

II

(Non-legislative acts)

DECISIONS

COMMISSION DECISION (EU) 2018/229

of 12 February 2018

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 and repealing Commission Decision 2013/480/EU

(notified under document C(2018) 696)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

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 ⁽¹⁾, and in particular Section 1.4.1(ix) of Annex V thereto,

Whereas:

- (1) Directive 2000/60/EC requires the Member States to protect enhance and restore all bodies of surface waters with the aim of achieving good ecological and chemical status. It furthermore requires Member States to protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential and good chemical status.
- (2) In order to define one of the main environmental objectives of Directive 2000/60/EC, namely good ecological status, that Directive provides for a process to ensure the comparability between the biological monitoring results of Member States and their monitoring system classifications. Member States' biological monitoring results and their monitoring system classifications are to be compared through an intercalibration network comprised of monitoring sites in each Member State and in each ecoregion of the Union. 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 monitoring system classifications with the normative definitions of Section 1.2 of Annex V to Directive 2000/60/EC. 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 Commission Decision 2005/646/EC ⁽²⁾.
- (3) In accordance with Directive 2000/60/EC the intercalibration exercise is to be carried out at biological element level, comparing the classification results of the national monitoring system for each biological element and for each common surface water body type among Member States and ensuring the consistency of the results with the normative definitions set out in Section 1.2 of Annex V to that Directive.

⁽¹⁾ OJ L 327, 22.12.2000, p. 1.

⁽²⁾ 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 (OJ L 243, 19.9.2005, p. 1).

- (4) The Commission has facilitated three phases of the intercalibration exercise through the Joint Research Centre. Under the Water Framework Directive Common Implementation Strategy four guidance documents (No 6⁽¹⁾, 14 (two versions⁽²⁾) and 30⁽³⁾) were prepared to facilitate the intercalibration process. They provide an overview of the key principles of the intercalibration process and the options for carrying out the exercise including timescales, and reporting requirements. They also provide a procedure to fit new or revised national classification methods to the harmonised definition of good ecological status.
- (5) By 2007 the Commission had received intercalibration results for a number of biological quality elements. They were included in Commission Decision 2008/915/EC⁽⁴⁾, which sets out the values of the boundaries between classes that Member States were to use in their national monitoring system classifications. The results of the first phase of the intercalibration exercise were incomplete, in so far as not all biological quality elements were covered. It was necessary however to adopt the available results of the intercalibration exercise to inform the development of the first river basin programme of measures and the first river basin management plans in accordance with Articles 11 and 13 of Directive 2000/60/EC.
- (6) In order to close the gaps and improve the comparability of the intercalibration results in time for the second river basin management plans due in 2015, the Commission initiated a second phase of the intercalibration exercise. The results of this exercise were included in Commission Decision 2013/480/EU⁽⁵⁾. The results revealed that in some cases intercalibration was only partially achieved. There were also Geographical Intercalibration Groups and biological quality elements for which there were no intercalibration results for inclusion in that Decision.
- (7) A third phase of the intercalibration exercise was therefore necessary in order to close these gaps and improve the comparability of the intercalibration results in time for the third river basin management plans due in 2021. The results of this third phase of the intercalibration exercise are included in the Annex to this Decision.
- (8) The Annex to this Decision sets out the results of the intercalibration exercise. For the results in Part 1 of the Annex all steps of the intercalibration process set out in the guidance documents have been fully completed. Part 2 of the Annex contains the national classification methods and their respective boundary values for which it has not been technically feasible to complete the comparability assessment due to a lack of common types, different pressures addressed or different assessment concepts. Since the results set out in Part 1 and Part 2 of the Annex are consistent with the normative definitions set out in Section 1.2 of Annex V to Directive 2000/60/EC, the respective boundary values should be used in Member States monitoring systems classifications.
- (9) Where water bodies corresponding to the intercalibrated types are designated as artificial or heavily modified water bodies in accordance with Article 4(3) of Directive 2000/60/EC, Member States should be allowed to use the results presented in the Annex to this Decision to derive their good ecological potential, taking into account their physical modifications and their associated water use in accordance with the normative definitions in point 1.2.5 of Annex V to Directive 2000/60/EC.
- (10) Member States should apply the results of the intercalibration exercise to 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.

⁽¹⁾ Common implementation strategy for the Water Framework Directive (2000/60/EC), Guidance Document No 6, Towards a Guidance on Establishment of the Intercalibration Network and the Process on the Intercalibration Exercise, European Communities, 2003. ISBN 92-894-5126-2.

⁽²⁾ Common implementation strategy for the Water Framework Directive (2000/60/EC), Guidance document No 14. Guidance document on the Intercalibration Process 2004-2006, ISBN 92-894-9471-9;

Common implementation strategy for the Water Framework Directive (2000/60/EC), Guidance document No 14. Guidance document on the Intercalibration Process 2008-2011, ISBN: 978-92-79-18997-5.

⁽³⁾ Procedure to fit new or updated classification methods to the results of a completed intercalibration exercise, Guidance document No 30. Technical Report 2015-085, ISBN: 978-92-79-38434-9.

⁽⁴⁾ Commission Decision 2008/915/EC 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 (OJ L 332, 10.12.2008, p. 20).

⁽⁵⁾ Commission Decision 2013/480/EU of 20 September 2013 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 and repealing Decision 2008/915/EC (OJ L 266, 8.10.2013, p. 1).

- (11) The information that is made available through the establishment of the monitoring programmes provided for in Article 8 of Directive 2000/60/EC and the review and update of the characteristics of river basin districts provided for in Article 5 of that Directive could bring new evidence that may lead to the adaptation to scientific and technical progress of the Member States' monitoring and classification systems. Member States may also develop new national classification methods covering biological quality elements or sub biological quality elements and respective boundary values for which the consistency with the normative definitions set out in Section 1.2 of Annex V to Directive 2000/60/EC should be assessed. These matters may lead to a review of the results of the intercalibration exercise to close gaps and improve the quality and comparability of the intercalibration results which in turn may warrant an update of the results contained in the Annex to this Decision.
- (12) Decision 2013/480/EU should therefore be repealed and replaced accordingly.
- (13) 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

1. For the purposes 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 Part 1 of the Annex to this Decision.
2. Where a comparability assessment for a biological quality element has not been completed within a Geographical Intercalibration Group, Member States shall, for the purpose of Section 1.4.1(iii) of Annex V to Directive 2000/60/EC, use in their monitoring systems classification the methods and the values of the boundaries between classes that are set out in Part 2 of the Annex to this Decision.
3. Member States may use the methods and the values of the boundaries between classes set out in the Annex to this Decision to establish the good ecological potential of water bodies designated as artificial or heavily modified water bodies in accordance with Article 4(3) of Directive 2000/60/EC.

Article 2

Decision 2013/480/EU is repealed.

Article 3

This Decision is addressed to the Member States.

Done at Brussels, 12 February 2018.

For the Commission

Karmenu VELLA

Member of the Commission

ANNEX

Part 1 of this annex includes the results of the intercalibration exercise for which all steps of the intercalibration process have been fully completed, including their respective boundary values.

Part 2 includes national methods and their boundary values which are consistent with the normative definition set out in Section 1.2 of Annex V to Directive 2000/60/EC but where it has not been technically feasible to complete the comparability assessment within a Geographical Intercalibration Group due to lack of common types, different pressures addressed or different assessment concepts.

– PART 1 –

Water category

Rivers

Geographical Intercalibration Group

Alpine rivers

Description of types that have been intercalibrated

Type	River characterisation	Catchment (km ²)	Altitude (m a.s.l.) and geomorphology	Alkalinity	Flow regime
R-A1	Pre-Alpine, 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 types that have been intercalibrated:

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

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

ALPINE RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS**Biological Quality Element**

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification methods intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Type R-A1			
Austria	Assessment of the biological quality elements — part benthic invertebrates [Erhebung der biologischen Qualitätselemente — Teil Makrozoobenthos (Detaillierte MZB-Methode)]	0,80	0,60
France	Classification française DCE Indice Biologique Global Normalisé (IBGN). AFNOR NF-T-90-350 and arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,93	0,79

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Germany	PERLODES — Bewertungsverfahren von Fließgewässern auf Basis des Makrozoobenthos	0,80	0,60
Italy	MacrOper, based on STAR Intercalibration Common Metric Index (STAR_ICMi)	0,97	0,73
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi bentoških nevretenčarjev	0,80	0,60
Type R-A2			
Austria	Assessment of the biological quality elements — part benthic invertebrates [Erhebung der biologischen Qualitätselemente — Teil Makrozoobenthos (Detaillierte MZB-Methode)]	0,80	0,60
France (Alps)	Classification française DCE Indice Biologique Global Normalisé (IBGN). AFNOR NF-T-90-350 and arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,93	0,71
France (Pyrenees)	Classification française DCE Indice Biologique Global Normalisé (IBGN). AFNOR NF-T-90-350 and arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,94	0,81
Italy	MacrOper, based on STAR Intercalibration Common Metric Index (STAR_ICMi)	0,95	0,71
Spain	Iberian BMWP (IBMWP)	0,83	0,53

ALPINE RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Phytobenthos

Results: Ecological quality ratios of national classification methods intercalibrated

Type and country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Type R-A1			
Austria	Assessment of the biological quality elements — part phytobenthos [Leitfaden zur Erhebung der biologischen Qualitätselemente, Teil A3 — Fließgewässer/Phytobenthos]	0,88	0,56

Type and country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
France	IBD 2007 (Coste et al, Ecol. Ind. 2009). AFNOR NF-T-90-354, December 2007. Arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,94	0,78
Germany	Verfahrensanleitung für die ökologische Bewertung von Fließgewässern zur Umsetzung der EG-Wasserrahmenrichtlinie: Makrophyten und Phytobenthos (PHYLIB), Modul Diatomeen	0,735	0,54
Italy	Intercalibration Common Metric Index (ICMi) (Mancini & Sollazzo, 2009)	0,87	0,7
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi fitobentosa in makrofitov, fitobentos	0,80	0,60
Type R-A2			
Austria	Assessment of the biological quality elements — part phytobenthos [Leitfaden zur Erhebung der biologischen Qualitätselemente, Teil A3 — Fließgewässer/Phytobenthos]	0,88	0,56
France	IBD 2007 (Coste et al, Ecol. Ind. 2009). AFNOR NF-T-90-354, December 2007. Arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,94	0,78
Spain	IPS (Coste in Cemagref, 1982)	0,94	0,74
Italy	Intercalibration Common Metric Index (ICMi) (Mancini & Sollazzo, 2009)	0,85	0,64

Water category

Rivers

Geographical Intercalibration Group

Central-Baltic rivers

Description of types that have been intercalibrated

Type	River characterisation	Catchment (km ²)	Altitude and 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

Type	River characterisation	Catchment (km ²)	Altitude and geomorphology	Alkalinity (meq/l)
R-C3	Small mid-altitude siliceous	10 — 100	Mid-altitude, rock (granite) — gravel substrate, 2 — 10 m width (bankfull size)	< 0,4
R-C4	Medium lowland mixed	100 — 1 000	Lowland, sandy to gravel substrate, 8 — 25 m width (bankfull size)	> 0,4
R-C5	Large lowland mixed	1 000 — 10 000	Lowland, barbel zone, variation in velocity, max. altitude in catchment: 800 m a.s.l., > 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 types that have been intercalibrated:

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

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

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

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

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

Type R-C6: Belgium (Wallonia), Denmark, Estonia, Spain, France, Ireland, Italy, Poland, Latvia, Lithuania, Luxembourg, Sweden, United Kingdom

CENTRAL-BALTIC RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Austria	Assessment of the biological quality elements — part benthic invertebrates	0,80	0,60
Belgium (Flanders)	Multimetric Macroinvertebrate Index Flanders (MMIF)	0,90	0,70

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Belgium (Wallonia)	Indice Biologique Global Normalisé (IBGN) (Norme AFNOR NF T 90 350, 1992) and Arrêté du Gouvernement wallon du 13 septembre 2012 relatif à l'identification, à la caractérisation et à la fixation des seuils d'état écologique applicables aux masses d'eau de surface et modifiant le Livre II du Code de l'Environnement, contenant le Code de l'Eau. Moniteur belge 12.10.2012	0,94 (type R-C1) 0,97 (types R-C3, R-C5, R-C6)	0,75 (type R-C1) 0,74 (types R-C3, R-C5, R-C6)
Czech Republic	Czech system for ecological status assessment of rivers using benthic macroinvertebrates	0,80	0,60
Denmark	Danish Stream Fauna Index (DSFI)	1,00	0,71
Estonia	Estonian surface water ecological quality assessment — river macroinvertebrates	0,90	0,70
Germany	PERLODES — Bewertungsverfahren von Fließgewässern auf Basis des Makrozoobenthos	0,80	0,60
France	Classification française DCE Indice Biologique Global Normalisé (IBGN). AFNOR NF T90-350 et arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,94	0,80
Ireland	Quality Rating System (Q-value)	0,85	0,75
Italy	MacrOper, based on STAR_ICM index calculation	0,96	0,72
Latvia	Latvian Macroinvertebrate Index (LMI)	0,92	0,72
Lithuania	Lithuanian River Macroinvertebrate Index (LRMI)	0,80	0,60
Luxembourg	Classification luxembourgeoise DCE Indice Biologique Global Normalisé (IBGN). AFNOR NF-T-90-350, AFNOR XP T 90-333 and XP T 90-388	0,96	0,72
Netherlands	KRW-maatlat	0,80	0,60
Poland	RIVECOmacro — MMI_PL	0,91 (type R-C1)	0,72 (type R-C1)
Spain	METI	0,93	0,70

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Sweden	DJ-index (Dahl & Johnson 2004)	0,80	0,60
United Kingdom	River Invertebrate Classification Tool (RICT)- WHPT	0,97	0,86

CENTRAL-BALTIC RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Macrophytes

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Austria	AIM for Rivers (Austrian Index Macrophytes for rivers)	RC-3	0,875	0,625
Belgium (Flanders)	MAFWAT — Flemish macrophyte assessment system	R-C1	0,80	0,60
Belgium (Wallonia)	IBMR-WL — Biological Macrophyte Index for Rivers (Arrêté du Gouvernement wallon du 13 septembre 2012 relatif à l'identification, à la caractérisation et à la fixation des seuils d'état écologique applicables aux masses d'eau de surface et modifiant le Livre II du Code de l'Environnement, contenant le Code de l'Eau. Moniteur belge 12.10.2012)	R-C3	0,925	0,607
Czech Republic	Assessment method of surface running water bodies in the Czech Republic using biological quality element macrophytes	R-C3 (national type 1)	0,83	0,67
		R-C3 (national type 4)	0,82	0,64
		R-C4	0,86	0,62
Denmark	DSPI — Danish Stream Plant Index	R-C1, R-C4	0,70	0,50
Germany	Verfahrensanleitung für die ökologische Bewertung von Fließgewässern zur Umsetzung der EG-Wasserrahmenrichtlinie: Makrophyten und Phytobenthos (PHYLIB), Modul Makrophyten	R-C1	0,745	0,495
		R-C3	0,80	0,55
		R-C4	0,575	0,395

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Germany	NRW-Verfahren zur Bewertung von Fließgewässern mit Makrophyten	R-C1, R-C3, R-C4	0,995	0,695
France	IBMR — Indice Biologique Macrophytique en Rivière French standard NF T90-395 (2003-10-01)	R-C3	0,93	0,79
		R-C4	0,905	0,79
Ireland	MTR — IE — Mean Trophic Ranking	R-C4	0,74	0,62
Italy	IBMR — IT — Biological Macrophyte Index for Rivers	R-C1	0,90	0,80
		R-C4	0,90	0,80
Lithuania	Lithuanian River Macrophyte Index	R-C4	0,61	0,41
Latvia	Latvian assessment method using macrophytes	R-C4	0,75	0,55
Luxembourg	IBMR — LU — Biological Macrophyte Index for Rivers	R-C3, R-C4, R-C5 and R-C6	0,89	0,79
Netherlands	Revised assessment method for rivers in The Netherlands using macrophytes	R-C1 and R-C	0,80	0,60
Poland	MIR — Macrophyte Index for Rivers	R-C1	0,90	0,65
		R-C3	0,910	0,684
		R-C4	0,90	0,65
United Kingdom	River LEAFACS 2	R-C1, R-C3 and R-C4 (*)	0,80	0,60

(*) For the United Kingdom these results also apply to the common intercalibration types belonging to the Northern Geographical Intercalibration Group

CENTRAL-BALTIC RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element	Macrophytes and Phytobenthos
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Sub-Biological Quality Element	Phytobenthos
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Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Austria	Assessment of the biological quality elements — part Phytobenthos [Leitfaden zur Erhebung der biologischen Qualitätselemente, Teil A3 -Fließgewässer/Phytobenthos]	All types, altitude < 500 m	0,70	0,42
		All types, altitude > 500 m	0,71	0,43
Belgium (Flanders)	Proportions of Impact-Sensitive and Impact-Associated Diatoms (PISIAD)	All types	0,80	0,60
Belgium (Wallonia)	IPS (Coste, in CEMAGREF, 1982; Lenoir & Coste, 1996 and Arrêté du Gouvernement wallon du 13 septembre 2012 relatif à l'identification, à la caractérisation et à la fixation des seuils d'état écologique applicables aux masses d'eau de surface et modifiant le Livre II du Code de l'Environnement, contenant le Code de l'Eau. Moniteur belge 12.10.2012)	All types	0,98	0,73
Czech Republic	Czech assessment method for rivers using phytobenthos	R-C3, R-C4, R-C5	0,80	0,63
Estonia	Indice de Polluosensibilité Spécifique (IPS)	All types	0,85	0,70
France	IBD 2007 (Coste et al, Ecol. Ind. 2009). AFNOR NF-T-90-354, December 2007. Arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	All types	0,94	0,78
Germany	Verfahrensanleitung für die ökologische Bewertung von Fließgewässern zur Umsetzung der EG-Wasserrahmenrichtlinie: Makrophyten und Phytobenthos (PHYLIB), Modul Diatomeen	R-C1	0,67	0,43
		R-C3	0,67	0,43
		R-C4	0,61	0,43
		R-C5	0,73	0,55

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Ireland	Revised form of Trophic Diatom Index (TDI)	All types	0,93	0,78
Italy	Intercalibration Common Metric Index (ICMi) (Mancini & Sollazzo, 2009)	All types	0,89	0,70
Ireland	Revised form of Trophic Diatom Index (TDI)	All types	0,93	0,78
Lithuania	Lithuanian Phytobenthos Index	R-C1, R-C4, R-C5, R-C6	0,73	0,55
Luxembourg	Indice de Polluosensibilité Spécifique (IPS)	R-C3, R-C4 (low alkalinity)	0,98	0,78
		R-C4 (high alkalinity), R-C5 and R-C6	0,99	0,78
Netherlands	KRW Maatlat	All types	0,80	0,60
Poland	Indeks Okrzemkowy IO dla rzek (Diatom Index for rivers)	All types	0,80	0,58
Spain	Diatom multimetric (MDIAT)	R-C2, R-C3, R-C4	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 (DARLEQ2)	All types	1,00	0,75

Water category

Rivers

Geographical Intercalibration Group

Eastern Continental rivers

Description of types that have been intercalibrated

Type	River characterisation	Ecoregion	Catchment (km ²)	Altitude (m a.s.l.)	Geology	Substrate
R-E1a	Carpathians: small to medium, mid-altitude	10	10 — 1 000	500 — 800	Mixed	

Type	River characterisation	Ecoregion	Catchment (km ²)	Altitude (m a.s.l.)	Geology	Substrate
R-E1b	Carpathians: small to medium, mid-altitude	10	10 — 1 000	200 — 500	Mixed	
R-E2	Plains: medium-sized, lowland	11 and 12	100 — 1 000	< 200	Mixed	Sand and silt
R-E3	Plains: large, lowland	11 and 12	> 1 000	< 200	Mixed	Sand, silt and gravel
R-E4	Plains: medium-sized, mid-altitude	11 and 12	100 — 1 000	200 — 500	Mixed	Sand and gravel
R-EX4	Large, mid-altitude	10, 11 and 12	> 1 000	200 — 500	Mixed	Gravel and boulder
R-EX5	Plains: small lowland	11 and 12	10 — 100	< 200	Mixed	Sand and silt
R-EX6	Plains: small, mid-altitude	11 and 12	10 — 100	200 — 500	Mixed	Gravel
R-EX7	Balkan: small, calcareous, mid-altitude	5	10 — 100	200 — 500	Calcareous	Gravel
R-EX8	Balkan: small to medium-sized, calcareous karst spring	5	10 — 1 000		Calcareous	Gravel, sand and silt

Countries sharing types that have been intercalibrated:

R-E1a: Bulgaria, Czech Republic, Romania, Slovakia

R-E1b: Bulgaria, Czech Republic, Hungary, Romania, Slovakia

R-E2: Bulgaria, Czech Republic, Hungary, Romania, Slovakia, Slovenia

R-E3: Bulgaria, Czech Republic, Hungary, Romania, Slovakia, Slovenia

R-E4: Austria, Czech Republic, Bulgaria, Hungary, Romania, Slovakia, Slovenia

R-EX4: Czech Republic, Romania, Slovakia

R-EX5: Hungary, Romania, Slovenia, Slovakia

R-EX6: Hungary, Romania, Slovenia

R-EX7: Slovenia

R-EX8: Slovenia

EASTERN CONTINENTAL RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Austria	Assessment of the biological quality elements — part benthic invertebrates	R-E4	0,80	0,60

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Bulgaria	IBI (BG) (Irish Biotic Index (BG))	R-E1a, R-E1b	0,86	0,67
		R-E2, R-E3	0,80	0,60
Czech Republic	Czech system for ecological status assessment of rivers using benthic macroinvertebrates	R-E1a, R-E1b, R-E2, R-E3	0,80	0,60
Hungary	Hungarian Multimetric Macroinvertebrate Index	R-E1b, R-E3, R-E4, R-EX5, R-EX6	0,80	0,60
Romania	Assessment method for ecological status of water bodies based on macroinvertebrates	R-E1a, R-E1b, R-E3, R-EX4	0,74	0,58
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi bentoških nevretenčarjev	R-E4, R-EX5, R-EX6	0,80	0,60
Slovakia	Slovak assessment of benthic invertebrates in rivers	R-E1a, R-E1b, R-E2, R-E3, R-E4, R-EX4	0,80	0,60

EASTERN CONTINENTAL RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS
Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Macrophytes

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Austria	AIM for Rivers (Austrian Index Macrophytes for rivers)	R-E4	0,875	0,625
Bulgaria	Reference Index	R-E2, R-E3	0,570	0,370
		R-E4	0,510	0,270

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Czech Republic	Assessment method of surface running water bodies in the Czech Republic using biological quality element macrophytes	R-E2, R-E3	0,750	0,500
Czech Republic	Assessment method of surface running water bodies in the Czech Republic using biological quality element macrophytes	R-E4	0,770	0,560
Hungary	Reference Index	R-E2, R-E3	0,700	0,370
Romania	Romanian Macrophyte-based assessment system for rivers (Macrophyte River Index (MARI))	R-E2, R-E3, R-E4	R-E2 and R-E3: 0,875, R-E4: 0,783	all types: 0,625
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi fitobentosa in makrofitov, makrofiti	R-E2, R-E3, R-E4	0,800	0,600
Slovakia	Macrophyte Biological Index for Rivers (IBMR-SK)	R-E2, R-E3, R-E4	0,800	0,600

EASTERN CONTINENTAL RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Phytobenthos

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Austria	Assessment of the biological quality elements — part phytobenthos	R-E4	0,70	0,42
Bulgaria	Ecological status assessment of rivers in Bulgaria based on IPS diatom index	R-E1a, R-E1b, R-E3	0,87 (national type R2, R4) 0,85 (national type R7, R8)	0,66 (national type R2, R4) 0,64 (national type R7, R8)

Country	National classification systems intercalibrated	Type	Ecological Quality Ratios	
			High-Good boundary	Good-Moderate boundary
Czech Republic	Assessment system for rivers using phyto-benthos	R-E1a, R-E1b, R-E2, R-E3, R-EX4	0,80	0,60
Hungary	Ecological status assessment for rivers based on diatoms	R-E2, R-E3, R-EX5	0,80	0,60
Romania	National (Romanian) Assessment Method for Rivers Ecological Status based on Phyto-benthos (Diatoms) RO-AMRP	R-E1a, R-E1b, R-E3	0,80	0,60
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi fitobentosa in makrofitov, fitobentos	R-E4, R-EX5, R-EX6, R-EX7, R-EX8	0,80	0,60
Slovakia	Ecological status assessment system for rivers using phytobenthos	R-E1a, R-E1b, R-E2, R-E3, R-E4, R-EX4	0,90	0,70

Water category

Rivers

Geographical Intercalibration Group

Mediterranean rivers

Description of types that have been intercalibrated

Type	River characterisation	Catchment (km ²)	Geology	Flow regime
R-M1	Small Mediterranean streams	< 100	Mixed (except silicious)	Highly seasonal
R-M2	Medium Mediterranean streams	100 — 1 000	Mixed (except silicious)	Highly seasonal
R-M4	Mediterranean mountain streams		Non-silicious	Highly seasonal
R-M5	Temporary streams			Temporary

Countries sharing types that have been intercalibrated:

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

R-M2: Bulgaria, France, Greece, Italy, Portugal, Slovenia, Spain

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

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

MEDITERRANEAN RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification methods intercalibrated

Type and Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
R-M1			
France	Classification française DCE Indice Biologique Global Normalisé (IBGN). AFNOR NF T90-350 et arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,940	0,700
Greece	Hellenic Evaluation System-2 (HESY-2)	0,943	0,750
Italy	MacrOper (based on STAR Intercalibration Common Metric Index ICMi)	0,970	0,720
Portugal	Rivers Biological Quality Assessment Method-Benthic Invertebrates (IPtIN, IPtIS)	0,870 (type 1)	0,678 (type 1)
		0,850 (type 3)	0,686 (type 3)
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi bentoških nevretenčarjev	0,800	0,600
Spain	Iberian Biological Monitoring Working Party (IBMWP)	0,845	0,698
Spain	Iberian Mediterranean Multimetric Index—using quantitative data (IMMi-T)	0,811	0,707
R-M2			
Bulgaria	IBI (BG) (Irish Biotic Index (BG))	0,800	0,600
France	Classification française DCE Indice Biologique Global Normalisé (IBGN). AFNOR NF T90-350 et arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,940	0,700
Greece	Hellenic Evaluation System-2 (HESY-2)	0,944	0,708
Italy	MacrOper (based on STAR Intercalibration Common Metric Index ICMi)	0,940	0,700

Type and Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Portugal	Rivers Biological Quality Assessment Method-Benthic Invertebrates (IPtIN, IPtIS)	0,830 (type 2)	0,693 (type 2)
		0,880 (type 4)	0,676 (type 4)
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi bentoških nevretenčarjev	0,800	0,600
Spain	Iberian Biological Monitoring Working Party (IBMWP)	0,845	0,698
Spain	Iberian Mediterranean Multimetric Index—using quantitative data (IMMi-T)	0,811	0,707
R-M4			
Cyprus	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,972	0,729
France	Classification française DCE Indice Biologique Global Normalisé (IBGN). AFNOR NF T90-350 et arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,940	0,700
Greece	Hellenic Evaluation System-2 (HESY-2)	0,850	0,637
Italy	MacrOper (based on STAR Intercalibration Common Metric Index ICMi)	0,940	0,700
Spain	Iberian Biological Monitoring Working Party (IBMWP)	0,840	0,700
Spain	Iberian Mediterranean Multimetric Index—using quantitative data (IMMi-T)	0,850	0,694
R-M5			
Cyprus	STAR Intercalibration Common Metric Index (STAR_ICMi)	0,982	0,737
Greece	Hellenic Evaluation System-2 (HESY-2)	0,963	0,673

Type and Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Italy	MacrOper (based on STAR Intercalibration Common Metric Index ICMi)	0,970	0,730
Portugal	Rivers Biological Quality Assessment Method-Benthic Invertebrates (IPtIN, IPtIS)	0,973 (type 5)	0,705 (type 5)
		0,961 (type 6)	0,708 (type 6)
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi bentoških nevretenčarjev	0,800	0,600
Spain	Iberian Biological Monitoring Working Party (IBMWP)	0,830	0,630
Spain	Iberian Mediterranean Multimetric Index—using quantitative data (IMMi-T)	0,830	0,620

MEDITERRANEAN RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Macrophytes

Results: Ecological quality ratios of national classification methods intercalibrated

Type and Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
R-M1, M2, M4			
Bulgaria (R-M1 and R-M2)	RI (BG) (Reference Index (BG))	0,640	0,350
Cyprus	IBMR — Biological Macrophyte Index for Rivers	0,795	0,596
France	IBMR — Indice Biologique Macrophytique en Rivière French standard NF T90-395 (2003-10-01)	0,930	0,745
Greece	IBMR — Biological Macrophyte Index for Rivers	0,750	0,560
Italy	IBMR — Biological Macrophyte Index for Rivers	0,900	0,800

Type and Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Portugal	IBMR — Biological Macrophyte Index for Rivers	0,920	0,690
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi fitobentosa in makrofitov, makrofiti	0,800	0,600
Spain	IBMR — Biological Macrophyte Index for Rivers	0,950	0,740

MEDITERRANEAN RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Phytobenthos

Results: Ecological quality ratios of national classification methods intercalibrated

Type and Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
R-M1			
Bulgaria	IPS (Indice de polluo-sensibilité)	0,820	0,630
France	IBD 2007 (Coste et al, Ecol. Ind. 2009). AFNOR NF-T-90-354, December 2007. Arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,940	0,780
Greece	IPS (Coste in Cemagref, 1982) Intercalibrated (EQR IPS)	0,956	0,717
Italy	Intercalibration Common Metric Index (ICMi) (Mancini & Sollazzo, 2009)	0,800	0,610
Portugal	IPS (Coste in Cemagref, 1982)	0,970 (type 1)	0,730 (type 1)
		0,910 (type 3)	0,680 (type 3)
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi fitobentosa in makrofitov, fitobentos	0,800	0,600
Spain	IPS (Coste in Cemagref, 1982)	0,937	0,727

Type and Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
R-M2			
Bulgaria	IPDS (Indice de polluo-sensibilité)	0,820	0,630
France	IBD 2007 (Coste et al, Ecol. Ind. 2009). AFNOR NF-T-90-354, December 2007. Arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,940	0,780
Greece	IPS (Coste in Cemagref, 1982) Intercalibrated (EQR IPS)	0,953	0,732
Italy	Intercalibration Common Metric Index (ICMi) (Mancini & Sollazzo, 2009)	0,800	0,610
Portugal	IPS (Coste in Cemagref, 1982))	0,910 (type 2)	0,680 (type 2)
		0,970 (type 4)	0,730 (type 4)
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi fitobentosa in makrofitov, fitobentos	0,800	0,600
Spain	IPS (Coste in Cemagref, 1982)	0,938	0,727
R-M4			
Cyprus	IPS (Coste in Cemagref, 1982)	0,910	0,683
France	IBD 2007 (Coste et al, Ecol. Ind. 2009). AFNOR NF-T-90-354, December 2007. Arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,940	0,780
Greece	IPS (Coste in Cemagref, 1982) Intercalibrated (EQR IPS)	0,932	0,716
Italy	Intercalibration Common Metric Index (ICMi) (Mancini & Sollazzo, 2009)	0,800	0,610
Spain	IPS (Coste in Cemagref, 1982)	0,935	0,727
R-M5			
Cyprus	IPS (Coste in Cemagref, 1982)	0,958	0,718
Italy	Intercalibration Common Metric Index (ICMi) (Mancini & Sollazzo, 2009)	0,880	0,650

Type and Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Portugal	IPS (Coste in Cemagref, 1982)	0,800 (Type 5)	0,651 (Type 5)
		0,940 (Type 6)	0,700 (Type 6)
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi fitobentosa in makrofitov, fitobentos	0,800	0,600
Spain	IPS (Coste in Cemagref, 1982)	0,935	0,700

Water category

Rivers

Geographical Intercalibration Group

Northern rivers

Description of types that have been intercalibrated

Type	River characterisation	Catchment area of stretch (km ²)	Altitude and geomorphology	Alkalinity (meq/l)	Organic material (mg Pt/l)
R-N1	Small lowland siliceous moderate alkalinity	10 — 100	< 200 m a.s.l. or below the highest coastline	0,2 — 1	< 30 (< 150 in Ireland)
R-N3	Small/medium lowland organic low alkalinity	10 — 1 000		< 0,2	> 30
R-N4	Medium lowland siliceous moderate alkalinity	100 — 1 000		0,2 — 1	< 30
R-N5	Small mid-altitude siliceous low alkalinity	10 — 100	Between lowland and highland	< 0,2	< 30
R-N9	Small/medium mid-altitude siliceous low alkalinity organic (humic)	10 — 1 000	Between lowland and highland	< 0,2	> 30

Countries sharing types that have been intercalibrated:

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

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

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

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

R-N9: Finland, Norway, Sweden

NORTHERN RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS
Biological Quality Element

Benthic invertebrate fauna (methods sensitive for organic enrichment and general degradation)

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Finland	Revised Finnish river invertebrate fauna assessment method	0,80	0,60
Ireland	Quality Rating System (Q-value)	0,85	0,75
Norway	ASPT	0,99	0,87
Sweden	DJ-index (Dahl & Johnson 2004)	0,80	0,60
United Kingdom	River Invertebrate Classification Tool (RICT)- WHPT	0,97	0,86

Biological Quality Element

Benthic invertebrate fauna (methods sensitive for acidification)

Results: Ecological quality ratios of national classification methods intercalibrated

The following results apply to clear, low alkalinity river types

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Norway	AcidIndex2 (Modified Raddum index2) (river acidification)	0,675	0,515
United Kingdom — Scotland	WFD-AWIC	0,910	0,830
United Kingdom — England and Wales	WFD-AWIC	0,980	0,890

Results: Ecological quality ratios of national classification methods intercalibrated

The following results apply to humic, low alkalinity river types

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Sweden	MISA: Multimetric Invertebrate Stream Acidification index	0,550	0,400
United Kingdom	WFD-AWIC	0,930	0,830

NORTHERN RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Macrophytes

Results: Ecological quality ratios of national classification methods intercalibrated

Type and Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
R-N3 and R-N9			
Finland	Trophic index Tlc	0,889	0,610
Sweden	Trophic index Tlc	0,889	0,610
Norway	Trophic index Tlc	0,889	0,610

NORTHERN RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Phytobenthos

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Finland	Finnish river phytobenthos method	0,80	0,60
Sweden	Indice de Polluosensibilité Spécifique (IPS)	0,89	0,74

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Ireland	Revised form of Trophic Diatom Index (TDI)	0,93	0,78
United Kingdom	DARLEQ 2	1,00	0,75
Norway	Periphyton Index of Trophic Status (PIT)	0,99 (Ca ≤ 1 mg/l)	0,83
		0,95 (Ca > 1 mg/l)	

Water category Rivers

Geographical Intercalibration Groups All

Biological Quality Element Fish fauna

Overview of regional groups that have been established for the river fish intercalibration:

Lowland-Midland group — Belgium (Flanders), Belgium (Wallonia), France, Germany, Netherlands, Lithuania, Luxembourg, United Kingdom (England and Wales), Poland, Latvia, Estonia, Denmark, Hungary

Nordic group — Finland, Ireland, Sweden, United Kingdom (Scotland and Northern Ireland), Norway

Alpine-type Mountains group — Austria, France, Germany, Slovenia, Italy

Mediterranean South Atlantic group — Portugal, Spain, Italy, Greece, Bulgaria

Danubian group — Czech Republic, Romania, Slovakia, Bulgaria

Results: Ecological quality ratios of national classification methods intercalibrated

Lowland-Midland group

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Belgium Flanders	Upstream and Lowland IBI	0,850	0,650
Belgium Wallonia	IBIP (Arrêté du Gouvernement wallon du 13 septembre 2012 relatif à l'identification, à la caractérisation et à la fixation des seuils d'état écologique applicables aux masses d'eau de surface et modifiant le Livre II du Code de l'Environnement, contenant le Code de l'Eau. Moniteur belge 12.10.2012)	0,958	0,792
France	FBI (Fish-Based Index): Indice Poissons Rivière (IPR). AFNOR NF-T-90-344.	1,131	0,835

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Germany	FIBS — fischbasiertes Bewertungssystem für Fließgewässer zur Umsetzung der EG-Wasserrahmenrichtlinie in Deutschland	1,086	0,592
Latvia	Latvian Fish Index	0,880	0,660
Lithuania	Lithuanian River Fish Index	0,940	0,720
Luxembourg	Classification française DCE Indice Poissons Rivière (IPR). AFNOR NF-T-90-344	1,131	0,835
Netherlands	NLFISR	0,800	0,600
Poland	EFI+PL index	0,800	0,600

Nordic group

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Finland	Finnish Fish Index (FiFi) — type L2	0,665	0,499
Finland	Finnish Fish Index (FiFi) — type L3	0,658	0,493
Finland	Finnish Fish Index (FiFi) — type M1	0,709	0,532
Finland	Finnish Fish Index (FiFi) — type M2	0,734	0,550
Finland	Finnish Fish Index (FiFi) — type M3	0,723	0,542
Ireland	Fish Classification Scheme 2 Ireland (FCS2)	0,845	0,540
Sweden	Swedish method VIX	0,739	0,467
United Kingdom — Northern Ireland	IR_FCS2	0,845	0,540

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
United Kingdom — Scotland	FCS2 Scotland	0,850	0,600

Mediterranean group

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Greece	Hellenic Fish Index (HeFI)	0,800	0,600
Portugal	F-IBIP — Fish-based Index of Biotic Integrity for Portuguese Wadeable Streams	0,850	0,675
Spain	IBIMED — type T2	0,816	0,705
Spain	IBIMED — type T3	0,929	0,733
Spain	IBIMED — type T4	0,864	0,758
Spain	IBIMED — type T5	0,866	0,650
Spain	IBIMED — type T6	0,916	0,764

Alpine group

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Austria	FIA	0,875	0,625
France	FBI (Fish-Based Index): Indice Poissons Rivière (IPR). AFNOR NF-T90-344	1,131	0,876
Germany	FIBS — fischbasiertes Bewertungssystem für Fließgewässer zur Umsetzung der EG-Wasserrahmenrichtlinie in Deutschland	1,086	0,592

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Italy	NISECI index (New Index of Ecological Status of Fish Communities)	0,800	0,520
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi rib	0,800	0,600

Danubian group

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Bulgaria	TsBRI (Type Specific Bulgarian Fish Index)	0,860	0,650
Czech Republic	Czech multimetric method CZI	0,780	0,585
Romania	EFI+ European Fish index (cyprinid wading type)	0,939	0,700
Romania	EFI+ European Fish index (salmonid type)	0,911	0,755
Slovakia	Fish Index of Slovakia FIS	0,710	0,570

Water Category

Rivers

Geographical Intercalibration Groups

All — Very Large Rivers

Description of types that have been intercalibrated

Type	River characterisation	Catchment area of stretch (km ²)	Alkalinity (meq/l)
R-L1	Very large low alkalinity rivers	> 10 000	< 0,5
R-L2	Very large medium to high alkalinity rivers	> 10 000	> 0,5

Countries sharing types that have been intercalibrated:

R-L1: Finland, Norway, Sweden

R-L2: Austria, Belgium (Flanders), Bulgaria, Croatia, Czech Republic, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden

VERY LARGE RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP

Biological Quality Element

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Austria	Assessment of the Biological Quality Elements — part benthic invertebrates (for large alpine rivers)	0,80	0,60
Austria	Slovak assessment of benthic invertebrates in large rivers (for large lowland rivers)	0,80	0,60
Belgium (Flanders)	Multimetric Macroinvertebrate Index Flanders (MMIF)	0,90	0,70
Bulgaria	mRBA — Modified Rapid Biological Assessment	0,80	0,60
Croatia	Ecological status assessment system based on benthic invertebrates in very large rivers	0,80	0,60
Czech Republic	Czech system for ecological status assessment of large non-wadeable rivers using benthic macroinvertebrates	0,80	0,60
Germany	Germany PTI — Potamon-Typie-Index	0,80	0,60
Estonia	Estonian surface water ecological quality assessment _ large river macroinvertebrates	0,90	0,70
Spain	IBMWP — Iberian Biological Monitoring Working Party	0,79	0,48
Finland	Revised Finnish river invertebrate fauna assessment method	0,80	0,60

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Hungary	Hungary HMMI_II — Hungarian Multimetric Macroinvertebrate Index for large and very large rivers	0,80	0,60
Italy	ISA (Indice per la classificazione sulla base dei Substrati Artificiali) — mediterranean rivers	0,94	0,70
Italy	ISA (Indice per la classificazione sulla base dei Substrati Artificiali) — non-mediterranean rivers	0,96	0,72
Lithuania	Lithuanian River Macroinvertebrate Index	0,80	0,60
Latvia	LRMI — Latvian large River Macroinvertebrate Index	0,88	0,63
Netherlands	WFD metrics for natural water types	0,80	0,60
Norway	Norway ASPT — Average Score Per Taxon	0,99	0,87
Poland	RIVECOmacro — MMI_PL	0,91	0,71
Romania	ECO-BENT — Assessment method for ecological status of water bodies based on macroinvertebrates	0,79	0,53
Sweden	Average Score Per Taxon (ASPT) and DJ-index	0,80	0,60
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi bentoških nevretenčarjev	0,80	0,60
Slovakia	Slovak assessment of benthic invertebrates in large rivers	0,80	0,60

VERY LARGE RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP
Biological Quality Element

Phytoplankton

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Austria	German PhytoFluss-Index 4.0	0,80	0,60
Belgium (Flanders)	German PhytoFluss-Index 2.0	0,80	0,60
Bulgaria	German PhytoFluss-Index 4.0	0,80	0,60
Croatia	HRPI — Hungarian River Phytoplankton Index	0,80	0,60
Czech Republic	CZ — Assessment method for ecological status of rivers based on phytoplankton	0,80	0,60
Germany	German PhytoFluss-Index	0,80	0,60
Estonia	EST_PHYPLA_R — Estonian Large River Phytoplankton Index	0,85	0,65
Hungary	HRPI — Hungarian River Phytoplankton Index	0,80	0,60
Lithuania	German PhytoFluss-Index for lowland rivers of type 15.2	0,80	0,60
Latvia	Latvian Large River Phytoplankton Index	0,80	0,60
Poland	IFPL metric — Method for large rivers assessment using phytoplankton	1,08	0,92
Romania	ECO-FITO — Assessment Method for Ecological Status of the Water Bodies based on Phytoplankton	0,92	0,76
Slovakia	Phytoplankton-SK — Slovak assessment of phytoplankton in large rivers	0,80	0,60

VERY LARGE RIVERS GEOGRAPHICAL INTERCALIBRATION GROUP
Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Phytobenthos

Results: Ecological quality ratios of national classification methods intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
R-L1			
Finland	Finnish river phytobenthos method	0,80	0,60
Sweden	Benthic algae in running water — diatom analysis	0,89	0,74
R-L2			
Austria	Assessment of the Biological Quality Elements — part phytobenthos	0,85	0,57
Bulgaria	IPS (Indice de Polluo-Sensibilité)	0,76	0,58
Czech Republic	Assessment system for rivers using phytobenthos	0,80	0,60
Estonia	Estonian surface water ecological quality assessment — river phytobenthos	0,83	0,64
France	IBD 2007 (Coste et al, Ecol. Ind. 2009). AFNOR NF T90-354, April 2016. Arrêté ministériel du 25 janvier 2010 modifié relatif aux méthodes et critères d'évaluation de l'état écologique {...} des eaux de surface	0,92	0,76
Spain	IPS (Coste in Cemagref, 1982)	0,68	0,48
Germany	Verfahrensanleitung für die ökologische Bewertung von Fließgewässern zur Umsetzung der EG-Wasserrahmenrichtlinie: Makrophyten und Phytobenthos (PHYLIB), Modul Diatomeen	0,725	0,55
Croatia	Ecological status assessment system for phytobenthos in rivers based on diatoms	0,8	0,61
Hungary	Ecological status assessment for rivers based on diatoms	0,762	0,60

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Italy	Intercalibration Common Metric Index (ICMi) (Mancini & Sollazzo 2009)	0,89 (national type C)	0,70 (national type C)
		0,82 (national type M3)	0,62 (national type M3)
Netherlands	WFD-metrics for natural water types	0,80	0,60
Portugal	IPS — Specific Pollution Sensitivity Index	0,90 (national type R_GRS/Guadiana river)	0,67 (national type R_GRS/Guadiana river)
Slovakia	Ecological status assessment system for rivers using phytobenthos	0,90	0,70
Slovenia	Metodologija vrednotenja ekološkega stanja vodotokov na podlagi fitobentosa in makrofitov, fitobentos	0,80	0,60

Water category

Lakes

Geographical Intercalibration Group

Alpine lakes

Description of types that have been intercalibrated

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)	Lake size (km ²)
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: Austria, France, Germany, Italy and Slovenia

Types L-AL4: Austria, France, Germany, Italy

ALPINE LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Phytoplankton

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Austria	Evaluation of the biological quality elements, Part B2 — phytoplankton	0,80	0,60
France	Phytoplankton Index for Lakes (IPLAC): Indice Phytoplankton Lacustre	0,80	0,60
Germany	PSI (Phyto-Seen-Index) — Bewertungsverfahren für Seen mittels Phytoplankton zur Umsetzung der EG-Wasserrahmenrichtlinie in Deutschland	0,80	0,60
Italy	Italian Phytoplankton Assessment Method (IPAM)	0,80	0,60
Slovenia	Metodologija vrednotenja ekološkega stanja jezer na podlagi fitoplanktona	0,80	0,60

ALPINE LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Macrophytes and Phytobenthos

Sub-Biological Quality Element

Macrophytes

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	IC type	Ecological Quality Ratios	
			High-good boundary	Good-moderate boundary
Austria	AIM for Lakes (Austrian Index Macrophytes for lakes)	L-AL3+ L-AL4	0,80	0,60
France	French Macrophyte Index for Lakes (IBML): Indice Biologique Macrophytique en Lacs	L-AL3+ L-AL4	0,92	0,72
Germany	Verfahrensanleitung für die ökologische Bewertung von Seen zur Umsetzung der EG-Wasserrahmenrichtlinie: Makrophyten und Phytobenthos (PHYLIB), Modul Makrophyten	L-AL3+ L-AL4	0,76	0,51

Country	National classification systems intercalibrated	IC type	Ecological Quality Ratios	
			High-good boundary	Good-moderate boundary
Germany	Verfahrensanleitung für die ökologische Bewertung von Seen zur Umsetzung der EG-Wasserrahmenrichtlinie: Makrophyten und Phytobenthos (PHYLIB), Modul Makrophyten und Phytobenthos	LAL4	0,74	0,47
Italy	MacroIMMI (Macrophytic index for the evaluation of the ecological quality of the Italian lakes)	L-AL3+ L-AL4	0,80	0,60
Slovenia	Metodologija vrednotenja ekološkega stanja jezer na podlagi fitobentosa in makrofitov, makrofiti	L-AL3	0,80	0,60

ALPINE LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Slovenia	Metodologija vrednotenja ekološkega stanja jezer na podlagi bentoških nevretenčarjev	0,80	0,60
Germany	AESHNA — Bewertungsverfahren für das eulitorale Makrozoobenthos in Seen zur Umsetzung der EG-Wasserrahmenrichtlinie in Deutschland	0,80	0,60

ALPINE LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Fish fauna

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Austria	ALFI (Austrian lake fish index): A multimetric index to assess the ecological status of alpine lakes based on fish fauna	0,80	0,60

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Germany	DeLFI_SITE — Deutsches probennahmestandort-spezifisches Bewertungsverfahren für Fische in Seen zur Umsetzung der EG-Wasserrahmenrichtlinie	0,85	0,69
Italy	Lake Fish Index (LFI)	0,82	0,64

Water category

Lakes

Geographical Intercalibration Group

Central/Baltic lakes

Description of types that have been intercalibrated

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)	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

Countries sharing types that have been intercalibrated

Types L-CB1: Belgium, Germany, Denmark, Estonia, Ireland, Lithuania, Latvia, Netherlands, Poland, United Kingdom

Types L-CB2: Belgium, Germany, Denmark, Estonia, Ireland, Lithuania, Latvia, Netherlands, Poland, United Kingdom

CENTRAL-BALTIC LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS**Biological Quality Element**

Phytoplankton

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Belgium (Flanders)	Flemish phytoplankton assessment method for lakes	0,80	0,60
Denmark	Danish Lake Phytoplankton Index	0,80	0,60
Estonia	Estonian surface water ecological quality assessment — lake phytoplankton	0,80	0,60
Germany	PSI (Phyto-Seen-Index) — Bewertungsverfahren für Seen mittels Phytoplankton zur Umsetzung der EG-Wasserrahmenrichtlinie in Deutschland — German Phyto-Lake-Index (Phyto-See-Index)	0,80	0,60

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Ireland	IE Lake Phytoplankton Index	0,80	0,60
Latvia	Latvian Lake Phytoplankton Index	0,81	0,61
Lithuania	German Phytoplankton Index (PSI)	0,81	0,61
Netherlands	WFD — metrics for natural water types	0,80	0,60
Poland	Phytoplankton method for Polish Lakes (PMPL)	0,80	0,60
UK	Phytoplankton Lake Assessment Tool with Uncertainty Module (PLUTO)	0,80	0,60

CENTRAL-BALTIC LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Macrophytes

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	IC type	Ecological Quality Ratios	
			High-good boundary	Good-moderate boundary
Belgium (Flanders)	Flemish macrophyte assessment system	All types	0,80	0,60
Denmark	Danish Lake Macrophytes Index	All types	0,80	0,60
Estonia	Estonian surface water ecological quality assessment — lake macrophytes	LCB1	0,78	0,52
		LCB2	0,76	0,50
Germany	Verfahrensanleitung für die ökologische Bewertung von Seen zur Umsetzung der EG-Wasserrahmenrichtlinie: Makrophyten und Phytobenthos (PHYLIB), Modul Makrophyten	All types	0,80	0,60

Country	National classification systems intercalibrated	IC type	Ecological Quality Ratios	
			High-good boundary	Good-moderate boundary
Latvia	Latvian macrophyte assessment method	All types	0,80	0,60
Lithuania	Lithuanian Lake Macrophyte Index	All types	0,75	0,50
Netherlands	WFD-metrics for natural water types	All types	0,80	0,60
Poland	Macrophyte based indication method for lakes — Ecological Status Macrophyte Index ESMI (multimetric)	All types	0,68	0,41
UK	Lake LEAFPACS 2 (*)	All types	0,80	0,66

(*) Will be used in England, Wales and Scotland

CENTRAL-BALTIC LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate
Belgium (Flanders)	Multimetric Macroinvertebrate Index Flanders (MMIF)	0,90	0,70
Estonia	Estonian surface water ecological quality assessment — lake macroinvertebrates	0,86	0,70
Germany	AESHNA — Bewertungsverfahren für das eulitorale Makrozoobenthos in Seen zur Umsetzung der EG-Wasserrahmenrichtlinie in Deutschland	0,80	0,60
Latvia	Latvian Lake Macroinvertebrate Multimetric Index (LLMMI)	0,85	0,52
Lithuania	Lithuanian Lake Macroinvertebrate Index	0,74	0,50

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate
Netherlands	WFDi — Metric for Natural Watertypes	0,80	0,60
UK	Chironomid Pupal Exuvial Technique (CPET)	0,77	0,64

CENTRAL-BALTIC LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Fish fauna

Description of common intercalibration types

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)	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
L-CB4	Heavily modified water bodies	200 — 700	3 — 30	> 0,2	0,1 — 5

Countries sharing types that have been intercalibrated

Types L-CB1: Belgium, Germany, Denmark, Estonia, Ireland, Lithuania, Latvia, Netherlands, Poland, United Kingdom

Types L-CB2: Belgium, Germany, Denmark, Estonia, Ireland, Lithuania, Latvia, Netherlands, Poland, United Kingdom

Types L-CB3: Belgium, Denmark, Estonia, France, Latvia, Poland

Types L-CB4: Czech Republic

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate
Czech Republic	CZ-FBI	0,870	0,619
Denmark	Danish Lake Fish Index	0,75	0,54

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate
EE	LAFIEE	0,80	0,61
Germany	DeLFI_SITE — Deutsches probennahmestandort-spezifisches Bewertungsverfahren für Fische in Seen zur Umsetzung der EG-Wasserrahmenrichtlinie	0,95	0,80
France	ELFI (European Lake Fish Index): Indice Ichtyofaune Lacustre (IIL)	0,73	0,49
Latvia	Latvian Lake Fish Index	0,76	0,57
Lithuania	Lithuanian Lake Fish Index	0,865	0,605
Netherlands	VISMAATLAT	0,80	0,60
Poland	LFI+	0,866	0,595
Poland	LFI EN	0,804	0,557

Water category

Lakes

Geographical Intercalibration Group

Eastern Continental lakes

Description of common intercalibration types

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)	Conductivity (µS/cm)
L-EC1	Lowland very shallow hard-water	< 200	< 6	1 — 4	300 — 1 000

Countries sharing types that have been intercalibrated

Types L-EC1: Bulgaria, Hungary, Romania

EASTERN CONTINENTAL LAKES GEOGRAPHICAL INTERCALIBRATION GROUP**Biological Quality Element**

Phytoplankton

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Bulgaria	HLPI-Hungarian lake phytoplankton index	0,80	0,60

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Hungary	HLPI-Hungarian lake phytoplankton index	0,80	0,60
Romania	HLPI-Hungarian lake phytoplankton index	0,80	0,60

EASTERN CONTINENTAL LAKES GEOGRAPHICAL INTERCALIBRATION GROUP

Biological Quality Element Macrophytes and Phytobenthos

Sub-Biological Quality Element Macrophytes

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Bulgaria	RI-BG — Adapted Reference Index	0,83	0,58
Hungary	HU-RI — Adapted Reference Index	0,89	0,67
Romania	MIRO — Macrophyte Index for Romanian Lakes (Adapted Reference Index)	0,86	0,66

EASTERN CONTINENTAL LAKES GEOGRAPHICAL INTERCALIBRATION GROUP

Biological Quality Element Benthic invertebrate fauna

Results: Ecological quality ratios of national classification methods intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Bulgaria	HMMI_lakes (Hungarian Macrozoobenton Multimetric Index for Lakes)	0,85	0,65
Hungary	HMMI_lakes (Hungarian Macrozoobenton Multimetric Index for Lakes)	0,85	0,65

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Romania	ECO-NL-BENT Romanian ecological status assessment system for natural lakes using benthic invertebrates	0,93	0,60

EASTERN LAKES GEOGRAPHICAL INTERCALIBRATION GROUP

Biological Quality Element Fish fauna

INTERCALIBRATION RESULTS NOT COMPLETED

Water category Lakes

Geographical Intercalibration Group Mediterranean lakes

Description of types that have been intercalibrated

Type	Lake characterization	Altitude (m)	Annual mean precipitation (mm) and T (°C)	Mean depth (m)	Area (km ²)	Catchment (km ²)	Alkalinity (meq/l)
L-M5/7	Reservoirs, deep, large, siliceous, 'wet' areas	< 1 000	> 800 and/or < 15	> 15	0,5 — 50	< 20 000	< 1
L-M8	Reservoirs, deep, large, calcareous	< 1 000	—	> 15	0,5 — 50	< 20 000	> 1

Countries sharing types that have been intercalibrated

Types L-M5/7: France, Greece, Italy, Portugal, Spain

Types L-M8: Cyprus, France, Greece, Italy, Spain

MEDITERRANEAN LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Phytoplankton

Country and Type	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

LM 5/7

France	Phytoplankton Index for Lakes (IPLAC): Indice Phytoplankton Lacustre	n.d. (*)	0,60
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Country and Type	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Greece	New Mediterranean Assessment System for Reservoirs (NMASRP)	n.d. (*)	0,60
Italy	New Italian Method (NITMET)	n.d. (*)	0,60
Portugal	Reservoirs Biological Quality Assessment Method — Phytoplankton (New Mediterranean Assessment System for Reservoirs Phytoplankton: NMASRP).	n.d. (*)	0,60
Spain	Mediterranean Assessment System for Reservoirs Phytoplankton (MASRP).	n.d. (*)	0,58

L-M8

Cyprus	New Mediterranean Assessment System for Reservoirs Phytoplankton (NMASRP).	n.d. (*)	0,60
France	Phytoplankton Index for Lakes (IPLAC): Indice Phytoplankton Lacustre	n.d. (*)	0,60
Greece	New Mediterranean Assessment System for Reservoirs (NMASRP)	n.d. (*)	0,60
Italy	New Italian Method (NITMET)	n.d. (*)	0,60
Spain	Mediterranean Assessment System for Reservoirs Phytoplankton (MASRP).	n.d. (*)	0,60

(*) High-Good boundary is not defined for reservoirs (both LM5/7 and LM8 types are reservoirs)

Water category

Lakes

Geographical Intercalibration Group

Northern lakes

NORTHERN LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS**Biological Quality Element**

Phytoplankton

Description of types that have been intercalibrated

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)	Colour (mg Pt/l)
L-N1	Lowland, shallow, moderate alkalinity, clear	< 200	3 — 15	0,2 — 1	< 30

Type	Lake characterisation	Altitude (m above sea level)	Mean depth (m)	Alkalinity (meq/l)	Colour (mg Pt/l)
L-N2a	Lowland, shallow, low alkalinity, clear	< 200	3 — 15	< 0,2	< 30
L-N2b	Lowland, deep, low alkalinity, clear	< 200	> 15	< 0,2	< 30
L-N3a	Lowland, shallow, low alkalinity, meso-humic	< 200	3 — 15	< 0,2	30 — 90
L-N5	Mid-altitude, shallow, low alkalinity, clear	200 — 800	3 — 15	< 0,2	< 30
L-N6a	Mid-altitude, shallow, low alkalinity, meso-humic	200 — 800	3 — 15	< 0,2	30 — 90
L-N8a	Lowland, shallow, moderate alkalinity, meso-humic	< 200	3 — 15	0,2 — 1	30 — 90

Types L-N1, L-N2a, L-N3a, LN-8a: Ireland, Finland, Norway, Sweden, United Kingdom.

Types L-N2b: Norway, Sweden, United Kingdom

Types L-N5, L-N6a: Norway, Sweden

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Finland	Finnish phytoplankton assessment method for lakes	0,80	0,60
Ireland	IE Lake Phytoplankton Index	0,80	0,60
Norway	Lake phytoplankton ecological status classification method	0,80	0,60
Sweden	Ecological assessment methods for lakes. quality factor phytoplankton	0,80	0,60
UK	Phytoplankton Lake Assessment Tool with Uncertainty Module (PLUTO)	0,80	0,60

NORTHERN LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element	Macrophytes and Phytobenthos
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Sub-Biological Quality Element	Macrophytes
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Description of types that have been intercalibrated

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

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

Type 301a: Ireland, United Kingdom.

Type 302a: Ireland, United Kingdom

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate
Finland	Finnish macrophyte classification system (Finnmac)	0,8 (all types)	0,6 (all types)
Ireland	Free Macrophyte Index	0,9 (all types)	0,68 (all types)
Norway	National macrophyte index (Trophic Index — Tlc)	Type 101: 0,98 Type 102: 0,96 Type 201: 0,95 Type 202: 0,99	Type 101: 0,87 Type 102: 0,87 Type 201: 0,75 Type 202: 0,77
Sweden	Trophic Macrophyte Index (TMI)	Type 101: 0,93 Type 102: 0,93 Type 201: 0,89 Type 202: 0,91	Type 101: 0,80 Type 102: 0,83 Type 201: 0,78 Type 202: 0,78

Country	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate
UK	Lake LEAFPACS 2 (*)	0,8 (all types)	0,66 (all types)
UK	Free Macrophyte Index (**)	0,9 (all types)	0,68 (all types)

(*) Will be used in England, Wales and Scotland

(**) Will be used also in the UK (North Ireland)

NORTHERN LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Benthic invertebrates Fauna

Description of types that have been intercalibrated

Type	Lake characterisation	Ecoregion	Altitude (m absl)	Alkalinity (meq/l)	Colour (mg Pt/l)
Lake littoral acidification					
L-N-BF1	Lowland/mid-altitude, low alkalinity, clear	n.d.	< 800	0,05 — 0,2	< 30
Lake profundal eutrophication					
L-N-BF2	Ecoregion 22, low alkalinity, clear and humic	22	Area > 1 km ² , max depth > 6 m	< 0,2	n.d.

Types L-N-BF1: Norway, Sweden, United Kingdom, Ireland, Finland

Types L-N-BF2: Finland, Sweden

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good	Good-moderate
	Lake littoral acidification		
Norway	MultiClear: Multimetric Invertebrate Index for Clear Lakes	0,95	0,74
Sweden	MILA: Multimetric Invertebrate Lake Acidification index	0,85	0,60

Country	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good	Good-moderate
UK	LAMM (Lake Acidification Macroinvertebrate Metric)	0,86	0,70
	Lake profundal eutrophication		
Finland	Revised Finnish lake invertebrate fauna assessment method (PICM)	0,80	0,60
Sweden	BQI (Benthic Quality Index)	0,84	0,67

NORTHERN LAKES GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Fish fauna

Description of types that have been intercalibrated

Type	Lake characterisation	Lake area km ²	Alkalinity (meq/l)	Colour (mg Pt/l)
L-N-F1	Dimictic clear water lakes	< 40	< 0,2	< 30
L-N-F2	Dimictic humic lakes	< 5	< 0,2	30 — 90

Types L-N-F1: Ireland, Finland, Norway, Sweden, United Kingdom

Types L-N-F2: Ireland, Finland, Norway, Sweden, United Kingdom

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Eutrophication

Finland	EQR4	0,80	0,60
Ireland	FIL2	0,76	0,53
UK (Northern Ireland)	FIL2	0,76	0,53
Norway	EindexW3	0,75	0,56
Sweden	EindexW3	0,75	0,56

Country	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Acidification			
Norway	AindexW5	0,74	0,55
Sweden	AindexW5	0,74	0,55

Water category

Lakes

Geographical Intercalibration Group

Cross-GIG Phytobenthos

Description of types that have been intercalibrated

Type	Lake characterisation	Alkalinity (meq/l)	Ecoregions
HA	High alkalinity lakes	> 1	Alpine, Central-Baltic, Eastern Continental, Mediterranean
MA	Moderate alkalinity lakes	0,2 — 1	Alpine, Central-Baltic, Eastern Continental, Mediterranean, Northern
LA	Low alkalinity lakes	< 0,2	Northern

Types HA: Belgium, Germany, Hungary, Ireland, Italy, Lithuania, Poland, Sweden, Slovenia, United Kingdom

Types MA: Belgium, Finland, Ireland, Italy, Romania, Sweden, United Kingdom

Types LA: Finland, Ireland, Sweden, United Kingdom

Country a and Type	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

HA type

Belgium (Flanders)	Proportions of Impact-Sensitive and Impact-Associated Diatoms (PISIAD)	0,80	0,60
Germany	Verfahrensanleitung für die ökologische Bewertung von Seen zur Umsetzung der EG-Wasserrahmenrichtlinie: Makrophyten und Phytobenthos (PHYLIB), Modul Phytobenthos	0,80	0,55
Hungary	MIL — Multimetric Index for Lakes	0,80	0,69
Ireland	Lake Trophic Diatom Index (IE)	0,90	0,63

Country a and Type	National classification methods intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Italy	Italian national method for the evaluation of the ecological quality of lake waterbodies using benthic diatoms (EPI-L)	0,75	0,5
Lithuania	Lithuanian Lake Phytobenthos Index	0,63	0,47
Poland	PL IOJ (Multimetryczny Indeks Okrzemkowy dla Jezior = Multimetric Diatom Index for Lakes)	0,91	0,76
Sweden	IPS	0,89	0,74
Slovenia	Metodologija vrednotenja ekološkega stanja jezer na podlagi fitobentosa in makrofitov, fitobentos	0,80	0,60
UK	DARLEQ 2	0,92	0,70

MA type

Belgium (Flanders)	Proportions of Impact-Sensitive and Impact-Associated Diatoms (PISIAD)	0,80	0,60
Finland	Finnish lake phytobenthos method	0,80	0,60
Ireland	Lake Trophic Diatom Index (IE)	0,90	0,63
Italy	Italian national method for the evaluation of the ecological quality of lake waterbodies using benthic diatoms (EPI-L)	0,75	0,5
Romania	National (Romanian) Assessment Method for Natural Lakes Ecological Status based on Phytobenthos (Diatoms) RO-AML P	0,80	0,60
Sweden	IPS	0,89	0,74
UK	DARLEQ 2	0,93	0,66

LA type

Ireland	Lake Trophic Diatom Index (IE)	0,90	0,66
UK	DARLEQ 2	0,92	0,70

Water category

Coastal waters

Geographical Intercalibration Group

Baltic Sea

Description of types that have been intercalibrated

Type	Surface salinity (psu)	Bottom salinity (psu)	Exposure	Ice days	Other Characteristics
BC1	0,5 — 6 Oligohaline	1 — 6	Exposed	90 — 150	Sites in the Quark and the Bothnian Sea, extending to the Archipelago Sea (for phytoplankton the latter is excluded and integrated in type BC9). Influence of humic substances
BC2	6 — 22 Mesohaline	2 — 6	Very Sheltered		Lagoons
BC3	3 — 6 Oligohaline	3 — 6	Sheltered	90 — 150	Finnish and Estonian coasts of Gulf of Finland
BC4	5 — 8 Lower mesohaline	5 — 8	Sheltered	< 90	Sites of Estonia and Latvia in the Gulf of Riga
BC5	6 — 8 Lower mesohaline	6 — 12	Exposed	< 90	Sites in the southeastern Baltic Sea along the coast of Latvia, Lithuania and Poland
BC6	8 — 12 Mid mesohaline	8 — 12	Sheltered	< 90	Sites along the Western Baltic Sea at the southern Swedish coast and the southeastern Danish coast
BC7	6 — 8 Mid mesohaline	8 — 11	Exposed	< 90	Western Polish coast and eastern German coast
BC8	13 — 18 Upper mesohaline	18 — 23	Sheltered	< 90	Danish and German coasts in the Western Baltic Sea
BC9	3 — 6 Lower mesohaline	3 — 6	Moderately exposed to exposed	90 — 150	Sites in the western Gulf of Finland, Archipelago Sea and Asko archipelago (only for phytoplankton)

Countries sharing types that have been intercalibrated:

Type BC1: Finland Sweden

Type BC2: Germany

Type BC3: Estonia, Finland

Type BC4: Estonia, Latvia

Type BC5: Latvia, Lithuania

Type BC6: Sweden, Denmark

Type BC7: Germany, Poland

Type BC8: Germany, Denmark

Type BC9: Finland, Sweden, Estonia (type only relevant for phytoplankton)

BALTIC SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS
Biological Quality Element

Phytoplankton

Results: Ecological quality ratios of national classification systems intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

BC7

Germany	German coastal phytoplankton method	0,8	0,6
Poland	Polish coastal phytoplankton method	0,8	0,6

BC8

Denmark	Danish coastal phytoplankton method	0,8	0,6
Germany	German coastal phytoplankton method	0,8	0,6

Results for parameter indicative of biomass (Chlorophyll-*a*)

Country and Type	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary

BC1

Finland (Quark outer)	0,76	0,59	1,7	2,2
Finland (Bothnian Sea outer)	0,78	0,60	1,6	2,1
Sweden (Quark outer)	0,75	0,58	1,6	2,1
Sweden (Bothnian Sea outer)	0,80	0,60	1,5	2,0

BC4

Estonia	0,830	0,670	2,4	3,0
Latvia	0,82	0,67	2,2	2,7

Country and Type	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
BC5				
Latvia	0,650	0,390	1,85	3,1
Lithuania	0,880	0,600	2,5	4,9
BC6				
Denmark	0,78	0,62	1,36	1,72
Sweden	0,79	0,64	1,44	1,78
BC9				
Estonia	0,82	0,67	2,20	2,70
Finland	0,79	0,65	1,90	2,30
Sweden	0,80	0,67	1,50	1,80

BALTIC SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS**Biological Quality Element**

Macroalgae and Angiosperms

Results: Ecological quality ratios of national classification systems intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
BC3			
Estonia	EPI — Estonian coastal water phytobenthos Index (macroalgae and angiosperms)	0,98	0,86
Finland	Fucus depth limit (macroalgae)	0,92	0,79
BC4			
Estonia	EPI — Estonian Phytobenthos Index (macroalgae and angiosperms)	0,91	0,70
Latvia	PEQI — Phytobenthos Ecological Quality Index	0,90	0,75

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
BC5			
Latvia	MDFLD — Maximum depth of the red alga <i>Furcellaria lumbricalis</i> distribution (macroalgae)	0,90	0,75
Lithuania	MDFLD — Lithuanian maximum depth of the red alga <i>Furcellaria lumbricalis</i> distribution (macroalgae)	0,84	0,68

BALTIC SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification systems intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
BC1			
Finland	BBI — Finnish Brackish water Benthic Index	0,96	0,56
Sweden	BQI — Swedish multimetric biological quality index (soft sediment in-fauna)	0,77	0,31
BC3			
Estonia	ZKI — Estonian coastal water macrozoobenthos community index	0,39	0,24
Finland	BBI — Finnish Brackish water Benthic Index	0,94	0,56
BC5			
Latvia	BQI — Benthic quality index	0,87	0,61

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Lithuania	BQI — Lithuanian benthic quality index	0,94	0,81

BC6

Denmark	Danish Quality Index version 2 (DKI ver2)	0,84	0,68
Sweden	BQI — Swedish multimetric biological quality index (soft sediment in-fauna)	0,76	0,27

BC7

Germany	MarBIT- Marine Biotic Index Tool	—	0,60
Poland	B — Macrozoobenthos BQE assessment by multimetric index	—	0,58

BC8

Denmark	Danish Quality Index version 2 (DKI ver2)	0,86	0,72
Germany	MarBIT — Marine Biotic Index Tool	0,80	0,60

Water category

Coastal waters

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
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Type for opportunistic blooming macroalgae, seagrasses, saltmarshes and benthic invertebrate fauna

NEA 1/26	Open oceanic or enclosed seas, exposed or sheltered, euhaline, shallow	< 30 Mesotidal 1-5 < 30	Medium 1 — 3 Exposed or sheltered	Fully mixed Days (to weeks in the Wadden Sea)
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Type	Characterisation	Salinity (psu) Tidal range (m) Depth (m)	Current Velocity (knots) Exposure	Mixing Residence Time
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Subtypes for intertidal macroalgae

NEA 1/26 A2	Open oceanic, exposed or sheltered, euhaline, shallow, Temperate waters (mainly, > 13 °C) and high irradiance (mainly, PAR > 29 Mol/m ² day)	> 30 Mesotidal 1 — 5 < 30	Medium 1 — 3 Exposed or sheltered	Fully mixed Days
NEA 1/26 B21	Open oceanic or enclosed seas, exposed or sheltered, euhaline, shallow Cool waters (mainly, < 13 °C) and medium irradiance (mainly, PAR < 29 Mol/m ² day)	> 30 Mainly mesotidal 1 — 5 < 30	Medium 1 — 3 Exposed or sheltered	Fully mixed Days

Subtypes for phytoplankton

NEA 1/26a	Open oceanic, exposed or sheltered, euhaline, shallow	> 30 Mesotidal 1 — 5 < 30	Medium 1 -3 Exposed or sheltered	Fully mixed Days
NEA 1/26b	Enclosed seas, exposed or sheltered, euhaline, shallow	> 30 Mesotidal 1 — 5 < 30	Medium 1 — 3 Exposed or sheltered	Fully mixed Days
NEA 1/26c	Enclosed seas, enclosed or sheltered, partly stratified	> 30 Microtidal/Mesotidal < 1 — 5 < 30	Medium 1 — 3 Exposed or sheltered	Partly stratified Days to weeks
NEA 1/26d	Scandinavian coast, exposed or sheltered, shallow	> 30 Microtidal < 1 < 30	Low < 1 Exposed or moderately exposed	Partly stratified Days to weeks
NEA 1/26e	Areas of upwelling, exposed or sheltered, euhaline, shallow	> 30 Mesotidal < 1 < 30	Medium 1 — 3 Exposed or sheltered	Fully mixed Days

Types for phytoplankton, macroalgae, seagrasses, saltmarshes, benthic invertebrate fauna

NEA 5	Helgoland (German Bight), rocky, exposed and partly stratified	> 30 Mesotidal < 30	Medium 1 — 3 Exposed	Partly stratified Days
NEA 3/4	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
NEA 7	Deep fjordic and sea loch systems	> 30 Mesotidal 1 -5 > 30	Low < 1 Sheltered	Fully mixed Days
NEA 8a	Skagerrak Inner Arc Type, polyhaline, microtidal, moderately exposed, shallow	Polyhaline 25 — 30 Microtidal < 1 > 30	Low < 1 Moderately exposed	Fully mixed Days to weeks
NEA 8b	Skagerrak Inner Arc Type, polyhaline, microtidal, moderately sheltered, shallow	Polyhaline 10 — 30 Microtidal < 1 < 30	Low < 1 Sheltered to moderately exposed	Partly stratified Days to weeks
NEA 9	Fjord with a shallow sill at the mouth with a very deep maximum depth in the central basin with poor deep-water exchange	Polyhaline 25 — 30 Microtidal < 1 > 30	Low < 1 Sheltered	Partly stratified Weeks
NEA 10	Skagerrak Outer Arc Type, polyhaline, microtidal, exposed, deep	Polyhaline 25 — 30 Microtidal < 1 > 30	Low < 1 Exposed	Partly stratified Days

Countries sharing types that have been intercalibrated:

Type NEA1/26 opportunistic blooming macroalgae, seagrasses, saltmarshes, benthic invertebrate fauna: Belgium, France, Germany, Denmark, Ireland, Netherlands, Norway, Portugal, Spain, United Kingdom

Type NEA1/26 A2: intertidal macroalgae: France, Spain, Portugal

Type NEA1/26 B21: intertidal macroalgae: France, Ireland, Norway, United Kingdom

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

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

Type NEA1/26c phytoplankton: Germany, Denmark

Type NEA1/26d phytoplankton: Denmark

Type NEA1/26e phytoplankton: Portugal, Spain

Type NEA 5: Germany

Type NEA3/4: Germany, Netherlands

Type NEA7: Norway, United Kingdom

Type NEA8a: Norway, Sweden

Type NEA8b: Denmark, Sweden

Type NEA9: Norway, Sweden

Type NEA10: Norway, Sweden

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Phytoplankton

Phytoplankton: parameter indicative of biomass parameter (Chlorophyll a)

Results: Ecological quality ratios and parameter values

Parameter values are expressed in µg/l as the 90 %ile value calculated over the defined growing season in a six year period.

Country and Type	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
<i>NEA 1/26a</i>				
France	0,76	0,33	4,40	10,00
Ireland	0,82	0,60	9,90	15,00
Norway	0,67	0,33	2,50	5,00
Spain (Eastern Cantabrian coast)	0,67	0,33	1,50	3,00
Spain (Western-Central Cantabrian Coast)	0,67	0,33	3,00	6,00
Spain (Gulf of Cadiz coast)	0,67	0,33	5,00	10,00
United Kingdom	0,80	0,60	5,00	10,00
<i>NEA 1/26b</i>				
Belgium	0,80	0,67	12,50	15,00
France	0,67	0,44	10,00	15,00
Netherlands	0,67	0,44	10,00	15,00
United Kingdom (south)	0,82	0,63	9,80	14,30
United Kingdom (north)	0,80	0,60	10,00	15,00
<i>NEA 1/26c</i>				
Germany	0,67	0,44	5,0	7,5
Denmark	0,67	0,44	5,0	7,5
<i>NEA 1/26e</i>				
Portugal (Iberian strong upwelling-A5)	0,670	0,440	8,000	12,000

Country and Type	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
Portugal (upwelling-A6,A7)	0,880	0,490	4,500	8,200
Spain (Western Iberian upwelling coast)	0,67	0,44	6,00	9,00
Spain (Western Iberian upwelling coast — rias)	0,67	0,44	8,00	12,00
<i>NEA 3/4</i>				
Germany (Eems Dollard)	0,80	0,60	7,00	11,00
Germany (Wadden Sea)	0,80	0,60	7,00	11,00
Netherlands (Eems Dollard)	0,80	0,60	6,75	10,13
Netherlands (Wadden Sea)	0,80	0,60	9,60	14,40
Netherlands (North Sea)	0,80	0,60	11,25	16,88
<i>NEA 8a</i>				
Norway	0,79	0,57	3,95	5,53
Sweden	0,75	0,49	1,54	2,35
<i>NEA 8b (The Sound)</i>				
Denmark	0,79	0,59	1,22	1,63
Sweden	0,80	0,60	1,18	1,56
<i>NEA 8b (The Kattegat and Great Belt)</i>				
Denmark	0,83	0,64	1,22	1,58
Sweden	0,84	0,65	1,18	1,52
<i>NEA 9</i>				
Norway	0,76	0,43	3,92	6,90
Sweden	0,73	0,38	1,89	3,60
<i>NEA 10</i>				
Norway	0,73	0,49	3,53	5,26
Sweden	0,71	0,46	1,39	2,14

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element	Macroalgae and Angiosperms
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Sub-Biological Quality Element	Macroalgae
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Intertidal or subtidal macroalgae rocky bottom**Results:** Ecological quality ratios of national classification systems intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Type NEA1/26 A2 intertidal macroalgae

France	CCO — Cover, Characteristic species, Opportunistic species on intertidal rocky bottoms	0,80	0,60
Portugal	PMarMAT — Marine Macroalgae Assessment Tool	0,80	0,61
Spain	CFR — Quality of Rocky Bottoms	0,81	0,60
Spain	RICQI — Rocky Intertidal Community Quality Index	0,82	0,60
Spain	RSL — Reduced Species List	0,75	0,48

Type NEA1/26 B21 intertidal macroalgae

Ireland	RSL — Rocky Shore Reduced Species List	0,80	0,60
Norway	RSLA — Rocky Shore Reduced Species List with Abundance	0,80	0,60
United Kingdom	RSL — Rocky Shore Reduced Species List	0,80	0,60

Type NEA 7 intertidal macroalgae

Norway	RSLA — Rocky Shore Reduced Species List with Abundance	0,80	0,60
United Kingdom	RSL — Rocky Shore Reduced Species List	0,80	0,60

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Type NEA8a/9/10 subtidal macroalgae

Norway	MSMDI — Multi Species Maximum Depth Index	0,80	0,60
Sweden	MSMDI — Multi Species Maximum Depth Index	0,80	0,60

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macroalgae and Angiosperms

Sub-Biological Quality Element Macroalgae

Intertidal blooming macroalgae soft bottom, indicative of abundance

Results: Ecological quality ratios of national classification systems intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Type NEA 1/26

Germany	OMAI — Opportunistic Macroalgae-cover/acreege on soft sediment intertidal in coastal waters	0,78	0,59
France	CWOGA — Macroalgal Bloom Assessment	0,825	0,617
Ireland	OGA tool — Opportunistic Green Macroalgal Abundance	0,80	0,60
United Kingdom	OMBT — Opportunistic macroalgal blooming tool	0,80	0,60

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element	Macroalgae and Angiosperms
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Sub-Biological Quality Element	Angiosperms
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Seagrasses**Results:** Ecological quality ratios of national classification systems intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Type NEA 1/26

Germany	SG — Assessment tool for intertidal seagrass in coastal and transitional waters	0,80	0,60
France	SBQ — Seagrass beds quality in coastal and transitional water bodies	0,80	0,645
Ireland	Intertidal Seagrass tool	0,80	0,61
Netherlands	SG — Monitoring beds of SG per waterbody using aerial photographs, ground truth and specifying surface & density per species	0,80	0,60
Portugal	SQI — Seagrass quality index	0,80	0,60
United Kingdom	Intertidal Seagrass tool	0,80	0,61

Type NEA 3/4

Germany	SG — Bewertungssystem für Makroalgen und Seegräser der Küsten- und Übergangsgewässer zur Umsetzung der EG-Wasserrahmenrichtlinie in Deutschland	0,80	0,60
Netherlands	Monitoring beds of SG per waterbody using aerial photographs, ground truth and specifying surface and density per species	0,80	0,60

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification systems intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Type NEA 1/26

Belgium	BEQI — Benthic Ecosystem Quality Index	0,80	0,60
Denmark	Danish Quality Index (DKI)	0,80	0,60
Germany	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,85	0,70
France	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,77	0,53
Ireland	IQI — Infaunal Quality Index	0,75	0,64
Netherlands	BEQI2 -Benthic Ecosystem Quality Index 2	0,80	0,60
Norway	NQI — Norwegian Quality Index	0,72	0,63
Portugal	BAT — Benthic Assessment Tool	0,79	0,58
Spain	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,77	0,63
United Kingdom	IQI — Infaunal Quality Index	0,75	0,64

Type NEA 3/4

Germany	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,85	0,70
Netherlands	BEQI2 — Benthic Ecosystem Quality Index 2	0,80	0,60

Type NEA 7

Norway	NQI — Norwegian Quality Index	0,72	0,63
United Kingdom	IQI — Infaunal Quality Index	0,75	0,64

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
<i>Type NEA 8b</i>			
Denmark	Danish Quality Index (DKI)	0,84	0,68
Sweden	BQI — Swedish multimetric biological quality index (soft sediment infauna)	0,71	0,54

Type NEA 8a/9/10

Norway	NQI — Norwegian Quality Index	0,82	0,63
Sweden	BQI — Swedish multimetric biological quality index (soft sediment infauna)	0,71	0,54

Water category

Coastal waters

Geographical Intercalibration Group

Mediterranean Sea

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

For benthic invertebrate fauna, macroalgae and seagrasses the intercalibration results apply to the entire Mediterranean Sea covered by the Country

Type	Description	Density (kg/m ³)	Annual mean salinity (psu)
Type I	Highly influenced by freshwater input	< 25	< 34,5
Type IIA, IIA Adriatic	Moderately influenced by freshwater input (continent influence)	25 — 27	34,5 — 37,5
Type IIIW	Continental coast, not influenced by freshwater input (Western Basin).	> 27	> 37,5
Type IIIE	Not influenced by freshwater input (Eastern Basin)	> 27	> 37,5
Type Island-W*	Island coast (Western Basin)	All range	All range

Countries sharing types that have been intercalibrated:

Type I: France, Italy

Type IIA: France, Spain, Italy

Type IIA Adriatic: Italy, Slovenia

*Type Island-W** (no boundaries for this type and no possible the intercalibration due to justified reasons): France, Spain, Italy

Type IIIW: France, Spain, Italy

Type IIIE: Greece, Cyprus

MEDITERRANEAN SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Phytoplankton

Phytoplankton: parameter indicative of biomass parameter (Chlorophyll a)**Results:** Ecological quality ratios and parameter values

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.

Country and Type	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
<i>Type II A</i>				
France	0,67	0,37	1,92	3,50
Spain	0,67	0,37	1,92	3,50
<i>Type II A Adriatic</i>				
Croatia	0,82	0,61	1,70	4,00
Italy	0,82	0,61	1,70	4,00
Slovenia	0,82	0,61	1,70	4,00
<i>Type IIIW</i>				
France	0,67	0,42	1,18	1,89
Spain	0,67	0,42	1,18	1,89
<i>Type IIIE</i>				
Cyprus	0,66	0,37	0,29	0,53
Greece	0,66	0,37	0,29	0,53

MEDITERRANEAN SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element

Macroalgae and Angiosperms

Sub-Biological Quality Element

Macroalgae

Results: Ecological quality ratios of national classification systems intercalibrated

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

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Cyprus	EEI-c — Ecological Evaluation Index	0,76	0,48
France	CARLIT — Cartography of Littoral and upper-sublittoral rocky-shore communities	0,75	0,60
Greece	EEI-c — Ecological Evaluation Index	0,76	0,48
Croatia	CARLIT — Cartography of Littoral and upper-sublittoral rocky-shore communities	0,75	0,60
Italy	CARLIT — Cartography of Littoral and upper-sublittoral rocky-shore communities	0,75	0,60
Malta	CARLIT — Cartography of Littoral and upper-sublittoral rocky-shore communities	0,75	0,60
Slovenia	Metodologija vrednotenja ekološkega stanja obalnega morja na podlagi makroalg	0,76	0,48
Spain	CARLIT — Cartography of Littoral and upper-sublittoral rocky-shore communities	0,75	0,60

MEDITERRANEAN SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macroalgae and Angiosperms

Sub-Biological Quality Element Angiosperms

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Croatia	POMI — Posidonia oceanica Multivariate Index	0,775	0,55
Cyprus	PREI — Posidonia oceanica Rapid Easy Index	0,775	0,55

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France	PREI — Posidonia oceanica Rapid Easy Index	0,775	0,55
Italy	PREI — Posidonia oceanica Rapid Easy Index	0,775	0,55
Malta	PREI — Posidonia oceanica Rapid Easy Index	0,775	0,55
Spain	POMI — Posidonia oceanica Multivariate Index	0,775	0,55
Spain	Valencian-CS	0,775	0,55

MEDITERRANEAN SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Benthic invertebrate fauna

Biological Quality Element

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Italy	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,81	0,61
Slovenia	Metodologija vrednotenja ekološkega stanja obalnega morja na podlagi bentoških nevretenčarjev	0,83	0,62
Cyprus	Bentix	0,75	0,58
France	AMBI	0,83	0,58
Greece	Bentix	0,75	0,58
Spain	BOPA	0,95	0,54
Spain	MEDOCC	0,73	0,47

Water category Coastal waters

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 to very exposed, mixed substratum (fine sand for zoobenthos)

Countries sharing types that have been intercalibrated: Bulgaria and Romania

BLACK SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Phytoplankton

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Bulgaria	IBI	0,80	0,63
Romania	IBI	0,80	0,63

BLACK SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element Macroalgae and Angiosperms

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Bulgaria	EI-Ecological index	0,837	0,644
Romania	EI-Ecological index	0,837	0,644

BLACK SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS**Biological Quality Element**

Benthic Invertebrate fauna

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Bulgaria	M-AMBI(n) — Multivariate AZTI's Marine Biotic Index Normalized	0,90	0,68
Romania	M-AMBI(n) — Multivariate AZTI's Marine Biotic Index Normalized	0,90	0,68

Water category

Transitional waters

Geographical Intercalibration Group

Baltic Sea GIG

Description of types that have been intercalibrated

Type	Surface salinity psu	Bottom salinity (psu)	Exposure	Ice days	Other Characteristics
BT1	0 — 8 Oligohaline	0 — 8	Very sheltered	—	Polish Vistula lagoon and Lithuanian Curonian lagoon

Countries sharing types that have been intercalibrated:

Lithuania and Poland

BALTIC SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS**Biological Quality Element**

Phytoplankton

Results for parameter indicative of biomass (Chrophyll a)

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

Country	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
Lithuania	0,83	0,57	31,70	46,60
Poland	0,77	0,61	33,46	42,20

Water category Transitional waters

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
NEA 11	Transitional Waters	0 — 35 Micro to macro-tidal < 30	Variable Sheltered or moderately exposed	Partly permanently stratified Days to weeks

Countries sharing type that have been intercalibrated:

Belgium, Germany, France, Ireland, Netherlands, Portugal, Spain, United Kingdom

Description of sub common intercalibration types for Biological quality element Benthic Invertebrate Fauna:

Sub type	Characterisation	MS sharing sub-type
A	Lagoons	Ireland, Spain, United Kingdom
B	Freshwater-oligohaline, medium river flow	Ireland, Spain, United Kingdom
C	Mesotidal estuary with irregular river flow	Portugal, Spain
D	Large estuaries	Germany, Ireland, Netherlands, Portugal, Spain, United Kingdom
E	Small-medium estuary with > 50 % intertidal area	Ireland, Germany, Spain, United Kingdom
F	Small-medium estuary with < 50 % intertidal area	Ireland, Portugal, Spain, United Kingdom

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element: Phytoplankton

Phytoplankton: parameter indicative of biomass parameter (Chlorophyll a)

Results: Ecological quality ratios and parameter values

Parameter values are expressed in µg/l measured as the national chlorophyll-a metric calculated in a six year period. National metrics for France, Netherlands, Portugal and Spain typically use a measure of P90 Chl-a with salinity adjusted thresholds, Ireland uses a combination of P90 Chl-a and median values, and United Kingdom uses a metric based on a count of exceedances of certain statistical measures. In the case of UK, P90 values were calculated only for IC purposes.

Country	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
France	0,67	0,397	5,33	8,88

Country	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
Ireland	0,80	0,60	12,96	25,96
Netherlands	0,80	0,60	12,00	18,00
Portugal-North	0,667	0,467	10,000	14,288
Spain — Central Cantabrian and Galician estuaries — Mixing zone (*)	0,67	0,44	8,00	12,00
Spain — Central Cantabrian and Galician estuaries — Euhaline (*)	0,67	0,33	4,00	8,00
Spain — East Cantabrian estuaries — Euhaline (*)	0,67	0,33	1,95	3,90
Spain — East Cantabrian estuaries — Polyhaline (*)	0,67	0,33	3,30	6,60
Spain — East Cantabrian estuaries — Mesohaline (*)	0,67	0,33	5,10	10,20
Spain — East Cantabrian estuaries — Oligohaline (*)	0,67	0,33	6,60	13,20
Spain — Gulf of Cádiz estuaries — Mixing zone (*)	0,67	0,33	3,75	7,50
Spain — Gulf of Cádiz estuaries — Euhaline (*)	0,67	0,33	3,00	6,00
United Kingdom	0,80	0,60	10,00	15,00

(*) Salinity ranges established by the median (P50) salinity as follows: Euhaline [30,1-34,4] PSU; Polyhaline [18,1-30,0] PSU; Mesohaline [5,1-18,0] PSU; Oligohaline [0,5-5,0] PSU

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element: Macroalgae and Angiosperms

Sub-Biological Quality Element Macroalgae

Intertidal blooming macroalgae soft bottom, indicative of abundance

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France	TWOGA — Macroalgal Bloom Assessment	0,80	0,60

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Ireland	OGA Tool — Opportunistic Green Macroalgal Abundance	0,80	0,60
United Kingdom	OMBT- Opportunistic macroalgal blooming tool	0,80	0,60

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element: Macroalgae and Angiosperms

Sub-Biological Quality Element Angiosperms

Seagrasses

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Germany	SG-Assessment tool for intertidal seagrass in coastal and transitional waters	0,80	0,60
France	SBQ-Seagrass beds quality in coastal and transitional water bodies	0,80	0,645
Ireland	Intertidal Seagrass tool	0,80	0,61
Netherlands	SG- Monitoring beds of SG per waterbody using aerial photographs, ground truth and specifying surface & density per species	0,80	0,60
Portugal	SQI-Seagrass quality index	0,800	0,600
United Kingdom	Intertidal Seagrass tool	0,80	0,61

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element: Macroalgae and Angiosperms

Sub-Biological Quality Element Angiosperms

Saltmarshes
Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Spain — Cantabria	AQI — Angiosperm Quality Index	0,88	0,73
Portugal	AQuA — Angiosperm Quality Assessment Index	0,800	0,600
United Kingdom	SM — UK Saltmarsh Tool	0,800	0,600

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element: Benthic invertebrate fauna

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Sub type D

Germany	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,850	0,700
Netherlands	BEQI2 — Benthic Ecosystem Quality Index 2	0,800	0,600
Spain	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,770	0,530
Portugal	BAT — Benthic Assessment Tool	0,838	0,582

Sub type E

Spain	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,770	0,530
Spain	QSB — Quality of Soft Bottoms	0,800	0,600

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
<i>Sub type F</i>			
Spain	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,770	0,530
Portugal	BAT- Benthic Assessment Tool	0,806	0,580

NORTH EAST ATLANTIC GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element: Fish fauna

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Belgium	EBI — Zeeschelde Estuarine Biotic Index	0,850	0,615
France	ELFI — Estuarine and Lagoon Fish Index	0,910	0,675
Germany	FAT — TW — Fischbasiertes Bewertungswerkzeug für Übergangsgewässer der norddeutschen Ästuarie	0,840	0,620
Ireland	TFCI — Transitional Fish Classification Index	0,810	0,580
Ireland	EMFI — Estuarine Multi-metric Fish Index	0,920	0,650
Netherlands	FAT — TW — WFD Fish index for transitional waters, type O2	0,800	0,600
Portugal	EFAI — Estuarine Fish Assessment Index	0,865	0,700
Spain	AFI — AZTI's Fish Index	0,780	0,550
Spain	TFCI — Transitional Fish Classification Index	0,900	0,650
United Kingdom	TFCI — Transitional Fish Classification Index	0,810	0,580

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
United Kingdom	EMFI — Estuarine Multi-metric Fish Index	0,920	0,650

Water category Transitional waters

Geographical Intercalibration Group Mediterranean Sea

Description of types that have been intercalibrated

Common IC type	Type characteristics	MS sharing IC common type
CL-Oligohaline	Coastal lagoons (Salinity < 5 psu)	Spain, France, Italy
CL-Mesohaline choked and restricted	Coastal lagoons (Salinity 5 — 18 psu)	Spain (*), France (*), Italy, Greece
CL-Polyhaline choked and restricted	Coastal lagoons (Salinity 18 — 40 psu)	Spain (*), France (*), Italy, Greece
Hyperhalines (Salinity > 40 psu).	Hyperhalines (Salinity > 40 psu)	Spain
Estuaries	Estuaries (salt wedge type)	Spain, Croatia

(*) Spain and France do not consider distinction between restricted or choked lagoons.

MEDITERRANEAN SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element: Phytoplankton

Phytoplankton: Ecological quality ratios of national classification systems intercalibrated

Country and type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
<i>Coastal lagoons Polyhaline choked</i>			
France	PhIL — Phytoplankton index for Mediterranean polyhaline lagoons	0,710	0,390
Greece	MPI — Multimetric Phytoplankton Index	0,780	0,510
Italy	MPI — Multimetric Phytoplankton Index	0,780	0,510

Country and type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Coastal lagoons Polyhaline restricted

France	PhIL — Phytoplankton index for Mediterranean polyhaline lagoons	0,710	0,390
Greece	MPI — Multimetric Phytoplankton Index	0,820	0,540
Italy	MPI — Multimetric Phytoplankton Index	0,820	0,540

MEDITERRANEAN SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element: Macroalgae and Angiosperms

Results: Ecological quality ratios of national classification systems intercalibrated

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France	Exclame	0,8	0,6
Greece	EEI-c — Ecological Evaluation Index	0,7	0,4
Italy	MaQI — Macrophyte Quality Index	0,8	0,6

MEDITERRANEAN SEA GEOGRAPHICAL INTERCALIBRATION GROUP RESULTS

Biological Quality Element: Benthic invertebrate fauna

Results: Ecological quality ratios of national classification systems intercalibrated

Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Coastal lagoons Polyhaline restricted

France	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,84	0,63
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Country and Type	National classification systems intercalibrated	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Italy	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,96	0,71
Greece	M-AMBI — Multivariate AZTI's Marine Biotic Index	0,83	0,62

CL-Mesohaline chocked and restricted

Italy	M-AMBI — Multivariate AZTI's Marine Biotic Index	—	0,71
Greece	M-AMBI — Multivariate AZTI's Marine Biotic Index	—	0,62

– PART 2 –

Water category

Rivers

Geographical Intercalibration Group

Cross-GIG River fish fauna

Biological Quality Element

Fish fauna

Results: Ecological quality ratios of national classification methods

Mediterranean group

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Italy	NISECI index (New Index of Ecological Status of Fish Communities)	0,80	0,60
Bulgaria	TsBRI (Type Specific Bulgarian Fish Index)	0,860	0,650

Water category	Rivers
Geographical Intercalibration Group	Cross-GIG Very Large Rivers
Biological Quality Element	Macrophytes and Phytobenthos
Sub-biological Quality Element	Phytobenthos

Results: Ecological quality ratios of national classification methods intercalibrated — Type R-L2

Country	National classification systems intercalibrated	Ecological Quality Ratios	
		High-Good boundary	Good-Moderate boundary
Belgium (Flanders)	PISIAD index (Proportions of Impact-Sensitive and Impact-Associated Diatoms)	0,80	0,60

Water category	Lakes
Geographical Intercalibration Group	Alpine lakes
Biological Quality Element	Benthic invertebrates fauna

Results: Ecological quality ratios of national classification methods

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Italy	BQIES (Benthic Quality Index Expected Species number)	0,88	0,76

Biological Quality Element	Fish fauna
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Results: Ecological quality ratios of national classification methods

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France	ELFI (European Lake Fish Index): Indice Ichtyofaune Lacustre (IIL)	0,73	0,49

Water category Lakes

Geographical Intercalibration Group Central-Baltic lakes

Biological Quality Element Phytoplankton

Results: Ecological quality ratios of national classification methods

Country	National classification methods	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France	Phytoplankton Index for Lakes (IPLAC): Indice Phytoplankton Lacustre	0,80	0,60

Biological Quality Element Macrophytes and Phytobenthos

Sub-biological Quality Element Macrophytes

Results: Ecological quality ratios of national classification methods

Country	National classification methods	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France	French Macrophyte Index for Lakes (IBML): Indice Biologique Macrophytique en Lacs	0,80	0,60

Biological Quality Element Fish fauna

Results: Ecological quality ratios of national classification methods

Country	National classification methods	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Belgium (Flanders)	Fish-based index for lakes and reservoirs in Flanders (Belgium)	0,80	0,60

Water category Lakes

Geographical Intercalibration Group Mediterranean lakes

Biological Quality Element Phytoplankton

Results: Ecological quality ratios of national classification methods

Country	National classification methods	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France	Phytoplankton Index for Lakes (IPLAC): Indice Phytoplankton Lacustre	0,80	0,60
Greece	HeLPhy — Hellenic Lake Phytoplankton Assessment Method	0,80	0,60
Italy	Italian phytoplankton assessment method (IPAM)	0,80	0,60

Biological Quality Element Macrophytes and Phytobenthos

Sub-biological Quality Element Macrophytes

Results: Ecological quality ratios of national classification methods

Country	National classification methods	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France	French Macrophyte Index for Lakes (IBML): Indice Biologique Macrophytique en Lacs	0,80	0,60
Greece	HeLM — Hellenic Lake Macrophytes Assessment Method	0,80	0,60
Italy	VLMMI — Volcanic Lakes Multimetric Macrophyte Index	0,70	0,50

Biological Quality Element Benthic Invertebrate fauna

Results: Ecological quality ratios of national classification methods

Country	National classification methods	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Greece	GLBil — Greek Lake Benthic invertebrate Index	0,80	0,60

Country	National classification methods	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Italy	BQIES (Benthic Quality Index Expected Species number)	0,88	0,76

Biological Quality Element Fish fauna

Results: Ecological quality ratios of national classification methods

Country	National classification methods	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
France	ELFI (European Lake Fish Index): Indice Ichtyofaune Lacustre (IIL)	0,73	0,49
Greece	GLFI — Greek Lake Fish Index	0,80	0,60
Italy	Lake Fish Index (LFI)	0,82	0,64

Water category Lakes

Geographical Intercalibration Group Eastern Continental lakes

Biological Quality Element Fish fauna

Results: Ecological quality ratios of national classification methods

Country	National classification methods	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Bulgaria	Bulgarian fish based method for ecological classification and monitoring of lakes	0,76	0,52

Water category Coastal waters

Geographical Intercalibration Group Baltic Sea

Biological Quality Element Phytoplankton

Phytoplankton: parameter indicative of biomass parameter (Chlorophyll a)

Results: Ecological quality ratios and parameter values

Country and Type	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary

BC2 (including German national types B1, B2a, B2b)

Germany (B1)	0,91	0,67	9,30	12,70
Germany (B2a)	0,89	0,67	1,80	2,40
Germany (B2b)	0,93	0,67	1,40	1,95

Biological Quality Element

Macroalgae and Angiosperms

Results: Ecological quality ratios of national classification systems

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

BC2

Germany	PHYBIBCO — PHYtoBenthic Index for Baltic inner coastal waters	0,80	0,60
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BC1

Finland	Fucus depth limit(macroalgae)	0,90	0,74
Sweden	MSMDI (macroalgae and angiosperms)	0,60	0,40

BC6

Denmark	Depth limit of eelgrass, <i>Zostera marina</i> (angiosperm)	0,90	0,74
Sweden	MSMDI(macroalgae and angiosperms)	0,60	0,40

BC7

Germany	Balcosis — Baltic ALgae COmmunity AnalySIs System (macroalgae and angiosperms)	0,80	0,60
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Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Poland	MQAI — Macrophyte Quality Assessment Index	0,90	0,70

BC8

Germany	Balcosis — Baltic ALgae COmmunity AnalySIs System (macroalgae and angiosperms)	0,80	0,60
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Results: Ecological quality ratios and parameters values for parameter indicative of abundance (Depth limit of eelgrass *Zostera marina* (angiosperm))

Country and Type	Ecological Quality Ratios		Parameter values/ranges Depth limit (m) Eelgrass <i>Zostera marina</i>	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
Denmark Open coast	0,90	0,74	8,5	7

BC8

Denmark Open coast	0,90	0,74	8,5	7
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Biological Quality Element

Benthic Invertebrate fauna

Results: Ecological quality ratios of national classification systems

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
BC2			
Germany	MarBIT- Marine Biotic Index Tool	0,80	0,60
BC4			
Estonia	ZKI — Estonian coastal water macrozoobenthos community index	0,39	0,24
Latvia	BQI — Benthic quality index	0,88	0,75

Water category Coastal waters

Geographical Intercalibration Group North East Atlantic

Biological Quality Element Phytoplankton

Results: Ecological quality ratios of national classification systems

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

NEA 7

United Kingdom	Phytoplankton tool	0,80	0,60
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Phytoplankton: parameter indicative of biomass parameter (Chlorophyll a)

Results: Ecological quality ratios and parameter values

Parameter values are expressed in µg/l as the 90 %ile value calculated over the defined growing season in a six year period.

Country and Type	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary

NEA 1/26d

Denmark	0,66	0,50	3,00	4,00
NEA 5				
Germany	0,67	0,44	5,00	7,50
NEA 7				
Norway	0,67	0,33	2,50	5,00
United Kingdom (in-shore/North Sea)	0,67	0,33	10,00	15,00
United Kingdom (Atlantic)	0,67	0,33	5,00	10,00

Biological Quality Element Macroalgae and Angiosperms

Sub-Biological Quality Element Macroalgae

Intertidal or subtidal macroalgae rocky bottom

Results: Ecological quality ratios of national classification systems

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Type NEA 5			
Germany	HPI — Helgoland Phytobenthic Index	0,80	0,60

Biological Quality Element Macroalgae and Angiosperms

Sub-Biological Quality Element Macroalgae

Intertidal blooming macroalgae soft bottom, indicative of abundance

Results: Ecological quality ratios of national classification systems

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
NEA 3/4			
Germany	OMAI — Opportunistic Macroalgae-cover/acreage on soft sediment intertidal in coastal waters	0,80	0,60

Biological Quality Element Macroalgae and Angiosperms

Sub-Biological Quality Element Angiosperms

Saltmarshes

Results: Ecological quality ratios of national classification systems

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Germany	EM — Assessment of saltmarsh vegetation in coastal and transitional waters	0,80	0,60

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Ireland	SMAATIE — Saltmarsh Angiosperm Assessment Tool for Ireland	0,80	0,60
Netherlands	TSM — WFD-metrics for natural watertypes: tidal salt marsh	0,80	0,60
United Kingdom	SM — UK Saltmarsh Tool	0,80	0,60

Biological Quality Element

Macroalgae and Angiosperms

Results: Ecological quality ratios of national classification systems

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Type NEA 8b

Sweden	MSMDI (macroalgae and angiosperms)	0,80	0,60
Denmark	Depth limit of eelgrass <i>Zostera marina</i> (angiosperm)	0,90	0,74

Biological Quality Element

Benthic Invertebrate fauna

Results: Ecological quality ratios of national classification systems

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Type NEA 1/26

Portugal	RAT — Rocky Shore Assessment Tool	0,800	0,600
Spain	BO2A — Benthic Opportunistic polychaetes/amphipods index	0,83	0,50

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
<i>Type NEA 5*</i>			
Germany	MarBIT — Marine Biotic Index Tool	0,80	0,60

Water category

Coastal waters

Geographical Intercalibration Group

Mediterranean Sea

Biological Quality Element

Phytoplankton

Phytoplankton: parameter indicative of biomass parameter (Chlorophyll a)**Results:** Ecological quality ratios and parameter values

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.

Country and Type	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
<i>Type I</i>				
France	0,670	0,330	4,925	10,000
Italy	0,850	0,620	5,600	14,100
<i>Type II A Tyrrhenian</i>				
Italy	0,84	0,62	1,17	2,90

Type III W Adriatic

Italy				1,7 (*)
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Type III W Tyrrhenian

Italy				1,17 (*)
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(*) The values are not national boundaries but threshold values

Biological Quality Element Macroalgae and Angiosperms

Sub-Biological Quality Element Angiosperms

Results: Ecological quality ratios of national classification systems

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Greece	CymoSkew	0,75	0,5

Water category Transitional waters

Geographical Intercalibration Group North East Atlantic

Biological Quality Element Phytoplankton

Phytoplankton: parameter indicative of biomass parameter (Chlorophyll a)

Results: Ecological quality ratios and parameter values

Parameter values are expressed in µg/l as the 90 %ile value calculated over the defined growing season

Country	Ecological Quality Ratios		Values (µg/l)	
	High-good boundary	Good-moderate boundary	High-good boundary	Good-moderate boundary
Belgium	1,00	0,60	100	200

Biological Quality Element Macroalgae and Angiosperms

Sub-Biological Quality Element Angiosperms

Saltmarshes

Results: Ecological quality ratios of national classification systems

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Belgium	TMQI -Tidal Marsh Quality Index	0,85	0,75
Germany	EM — Assessment of saltmarsh vegetation in coastal and transitional waters	0,80	0,60

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Ireland	SMAATIE — Saltmarsh Angiosperm Assessment Tool for Ireland	0,80	0,60
Netherlands	TSM — WFD-metrics for natural watertypes: tidal salt marsh	0,80	0,60

Biological Quality Element Macroalgae and Angiosperms

Sub-Biological Quality Element Angiosperms

Seagrasses

Results: Ecological quality ratios of national classification systems

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Spain — Cantabria	AQI — Angiosperms Quality Index	0,850	0,700

Biological Quality Element Benthic Invertebrate fauna

Results: Ecological quality ratios of national classification systems

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Belgium	BEQI — Benthic Ecosystem Quality Index	0,75	0,5

Sub type D

Germany	AeTV — Aestuar Type Verfahren	0,80	0,60
Ireland	IQI — Infaunal Quality Index	0,75	0,64
Spain	TasBEM — Taxonomically Sufficient Benthic Multimetric	0,79	0,66
United Kingdom	IQI — Infaunal Quality Index	0,75	0,64

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Sub type E

Germany	AeTV — Aestuar Type Verfahren	0,80	0,60
Germany	M-AMBI -	0,85	0,70
Ireland	IQI — Infaunal Quality Index	0,75	0,64
Spain	TasBEM — Taxonomically Sufficient Benthic Multimetric	0,79	0,66
United Kingdom	IQI — Infaunal Quality Index	0,75	0,64

Sub type F

Ireland	IQI — Infaunal Quality Index	0,75	0,64
Spain	TasBEM — Taxonomically Sufficient Benthic Multimetric	0,79	0,66
United Kingdom	IQI — Infaunal Quality Index	0,75	0,64

Water category Transitional waters

Geographical Intercalibration Group Mediterranean Sea

Biological Quality Element Phytoplankton

Results: Ecological quality ratios of national classification systems

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Coastal lagoons oligohaline and mesohaline

Spain (Balearic Islands)	FITOHMIB	0,93	0,73
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Estuaries

Spain (Southern Coast)	TWif — Phytoplankton index for transitional waters	0,50	0,36
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Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Croatia	MPI — Multimetric Phytoplankton Index	0,80	0,60

Biological Quality Element

Benthic invertebrate fauna

Results: Ecological quality ratios of national classification systems

Country and Type	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary

Coastal lagoons Oligohaline, Mesohaline and Polyhaline

Spain (Balearic Islands)	INVHMIB	0,93	0,73
<i>Coastal lagoons Oligohaline</i>			
Spain (Northeastern Coast)	QAELS	0,86	0,58

Coastal lagoons Mesohaline

Spain (Northeastern Coast)	QAELS	0,72	0,62
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Estuaries

Spain (without salt wedge — Southern Coast)	BO2A	0,87	0,45
Spain (with salt wedge — Southern Coast)	BO2A	0,87	0,52

Biological Quality Element

Fish fauna

Results: Ecological quality ratios of national classification systems

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Italy	HFBI — Habitat Fish Bio-Indicator	0,94	0,55
Croatia	M-EFI — Modified Estuarine Fish Index	0,80	0,60

Water category Transitional waters

Geographical Intercalibration Group Black Sea

Biological Quality Element Phytoplankton

Results: Ecological quality ratios of national classification systems

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Romania	IBI — Integrated Biological Index	0,70	0,42

Biological Quality Element Benthic invertebrate fauna

Results: Ecological quality ratios of national classification systems

Country	National classification systems	Ecological Quality Ratios	
		High-good boundary	Good-moderate boundary
Romania	M-AMBI(n) — Multivariate AZTI's Marine Biotic Index Normalized	0,90	0,68