

## **PRÍLOHA 14**

Rozhodnutie Európskej komisie o interkalibrácii

## COMMISSION DECISION

of 30 October 2008

**establishing, pursuant to Directive 2000/60/EC of the European Parliament and of the Council, the values of the Member State monitoring system classifications as a result of the intercalibration exercise**

*(notified under document number C(2008) 6016)***(Text with EEA relevance)**

(2008/915/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy <sup>(1)</sup>, and in particular section 1.4.1(ix) of Annex V thereof,

Whereas:

- (1) Article 4(1)(a)(ii) of Directive 2000/60/EC requires the Member States to protect, enhance and restore all bodies of surface water with the aim of achieving good surface water status at the latest 15 years after the date of entry into force of the Directive, subject to certain exceptions, in accordance with the provisions laid down in Annex V thereto. Article 4(1)(a)(iii) of Directive 2000/60/EC requires the Member States to protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential and good surface water chemical status at the latest 15 years from the date of entry into force of that Directive, subject to certain exceptions, in accordance with the provisions laid down in Annex V thereto. In accordance with point (i) of section 1.4.1 of Annex V to Directive 2000/60/EC the references to ecological status should be construed as references to ecological potential as regards artificial and heavily modified water bodies.
- (2) Section 1.4.1 of Annex V to Directive 2000/60/EC provides a process to ensure the comparability between Member States of biological monitoring results, being a central part of the ecological status classification. This requires the results of the Member States' monitoring and classification systems to be compared through an intercalibration network comprised of monitoring sites in each Member State and in each ecoregion of the Community. Directive 2000/60/EC requires the Member States to collect, as appropriate, the necessary information for the sites included in the intercalibration network, in order to enable the assessment of the consistency of the national classification system with the normative definitions of section 1.2 of Annex V to Directive 2000/60/EC and the comparability of the results of classification systems between the Member States.

- (3) Commission Decision 2005/646/EC of 17 August 2005 on the establishment of a register of sites to form the intercalibration network in accordance with Directive 2000/60/EC of the European Parliament and of the Council <sup>(2)</sup> established the register of sites to form the intercalibration network referred to in section 1.4.1(vii) of Annex V to Directive 2000/60/EC.
- (4) In order to carry out the intercalibration exercise Member States are organised in Geographical Intercalibration Groups, consisting of Member States sharing particular surface water body types, as defined in Section 2 of the Annex to Decision 2005/646/EC. This has allowed each group to compare its results and to perform the intercalibration exercise among its members.
- (5) The intercalibration exercise is carried out at biological element level, comparing the classification results of the national monitoring systems for each biological element and for each common surface water body type among Member States in the same Geographical Intercalibration Group, and assessing the consistency of the results with the aforementioned normative definitions.
- (6) The 'Technical report on the Water Framework Directive intercalibration exercise' describes in detail how the intercalibration exercise has been carried out for the water categories and biological quality elements included in the Annex to this Decision.
- (7) The Commission has facilitated the intercalibration exercise through the Institute of Environment and Sustainability of the Joint Research Centre in Ispra (Italy) that has coordinated the technical work.
- (8) The intercalibration exercise is a complex scientific and technical task. The Geographical Intercalibration Groups have used different methodological options to carry out the exercise depending on the availability of monitoring data for the various biological quality elements and the status of development of the national monitoring and classification systems. In order to increase the statistical robustness of the

<sup>(1)</sup> OJ L 327, 22.12.2000, p. 1.

<sup>(2)</sup> OJ L 243, 19.9.2005, p. 1.

results, most of the methodologies used by Geographical Intercalibration Groups involve the use of data from as many monitoring points as possible, covering the whole range of status classes, from high to bad status. Therefore, monitoring data has been used from sites that are not part of the intercalibration network, as this comprises only a limited number of sites of high, good or moderate status.

- (9) The Commission has received intercalibration results for a number of biological quality elements that comprise the definition of ecological status. In some cases results have been provided for only some parameters of the biological elements or for only some of the Member States participating in a Geographical Intercalibration Group. Hence, the Commission considers that, for those cases, comparability is not fully ensured. Further intercalibration results may therefore be subject to a future Decision when the relevant information in accordance with Section 1.4.1 of Annex V to Directive 2000/60/EC will have been provided by Member States.
- (10) It is necessary to adopt the available results of the intercalibration exercise on time to inform the development of the first river basin management plans and programmes of measures in accordance with Articles 11 and 13 of Directive 2000/60/EC.
- (11) As a result of the intercalibration exercise, the values of the ecological quality ratios for the boundaries between ecological status classes for the Member States classification systems should represent an equivalent ecological status. The differences in values for the same biological quality element are due to differences in national methods. In addition, due to the differences in calculation methods and other reasons, it is not possible to compare the values of the ecological quality ratios across different biological quality elements.
- (12) Parameters like chlorophyll-a concentration, phytoplankton biovolume, percentage of cyanobacteria or depth limits of macroalgae and angiosperms do not cover full biological quality elements. However, due to the availability of data and assessment methods, they are one of the basis of the current intercalibration exercise for lakes and coastal waters. The values of those parameters are directly comparable across Member States, provided the differences in sampling and analytical methods are taken into account. For these reasons, in addition to the ecological quality ratios, absolute values for these parameters should be included in the Annex to this Decision as part of the results of the intercalibration exercise.
- (13) The results should refer to the ecological status. If water bodies corresponding to the intercalibrated types are designated as heavily modified water bodies in accordance

with Article 4(3) of Directive 2000/60/EC, the results presented in the Annex to this Decision may be used to derive their good ecological potential, taken into account their physical modifications and their associated water use, in accordance with the normative definitions in Annex V, section 1.2.5, to Directive 2000/60/EC.

- (14) As established in section 1.4.1(iii) of Annex V to Directive 2000/60/EC, Member States will have to translate the results of the intercalibration exercise into their national classification systems in order to set the boundaries between high and good status and between good and moderate status for all their national types. Guidelines to translate the intercalibration results into the national classification systems and to derive reference conditions have been developed to support the application of the results.
- (15) The information that will be made available through the implementation of the monitoring programmes provided for in Article eight of Directive 2000/60/EC and the review and update of the characteristics of river basin districts provided for in Article five of Directive 2000/60/EC can bring new evidence that may lead to the adaptation to scientific and technical progress of the Member States' monitoring and classification systems and eventually to a review of the results of the intercalibration exercise in order to improve their quality.
- (16) The measures provided for in this Decision are in accordance with the opinion of the Committee referred to in Article 21(1) of Directive 2000/60/EC,

HAS ADOPTED THIS DECISION:

#### *Article 1*

For the purpose of section 1.4.1(iii) of Annex V to Directive 2000/60/EC, Member States shall use in their monitoring systems classification the values of the boundaries between classes that are set out in the Annex to this Decision.

#### *Article 2*

This Decision is addressed to the Member States.

Done at Brussels, 30 October 2008.

*For the Commission*

Stravros DIMAS

*Member of the Commission*

## ANNEX

WATER CATEGORY: Rivers

GEOGRAPHICAL INTERCALIBRATION GROUP: Alpine

**Description of types that have been intercalibrated**

Type	River characterisation	Catchment (km <sup>2</sup> )	Altitude and geomorphology	Alkalinity	Flow regime
R-A1	Small to medium, high altitude calcareous	10-1 000	800-2 500 m (catchment), boulders/cobble	high (but not extremely high) alkalinity	
R-A2	Small to medium, high altitude, siliceous	10-1 000	500-1 000 m (max. altitude of catchment 3 000 m, mean 1 500 m), boulders	Non-calcareous (granite, metamorphic), medium to low alkalinity	nival-glacial flow regime

Countries sharing the types that have been intercalibrated

Type R-A1: Germany, Austria, France, Italy, Slovenia

Type R-A2: Austria, France, Italy, Spain, Slovenia

## RESULTS

**Biological Quality Element:** Benthic invertebrate fauna**Results:** Ecological quality ratios of the national classification systems intercalibrated

Type and country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Type R-A1			
Austria	Austrian System for Ecological River Status Assessment (Worst case between Multimetric Indices for General Degradation and Saprobic Index)	0,80	0,60
France	Classification française DCE Indice Biologique Global Normalisé (IBGN). Norme AFNOR NF T 90 350 (1992) and circular MEDD/DE/MAGE/BEMA 05 No14 of 28 July 2005 modified on 13 June 2007	0,93	0,79
Germany	PERLODES — Bewertungsverfahren von Fließgewässern auf Basis des Makrozoobenthos	0,80	0,60
Italy	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,97	0,73
Slovenia	Slovenian Benthic Invertebrate Assessment System: Multimetric index (Hydromorphology/General degradation), Saprobic Index	0,80	0,60
Type R-A2			
Austria	Austrian System for Ecological River Status Assessment (Worst case between Multimetric Indices for General Degradation and Saprobic Index)	0,80	0,60
France (Alps)	Classification française DCE Indice Biologique Global Normalisé (IBGN). Norme AFNOR NF T 90 350 (1992) and circular MEDD/DE/MAGE/BEMA 05 No 14 of 28 July 2005 modified on 13 June 2007	0,93	0,71

Type and country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France (Pyrenees)	Classification française DCE Indice Biologique Global Normalisé (IBGN). Norme AFNOR NF T 90 350 (1992) and circular MEDD/DE/MAGE/BEMA 05 No 14 of 28 July 2005 modified on 13 June 2007	0,94	0,81
Italy	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,95	0,71
Spain	Iberian BMWP (IBMWP)	0,83	0,53

**Biological Quality Element:** Phytobenthos**Results:** Ecological quality ratios of the national classification systems intercalibrated

Type and country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Type R-A1			
Austria	Multimetric method consisting of three modules/ metrics (Trophic Index, Saprobic Index, Reference Species)	0,87	0,56
France	Classification française DCE Indice Biologique Diatomées (IBD) norme AFNOR NF T 90-354 (2000) and circular MEDD/DE/MAGE/BEMA 05 No 14 of 28 July 2005 modified on 13 June 2007	0,86	0,71
Germany	Deutsches Bewertungsverfahren für Makrophyten und Phytobenthos (PHYLIB)	0,73	0,54
Slovenia	Multimetric method consisting of two modules/ metrics	0,80	0,60
Type R-A2			
Austria	Multimetric method consisting of three modules/ metrics (Trophic Index, Saprobic Index, Reference Species)	0,87	0,56
France	Classification française DCE Indice Biologique Diatomées (IBD) norme AFNOR NF T 90-354 (2000) and circular MEDD/DE/MAGE/BEMA 05 No 14 of 28 July 2005 modified on 13 June 2007	0,86	0,71
Spain	Indice de Polluosensibilité Spécifique (IPS) (Lenoir & Coste, 1996)	0,94	0,74

WATER CATEGORY: Rivers

GEOGRAPHICAL INTERCALIBRATION GROUP: Central/Baltic

**Description of types that have been intercalibrated**

Type	River characterisation	Catchment (km <sup>2</sup> )	Altitude & geomorphology	Alkalinity (meq/l)
R-C1	Small lowland siliceous sand	10-100	lowland, dominated by sandy substrate (small particle size), 3-8 m width (bankfull size)	> 0,4
R-C2	Small lowland siliceous — rock	10-100	lowland, rock material 3-8m width (bankfull size)	< 0,4
R-C3	Small mid-altitude siliceous	10-100	mid-altitude, rock (granite) — gravel substrate, 2-10 m width (bankfull size)	< 0,4

Type	River characterisation	Catchment (km <sup>2</sup> )	Altitude & geomorphology	Alkalinity (meq/l)
R-C4	Medium lowland mixed	100-1 000	lowland, sandy to gravel substrate, 8-25m width (bankfull size)	> 0,4
R-C5	Large lowland mixed	1 000-10 000	lowland, barbel zone, variation in velocity, max. altitude in catchment: 800m, > 25 m width (bankfull size)	> 0,4
R-C6	Small, lowland, calcareous	10-300	lowland, gravel substrate (limestone), width 3-10 m (bankfull size)	> 2

Countries sharing the types that have been intercalibrated:

Type R-C1: Belgium (Flanders), Germany, Denmark, France, Italy, Lithuania, the Netherlands, Poland, Sweden, United Kingdom

Type R-C2: Spain, France, Ireland, Portugal, Sweden, United Kingdom

Type R-C3: Austria, Belgium (Wallonia), Czech Republic, Germany, Poland, Portugal, Spain, Sweden, France, Latvia, Luxembourg, United Kingdom

Type R-C4: Belgium (Flanders), Czech Republic, Germany, Denmark, Estonia, Spain, France, Ireland, Italy, Lithuania, Luxembourg, the Netherlands, Poland, Sweden, United Kingdom

Type R-C5: Czech Republic, Estonia, France, Germany, Spain, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Sweden, United Kingdom

Type R-C6: Denmark, Estonia, Spain, France, Ireland, Italy, Poland, Lithuania, Luxembourg, Sweden, United Kingdom

## RESULTS

**Biological Quality Element:** Benthic invertebrate fauna

**Results:** Ecological quality ratios of the national classification system intercalibrated

The following results apply to all types as described above.

Country	National classification system intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Austria	Austrian System for Ecological River Status Assessment (Worst case between Multimetric Indices for General Degradation and Saprobic Index)	0,80	0,60
Belgium (Flanders)	Multimetric Macroinvertebrate Index Flanders (MMIF)	0,90	0,70
Belgium (Wallonia)	Indice Biologique Global Normalisé (IBGN) (Norme AFNOR NF T 90 350, 1992) and 'Provisional Definition of the Good Status', Ministry of the Walloon Region (2007)	0,97	0,74
Denmark	Danish Stream Fauna Index (DSFI)	1,00	0,71
Germany	PERLODES –Bewertungsverfahren von Fließgewässern auf Basis des Makrozoobenthos	0,80	0,60
France	Classification française DCE Indice Biologique Global Normalisé (IBGN), Norme AFNOR NF T 90 350 (1992) and circular MEDD/DE/MAGE/BEMA 05 n°14 of 28 July 2005 modified on 13 June 2007	0,94	0,80
Ireland	Quality Rating System (Q-value)	0,85	0,75
Italy	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,96	0,72
Luxembourg	Classification luxembourgeoise DCE, Indice Biologique Global Normalisé (IBGN), Norme AFNOR NF T 90 350, 1992) and circular MEDD/DE/MAGE/BEMA 07 No 4 of 11 April 2007	0,96	0,72

Country	National classification system intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Netherlands	KRW-maatlat	0,80	0,60
Poland	BMWP (BMWP-PL) verified by modified Margalef diversity index	0,89	0,68
Spain	North Spain Multimetric Indices	0,93	0,70
Sweden	DJ-index (Dahl & Johnson 2004)	0,80	0,60
United Kingdom	River Invertebrate Classification Tool (RICT)	0,97	0,86

**Biological Quality Element:** Phytobenthos**Results:** Ecological quality ratios of the national classification system intercalibrated

Country	National classification system intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Austria	Multimetric method consisting of three modules/metrics (Trophic Index, Saprobic Index, Reference Species)	All types, altitude < 500 m	0,70	0,42
		All types, altitude > 500 m	0,71	0,42
Belgium (Flanders)	Proportions of Impact-Sensitive and Impact-Associated Diatoms (PISIAD)	All types	0,80	0,60
Belgium (Wallonia)	Indice de Polluosensibilité Spécifique (IPS) AFNOR norm NF T 90-354 (2000) and 'Provisional Definition of the Good Status', Ministry of the Walloon Region (2007)	All types	0,93	0,68
Estonia	Indice de Polluosensibilité Spécifique (IPS)	All types	0,85	0,70
France	Classification française DCE Indice Biologique Diatomées (IBD) norme AFNOR NF T 90-354 (2000) and circular MEDD/DE/MAGE/BEMA 05 n°14 of 28 July 2005 modified on 13 June 2007	National Types 1, 2 and 4	0,93	0,80
		National Type 3	0,92	0,77
Germany	Deutsches Bewertungsverfahren für Makrophyten und Phytobenthos (PHYLIB)	R-C1	0,67	0,43
		R-C3	0,67	0,43
		R-C4	0,61	0,43
		R-C5	0,73	0,55
Ireland	Revised form of Trophic Diatom Index (TDI)	All types	0,93	0,78
Luxembourg	Indice de Polluosensibilité Spécifique (IPS)	All types	0,85	0,70
Netherlands	KRW Maatlat	All types	0,80	0,60
Spain	Diatom multimetric (MDIAT)	All types	0,93	0,70
Sweden	Swedish assessment methods, Swedish EPA regulations (NFS 2008:1) based on Indice de Polluosensibilité Spécifique (IPS)	All types	0,89	0,74
United Kingdom	Diatom Assessment for River Ecological Status (DARES)	All types	0,93	0,78

WATER CATEGORY: Rivers

GEOGRAPHICAL INTERCALIBRATION GROUP: Eastern Continental

**Description of types that have been intercalibrated**

Type	River characterisation	Ecoregion	Catchment (km <sup>2</sup> )	Altitude (m)	Geology	Substrate
R-E1	Carpathians: small to medium, mid-altitude	10	10 — 1 000	500 — 800	siliceous	gravel and boulder
R-E2	Plains: medium-sized, lowland	11 and 12	100 — 1 000	< 200	mixed	sand and silt
R-E4	Plains: medium-sized, mid-altitude	11 and 12	100 — 1 000	200 — 500	mixed	sand and gravel

Countries sharing the types that have been intercalibrated:

Type R-E1: Czech Republic, Hungary, Romania, Slovakia

Type R-E2: Czech Republic, Hungary, Romania, Slovakia

Type R-E4: Austria, Czech Republic, Hungary, Slovakia, Slovenia

**RESULTS**

**Biological Quality Element:** Benthic invertebrate fauna

**Results:** Ecological quality ratios of the national classification systems intercalibrated

Type and country	National classification system intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Type R-E1, R-E2, R-E4			
Slovakia	Slovak System for Ecological River Status Assessment	0,80	0,60
Type R-E4			
Austria	Austrian System for Ecological River Status Assessment (Worst case between Multimetric Indices for General Degradation and Saprobic Index)	0,80	0,60

WATER CATEGORY: Rivers

GEOGRAPHICAL INTERCALIBRATION GROUP: Mediterranean

**Description of types that have been intercalibrated**

Type	River characterisation	Catchment (km <sup>2</sup> )	Altitude (m)	Geology	Flow regime
R-M1	Small mid-altitude Mediterranean streams	10-100	200-800	Mixed	Highly seasonal
R-M2	Small/Medium lowland Mediterranean streams	10-1 000	< 400	Mixed	Highly seasonal
R-M4	Small/Medium Mediterranean mountain streams	10-1 000	400-1 500	Non-silicious	Highly seasonal
R-M5	Small, lowland, temporary	10-100	< 300	Mixed	Temporary



Countries sharing the types that have been intercalibrated:

Type R-M1: France, Greece, Italy, Portugal, Slovenia, Spain

Type R-M2: France, Greece, Italy, Portugal, Spain

Type R-M4: Cyprus, France, Greece, Italy, Spain

Type R-M5: Cyprus, Italy, Portugal, Slovenia, Spain

## RESULTS

**Biological Quality Element:** Benthic invertebrate fauna

**Results:** Ecological quality ratios of the national classification systems intercalibrated

Type and country	National classification system intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
R-M1			
France	Classification française DCE Indice Biologique Global Normalisé (IBGN). Norme AFNOR NF T 90 350 (1992) and circular MEDD/DE/MAGE/BEMA 05 n°14 of 28 July 2005 modified on 13 June 2007	0,94	0,81
Greece	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,95	0,71
Italy	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,97	0,72
Portugal	North Invertebrate Portuguese Index, IPT <sub>I<sub>N</sub></sub>	0,92	0,69
Spain	IBMWP	0,78	0,48
R-M2			
Greece	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,94	0,71
Italy	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,94	0,70
Portugal	North Invertebrate Portuguese Index, IPT <sub>I<sub>N</sub></sub>	0,87	0,66
R-M4			
Cyprus	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,97	0,73
Greece	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,96	0,72
Italy	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,94	0,70
Spain	IBMWP	0,83	0,51
R-M5			
Italy	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,97	0,73
Portugal	South Invertebrate Portuguese Index, IPT <sub>I<sub>S</sub></sub>	0,98	0,72
Spain	IBMWP	0,91	0,55

**Biological Quality Element:** Phytobenthos**Results:** Ecological quality ratios of the national classification systems intercalibrated

Type and country	National classification system intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
R-M1			
France	Classification française DCE Indice Biologique Diatomées (IBD) norme AFNOR NF T 90-354 (2000) and circular MEDD/DE/MAGE/BEMA 05 No 14 of 28 July 2005 modified on 13 June 2007	0,93	0,80
Portugal	Indice de Polluosensibilité Spécifique (IPS)	0,84	0,62
Spain	Indice de Polluosensibilité Spécifique (IPS)	0,90	0,67
R-M2			
France	Classification française DCE Indice Biologique Diatomées (IBD) norme AFNOR NF T 90-354 (2000) and circular MEDD/DE/MAGE/BEMA 05 n°14 of 28 July 2005 modified on 13 June 2007	0,93	0,80
Portugal	Indice de Polluosensibilité Spécifique (IPS)	0,84	0,62
Spain	Indice de Polluosensibilité Spécifique (IPS)	0,93	0,70
R-M4			
Spain	Indice de Polluosensibilité Spécifique (IPS)	0,91	0,68
R-M5			
Portugal	European Index (CEE)	0,85	0,64
Spain	Indice de Polluosensibilité Spécifique (IPS)	0,95	0,71

WATER CATEGORY: Rivers

GEOGRAPHICAL INTERCALIBRATION GROUP: Northern

**Description of types that have been intercalibrated**

Type	River characterisation	Catchment area (of stretch)	Altitude & geomorphology	Alkalinity (meq/l)	Organic material (mg Pt/l)
R-N1	Small lowland siliceous moderate alkalinity	10-100 km <sup>2</sup>	< 200 m or below the highest coastline	0,2 — 1	< 30 (< 150 in Ireland)
R-N3	Small/medium lowland organic	10-1 000 km <sup>2</sup>		< 0,2	> 30
R-N4	Medium lowland siliceous moderate alkalinity	100-1 000 km <sup>2</sup>		0,2 — 1	< 30
R-N5	Small mid-altitude siliceous	10-100 km <sup>2</sup>	Between lowland and highland	< 0,2	< 30

Countries sharing the types that have been intercalibrated:

Type R-N1: Finland, Ireland, Norway, Sweden, United Kingdom

Type R-N3: Finland, Ireland, Norway, Sweden, United Kingdom

Type R-N4: Finland, Norway, Sweden, United Kingdom

Type R-N5: Finland, Norway, Sweden, United Kingdom

## RESULTS

**Biological Quality Element:** Benthic invertebrate fauna

**Results:** Ecological quality ratios of national classification systems intercalibrated

The following results apply to all types as described above

Country	National classification system intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Finland	Multimetric system, first version established	0,80	0,60
Ireland	Quality Rating System (Q-value)	0,85	0,75
Norway	Average Score per Taxon (ASPT)	0,99	0,87
Sweden	DJ-index (Dahl & Johnson 2004)	0,80	0,60
United Kingdom	River Invertebrate Classification Tool (RICT)	0,97	0,86

**Biological Quality Element:** Phytobenthos

**Results:** Ecological quality ratios of the national classification systems intercalibrated

The following results apply to all types as described above

Country	National classification system intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Finland	Indice de Polluosensibilité Spécifique (IPS)	0,91	0,80
Ireland	Revised form of Trophic Diatom Index (TDI)	0,93	0,78
Sweden	Swedish assessment methods, Swedish EPA regulations (NFS 2008:1) based on Indice de Polluosensibilité Spécifique (IPS)	0,89	0,74
United Kingdom	Diatom Assessment for River Ecological Status (DARES)	0,93	0,78

WATER CATEGORY: Lakes

GEOGRAPHICAL INTERCALIBRATION GROUP: Atlantic

**Description of types that have been intercalibrated**

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)
LA1/2	Lowland, shallow, calcareous, small and large	< 200	3-15	> 1

Countries sharing types that have been intercalibrated:

Ireland and United Kingdom

## RESULTS

**Biological Quality Element:** Phytoplankton

Phytoplankton parameter indicative of biomass (Chlorophyll a)

**Results:** Ecological quality ratios and parameter values

The following results refer to growing season mean values and apply to all countries sharing the type

Type	Ecological Quality Ratios		Chlorophyll a concentrations (µg/l)	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
LA1/2	0,55	0,32	4,6 — 7,0	8,0 — 12,0

WATER CATEGORY: Lakes

GEOGRAPHICAL INTERCALIBRATION GROUP: Alpine

**Description of types that have been intercalibrated**

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)	Lake size (km <sup>2</sup> )
L-AL3	Lowland or mid-altitude, deep, moderate to high alkalinity (alpine influence), large	50 — 800	> 15	> 1	> 0,5
L-AL4	Mid-altitude, shallow, moderate to high alkalinity (alpine influence), large	200 — 800	3 — 15	> 1	> 0,5

Countries sharing types that have been intercalibrated:

Types L-AL3 and L-AL4: Austria, France, Germany, Italy and Slovenia

## RESULTS

**Biological Quality Element:** Phytoplankton

Phytoplankton: parameters indicative of biomass

**Results:** Ecological quality ratios and parameter values

The following results refer to annual mean values and apply to all countries sharing the type. Member States may choose to use Chlorophyll a, total biovolume, or both parameters.

**Chlorophyll a**

Type	Ecological Quality Ratios		Chlorophyll a concentrations (µg/l)	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
L-AL3	0,70	0,40	2,1 — 2,7	3,8 — 4,7
L-AL4	0,75	0,41	3,6 — 4,4	6,6 — 8,0

**Total biovolume**

Type	Ecological Quality Ratios		Total biovolumes (mm <sup>3</sup> /l)	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
L-AL3	0,60	0,25	0,3 — 0,5	0,8 — 1,2
L-AL4	0,64	0,26	0,8 — 1,1	1,9 — 2,7

Phytoplankton: parameters indicative of taxonomic composition and abundance

**Results:** Ecological quality ratios of the national parameters intercalibrated

Country	National parameters intercalibrated	Type	Ecological Quality Ratios		Class boundaries	
			High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
Austria Slovenia	Brettum index	L-AL3	0,94	0,83	4,12—4,34	3,64—3,83
		L-AL4	0,94	0,81	3,69—3,87	3,20—3,34
Germany	PTSI (Phytoplankton Taxa Lake Index)	L-AL3	0,60	0,43	1,25	1,75
		L-AL4	0,71	0,56	1,75	2,25
Italy	PTI <sub>ot</sub> (Phytoplankton Taxa Index)	L-AL3 (mean depth < 100m)	0,95	0,89	3,43	3,22
		L-AL4	0,95	0,85	3,37	3,01
	PTI <sub>species</sub> (Phytoplankton Taxa Index)	L-AL 3 (mean depth > 100m)	0,93	0,82	4,00	3,50

**Biological Quality Element:** Macrophytes

**Results:** Ecological quality ratios of national classification systems intercalibrated

Type and country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Austria Type L-AL3 and L-AL4	Austrian macrophyte assessment system: Austrian Index Macrophytes for Lakes (AIM for Lakes), Module 1	0,80	0,60
Germany Type L-AL3	German macrophyte/phytobenthos assessment system: Module 1	0,78	0,51
Germany Type L-AL4	German macrophyte/phytobenthos assessment system: Modules 1 + 2	0,71	0,47

WATER CATEGORY: Lakes

GEOGRAPHICAL INTERCALIBRATION GROUP: Central/Baltic

**Description of types that have been intercalibrated**

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)	Hydrological residence time (years)
L-CB1	Lowland, shallow, calcareous	< 200	3 — 15	> 1	1 — 10
L-CB2	Lowland, very shallow, calcareous	< 200	< 3	> 1	0,1 — 1
L-CB3	Lowland, shallow, small, siliceous (moderate alkalinity)	< 200	3 — 15	0,2 — 1	1 — 10

Countries sharing types that have been intercalibrated:

Types L-CB1 and L-CB2: Belgium, Germany, Denmark, Estonia, France, Lithuania, Latvia, Netherlands, Poland, United Kingdom.

Type L-CB3: Belgium, Denmark, Estonia, France, Latvia, Poland.

## RESULTS

**Biological Quality Element:** Phytoplankton

Phytoplankton: parameter indicative of biomass

**Results:** Ecological quality ratios and parameter values

The following results refer to growing season mean values and apply to all countries sharing the type.

Type	Ecological Quality Ratios		Chlorophyll a concentrations (µg/l)	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
L-CB1	0,55	0,32	4,6 — 7,0	8,0 — 12,0
L-CB2	0,63	0,30	9,9 — 11,7	21,0 — 25,0
L-CB3	0,57	0,31	4,3 — 6,5	8,0 — 12,0

**Biological Quality Element:** Macrophytes

**Results:** Ecological quality ratios of national classification systems intercalibrated

The following results apply to LCB1 and LCB2 types

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Belgium	Flemish macrophyte assessment system	0,80	0,60
Germany	German macrophyte assessment system: Reference Index	0,75	0,50
Estonia	Estonian macrophyte assessment system	0,80	0,60
Latvia	Latvian macrophyte assessment system	0,80	0,60
Netherlands	Dutch macrophyte assessment system (KRW Maatlat)	0,80	0,60
United Kingdom	UK macrophyte assessment system: LEAF-PACS	0,80	0,60

WATER CATEGORY: Lakes

GEOGRAPHICAL INTERCALIBRATION GROUP: Mediterranean

**Description of types that have been intercalibrated**

Type	Lake characterisation	Altitude (m)	Annual mean Precipitation (mm) and T (°C)	Mean depth (m)	Alkalinity (meq/l)	Lake size (km <sup>2</sup> )
L-M5/7	Reservoirs, deep, large, siliceous, 'wet areas', catchment < 20 000km <sup>2</sup>	0 — 800	> 800 or < 15	> 15	< 1	> 0,5
L-M8	Reservoirs, deep, large, calcar-eous, catchment < 20 000km <sup>2</sup>	0 — 800	—	> 15	> 1	> 0,5

Countries sharing types that have been intercalibrated:

Type L-M5/7: Greece, France, Portugal, Spain, Romania.

Type L-M8: Cyprus, Greece, France, Italy, Spain, Romania.

## RESULTS

**Biological Quality Element:** Phytoplankton

Phytoplankton: parameters indicative of biomass

**Results:** Ecological quality ratios and parameter values

The following results refer to summer mean values, euphotic depth and apply to all countries sharing the type. Member States may choose to use Chlorophyll a, total biovolume, or both parameters.

**Chlorophyll a**

Type	Ecological Quality Ratios	Chlorophyll a concentrations (µg/l)
	Good-Moderate boundary	Good-Moderate boundary
L-M5/7	0,21	6,7 — 9,5
L-M8	0,43	4,2 — 6,0

**Total biovolume**

Type	Ecological Quality Ratios	Total biovolumes (mm <sup>3</sup> /l)
	Good-Moderate boundary	Good-Moderate boundary
L-M5/7	0,19	1,9
L-M8	0,36	2,1

Phytoplankton: parameters indicative of taxonomic composition and abundance

**Results:** Ecological quality ratios and parameter values

The following results refer to summer mean values, euphotic depth and apply to all countries sharing the type. Member States must use at least one of the intercalibrated parameters (percentage of Cyanobacteria, Catalan index, Med PTI index)

**Percentage of Cyanobacteria**

Type and country	Ecological Quality Ratios	% of Cyanobacteria
	Good-Moderate boundary	Good-Moderate boundary

Type L-M5/7

All countries sharing the type	0,91	9,2
--------------------------------	------	-----

Type L-M8

All countries sharing the type	0,72	28,5
--------------------------------	------	------

Ecological quality ratios calculated as  $EQR = (100 - \text{boundary value}) / (100 - \text{reference value})$

**Catalan index**

Type and country	Ecological Quality Ratios	Catalan index
	Good-Moderate boundary	Good-Moderate boundary

Type L-M5/7

All countries sharing the type	0,97	10,6
--------------------------------	------	------

Type L-M8

All countries sharing the type	0,98	7,7
--------------------------------	------	-----

Ecological quality ratios calculated as  $EQR = (400 - \text{boundary value}) / (400 - \text{reference value})$

**Med PTI index**

Type and country	Ecological Quality Ratios	Med PTI
	Good-Moderate boundary	Good-Moderate boundary
<i>Type L-M5/7</i>		
All countries sharing the type	0,75	2,32
<i>Type L-M8</i>		
All countries sharing the type	0,77	2,38

WATER CATEGORY: Lakes

GEOGRAPHICAL INTERCALIBRATION GROUP: Northern

**Description of the types that have been intercalibrated**

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)	Colour (mg Pt/l)
LN1	Lowland, shallow, moderate alkalinity, clear	< 200	3–15	0,2–1	< 30
LN2a	Lowland, shallow, low alkalinity, clear	< 200	3–15	< 0,2	< 30
LN2b	Lowland, deep, low alkalinity, clear	< 200	> 15	< 0,2	< 30
LN3a	Lowland, shallow, low alkalinity, meso-humic	< 200	3–15	< 0,2	30–90
LN5	Mid-altitude, shallow, low alkalinity, clear	200–800	3–15	< 0,2	< 30
LN6a	Mid-altitude, shallow, low alkalinity meso-humic	200–800	3–15	< 0,2	30–90
LN8a	Lowland, shallow, moderate alkalinity, meso-humic	< 200	3–15	0,2–1	30–90

Countries sharing types that have been intercalibrated:

*Types LN1, LN2a, LN3a, LN8a:* Ireland, Finland, Norway, Sweden, United Kingdom.*Types LN2b, LN5 and LN6a:* Norway, Sweden, United Kingdom.**Biological Quality Element:** Phytoplankton

Phytoplankton: parameter indicative of biomass

**Results:** Ecological quality ratios and parameter values

The following results refer to growing season mean values and apply to all countries sharing the type

Type	Ecological Quality Ratios		Chlorophyll a concentrations (µg/l)	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
LN1	0,50	0,33	5,0 — 7,0	7,5 — 10,5
LN2a	0,50	0,29	3,0 — 5,0	5,0 — 8,5
LN2b	0,50	0,33	3,0 — 5,0	4,5 — 7,5
LN3a	0,50	0,30	5,0 — 7,0	8,0 — 12,0



Type	Ecological Quality Ratios		Chlorophyll a concentrations (µg/l)	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
LN5	0,50	0,33	2,0 — 4,0	3,0 — 6,0
LN6a	0,50	0,33	4,0 — 6,0	6,0 — 9,0
LN8a	0,50	0,33	7,0 — 10,0	10,5 — 15,0

**Biological Quality Element: Macrophytes****Description of the types that have been intercalibrated (for macrophytes intercalibration only)**

Type	Lake characterisation	Alkalinity (meq/l)	Color(mg Pt/l)
101.	Low alkalinity, clear	0,05 — 0,2	< 30
102.	Low alkalinity, humic	0,05 — 0,2	> 30
201.	Moderate alkalinity, clear	0,2 — 1,0	< 30
202.	Moderate alkalinity, humic	0,2 — 1,0	> 30
301.	High alkalinity, clear	> 1,0	< 30
302.	High alkalinity, humic	> 1,0	> 30

Countries sharing types that have been intercalibrated:

Types 101, 102, 201 and 202: Ireland, Finland, Norway, Sweden, United Kingdom.

Type 301: Ireland, Norway, Sweden, United Kingdom.

Type 302: Ireland, Norway, Sweden, United Kingdom.

**Results: Ecological quality ratios of national classification systems methods**

Country	National classification system intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Ireland	Free Macrophyte Index	All types intercalibrated	0,90	0,68
Sweden	Macrophyte Trophic index (Ecke)	Type 101	0,98	0,79
		Type 102	0,98	0,88
		Type 201	0,94	0,83
		Type 202	0,96	0,83
Norway	Macrophyte Trophic Index (Mjelde)	Type 101	0,94	0,61
		Type 102	0,96	0,65
		Type 201	0,91	0,72
		Type 202	0,9	0,77
		Type 301	0,92	0,69
United Kingdom	UK macrophyte assessment system: LEAFACS	All types intercalibrated	0,80	0,60

WATER CATEGORY: Coastal and transitional

GEOGRAPHICAL INTERCALIBRATION GROUP: Baltic Sea GIG

**Description of types that have been intercalibrated**

Type	Salinity psu	Exposure	Depth	Ice days	Other Characteristics
CW B0	0,5- 3	Sheltered	Shallow	> 150	Sites in Botnian Bay (Northern Quark)
CW B2	3-6	Sheltered	Shallow	90 — 150	Sites in Bothnian Sea
CW B3 a	3-6	Sheltered	Shallow	~90	Sites in the area extending from the southern Bothnian Sea to the Archipelago Sea and the western Gulf of Finland
CW B3 b	3-6	Exposed	Shallow	~90	
CW B12 a Eastern Baltic Sea	5-8	Sheltered	Shallow	—	Sites in the Gulf of Riga,
CW B12 b Western Baltic Sea	8 — 22	Sheltered	Shallow	—	Sites at the Southern Swedish coast and the South western Baltic Sea open coast along Denmark and Germany
CW B13	6-22	Exposed	Shallow	—	Sites along the coast of the Estonia, Latvia and Lithuania, the Polish coast and the Danish island Bornholm
CW B 14	6-22	Sheltered	Shallow	—	Lagoons
TW B 13	6-22	Exposed	Shallow	—	Transitional water. Sites along the coast of Lithuania and Poland

Countries sharing types that have been intercalibrated:

Types CWB0, CWB2, CWB3a, CWB3b: Finland, Sweden.

Type CWB12a: Estonia

Type CWB12b: Germany, Denmark, Sweden.

Type CWB13: Denmark, Estonia, Lithuania, Latvia, Poland.

Type CWB14: Denmark, Poland

Type TWB13: Lithuania, Poland.

**RESULTS**

**Biological Quality Element:** Benthic invertebrate fauna

**Results:** Ecological quality ratios of the national classification systems intercalibrated

Type and country	National classification system intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
CW B0			
Finland	BBI- Finnish Brackish water Benthic Index	0,99	0,59
Sweden	BQI-Swedish multimetric biological quality index (soft sediment infauna)	0,77	0,31
CW B2			
Finland	BBI- Finnish Brackish water Benthic Index	0,95	0,57
Sweden	BQI-Swedish multimetric biological quality index (soft sediment infauna)	0,76	0,29

Type and country	National classification system intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
CW B3 a			
Finland	BBI- Finnish Brackish water Benthic Index	0,89	0,53
Sweden	BQI-Swedish multimetric biological quality index (soft sediment infauna)	0,76	0,29
CW B3 b			
Finland	BBI- Finnish Brackish water Benthic Index	0,90	0,54
Sweden	BQI-Swedish multimetric biological quality index (soft sediment infauna)	0,76	0,29

### Biological Quality Element: Phytoplankton

Phytoplankton: parameter indicative of biomass (Chlorophyll a)

**Results:** Ecological quality ratios and parameter values

The following results refer to summer mean May/June — September

Type and country	Ecological Quality Ratios for the national classification systems		Parameter values/ranges Chlorophyll a µg/l	
	High-Good boundary	Good-Moderate boundary	High/-Good boundary	Good-Moderate boundary
<i>CW B0</i>				
All countries sharing the type	0,76	0,56	1,7 (1,5 — 1,8)	2,3 (2,0 -2,7)
<i>CW B2</i>				
All countries sharing the type	0,78	0,56	1,8	2,5 (2,3 -2,6)
<i>CW B3 a</i>				
Sheltered				
All countries sharing the type	0,71	0,49	2,4 (2,2 — 2,6)	3,5 (2,9 — 4,0)
<i>CW B3 b</i>				
Exposed				
All countries sharing the type	0,81	0,68	1,5	1,8
<i>CW B 12 a</i>				
Eastern Baltic Sea				
Salinity 5-8 psu				
All countries sharing the type	0,82	0,66	2,2	2,7
<i>CW B 12 b</i>				
Western Baltic Sea				
Salinity8 -22 psu				
All countries sharing the type	0,92	0,63	1,3 (1,1 — 1,5)	1,9
<i>CW B 13</i>				
Denmark, Estonia and Latvia	0,92	0,75	1,3	1,6

Type and country	Ecological Quality Ratios for the national classification systems		Parameter values/ranges Chlorophyll a µg/l	
	High-Good boundary	Good-Moderate boundary	High/-Good boundary	Good-Moderate boundary
CW B 14 Denmark	0,82	0,56	1,1	1,6
TW B 13 All countries sharing the type	0,90	0,66	4,2	5,8

**Biological Quality Element:** Angiosperms

Angiosperms: parameter indicative of abundance (Depth limit of Eelgrass *Zostera marina*)

**Results:** Ecological quality ratios and parameter values

Type and country	Ecological Quality Ratios for the national classification systems		Parameter values/ranges Depth limit (m) Eelgrass <i>Zostera marina</i>	
	High-Good boundary	Good-Moderate boundary	High/-Good boundary	Good-Moderate boundary
CW B 12 b Denmark and Germany Open coast	0,90	0,74	8,5 (8,0 — 9,4)	7 (6,6 — 7,1)

WATER CATEGORY: Coastal and transitional

GEOGRAPHICAL INTERCALIBRATION GROUP: North East Atlantic

**Description of types that have been intercalibrated**

Type	Characterisation	Salinity (psu) Tidal Range(m) Depth(m)	Current Velocity (knots) Exposure	Mixing Residence Time
NEA1/26a	Open oceanic, exposed or sheltered, euhaline, shallow	> 30 Mesotidal 1 — 5 < 30	Medium 1 — 3 Exposed or sheltered	Fully mixed Days
NEA1/26b	Enclosed seas, exposed or sheltered, euhaline, shallow	> 30 Mesotidal 1 — 5 < 30	Medium 1 — 3 Exposed or sheltered	Fully mixed Days
NEA1/26c	Enclosed seas, enclosed or sheltered, partly stratified	> 30 Microtidal/Mesotidal < 1 — 5 < 30	Medium 1 — 3 Exposed or sheltered	Partly stratified Days to weeks
NEA1/26d	Scandinavian coast, exposed or sheltered, shallow	> 30 Microtidal < 1 < 30	Low < 1 Exposed or moderately exposed	Partly stratified Days to weeks
NEA1/26e	Areas of upwelling, exposed or sheltered, euhaline, shallow	> 30 Mesotidal 1 — 5 < 30	Medium 1 — 3 Exposed or sheltered	Fully mixed Days
NEA3/4	Polyhaline, exposed or moderately exposed (Wadden Sea type)	Polyhaline 18 — 30 Mesotidal 1 — 5 < 30	Medium 1 — 3 Exposed or moderately exposed	Fully mixed Days

Type	Characterisation	Salinity (psu) Tidal Range(m) Depth(m)	Current Velocity (knots) Exposure	Mixing Residence Time
NEA7	Deep fjordic and sea loch systems	> 30 Mesotidal 1 -5 > 30	Low < 1 Sheltered	Fully mixed Days
NEA8	Skagerrak Inner Arc Type, polyhaline, microtidal, sheltered, shallow	Polyhaline 18 — 30 Microtidal < 1 < 30	Low < 1 Sheltered	Partly stratified Days to weeks
NEA9	Fjord with a shallow sill at the mouth with a very deep maximum depth in the central basin with poor deep-water exchange	Polyhaline 18 — 30 Microtidal < 1 > 30	Low < 1 Sheltered	Partly stratified Weeks
NEA10	Skagerrak Outer Arc Type, polyhaline, microtidal, exposed, deep	Polyhaline 18 — 30 Microtidal < 1 > 30	Low < 1 Exposed	Partly stratified Days
NEA11	Transitional Waters	Oligohaline 0 — 35 Micro to macrotidal < 30	Variable Sheltered or moderately exposed	Partly or permanently stratified Days to weeks

Countries sharing the types that have been intercalibrated:

Type NEA1/26a: Spain, France, Ireland, Norway, United Kingdom

Type NEA1/26b: Belgium, France, Netherlands, United Kingdom

Type NEA1/26c: Germany, Denmark

Type NEA1/26d: Denmark

Type NEA1/26e: Portugal, Spain

Type NEA3/4: Germany, Netherlands

Type NEA7: Norway, United Kingdom

Type NEA8: Denmark, Norway, Sweden

Type NEA9: Norway, Sweden

Type NEA10: Norway, Sweden

Type NEA11: Belgium, Germany, Spain, France, Ireland, Netherlands, Portugal, United Kingdom

## RESULTS

**Biological Quality Element:** Benthic invertebrate fauna

**Results:** Ecological quality ratios of the national classification systems intercalibrated

The results are applicable to soft sediment habitats only (subtidal mud/sand habitats).

Type and country	National classification system	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
<i>Types NEA1/26, NEA 3/4 and NEA7 (Indices responsive primarily to organic enrichment and toxic pollution pressures in soft sediment habitats)</i>			
Denmark	DKI	0,67	0,53
France	M-AMBI	0,77	0,53
Germany	M-AMBI	0,85	0,70
Ireland	IQI	0,75	0,64
Norway	NQI	0,92	0,81

Type and country	National classification system	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Portugal	P-BAT	0,79	0,58
Spain	M-AMBI	0,77	0,53
United Kingdom	IQI	0,75	0,64
<i>Types NEA1/26 and NEA3/4 (Index responsive to multiple pressures in multiple habitats)</i>			
Belgium	BEQI	0,80	0,60
Netherlands	BEQI	0,80	0,60
<i>Types NEA8/9/10</i>			
Denmark	DKI	0,82	0,63
Norway	NQI	0,92	0,81
Sweden	BQI	0,89	0,68

**Biological Quality Element:** Phytoplankton

Phytoplankton: parameter indicative of biomass parameter (Chlorophyll a)

**Results:** Ecological quality ratios and parameter values

The following results apply to all countries sharing the types. Parameter values are expressed in µg/l as the 90 %ile value calculated over the defined growing season in a six year period. The results relate to geographic areas within the types as described in the technical report.

Type	Ecological Quality Ratios		Values (µg/l, 90 %ile)	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
NEA1/26a	0,67	0,33	1 — 5	2 — 10
NEA1/26b	0,67	0,44	6 — 10	9 — 15
NEA1/26c	0,67	0,44	5	7,5
NEA1/26d	0,67	0,50	3	4
NEA1/26e	0,67	0,44	6 — 8	9 — 12
NEA8	0,67	0,33	1,5	3
NEA9	0,67	0,33	2,5	5
NEA10	0,67	0,33	3	6

Phytoplankton: parameter indicative of blooms

**Results:** Ecological quality ratios and parameter values

Type and country	National parameter intercalibrated	Ecological Quality Ratios		Values ( % single taxa counts above thresholds)	
		High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
NEA1/26a/b, NEA3/4					
Belgium Germany Netherlands UK	Phaeocystis Blooms	0,92	0,49	9	17

Type and country	National parameter intercalibrated	Ecological Quality Ratios		Values ( % single taxa counts above thresholds)	
		High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
NEA1/26a/b					
Spain France Ireland UK	Taxa cell counts	0,84	0,43	20	39
NEA1/26e					
Portugal Spain	Taxa cell counts	0,83	0,51	30	49

**Biological Quality Element:** Macroalgae

Macroalgae: parameter indicative of composition

**Results:** Ecological quality ratios of national parameter intercalibrated

Type and country	National parameter intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
NEA1/26			
Ireland	Rocky Shore Reduced Species List Multi-metric System	0,80	0,60
Norway	Rocky Shore Reduced Species List Multi-metric System	0,80	0,60
United Kingdom	Rocky Shore Reduced Species List Multi-metric System	0,80	0,60
Spain	Multimetric System CFR	0,81	0,57
Portugal	Multimetric System p-MarMAT	0,82	0,64
Ireland United Kingdom	Opportunistic Macroalgae Multimetric System	0,80	0,60
NEA8/9/10			
Norway Sweden	Subtidal Algae (Depth Limit of macroalgal Species)	0,81	0,61

**Biological Quality Element:** Angiosperms

Angiosperms: parameter indicative of taxonomic composition and abundance

**Results:** Ecological quality ratios of national parameter intercalibrated

Type and country	National parameter intercalibrated	Ecological Quality Ratios		Parameter values (*)	
		High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
NEA1/26, NEA 3/4, NEA11					
Ireland Netherlands UK	Intertidal Seagrass Abundance (density) and Species Composition Multimetric	0,90	0,70	Not applicable	Not applicable

Type and country	National parameter intercalibrated	Ecological Quality Ratios		Parameter values (*)	
		High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
NEA1/26, NEA3/4					
Germany Ireland Netherlands UK	Intertidal Seagrass (Area: Acreage/bed extent)	0,90	0,70	10	30

(\*) Intertidal seagrass values expressed as percentage areal loss from reference area.

WATER CATEGORY: Coastal and transitional

GEOGRAPHICAL INTERCALIBRATION GROUP: Mediterranean

Results apply to coastal waters only.

Typology has been developed for specific quality elements only (see below).

#### RESULTS

**Biological Quality Element:** Benthic invertebrate fauna

**Results:** Ecological quality ratios of national classification systems

The following results apply to soft sediments only

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Cyprus	Bentix	0,75	0,58
Greece	Bentix	0,75	0,58
Slovenia	M-AMBI	0,83	0,62
Spain	MEDOCC index	0,73	0,47

**Biological Quality Element:** Phytoplankton

**Description of types that have been intercalibrated (applicable for phytoplankton only)**

Type	Description	Density (kg/m <sup>3</sup> )	Annual mean Salinity (psu)
Type I	Highly influenced by freshwater input	< 25	< 34,5
Type IIA	Moderately influenced by freshwater input (continent influence)	25-27	34,5-37,5
Type IIW	Continental coast, not influenced by freshwater input (Western Basin).	> 27	> 37,5
Type IIIE	Not influenced by freshwater input (Eastern Basin)	> 27	> 37,5

Countries sharing the types that have been intercalibrated

Type I: France, Italy

Type IIA: France, Spain, Italy, Slovenia

Type IIW: France, Spain, Italy

Type IIIE: Greece, Cyprus

Phytoplankton: parameter indicative of biomass (Chlorophyll a)



**Results:** Ecological quality ratios and parameter values

The following results apply to all countries sharing the types. Parameter values are expressed in µg/l of Chlorophyll *a*, for the 90th percentile calculated over the year in at least a five year period. The results relate to geographic areas within the types as described in the technical report..

Type	Ecological Quality Ratios		Values (µg/l, 90 %ile)	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
Type IIA	0,80	0,53	2,4	3,6
Type IIIW	0,80	0,50	1,1	1,8
Type IIIE	0,80	0,20	0,1	0,4

**Biological Quality Element:** Macroalgae**Results:** Ecological quality ratios of national classification systems

The following results apply to the upper infralittoral zone (3,5 — 0,2 m depth) in rocky coasts:

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Cyprus	EEL- Ecological Evaluation Index	0,75	0,50
France	CARLIT — Cartography of Littoral and upper-sublittoral rocky-shore communities	0,75	0,60
Greece	EEL- Ecological Evaluation Index	0,75	0,50
Slovenia	EEL- Ecological Evaluation Index	0,75	0,50
Spain	CARLIT-BENTHOS	0,75	0,60

WATER CATEGORY: Coastal and transitional

GEOGRAPHICAL INTERCALIBRATION GROUP: Black Sea

**Description of types that have been intercalibrated**

Type	Description
CW-BL1	Mesohaline, microtidal (< 1 m), shallow (< 30 m), moderately exposed, mixed substratum

Countries sharing the types that have been intercalibrated:

Bulgaria and Romania

**RESULTS****Biological Quality Element:** Phytoplankton

Phytoplankton: parameter indicative of biomass

**Results:** Ecological quality ratios and parameter values

Season	Ecological Quality Ratios		Biomass values (mg/m <sup>3</sup> )	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
Winter	0,93	0,78	1 770	3 420
Spring	0,93	0,78	3 515	5 690

Season	Ecological Quality Ratios		Biomass values (mg/m <sup>3</sup> )	
	High-Good boundary	Good-Moderate boundary	High-Good boundary	Good-Moderate boundary
Summer	0,93	0,78	1 281	2 526
Autumn	0,93	0,78	1 840	3 640

**Biological Quality Element:** Benthic invertebrates fauna

**Results:** Ecological quality ratios of national parameters intercalibrated

Member States must use at least one of the intercalibrated parameters (Shannon diversity index H', AMBI, M-AMBI)

National parameters intercalibrated	Ecological Quality Ratios	
	High-Good boundary	Good-Moderate boundary
Shannon diversity index H'	0,89	0,69
AMBI	0,83	0,53
M-AMBI	0,85	0,55