

HMWB Workshop, 12-13 March 2009, Brussels
Member State Questionnaire

1. Context

2. General information

Q2.1: Name of Member State.

[Spain](#)

Q2.2: Name and contact details of person to be contacted if any clarifications on the reply to this questionnaire are needed.

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3. HMWB designation

Q3.1: Please tell us about the proportion of each water category you have identified for designation as heavily modified by completing the two Tables below

Number of HMWB

River Basin District	River		Lake		Transitional water		Coastal water	
	Total number of water bodies	Number to be designated	Total number of water bodies	Number to be designated	Total number of water bodies	Number to be designated	Total number of water bodies	Number to be designated
Andalucía Atlántico	92	16	19	12		10		3
Andalucía Mediterráneo	82	25	19	15		0		10
Baleares	*	*	*	*	35	0	31	0
Conjunto de demarcaciones de Canarias ¹	*	*	*	*	0	0	36	3
Cantábrico	314	48	11	5	21	3	13	1
CI Cataluña	261	13	1	0		0	33	6
CI P. Vasco	48	14	0	0	14	3	4	0
Duero	692	81	17	6	0	0	0	0
Ebro	699	105	96	43	4	2	4	1
Galicia Costa	384	22	19	18	26	0	26	6
Guadalquivir	388	97	30	4	12	12	3	0
Guadiana	245	65	57	2	4	0	2	0
Júcar	304	65	19	8	4	4	22	5
Miño-Sil	267	42	3	2	4	0	1	0
Segura	89	20	3	2	1	1	18	3
Tajo	250	70	74	67	0	0	0	0
Total	4074	644	409	230	168	37	351	39

These data may change as the River Basin Districts are currently studying the water bodies.

¹ In Carnarias there are 7 River Basin District

Length and area of HMWB

River Basin District	River		Lake		Transitional water		Coastal water	
	Total length of water bodies	Length of to be designated (Km)	Total area of water bodies	Area to be designated (Km2)	Total area of water bodies	Area to be designated (Km2)	Total area of water bodies	Area to be designated (Km2)
Andalucía Atlántico	1841,1	255,3	3,94	1		91,85		78,38
Andalucía Mediterráneo	1647,4	274,5	66,89	53		0		47,58
Baleares	*	*	*	0	42,53	0		0
Conjunto de demarcaciones de Canarias	*	*	*	0	0	0	4548,47	8,85
Cantábrico	4778	663	2,3	2	92,3	30,06	1564	26
CI Cataluña	3935	97	1,13	0		0		
CI País Vasco	590	156	0	0	48,68	22,71	570,12	0
Duero	13.741,75	1.400,53	16,1	5,21	0	0	0	0
Ebro	12957	1034	77,7	43		92,6		
Galicia Costa	4.263,76	156,5	53,85	45	135,63	0	3225,46	43,33
Guadalquivir	10377	2111	978	140	137,16	137,16	482	0
Guadiana	7190,72	146,56	64,77	1	51,4	0	62,61	0
Júcar	5460	729,66	43,27	36	39,93	39,93	2382,85	125,55
Miño-Sil	4470	710	1,45	1	25,4	0	16	
Segura	1265,78	218,74	22,48	22	0	0	837,84	19,35
Tajo	7238	1346	550	549,73	0	0	0	0
Total	77.695,14	8.487,07	2105,23	1256,677	793,15	423,95	19.243,40	349,04

These data may change as the River Basin Districts are currently studying the water bodies.

Q3.2: Please tell us about the water uses for which you have identified water bodies as heavily modified by completing the three Tables below

Note. If a water body has been designated for more than one use, please count each use.

Water use [Art.4(3)(a)]	Total	Cantábrico	Miño-Sil	Guadiana	Tajo	Duero	CI País Vasco	Galicia Costa	Guadalquivir	Andalucía Atlántico	Andalucía Mediterráneo	Segura	Júcar	Ebro	CI Cataluña	Baleares	Conjunto de demarcaciones de Canarias
Wider environment [Art.4(3)(a)(i)] *	11	0	0	3	*	*		8 ²				2 ³		2	1 ⁴		
Navigation, including port facilities, or recreation [Art.4(3)(a)(ii)]	35	2	0		26							7					
- Navigation, including port facilities	89		*	2		42	3	6	12	4	5		6	1	5	*	3
- Recreation	9					7		2									
Activities for the purposes of which water is stored [Art.4(3)(a)(iii)]	54								54								
- Storage for drinking water supply	144	6	3	15	45	29	4	9		11	15	1	6				
- Storage for power generation	140	22	32		29	39		9				1	8				
- Storage for irrigation	151	0	2	44	31	25		0		10		9	30				
Water regulation, flood protection, land drainage [Art.4(3)(a)(iv)]	157			4	6	65			43				39				
- Water regulation	39	5	5	*	*		2	14			8	5					
- Flood protection	52	24	1	*	*		8	1		9	5	4					
- Land drainage	22	0	5	*	*			0			17						
Other (art. 4.3.a v)	36			1		25			4				7				

* Please specify your definition of “wider environment”: ...

² PIPES

³ lagoon

⁴ Ecosystems (aquatic and non aquatic) that can not be considered as a water body, but are deeply linked to some of them.

Description of each 'equally important sustainable human development activity' for which HMWB are to be designated [Art.4(3)(a)(v)]	Number of water bodies
Mining	2
Saltworks	3
Canalization	71
Riverbed covering	1
Succession of alterations in rivers and transitional water	31
Products extraction	2
Occupation of intertidal areas	1
Floodgate	1
Dredging	1
Coastal defence structures	4
Transport infrastructure	1

Multiple water uses of HMWB

Number of water bodies designated for one use	Number of water bodies designated for two uses	Number of water bodies designated for three or more uses

Q3.3: Please tell us about the criteria you used to decide if a water body was substantially changed in character for it to be considered for designation as heavily modified by completing the applicable Tables below

Did you use <u>impact-related criteria</u> (e.g. length or area expected to be worse than good status or substantially changed in hydromorphology)? (yes/no)	Did you use <u>pressure-related criteria</u> (e.g. volume of water stored; height of dam)? (yes/no)	Did you use <u>use-related criteria</u> (e.g. number of people provided with drinking water; protection against particular flood return period; daily number of vessels)? (yes/no)	Did you use <u>other types of criteria</u>? (yes/no)
yes, for verifying the preliminary identification	yes, for a preliminary identification	Yes, for the coastal waters	yes

The Spanish system to designate the HMWB in rivers, lakes and transitional water, is divided in 3 phases:

- 1) Preliminary selection of water bodies that may be heavily modified based on a impact related criteria.
- 2) Verification that the WB identified in the previous step, don not achieve the good ecological status (GES)
- 3) Finally, water bodies are submitted to the designation progress as it's established in the WFD.

If you used **impact-related criteria**, please complete the following Table

Water category	Description of impact-related criteria (e.g. length or area expected to be worse than good status)
River	Following a preliminary identification based on pressure-related criteria, it is has been verified whether the identified water bodies actually do not achieve good status, according to the biological quality elements. For the purpose of identifying the status of water bodies, a system of reference conditions and limit values has been established for different types of water bodies within each category. A water body achieves good status when all values of indicators are within the required range. Water bodies have been identified as HMWB if the pressure related criteria indicate that they are heavily modified and if the verification shows that they do not achieve good status.
Lake	
Transitional water	
Coastal water	

If you used **pressure-related criteria**, please complete the following Table

Pressure related criteria have been used for a preliminary identification of HMWB. This preliminary identification has then been verified by applying impact-related criteria.

Pressure	Description of pressure-related criteria (e.g. volume of water stored; height of dam)?
Impoundment	- length of impoundment (impounded stretch of river) greater than 5 km or area of impoundment greater than 0,5 km ²
Other hydromorphological alterations	
- Rivers	<ul style="list-style-type: none"> - stretch of river downstream of a barrier or dam, until the confluence with the next river of similar basin size, flow, etc. - artificial course or artificial bank or bed material at a length greater than 5 km - extraction of gravel or sand at a length greater than 5 km
- Lakes	- artificial variation of water table, due to water uses which require regulation (hydropower)
- Transitional waters	<ul style="list-style-type: none"> - artificial course or artificial bank or bed material at a length greater than 5 km and more than 30% of the total length of the stretch are modified - flood protection dikes affecting an area greater than 50 ha - ports and other navigation facilities under national government authority and other ports with an area greater than 50 ha - extraction of salt
- Coastal waters	<ul style="list-style-type: none"> - extraction of gravel or sand greater than 500 000 m³ during the last 5 years or greater than 3 000 000 m³ in total - land reclamation for human development activities with a area greater than 30% of the original area r the water body - flood protection dikes affecting a stretch longer than 5 km - ports and other navigation facilities under national government authority and other ports with an area greater than 100 ha - infrastructures for erosion protection and artificial beaches

If you used **use-related criteria**, please complete the following Table

Water use	Description of use-related criteria (e.g. number of people provided with drinking water; protection against particular flood return period; daily number of vessels)
Wider environment [Art.4(3)(a)(i)]	
Navigation, including port facilities, or recreation [Art.4(3)(a)(ii)]	
- Navigation, including port facilities	Level port activity
- Recreation	
Activities for the purposes of which water is stored [Art.4(3)(a)(iii)]	
- Storage for drinking water supply	
- Storage for power generation	
- Storage for irrigation	
Water regulation, flood protection, land drainage [Art.4(3)(a)(iv)]	
- Water regulation	
- Flood protection	
- Land drainage	
Equally important sustainable human development activity' [Art.4(3)(a)(v)]	

If you used **other criteria**, please complete the following Table

Description of other criteria used to decide if water bodies are substantially changed in character to consider designation
Experts criteria

Q3.4: Please tell us about the criteria you used to decide if implementing a measure (e.g. a restoration measure to achieve good status or a mitigation measure aimed at improving the ecological potential of a water body) would have a significant adverse effect on use by completing the two Tables below

Have you developed specific criteria on significant adverse effects on use to help prepare the draft river basin management plans?	
<u>yes</u>	<u>no</u>
The analysis is based on qualitative criteria, where possible quantitative judgement of the changes to the hydromorphological characteristics that would be necessary to achieve good status and the effects this would have on the environment or on uses.	

Have you identified <u>pressure-specific criteria</u> to help screen out measures which would have a significant adverse effect on use (e.g. reducing abstraction by > 50 %)? (yes/no)	Have you identified <u>measure-specific criteria</u> to help screen out measures which would have a significant adverse effect on use (e.g. dismantling major dams)? (yes/no)	Have you identified <u>use-specific numeric criteria</u> (e.g. % loss of energy generation) to help screen out measures which would have a significant adverse effect on use? (yes/no)	Have you identified <u>other types of criteria</u> to help decide what constitutes a significant adverse effect on use? (yes/no)
yes	yes	yes	yes

Water use	Examples of the principal criteria you used to decide if a measure or combination of measures would have a significant adverse effect on use
Wider environment [Art.4(3)(a)(i)]	In the case of dams and reservoirs for power production it has in general been considered that hydroelectric is power beneficial for the wider environment, given its advantages in comparison to other primary energy sources in terms of emissions and flexibility.
Navigation, including port facilities, or recreation [Art.4(3)(a)(ii)]	It is not possible to change the current hydromorphological condition: port facilities are completely consolidated in an urban area
- Navigation, including port facilities	
- Recreation	
Activities for the purposes of which water is stored [Art.4(3)(a)(iii)]	
- Storage for drinking water supply	
- Storage for power generation	
- Storage for irrigation	
Water regulation, flood protection, land	

Water use	Examples of the principal criteria you used to decide if a measure or combination of measures would have a significant adverse effect on use
drainage [Art.4(3)(a)(iv)]	
- Water regulation	
- Flood protection	
- Land drainage	
Equally important sustainable human development activity' [Art.4(3)(a)(v)]	

Q3.5: Please tell us about the other environmental options you considered to decide if the benefits of the use could be provided by a significantly better environmental option [Art. 4(3)(b)] by completing the Table below

Water use	Other environmental options considered
Wider environment [Art.4(3)(a)(i)]	Maintenance of wetlands by re-using waste water.
Navigation, including port facilities, or recreation [Art.4(3)(a)(ii)]	
- Navigation, including port facilities	
- Recreation	
Activities for the purposes of which water is stored [Art.4(3)(a)(iii)]	In the case of storage reservoirs it has been analysed whether alternative sources of supply exist which are an environmentally better option and do not entail disproportionate costs.
- Storage for drinking water supply	Supply through groundwater sources or seawater desalination
- Storage for power generation	
- Storage for irrigation	Supply through groundwater sources or seawater desalination
Water regulation, flood protection, land drainage [Art.4(3)(a)(iv)]	
- Water regulation	
- Flood protection	In the case of flood protection schemes it has been analysed whether alternative options exist which are an environmentally better option and do not entail disproportionate costs. Analysis of impoundment areas and reestablishment of natural river courses as an alternative option to river channelling and reservoirs for flood protection
- Land drainage	
Equally important sustainable human development activity' [Art.4(3)(a)(v)]	

4. Establishing Good Ecological Potential (GEP)

Q4.1: Please tell us about the method you used to classify the ecological potential of heavily modified water bodies by completing the applicable Tables below

Are you satisfied that your draft classification results reflect the effect of hydromorphological alterations on ecological potential? (yes/no)	Have you classified the effect of hydromorphological alterations on ecological potential using <u>biological assessment methods</u> (according to CIS Guidance No. 4 – See Annex)? (yes/no)	Have you classified the effect of hydromorphological alterations on ecological potential by assessing whether <u>all practicable mitigation measures</u> have been taken (according to the Prague approach - See Annex)? (yes/no)	Have you developed <u>another method</u> of classifying the effect of hydromorphological alterations on ecological potential? (yes/no)
yes	yes	no	no

Have you adapted your existing biological assessment methods for application to heavily modified water bodies?

A system of reference conditions and limit values has been established for different types of heavily modified water bodies within each category, defining applicable parameters and limit values for good ecological potential.

Have you developed specific biological assessment methods for classifying HMWBs?

[see previous reply](#)

Please complete the Table below if you have classified the effect on ecological potential of hydromorphological alterations using biological assessment methods (according to CIS Guidance No. 4 – See Annex)

Water category	Were you able to derive biological references for maximum ecological potential? (yes/no)	What biological quality element (or elements) have you used to make these assessments?
Rivers	Yes	Macrophytes, macro-invertebrate, phytobenthos, fish...
Rivers	YES (reservoirs)	Phytoplankton
Lakes	YES (“enlarged” lakes)	phytoplankton
Transitional waters	partially	Phytoplankton, macro-invertebrate
Coastal waters	partially	Phytoplankton, macro-invertebrate

Please complete the Table below if you have classified the effect on ecological potential of hydromorphological alterations using the **mitigation measures approach** (according to the Prague approach - See Annex)

Water use	Did you develop use-specific generic checklists of mitigation measures? (yes/no)	Did you identify water body-specific mitigation measures rather than generic checklists? (yes/no)	If applicable, did you modify the generic list to take account of the specific characteristics and use of each HMWB? (yes/no)	Did you involve the water users in applying the method? (yes/no)
Navigation, including port facilities	no	yes	---	yes
Storage for drinking water supply				
Storage for power generation				
Storage for irrigation				
Water regulation				
Flood protection				
Land drainage				
Equally important sustainable human development activity'				

If you have developed generic checklists of measures, please describe these

Please specify if you have a special methodology for the definition of Maximum Ecological Potential (MEP), which differs from your GEP methodology
The system of reference conditions and limit values defines values for GEP and MEP.

For Member States that have used both approaches of GEP establishment (Guidance No. 4 approach & “Prague” approach):

Q4.3: How do the results of using the two approaches compare? Are the mitigation measures needed to achieve good ecological potential comparable? Are there any examples to combine both methods?

(free text)

5. Exemptions for HMWB

Q5.1: Do you intend to apply Art. 4(4) exemptions (time derogation) to HMWB?

<u>yes</u>	<u>no</u>

Do you intend to apply Art. 4(5) exemptions (less stringent objectives) to HMWB?

<u>yes</u>	<u>No</u>

How did you combine this with HMWB designation according to Art. 4 (3) and CIS guidance No 4?

The two processes are separate. In a first step, artificial and heavily modified water bodies are identified and their environmental objectives defined and quantified. If the analysis shows that the objectives cannot be met, the possibility of defining exemptions has to be analysed, according to the same procedure as in the case of other (not modified) water bodies.

6. Suggestions for the workshop

Q6.1: Do you have any suggestions for the upcoming workshop on Heavily Modified Water Bodies (12-13 March 2009, Brussels)? E.g.

- Any questions proposed for discussion?
- Public participation ideas concerning HMWB?
- Any pilot projects, methods for presentations at the workshop?