

North Eastern River Basin Management Plan

# North Coast Classification

December 2009




An Agency within the Department of the  
**Environment**  
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**NIEA** Northern Ireland  
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[www.ni-environment.gov.uk](http://www.ni-environment.gov.uk) Agency

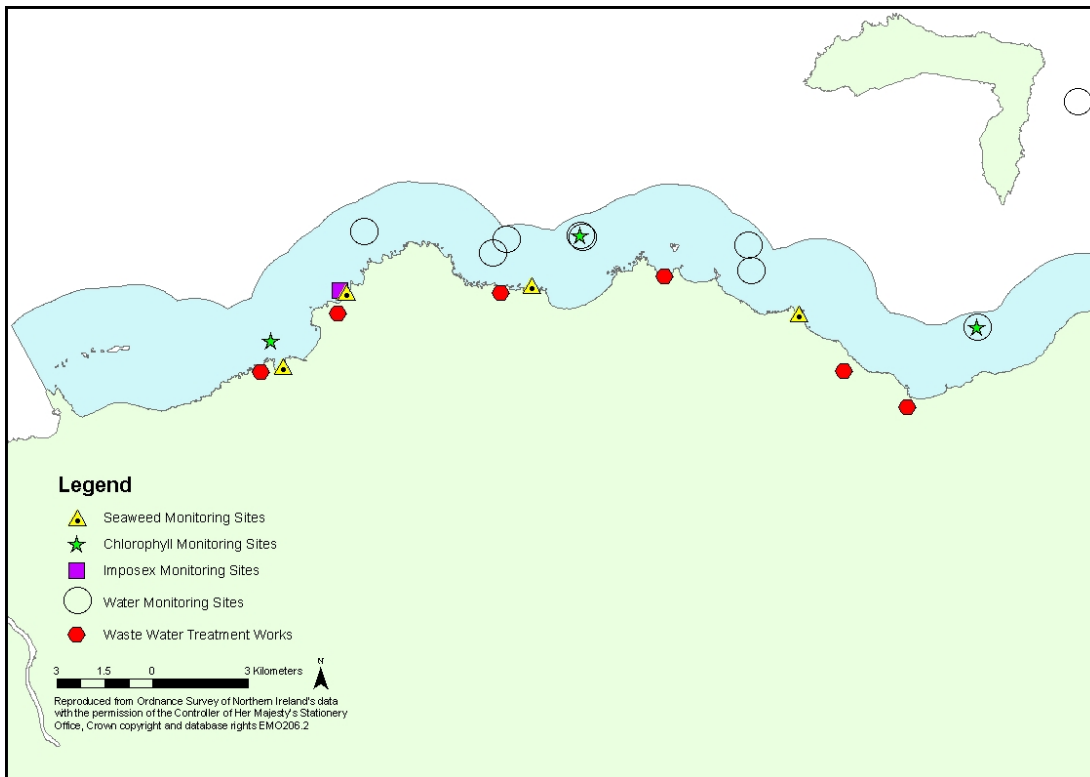
<b>RIVER BASIN MANAGEMENT PLAN</b>	
	<b>WFD COASTAL WATER BODY CLASSIFICATION</b> North Coast
	Version Date: 22/12/09
	<b>MARINE ASSESSMENT AND LICENSING TEAM</b>

**NORTH COAST**


Water body Information

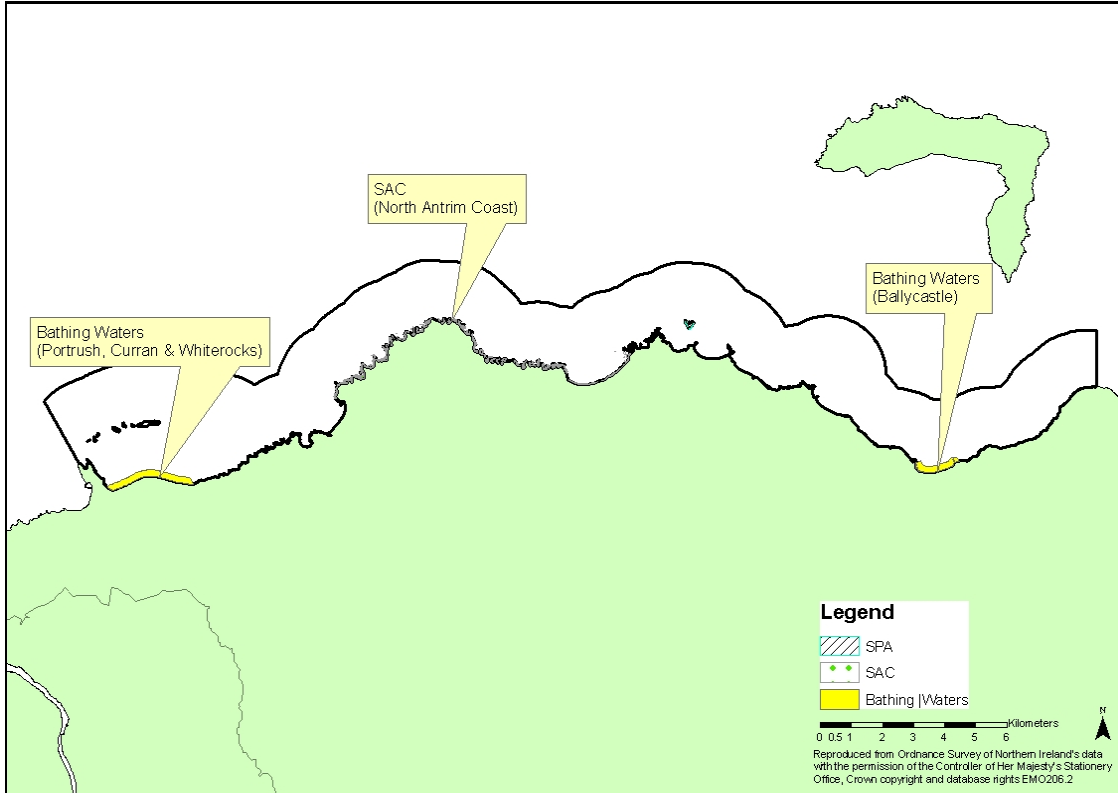
- River Basin District: NE
- Water body type: CW2
- Water body code: UKGBNI6NE010
- Water body characteristics: Euhaline, mesotidal, exposed
- Water body area: 88.62 km<sup>2</sup>
- Heavily Modified Water Body: No

<b>OVERALL WATERBODY CLASSIFICATION</b>	(H/G/M/P/B): (PASS/FAIL):	<b>GOOD PASS</b>	
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Map showing pressures and monitoring points within North Coast (Coastal Water).

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	<b>MARINE ASSESSMENT AND LICENSING TEAM</b>



Map showing protected areas within North Coast (Coastal Water), see Annex F.

RIVER BASIN MANAGEMENT PLAN			
	WFD COASTAL WATER BODY CLASSIFICATION North Coast		
	Version Date:	22/12/09	
	MARINE ASSESSMENT AND LICENSING TEAM		

### PARAMETERS TABLE

Parameters for which classification systems are available and have been used in the first round of classification. Some biological assessment tools are not suitable for all water bodies due to habitat type.

Ecological Quality Element			
Main Element	Sub-Element	Applied	Comment
Macroalgae (seaweed)	-Opportunistic Macroalgae	<input checked="" type="checkbox"/>	Tool Not Applicable
	-Reduced Species List	✓	
Benthic Invertebrates	Infaunal Quality Index	<input checked="" type="checkbox"/>	Tool Under Development
	Imposex	✓	
Physico-Chemical (water)	General Conditions	✓	
	-Dissolved Oxygen	✓	
	-Nutrients	✓	
	Specific Pollutants (Annex VIII subs)	<input checked="" type="checkbox"/>	Data not available
Hydromorphological Quality Elements	SEPA Rapid Designation	✓	
	TraC MIMAS	✓	
Chemical Status			
Priority Hazardous Substances (Annex X)	Annex X Substances	<input checked="" type="checkbox"/>	Data not available

**Waterbody Classification**

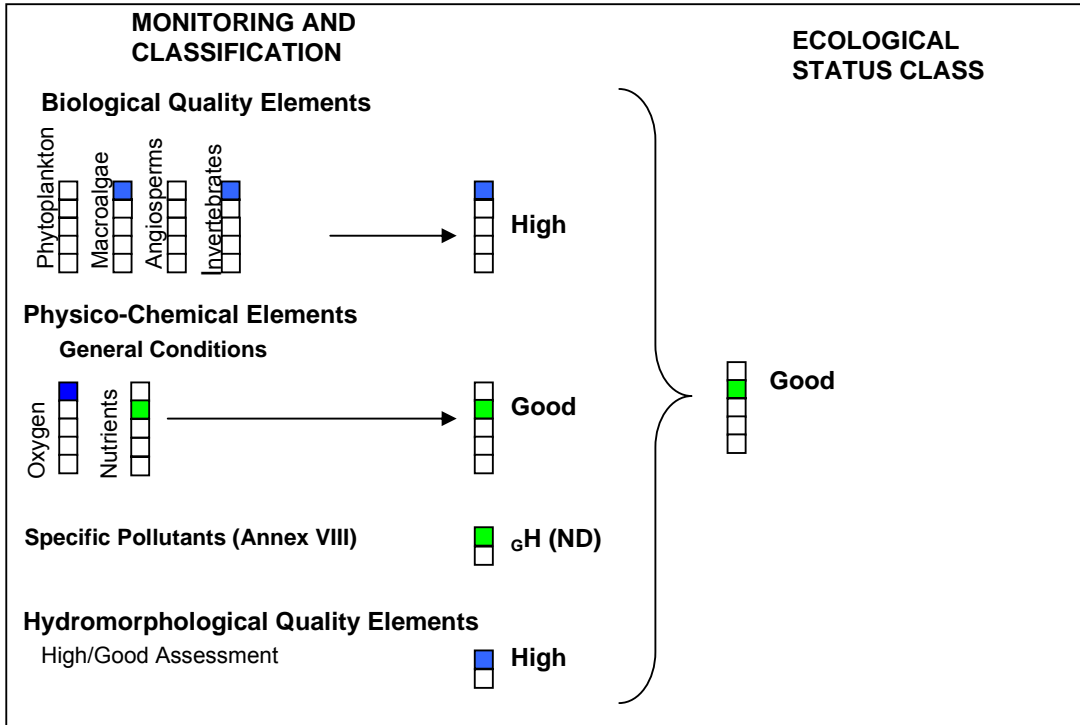


Figure showing ecological classification of North Coast (Coastal Water)

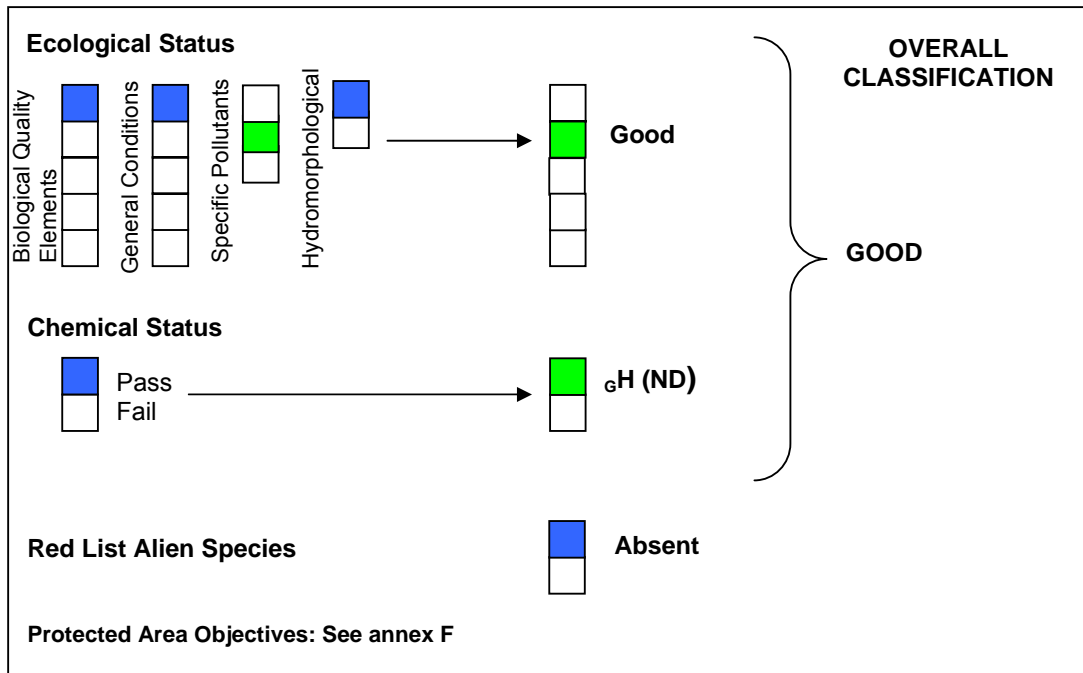



Figure showing overall classification of North Coast (Coastal Water)


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	WFD COASTAL WATER BODY CLASSIFICATION North Coast	
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	MARINE ASSESSMENT AND LICENSING TEAM	

First River Basin Cycle (2004 – 2008)

Monitoring Level: Surveillance

Sampling frequency for each quality element

Quality Elements		Surveillance		
		Year (if 1 in 3 yrs)	Frequency (if p.a.)	No. of sites
<b>Biological</b>				
Macroalgae (seaweed)	Reduced Species List	2007-8		5 sites 6 surveys
Benthic Invertebrates	Infaunal Quality Index	TUD		
	Imposex	2007		1
<b>Physico-chemical</b>				
Nutrients		2008		58 samples 6 sites plus transect
Salinity		2008		2
Temperature		2008		
Dissolved Oxygen (DO)		2007-8		6
Specific polluting substances (Annex VIII)		ND		
<b>Hydromorphology</b>		2007		
<b>Water chemistry</b>				
(Annex X)		ND		


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	<b>WFD COASTAL WATER BODY CLASSIFICATION</b> North Coast
	Version Date: 22/12/09
	<b>MARINE ASSESSMENT AND LICENSING TEAM</b>

## NORTH COAST

### ANNEX A: Classification of Biological Quality Elements

#### QE: Phytoplankton

QE phytoplankton assessment (+ *Data confidence*):      *GOOD (No data)*

RIVER BASIN MANAGEMENT PLAN		
	WFD COASTAL WATER BODY CLASSIFICATION North Coast	
	Version Date:	22/12/09
	MARINE ASSESSMENT AND LICENSING TEAM	

**QE: Macroalgae North Coast**

QE macroalgal assessment (+ data confidence):	<b>HIGH (M)</b>	—
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Classification tools: Reduced species list (RSL), MBT – not applicable

*Reduced Species List (RSL)*

- WFD surveillance monitoring: 2007-8
- Data Availability (classification): 2007-8, 5 Sites

Parameters	Quality Status	Bad	Poor	Moderate	Good	High
	Sub-metric quality status	0.0 – 0.2	0.21 – 0.4	0.41 – 0.6	0.61 – 0.8	0.81 – 1.0
Species richness (adj. for shore)		0 – 3	3 – 10	10 – 20	20 – 34	34 – 68
Proportion of Chlorophyta (% G)		80 – 100	45 – 80	30 – 45	20 – 30	0 – 20
Proportion of Rhodophyta (% R)		0 – 10	10 – 25	25 – 35	35 – 45	45 – 100
Ecological Status Group ratio (ESG)		0.0 – 0.2	0.2 – 0.4	0.4 – 0.6	0.6 – 0.8	0.8 – 1.2
Proportion of opportunists (% opp)		50 – 100	35 – 50	25 – 35	15 – 25	0 – 15

**Results**


Shore	Sub-Metric EQR							RSL EQR	Status
	Shore desc.	Sp. richness	Adj. Sp. Rich.	% G	% R	ESG	% Opp		
Great Stookan 2007	18	42	33.6	14.3	50.0	1.47	9.52	0.856	HIGH
Portballintrae 2007	14	53	56.7	18.9	49.1	1.04	11.32	0.845	HIGH
Kinbane 2007	14	47	50.3	19.2	48.9	1.35	12.77	0.842	HIGH
Dunineny Castle 2008	18	44	35.2	15.9	50.0	1.20	13.64	0.824	HIGH
Portballintrae 2008	17	53	46.11	13.2	52.8	1.41	11.32	0.863	HIGH
Portbradden 2008	18	48	38.4	12.5	52.1	1.53	12.50	0.845	HIGH
<b>Mean</b>								<b>0.85 ±0.01</b>	<b>HIGH</b>

Data Confidence: Medium

- Standard Deviation (±) are included with the mean EQR
- Data QA (expert team)
- WFD specific data (Reduced species list completed; Full species list not yet carried out, tool not yet completed).
- 5 shores (good spatial coverage) over 2 years (low temporal trend assessment)
- FSL not yet carried out.

Alien taxa present: Not present

**QE: Angiosperms North Coast – Tool not applicable**

RIVER BASIN MANAGEMENT PLAN		
	WFD COASTAL WATER BODY CLASSIFICATION North Coast	
	Version Date:	22/12/09
	MARINE ASSESSMENT AND LICENSING TEAM	

**QE: Benthic Invertebrates – North Coast**

<b>QE benthic invertebrates (+ data confidence):</b>	<b>HIGH (L)</b>	
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Classification tools: 1. Infaunal Quality Index (IQI) – Tool under development for habitat type.  
2. Imposex tool (VDSI) - ND

2. VDSI (*Nucella lapillus*)

Waterbody VDSI assessment: High (L)

- Data store: NIEA imposex shoreline data.xls; MERMAN
- Data availability: 2004/2007 NI survey

Boundaries:


Class	Moderate	Good	High
VDSI	≥4.0	≥0.3 <4.0	<0.3
EQR	<0.33 -0	≥0.33 <0.95	0.95 – 1.0

Results:

Year	Shore	VDSI	EQR	Status
2007	Giants Causeway	0.04	0.99	High

Data confidence: LOW

- Sample analysis QA through QUASIMEME (High)
- <3 sites (LOW)
- ONE assessment period (2004; 2007) (Low)

RIVER BASIN MANAGEMENT PLAN		
	WFD COASTAL WATER BODY CLASSIFICATION North Coast	
	Version Date:	22/12/09
	MARINE ASSESSMENT AND LICENSING TEAM	

## ANNEX B: Classification of physico-chemical Quality Elements: General

### Dissolved Oxygen

DO assessment (+ data confidence):	HIGH (L)	
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**Classification tools:** Comparison of 5% ile against reference standards

- **Data store:** \\marine on ehslis2k \Water Framework Directive\DRAFT WFD CLASSIFICATION REPORTS\Dissolved Oxygen
- **Data Availability:** 2007 to 2008
- **Data Availability (spot & continuous samples):** Spot

**Thresholds:**

WFD Status	Marine 5%ile	Objectives
HIGH	≥5.7 mg/L	All life stages of salmonids and transitional fish
GOOD	≥4.0 <5.7 mg/L	Presence of salmonids and transitional fish
MODERATE	≥2.4 <4.0 mg/L	Most life stages of non-salmonid adults
POOR	≥1.6 <2.4 mg/L	Presence of non-salmonids, poor survival of salmonids
BAD	<1.6 mg/L	No salmonids present, marginal survival of resident species


**Results:**

5% ile DO (mg/L)	Status	Data years	Data Quality	No. of daily averages	Data Coverage (proportion of possible months with data*)
6.39	HIGH	07/08	**	2	9.5%

\* Proportion of possible months for which data are available

\*\*Data Quality: Low

- Instruments subject to regular calibration checks and quality assurance programme, but databases not QA'd.
- Low = ≤ 4 daily averages x n (no. of assessment years)

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	<b>Version Date:</b>	22/12/09
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### Nutrients – Winter Dissolved Inorganic Nitrogen DIN

<b>DIN assessment (+ data confidence):</b>	<b>GOOD (L)</b>	
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- **Data store:**  
\\marine on ehslis2k \Water Framework Directive\Nuala-Lesley Nutrients\DIN for Classification\Coastal Water
- **Data Availability:** 2008, DIN & salinity (November to February)
- **Data Availability (spot & continuous samples):** spot and transect


### Winter DIN thresholds:

Area	Salinity range	DIN (uM)		
		HIGH	GOOD	MODERATE
Coastal (at salinity 32)	30-34.5	<12	≥12 ≤18	>18

### Results:

Mean Winter DIN (uM) (normalised to salinity 32)	Daily average (n)	No. of samples (n)	No. of sites	Data Years	Data Quality	Status
14.08	6	58	6 (plus transect)	2008	Database not yet QA'd	Good

**Data confidence:** Low


<b>RIVER BASIN MANAGEMENT PLAN</b>		
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	<b>Version Date:</b>	22/12/09
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**ANNEX C: Classification of physico-chemical quality elements: Specific Pollutants (Annex VIII)**

Specific pollutants assessment (+data confidence)	$\sigma$ H (ND)	
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Classification tools: Comparison with EQS levels.

Data availability : No data


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	<b>Version Date:</b>	22/12/09
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**ANNEX D: Hydromorphological quality elements**

<b>Hydromorphology (+ data confidence):</b>	<b>HIGH (L)</b>	
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**Classification tools:**

1. TRaC Hydromorphology metrics
2. MIMAS


<b>RIVER BASIN MANAGEMENT PLAN</b>		
	<b>WFD COASTAL WATER BODY CLASSIFICATION</b> North Coast	
	<b>Version Date:</b>	22/12/09
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**ANNEX E: Chemical Status – Annex X Chemicals**

Specific pollutants assessment (+data confidence)	gH (ND)	
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Classification tools: Comparison with EQS levels.

Annex X: Overall Compliance	Pass - ND
Annex X: Pass/Fail	Pass - ND

<b>RIVER BASIN MANAGEMENT PLAN</b>	
	<b>WFD COASTAL WATER BODY CLASSIFICATION</b> North Coast
	Version Date: 22/12/09
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### ANNEX F: Protected Area Objectives

Water body	Protected area	Designation	Status	Reason for non-compliance
North Coast	Sheep Island	SPA	Unfavourable	Bird numbers
North Coast	Giant's Causeway and Dunseverick	Saltmarsh	Favourable	
North Coast	North Antrim Coast	SAC	No marine features, though the boundary includes the intertidal.	

### Bathing Water Directive

Water Body		2008	2007	2006	2005	2004	2003
North Coast	Portrush (Curran) East						
North Coast	Ballycastle						
North Coast	Portrush (Whiterocks)						

- Compliance with Guideline standards
- Compliance with Mandatory standards
- Failure to comply with Mandatory standards
- Not on monitoring programme

### Nitrates Directive

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 as the area to which an action programme would be applied under the Protection of Water Against Agricultural Nitrate Pollution Regulations (Northern Ireland) 2004 with effect from 29 October 2004.

### ANNEX G: Alien Species

No alien species have been recorded from this water body.

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North Coast

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**GLOSSARY**

<b>AFBI</b>	Agri-Food and Biosciences Institute (under contract to NIEA)
<b>AMBI</b>	AZTI Marine Biotic Index
<b>Annex 10</b>	Annex 10 Priority Hazardous Substances
<b>Annex 8</b>	Annex 8 Specific Pollutants
<b>Article 5</b>	Characterisation, typology, pressures and impacts analysis
<b>ASSI</b>	Area of Special Scientific Interest
<b>DIN</b>	Dissolved Inorganic Nitrogen
<b>DO</b>	Dissolved Oxygen
<b>EQR</b>	Ecological Quality Ratio
<b>EQS</b>	Ecological Quality Status
<b>EUNIS</b>	European Nature Information System
<b>FSL</b>	Full Species List
<b>GEP</b>	Good Ecological Potential
<b>GH</b>	Good/High
<b>H/G/M/P/B</b>	High/Good/Moderate/Poor/Bad (Classification Status)
<b>H/M/L</b>	High/Medium/Low (Confidence)
<b>HMWB</b>	Heavily Modified Water Body
<b>IQI</b>	Infaunal Quality Index
<b>IRBD</b>	International River Basin District
<b>LOD</b>	Limit of Detection
<b>MBT</b>	Macroalgal Blooming Tool
<b>MEP</b>	Moderate Ecological Potential
<b>NB</b>	Neagh Bann
<b>ND</b>	No data
<b>NE</b>	North Eastern
<b>NEAGIG</b>	North Eastern Atlantic Geographical Intercalibration Group
<b>NIEA</b>	Northern Ireland Environment Agency
<b>N-regs</b>	Nitrogen Regulation
<b>NVZ</b>	Nitrate Vulnerable Zone
<b>NW</b>	North Western
<b>Physico-chem</b>	Physical and chemical monitoring
<b>RSL</b>	Reduced Species List
<b>SAC</b>	Special Area of Conservation
<b>SEPA</b>	Scottish Environment Protection Agency
<b>SPA</b>	Special Protected Area
<b>TNA</b>	Tool Not Applicable
<b>TraC MImAS</b>	Transitional and Coastal Morphology Impact Assessment System
<b>TUD</b>	Tool Under Development
<b>UKAS</b>	United Kingdom Accreditation Service
<b>UKTAG</b>	United Kingdom Technical Advisory Group for Water Framework Directive
<b>UNICORN</b>	Database for marine organisms.
<b>UWWTD</b>	Urban Waste Water Treatment Directive (91/271/EEC)
<b>VDSI</b>	Vas Deferens Sequence Index
<b>WFD</b>	Water Framework Directive

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