

draft RIVER BASIN MONITORING PLAN

# CLASSIFICATION PAMPHLET

## Coastal Waterbody Strangford South

22<sup>nd</sup> December 2008



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draft RIVER BASIN MANAGEMENT PLAN



WFD COASTAL WATER BODY CLASSIFICATION  
Strangford South

Version Date: 22/12/08

MARINE ASSESSMENT AND LICENSING TEAM

**STRANGFORD SOUTH**

Water body Information

- River Basin District: NE
- Water body type: CW8
- Water body characteristics: Euhaline, mesotidal, sheltered
- Water body area: 86.33 km<sup>2</sup>
- Heavily Modified Water Body: No

**OVERALL WATERBODY CLASSIFICATION. (H/G/M/P/B): MODERATE  
(PASS/FAIL): FAIL**

**Downgraded from GOOD due to damaged biogenic reefs, which alters the ecological structures and function of this water body.**

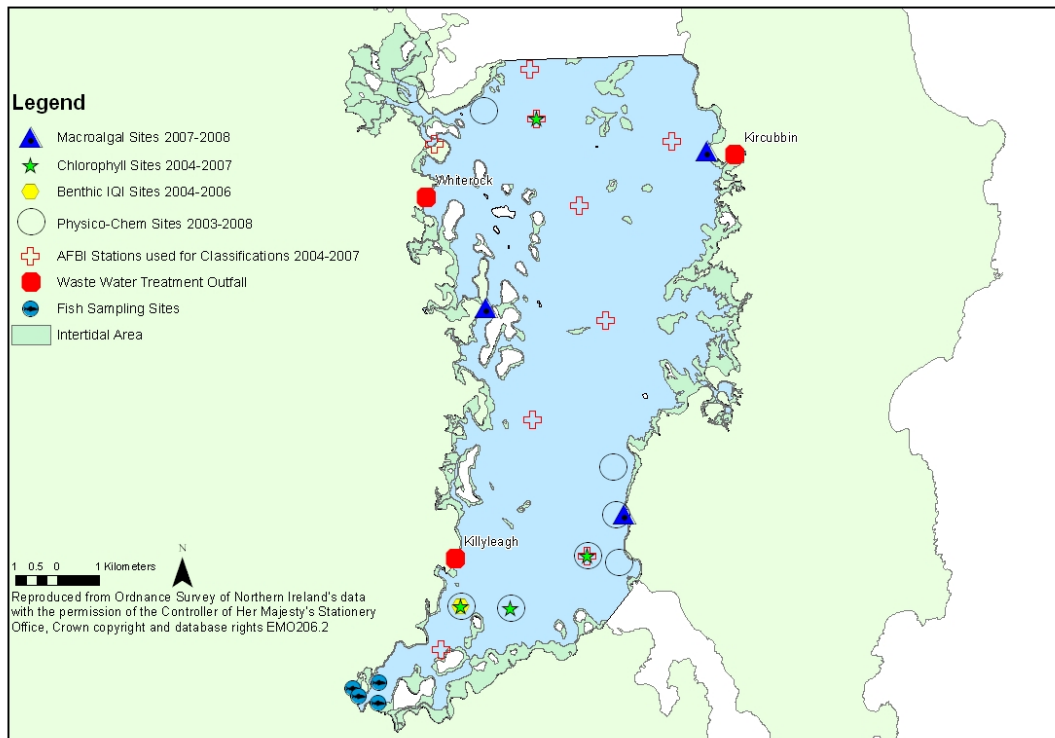


Figure showing pressures and monitoring points within Strangford South (Coastal Water).

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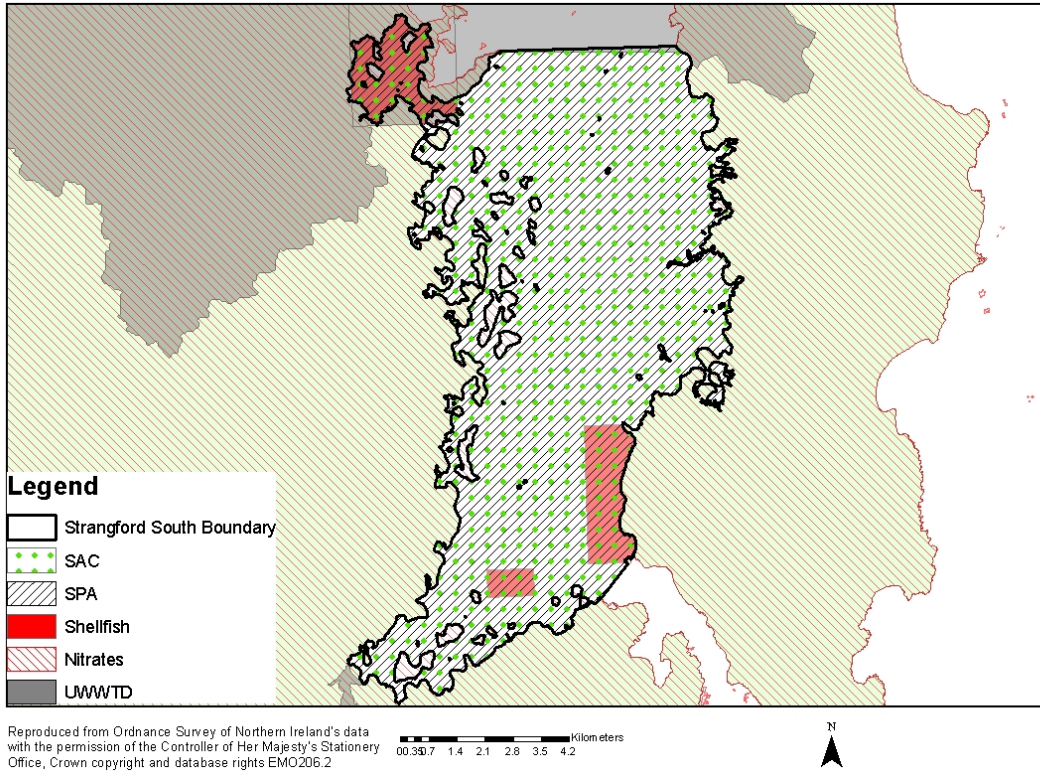


Figure showing protected areas within Strangford South (Coastal Water), see Annex F.

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**PARAMETERS TABLE**

(Parameters for which classification systems are available and have been used in the first round of classification. Note: for some parameters data is not yet available hence the tools have not been applied).

Ecological Quality Element			
Main Element	Sub-Element	Applied	Comment
Plants	Macro Algae	✓	
	-Opportunistic Macroalgae	☒	No Data available
	-Reduced Species List	✓	
	Angiosperms	☒	No Data available
	Phytoplankton	✓	
Benthic Invertebrates	Infaunal Quality Index	✓	
	Imposex	☒	No Data available
Fish	Transitional Fish Classification Index		
Physico-Chemical	General Conditions	✓	
	-Dissolved Oxygen	✓	
	-Nutrients	✓	
	Specific Pollutants (Annex VIII subs)	✓	
Hydromorphological Quality Elements	SEPA Rapid Designation	✓	
	TraC MIMAS	✓	
Chemical Status			
Priority Hazardous Substances (Annex X)	Annex X Substances	✓	

### Waterbody Classification

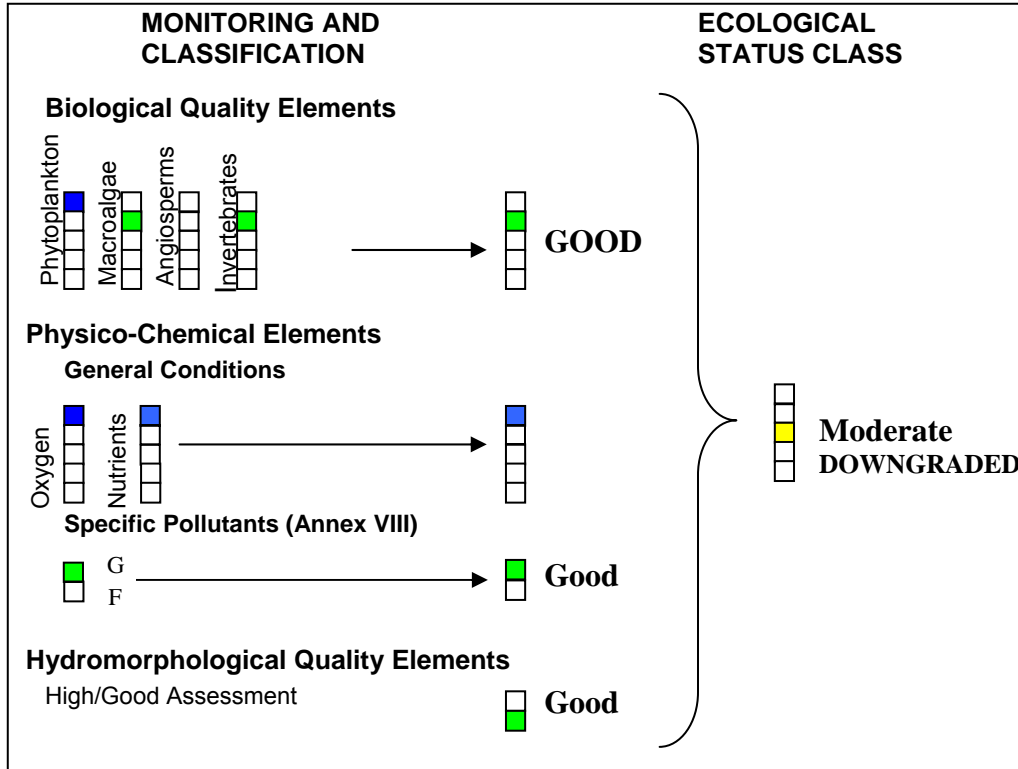


Figure showing ecological classification of Strangford South (Coastal Water)

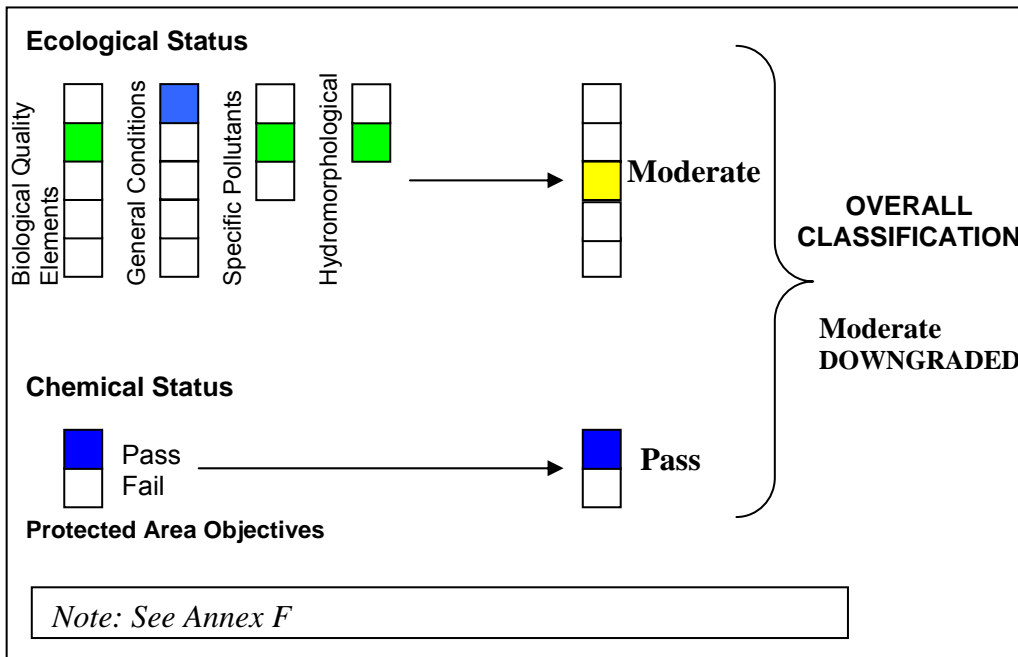


Figure showing overall classification of Strangford South (Coastal Water)

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First River Basin Cycle (2004 – 2008)

*Monitoring Level:*

*Surveillance*

Table of 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>				
Phytoplankton		2004-8		19 sites 107 samples
Macroalgae	Reduced Species List	2007		3
Benthic Invertebrates	Infaunal Quality Index	ND		
	Imposex	ND		
<b>Physico-chemical</b>				
Nutrients		2003-2006		33 sites 9 samples
Salinity		2003-2006		
Temperature		2003-2006		
Dissolved Oxygen (DO)		2002-8		6
Suspended particulate matter (SPM)				
Light (Kd)				
Other polluting substances (Annex VIII)		2002-07	2	5
<b>Hydromorphology</b>				
<b>Water chemistry</b>				
(Annex X)		2002-07	2	5

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## STRANGFORD LOUGH SOUTH

### ANNEX A: Classification of Biological Quality Elements

#### QE: Phytoplankton

QE phytoplankton assessment (+ Data confidence): High (M)

Classification tools:

First round reporting now

1. Chlorophyll biomass index (90%ile)
2. Elevated taxa count index

- Data store (classification):

MARINE\Water Framework Directive\DRAFT WFD CLASSIFICATION REPORTS\QE Phytoplankton\Chlla 90th Percentile\Final 90th Percentile Phytoplankton- MARINE\Water Framework Directive\DRAFT WFD CLASSIFICATION REPORTS\QE Phytoplankton\Elevated Taxa\SL phytotools2004-2007

- Data Availability (spot & continuous samples):

Phytoplankton = spot (2001-2006)

Chl = spot (2004-2007) AFBINI & NIEA

1. Chlorophyll Biomass Index - 90%ile (Chl  $\mu\text{g l}^{-1}$ )

(Growing Season 1<sup>st</sup> Mar – 30<sup>th</sup> Sept)

Waterbody Chl. biomass assessment

*HIGH (M)*

- Thresholds

Water Ref. Area		Status				
		High	Good	Moderate	Poor	Bad
North/Irish Sea	Chl $\mu\text{g l}^{-1}$	<5	5-10	10-15	15-20	>20
	EQR	0 -1.0	1.0-0.8	0.8-0.6	0.6-0.4	0.4-0.2

Results:


90%ile	Status	Data Years	Data Quality	No. of daily averages	No. of Sites	No. of Samples	Data Confidence (proportion of possible months with data*)
4.30	HIGH	2004-2007	Medium	20	19	107	60.7%

\* proportion of possible months (of growing season in years assessed) for which data are available

Data confidence:

Medium

- The proportion of possible months sampled and number of daily averages carried out over the 6 year reporting period yielded reasonable temporal and spatial coverage.
- Although data was collected from two sources, NIEA and AFBINI, the majority of the spatial data was provided by the latter.

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## 2. Elevated Taxa Count Index

### Waterbody Elevated Taxa Assessment

- **Thresholds:**

Tool	Thresholds	
	North/Irish Sea	Atlantic
I <sub>1</sub> - Individual Species Count (excl. Phaeocystis) (%)	250,000 (cells l <sup>-1</sup> )	
I <sub>2</sub> - Phaeocystis Counts (%)	10 <sup>6</sup> (cells l <sup>-1</sup> )	
I <sub>3</sub> - Total Taxa Count (%)	10 <sup>7</sup> (cells l <sup>-1</sup> )	
I <sub>4</sub> - Elevated Biomass Count (%)	>10 (µg l <sup>-1</sup> )	>5 (µg l <sup>-1</sup> )

**Waterbody Elevated count (%) = [I<sub>1</sub> (%) + I<sub>2</sub> (%) + I<sub>3</sub> (%) + I<sub>4</sub> (%) ] / 4**

- **EQR Boundaries:**


Class	% Exceedance	EQR
High	0-15	0.67-1.0
Good	15-30	0.33-0.67
Moderate	30-40	0.28-0.33
Poor	40-50	0.20-0.33
Bad	>50	0-0.20

### Results

I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	I <sub>4</sub>	Elevated Count Mean	Status	Data Years	No. of sampling occasions	No. of phytoplankton samples

Data confidence:

No data

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## QE: Macroalgae Strangford South

**QE Macroalgae assessment (+ Data confidence): GOOD (M)**

Downgraded due to presence of *Sargassum muticum*, awaiting further guidance on alien species from UKTAG.

Classification tools: Macroalgae Blooming Tool, Reduced species list (RSL)

### Reduced Species List (RSL)

Waterbody RSL assessment: *High (M)*

- **WFD surveillance monitoring:** 2007
- **Data Availability (classification):** 2007, 3 sites
- **Data Store:** G:\MARINE\Projects 07\MM07-03 Marine Plants\Macrophyte Survey 07
- **Boundaries:**

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. Richness	% G	% R	ESG	% Opp		
Kircubbin Bay 07	12	45	54.5	15.56	51.11	1.05	8.89	0.866	HIGH
Ringhaddy Rapids 07	7	37	58.5	18.92	51.35	0.95	16.22	0.805	HIGH
Marfield Rocks 07	15	48	48.0	14.58	50.00	1.09	10.42	0.856	HIGH
Mean								0.84 ±0.03	HIGH

Data Confidence:


Medium

- Standard Deviation ( $\pm$ ) 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).
- Three shores (good spatial coverage) over single year (poor temporal trend assessment)
- FSL not yet carried out.

Alien taxa present (*Sargassum muticum*):

Yes



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## **QE: Angiosperms – Strangford South**

QE Angiosperm assessment: GOOD (ND)

Classification Tools: 1. Seagrass A. Taxonomic composition  
B. Shoot density  
C. Bed spatial extent

(Saltmarsh – monitored but no classification tool established for first round)

### **1. Seagrass**

Overall Seagrass assessment: GOOD (ND)

- WFD surveillance monitoring:
- Data store: No data
- Data Availability (classification): No data
- EQR Boundaries:

Status	Mean Score Ranges
High	0.8-1.0
Good	0.6-0.79
Moderate	0.4-0.59
Poor	0.2-0.39
Bad	0.0-0.19

#### Sub-Metric Boundaries:


##### A. Taxonomic composition

Disturbance	Change in taxonomic composition	Metric score (mid-point of EQR range)
No detectable change	All taxa present	0.9
Slight signs of disturbance	Loss of ¼ to ⅓ of species	0.7
Moderate distortions	Loss of ½ of species	0.5
Major distortions	Loss of ⅔ to ¾ of species	0.3
Severe distortions	Loss of all species	0.1

##### B. Shoot Density

Disturbance	% Shoot Loss		Score
	Annual	5 Year Mean	
No detectable change	0-10	0-5	0.8
Slight signs of disturbance	11-30	6-15	0.6
Moderate distortions	31-50	16-25	0.4
Major distortions	51-70	26-35	0.2
Severe distortions	70-100	36-100	0.1

##### C. Bed spatial extent

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Disturbance	% Area Loss	Score
No detectable change	0-10	0.8
Slight signs of disturbance	11-30	0.6
Moderate distortions	31-50	0.4
Major distortions	51-70	0.2
Severe distortions	70-100	0.1

Results:

Site	Tool			Mean Metric Score	Mean Status
	<i>Taxonomic composition</i>	<i>Shoot Density</i>	<i>Bed Spatial Extent</i>		
			Mean		

- Data confidence: No data

Alien taxa present (*Spartina anglica*): Yes

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**QE: Benthic Invertebrates – Strangford Lough South**

**Overall benthic invertebrate assessment: Good (Medium)**

**Classification tools:** 1. Infaunal Quality Index (IQI)  
2. Imposex tool (VDSI) – Not applied

**1. IQI (v4)**

Water body IQI assessment: *GOOD (Medium)*

- **WFD surveillance monitoring:**
- **Data store:**
  - **Benthic invertebrates;** UNICORN NIEA Database
  - **Supporting Parameters; Particle Size Analysis,** Water Quality Data Set
  - **Digital images;** AMAP Project folder
- **Data Availability (classification):** 3 years, 1 sites (5 reps), Day grab (0.1m<sup>2</sup>), 1mm mesh
- **Habitat max values (sub-tidal mud):** 1-(AMBI/7) = 0.78, 1-Lambda' = 0.72, Taxa = 24
- **Boundaries (Intercalibrated NEAGIG):**

Class	Bad	Poor	Moderate	Good	High
<b>IQI</b>	>0.0 ≤0.24	≥0.24 <0.44	≥0.44 <0.64	≥0.64 <0.75	≥0.75

**Results**


Year	Survey	Station	n	Mean	± S.D	Status
2004	ECWMP	SL4	5	0.74	0.01	Good
2005	ECWMP	SL4	5	0.72	0.02	Good
2006	ECWMP	SL4	5	0.75	0.03	High
Overall Mean			3	0.74	0.02	Good

Data confidence: Medium

- Sample analysis QA'd through NMBAQC (Good)
- Database QA'd (Good)
- Single point with 5 replicates rather than spatial coverage
- All data used for classification falls within EUNIS boundaries

**Alien taxa present:**

<i>Eriocheir sinensis</i> (Chinese mitten crab)	Not present
<i>Crepidula fornicata</i> (Slipper limpet)	Not present

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*Strangford South*

**2. VDSI (*Nucella lapillus*)**

Waterbody VDSI assessment:

Good (ND)

- Data store:
- Data availability:

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

Data confidence:

No data

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

### Dissolved Oxygen

**Waterbody DO assessment: HIGH (H)**

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: 2002 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*)
6.63	HIGH	02/08	**	20	22.6%

\* Proportion of possible months for which data are available

\*\*Data Quality

HIGH

- Instruments subject to regular calibration checks and quality assurance programme, but databases not QA'd.
- High - 11 (daily averages) x n (no. of assessment years in reporting cycle)

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### Nutrients – Winter DIN

<b>Winter DIN assessment</b>	<b>High (L)</b>
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- Data store: \\marine on ehslis2k \Water Framework Directive\Nuala-Lesley Nutrients\DIN for Classification\Coastal Water
- Data Availability: 2003 to 2006, DIN & salinity (November to February)
- Data Availability (spot & continuous samples): spot
- N regulation thresholds:

Area	Salinity range	DIN (uM) Winter mean H/G	DIN (uM) Winter mean G/M	DIN (uM) Winter mean M/P	DIN (uM) Winter mean P/B
Coastal (at salinity 32)	30-34.5	12-18	18-30	30-40.5	>40.5


### Results:

Mean Winter DIN (uM) (normalised to salinity 32)	Winter DIN Daily average (n)	No. of samples (n)	No. of sites	Data Years	Data Quality	Status
9.66	9	33	9	2003 - 2006	Database not yet QA'd	High

### Data confidence:

**Low**

- Database not QA'd.

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**ANNEX C: Classification of physico-chemical quality elements: Specific Pollutants (Annex VIII)**

<b>Overall specific pollutants assessment</b>	<b>PASS (L)</b>
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**Annex VIII: Overall Compliance** **PASS (L)**  
**Annex VIII: Pass/Fail** **PASS (L)**

**Classification tools:** Comparison with EQS levels.

**Data Availability:** Shellfish Waters 2002-2007.

**Data confidence:** Low until dedicated WFD data from 2008 is assessed.

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ANNEX VIII	Value						EQS ug/l	Ecological Status
	2002	2003	2004	2005	2006	2007		
111 tri	ND	ND	ND	ND	ND	<0.025	100	GH
112 tri	ND	ND	ND	ND	ND	<0.75	300	GH
24 D	ND	ND	ND	ND	ND	ND		
2 chloro	ND	ND	ND	ND	ND	ND		
4 chloro 3	ND	ND	ND	ND	ND	ND		
ammonia	ND	0.834	0.491	1.04	0.78	ND	21	GH
As	<2	1.225	1.275	1.14	1.42	ND	25	GH
Bentazone	ND	ND	ND	ND	ND	ND		
biphenyl	ND	ND	ND	ND	ND	ND		
boron	ND	ND	ND	ND	ND	ND		
chlorine	ND	ND	ND	ND	ND	ND		
chloronit	ND	ND	ND	ND	ND	ND		
chloronit calc	ND	ND	ND	ND	ND	ND		
Cr	ND	ND	ND	ND	0.11	ND	0.6	GH
Cu	1.058	0.708	0.448	0.58	1.77	ND	5	GH
Cy	ND	ND	ND	ND	ND	ND		
Cyfluthrin	ND	ND	ND	ND	ND	ND		
cyper	ND	ND	ND	ND	ND	ND		
diazinon	ND	ND	ND	ND	ND	ND		
dichlorvos	ND	ND	ND	ND	ND	ND		
dimethoate	ND	ND	ND	ND	ND	ND		
fenitrothion	ND	ND	ND	ND	ND	ND		
Fe	ND	ND	ND	ND	ND	ND		
linuron	ND	ND	ND	ND	ND	ND		
malathion	ND	ND	ND	ND	ND	ND		
Mn	ND	ND	ND	ND	ND	ND		
mecoprop	ND	ND	ND	ND	ND	ND		
permethrin	ND	ND	ND	ND	ND	ND		
phenol	ND	ND	ND	ND	ND	ND		
toluene	ND	ND	ND	ND	ND	ND		
Vn	ND	ND	ND	ND	ND	ND		
xylenes	ND	ND	ND	ND	ND	ND		
Zn	4.646	1.963	0.615	3.41	7.06	ND	40	GH

<b>G</b>	Good
<b>F</b>	Fail
<b>GH</b>	Good or better and is normally treated as high
<b>M</b>	Moderate

	Mean includes LOD data
	Mean based on actual values


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## ANNEX D: Hydromorphological quality elements

<b>Overall hydromorphology assessment:</b>	<b>Good</b>
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**Classification tools:**

1. TRaC Hydromorphology metrics
2. MIMAS

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## ANNEX E: Chemical Status – Annex X Chemicals

<b>Overall water chemistry assessment:</b>	<b>PASS (L)</b>
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<b>Annex X: Overall Compliance</b>	<b>PASS (L)</b>
<b>Annex X: Pass/Fail</b>	<b>PASS (L)</b>

**Classification tools:** Comparison with EQS levels.

**Data Availability:** Shellfish Waters 2002-2007.

**Data confidence:** Low until dedicated WFD data from 2008 is assessed.

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ANNEX X	Value						EQS	Chemical Status	Ecological Status
	2002	2003	2004	2005	2006	2007			
12 Dichloro anthracene	ND	ND	ND	ND	ND	<2	10	G	GH
atrazine	ND	ND	ND	ND	ND	ND			
benzene	ND	ND	ND	ND	ND	ND			
benzo	ND	ND	ND	ND	ND	ND			
benzo a	ND	ND	ND	ND	ND	ND			
Cadmium	0.116	0.019	0.0253	0.040	0.025	ND	0.2	G	GH
Chlorfenvos	ND	ND	ND	ND	ND	ND			
Chlorpyr	ND	ND	ND	ND	ND	ND			
Dichloro	ND	ND	ND	ND	ND	ND			
Diuron	ND	ND	ND	ND	ND	ND			
endosulphan	ND	ND	ND	ND	ND	ND			
floranthene	ND	ND	ND	ND	ND	ND			
hcb	<0.001	<0.001	<0.001	<0.001	<0.001	ND	0.01	G	GH
hcbd	0.0012	<0.002	<0.002	<0.002	<0.002	<0.01	0.1	G	GH
hch	<0.001	<0.001	<0.001	<0.001	<0.001	ND	0.002	G	GH
hch calc	ND	ND	ND	ND	ND	ND			
Hg	<0.05	0.0168	0.0054	0.01	ND	ND	0.05	G	GH
Indeno	ND	ND	ND	ND	ND	ND			
ISP	ND	ND	ND	ND	ND	ND			
Napthalene	ND	ND	ND	ND	ND	ND			
Ni	0.4315	0.3208	0.3238	0.41	0.42	ND	20	G	GH
Nonyl	ND	ND	ND	ND	ND	ND			
Octyl	ND	ND	ND	ND	ND	ND			
Pb	0.4138	0.3808	0.2108	0.156	0.105	ND	7.2	G	GH
pcp	ND	ND	ND	ND	ND	ND			
simazine	ND	ND	ND	ND	ND	ND			
TBT	ND	ND	ND	ND	ND	ND			
TCB	ND	ND	ND	ND	ND	<0.15	0.4	G	GH
TCB calc	ND	ND	ND	ND	ND	ND			
trichloromethane	ND	ND	ND	ND	ND	ND			
trifluralin	ND	ND	ND	ND	ND	ND			

<b>G</b>	Good
<b>F</b>	Fail
<b>GH</b>	Good or better and is normally treated as high
<b>M</b>	Moderate

	Mean includes LOD data
	Mean based on actual values

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	WFD COASTAL WATER BODY CLASSIFICATION Strangford South
	Version Date: 22/12/08
	MARINE ASSESSMENT AND LICENSING TEAM

### ANNEX F: Protected Area Objectives


Water body	Protected area	Designation	Status	Reason for non-compliance
Strangford Lough South	Strangford Lough	SPA	Favourable	
Strangford Lough South	Strangford Lough	SAC	Unfavourable	<i>Modiolus</i> reefs
Strangford Lough South	Strangford Lough	Saltmarsh	Unfavourable	Vegetation composition - indicators of negative change ( <i>Spartina</i> )
Strangford Lough South	Ardmillan SL Ard 3	Shellfish waters	Compliant. Single sample exceedance in cadmium 2002 and copper in 2006. Not repeated.	
Strangford Lough South	Skate Rock SR1	Shellfish waters	Compliant	

#### 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.

#### SAC

Strangford Lough is designated as a Special Area of Conservation under the Habitats Directive. One of the designation features of the Lough is the *Modiolus* (Horse Mussel) reefs. These are in unfavourable condition. Although an 'unfavourable condition' assessment is not an automatic downgrade under WFD, in this case, status has been downgraded because the unfavourable condition relates directly to the ecological structure and function, and therefore status of this waterbody.

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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>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