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Report on fitting the French national method for the evaluation of lake ecological status using benthic diatoms (IBDL) - Phytobenthos cross-GIG intercalibration exercise

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Introduction

When the Cross-GIG phytobenthos exercise was carried out, France did not have yet any method based on benthic diatoms and dedicated to the evaluation of lake ecological status. France then participated in this exercise with the Biological Diatom Index (BDI, Coste et al., 2009), routinely used to assess river ecological status. Although previous results tended to advocate for a good correlation between BDI and the pressure gradient at least in shallow lakes (Cellamare et al., 2012), the intercalibration exercise revealed a poor correlation between BDI values and total phosphorous at the national scale (Kelly et al., 2014). Explanations may be found in the fact that many lake taxa were absent from the list of key species used to calculate the BDI, resulting in a globally poor relevance of the final lake status assessment. A new method was thus developed specifically for lakes, namely IBDL (Tison-Rosebery et al., submitted), and related ecological status boundaries were set. This report aims to fit those boundaries to the harmonised definition of good ecological status established in the completed intercalibration exercise, following the “*Procedure to fit new or updated classification methods to the results of a completed intercalibration exercise*” (Birk et al., 2014)

I– IBDL : index settlement and properties

The IBDL assesses lake ecological status based on the composition of the benthic diatom communities and is calibrated against different environmental gradients: biological oxygen demand, Kjeldahl nitrogen, total phosphorous and suspended particles. **Dataset used**

The dataset gathers samplings performed on 93 French lakes during the summer period, each year from 2015 to 2020, and according to Morin et al. (2010). Lakes were classified into three metatypes based on alkalinity, according to the European intercalibration exercise previously performed (Kelly et al., 2014): low alkalinity (LA, alkalinity $< 0.2 \text{ meq.l}^{-1}$), medium alkalinity (MA, $0.2 \text{ meq.l}^{-1} < \text{alkalinity} < 1 \text{ meq.l}^{-1}$), high alkalinity (alkalinity $> 1 \text{ meq.l}^{-1}$).

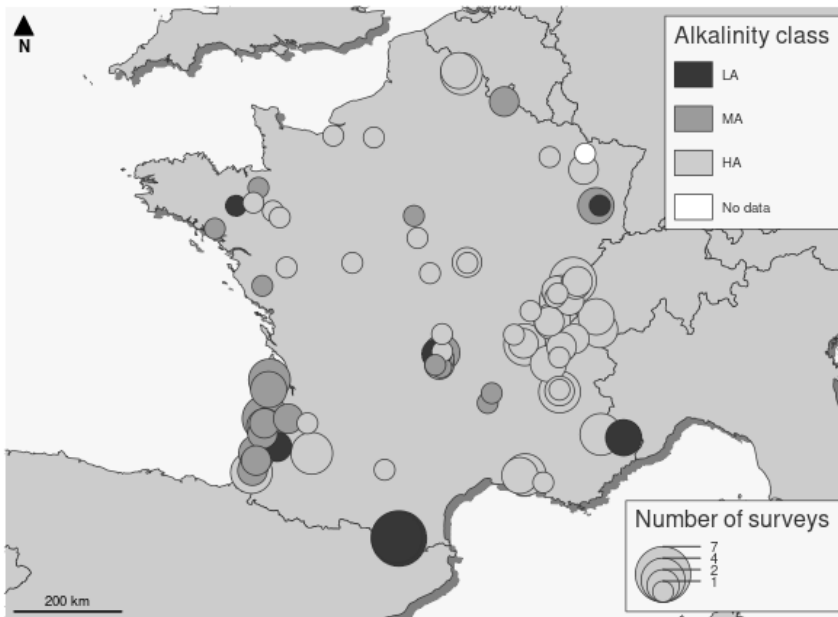


Figure 1: Study sites and number of samplings per site. Lake alkalinity classes are reported (LA: low alkalinity; MA: medium alkalinity; HA: high alkalinity) (Kelly et al., 2014)

Diatoms were collected on both mineral substrates and lakeshore macrophyte surfaces, in observation units (OUs) which number and location vary according to the lake surface area and the riparian zone types. Such units are defined and listed in the French macrophyte sampling protocol for lakes (XP T90-328, AFNOR, 2010).

Samples from hard mineral substrates were performed on at least five boulders or cobbles, taken at random in each OU, equivalent to a final surface area of 100 cm², as defined in the NF T90-354 standard (AFNOR 2016). Selected substrates should be submerged within the euphotic zone, at a maximum depth of 0.5 m.

Samplings on macrophytes were performed on helophytes (mainly *Phragmites australis* (Cav.) Trin. ex Steud.). From a minimum of 5 macrophytes taken at random, green stem segments submerged for at least 4 to 6 weeks were collected. These stem segments should be located at a maximum depth of 0.2 m.

Diatoms were sampled from both substrates according to the NF T90-354 protocol, in line with the European standards (EN 13946, European Commission). Cells were identified at 100x magnification by examining permanent slides of cleaned diatom frustules (400 valves per slide), using among others Krammer and Lange-Bertalot (1986 – 1991) and Lange-Bertalot (1995 – 2015, 2000 – 2013). A taxonomic homogenization was performed with Omnidia 5.3 software (Lecointe, Coste & Prygiel, 1993).

All OUs from a single lake were sampled within a maximum of 21 days. Diatom countings should include at least 380 cells per slide, with more than 50% of the diatom cells determined at the species level, to comply with the NF T90-354 requirements.

Physico-chemical parameter values were determined in summer at the deepest point of each lake, according to European standards. Data were obtained from national surveillance monitoring programs. Water quality analysis was not systematically performed each year: in a few cases, the most recent physico-chemical data available for a lake were collected three years before the diatom samples. The following parameters were recorded: biological oxygen demand (BOD₅, mg.l⁻¹), Kjeldahl nitrogen (NKJ, mg.l⁻¹), ammonium (NH₄, mg.l⁻¹), nitrates (NO₃, mg.l⁻¹), nitrites (NO₂, mg.l⁻¹), orthophosphates (PO₄, mg.l⁻¹), total phosphorous (Pt, mg.l⁻¹), suspended particles (SP, mg.l⁻¹), oxygen (O₂, mg.l⁻¹) and oxygen saturation (% O₂).

2 Computation details

All analyses were performed with R 3.6.1 software (R Core Team, 2021).

Considering that the final dataset revealed a particularly discontinuous trophic gradient, we opted for the so-called method “Threshold Indicator Taxa ANalysis” (TITAN, Baker and King, 2020) which, based on bootstraps and permutations, makes it possible to determine a list of “alert taxa”. Alert taxa presence and/or increasing abundance reveal the existence of anthropogenic pressures. A three-step procedure was necessary to build our Biological Diatom Index for Lakes (IBDL): identification of alert taxa, settlement of relevant metrics and aggregation of these metrics to obtain the final index score.

2-1 Identification of alert taxa

For further analysis, we only considered taxa with occurrence equal to or greater than 3 (the so-called “index taxa”).

TITAN combines change-point analysis (nCPA; King & Richardson 2003) and indicator species analysis (IndVal, Duf rene & Legendre 1997). Basically, change-point analysis compares within-group *vs* between-group dissimilarity to detect shifts in community structure along the environmental variable considered (Baker and King, 2020). Indicator species analysis then identifies the strength of association between any particular taxon and this sample grouping. At the end of the process, two IndVal scores are calculated for a single taxon in a two-group classification. The algorithm finally classifies taxa into three different categories: Z^+ taxa showing a significant increase in abundance along the increasing environmental gradient, Z^- taxa showing a significant decrease along this gradient, and indifferent taxa showing no significant trend. Z^+ taxa and Z^- taxa show affinities with respectively the high and the low concentrations of the environmental variable under consideration. Alert taxa were defined as Z^+ or Z^- taxa which shift thresholds were greater or lesser than the community shift threshold (see the list of Alert taxa in Annex 1).

2-2 Building metrics and selecting the relevant ones

For each environmental variable, a metric is calculated at the OU scale according to (1):

$$Metric_M = 1 - \left(\frac{Alert_taxa}{Index_taxa} \right) \quad (1)$$

Where “Alert_taxa” is the number of alert taxa in the sample and “Index_taxa” the number of index taxa.

The metric value is bounded between 0 and 1. The lowest value (0) corresponds to a species list entirely composed of alert taxa (determined for the environmental variable considered).

In order to build our index, we further selected the most relevant metrics, i.e. those with the best relationship towards the environmental parameter considered. We used the Pearson's correlation coefficient to measure this statistical association, and only kept metrics showing a Pearson's coefficient $>|0.6|$: four metrics based on NKJ, BOD5, Pt and SP were finally considered to build the IBDL. We obtained the response patterns of the different metrics via the transformation of raw values into normalized deviations (Standardized Effect Size -SES-, Gotelli and McCabe, 2002, Mondy et al., 2012) (2). SES values allowed obtaining a single response pattern for a metric whatever the lake metatype and the substrate type considered.

$$SES_M = \left(\frac{Metric_M - M_{group}}{sd_{group}} \right) \quad (2)$$

Where:

$Metric_M$ is the observed value of the metric, M_{group} and sd_{group} respectively the mean and the

standard deviation of the metric value for a given group of samples (i.e substrate type x lake alkalinity metatype) (values of M_{group} and sd_{group} are reported in S1)

The next step consisted in the normalization of SES values (SES_{nor_M}) to make their range of variation comparable between metrics (3):

$$SES_{nor_M} = \frac{(SES_M - Min)}{(Max - Min)} \quad (3)$$

Where:

SES_M is the observed value of SES for a given metric, Min is its minimum value and Max its maximum value in the whole dataset.

We further transformed metric values from normalized SES into EQR (4). The Ecological Quality Ratio (EQR) is the ratio between the observed value of a metric (SES_{nor_M}) and its expected value under reference conditions, for any lake metatype and any substrate ($SES_{nor_{Mref}}$).

$$EQR = \left(\frac{SES_{nor_M}}{SES_{nor_{Mref}}} \right) \quad (4)$$

We finally performed a Wilcoxon test to detect the potential influence of the substrate type on the EQR values obtained at the OU scale, for each metric. Metric values (in EQR) calculated from taxa lists sampled on mineral substrates or on macrophytes for a single OU did not significantly differ (p-value= 0.479, n=237).

2-3 Aggregating metric values to obtain the final IBDL score

The final index score was obtained at the OU scale by averaging the different metric values selected, expressed in EQR.

If a score was calculated for both mineral and macrophyte substrates, the minimum value between those two scores was considered as the final score. Each OU belongs to one of the 4 riparian zone types as required in the XP T90-328 standard. These types are defined from the description of the vegetation structure and/or anthropogenic alterations of the lakeshore. The percentage of each riparian zone type is estimated *in situ*, during the sampling surveys, on the whole lake perimeter. The final index score for the whole lake was derived from a weighted average of the $Score_{OU}$ (5), taking into account the percentage of the lake perimeter each OU represents in terms of riparian zone type ($P_{C_{type}}$).

$$IBDL = \sum_{type=1}^4 (\overline{Score_{OU}} * P_{C_{type}}) \quad (5)$$

Finally IBDL scores vary between 0 (worst water quality) and 1. IBDL relationships with the different environmental variables considered were a posteriori tested with simple linear regressions.

2-4 Boundary setting

The list of reference lakes was established from the Circular DE/MAGE/BEMA 04/N 18 n° 2004-08 DCE relating to the constitution and the implementation of the network of reference sites for French freshwaters (rivers and lakes) in application of the WFD. The H/G boundary was set by the 75th percentile of the reference scores. The lower boundaries were obtained by equal divisions of the rest of the distribution (scores between the H/G boundary and 0). The different ecological status thresholds obtained are reported below (in EQR_IBDL, for all lake metatypes):

Reference	High/Good	Good/Moderate	Moderate/Poor	Poor/Bad
1	0,8	0,6	0,4	0,2

II– IBDL: fitting the national classification to the harmonised definition of the good ecological status

For this intercalibration exercise, a reduced dataset was used with 58 sampling surveys spread over 37 lakes. Both the common metric (Rott's TI) and the IBDL were calculated for this dataset.

1. Framework Directive compliance checking

The table below (Table 2) lists the criteria from the IC guidance and compliance checking conclusions.

Compliance criteria	Conclusions
Q1 - Does the national assessment method meet the requirements of the Water Framework Directive?	Yes
Q2 - Is the method newly developed and has thus not yet been intercalibrated?	Yes
Q3 - Has the respective BQE already been intercalibrated successfully within the relevant GIG for the relevant common IC type?	Yes
Q4 - Is the national method applicable to the same common IC types and pressures addressed in the completed IC exercise, and its assessment concept similar to the concept of the methods intercalibrated in the completed exercise?	Yes
Q5 - Is the national data basis available and of sufficient quantity and quality?	Yes
Q6 - Which IC Option was used in the completed exercise?	Option 2 - Indirect comparison (use of common metrics)
Q7 - Is the method sufficiently correlated with the common metric or the BRINC ?	Yes
Q8 - Which benchmark standardisation was applied in the completed IC exercise?	Case A2: IC Option 1 or 2 using continuous benchmarking

Table 2. Compliance checking of phytobenthos methods.

2. IC feasibility checking

2.1 Typology

French lakes were classified into three metatypes, based on alkalinity, and according to the European intercalibration exercise previously performed (Kelly et al., 2014): low alkalinity (LA) ($<0.2 \text{ meq.L}^{-1}$), moderate alkalinity (MA) ($<1 \text{ meq.L}^{-1}$) or high alkalinity (HA) ($\geq 1 \text{ meq.L}^{-1}$).

2.2 Pressure addressed

In the common intercalibration exercise, all national methods were calibrated to address a single pressure: eutrophication (total phosphorus concentration). IBDL is also calibrated against this pressure. Low alkalinity lakes were not intercalibrated in the common exercise and therefore will not be considered here.

2.3 Relationship between IBDL (EQR) and the trophic pressure

For the intercalibration exercise, IBDL scores were obtained for 58 samples spread over 37 lakes. Figure 2 reports the relationship between these IBDL values (in EQR) and total phosphorus concentrations.

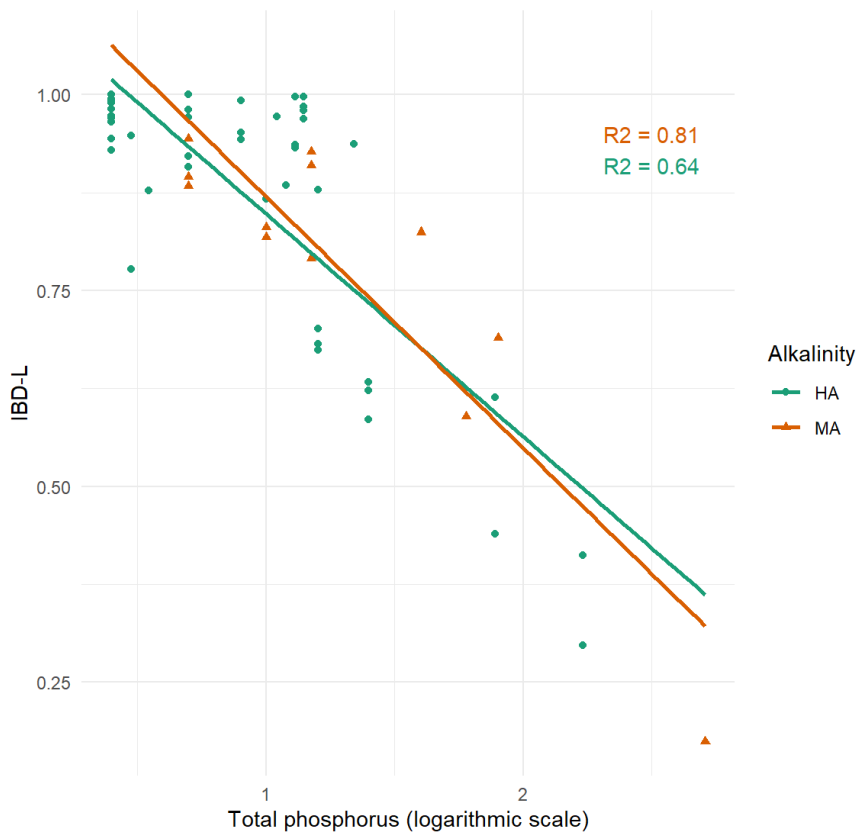


Figure 2. Relationship between total phosphorus concentrations and IBDL (in EQR).

The relationship between IBDL and total phosphorus concentrations is significant for both lake metatypes. For medium alkalinity lakes (12 IBDL values spread over 10 lakes), we obtain an R^2 value of 0.81 and a p-value of 0. For high alkalinity lakes (46 IBDL values spread over 27 lakes), we obtain an R^2 value of 0.64 and a p-value lower than 0.001.

2.4 Assessment concept

All assessment methods included in the common intercalibration exercise focus on the littoral zone of the lakes, including samples from stones or macrophytes, and are based on species proportions in a fixed count. IBDL follows the same assessment concept.

3. Intercalibration exercise for medium alkalinity lakes

Following the procedure to fit new or updated classification methods to the results of a completed intercalibration exercise, the common metric (CM_{obs}) is expressed in EQR and is derived from

Rott's Trophic Index (TI) using the following formula for medium alkalinity lakes:

$$CM_{obs} = (4 - TI) / (4 - 1.38)$$

The CM_{obs} results obtained are listed in Table 3.

The next step described in the intercalibration procedure consists in the calculation of CM benchmarked scores. Predicted values of the CM (CM_{pred}) are first obtained using the relationship between the common metric and the total phosphorus gradient (TP, $\mu\text{g.L}^{-1}$), according to the following formula fixed during the original intercalibration exercise (Kelly et al., 2014):

$$CM_{pred} = -0.243 * \log_{10}(TP) + 1.235$$

The CM_{pred} values are listed in Table 3. In order to remove any bias in CM_{pred} , we need to calculate the average residuals of the linear regression between CM_{pred} (y) and CM_{obs} (x). This allows us to calculate the final metric used in this intercalibration exercise (CM_{bm}), according to the following formula.

$$CM_{bm} = CM_{obs} + residual$$

The mean residual between CM_{pred} and CM_{obs} is 0.084. The CM_{bm} values are listed in Table 3.

Lake	Total phosphorus	Root's TI	CM_{obs}	CM_{pred}	CM_{bm}	IBDL
LEO40	60	2.41	0.61	0.8	0.69	0.59
ECH33	5	1.56	0.93	1.07	1.01	0.88
PAR40	10	1.62	0.91	0.99	0.99	0.82
CAZ40	15	1.51	0.95	0.95	1.03	0.91
CAZ40	15	1.49	0.96	0.95	1.04	0.93
ORX40	510	3.43	0.22	0.58	0.3	0.17
BLA40	15	1.75	0.86	0.95	0.94	0.79
BOU33	5	1.52	0.95	1.07	1.03	0.94
LEO40	80	2.56	0.55	0.77	0.63	0.69
AUR40	40	1.8	0.84	0.85	0.92	0.82
LAC33	5	1.92	0.79	1.07	0.88	0.9
BIS40	10	2.33	0.64	0.99	0.72	0.83

Table 3. CM_{obs} , CM_{pred} , CM_{bm} and IBDL scores for medium alkalinity lakes.

We can now draw the relationship between the common metric CM_{bm} (y) and the IBDL (x), expressed in EQR, using a linear regression (OLS regression, Figure 3).

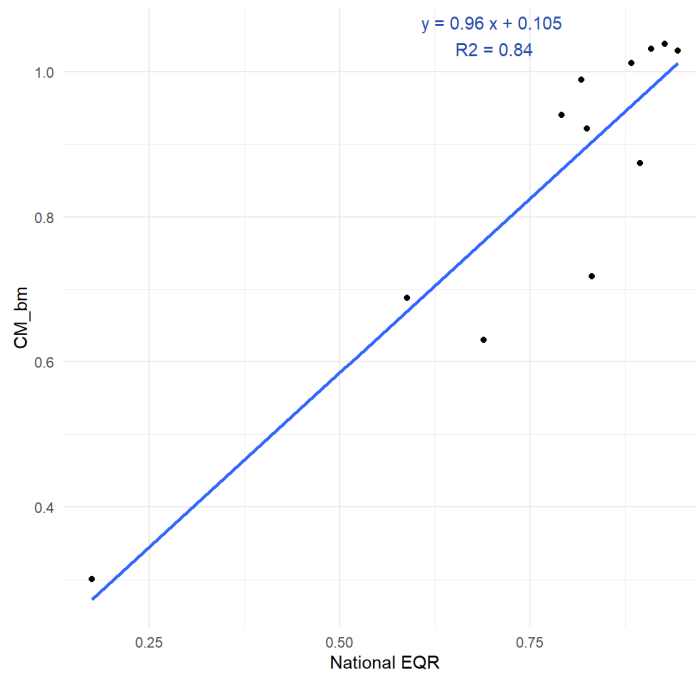


Figure 3. Relationship between the national EQR and the common metric benchmarked (medium alkalinity lakes).

Based on this linear regression IBDL scores can be turned into CM_{bm} scores. Thus our national class boundaries (H/G, G/M, M/P & P/B) were converted to CM_{bm} scores. Those predicted values of our national boundaries on the CM_{bm} scale, together with the boundaries common view (Kelly et al., 2004) are reported in Table 4.

Boundary	Projection of the national EQRs on the CM_{bm} scale	Common view EQRs
H/G	0.877	0.849
G/M	0.685	0.588
M/P	0.492	0.309
P/B	0.300	0.025

Table 4. Predicted projections of the national boundaries on the CM_{bm} scale and common view for medium alkalinity lakes.

Deviations between our boundaries expressed in CM_{bm} and the common views are expressed as a proportion of the class width considered. For the H/G boundary, for example, this can be calculated with the following formula.

$$((a * 0.8 + b) - 0.849) / ((a * 0.8 + b) - (a * 0.6 + b))$$

with a the slope of the relationship between the common metric CM_{bm} (y) and the IBDL expressed in EQR (x) and b the intercept of the same regression (Figure 2). Results are reported in Table 5.

Boundary	Deviation
H/G	0.14
G/M	0.50

Table 5. Deviation between boundaries on the common metric scale and the common view (medium alkalinity lakes).

The H/G boundary falls above the common view with about 14% of one class width and the G/M boundary also falls above the common view with about 50% of one class width. If this value is $\leq 25\%$, the boundary meets the comparability criteria. If this value is $> 25\%$ and $\leq 50\%$, the boundary can be lowered until the deviation between the national boundary and the common exercise boundary is $\leq 25\%$, but there is not compulsory to perform this adjustment.

Here, we consider that this is not necessary to lower our G/M boundary and that our results correspond to what is expected. This choice is justified by the discrepancy between the total phosphorus gradients in the common exercise and in the French data set. Indeed, in the common exercise dataset, total phosphorus concentrations ranges between 3 and 1000 $\mu\text{g.L}^{-1}$, while in the French dataset total phosphorus concentrations ranges between 2.5 and 170 $\mu\text{g.L}^{-1}$.

4. IC of the high alkalinity lakes

The procedure for high alkalinity lakes is the same as for medium alkalinity lakes except for a few changes in the equations. The common metric (CM_{obs}) is expressed in EQR and is derived from Rott's Trophic Index (TI) using the following formula for high alkalinity lakes:

$$CM_{\text{obs}} = (4 - TI) / (4 - 1.88)$$

The CM_{obs} results obtained are listed in Table 6.

Predicted values of the CM (CM_{pred}) are first obtained using the relationship between the common metric and the total phosphorus gradient (TP, $\mu\text{g.L}^{-1}$), according to the following formula fixed during the original intercalibration exercise (Kelly et al., 2014):

$$CM_{\text{pred}} = -0.382 * \log_{10}(\text{TP}) + 1.431$$

The CM_{pred} results obtained are also listed in Table 6. In order to remove any bias in CM_{pred} , we need to calculate the average residuals of the linear regression between CM_{pred} (y) and CM_{obs} (x). This allows us to calculate the final metric used in this intercalibration exercise (CM_{bm}), according to the following formula.

$$CM_{\text{bm}} = CM_{\text{obs}} + \text{residual}$$

The mean residual between CM_{pred} and CM_{obs} is 0.117. The CM_{bm} values are listed in table 6.

Lake	Total phosphorus	Root's TI	CM_{obs}	CM_{pred}	CM_{bm}	IBDL
LRO39	12	1.81	1.03	1.02	1.15	0.88
ENT25	22	1.52	1.17	0.92	1.29	0.94
PAL38	14	1.34	1.25	0.99	1.37	0.98
REM25	2.5	0.99	1.42	1.28	1.54	1
SPO25	3	1.47	1.19	1.25	1.31	0.95
LAF38	13	1.71	1.08	1.01	1.2	1
PET38	8	1.59	1.14	1.09	1.25	0.99
RGL69	16	2.38	0.77	0.97	0.88	0.68
RGL69	16	2.4	0.75	0.97	0.87	0.7

BAR01	2.5	0.95	1.44	1.28	1.56	1
BAR01	2.5	1.45	1.2	1.28	1.32	0.97
AIG73	2.5	1.8	1.04	1.28	1.15	0.97
MON74	8	1.62	1.12	1.09	1.24	0.95
ANT74	2.5	1.17	1.34	1.28	1.45	1
GEB69	16	1.69	1.09	0.97	1.21	0.88
BOU73	13	1.58	1.14	1.01	1.26	0.94
UBY32	25	2.44	0.74	0.9	0.85	0.63
UBY32	25	2.5	0.71	0.9	0.82	0.58
ETI39	5	1.1	1.37	1.16	1.49	1
LPC38	5	1.99	0.95	1.16	1.07	0.92
ALL04	2.5	1.29	1.28	1.28	1.39	0.99
CHA39	5	1.58	1.14	1.16	1.26	0.97
ENT25	14	1.6	1.13	0.99	1.25	0.97
NAN01	5	1.82	1.03	1.16	1.15	0.91
ANN74	3.5	1.8	1.04	1.22	1.15	0.88
ANT74	2.5	1.31	1.27	1.28	1.39	0.94
ENT13	170	2.92	0.51	0.58	0.63	0.3
YRI40	10	2.26	0.82	1.05	0.94	0.87
AUL13	78	2.76	0.59	0.71	0.7	0.44
RGL69	16	2.56	0.68	0.97	0.8	0.67
ANS69	3	2.27	0.82	1.25	0.93	0.78
LPC38	5	1.62	1.12	1.16	1.24	0.98
PAL38	8	2.09	0.9	1.09	1.02	0.94
ENT13	170	2.9	0.52	0.58	0.64	0.41
LRO39	13	1.62	1.12	1.01	1.24	0.93
ETI39	2.5	1.29	1.28	1.28	1.4	0.99
LGM39	2.5	0.99	1.42	1.28	1.54	0.99
ENT25	14	1.89	1	0.99	1.11	1
SYL01	11	1.7	1.09	1.03	1.2	0.97
ENT25	14	1.73	1.07	0.99	1.19	0.98
ANT74	2.5	1.07	1.38	1.28	1.5	0.98
BAR01	2.5	1.28	1.28	1.28	1.4	1
ALL04	2.5	1.27	1.29	1.28	1.4	0.97
AUL13	78	2.51	0.7	0.71	0.82	0.61
UBY32	25	2.44	0.74	0.9	0.85	0.62
MON74	2.5	1.54	1.16	1.28	1.28	0.93

Table 6. Lake by lake results of the intercalibration procedure (high alkalinity).

We can now draw the relationship between the common metric CM_{bm} (y) and the IBDL (x), expressed in EQR, using a linear regression (OLS regression, Figure 4).

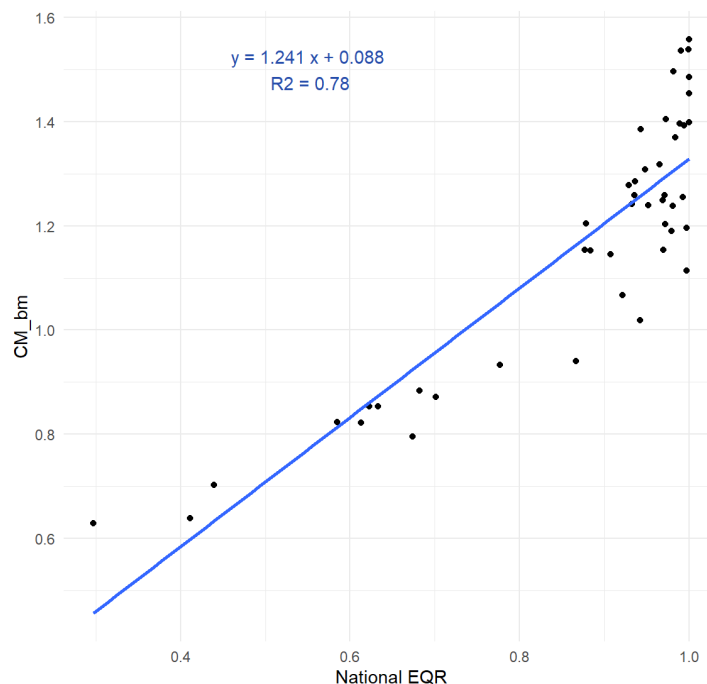


Figure 4. Relationship between the national EQR and the common metric benchmarked (high alkalinity).

Based on this linear regression IBDL scores can be turned into CM_{bm} scores. Thus our national class boundaries (H/G, G/M, M/P & P/B) were converted to CM_{bm} scores. Those predicted values of our national boundaries on the CM_{bm} scale, together with the boundaries common view (Kelly et al., 2004) are reported in Table 7.

Boundary	Projection of the national EQRs on the CM_{bm} scale	Common view EQRs
H/G	1.081	0.965
G/M	0.833	0.790
M/P	0.584	0.604
P/B	0.336	0.416

Table 7. Predicted projections of the national boundaries on the CM_{bm} scale and common view for high alkalinity lakes.

Deviations between our boundaries expressed in CM_{bm} and the common views are expressed as a proportion of the class width considered. Results are reported in Table 8.

Boundary	Deviation
H/G	0.47
G/M	0.17

Table 8. Amount of the deviation between boundaries on the common metric scale and the global view (high alkalinity lakes).

The H/G boundary falls above the common view with about 47% of one class width and the G/M boundary also falls above the common view with about 17% of one class width. These results correspond to what is expected. If this value is $\leq 25\%$, the boundary meets the comparability criteria. If this value is $> 25\%$ and $\leq 50\%$, the boundary can be lowered until the deviation between the national boundary and the common exercise boundary is $\leq 25\%$, but there is not compulsory to perform this adjustment.

Here, we consider that this is not necessary to lower our H/G boundary and that our results correspond to what is expected. This choice is justified by the discrepancy between the total phosphorus gradients in the common exercise and in the French data set. Indeed, in the common exercise dataset, total phosphorus concentrations ranges between 3 and 1000 $\mu\text{g.L}^{-1}$, while in the French dataset total phosphorus concentrations ranges between 2.5 and 170 $\mu\text{g.L}^{-1}$.

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Annex 1: List of alert taxa

code	name	author	Alert taxa (1 : yes ; 0 : no)			
			DBO5	SP	NKJ	Pt
AAMB	<i>Aulacoseira ambigua</i>	(Grunow) Simonsen	0	0	0	0
ABRT	<i>Achnanthydium bioretii</i>	(Germain) Edlund	0	0	0	0
ABRY	<i>Adlafia bryophila</i>	(Petersen) Lange-Bertalot in Moser & al.	0	0	0	0
ACAF	<i>Achnanthydium affine</i>	(Grun) Czarnecki	0	0	0	0
ACLI	<i>Achnanthydium lineare</i>	W. Smith	0	0	0	1
ACOP	<i>Amphora copulata</i>	(Kützing) Schoeman & Archibald	1	1	1	1
ADAM	<i>Achnanthydium atomoides</i>	Monnier, Lange-Bertalot & Ector	0	0	0	0
ADAS	<i>Achnanthydium anastasiae</i>	(Kaczmarzka) Chudaeve et Gololobova	0	0	0	0
ADBA	<i>Achnanthydium barbei</i>	Le Cohu & Pérès	0	0	0	0
ADCA	<i>Achnanthydium caledonicum</i>	Lange-Bertalot) Lange-Bertalot	0	0	0	0
ADCT	<i>Achnanthydium catenatum</i>	(Bily & Marvan) Lange-Bertalot	0	0	0	1
ADDA	<i>Achnanthydium daonense</i>	(Lange-Bertalot) Lange-Bertalot Monnier & Ector	0	0	0	0
ADEG	<i>Achnanthydium exiguum</i>	(Grunow) Czarnecki	1	0	0	1
ADEU	<i>Achnanthydium eutrophilum</i>	(Lange-Bertalot) Lange-Bertalot	1	1	1	1
ADEX	<i>Achnanthydium exile</i>	(Kützing) Heiberg	0	0	0	0
ADGL	<i>Achnanthydium gracillimum</i>	(Meister) Lange-Bertalot	0	0	0	0
ADHE	<i>Achnanthydium helveticum</i>	(Hustedt) Monnier Lange-Bertalot & Ector	0	0	0	0
ADJK	<i>Achnanthydium jackii</i>	Rabenhorst	0	0	0	0
ADKR	<i>Achnanthydium kranzii</i>	(Lange-Bertalot) Round & Bukhtiyarova	0	0	0	0
ADLA	<i>Achnanthydium latecephalum</i>	Kobayasi	0	0	0	0
ADMC	<i>Achnanthydium microcephalum</i>	Kützing sensu W. Smith	0	0	1	0
ADMI	<i>Achnanthydium minutissimum</i>	(Kützing) Czarnecki	0	0	0	0
ADMO	<i>Achnanthydium delmontii</i>	PeRes. Le Cohu et Barthes	0	0	0	0
ADMS	<i>Adlafia minuscula</i>	(Grunow) Lange-Bertalot	0	0	0	0
ADMU	<i>Adlafia muralis</i>	(Grunow in Van Heurck 1880) Li et Qi	0	0	0	0
ADNM	<i>Achnanthydium neomicrocephalum</i>	Lange-Bertalot & Staab	0	0	0	0
ADPL	<i>Achnanthydium pseudolineare</i>	Van de Vijver. Novais et Ector	0	0	0	0
ADPS	<i>Achnanthydium petersenii</i>	(Hustedt) C.E. Wetzel, Ector, D.M. Williams & Jüttner	0	0	0	0
ADPY	<i>Achnanthydium pyrenaicum</i>	(Hustedt) Kobayasi	0	0	0	0
ADRI	<i>Achnanthydium rivulare</i>	Potapova & Ponader	0	0	0	1
ADRK	<i>Achnanthydium rosenstockii</i>	(Lange-Bertalot) Lange-Bertalot in Krammer & Lange-Bertalot	0	0	0	0
ADRU	<i>Achnanthydium druartii</i>	Rimet & Couté in Rimet & al.	0	1	0	1
ADSA	<i>Achnanthydium saprophilum</i>	(Kobayasi et Mayama) Round & Bukhtiyarova	0	0	0	0
ADSB	<i>Achnanthydium straubianum</i>	(Lange-Bertalot) Lange-Bertalot	0	0	0	0
ADSH	<i>Achnanthydium subhudsonis</i>	(Hustedt) H. Kobayasi	1	1	0	0
ADSO	<i>Achnanthydium subatomoides</i>	(Hustedt) Monnier, Lange-Bertalot et Ector	0	0	0	0
ADTR	<i>Achnanthydium trinode</i>	Ralfs in Pritchard	0	0	0	0
AFOR	<i>Asterionella formosa</i>	Hassall	0	0	0	0
AGRU	<i>Achnanthes grubei</i>	Simonsen	0	0	0	0
AGSL	<i>Aulacoseira granulata</i>	(Ehrenberg) Simonsen	1	1	1	1
AHOF	<i>Achnanthydium hoffmannii</i>	Van de Vijver. Ector, Mertens & Jarlman	0	0	0	0
AINA	<i>Amphora inariensis</i>	Krammer	0	0	0	0
ALBL	<i>Adlafia langebertalotii</i>	Monnier et Ector	0	0	0	0
AMDN	<i>Amphora meridionalis</i>	Levkov	0	0	0	0

code	name	author	Alert taxa (1 : yes ; 0 : no)			
			DBO5	SP	NKJ	Pt
AMID	<i>Amphora indistincta</i>	Levkov	0	0	0	0
AMLB	<i>Amphora lange-bertalotii</i>	Levkov, & Metzeltin	1	0	1	1
AMUZ	<i>Aulacoseira muzzanensis</i>	(Meister) Krammer	0	1	0	1
ANSS	<i>Aneumastus stroesei</i>	(Østrup) Mann & Stickle in Round Crawford & Mann	0	0	0	0
AOVA*	<i>Amphora ovalis</i> var. <i>ovalis</i>	(Kützing) Kützing	0	0	0	0
APED	<i>Amphora pediculus</i>	(Kützing) Grunow	1	1	0	1
APEL	<i>Amphipleura pellucida</i>	Kützing	0	0	0	0
ASBL	<i>Achnanthydium sublineare</i>	Van de Vijver, Jarlman et Ector	0	0	0	0
AUGR	<i>Aulacoseira granulata</i>	(Ehrenberg) Simonsen	0	1	1	1
AUPU	<i>Aulacoseira pusilla</i>	(Meister) Tuji et Houki	0	1	1	1
AUSL	<i>Aulacoseira scalaris</i>	(Grunow) Houk, Klee & Passauer	0	0	0	1
AUSU	<i>Aulacoseira subarctica</i>	(O. Müller) Haworth	0	0	0	0
AUVA	<i>Aulacoseira valida</i>	Grunow)Krammer	0	1	1	1
AVTU	<i>Amphora vetula</i>	Levkov,	0	0	0	0
AZHA	<i>Achnanthydium zhakovschikovii</i>	M. Potapova	0	0	0	0
BBRE*	<i>Brachysira brebissonii</i> subsp. <i>brebissonii</i>	Ross in Hartley	0	0	0	0
BGAR	<i>Brachysira garrensis</i>	(Lange-Bertalot & Krammer) Lange-Bertalot	0	0	0	0
BLIL	<i>Brachysira liliana</i>	Lange-Bertalot	0	0	0	0
BMIC	<i>Brachysira microcephala</i>	(Grunow) Compère	0	0	0	0
BNEG	<i>Brachysira neglectissima</i>	Lange-Bertalot	0	0	0	0
BNEO	<i>Brachysira neoexilis</i>	Lange-Bertalot	0	0	0	0
BPAX	<i>Bacillaria paxillifera</i>	(O.F. Müller) Hendey	0	0	0	0
BPRO	<i>Brachysira procera</i>	Lange-Bertalot & Moser	0	0	0	0
BVIT	<i>Brachysira vitrea</i>	(Grunow) Ross in Hartley	0	0	0	0
CAEX*	<i>Cymbella excisa</i> var. <i>excisa</i>	Kützing	0	1	0	0
CAFF*	<i>Cymbella affinis</i> var. <i>affinis</i>	Kützing	0	1	0	0
CAFM	<i>Cymbella affiniformis</i>	Krammer	0	0	0	0
CAMB	<i>Craticula ambigua</i>	(Ehrenberg) Mann	0	0	0	1
CATE	<i>Caloneis tenuis</i>	(Gregory) Krammer	0	0	0	0
CATO	<i>Cyclotella atomus</i>	Hustedt	0	0	1	1
CBAC	<i>Caloneis bacillum</i>	(Grunow) Cleve	0	0	0	0
CBAM	<i>Cymbopleura amphicephala</i>	Krammer	0	0	0	0
CBHD	<i>Cymbopleura hustedtii</i>	Novelo Tavera & Ibarra	0	0	0	0
CBNA*	<i>Cymbopleura naviculiformis</i> var. <i>naviculiformis</i>	(Auerswald) Krammer	0	0	0	0
CCMP	<i>Cymbella compacta</i>	Østrup	0	0	0	0
CCOC	<i>Cavinula cocconeiformis</i>	(Gregory ex Greville) Mann & Stickle in Round Crawford & Mann	0	0	0	0
CCYM	<i>Cymbella cymbiformis</i>	Agardh	0	0	0	0
CDTG*	<i>Cyclotella distinguenda</i> var. <i>distinguenda</i>	Hustedt	0	0	0	0
CDUB	<i>Cyclostephanos dubius</i>	(Fricke) Round	0	0	0	1
CEUG	<i>Cocconeis euglypta</i>	Ehrenberg	1	1	1	0
CEXF*	<i>Cymbella excisiformis</i> var. <i>excisiformis</i>	Krammer	0	0	0	0
CFON	<i>Caloneis fontinalis</i>	(Grunow in Van Heurck) Cleve-Euler	1	1	1	1
CFTF	<i>Cymbopleura florentiniformis</i>	Krammer	0	0	0	0
CHEL	<i>Cymbella helvetica</i>	Kützing	0	0	0	0
CHHA	<i>Chamaepinnularia hassiaca</i>	(Krasske) Cantonati & Lange-Bertalot	0	0	0	0
CHME	<i>Chamaepinnularia mediocris</i>	(Krasske) Lange-Bertalot in Lange-Bertalot & Metzeltin	0	0	0	0
CINV	<i>Cyclostephanos invisitatus</i>	Hohn & Hellerman)Theriot Stoermer	0	1	0	0

code	name	author	Alert taxa (1 : yes ; 0 : no)			
			DBO5	SP	NKJ	Pt
		& Håkansson				
CJAR	Cavinula jaernefeltii	(Hustedt) Mann & Stickle in Round Crawford & Mann	0	0	0	0
CKPP	Cymbella kappii	(Cholnoky) Cholnoky	0	0	0	0
CLAE*	Cymbella laevis var. laevis	Naegeli ex Kützing	0	0	0	0
CLBE	Cymbella lange-bertalotii	Krammer	0	0	0	0
CLCT	Caloneis lancettula	(Schulz) Lange-Bertalot & Witkowski	1	1	1	0
CLEP	Cymbella leptoceros	(Ehrenberg) Kützing	0	0	0	0
CLNT	Cocconeis lineata	Ehrenberg	0	0	0	1
CLTL	Cymbella lancettula	(Krammer) Krammer	0	0	0	0
CMDU	Cyclotella meduanae	Germain emend Genkal	1	1	1	1
CMEN	Cyclotella meneghiniana	Kützing	0	1	1	1
CMLF	Craticula molestiformis	(Hustedt) Lange-Bertalot	0	0	0	0
CNCI*	Cymbella neocistula var. neocistula	Krammer	0	0	0	0
CNLC	Cymbella neolanceolata	W. Silva	0	0	0	0
CNLP*	Cymbella neoleptoceros var. neoleptoceros	Krammer	0	1	1	1
CNTH	Cocconeis neothumensis	Krammer	1	0	0	1
COPL	Cocconeis pseudolineata	(Geitler) Lange-Bertalot	0	0	0	0
CPAR	Cymbella parva	(W. Sm.) Kirchner in Cohn	0	0	0	0
CPED	Cocconeis pediculus	Ehrenberg	0	0	0	0
CPLA*	Cocconeis placentula var. placentula	Ehrenberg	0	0	0	1
CPPV	Cymbella perparva	Krammer	0	0	0	0
CPRX*	Cymbella proxima var. proxima	Reimer in Patrick & Reimer	0	0	0	0
CPSE	Cavinula pseudoscutiformis	(Hustedt) Mann & Stickle in Round Crawford & Mann	0	0	0	0
CSAQ*	Cymbopleura subaequalis var. subaequalis	(Grunow) Krammer	0	0	0	0
CSBH	Cymbella subhelvetica	Krammer	0	0	0	0
CSCI	Cymbella subcistula	Krammer	0	0	0	0
CSHU	Caloneis schumanniana	(Grunow in Van Heurck) Cleve	0	0	0	0
CSLP	Cymbella subleptoceros	Krammer	0	0	0	0
CSMU	Chamaepinnularia submuscolata	(Kraske) Lange-Bertalot	0	0	0	0
CSNU	Craticula subminuscula	(Manguin) C.E. Wetzel & Ector	1	1	1	1
CTPU	Ctenophora pulchella	(Ralfs ex Kütz.) Williams et Round	0	0	0	0
CTRQ	Centric diatoms	Diatomées centriques indifférenciées	0	0	0	0
CTUM	Cymbella tumida	(Brébisson) Van Heurck	0	0	0	1
CVUL*	Cymbella vulgata var. vulgata	Krammer	0	0	0	0
DCAL	Diploneis calcilacustris	Lange-Bertalot et A. Fuhrmann	0	0	0	0
DCOF*	Diadesmis confervacea var. confervacea	Kützing	0	0	1	0
DEHR	Diatoma ehrenbergii	Kützing	0	0	0	0
DITE	Diatoma tenue	Agardh	0	1	0	1
DKUE*	Denticula kuetzingii var. kuetzingii	Grunow	0	0	0	0
DMES	Diatoma mesodon	(Ehrenberg) Kützing	0	0	0	0
DOBL	Diploneis oblongella	(Naegeli) Cleve-Euler	0	0	0	0
DOCU	Diploneis oculata	(Brébisson in Desmazières) Cleve	0	0	1	0
DPAR	Diploneis parma	Cleve	0	0	0	0
DPDE	Delicatophycus delicatulus	(Kützing) M.J.Wynne .	0	0	0	0
DPSG	Discostella pseudostelligera	(Hustedt) Houk & Klee emend. Genkal	0	1	0	0
DSEP	Diploneis separanda	Lange-Bertalot	0	0	0	0
DSTE	Discostella stelligera	(Cleve et Grun.) Houk & Klee	0	0	0	0

code	name	author	Alert taxa (1 : yes ; 0 : no)			
			DBO5	SP	NKJ	Pt
DTEN	<i>Denticula tenuis</i>	Kützing	0	0	0	0
DVUL	<i>Diatoma vulgaris</i>	Bory	0	0	0	0
EADN	<i>Epithemia adnata</i>	(Kützing) Brébisson	1	1	1	1
EARB	<i>Eunotia arcubus</i>	Nörpel-Schempp & Lange-Bertalot	0	0	0	0
EARC*	<i>Eunotia arcus</i> var. <i>arcus sensu stricto</i>	Ehrenberg	0	0	0	0
EAUE	<i>Encyonema auerswaldii</i>	Rabenhorst	0	1	0	0
EBLU	<i>Eunotia bilunaris</i>	(Ehrenberg) Schaarschmidt	0	0	0	0
EBOA	<i>Eunotia boreoalpina</i>	Lange-Bertalot & Nörpel-Schempp	0	0	0	0
EBOT	<i>Eunotia botuliformis</i>	Wild, Nörpel-Schempp & Lange-Bertalot	0	0	0	0
ECAE*	<i>Encyonema caespitosum</i> var. <i>caespitosum</i>	Kützing	0	0	0	0
ECAL	<i>Encyonopsis alpina</i>	Krammer & Lange-Bertalot	0	0	0	0
ECES	<i>Encyonopsis cesatii</i>	(Rabenhorst) Krammer	0	0	0	0
ECKR	<i>Encyonopsis krammeri</i>	Reichardt	0	0	0	0
ECPM	<i>Encyonopsis minuta</i>	Krammer & Reichardt	0	0	0	0
ECTA	<i>Encyonopsis tavrana</i>	Krammer	0	0	0	0
EEXI	<i>Eunotia exigua</i>	(Brébisson ex Kützing) Rabenhorst	0	0	0	0
EFAB	<i>Eunotia faba</i>	(Ehrenberg) Grunow in Van Heurck	0	0	0	0
EGBA	<i>Epithemia gibba</i>	(Ehrenberg) Kützing	0	1	1	1
EHOR	<i>Encyonopsis horticola</i>	Van de Vijver, Lange-Bertalot & Compère	0	0	0	0
EIMP	<i>Eunotia implicata</i>	Nörpel Lange-Bertalot & Alles	0	0	0	0
EINC*	<i>Eunotia incisa</i> var. <i>incisa</i>	Gregory	0	0	0	0
ELBV*	<i>Encyonema lange-bertalotii</i> var. <i>lange-bertalotii</i>	Krammer	0	0	0	0
ELEI	<i>Encyonema leibleinii</i>	(C. Agardh) Silva, Jahn Ludwig & Menezes	0	0	0	0
EMIN	<i>Eunotia minor</i>	(Kützing) Grunow in Van Heurck	0	0	0	0
ENAE	<i>Eunotia naegelii</i>	Migula	0	0	0	0
ENCM	<i>Encyonopsis microcephala</i>	(Grunow) Krammer	0	0	0	0
ENEE	<i>Encyonopsis neerlandica</i>	Van de Vijver, Verweij, Van Der Wal & Mertens	0	0	0	0
ENKA	<i>Encyonema kalbei</i>	Krammer	0	0	0	0
ENMI	<i>Encyonema minutum</i>	(Hilse in Rabh.) D.G. Mann in Round Crawford & Mann	1	1	1	1
ENNG	<i>Encyonema neogracile</i>	Krammer	0	0	0	0
ENRE	<i>Encyonema reichardtii</i>	(Krammer) D.G. Mann in Round Crawford & Mann	0	0	0	0
ENVE	<i>Encyonema ventricosum</i>	(Kützing) Grunow in Schmidt & al.	0	0	0	0
EOCO	<i>Eolimna comperei</i>	Ector Coste et Iserentant in Coste & Ector	0	0	0	0
EPBO	<i>Epithemia proboscidea</i>	Kützing	0	0	0	0
EPEC*	<i>Eunotia pectinalis</i> var. <i>pectinalis</i>	(Kützing) Rabenhorst	0	0	0	0
EPHP	<i>Epithemia parallela</i>	(Grunow) Ruck & Nakov	0	0	0	0
ERHO	<i>Eunotia rhomboidea</i>	Hustedt	0	0	0	0
ESLE	<i>Encyonema silesiacum</i>	(Bleisch in Rabh.) D.G. Mann	1	1	1	1
ESMI	<i>Epithemia smithii</i>	Carruthers in Gray	0	0	0	0
ESOR	<i>Epithemia sores</i>	Kützing	1	0	1	1
ESUB	<i>Eunotia subarcuatoides</i>	Alles Nörpel & Lange-Bertalot in Alles et al.	0	0	0	0
ESUM	<i>Encyonopsis subminuta</i>	Krammer & Reichardt	0	0	0	0
ETEN	<i>Eunotia tenella</i>	(Grunow in Van Heurck) Hustedt in Schmidt & al	0	0	0	0

code	name	author	Alert taxa (1 : yes ; 0 : no)			
			DBO5	SP	NKJ	Pt
ETUR*	<i>Epithemia turgida</i> var. <i>turgida</i>	(Ehrenberg) Kützing	0	0	0	0
EUAL	<i>Eucoconeis alpestris</i>	(Brun) Lange-Bertalot	0	0	0	0
EUFL	<i>Eucoconeis flexella</i>	(Kützing) Meister	0	0	0	0
EULA	<i>Eucoconeis laevis</i>	(Østrup) Lange-Bertalot	0	0	0	0
EVUL*	<i>Encyonema vulgare</i> var. <i>vulgare</i>	Krammer	0	0	0	0
FAPO	<i>Fragilaria amphicephaloides</i>	Lange-Bertalot in Hofmann & al.	0	0	0	0
FAQU	<i>Fragilaria aquaplus</i>	Lange-Bertalot & Ulrich	0	0	0	0
FAUT	<i>Fragilaria austriaca</i>	(Grunow) Lange-Bertalot	0	0	0	0
FBIP	<i>Fragilaria bipunctata</i>	(Ehrenb.) Hemprich & Ehrenb.	0	0	0	0
FCRO	<i>Fragilaria crotonensis</i>	Kitton	0	0	0	1
FCRS	<i>Frustulia crassinervia</i>	(Breb.) Lange-Bertalot et Krammer	0	0	0	0
FFBI	<i>Fragilariforma bicapitata</i>	(A.Mayer) Williams & Round	0	0	0	0
FFNI	<i>Fragilariforma nitzschioides</i>	(Grunow) Lange-Bertalot in Hofmann Werum & Lange-Bertalot	0	0	0	0
FFUS	<i>Fragilaria fusa</i>	(R.M. Patrick) Wengrat, C.E. Wetzel & E. Morales	1	1	0	1
FFVI	<i>Fragilariforma virescens</i>	(Ralfs) Williams & Round	0	0	0	0
FGRA	<i>Fragilaria gracilis</i>	Østrup	0	0	0	0
FMES	<i>Fragilaria mesolepta</i>	Rabenhorst	0	0	1	0
FMIT	<i>Fallacia mitis</i>	(Hustedt) D.G. Mann	0	0	0	0
FMIV	<i>Fragilaria microvaucheriae</i>	C.E. Wetzel et Ector	0	0	0	1
FNEV	<i>Fragilaria nevadensis</i>	Linares-Cuesta & Sanchez-Castillo	0	0	0	0
FNIN	<i>Fragilaria neointermedia</i>	Tuji et D.M. Williams	0	0	0	0
FPDE	<i>Fragilaria perdelicatissima</i>	Lange-Bertalot & Van de Vijver	0	0	0	0
FPEC	<i>Fragilaria pectinalis</i>	Lyngbye	1	1	0	1
FPEM	<i>Fragilaria perminuta</i>	(Grunow) Lange-Bertalot	0	0	0	0
FPRU	<i>Fragilaria pararumpens</i>	Lange-Bertalot, Hofmann & Werum in Hofmann & al.	0	0	0	0
FRAD	<i>Fragilaria radians</i>	(Kütz.) Williams & Round	1	0	0	1
FRUM	<i>Fragilaria rumpens</i>	(Kütz.) G.W.F. Carlson	0	1	0	0
FSAP	<i>Fistulifera saprophila</i>	(Lange-Bertalot & Bonik) Lange-Bertalot	0	0	0	0
FSAX	<i>Frustulia saxonica</i>	Rabenhorst	0	0	0	0
FSBH	<i>Fallacia subhamulata</i>	(Grunow in V. Heurck) D.G. Mann	0	0	0	0
FSLU	<i>Fallacia sublucidula</i>	(Hustedt) D.G. Mann	0	0	0	0
FSOC	<i>Fragilaria socia</i>	(Wallace) Lange-Bertalot	0	0	0	0
FSXP	<i>Fragilaria saxoplanctonica</i>	Lange-Bertalot & Ulrich	0	0	0	0
FTEN	<i>Fragilaria tenera</i>	(W. Smith) Lange-Bertalot	0	0	0	0
FTNU	<i>Fragilaria tenuissima</i>	Lange-Bertalot & Ulrich	0	0	0	0
FVAU*	<i>Fragilaria vaucheriae</i> var. <i>vaucheriae</i>	(Kützing) Petersen	1	1	0	0
FVUL	<i>Frustulia vulgaris</i>	(Thwaites) De Toni	0	0	0	0
GACC	<i>Geissleria acceptata</i>	(Hustedt) Lange-Bertalot & Metzeltin	0	0	0	0
GACD	<i>Gomphonema acidoclinatiforme</i>	Metzeltin & Lange-Bertalot	0	0	0	0
GACU*	<i>Gomphonema acuminatum</i> var. <i>acuminatum</i>	Ehrenberg	0	0	0	0
GADC	<i>Gomphonema acidoclinatum</i>	Lange-Bertalot & Reichardt	1	0	1	1
GAFF	<i>Gomphonema affine</i>	Kützing	0	0	0	0
GAGU	<i>Gomphonema angustius</i>	E. Reichardt	0	0	0	0
GAGV	<i>Gomphonema angustivalva</i>	E. Reichardt	1	0	0	0
GANG	<i>Gomphonema angustatum</i>	(Kützing) Rabenhorst	0	0	1	0
GAUG	<i>Gomphonema augur</i>	Ehrenberg	0	0	0	0
GAUR	<i>Gomphonema auritum</i>	A. Braun ex Kützing	0	0	0	0
GBOB	<i>Gomphonema bourbonense</i>	E. Reichardt et Lange-Bertalot	1	1	1	1
GBRE	<i>Gomphonema brebissonii</i>	Kützing	0	0	0	0

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			DBO5	SP	NKJ	Pt
GCAD	Gomphonema campodunense	E.Reichardt	0	0	0	0
GCAP	Gomphonema capitatum	Ehrenberg	0	0	0	0
GCLA	Gomphonema clavatum	Ehrenberg	0	0	1	1
GCOR	Gomphonema coronatum	Ehrenberg	0	0	0	0
GCUN	Gomphonema cuneolus	E. Reichardt	0	0	0	0
GCUV	Gomphonema curvipedatum	H. Kobayasi ex Osada	0	0	0	0
GCUW	Geissleria cummerowi	(L. Kalbe) Lange-Bertalot	0	0	0	0
GELG	Gomphonema elegantissimum	Reichardt & Lange-Bertalot in Hofmann & al.	0	0	0	0
GERI	Gomphoneis erienne	(Grunow) Skvortzow & Meyer	0	0	0	0
GEXL	Gomphonema exilissimum	(Grun.) Lange-Bertalot & Reichardt	0	0	0	0
GGDI	Gomphonema graciledictum	E.Reichardt	0	0	1	0
GGRA	Gomphonema gracile	Ehrenberg	0	0	0	0
GHEB	Gomphonema hebridense	Gregory	0	0	0	0
GITA	Gomphonema italicum	Kützing	1	0	0	0
GLAT	Gomphonema lateripunctatum	Reichardt & Lange-Bertalot	0	0	0	0
GLOV	Gomphonella olivacea		0	1	0	0
GLTC	Gomphonema laticollum	Reichardt	0	0	0	0
GMEX	Gomphonema mexicanum	Grunow	0	0	0	0
GMIC*	Gomphonema micropus var. micropus	Kützing	0	0	0	0
GMIN*	Gomphonema minutum f. minutum	(Ag.)Agardh	0	1	0	0
GMIS	Gomphonema minusculum	Krasske	0	0	0	0
GNVC	Gomphonema naviculoides	W. Smith	0	0	0	0
GPAN	Gomphocymbellopsis ancylus	(Cleve) Krammer	0	0	0	0
GPAP*	Gomphonema parvulum var. parvulum f. parvulum	(Kützing) Kützing	0	1	0	1
GPLI	Gomphosphenia lingulatiformis	(Lange-Bertalot & Reichardt) Lange-Bertalot	0	1	1	1
GPSA	Gomphonema pseudoaugur	Lange-Bertalot	0	0	0	0
GPUM	Gomphonema pumilum	(Grunow) Reichardt & Lange-Bertalot	1	1	0	1
GRHB	Gomphonema rhombicum	M. Schmidt	0	0	0	0
GSBG	Gomphonema subangustatum	Lange-Bertalot Cavacini Tagliaventi & Alfinito	0	0	0	0
GSCD	Gomphonema scardicum	Mitić–Kopanja, Wetzel, Ector & Levkov	0	0	0	0
GSCI	Gyrosigma sciotoense	(Sullivan et Wormley) Cleve	0	0	0	0
GSCL	Gomphonema subclavatum	Grunow	1	1	1	1
GSPP	Gomphonema saprophilum	(Lange-Bertalot & Reichardt) Abarca, R. Jahn, J. Zimmermann & Enke	0	1	1	1
GTER	Gomphonema tergestinum	(Grunow in Van Heurck) Schmidt in Schmidt & al.	0	0	0	0
GTNO	Gomphonema tenocultum	Reichardt	0	0	0	0
GTRU	Gomphonema truncatum	Ehrenberg	1	0	0	0
GVIB	Gomphonema vibrio	Ehrenberg	0	0	0	0
GYAT	Gyrosigma attenuatum	(Kützing) Rabenhorst	0	0	0	0
GYKU	Gyrosigma kuetzingii	(Grunow) Cleve	0	0	0	0
HCAP	Hippodonta capitata	(Ehr.)Lange-Bert.Metzeltin & Witkowski	0	1	0	0
HLMO	Halamphora montana	(Krasske) Levkov,	0	0	0	0
HNEG	Hippodonta neglecta	Lange-Bertalot Metzeltin & Witkowski	0	0	0	0
HOLI	Halamphora oligotraphenta	(Lange-Bertalot) Levkov	0	0	0	0
HPDA	Hippodonta pseudacceptata	(Kobayasi) Lange-Bertalot Metzeltin & Witkowski	0	0	0	0

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			DBO5	SP	NKJ	Pt
HPEP	Humidophila perpusilla	(Grunow) Lowe, Kociolek, Johansen, Van de Vijver, Lange-Bertalot & Kopalová	0	0	0	0
HSMA	Humidophila schmassmannii	(Hustedt) Buczkó et Wojtal	0	0	0	0
HTHU	Halamphora thumensis	(A.Mayer) Levkov	0	0	0	0
HVEN	Halamphora veneta	(Kützing) Levkov,	0	0	0	0
KALA	Karayevia laterostrata	(Hustedt) Bukhtiyarova	0	0	0	0
KAPL	Karayevia ploenensis	(Hustedt) Bukhtiyarova	0	0	0	0
KCLE*	Karayevia clevei var. clevei	(Grunow) Bukhtiyarova	1	0	0	0
LGOP	Luticola goeppertiana	(Bleisch) D.G.Mann ex J.Rarick, S.Wu, S.S.Lee & Edlund	0	0	0	0
LHUN	Lemnicola hungarica	(Grunow) Round & Basson	0	0	0	0
LRAD	Lindavia radiosa	(Grunow) De Toni & Forti	0	0	0	0
MAAT*	Mayamaea atomus var. atomus	(Kützing) Lange-Bertalot	0	0	0	0
MCIR*	Meridion circulare var. circulare	(Greville) C.A. Agardh	0	0	0	0
MING	Mayamaea ingenua	(Hustedt) Lange-Bertalot & Hofmann in Hofmann & al.	0	1	0	1
MLAC	Mastogloia lacustris	(Grunow) van Heurck	0	0	0	0
MPMI	Mayamaea permitis	(Hustedt) Bruder & Medlin	0	1	1	1
MSMI	Mastogloia smithii	Thwaites	0	0	0	0
MSTJ	Mastogloia sterijovskii	A. Pavlov. Jovanovska, C.E.Wetzel, Ector & Levkov	0	0	0	0
MVAR	Melosira varians	Agardh	0	1	0	1
NAAN	Navicula angusta	Grunow	0	0	0	0
NACD	Nitzschia acidoclinata	Lange-Bertalot	1	0	0	1
NACI	Nitzschia acicularis	Kützing) W.M.Smith	1	1	1	1
NAGN	Nitzschia agnita	Hustedt	0	1	1	0
NAGW	Nitzschia agnewii	Cholnoky	0	0	0	0
NALP	Neidium alpinum	Hustedt	0	0	0	0
NAMP*	Nitzschia amphibia f. amphibia	Grunow	1	1	1	1
NANT	Navicula antonii	Lange-Bertalot	1	1	1	1
NAPB	Nitzschia alpinobacillum	Lange-Bertalot	0	0	0	0
NCAR	Navicula cari	Ehrenberg	0	0	0	0
NCIN	Navicula cincta	(Ehr.) Ralfs in Pritchard	0	0	0	0
NCLA	Nitzschia clausii	Hantzsch	0	0	0	0
NCPL	Nitzschia capitellata	Hustedt in A. Schmidt & al.	0	0	1	0
NCPR	Navicula capitatoradiata	Germain	1	1	1	1
NCRY	Navicula cryptocephala	Kützing	0	0	1	0
NCTE	Navicula cryptotenella	Lange-Bertalot	1	1	1	0
NCTO	Navicula cryptotenelloides	Lange-Bertalot	1	1	1	0
NCTT	Navicula cataracta-rheni	Lange-Bertalot	1	1	0	1
NCTV	Navicula caterva	Hohn & Hellerman	0	1	1	1
NDBF	Neidiomorpha binodeformis	Cantonati, Lange-Bertalot & Angeli	0	0	0	0
NDIS*	Nitzschia dissipata subsp. dissipata	(Kützing) Grunow	1	1	1	0
NDRA	Nitzschia draveillensis	Coste & Ricard	0	0	0	0
NEUT	Nitzschia eutinensis	Lange-Bertalot & Werum	1	1	1	1
NEXI	Navicula exilis	Kützing	0	0	0	0
NFIL*	Nitzschia filiformis var. filiformis	(W.M.Smith) Van Heurck	1	1	1	1
NFON	Nitzschia fonticola	Grunow in Cleve et Möller	0	1	1	0
NFSO	Nanofrustulum sopotensis	(Witkowski & Lange-Bert.) E.Morales, C.E.Wetzel & Ector, comb. nov.	0	0	0	0
NFTR	Nanofrustulum trainori	(E.Morales) E.Morales, comb. nov.	1	0	0	1
NGDU	Navigeia decussis	(Østrup) Bukhtiyarova	0	0	0	0
NGER	Navicula germainii	Wallace	0	0	0	0

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			DBO5	SP	NKJ	Pt
NGES	Nitzschia gessneri	Hustedt	0	0	0	0
NGOT	Navicula gottlandica	Grunow in Van Heurck	0	0	0	0
NGRE	Navicula gregaria	Donkin	0	0	0	0
NHAN	Nitzschia hantzschiana	Rabenhorst	0	0	0	0
NHEU	Nitzschia heufleriana	Grunow	0	0	0	0
NHIN	Navicula hintzii	Lange-Bertalot	0	0	0	0
NHMD	Navicula heimansioides	Lange-Bertalot	0	0	0	0
NIAR	Nitzschia archibaldii	Lange-Bertalot	0	0	0	0
NIBU	Nitzschia bulnheimiana	(Rabenhorst) H.L.Smith	0	0	0	0
NIFQ	Nitzschia frequens	Hustedt	0	0	0	0
NIFR*	Nitzschia frustulum var. frustulum	(Kützing) Grunow	1	1	1	1
NIGF	Nitzschia graciliformis	Lange-Bertalot & Simonsen	0	0	0	0
NIGR	Nitzschia gracilis	Hantzsch	1	1	1	1
NILA	Nitzschia lacuum	Lange-Bertalot	0	0	0	0
NIME	Nitzschia media	Hantzsch.	0	0	0	0
NINC	Nitzschia inconspicua	Grunow	1	1	1	1
NINT	Nitzschia intermedia	Hantzsch ex Cleve & Grunow	1	1	0	1
NIOG	Nitzschia oligotraphenta	(Lange-Bertalot) Lange-Bertalot in Hofmann & al.	0	0	0	0
NIPM	Nitzschia perminuta	(Grunow) M.Peragallo	0	0	0	0
NISU	Nitzschia subtilis	Grunow in Cleve et Grunow	0	0	0	0
NIVA	Nitzschia valdestriata	Aleem & Hustedt	0	0	0	0
NJOC	Navicula johncarterii	D.M.Williams	0	0	0	0
NLAN	Navicula lanceolata	(Agardh) Ehrenberg	0	0	0	0
NLIN*	Nitzschia linearis var. linearis	(Agardh) W.M.Smith	0	0	0	0
NLTK	Navicula leistikowii	Lange-Bertalot	0	0	0	0
NMCA	Navicula microcari	Lange-Bertalot	0	0	0	0
NMIC	Nitzschia microcephala	Grunow in Cleve & Moller	0	0	0	0
NMOK	Navicula moskalii	Metzeltin, Witkowski & Lange-Bertalot	0	0	0	0
NMTA	Navicula metareichardtiana	Lange-Bertalot & Kusber nom.nov.	1	1	0	1
NNOT	Navicula notha	Wallace	0	0	0	0
NOLI	Navicula oligotraphenta	Lange-Bertalot & Hofmann	0	0	0	0
NPAE	Nitzschia paleacea	(Grunow) Grunow in Van Heurck	1	1	1	1
NPAL*	Nitzschia palea var. palea	(Kützing) W.Smith	1	0	1	1
NPML	Nitzschia pumila	Hustedt	1	1	1	1
NPRA	Navicula praeterita	Hustedt	0	0	0	0
NRAD	Navicula radiosa	Kützing	0	0	0	0
NREC	Nitzschia recta	Hantzsch in Rabenhorst	0	1	0	0
NRHY	Navicula rhynchocephala	Kützing	0	0	0	0
NSBN	Navicula subalpina	Reichardt	0	0	0	0
NSIA	Navicula simulata	Manguin	1	1	1	1
NSNM	Navicula sancti-naumii	Levkov, et Metzeltin	1	1	1	0
NSOC	Nitzschia sociabilis	Hustedt	1	1	0	1
NSOL	Nitzschia solgensis	Cleve-Euler	0	1	1	1
NSTS	Nitzschia soratensis	Morales & Vis	0	1	1	1
NSUA	Nitzschia subacicularis	Hustedt in A. Schmidt et al.	0	1	1	1
NTAB	Nitzschia tabellaria	(Grun.) Grun. in Cl. & Grunow	0	1	0	0
NTCX	Navicula trophicatrix	Lange-Bertalot	0	0	0	0
NTPT	Navicula tripunctata	(O.F.Müller) Bory	1	1	1	1
NTRV*	Navicula trivialis var. trivialis	Lange-Bertalot	0	1	1	1
NUVI	Nupela vitiosa	(Schimanski) Lange-Bertalot in Krammer & Lange-Bertalot	0	0	0	0
NVDA*	Navicula vandamii var. vandamii	Schoeman & Archibald	0	0	0	0

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			DBO5	SP	NKJ	Pt
NVEN	Navicula veneta	Kützing	0	1	1	1
NVGL	Navicula virginalis	Hustedt	0	0	0	0
NWIL	Navicula wildii	Lange-Bertalot	0	0	0	0
NXAS	Navicula associata	Lange-Bertalot	0	0	0	0
NYCO	Nitzschia costei	Tudesque, Rimet & Ector	0	1	0	0
NZAL	Nitzschia alpina	Hustedt	0	0	0	0
NZRA	Nitzschia radicularia	Hustedt	0	0	0	0
NZSU	Nitzschia supralitoria	Lange-Bertalot	0	1	0	1
PABD	Psammothidium abundans	(Manguin in Bourrelly & Manguin) Bukhtiyarova et Round	0	0	0	0
PABV	Planothidium abbreviatum	(Reimer) Potapova	1	0	0	1
PADE	Pantocsekiella delicatula	(Hustedt) K.T. Kiss et Ács	0	0	0	0
PALT	Psammothidium altaicum	(Poretzky) Bukhtiyarova in Bukhtiyarova & Round	0	0	0	0
PALV	Pseudostaurosira alvareziae	Cejudo-Figueras Morales & Ector	0	0	0	1
PCLD	Placoneis clementioides	(Hustedt) Cox	0	0	0	0
PCMS	Pantocsekiella comensis	(Grunow in Van Heurck) K.T. Kiss et Ács	0	0	0	0
PCOS	Pantocsekiella costei	(Druart et F. Straub) K.T. Kiss et Ács	0	0	0	0
PDAU	Planothidium dauyi	(Foged) Lange-Bertalot	0	0	0	0
PDID	Psammothidium didymum	(Hustedt) Bukhtiyarova et Round	0	0	0	0
PDOP	Pseudostaurosira parasitoides	(Lange-Bertalot, Rol.Schmidt & Klee in Schmidt et al.) E.Morales, M.L.García & Maidana	0	0	0	0
PDPC	Pseudostaurosira connecticutensis	Morales	1	0	0	1
PEBR	Peronia brasiliensis	Hustedt	0	0	0	0
PFIB	Peronia fibula	(Brébisson ex Kützing) Ross	0	0	0	0
PGRI	Psammothidium grisichunum	(Wuthrich) Bukhtiyarova et Round	0	0	0	0
PGRN	Planothidium granum	(Hohn & Hellerman) Lange-Bertalot	0	0	0	0
PHEL	Psammothidium helveticum	(Hustedt) Bukhtiyarova et Round	0	0	0	0
PKUE	Psammothidium kuelbsii	(Lange-Bertalot in L.-B. & K.) Bukhtiyarova et Round	0	0	0	0
PLFR	Planothidium frequentissimum	(Lange-Bertalot) Lange-Bertalot	0	0	0	1
PLHO	Platessa holsatica	(Hustedt) Lange-Bertalot	0	0	0	0
PLJO	Platessa joursacense	(Héribaud) Chudaev in Chudaev. Golobova et Kulikovskiy	0	0	0	0
PLPM	Planothidium pumilum	Baş & Lange-Bertalot	0	0	0	0
PLVA	Psammothidium levanderi	(Hustedt) Bukhtiyarova	0	0	0	0
PLVU	Psammothidium lacus-vulcani	(Lange-Bert. et Kram.) Bukht. et Round	0	0	0	1
PMNT	Planothidium minutissimum	(Krasske) Morales	0	0	0	0
PMSC*	Pseudostaurosira microstriata var. microstriata	(Marciniak) Flower	0	0	0	0
PMUL	Planothidium minusculum	(Hustedt) Witkowski, Kulikovskiy et Pliński	0	0	0	0
POBL	Platessa oblongella	(Østrup) C.E. Wetzel, Lange-Bertalot & Ector	0	0	0	0
POCL	Pantocsekiella ocellata	(Pantocsek) K.T. Kiss et Ács	0	0	0	0
POVA	Punctastriata ovalis	Williams & Round	0	0	0	0
PPRS	Pseudostaurosira parasitica	(W.Smith) Morales	0	0	0	0
PPSA	Placoneis pseudanglica	(Lange-Bertalot) Cox	0	0	0	0
PRBU	Planothidium robustius	(Hustedt) Lange-Bertalot	0	0	0	0
PROH	Planothidium rostratoholarcticum	Lange-Bertalot & Baş	1	0	0	0

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			DBO5	SP	NKJ	Pt
PROS	<i>Psammothidium rossii</i>	(Hustedt) Bukhtiyarova et Round	0	0	0	0
PRST	<i>Planothidium rostratum</i>	(Østrup) Lange-Bertalot	0	0	0	0
PSBR	<i>Pseudostaurosira brevistriata</i>	(Grun.in Van Heurck) Williams & Round	0	0	0	0
PSCT	<i>Psammothidium scoticum</i>	(Flower & Jones) Bukhtiyarova et Round	0	0	0	0
PSME	<i>Pseudostaurosira medliniae</i>	D.M.Williams & Morales	0	0	0	0
PSPO	<i>Pseudostaurosira polonica</i>	(Witak & Lange-Bertalot) Morales et M.B. Edlund	0	0	0	0
PSRE	<i>Psammothidium rechtensis</i>	(Leclercq) Lange-Bertalot	0	0	0	0
PSSE	<i>Pseudostaurosira elliptica</i>	(Schumann) Edlund, Morales & Spaulding	0	0	0	0
PTCO	<i>Platessa conspicua</i>	(A.Mayer) Lange-Bertalot	0	0	0	0
PTDE	<i>Planothidium delicatum</i>	(Kütz.) Round & Bukhtiyarova	0	0	0	0
PTDU	<i>Planothidium dubium</i>	(Grunow) Round & Bukhtiyarova	0	0	0	0
PTLA	<i>Planothidium lanceolatum</i>	(Brébisson ex Kützing) Lange-Bertalot	1	0	0	0
PTPU	<i>Praestephanos triporus</i>	(Genkal & G.V. Kuzmin)Tuji & J.-S. Ki	1	1	1	1
PUDI	<i>Punctastriata discoidea</i>	Flower	0	0	0	0
PULA	<i>Punctastriata lancettula</i>	(Schumann) Hamilton & Siver	0	0	0	0
PUSB	<i>Pseudostaurosira subconstricta</i>	(Grunow) Kulikovskiy & Genkal ., stat. nov.	0	0	0	0
PVEN	<i>Psammothidium ventrale</i>	(Kraske) Bukhtiyarova et Round	0	0	0	0
PWUE	<i>Pantocsekiella wuethrichiana</i>	(Druart et F. Straub) K.T. Kiss et Ács	0	0	0	0
PZIE	<i>Platessa zieglerei</i>	(Lange-Bertalot) Lange-Bertalot	0	0	0	0
RABB	<i>Rhoicosphenia abbreviata</i>	(C.Agardh) Lange-Bertalot	1	0	0	1
RPUS	<i>Rossthidium pusillum</i>	(Grunow) F.E.Round & Bukhtiyarova	0	0	0	0
RSIN	<i>Reimeria sinuata</i>	(Gregory) Kociolek & Stoermer	0	0	0	0
RUNI	<i>Reimeria uniseriata</i>	Sala Guerrero & Ferrario	0	0	0	0
SACB	<i>Sellaphora archibaldii</i>	(J.C. Taylor et Lange-Bertalot) Ács, C.E. Wetzel et Ector .	0	0	0	0
SARV	<i>Sellaphora arvensis</i>	(Hustedt) C.E. Wetzel et Ector	0	0	0	0
SBND	<i>Staurosira binodis</i>	(Ehrenberg) Lange-Bertalot in Hofmann Werum et Lange-Bertalot	0	0	0	0
SCAN	<i>Staurosirella canariensis</i>	(Lange-Bertalot) E. Morales, Ector, Maidana & Grana .	0	0	1	0
SCHK	<i>Sellaphora chistiakovae</i>	(Kulikovskiy et Lange-Bertalot) Wetzel, Ector Van De Vijver,Compère & D.G.Mann	0	0	0	1
SCON	<i>Staurosira construens</i>	Ehrenberg	0	0	0	0
SCPO	<i>Sellaphora cosmopolitana</i>	(Lange-Bertalot) C.E. Wetzel et Ector	0	0	0	0
SCRA	<i>Sellaphora crassulexigua</i>	(Reichardt) Wetzel, Ector, Van De Vijver, Compère & D.G.Mann	1	1	1	1
SCRM	<i>Stauroneis charlesreimeri</i>	Lange-Bertalot & Metzeltin	0	0	0	0
SEAT	<i>Sellaphora atomoides</i>	Wetzel & Ector	0	0	0	0
SEBA	<i>Sellaphora bacillum</i>	(Ehrenberg) D.G.Mann	0	0	0	0
SECA	<i>Sellaphora capitata</i>	D.G. Mann & S.M. Mc Donald	0	0	0	0
SELA	<i>Sellaphora laevissima</i>	(Kützing) D.G. Mann	0	0	0	0
SELO	<i>Sellaphora elorantana</i>	(Lange-Bertalot) C.E. Wetzel	0	0	0	0
SEUT	<i>Sellaphora utermoehlii</i>	(Hustedt) C.E. Wetzel et D.G. Mann	0	0	0	0
SEXG	<i>Stauroforma exiguiformis</i>	(Lange-Bertalot) Flower Jones et Round	0	0	0	0
SIDE	<i>Simonsenia delognei</i>	Lange-Bertalot	0	1	1	0
SINM	<i>Stauroforma inermis</i>	Flower Jones et Round	0	0	0	1
SLEP	<i>Staurosirella leptostauron</i>	(Ehr.) Williams & Round	0	0	0	0
SLMU	<i>Staurosirella mutabilis</i>	(W. Smith) E. Morales & Van de Vijver	0	0	0	0

code	name	author	Alert taxa (1 : yes ; 0 : no)			
			DBO5	SP	NKJ	Pt
SLPP	Staurosira lapponica	(Grunow) Lange-Bertalot	0	0	0	0
SMTO	Sellaphora mutatooides	Lange-Bertalot & Metzeltin	0	0	0	0
SNIG	Sellaphora nigri	C.E. Wetzel et Ector . emend	0	1	1	1
SODB	Staurosira oldenburgiana	(Hustedt)Lange-Bertalot	0	1	0	1
SPAV	Stephanodiscus parvus	Stoermer et Håkansson	0	0	0	0
SPCO	Staurosira pseudoconstruens	(Marciniak) Lange-Bertalot	0	0	0	0
SPDV	Sellaphora pseudoarvensis	(Hustedt) C.E. Wetzel et Ector	0	0	0	0
SPIN	Staurosirella pinnata	(Ehrenberg) Williams&Round	0	0	0	0
SPRG	Skabitschewskia peragalli	(Brun & Héribaud) Kulikovskiy & Lange-Bertalot	0	0	0	0
SPSV	Sellaphora pseudoventralis	(Hustedt) Wetzel, Ector Van De Vijver, Compère & D.G.Mann. Mann	0	0	0	0
SPUP	Sellaphora pupula	(Kützing) Mereschkowksy	0	0	1	1
SRAE	Sellaphora raederae	(Lange-Bertalot) C.E. Wetzel	0	0	0	0
SRBU	Staurosira robusta	(Fusey) Lange-Bertalot	0	0	0	0
SRMA	Staurosira martyi	(Héribaud) Lange-Bertalot	0	0	0	0
SRTU	Sellaphora rotunda	(Hustedt) Wetzel, Ector Van De Vijver, Compère & D.G.Mann. Mann	0	0	0	0
SSBG	Sellaphora schaumburgii	(Lange-Bertalot et G. Hofmann) C.E. Wetzel & Ector	0	0	0	0
SSGE	Sellaphora saugerresii	(Desm.) C.E. Wetzel & D.G. Mann in Wetzel et al.	1	1	1	1
SSMI	Stauroneis smithii	Grunow	0	0	0	0
SSRT	Sellaphora subrotundata	(Hustedt) Wetzel, Ector Van De Vijver, Compère & D.G.Mann. Mann	0	0	0	0
SSTM	Sellaphora stroemii	(Hustedt) Kobayasi in Mayama Idei Osada & Nagumo	0	0	0	0
SSVE	Staurosira venter	(Ehrenberg) Cleve & Moeller	0	0	0	0
STLG	Staurosirella grunowii	(Pantocsek) E. Morales, Buczkó & Ector	0	0	0	0
STMI	Stephanodiscus minutulus	(Kützing) Cleve & Moller	0	0	0	0
STOV	Staurosirella ovata	Morales	0	0	0	0
STSB	Staurosira berolinensis	(Lemm.) Lange-Bertalot	0	0	0	1
SVTL	Sellaphora ventraloides	(Hustedt) Falasco & Ector	0	0	0	0
TANG	Tryblionella angustata	W.M. Smith	0	0	0	0
TATU	Tryblionella angustatula	(Lange-Bertalot) Cantonati & Lange-Bertalot in Kusber et al. .	0	1	1	1
TBNO	Tryblionella brunoi	(Lange-Bertalot) Cantonati et Lange-Bertalot in Kusber et al.	0	0	0	0
TFEN	Tabellaria fenestrata	(Lyngbye) Kützing	0	0	0	0
TFLO	Tabellaria flocculosa	(Roth) Kützing	0	0	0	0
TKUE	Tryblionella kuetzingii	Alvarez-Blanco & S.Blanco	0	0	0	0
TVEN	Tabellaria ventricosa	Kützing	0	0	0	0
UACU	Ulnaria acus	(Kützing) Aboal	0	1	0	1
UBIC	Ulnaria biceps	(Kützing) Compère	0	0	0	0
UDEL	Ulnaria delicatissima	(W.Smith) Aboal & Silva	0	0	0	0
UULN	Ulnaria ulna	(Nitzsch) Compère	1	0	1	1