

RIVER BASIN MONITORING PLAN

# WATER FRAMEWORK DIRECTIVE 2<sup>ND</sup> CYCLE CLASSIFICATION SUMMARY

2015-2021

Transitional Heavily Modified Water body  
– Quoile Pondage

31/05/2015



An Agency within the Department of the  
**Environment**  
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|   | <p><b>Version Date:</b> 31/05/2015</p>                                      |
|   | <p><b>MONITORING &amp; ASSESSMENT TEAM</b></p>                              |

### **QUOILE PONDAGE (TRANSITIONAL WATER)**

Water body Information

- River Basin District: NE
- Water body type: Transitional Water 2 (TW2)
- Water Body Code: UKGBNI5NE130010
- Water body characteristics: Partly mixed/stratified, mesotidal, sand and mud, mesohaline
- Water body area: 0.59 km<sup>2</sup>
- Heavily Modified Water Body: Yes
- 2021 Classification Objective: Moderate Ecological Potential

|                            |                                      |                                 |             |
|----------------------------|--------------------------------------|---------------------------------|-------------|
| <b>2015 CLASSIFICATION</b> | <b>MODERATE ECOLOGICAL POTENTIAL</b> | <b>PASS/FAIL 2021 OBJECTIVE</b> | <b>PASS</b> |
|----------------------------|--------------------------------------|---------------------------------|-------------|

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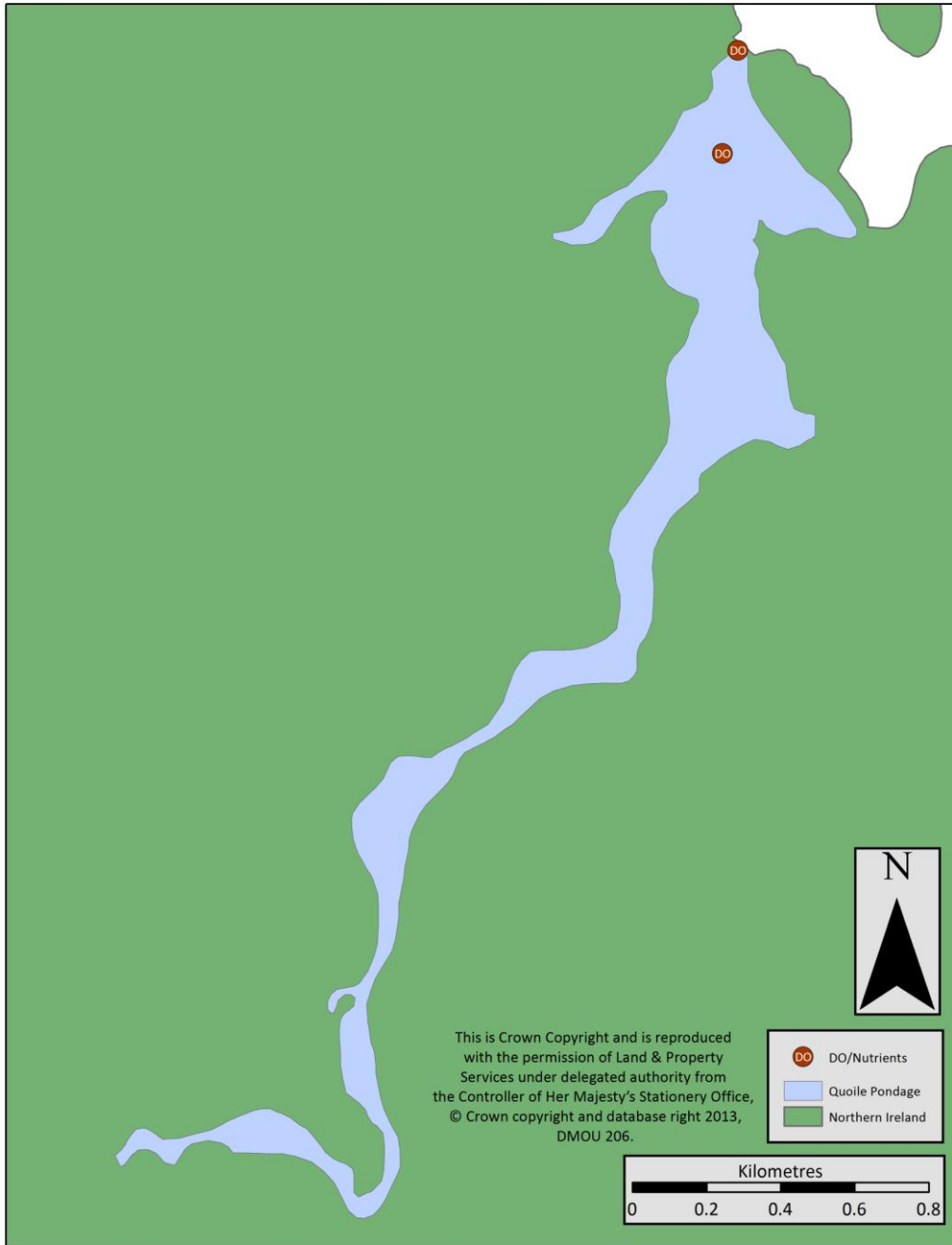


Figure 1: Waste water treatment pressures and monitoring points within Quoile Pondage (Transitional Water).

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Table 1: Parameters for which classification systems are available and have been used in the previous 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                        |
| <b>Plants</b>                                  | <b>Macro Algae</b>                              |                                     |                                |
|  | - <i>Opportunistic Macroalgae</i>               | <input checked="" type="checkbox"/> | Tool not applicable            |
|  | - <i>Reduced Species List</i>                   | <input checked="" type="checkbox"/> | Tool not applicable            |
|  | <b>Angiosperms</b>                              | <input checked="" type="checkbox"/> | Tool not applicable            |
|  | <b>Phytoplankton</b>                            | <input checked="" type="checkbox"/> | Tool under development         |
| <b>Benthic Invertebrates</b>                   | <b>Infaunal Quality Index</b>                   | <input checked="" type="checkbox"/> | Tool under development         |
|  | <b>Imposex</b>                                  | <input checked="" type="checkbox"/> | Tool not applicable            |
| <b>Fish</b>                                    | <b>Transitional Fish Classification Index</b>   | <input checked="" type="checkbox"/> | No data available              |
| <b>Physico-Chemical</b>                        | <b>General Conditions</b>                       |                                     |                                |
|  | - <i>Dissolved Oxygen</i>                       | ✓                                   |                                |
|  | - <i>Nutrients</i>                              | <input checked="" type="checkbox"/> | Tool not applicable (salinity) |
|  | <b>Specific Pollutants</b><br>(Annex VIII subs) | ✓                                   |                                |
| <b>Hydromorphological Quality Elements</b>     | SEPA Rapid Designation                          | ✓                                   |                                |
|  | TraC MIMAS                                      | ✓                                   |                                |
| Chemical Status                                |   |                                     |                                |
| <b>Priority Hazardous Substances</b> (Annex X) | Annex X Substances                              | ✓                                   |                                |

Table 2: Sampling frequency for each quality element.

Monitoring Level: *Surveillance*

| Quality Elements                      | Data years contributing to classification | No. of sites/samples |
|---------------------------------------|---|----------------------|
| <b>Physio-chemical</b>                |   |                      |
| Nutrients                             | TNA                                       |                      |
| Dissolved Oxygen                      | 2006-2010                                 | 253 daily averages   |
| Specific Pollutants (Annex VIII subs) | 2008-2009                                 |                      |
| <b>Hydromorphology</b>                | 2007                                      |                      |
| <b>Chemical Status (Annex X)</b>      |   |                      |
| Priority Hazardous Substances         | 2008-2009                                 |                      |

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| Biological Quality Elements             |   |                 |  |             |               |      |                    |  |  |  |
|---|---|-----------------|--|-------------|---------------|------|--------------------|--|--|--|
| Flora                                   |   |                 |  |             | Fauna         |      |                    |  |  |  |
| Phytoplankton                           |   | Macroalgae      |  | Angiosperms | Benthos       | Fish | Biological Quality |  |  |  |
|   |   |                 |  |             |               |      |                    |  |  |  |
|   |   |                 |  |             |               |      |                    |  |  |  |
|   |   |                 |  |             |               |      |                    |  |  |  |
| Physico-chemical Elements               |   |                 |  |             |               |      |                    |  |  |  |
| General conditions                      |   |                 |  |             |               |      |                    |  |  |  |
| Oxygen (DO)                             | M | Nutrients (DIN) |  | Status      | M             |      |                    |  |  |  |
|   |   |                 |  |             |               |      |                    |  |  |  |
|   |   |                 |  |             |               |      |                    |  |  |  |
| Specific pollutants (Annex VIII)        |   |                 |  |             |               |      |                    |  |  |  |
|   |   |                 |  | Status      | H             |      |                    |  |  |  |
|   |   |                 |  |             | G             |      |                    |  |  |  |
| Hydromorphological Quality Elements     |   |                 |  |             |               |      |                    |  |  |  |
|   |   |                 |  | Status      | GEP           |      |                    |  |  |  |
|   |   |                 |  |             |               |      |                    |  |  |  |
| Chemical Status                         |   |                 |  |             |               |      |                    |  |  |  |
| Priority hazardous substances (Annex X) |   |                 |  |             |               |      |                    |  |  |  |
|   |   |                 |  | Status      | Good          | P    |                    |  |  |  |
|   |   |                 |  |             | Fail          |      |                    |  |  |  |
| High Impact Invasive Species            |   |                 |  |             |               |      |                    |  |  |  |
|   |   |                 |  | Status      | None recorded |      |                    |  |  |  |
|   |   |                 |  |             | Established   |      |                    |  |  |  |
|   |   |                 |  |             | Impacting     |      |                    |  |  |  |


  

| Ecological Status |          |
|-------------------|----------|
|                   | High     |
|                   | Good     |
| MEP               | Moderate |
|                   | Poor     |
|                   | Bad      |

| Surface Water Status |          |
|----------------------|----------|
|                      | High     |
|                      | Good     |
| MEP                  | Moderate |
|                      | Poor     |
|                      | Bad      |

Figure 3: Overall classification of Quoile Pondage (Transitional Water)

|   |  |                      |          |
|---|--|----------------------|----------|
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### **ANNEX A: Classification of Biological Quality Elements**


**QE: Phytoplankton** – tool not applicable/ tool under development

**QE Macrophytes:** – tool not applicable/ tool under development

**QE Angiosperms:** – tool not applicable

**QE: Benthic Invertebrates** – tool under development

**QE: Transitional Fish** – no data available

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

### QE: Dissolved Oxygen

|  |              |  |
|--|--------------|--|
| Dissolved oxygen assessment (+ data confidence): | MODERATE (M) |  |
|--|--------------|--|

**Classification tools:** Comparison of 5% ile against reference standards

- **Data Store:** [..\DO FIELD VALUES 2013 update.xls](#)
- **Data Availability:** 2006 – 2010.
- **Data Source (spot & continuous samples):** Spot & Continuous.

### 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*) |
|------------------|----------|-------------|--------------|-----------------------|--|
| 2.94             | Moderate | 2006 - 2010 | **           | 253                   | 48.94%   |

\* Proportion of possible months for which data are available

**QE: Nutrients – N regulation** – NO DATA.

|   |  |                      |          |
|---|--|----------------------|----------|
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**ANNEX C: Classification of physico-chemical quality elements: Other specific Pollutants**

|  |                  |   |
|--|------------------|---|
| <b>Specific pollutants assessment (+data confidence)</b> | <b>GOOD/HIGH</b> |  |
|--|------------------|---|

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

**Data Availability:**


Herbicides 2008 & 2009  
 Marine BTEX 2008 & 2009  
 Marine WFD monitoring 2008  
 Marine Volatiles 2008

[G:\MARINE\Water Framework Directive\WFD ANNUAL CLASSIFICATION UPDATE 2012\Chemical Classification Results 2012](#)


**Data confidence:** Low – all below LOD or less than EQS

No Ammonia Data



|   |  |                      |          |
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**ANNEX D: Hydromorphological quality elements**

|   |                 |   |
|---|-----------------|---|
| <b>Overall hydromorphology assessment</b> | <b>HMWB-GEP</b> |  |
|---|-----------------|---|

Classification tools:

1. TRaC Hydromorphology metrics
2. MIMAS

Moderate ecological potential due to modifications to hydromorphology.

|   |   |
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**ANNEX E: Chemical Status – Annex X Chemicals**

|   |             |  |
|---|-------------|--|
| <b>Priority hazardous substances (+data confidence)</b> | <b>GOOD</b> |  |
|---|-------------|--|

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

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

**Data Availability:**

Herbicides 2008 & 2009  
 Marine BTEX 2008 & 2009  
 Marine WFD monitoring 2008  
 Marine Volatiles 2008

[G:\MARINE\Water Framework Directive\WFD ANNUAL CLASSIFICATION UPDATE 2012\Chemical Classification Results 2012](#)

**Data confidence:** Low – all below LOD or less than EQS

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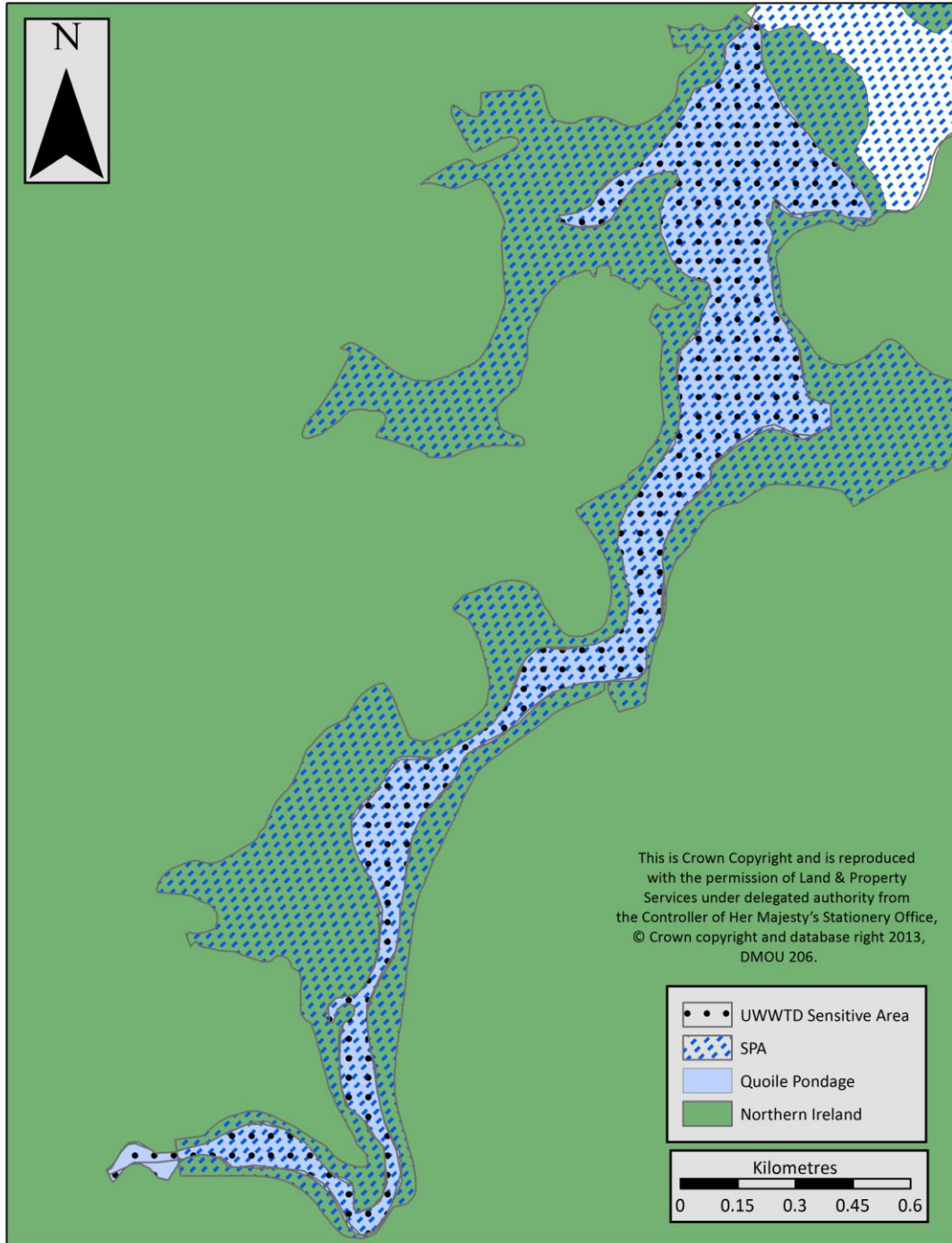


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ANNEX F: Protected Areas



Protected areas within Quoile Pondage (Transitional Water).

|   |   |
|---|---|
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The following Protected Areas are situated either wholly or partly within the Quoile Pondage water body:

**Natura 2000 sites (Habitats Directive and Birds Directive):**

| Site Name            | 2014 Condition Status | Designated Water Dependant habitat/species   | Feature(s) not meeting objective | Reason for not meeting objective |
|----------------------|-----------------------|--|----------------------------------|----------------------------------|
| Strangford Lough SPA | Favourable            | Bar tailed Godwit;<br>Golden plover;<br>Knot;<br>Light bellied brent goose;<br>Redshank;<br>Shell duck;<br>Water bird assemblage | None                             | n/a                              |

**Nitrates Directive/ Urban Waste Water Treatment Directive Sensitive Areas:**

- Quoile Pondage UWWTD Sensitive Area

|   |   |
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### ANNEX G: High Impact Invasive Species

|  |  |                |
|--|--|----------------|
| QE High Impact Invasive Species assessment |  | <b>NO DATA</b> |
|--|--|----------------|

#### Ecoregion 17 Marine High Impact Invasive Species List


| Phylum              | Species                    | P | E | I | Record |
|---------------------|----------------------------|---|---|---|--------|
| <i>Chordata</i>     | <i>Didemnum spp.</i>       |   |   |   |        |
| <i>Chordata</i>     | <i>Styela clava</i>        |   |   |   |        |
| <i>Crustacea</i>    | <i>Eriocheir sinensis</i>  |   |   |   |        |
| <i>Mollusca</i>     | <i>Crassostrea gigas</i>   |   |   |   |        |
| <i>Mollusca</i>     | <i>Crepidula fornicata</i> |   |   |   |        |
| <i>Phaeophyceae</i> | <i>Sargassum muticum</i>   |   |   |   |        |
| <i>Angiosperms</i>  | <i>Spartina anglica</i>    |   |   |   |        |

P= Present; E= Established; I= Impacting

NB Established populations of high impact species automatically downgrade overall surface water classification from 'high' to 'good'.

Record should be inputted as follows. PO= personal observation outside of surveys; W= WFD survey; M= museum / institute records.

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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 X</b>      | Annex 10 Priority Hazardous Substances                                |
| <b>Annex VIII</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   |