

SOUTH WESTERN RIVER BASIN DISTRICT
PROGRAMMES OF MEASURES & STANDARDS

OVERALL SUMMARY REPORT

**HEAVILY MODIFIED WATER BODIES AND
ARTIFICIAL WATER BODIES**



South Western River Basin District Project Office
5 Eastgate Avenue,
Little Island
Co. Cork

Job Nr. : A8906

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1.0 Introduction

This report has been prepared by the SWRBD Heavily Modified and Artificial Water Body Programme of Measures and Standards (POMS) Study as a record of the study context, objectives, tasks completed and deliverables to the POMS Co-Ordination Group and RBD Projects for inclusion in draft River Basin District Management Plans (RBMPs) (December 2008).

2.0 Background

2.1 Study Context

The defined terms 'Heavily Modified Water Body' and 'Artificial Water Body' were introduced by the Water Framework Directive.

WFD Article 2 – Definitions

'Artificial water body' means a body of surface water created by human activity.

'Heavily modified water body' means a body of surface water which as a result of physical alterations by human activity is substantially changed in character, as designated by the Member State in accordance with the provisions of Annex II.

Article 4(3) is the main reference text in the Directive setting out the designation criteria. Criteria take the form of two 'designation tests'; the restoration measures test (applicable to HMWB only) and the alternative means test (applicable to HMWB and AWB).

Annex II, (referred to in the definitions) first lists HMWB and AWB in connection with instruction to Member States to identify and map rivers, lakes, coastal and transitional water bodies and, later, alongside the instruction to monitor water bodies (Annex II, 1.4.1 (i)).

Ecological Quality Objectives

Instead of 'good ecological status' (GES), the environmental objective for HMWB and AWB is good ecological potential (GEP) which has to be achieved by 2015. For designated water bodies, the reference condition values against which GEP is set are required to be reviewed every 6 years. (Annex II, 1.3 (ii)) Good chemical status must be achieved by all water bodies.

For both surface water bodies not capable of achieving GES by 2015 and for designated HMWB and AWB not capable of achieving GEP by 2015, Article 4(4) or Article 4(5) derogations may be applied i.e. Less Stringent Objectives and extension of deadlines.

Guidance

Designation of HMWB and AWB is optional. Where an altered or created water body is judged capable of achieving GES, it is not mandatory to designate it as HMWB or AWB. It may be treated as a 'natural' surface water body and assigned any necessary measures towards reaching that objective, if it is not already met. Where the achievement of GES is precluded specifically due to hydromorphological alteration the option to designate is available to Member States.

Where designation is opted for, the Common Implementation Strategy (CIS) prepared the following on the topic of HMWB & AWB designation towards consistency in the approach across Member States:

- Synthesis Report on the identification and designation of HMWBs.
- Guidance Document on identification and designation of HM & AWB.
- Toolbox on identification and designation of HM & AWB.
- Policy summary to the HMWB & AWB Guidance document.

Key principles highlighted in CIS guidance underpinning the approach developed and applied in the Republic of Ireland include:

- Designation is intended to be applied to *major infrastructural projects* associated with the listed specified uses
- Water bodies must be *substantially changed* in character because of hydromorphological alteration. The change in character must be extensive/widespread or profound.
- *Temporary or intermittent* substantial hydrological changes are *not* to be interpreted as substantial changes in character
- Typically, hydromorphological alteration means hydrological *and* morphological change
- The substantial change in character must be the result of *specific uses* listed in the Directive.
- The designation of HMWBs is an *iterative process*. Suspected HMWB and AWB which were, possibly, mistakenly not designated in the first RBMP can be put through the designation tests for the second cycle, provided they have not deteriorated. Similarly, in future planning cycles existing HMWB and AWB can be "de-designated".

The above principles have been adopted in the Irish approach to the identification of candidates through to the decision on their proposal for designation in the draft RBMPs.

2.2 Characterisation –for the Article 5 Report - 2005

The identification of provisional HMWB and AWB (pHMWB and pAWB) was completed as part of the characterisation process required under Article 5 and Annex II. Reporting on characterisation was required in March 2005

HMWB

High-level screening for candidates referenced the outputs of the Morphological risk assessment and the hydrological risk assessment initially. Water bodies identified as 1a: At Risk by either or both assessments were collated.

Pressures examined by the morphological and hydrological risk assessments across the surface water categories were:

- Morphological: channelisation, dredging and river straightening, flood protection and embankments, impounding, water regulation; and intensive land use
- Hydrological: abstractions, flow regulation.

Water bodies screened by the above assessments as candidates were reviewed by a panel of National experts (including EPA biologists, Fisheries Boards staff, Office of Public Works personnel etc) in order to identify water bodies judged to be incapable of achieving GES due to physical modifications. Interpretation of CIS Guidance on the intention of the designation eliminated certain pressures from meriting HMWB candidature. Monitoring data providing evidence of good status achievement in some 'modified' water bodies eliminated a number of water bodies from candidature also.

Thirty seven pHMWB were reported in Ireland's Article 5 Initial Characterisation Report.

AWB

As canal and reservoir creation has taken place over Ireland's history to serve a variety of purposes, no comprehensive dataset of AWB existed centrally for reference in the identification of candidates.

Within the clear definition of 'artificial' provided by the EPA, the generation of a national dataset relied on a number of sources such as map and aerial imagery searches, field visits, collation of list held by Waterways Ireland, the Inland Navigation association of Ireland and through public consultation. This was driven at an RBD level. The draft list was published in the draft National Article 5 Characterisation report (December 2004).

Comment and input was invited with any additional cases added to the list for inclusion in the final report in March 2005.

Thirty seven pAWB were reported in Ireland's final Article 5 Initial Characterisation Report.

Table 1: Provisional identification of artificial and heavily water bodies – Article 5

TYPE	ERBD	SERBD	SWRBD	SH		NW		NB		Total
				IRBD	WRBD	IRBD	IRBD			
pHMWB	14	4	5	8	0	6	0		37	
pAWB	5	7	1	21	2	0	1		37	

4.0 Further Characterisation – for the draft RBMP - 2008

4.1 Establishment of a Further Characterisation Study

Following Article 5 Characterisation, a study specification was prepared by the Programme of Measures (POMS) & Standards Co-ordination Group (PCG) in respect of work required for the further characterisation of pHMWB and pAWB to prepare for the RBMP. Responsibility for the execution of the study was assigned to the SWRBD; the programme commenced in May 2006.

Steering Group

The Steering Group comprised representatives from the following bodies and entities, as agreed by the PCG, with some joining the group towards the latter stages of the study, as the work programme dictated:

- Department of Environment, Heritage & Local Government
- Environmental Protection Agency
- Department of Agriculture, Fisheries & Food
- Central Fisheries Board
- Northern Ireland Environment Agency
- Environment Agency
- Waterways Ireland
- Office of Public Works
- Electricity Supply Board
- Port of Cork
- Dublin Port
- Freshwater Morphology POMS Study
- SWRBD Project Co-Ordinator (Cork County Council)
- HMWB & AWB POMS Study Team (SWRBD)

4.2 HMWB & AWB POMS Study Methodology

The study was progressed on the basis of 5 work packages as set out in the study Terms of Reference.

- Work Package 1: Literature Review and Bench Marking
- Work Package 2: Data collection & selection of test cases
- Work Package 3: Development of Protocols for Test Cases
- Work Package 4: National Application
- Work Package 5: Support MEP/GEP

An additional work package was appended to the scope and approved by the PCG in October 2006.

- Work Package 6: Further Characterisation of Canals

Work Package 1: A review of available literature was undertaken to establish the extent of current research and inform the development of the Irish approach to achieve the study objectives. A benchmarking review was completed to appraise other Member States' approaches with particular focus on UK-TAG, developments. This served to ensure consistency and also to provide a rationale for any identified differences in approaches.

A report was prepared collating the findings of the literature and benchmarking reviews. Version 1 of the report was approved early in the study programme. It was maintained as a live document for the duration of the study and updated with new information as it became available, culminating in the preparation of Version 2 approved at the last meeting of the study Steering Group.

Work package 2: All pHMWBs and pAWB required examination to check that the criteria for designation were met. Information was gathered, initially, from the RBD projects to group pHMWBs according to specified use.

Table 2: pHMWBs grouped according to specified use

Specified Use	No of Water Bodies
Ports	10
Drinking Water Supply	9
Power Generation	7
Flood Protection	6
Power Generation & Drinking Water Supply	4
Other (water body impounded by railway)	1

For each specified use, a pilot pHMWB case was selected for detailed examination. One canal AWB was also selected. As there were only 2 reservoirs on the pAWB list, their individual examination was possible.

Table 3: Pilot cases selected as test cases for detailed examination

	Specified Use	Name of Test case
1	Ports & related activities	Port of Cork (SWRBD)
2	Hydropower	Lough Derg Lower (Ardnacrusha) (ShRBD)
3	Flood protection - urban	Fergus Tidal Barrage (ShRBD)
4	Flood protection - rural	Feale & Cashen Estuaries (ShRBD)
5	Drinking water - abstraction	Lough Salt (NWRBD)
6	Drinking water - impoundment	Vartry River Impoundments (ERBD)
7	Canals	The Grand Canal Main Line (ShRBD)

Work Package 3. The protocol for examination of test cases followed the steps set out in CIS guidance for the application of the two designation tests. The following questions were asked of each test pHMWB and pAWB:

Step 7: Restoration measures Test	
7.1	Identification of “restoration measures” to achieve GES. Is the physical alteration connected to a current “specified use”?
7.2	Would the restoration measures have significant adverse effects on the “specified uses”?
7.3	Would the “restoration measures” have significant adverse effects on the wider environment?

Step 8: Alternative Means Test	
8.1	Are there “other means” of providing the beneficial objectives served by the physical alteration?
8.2	Are these “other means” technically feasible?
8.3	Are these “other means” a better environmental option?
8.4	Are these “other means” disproportionately costly?
8.5	Will the “other means” allow the achievement of GES? Is the failure to achieve GES caused by physical alterations?

Key decision points in the examination of test cases determining suitability for designation were identified and their applicability to other cases considered and recorded. A 'Test case Report' was prepared for each.

Test case particulars were also examined according to the UK TAG decision trees. The Decision trees were designed for the rapid assessment of pHMWB cases to distinguish between cases which are clear cut for designation and those requiring further study.

Work Package 4: Application of the approach developed in work package 3 through the test cases to all other pHMWBs on the National list was undertaken according to specified use. Where a decision to designate (or not designate) a test case was based on circumstances found to also occur in other pHMWBs with the same use, the same decision was extended. Enough information was gathered to support the decisions reached. The entire roll-out process is recorded in the National Application Report which includes, as an appendix, the compiled test case reports. (Available from the SWRBD project or on <http://www.nsshare.com/pomstracker/>)

Work Package 5: Support was provided to the EPA in the setting of Ecological Potential standards under the guidance of the National Surface Water Status Group. The UK TAG approach to classification and the identification of measures for HMWB was trialled and subsequently applied to all cases on the list. A final Ecological Potential class was determined for each HMWB. Appropriate measures towards the achievement of Good Ecological Potential were identified, where required, in consultation with the main stakeholders.

Work Package 6: work undertaken to further characterise canals was steered by the National Canals Group, comprising representatives of the EPA, Waterways Ireland, the Central Fisheries Board and the HMWB & AWB POMS Study. A check was undertaken of all canals reported in the Article 5 Characterisation report for consistency. Any canals reported but subsequently found to not hold water were removed from the list. Additions were made where there had been canals omitted. Unique codes were assigned where there had been none. All edits were collated to an update the National GIS AWB layer.

4.3 POMS Study Outputs and Deliverables

The final approved decisions with regard to designations are tabulated in the two pages that follow. Water body details, the associated specified use and referenced test cases are indicated.

Table 4: Colour key to test cases highlighted in spreadsheet, below:

Test Case No.	Specified Use	Case name
Test Case 1	Ports	Port of Cork
Test Case 2	Hydropower	Ardnacrusha
Test Case 3	Flood Protection - Urban	Fergus Tidal Barrage
Test Case 4	Flood Protection - rural / agricultural	Feale & Cashen estuaries
Test Case 5	Drinking water supply - modified lake	Lough Salt
Test Case 6	Drinking water supply - modified river system	Vartry River System

Table 5: Record of designation decisions approved by the POMS Study Steering Group for all pHMWBs.

No	Category	ID	WB Name	use	Test case or relevant TC	Decision
1	River	EA_09_1507	EA_Santry166_Santry1	flood protection	Ref: Test Case 3	Designate
2	River	EA_09_1656	EA_Liffey168_Dodder2_Mid	drinking water supply	Ref: Test Case 6	Do not Designate
3	River	EA_09_1870	EA_Liffey168_Liffey1_Lower	power generation & drinking water supply	Ref: Test Case 2 & 6	Do not Designate
4	River	EA_10_1334	EA_Vartry170_Vartry3	drinking water supply	Test Case 6	Designate
5	River	EA_10_1471	EA_Vartry170_Vartry2	drinking water supply	Test Case 6	Do not Designate
6	River	SE_15_1269	SE_NoreMain_Breaghagh_Lower	protection of wider environment	Unique Case	Designate
7	River	SH_27_1122_1	SH_Fergus_FergusMAIN_1Lower	flood protection	Test Case 3	Designate
8	River	SH_27_1118_1	SH_Fergus_Spancelhill_1	flood protection	Test Case 3	Designate
9	River	NW_38_4124	NW_Clady23_Clady1	power generation	Ref: Test Case 2	Do not designate
10	Lake	EA_09_68	Glenasmole Reservoir lwr	drinking water supply	Ref: Test Case 6	Designate
11	Lake	EA_09_70	Glenasmole Reservoirs upr	drinking water supply	Ref: Test Case 6	Designate
12	Lake	EA_09_53	Golden Falls	power generation	Ref: Test Case 2	Designate
13	Lake	EA_09_69	Leixlip	power generation & drinking water supply	Ref: Test Cases 2 & 6	Designate
14	Lake	EA_09_71	Pollaphuca Reservoir	power generation & drinking water supply	Ref: Test Cases 2 & 6	Designate
15	Lake	EA_10_10	Vartry Reservoir lwr	drinking water supply	Test Case 6	Designate
16	Lake	EA_10_11	Vartry Reservoir upr	drinking water supply	Test Case 6	Designate

17	Lake	SW_19_138	Inniscarra Reservoir	power generation & drinking water supply	Ref: Test Case 2	Designate
18	Lake	SW_19_139	Carrigdrohid Reservoir	power generation	Ref: Test Case 2	Designate
19	Lake	SH_28_82	Doo Lough	drinking water supply	Ref: Test Case 5	Designate
20	Lake	SH_25_191_b	Lough Derg (Lower)	power generation	Test Case 2	Designate
21	Lake	NW_38_26	Lough Nacung (Upper)	power generation	Ref: Test Case 2	Designate
22	Lake	NW_38_649	Lough Salt	drinking water supply	Test Case 5	Designate
23	Lake	NW_38_683	Lough Dunlewy	power generation	Ref: Test Case 2	Designate
24	Lake	NW_36_717	Assaroe Lake	Power generation	Ref: Test Case 2	Designate
25	Transitional	EA_060_0100	Broadmeadow Water	public transport infrastructure	Unique Case	Designate
26	Transitional	EA_090_0300	Liffey Estuary Lower	port	Ref:Test Case 1	Designate
27	Transitional	SE_100_0500	Lower Suir Estuary (Little Island - Cheekpoint)	port	Ref:Test Case 1	Designate
28	Transitional	SE_100_0200	New Ross Port	port	Ref:Test Case 1	Designate
29	Transitional	SW_060_0900	Lee (Cork) Estuary Lower	port	Test Case 1	Designate
30	Transitional	SW_060_0750	Lough Mahon	port	Test Case 1	Designate
31	Transitional	SH_060_0900	Limerick Dock	port	Ref:Test Case 1	Designate
32	Transitional	SH_060_0350	Foynes Harbour	port	Ref:Test Case 1	Designate
33	Transitional	SH_060_0200	Upper Feale Estuary	flood protection	Test Case 4	Further study
34	Transitional	SH_060_0100	Cashen Estuary	flood protection	Test Case 4	Further study
35	Coastal	SE_045_0000	Rosslare Harbour	port	Ref:Test Case 1	Designate
36	Coastal	SW_060_0000	Cork Harbour	port	Test Case 1	Designate
37	Coastal	NW_080_0000	North Western Atlantic Ocean (Killybegs Harbour)	port	Ref:Test Case 1	Designate
38	River	XB_36_West_9	River Erne from Belleek to the dam	power generation	Ref: Test Case 2	Designate
39	Lake	EA_10_27	Lough Nahanagan	power generation	Ref: test case 2 & 5	Designate
40	River	XB_36_West_8	Erne d/s of Cathleen's Fall	power generation	Ref: Test Case 2 & 6	Designate

Table 6: Record of designation decisions approved for all pAWBs.

No	RBD	ID	Name	Decision
1	SH	IE_SH_AWB_TSC	Tralee Ship Canal	Designate
2	SH	IE_SH_AWB_SHN	Shannon Navigation	Designate
3	SH	IE_SH_AWB_ATR	Ardnacrusha_Tailrace	Designate
4	SH	IE_SH_AWB_EPC	Errina - Plassey Canal	Designate
5	SH	IE_SH_AWB_AHR	Ardnacrusha_Headrace	Designate
6	SH	IE_SH_AWB_BYC	Boyle Canal	Designate
7	SH	IE_SH_AWB_SEW	Shannon Erne Waterway (ShRBD)	Designate
8	SH	IE_SH_AWB_GCML	Grand Canal Main Line (ShRBD)	Designate
9	SH	IE_SH_AWB_BSC	Ballinasloe Canal	Designate
10	SH	IE_SH_AWB_ALC	Allen Canal	Designate
11	SH	IE_SH_AWB_RCLB	Royal Canal Longford Branch	Designate
12	SH	IE_SH_AWB_CDC	Cloondara Canal	Designate
13	SH	IE_SH_AWB_RCML	Royal Canal Main Line (ShRBD) E of Lough Owel	Designate
14	SE	IE_SE_AWB_GCML	Grand Canal Main Line (SERBD) E of Lowtown	Designate
15	SE	IE_SE_AWB_GCMF	Grand Canal Milltown Feeder & Old Barrow Line	Designate
16	SE	IE_SE_AWB_GCBL	Grand Canal Barrow Line	Designate
17	SE	IE_SE_AWB_CHC	Cahore Canal	Designate
18	EA	IE_EA_AWB_GCEB	Grand Canal Edenderry Branch	Designate
19	EA	IE_EA_AWB_RCML	Royal Canal Main Line (EaRBD)	Designate
20	EA	IE_EA_AWB_GCMLW	Grand Canal Main Line (EaRBD) W of Lowtown	Designate
21	EA	IE_EA_AWB_GCML	Grand Canal Main Line (EaRBD) E of Lowtown	Designate
22	EA	IE_EA_AWB_GCNCB	Grand Canal Naas & Corbally Branch	Designate
23	EA	IE_EA_AWB_BYN	Boyne Navigation	Designate
24	WE	IE_WE_AWB_CNC	Cong Canal	Designate
25	SE	IE_SE_AWB_CBC	Castlebridge Canal	Designate
26	SW	IE_SW_AWB_LMC	Lismore Canal	Designate
27	NB	IE_NB_AWB_USC	Ulster Canal	Designate
28	WE	IE_WE_AWB_EGC	Eglington Canal	Designate
29	NW	IE_NW_AWB_CDH	Clady Headrace	Designate
30	NW	IE_NW_AWB_SEW	Shannon - Erne Waterway (NWRBD)	Designate
31	SE	IE_SE_AWB_BWN	Barrow Navigation	Designate
32	SE	IE_SE_AWB_GCMLW	Grand Canal Main Line (SERBD) W of Lowtown	Designate
33	SH	IE_SH_AWB_RCLOF	Royal Canal Lough Owel Feeder	Designate
34	SH	IE_SH_AWB_RCMLW	Royal Canal Main Line (ShRBD) W of Lough Owel	Designate
35	SE	IE_SE_AWB_BR	Ballynafagh Reservoir	Designate
36	EA	IE_EA_AWB_THR	Turlough Hill Reservoir	Designate
37	SH	IE_SH_AWB_AHC	Athlone Canal	Designate

Over the course of the study, a number of reports were prepared, as summarised below.

Table 7: Tasks and reports associated with study work packages

WP1	Literature Review & Benchmarking Review	Literature & benchmarking Review Report: - Version 1 completed and approved in Mar 2007. - Version 2 completed September 2008.
WP2	Data collection & selection of test cases	- Information collated to record the specified use, the nature of modification and the name of the associated modification for each pHMWB. No report prepared; information utilised towards

		completion of other work packages.
WP3	Development of Protocols for Test Cases	- Compiled Test Case Reports. (Provided as Appendix A to the National Application Report, [WP4])
WP4	National Application	- National Application Report & Appendix A
WP5	Support MEP/GEP	- Report on Developments in the approach to the definition of Maximum and Good Ecological Potential (MEP & GEP) - completed trial of UK TAG 'measures-based' approach for the Surface water Status Group. - completed UK TAG 'measures-based' approach for all HMWB approved for designation. - Report on Classification of Ecological Potential & Identification of Measures for HMWB (Surface Water Status Group)
WP6	Further Characterisation of Canals	- refined pAWB canals list including pAWBs - Waterways Ireland and CFB have completed the classification and measures task for Canals, reporting to the Surface water Status Group.
Overall Summary Report – this document. Final updated GIS layer of HMWB and AWB for the draft RBMP.		

Other reports prepared in support of the study tasks were:

- Record of approach to the identification of pHMWB and pAWB for Article 5 Characterisation.
- Barrow Economic Assessment report- demonstration of economic analysis for inclusion in designation of pHMWBs

For direct reference by the RBD projects in the preparation of the draft RBMPs for December 2008, the following will be provided:

- List of HMWBs and AWBs to be proposed for designation in draft RBMP
- GIS layer of HMWBs and AWBs to be proposed for designation in draft RBMP
- Report on Classification of Ecological Potential & Identification of Measures for HMWB(Surface Water Status Group)
- Protocol for dealing with potential additional water bodies for HMWB designation after the draft RBMP.

5.0 Classification & measures

In parallel to the WFD classification of *status* for rivers, lakes, transitional, coastal and ground waters, classification of *'potential'* is required for HMWBs and AWBs.

Classification of HMWBs and AWBs identifies whether Good Ecological Potential is currently being achieved and, if not, establishes how far the water body is from reaching that target.

Under work package 5 of the HMWB & AWB POMS study specification, the POMS study team are tasked with the provision of support to the EPA in setting Ecological Potential standards, i.e. classification. This was commenced by undertaking a review of the relevant guidance and developing approach in other Member States. The evolving opinion with regard to classification was tracked from the original CIS Guidance, through to the 'alternative approach' which was proposed following the Prague Hydromorphology Conference (October 2005). The UK TAG Guidance for the establishment of Ecological Potential using a measures-based approach was reviewed on its release.

To co-ordinate classification of all water bodies in Ireland, the EPA led Surface Water Status Working Group was established in 2008. The HMWB & AWB POMS Study team participated in this group. At the request of the Surface Water Status Group, a trial of the UK TAG measures-based approach was undertaken using the test cases already examined in detail by the POMS study. Results of the trial were presented to the group and the merits of the approach in the Republic of Ireland situation were appraised. It was judged to be a useful exercise both for the classification of ecological potential and the identification of water body-specific measures and it was agreed that the approach be extended to all AWB and HWMB approved for designation by the HMWB & AWB POMS Steering group.

The application of the approach to all HMWBs has been completed. It involved combining measures-based class with physico-chemical and biological class; overall Ecological Potential class was determined from whichever was lowest. The measures-based assessment is intended to provide an assessment of hydromorphological condition. (Note that where neither physico-chemical nor biological monitoring data were available, the EPA undertook an extrapolation exercise to assign interim status.) EPA expert opinion was sought on a case by case basis to approve the final Ecological Potential class. Decisions were based on the confidence in monitoring data as well as the magnitude of the measure proposed. Where a HMWB is classed as being less than Good Ecological Potential, specific HMWB actions and/or measures were identified towards its achievement.

A parallel exercise was completed for canals by a team comprising Waterways Ireland and Central Fisheries Board personnel, also reporting to the Surface Water Status Group. The classification of unmonitored canals (19 AWBs) and reservoirs (2 AWBs) had not been undertaken at the time of writing this report. These will be addressed by the Surface water Status Group.

Results for the classification of ecological potential for HMWB and AWB are summarised below.

Table 8 Ecological Potential Classification of HMWBs

No.	RBD	Cat	ID	Water Body Name	Final Ecological Potential Class	Specific HMWB Actions / Measures
1	EA	L	EA_09_71	Pollaphuca Reservoir	Moderate	No*
2	EA	L	EA_09_53	Golden Falls Reservoir	Moderate	
3	EA	L	EA_09_69	Leixlip Reservoir	Moderate	Yes
4	EA	L	EA_10_27	Lough Nahanagan	Good	No
5	NW	L	NW_36_717	Assaroe Lake	Moderate	
6	NW	R	XB_36_West_8	Erne d/s of Cathleen's Fall	Moderate	Yes
7	NW	R	XB_36_West_9	River Erne from Belleek to the dam (Cliff)	Moderate	
8	NW	L	NW_38_26	Lough Nacung	Moderate	
9	NW	L	NW_38_683	Lough Dunlewy	Good	Yes*
10	SW	L	SW_19_139	Carrigadrohid Reservoir	Moderate	Yes*
11	SW	L	SW_19_138	Inniscarra Reservoir	Moderate	
12	SH	L	SH_25_191_b	Lough Derg (lower)	Moderate	Yes*
13	EA	L	EA_10_10	Vartry Reservoir (lwr)	Good	
14	EA	L	EA_10_11	Vartry Reservoir (upr)	Good	No*
15	EA	R	EA_10_1334	EA_Vartry170_Vartry3	Good	
16	EA	L	EA_09_68	Glenasmole Reservoir (lwr)	Good	
17	EA	L	EA_09_70	Glenasmole Reservoir (upr)	Good	No*
18	SH	L	SH_28_82	Doo Lough	Moderate	Yes
19	NW	L	NW_38_649	Lough Salt	Good	Yes
20	SH	R	SH_27_1122_1	River Fergus (main)	Poor	Yes
21	SH	R	SH_27_1118_1	River Fergus (Spancelhill)	Poor	
22	EA	R	EA_09_1507	EA_Santry166_Santry1	Poor	Yes
23	EA	T	EA_090_0300	Liffey estuary Lower	Moderate	No
24	SE	C	SE_045_0000	Rosslare Harbour	Moderate	Yes
25	NW	C	NW_080_0000	North Western Atlantic Ocean (Killybegs Harbour)	Moderate	Yes
26	SE	T	SE_100_0500	Lower Suir Estuary (Little Island to Cheekpoint)	Moderate	Yes
27	SE	T	SE_100_0200	New Ross Port	Moderate	Yes
28	SW	T	SW_060_0900	Lee (Cork) Estuary Lower	Moderate	
29	SW	T	SW_060_0750	Lough Mahon	Moderate	Yes
30	SW	C	SW_060_0000	Cork Harbour	Moderate	
31	SH	T	SH_060_0900	Limerick Dock	Moderate	No
32	SH	T	SH_060_0350	Foynes Harbour	Moderate	No
33	SE	R	SE_15_1269	SE_NoreMain_Breagagh_Lower	Poor	Yes
34	EA	T	EA_060_0100	Broadmeadow Water	Moderate	No

Table 9 Ecological Potential Classification of AWBs

No	RBD	ID_CODE	AWB NAME	Final Ecological Potential
1	SH	IE_SH_AWB_SEW	Shannon Erne Waterway (ShRBD)	GEP
2	SH	IE_SH_AWB_GCML	Grand Canal Main Line (ShRBD)	GEP
3	SH	IE_SH_AWB_RCLB	Royal Canal Longford Branch	Non Functional
4	SH	IE_SH_AWB_RCML	Royal Canal Main Line (ShRBD) E of Lough Owel	GEP
5	SE	IE_SE_AWB_GCML	Grand Canal Main Line (SERBD) E of Lowtown	GEP
6	SE	IE_SE_AWB_GCMF	Grand Canal Milltown Feeder & Old Barrow Line	GEP
7	SE	IE_SE_AWB_GCBL	Grand Canal Barrow Line	GEP
8	EA	IE_EA_AWB_GCEB	Grand Canal Edenderry Branch	GEP
9	EA	IE_EA_AWB_RCML	Royal Canal Main Line (EaRBD)	GEP
10	EA	IE_EA_AWB_GCMLW	Grand Canal Main Line (EaRBD) W of Lowtown	GEP
11	EA	IE_EA_AWB_GCMLE	Grand Canal Main Line (EaRBD) E of Lowtown	GEP
12	EA	IE_EA_AWB_GCNCB	Grand Canal Naas & Corbally Branch	GEP
13	NW	IE_NW_AWB_SEW	Shannon - Erne Waterway (NWRBD)	GEP
14	SE	IE_SE_AWB_GCMLW	Grand Canal Main Line (SERBD) W of Lowtown	GEP
15	SH	IE_SH_AWB_RCLOF	Royal Canal Lough Owel Feeder	GEP
16	SH	IE_SH_AWB_RCMLW	Royal Canal Main Line (ShRBD) W of Lough Owel	Not at GEP

Table 10: Unmonitored AWBs – not classified with respect to GEP

No	RBD	ID_CODE	AWB NAME	Final Ecological Potential action
17	SH	IE_SH_AWB_TSC	Tralee Ship Canal	To be assigned based on expert judgement
18	SH	IE_SH_AWB_SHN	Shannon Navigation (6 cuts)	To be assigned based on River Shannon
19	SH	IE_SH_AWB_ATR	Ardnacrusha_Tailrace	To be assigned based on expert judgement
20	SH	IE_SH_AWB_EPC	Errina - Plassey Canal	Non-functional
21	SH	IE_SH_AWB_AHR	Ardnacrusha_Headrace	To be assigned based on expert judgement
22	SH	IE_SH_AWB_BYC	Boyle Canal	To be assigned based on River Shannon
23	SH	IE_SH_AWB_BSC	Ballinasloe Canal	To be assigned based on River Shannon
24	SH	IE_SH_AWB_ALC	Allen Canal	To be assigned based on River Shannon
25	SH	IE_SH_AWB_CDC	Cloondara Canal	To be assigned based on River Shannon
26	SE	IE_SE_AWB_CHC	Cahore Canal	To be assigned based on expert judgement
27	EA	IE_EA_AWB_BYN	Boyne Navigation	To be assigned based on River Boyne
28	WE	IE_WE_AWB_CNC	Cong Canal	To be assigned based on expert judgement
29	SE	IE_SE_AWB_CBC	Castlebridge Canal	To be assigned based on expert judgement
30	SW	IE_SW_AWB_LMC	Lismore Canal	To be assigned based on River Blackwater
31	NB	IE_NB_AWB_USC	Ulster Canal	Non-functional
32	WE	IE_WE_AWB_EGC	Eglington Canal	To be assigned based on River Corrib
33	NW	IE_NW_AWB_CDH	Clady Headrace	To be assigned based on expert judgement
34	SE	IE_SE_AWB_BWN	Barrow Navigation	To be assigned based on River Barrow
35	SE	IE_SE_AWB_BR	Ballynafagh Reservoir	To be assigned based on expert judgement
36	EA	IE_EA_AWB_THR	Turlough Hill Reservoir	To be assigned based on expert judgement
37	SH	IE_SH_AWB_AHC	Athlone Canal	Non-functional

6.0 Consultation and feedback

Each RBD should include those HMWBs and AWBs proposed for designation in their district in the draft RBMP in December 2008 but note that the identification and designation of HMWB and AWB is an iterative process.

In future planning cycles existing HMWB and AWB may be “de-designated” and new HMWB and AWB designated. The Directive provides for the flexibility to modify designations to take account of changes over time in environmental, social and economic circumstances. Additional water bodies may arise in the second cycle due to new modifications permitted as a result of the application of the Article 4(7) derogation, if qualifying criteria are met.

AWBs: In the case of artificial water bodies there may have been canals or reservoirs omitted in error. Omitted water bodies can be added to the list for designation through the application of the 'alternative means test' procedure but only if the criteria for the test are met.

HMWBs: Over the course of stakeholder and other consultations held, a number of submissions were received regarding water bodies perceived as heavily modified which were not already proposed for designation in the draft RBMP (2008). It was agreed with the EPA that these potential additional cases be collated by the POMS study team and forwarded to each RBD as a contingency list. In relation to cases on this list, RBDs may choose to:

a) apply the designation test procedures in 2009 and add to the list of designated water bodies in the first finalised RBMP (Note: designation status is not achieved until the publication of the final RBMP)

or

b) retain the contingency list, maintaining it as a live list during the RBMP consultation period and repeat the comprehensive procedure as undertaken by the POMS study in the next planning cycle.

Any additional designations proposed will require the application of the procedure for the classification of Ecological Potential and identification of measures, as described in section 5.0 above.