River Basin Management Plans

The Process for designating transitional and coastal heavily modified water bodies

December 2009

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NIEA Northern Ireland Environment Agency
www.ni-environment.gov.uk

THE PROCESS FOR DESIGNATING HEAVILY MODIFIED WATER BODIES - MARINE

In accordance with Article 4 (3), the Water Framework Directive (WFD) allows Member States to identify surface water bodies which have been physically altered by human activity as "heavily modified" under specific circumstances. If the uses of such water bodies (e.g. navigation, port or harbour, or flood defence) would be significantly affected by the mitigation measures required to achieve good ecological status and if no other better environmental options exist, then these water bodies can be designated as "heavily modified" and good ecological potential is set as an environmental objective.The principal objective for such water bodies is to aim to achieve good ecological 'potential' by 2015.

There are five classes of ecological potential defined in the WFD. The classes are defined in terms of how much the ecological quality of such water bodies deviates from the best that could be achieved (i.e. the maximum ecological potential) without putting in place mitigation (relating to the modified or artificial physical characteristics) that would have a significant adverse effect on the relevant use or on the wider environment.

For the purposes of determining whether a heavily modified water body is at good or maximum ecological potential, NIEA cannot simply apply the normal standards and condition limits for hydromorphological quality elements or biological indicators that are sensitive to hydromorphological alterations. This is because a failure of these standards and condition limits would not necessarily mean that a water body was failing to achieve good or even maximum ecological potential. Instead, if all mitigation that could be taken to address the adverse ecological effects of a body's modified or artificial characteristics has been taken, NIEA would:

(a) Classify the body's hydromorphological characteristics as being sufficient to enable the achievement of good or maximum ecological potential; and

(b) Consider that provided no other pressures (e.g. discharges) on the water body are causing a failure of any of the standards or condition limits for 'good', classify the water body is achieving good or maximum ecological potential.

The classification of the ecological potential of heavily modified and artificial water bodies requires identification and assessment of the following:

The modifications and artificial characteristics of the water body concerned that are preventing the achievement of good ecological status;

The mitigation measures already taken in relation to those characteristics and whether they adequately mitigate the identified impacts; and whether there are other mitigation measures which could be put in place without significant adverse effects on the use or uses, or on the wider environment.

To make the case for designation, evidence is required that:

(a) Making the hydromorphological improvements necessary to achieve good status would have a significant adverse effect on the wider environment or on a specified water use;

AND

(b) For reasons of technical feasibility or disproportionate cost, there is no significantly better environmental option to reasonably achieve the benefits provided by the modifications.

NIEA employed a combination of methods including expert judgement to assess the status of 27 transitional and coastal waters of which 2 of 20 coastal, and 6 of 7 transitional water bodies have been identified as heavily modified.

1. The Scottish Environment Protection Agency (SEPA) Rapid Designation Technique for provisional Heavily Modified Water Bodies (pHMWBs). The waterbodies used in this process were those which were designated as provisionally heavily modified under the Article 5 Characterisation Process. The SEPA method covers four areas which are to be considered when determining whether a water body should be heavily modified.

- The wider environment
- The purposes for which water is stored
- The functioning of ports and harbours
- Urban residential and commercial land uses

2. The Morphological Impact Assessment System (MImAS) tool provides a means of undertaking transparent and consistent assessments of new (and existing) engineering activities in TRaC waters. The tool is used to screen out minor activities and identify proposals that would potentially risk WFD classification objectives.

Application of this combination of methods and expert judgement resulted as follows.

Coastal waters identified as Heavily Modified Water Bodies.

Larne Lough North (HMWB) NERBD
Belfast Harbour (HWMB) NERBD

Transitional waters identified as Heavily Modified Water Bodies

Bann Estuary (HMWB) - NB IRBD
Foyle and Faughan (HMWB) NWRBD
Lagan Estuary (HMWB) NERBD
Connswater (HMWB) NERBD
Quoile Pondage (HMWB) NERBD
Newry Estuary (HMWB) NERBD

A proportion of the work in this assessment was carried out as part of the NS SHARE project, which was funded by the European Union INTERREG IIIA programme for Ireland/Northern Ireland.

The Transitional and Coastal Morphology Impact Assessment System (TraC MImAS) was developed through a UK and Ireland collaborative project led by SEPA. The Project Team was involved in developing the tool to ensure it suits NIEA requirements through their participation in the TraC Morphology Project Steering Group and also provided input through technical reviews and trialling through the TraC MImAS Technical Panel.

The NS Share Project Team also applied the Scottish Environment Protection Agency (SEPA) Rapid Designation Technique for provisional Heavily Modified Water Bodies (pHMWBs) in Northern Ireland. The waterbodies used in this process were those which were designated as provisionally heavily modified under the Article 5 Characterisation

Summary documents can be accessed at: http://www.nsshare.com/

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