effect on suspended solids results. The quarterly grab sampling programme proved to be 100% compliant for the year as was the 2005, 2006 & 2007 regimes.

pH values were between 7.0 and 8.2, with emission limit values being of the range 6 and 9. The graph clearly shows consistent trends for the period.

Suspended solids varied from 5mg/l to 34mg/l and would depend on activities (piping, ditching) etc in the catchments at the time of sampling. All results were within the licence limit of 35mg/l.

Ammonia values ranged from 0.04 mg/l and 2.82 mg/l. The I/PV for A3 waters is of the range 4mg/l. It is however not unusual for surface waters emanating from production peatlands to be slightly elevated. Overall ammonia was slightly down on 2007 figures.

COD readings were slightly elevated during the reporting period, at SW32. This was the case in 2007 also. The I/PV for A3 waters is of the range 40mg/l. Further investigation of probable causes is being investigated. The first quarter results 2009 will be watched closely.

Flow rates were as expected during the reporting period with the exception of SW6 Drumman, where no flow was recorded during each of the monitoring events. The 1st quarter had the most elevated flow.

It is proposed to change all the monitoring locations post the first quarter monitoring event of 2009.

Total Phosphorus results were consistent across all locations during the monitoring period.

As mentioned, new sampling locations are being assessed for suitability. Once finalised, a proposal to change sampling locations will be submitted to the Agency for approval.

Surface Water Results are attached in Appendix 1.

2.1.2 Yard Discharges

Yard Runoff

Comment

Yard runoff monitoring took place at two locations during the reporting period. Sampling frequency was monthly and COD was the parameter requiring analysis. Results were very satisfactory for the period.

Sampling will continue at the same locations during 2009.

Yard Emission Results are attached in Appendix 2.

2.1.3 Composite Sampler Report

Composite Sampling

Comment

The composite sampler has been operating at Toar Bog SW15 during the reporting period. The parameters measured were Total Phosphorus, Total Solids, Suspended Solids, pH, Ammonia, Colour and COD, with Suspended solids being the only parameter with an emission limit value of (35mg/l). Due to some technical faults flow records for the first two quarters were not recorded. Following some repairs, the sampler has been operating successfully since July 2008. In general results were satisfactory with two non-compliance's being recorded for the period, of which the Agency was informed. The composite sampler will remain at this location for the foreseeable future.

Composite Sampler Results are contained in Appendix 3.

2.1.4 Emissions to Water Non-compliance's

Emissions to Water Non-Compliances 2008

Licence: P0501-01

Works: Derrygreenagh

Type	Non-Compliances	Location / SW Nr
Composite	2	Toar SW 15
Quarterly Grab	0	
Monthly Yard	N/A	
Totals	2	

There were two non-compliance's at our composite sampler at Toar Bog. The Agency was informed.

2.2 Emissions to Air

2.2.1 Dust Monitoring

Comment

Dust monitoring was carried out on three occasions between May and August. Each monitoring event lasted between 28 and 32 days and the Bergerhoff method of collection was used. The monitoring locations were as follows, Toar DM01, Derryhinch DM02 and Ballivor DM03. All monitoring results were within the emission limit value of 350mg/m²/day. Sampling will continue at the same locations during 2009.

Dust monitoring results are contained in appendix 4.

2.2.2 Emissions to Air Non-compliance's

Dust Non-Compliances 2008	
Licence:P0501-01	
Works: Derrygreenagh	
Location / DM Nr	Non-Compliances
	0
Total	0

There were no non-compliance's in relation to dust.

2.3 Waste Arisings

2.3.1 Non-Hazardous Waste

Non Hazardous Waste Data 2008

Licence: P0501-01

Works: Derrygreenagh

Type	Tonnes	EWG Code	Contractor	Licence Nr
Skips	8.88	20 03 01	AES	053/OY/39/02
Wheelie Bins	6.78	20 03 01	AES	053/OY/39/02
Polyethylene	175.60	02 01 04	Apec Plastic	205/2005
Scrap Steel	148.64	17 04 07	AES	053/OY/39/02
Timber Pallets	0.00	15 01 02	Kiawa Ltd	WP/TN/24
Silt Pond Cleanings	134.72	01 01 02	Bord na Mona	IPPC P0501-01
Peat Screenings	0.00	01 01 02	Bord na Mona	IPPC P0501-01
Totals	474.62			

Note: Polyethylene and Steel are recycled. Skips go to an AES, Mixed Recycling Facility.

2.3.2 Hazardous Waste

Hazardous Waste Data 2008

Licence:P0501-01

Works:Derrygreenagh

Type	Tonnes	EW Code	Contractor	Licence Nr	Destination
Waste Oil	21.10	13 02 05	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oil Filters	1.15	16 01 07	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Oily Rags	1.60	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Waste Grease	0.00	13 08 99	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Lead Acid Batt	2.00	16 06 01	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Contaminated Soil	4.52	15 02 02	Enva Ireland Ltd Portlaoise	184-1	Portlaoise
Parts Wash	2.22	11 01 13	Safety Kleen, Tallaght, Dublin	99-1	Dublin
Asbestos	125.47	17 06 05	KTK Landfill Limited	81-3	Kildare

Total 158.06

Note: The large amount of waste oil can be attributed to the clean up of an oil spill. This involved the removal of a large amount of water which had become contaminated with a smaller proportion of spilled fuel oil. The contaminated soil relates to the same incident.

2.4 Energy and Water Consumption

2.4.1 Energy

The table below shows energy consumption for the year. It does not include water as it is only used in offices, canteens and workshops on a domestic basis. It is not used as part of the production process.

Energy Consumption 2008

Licence: P0501-01				
Works: Derrygreenagh				
Units	Diesel (Litres)	Petrol (Litres)	Electricity (Units)	Peat Briquettes (Tonnes)
Totals	615250	0	219938	10
MW Hours	6024.8	0	219.938	50
Total MW Hours	6294.7			

Note: The electricity consumption figure was extracted from ESB on line information systems. Some of the consumption figures relate to estimated readings which do not reflect on the exact amount of consumption. Going forward/ Bord na Mona are liaising with the supplier, to try and eliminate all estimated readings. This will give a more precise figure in relation to consumption in the future.

2.5 Environmental Incidents and Complaints

2.5.1 Incidents

Environmental Incidents 2008	
Licence: P0501-01	
Works: Derrygreenagh	
	Number
Incidents	3
Requiring corrective action	3
Category	
Water	1
Air	2
Procedural	0
Miscellaneous	
Total	3

There were three environmental incidents. Two related to bog fires and one related to an oil spill. In all cases the Agency was informed and corrective actions taken.

2.5.2 Complaints

Environmental Complaints 2008	
Licence:P0501-01	
Works: Derrygreenagh	
	Number
Complaints	0
Requiring corrective action	0
Category	
Water	0
Air	0
Procedural	0
Miscellaneous	0
Total	0

No complaints of an environmental nature were received during the reporting period.

3.0 Management of the Activity

3.1 Achievement of Objectives & Targets 2008

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	Training. Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. Status In total 230 employees received environmental training. Hydraulic Harrows. Hydraulic harrows will be deployed at dust sensitive locations during the 2008 production season. Status One hydraulic harrow was deployed at Ballybeg bog in 2008. Headland Peat Collection. Continue with the collection of headland peat, particularly at dust sensitive locations. Status Headland peat was collected as part of the peat lifting process and included in general peat return figures.
Project 2: Waste Management	On Site Inspections. A full programme of internal audits will be carried out as soon as production commences. Particular emphasis will be put on cleaner production procedures, milling, harrowing, ridging, harvesting and loading. Status Due to unforeseen circumstances, this project did not materialise.
Project 3: Minimisation of Suspended Solids.	On Site Inspections. Train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. Status In total 230 employees received environmental training. Derrygreenagh also took delivery of one new silt control excavator.

Project 4: Effective spill leak management of mobile fuelling units.	Research and Development. The identification and ultimately the introduction of mobile fuelling units which will enhance the spill / leak management of fuel oils. Increased bund provisions are planned for 2008, as well as one new fuel service wheeled wagon which contain banded tanks. In addition to this, one new rail operated Fuel Service Wagon will be introduced in Derrygreenagh Status Derrygreenagh took delivery of one rail operated Fuel Service Wagon, this machine is currently waiting commissioning. The delivery of Wheeled Fuel Service Wagons was deferred due to design issues.
Project 5: Collection storage and reuse of polyethylene.	Identify Recyclers. Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing. Status In total 175.6 tonnes of polyethylene was sent for recycling in 2008.
Project 6: Provision of measures to protect Dust Sensitive Areas.	Planting. Ongoing Planting is ongoing as required, with areas in the periphery of production bogs that are being developed for housing being prioritised. Status No planting took place in 2008.

3.2 Environmental Management Programme Proposal 2009

Project	Description & Status
Project 1: Reduction of fugitive dust emissions.	Training. Continue to train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation. Hydraulic Harrows. Hydraulic harrows will be deployed at dust sensitive locations during the 2009 production season, with an additional hydraulic harrow budgeted for in the five year plan. Headland Peat Collection. Continue with the collection of headland peat, particularly at dust sensitive locations.
Project 2: Waste Management	Waste Streamlining. Following the purchase by Bord na Mona of AES Ltd, meetings with that company's management will be ongoing to see how best Bord na Mona's needs can be catered for. Key account managers dedicated to Bord na Mona have been requested and are due to be in place in 2009.
Project 3: Minimisation of Suspended Solids.	Training. Continue to train all employees in environmental matters. Training will be by means of the screening of an environmental DVD, followed by a power point presentation.
Project 4: Effective spill leak management of mobile fuelling units.	Research and Development. Continue to introduce rail operated fuel service wagons on a phased basis, with Derrygreenagh works budgeted to receive one wagon during 2009. Increased bund provisions where required, will be provided, in 2009.
Project 5: Collection storage and reuse of polyethylene.	Identify Recyclers. Continue with the recycling of polyethylene. The sourcing of more recycling contractors will be ongoing.
Project 6: PCB Directive	Survey. Carry out a comprehensive survey of all PCB suspect appliances. Following this, liaise with EPA in deciding a plan of action once a definitive amount of suspect PCB holdings are agreed.

3.3 Environmental Expenditure

Environmental Expenditure 2008

Licence:P0501-01

Works: Derrygreenagh

Description	Cost €
Capital Costs	80,600.00
Silt Control	80,145.33
Analytical & Consultancy Costs	8,627.65
EPA Fees	7,995.00
Bog Rehabilitation	66,863.96
Waste Management	58,840.00
Total	303,071.94

4.0 Licence Specific Reports

4.1 Surface Water Discharge Monitoring Location Programme Review

The Monitoring Locations will be changed; post the first quarter monitoring event 2009 and the Agency will be informed.

4.2 Bunding Programme

Integrity testing was carried out in 2007, with retesting scheduled for 2009.

4.3 Boiler Combustion Efficiency

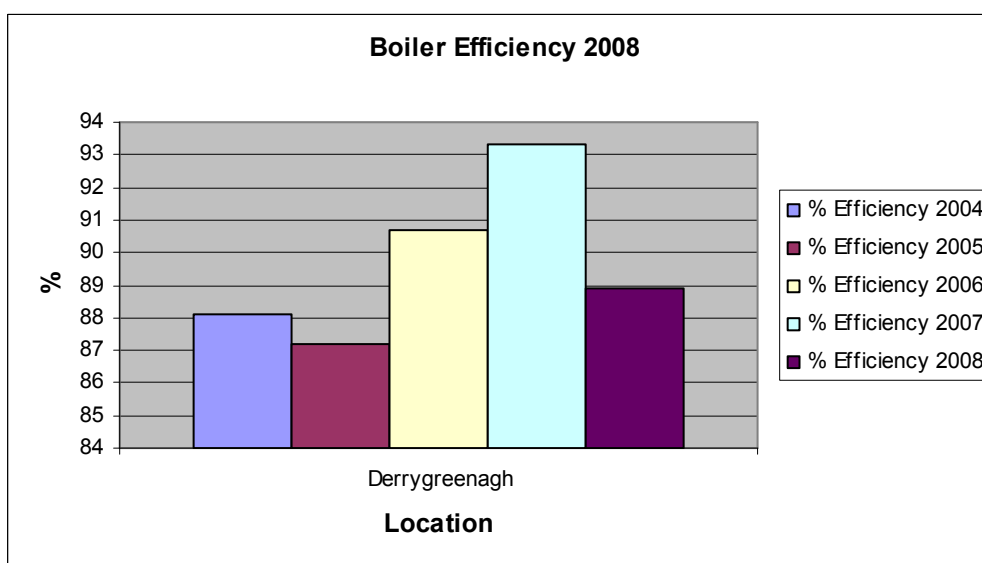
In accordance with Condition 5.1 of the licence a boiler efficiency test was carried out on the only boiler in the licence area, Derrygreenagh. The results of which are retained on file.

Boiler Emissions 2008

Licence: P0501-01

Works: Derrygreenagh

Boiler Location	% Efficiency 2004	% Efficiency 2005	% Efficiency 2006	% Efficiency 2007	% Efficiency 2008
Derrygreenagh	88.1	87.2	90.71	93.3	88.9



Note: All boilers are serviced at the time of efficiency testing.

4.4 Resource consumption summary

Resource Consumption 2008			
Licence: P0501-01			
Works: Derrygreenagh			
Product	Tonnes Produced	Tonnes Sold	Customer
Milled Peat	82,993	96,372	ESB
Moss	74,094	66,000	Horticulture
Turf	0	0	Private
Other	0	0	N/A
Totals	157,087	162,372	N/A

Proposed Production 2009	
Licence: P0501-01	
Works: Derrygreenagh	
Product	Proposed Target
Milled Peat	86,646
Moss	77,000
Turf	0
Other	0
Totals	163,646

4.5 De-Silting Report

Silt pond cleaning went well during the reporting period with all ponds being cleaned a minimum of two times.

A table and graph of the cleaning schedule is attached in appendix 5.

4.6 Bog Development and Operational Programme

There was no bog development in 2008.

4.7 Bog Rehabilitation Report

At Ballivor Works, the old turf out loading facility was dismantled. Works included the dismantling of old sheds, loading hoppers and associated plant.

Following consultation with the National Parks and Wildlife Service (Local and Regional Managers), a group was established to identify potential areas within the Licence area, that may be suitable for management with a biodiversity focus. Following on from an initial baseline survey, key areas were identified.

Further consultation with the NPWS will continue in 2009.

All bogs have been mapped, distinguishing current and future cutaway rehabilitation plans and will feed into a specific cutaway rehabilitation plan for Derrygreenagh, in accordance with condition 10.2

4.8 Archaeological Report

Derrygreenagh – No surveys or excavations took place in 2008.

5.0 Summary

The Derrygreenagh Group of Bogs endeavour to comply with all environmental issues. In 2008 we had two non-compliance regarding suspended solids at our composite sampler at Toar bog, mainly due to exceptional heavy rainfall.

There was no non-compliance at the silt pond quarterly sampling events. Silt pond cleaning went very well during the year and every effort will be made to continue this trend into 2009.

All staff both permanent and seasonal were trained in 2008 and new staff will be trained as they join the company.

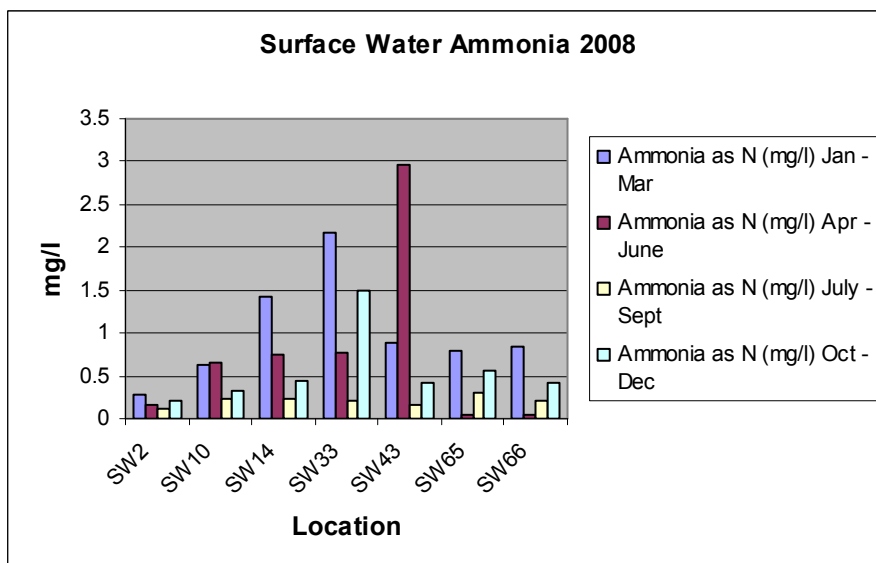
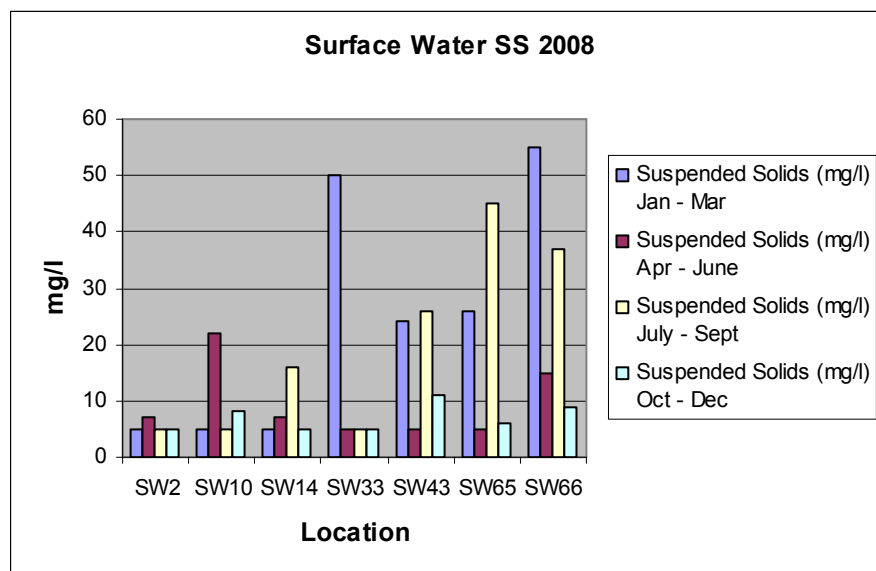
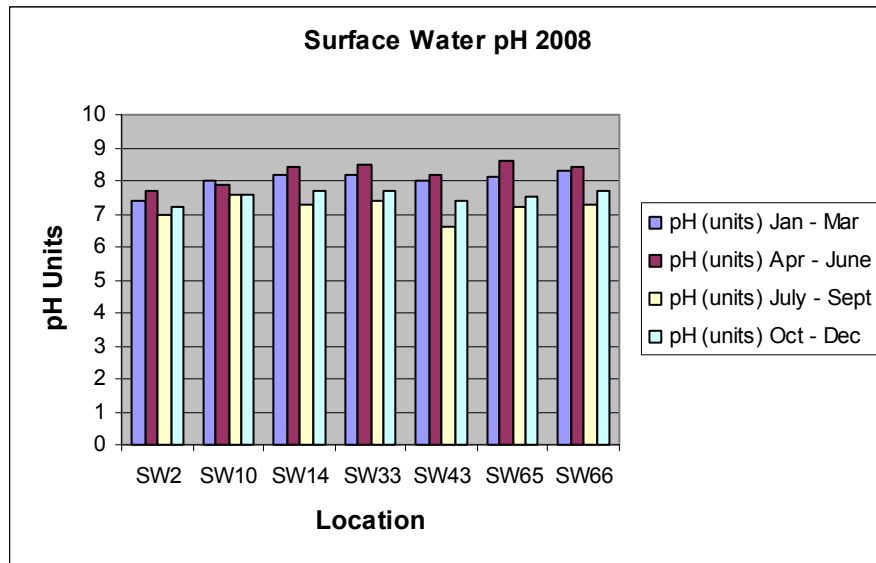
Bord na Mona would like to take this opportunity to advise the Environmental Protection Agency of its continued commitment to improving its environmental performance by adopting cleaner production methods and improving its environmental protection methods.

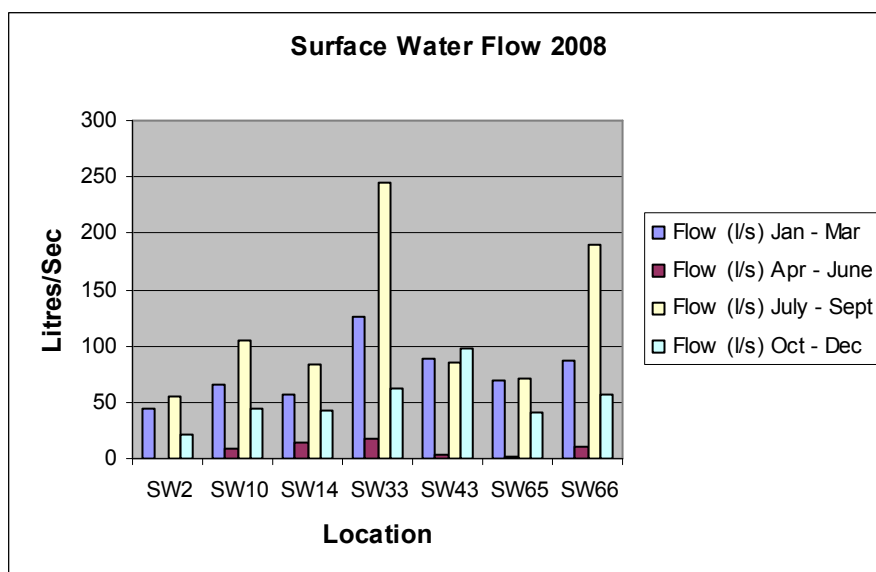
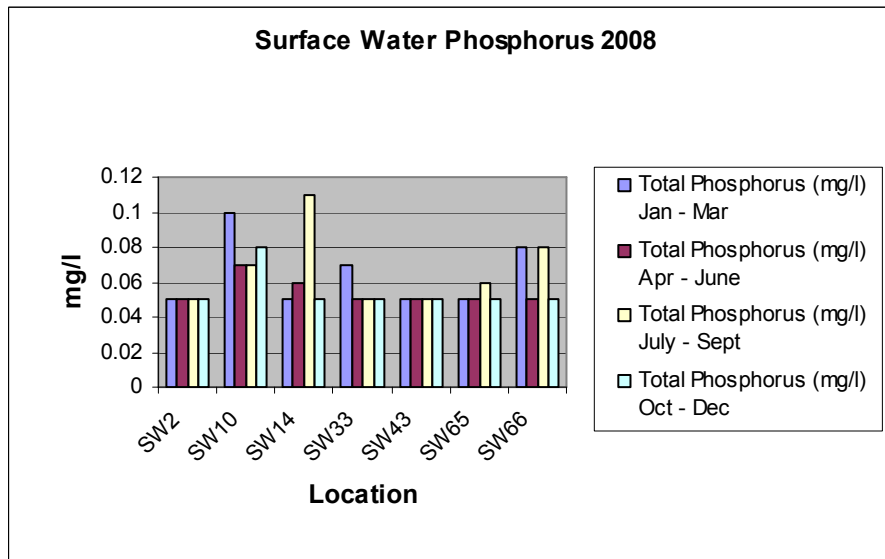
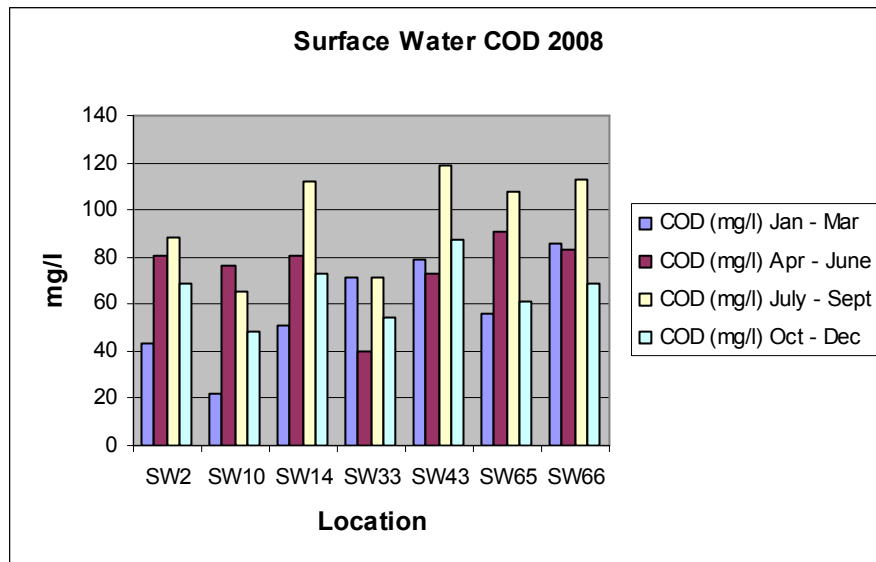
This will be communicated to all staff through the ongoing training programme.

Bord na Mona Energy Ltd are represented on the Management Group of both the Shannon River and Eastern River Basin District Management Systems, set up under the Water Framework Directive, and on the Steering Group of the Catchment Management of the River Barrow.

APPENDIX 1

Surface Water Discharge Monitoring Results Bogs





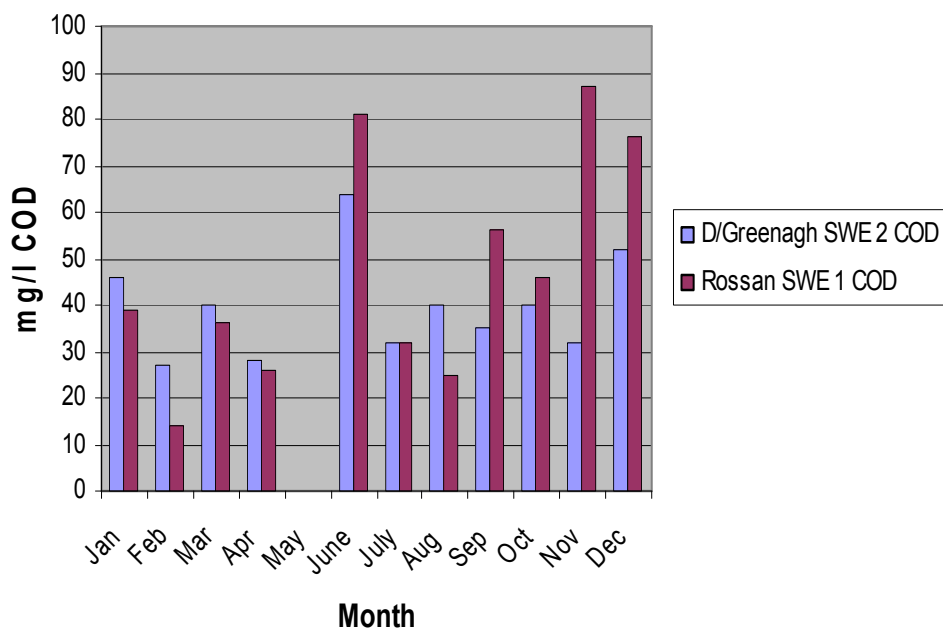
APPENDIX 2

Surface Water Discharge Monitoring Results Yards

Yard Discharge Results 2008

Licence: P0501-01		
Works: Derrygreenagh		
Month	D/Greenagh SWE 2 COD	Rossan SWE 1 COD
Jan	46	39
Feb	27	14
Mar	40	36
Apr	28	26
May	0	0
June	64	81
July	32	32
Aug	40	25
Sep	35	56
Oct	40	46
Nov	32	87
Dec	52	76

Monthly Yard Monitoring 2008



APPENDIX 3

Surface Water Discharge Monitoring Results Composite

Month				Parameters							Daily Totals		
January	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2	7.9	63	0.03	0.06	11	162	154	0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5					0	0		0				0.00	0.00
6					0	0		0				0.00	0.00
7					0	0		0				0.00	0.00
8					0	0		0				0.00	0.00
9	7.4	125	0.41	0.14	63	366	128	0				0.00	0.00
10					0	0		0				0.00	0.00
11					0	0		0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14					0	0		0				0.00	0.00
15					0	0		0				0.00	0.00
16	7.4	56	0.77	0.05	6	382	107	0				0.00	0.00
17					5	222		0				0.00	0.00
18					5	304		0				0.00	0.00
19					23	326		0				0.00	0.00
20					0	0		0				0.00	0.00
21					0	0		0				0.00	0.00
22					0	0		0				0.00	0.00
23	7.3	66	0.64	0.05	25	326	162	0				0.00	0.00
24					5	346		0				0.00	0.00
25					0	0		0				0.00	0.00
26					5	206		0				0.00	0.00
27					0	0		0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00
30	7.7	75	0.74	0.14	78	407	103	0				0.00	0.00
31					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
Feb	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2					0	0		0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5					0	0		0				0.00	0.00
6	7.6	59	0.6	0.06	5	328	151	0				0.00	0.00
7					5	380		0				0.00	0.00
8					5	380		0				0.00	0.00
9					7	402		0				0.00	0.00
10					6	436		0				0.00	0.00
11					7	440		0				0.00	0.00
12					5	430		0				0.00	0.00
13	8	61	0.78	0.05	5	446	83	0				0.00	0.00
14					5	442		0				0.00	0.00
15					11	446		0				0.00	0.00
16					14	444		0				0.00	0.00
17					13	430		0				0.00	0.00
18					11	424		0				0.00	0.00
19					5	448		0				0.00	0.00
20	8.1	46	0.93	0.05	12	74	78	0				0.00	0.00
21					5	454		0				0.00	0.00
22					5	450		0				0.00	0.00
23					18	454		0				0.00	0.00
24					5	438		0				0.00	0.00
25					7	448		0				0.00	0.00
26					5	444		0				0.00	0.00
27	8.2	78	1.76	0.06	5	308	170	0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
March	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2					0	0		0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5	7.6	65	0.95	0.05	5	432	92	0				0.00	0.00
6					5	456		0				0.00	0.00
7					5	445		0				0.00	0.00
8					5	440		0				0.00	0.00
9					5	412		0				0.00	0.00
10					5	436		0				0.00	0.00
11					5	292		0				0.00	0.00
12	8.1	48	0.77	0.05	5	320	149	0				0.00	0.00
13					5	370		0				0.00	0.00
14					5	350		0				0.00	0.00
15					0	0		0				0.00	0.00
16					0	0		0				0.00	0.00
17					0	0		0				0.00	0.00
18					0	0		0				0.00	0.00
19	7.9	45	0.84	0.05	5	430	107	0				0.00	0.00
20						0		0				0.00	0.00
21					0	0		0				0.00	0.00
22					0	0		0				0.00	0.00
23					0	0		0				0.00	0.00
24					0	0		0				0.00	0.00
25					0	0		0				0.00	0.00
26	7.9	41	0.83	0.05	9	428	72	0				0.00	0.00
27					0	0		0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00
30					0	0		0				0.00	0.00
31					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
April	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2	7.6	42	0.7	0.05	5	410	90	0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5					0	0		0				0.00	0.00
6					0	0		0				0.00	0.00
7					0	0		0				0.00	0.00
8					0	0		0				0.00	0.00
9	7.7	31	0.85	0.06	5	476	64	0				0.00	0.00
10					0	0		0				0.00	0.00
11					0	0		0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14					0	0		0				0.00	0.00
15					0	0		0				0.00	0.00
16	7.9	51	0.88	0.1	7	468	51	0				0.00	0.00
17					0	0		0				0.00	0.00
18					0	0		0				0.00	0.00
19					0	0		0				0.00	0.00
20					0	0		0				0.00	0.00
21					0	0		0				0.00	0.00
22					0	0		0				0.00	0.00
23	7.8	51	0.83	0.05	5	454	54	0				0.00	0.00
24					0	0		0				0.00	0.00
25					0	0		0				0.00	0.00
26					0	0		0				0.00	0.00
27					0	0		0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00
30	8	42	0.8	0.05	6	470	61	0				0.00	0.00

Month				Parameters							Daily Totals		
May	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					6	462		0				0.00	0.00
2					0	0		0				0.00	0.00
3					0	0		0				0.00	0.00
4					0	0		0				0.00	0.00
5					0	0		0				0.00	0.00
6					0	0		0				0.00	0.00
7	7.8	14	0.83	0.05	5	494	49	0				0.00	0.00
8					0	0		0				0.00	0.00
9					0	0		0				0.00	0.00
10					0	0		0				0.00	0.00
11					0	0		0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14	7.8	47	0.76	0.05	5	484	51	0				0.00	0.00
15					8	478		0				0.00	0.00
16					8	484		0				0.00	0.00
17					0	0		0				0.00	0.00
18					0	0		0				0.00	0.00
19					0	0		0				0.00	0.00
20					0	0		0				0.00	0.00
21	7.8	45	0.8	0.05	9	484	48	0				0.00	0.00
22					0	0		0				0.00	0.00
23					0	0		0				0.00	0.00
24					0	0		0				0.00	0.00
25					0	0		0				0.00	0.00
26					0	0		0				0.00	0.00
27					0	0		0				0.00	0.00
28	7.6	40	0.85	0.05	6	458	56	0				0.00	0.00
29					0	0		0				0.00	0.00
30					0	0		0				0.00	0.00
31					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
June	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2					0	0		0				0.00	0.00
3					0	0		0				0.00	0.00
4	7.6	43	0.79	0.05	6	492	55	0				0.00	0.00
5					0	0		0				0.00	0.00
6					0	0		0				0.00	0.00
7					0	0		0				0.00	0.00
8					0	0		0				0.00	0.00
9					0	0		0				0.00	0.00
10					0	0		0				0.00	0.00
11	7.7	34	0.71	0.05	5	506	51	0				0.00	0.00
12					0	0		0				0.00	0.00
13					0	0		0				0.00	0.00
14					0	0		0				0.00	0.00
15					0	0		0				0.00	0.00
16					0	0		0				0.00	0.00
17					0	0		0				0.00	0.00
18	7.7	45	0.79	0.06	6	510	57	0				0.00	0.00
19					0	0		0				0.00	0.00
20					0	0		0				0.00	0.00
21					0	0		0				0.00	0.00
22					0	0		0				0.00	0.00
23					0	0		0				0.00	0.00
24					0	0		0				0.00	0.00
25	7.7	37	0.88	0.05	11	445	128	0				0.00	0.00
26					0	0		0				0.00	0.00
27					0	0		0				0.00	0.00
28					0	0		0				0.00	0.00
29					0	0		0				0.00	0.00
30					0	0		0				0.00	0.00

Month				Parameters							Daily Totals		
July	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		0				0.00	0.00
2	7.5	34	0.74	0.05	5	380	138	0				0.00	0.00
3					5	440		0				0.00	0.00
4					0	0		1120608				0.00	0.00
5					5	136		366569				1.83	49.85
6					5	170		1780704				8.90	302.72
7					0	0		-972950				0.00	0.00
8					0	0		372151				0.00	0.00
9					0	0		1352678				0.00	0.00
10					5	426	132	513760				2.57	218.86
11					0	0		551370				0.00	0.00
12					0	0		1257293				0.00	0.00
13					0	0		279141				0.00	0.00
14					0	0		220225				0.00	0.00
15					0	0		63210				0.00	0.00
16	7.5	41	0.77	0.05	5	482	71	449643	18.44	0.35	0.02	2.25	216.73
17					0	0		13738				0.00	0.00
18					0	0		0				0.00	0.00
19					0	0		0				0.00	0.00
20					0	0		7258				0.00	0.00
21					0	0		640751				0.00	0.00
22					0	0		597732				0.00	0.00
23	7.6	34	0.75	0.05	5	468	57	147				0.00	0.07
24					5	482		33713				0.17	16.25
25					5	476		0				0.00	0.00
26					5	478		910224				4.55	435.09
27					5	514		5460739				27.30	2806.82
28					5	444		5774458				28.87	2563.86
29					7	484		6599232				46.19	3194.03
30	7.5	89	0.75	0.05	9	198	306	6290784	559.88	4.72	0.31	56.62	1245.58
31					0	0		10465630				0.00	0.00

Month				Parameters							Daily Totals		
August	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	307		15497570				77.49	4757.75
2					5	444		14747620				73.74	6547.94
3					5	404		12766460				63.83	5157.65
4					5	302		9846144				49.23	2973.54
5					5	444		10649660				53.25	4728.45
6	7.9	34	0.58	0.05	5	448	111	10136450	344.64	5.88	0.51	50.68	4541.13
7					6	280		9986976				59.92	2796.35
8					5	398		11891230				59.46	4732.71
9					5	267		10463900				52.32	2793.86
10					5	210		13351390				66.76	2803.79
11					5	312		20601220				103.01	6427.58
12					5	202		14118620				70.59	2851.96
13	7.7	61	0.37	0.13	5	304	220	34271420	2090.56	12.68	4.46	171.36	10418.51
14					0	0		37278140				0.00	0.00
15					5	388		36426240				182.13	14133.38
16					6	182		27656640				165.94	5033.51
17					5	272		45598470				227.99	12402.78
18					5	394		43219010				216.10	17028.29
19					5	364		34852030				174.26	12686.14
20	7.7	38	0.51	0.05	5	452	139	34177250	1298.74	17.43	1.71	170.89	15448.12
21					5	479		23145700				115.73	11086.79
22					5	462		21283780				106.42	9833.11
23					5	482		21225890				106.13	10230.88
24					12	446		18050690				216.61	8050.61
25					5	486		16625950				83.13	8080.21
26					5	500		19783010				98.92	9891.51
27	7.9	40	0.4	0.05	5	484	91	22033730	881.35	8.81	1.10	110.17	10664.33
28					0	0		21666530				0.00	0.00
29					0	0		20207230				0.00	0.00
30					0	0		18766080				0.00	0.00
31					0	0		19082300				0.00	0.00

Month				Parameters							Daily Totals		
Sept	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					0	0		19068480				0.00	0.00
2					0	0		19068480				0.00	0.00
3	7.5	36	0.64	0.15	5	448	148	19068480	686.47	12.20	2.86	95.34	8542.68
4					0	0		19068480				0.00	0.00
5					0	0		19068480				0.00	0.00
6					0	0		19068480				0.00	0.00
7					0	0		19068480				0.00	0.00
8					0	0		19068480				0.00	0.00
9					0	0		19068480				0.00	0.00
10	7.5	79	0.55	0.05	8	312	182	19068480	1506.41	10.49	0.95	152.55	5949.37
11					5	310		19068480				95.34	5911.23
12					5	378		20390400				101.95	7707.57
13					5	408		24368260				121.84	9942.25
14					5	246		22717150				113.59	5588.42
15					5	306		26777950				133.89	8194.05
16					5	380		33215620				166.08	12621.94
17	7.8	58	0.7	0.1	5	366	120	26395200	1530.92	18.48	2.64	131.98	9660.64
18					5	450		23877500				119.39	10744.88
19					5	476		17934050				89.67	8536.61
20					5	460		15965860				79.83	7344.30
21					5	432		15931300				79.66	6882.32
22					5	462		16224190				81.12	7495.58
23					5	460		17862340				89.31	8216.68
24	7.9	38	0.76	0.05	5	452	77	17383680	660.58	13.21	0.87	86.92	7857.42
25					5	468		4192301				20.96	1962.00
26					5	473		4835894				24.18	2287.38
27					5	468		4687805				23.44	2193.89
28					5	478		658238				3.29	314.64
29					5	478		830140				4.15	396.81
30					5	452		812908				4.06	367.43

Month				Parameters							Daily Totals		
Oct	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1	8	43	0.46	0.05	5	448	80	6091978	261.96	2.80	0.30	30.46	2729.21
2					5	478		8754912				43.77	4184.85
3					5	476		12936670				64.68	6157.85
4					5	212		13692670				68.46	2902.85
5					5	316		6732720				33.66	2127.54
6					5	380		19927300				99.64	7572.37
7					5	330		14079740				70.40	4646.31
8	8	53	0.61	0.08	5	374	175	14538530	770.54	8.87	1.16	72.69	5437.41
9					3	315		19195490				57.59	6046.58
10					5	280		14367460				71.84	4022.89
11					5	422		19511710				97.56	8233.94
12					5	356		26411620				132.06	9402.54
13					5	406		21846240				109.23	8869.57
14					8	228		17695580				141.56	4034.59
15	7.8	58	0.56	0.05	5	277	166	26214620	1520.45	14.68	1.31	131.07	7261.45
16					5	394		23126690				115.63	9111.92
17					5	414		23325410				116.63	9656.72
18					5	416		22367230				111.84	9304.77
19					5	426		19728580				98.64	8404.38
20					5	370		14862530				74.31	5499.14
21					5	406		12807940				64.04	5200.02
22	7.9	47	0.69	0.05	5	422	114	19338050	908.89	13.34	0.97	96.69	8160.66
23					5	238		20763650				103.82	4941.75
24					0	0		24671520				0.00	0.00
25					5	135		20383490				101.92	2751.77
26					5	320		24066720				120.33	7701.35
27					5	384		26296700				131.48	10097.93
28					5	382		22864030				114.32	8734.06
29	7.4	64	0.51	0.05	5	210	210	22244540	1423.65	11.34	1.11	111.22	4671.35
30					5	322		25005890				125.03	8051.90
31					5	382		22142590				110.71	8458.47

Month				Parameters							Daily Totals		
Nov	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	438		22825150				114.13	9997.42
2					5	430		20832770				104.16	8958.09
3					5	450		20489760				102.45	9220.39
4					5	446		18984670				94.92	8467.16
5	7.9	62	0.61	0.05	5	458	84	18653760	1156.53	11.38	0.93	93.27	8543.42
6					0	0		17241980				0.00	0.00
7					0	0		13118980				0.00	0.00
8					0	0		11704610				0.00	0.00
9					0	0		15496700				0.00	0.00
10					0	0		28270950				0.00	0.00
11					0	0		25072420				0.00	0.00
12	7.5	51	0.59	0.05	9	260	197	28772060	1467.38	16.98	1.44	258.95	7480.74
13					5	80		25129440				125.65	2010.36
14					5	266		22465730				112.33	5975.88
15					5	362		19172160				95.86	6940.32
16					5	232		23727170				118.64	5504.70
17					5	319		27406080				137.03	8742.54
18					5	376		26125630				130.63	9823.24
19	7.8	41	0.53	0.07	5	404	127	26568860	1089.32	14.08	1.86	132.84	10733.82
20					0	0		25160540				0.00	0.00
21					5	378		21066910				105.33	7963.29
22					5	304		21897220				109.49	6656.75
23					5	248		22629890				113.15	5612.21
24					5	282		22014720				110.07	6208.15
25					5	354		26317440				131.59	9316.37
26	7.7	45	0.57	0.05	5	362	126	23692610	1066.17	13.50	1.18	118.46	8576.72
27					5	384		22896860				114.48	8792.39
28					5	370		14167010				70.84	5241.79
29					5	444		8286624				41.43	3679.26
30					5	446		8312371				41.56	3707.32

Month				Parameters							Daily Totals		
Dec	pH	COD	Ammonia as	Total	Suspended	Total	Colour	Flow	COD	Ammonia as	Total	Suspended	Total
2008		mg/l	N mg/l	Phosphorus	Solids	Solids	Pt Co	Daily	Kg/Day	Kg/Day	Phosphorus	Solids	Solids
SW15				mg/l	mg/l	mg/l	units	Total (litres)			Kg/Day	Kg/Day	Kg/Day
1					5	450		13605410				68.03	6122.43
2					5	440		16498940				82.49	7259.53
3	7.8	52	0.62	0.05	5	434	77	14498780	753.94	8.99	0.72	72.49	6292.47
4					7	292		14383010				100.68	4199.84
5					5	204		23753090				118.77	4845.63
6					5	342		16056580				80.28	5491.35
7					5	460		23091260				115.46	10621.98
8					5	470		21281180				106.41	10002.15
9					5	262		23352190				116.76	6118.27
10	7.7	53	0.68	0.05	8	424	103	22392290	1186.79	15.23	1.12	179.14	9494.33
11					0	0		20888930				0.00	0.00
12					6	122		21048770				126.29	2567.95
13					5	192		30432670				152.16	5843.07
14					5	386		31702750				158.51	12237.26
15					5	364		28144800				140.72	10244.71
16					5	393		24983430				124.92	9818.49
17	7.4	71	0.67	0.05	5	394	115	24205830	1718.61	16.22	1.21	121.03	9537.10
18					5	378		23683100				118.42	8952.21
19					5	344		24808900				124.04	8534.26
20					5	290		23981180				119.91	6954.54
21					5	122		25607230				128.04	3124.08
22	7.7	34	0.44	0.05	5	266	138	25671170	872.82	11.30	1.28	128.36	6828.53
23					5	486		25512190				127.56	12398.92
24					5	498		23836030				119.18	11870.34
25					0	0		22821700				0.00	0.00
26					5	514		22345630				111.73	11485.65
27					5	537		19186850				95.93	10303.34
28					5	548		8465213				42.33	4638.94
29	7.8	51	0.18	0.05	5	450	125	21423740	1092.61	3.86	1.07	107.12	9640.68
30					0	0		20276350				0.00	0.00
31					0	0		19760640				0.00	0.00

APPENDIX 4

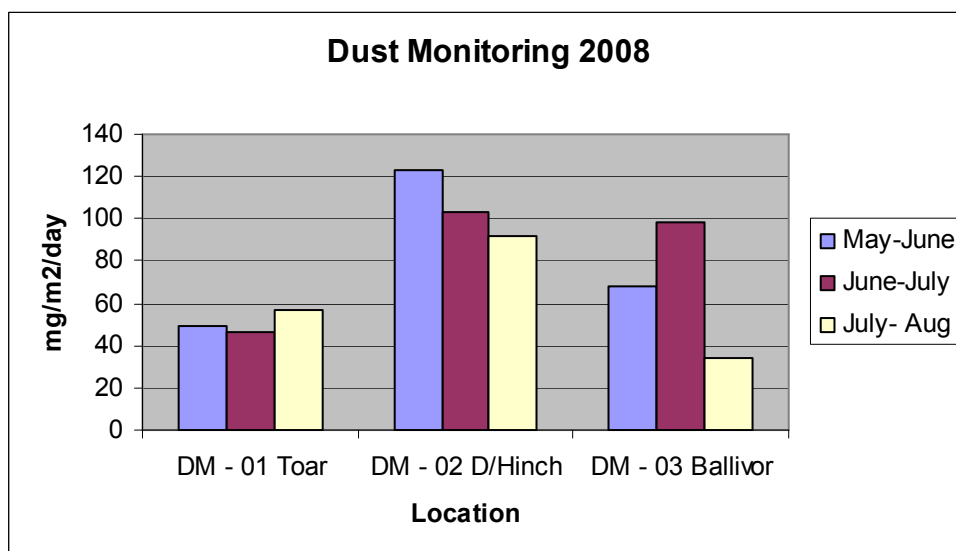
Dust Monitoring Results.

Dust Monitoring Results 2008

Licence:P0501-01

Works: Derrygreenagh

Sample Period	DM - 01 Toar	DM - 02 D/Hinch	DM - 03 Ballivor
May-June	49	123	68
June-July	46	103	98
July- Aug	57	92	34



APPENDIX 5

De-silting Programme Review.

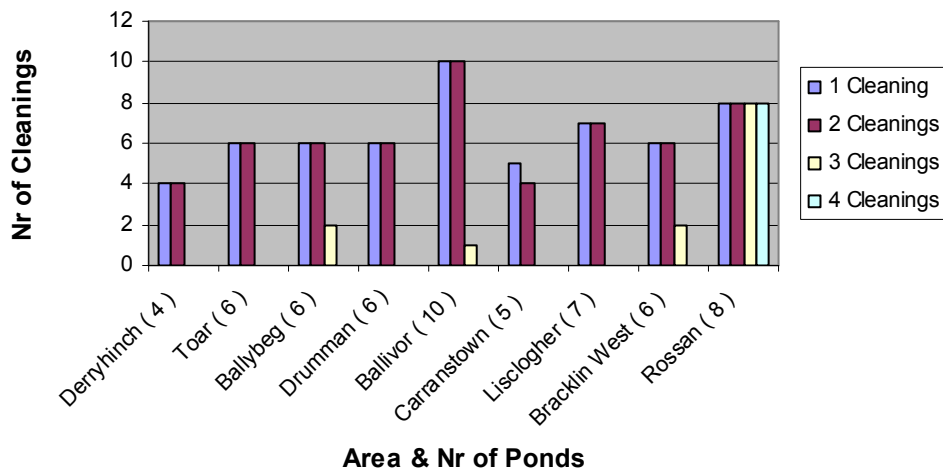
Siltpond Cleaning Programme 2008

IPPC Licence: P0501-01

Works: Derrygreenagh

Bog Area & Nr Ponds	1 Cleaning	2 Cleanings	3 Cleanings	4 Cleanings
Derryhinch (4)	4	4		
Toar (6)	6	6		
Ballybeg (6)	6	6	2	
Drumman (6)	6	6		
Ballivor (10)	10	10	1	
Carranstown (5)	5	4		
Lisclogher (7)	7	7		
Bracklin West (6)	6	6	2	
Rossan (8)	8	8	8	8

Siltpond Cleaning Records 2008



APPENDIX 6

AER & PRTR Data