

North Eastern River Basin Management Plan

Maidens Classification

December 2009




An Agency within the Department of the
Environment
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Northern Ireland
Environment
Agency

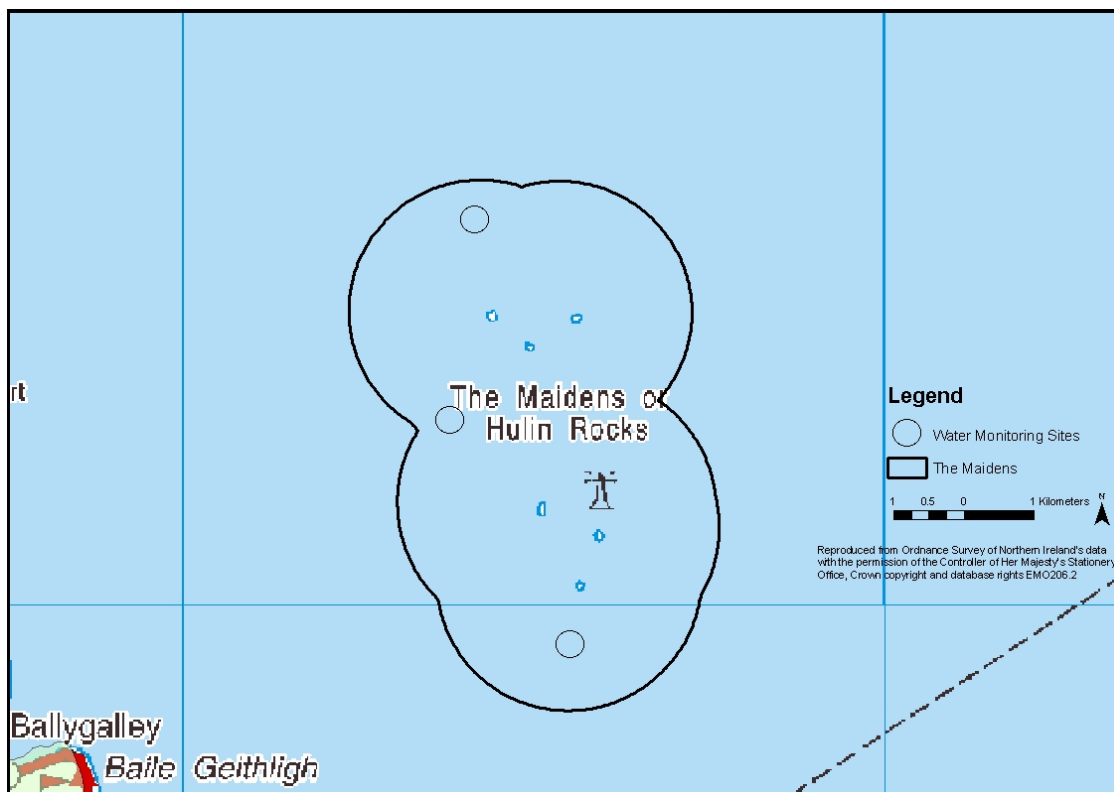
| RIVER BASIN MANAGEMENT PLAN | | |
|---|--|----------|
|  | WFD COASTAL WATER BODY CLASSIFICATION Maidens | |
| | Version Date: | 22/12/09 |
| | MARINE ASSESSMENT AND LICENSING TEAM | |

MAIDENS


Water body Information

- *River Basin District:* North Eastern
- *Water body type:* CW5
- *Water body Code:* UKGBNI6NE040
- *Water body characteristics:* Euhaline, mesotidal, moderately exposed
- *Water body area:* 29.99 km²
- *Heavily Modified Water Body:* No

| | | | |
|--|--------------------------------------|----------------------|--|
| OVERALL WATERBODY CLASSIFICATION | (H/G/M/P/B): (PASS/FAIL): | HIGH PASS | |
| Though there is limited data for this water body it is classified as HIGH as DIN for the surrounding water body is at HIGH status. | | | |




Map showing pressures and monitoring points within Maidens (Coastal Water).

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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 |
| Phytoplankton | Biomass | <input checked="" type="checkbox"/> | Tool not applied in this report. |
| Macroalgae | Opportunistic Macroalgae | <input checked="" type="checkbox"/> | Tool not suitable. |
| | Reduced Species List | <input checked="" type="checkbox"/> | Tool not applied in this report. |
| Angiosperms | Seagrass | <input checked="" type="checkbox"/> | Tool not suitable. |
| | Saltmarsh | <input checked="" type="checkbox"/> | Tool not suitable. |
| Benthic Invertebrates | Infaunal Quality Index | <input checked="" type="checkbox"/> | Tool not applied in this report. |
| | Imposex | <input checked="" type="checkbox"/> | Tool not suitable. |
| Fish | Transitional Fish Classification Index | | |
| Physico-chemical | -Dissolved Oxygen | ✓ | |
| | -Nutrients | <input checked="" type="checkbox"/> | |
| | Specific Pollutants (Annex VIII substances) | <input checked="" type="checkbox"/> | |
| Hydromorphological Quality Elements | SEPA Rapid Designation | ✓ | |
| | TraC MIMAS | ✓ | |
| Chemical Status | | | |
| Priority Hazardous Substances | Annex X substances | <input checked="" type="checkbox"/> | |

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Waterbody Classification

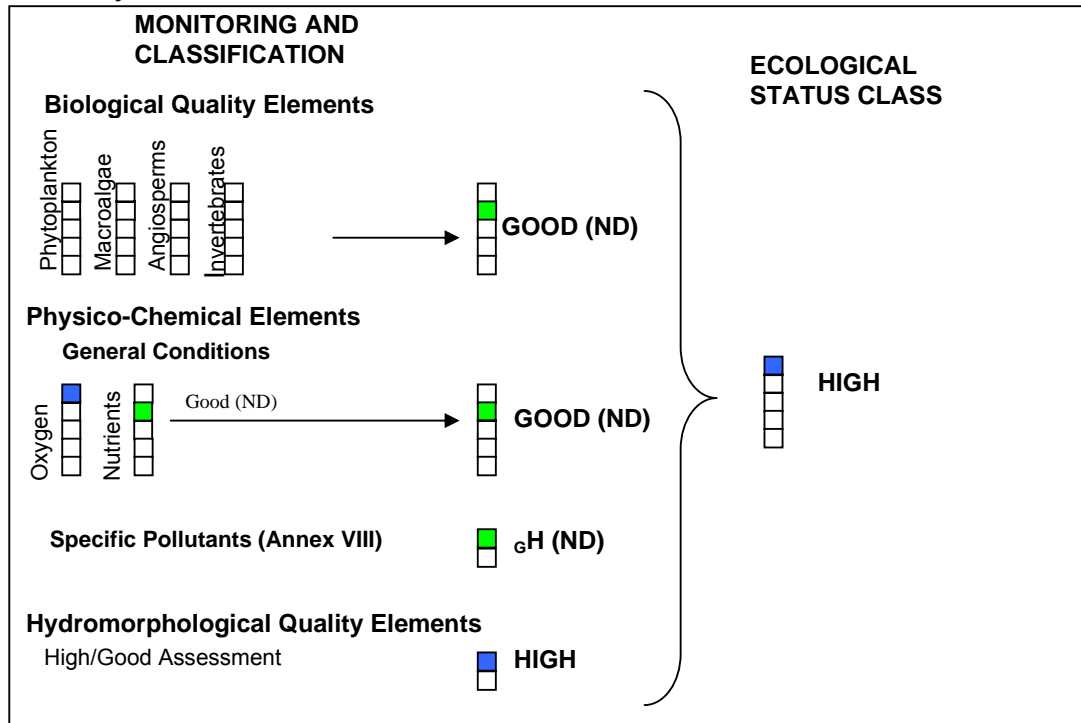


Figure showing ecological classification of Maidens (Coastal Water)

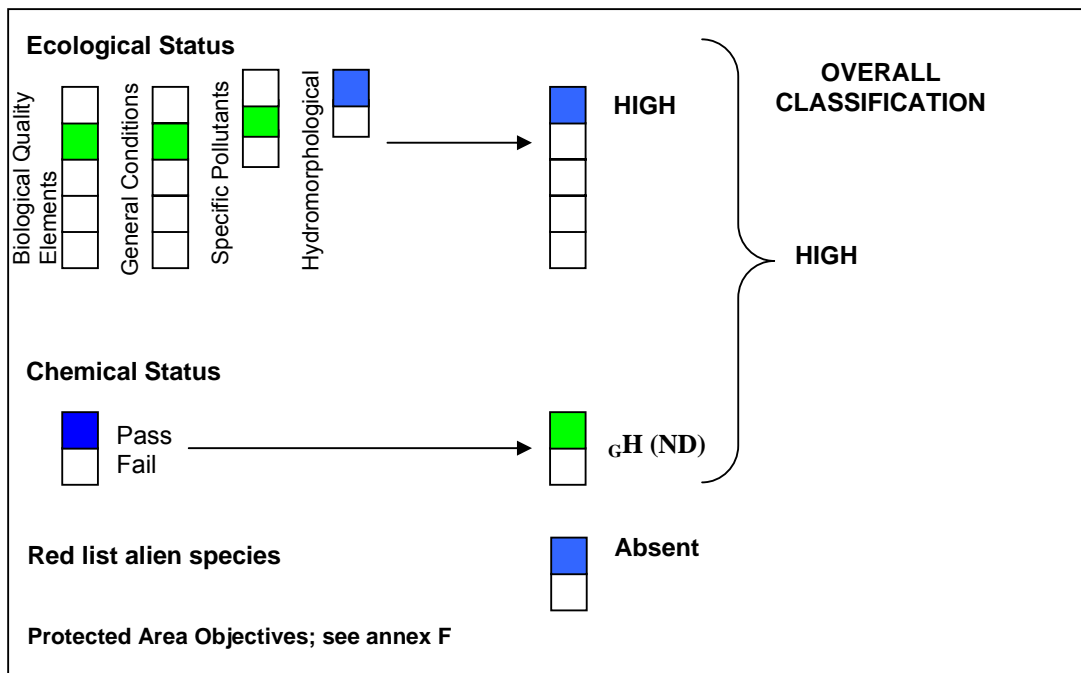



Figure showing overall classification of Maidens (Coastal Water)


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First River Basin Cycle (2004 – 2008)

Monitoring Level: Surveillance

Sampling frequency for each quality element

| QUALITY ELEMENT | | Year (if 1 in 3 yrs) | No. of sites |
|--|------------------------|-------------------------|--------------|
| Biological | | | |
| Phytoplankton | | ND | |
| Macroalgae | Reduced Species List | ND | |
| | MBT | n/a | |
| Angiosperms | Seagrass | n/a | |
| Benthic Invertebrates | Infaunal Quality Index | n/a | |
| | Imposex | n/a | |
| Physico-chemical | | | |
| Nutrients | | ND | |
| Dissolved Oxygen | | 2008 | 3 |
| Specific polluting substances (Annex VIII) | | ND | |
| Hydromorphology | | ND | |
| Water chemistry | | | |
| (Annex X) | | ND | |


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QE: Phytoplankton: GOOD (No data)

QE Macroalgae assessment: GOOD (No data)

QE: Angiosperms Maidens – tool not applicable

QE: Benthic Invertebrates - GOOD (No data)

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

Dissolved Oxygen

| | | |
|---------------------------------------|----------|--|
| Dissolved oxygen (+ data confidence): | HIGH (M) | |
|---------------------------------------|----------|--|

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:** 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*) |
|------------------|--------|------------|--------------|-----------------------|--|
| 7.85 | HIGH | 2008 | ** | 1 | 11.1% |

* 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)

Nutrients – Winter Dissolved Inorganic Nitrogen - Good (ND)


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

| | | |
|---|------------------|--|
| Specific pollutants assessment (+data confidence) | gH (ND) | |
|---|------------------|--|

Classification tools: Comparison with EQS levels.

Data availability: No Data


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ANNEX D: Hydromorphological quality elements

| | | |
|------------------------------------|------|--|
| Overall hydromorphology assessment | HIGH | |
|------------------------------------|------|--|

Classification tools:

1. TRaC Hydromorphology metrics
2. MIMAS


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ANNEX E: Chemical Status – Annex X Chemicals

| | | |
|---|---------|--|
| Specific pollutants assessment (+data confidence) | cH (ND) | |
|---|---------|--|

Classification tools: Comparison with EQS levels.

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

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ANNEX F: Protected Area Objectives


| Water body | Protected area | Designation | Status | Reason for non-compliance |
|------------|----------------|--------------|---------------------------|---------------------------|
| Maidens | Maidens | Proposed SAC | (likely to be favourable) | |

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: Red List Alien Species

No red list alien species are known from this water body.

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Glossary

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

Northern Ireland Environment Agency
17 Antrim Road
Lisburn
BT28 3AL

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