Biological data reporting to EEA

10. October 2019 – WISE 2-4 Webinar

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European Environment Agency

25 1994-2019 European Environment Agency

Technical instructions

- Thank you for participating in the Webinar.
- The Webinar will be recorded and made available after the Webinar.
- Presentations are available for download. They will also be uploaded to Eionet Forum after the Webinar.
- Use the chat for making comments or asking questions.
- Avoid detailed questions on your data, you should use the WISE SoE Helpdesk when you start reporting.

Agenda

1) Introductions and technical instructions (10mins)
2) Uses of the WISE-4 biological data (10 mins)
3) Feedback on the 2016-2018 WISE-4 biological data calls (10 mins)
4) 2019 WISE-2 and WISE-4 data calls (20 mins)
5) Discussion (10 mins)

Presentation available for download here: https://forum.eionet.europa.eu/nrc-eionet-freshwater/library/wise-soe-reporting/wise-2019-datacall/webinar-wise2-6-biological-data

Objectives of meeting:

- To present EEAs uses of biological data;
- Improve the reporting with better spatial and temperal coverage;
- Solve problems with folders/files uploaded to CDR but blocked or correction requested;
- Help countries that have stopped reporting to start reporting again.

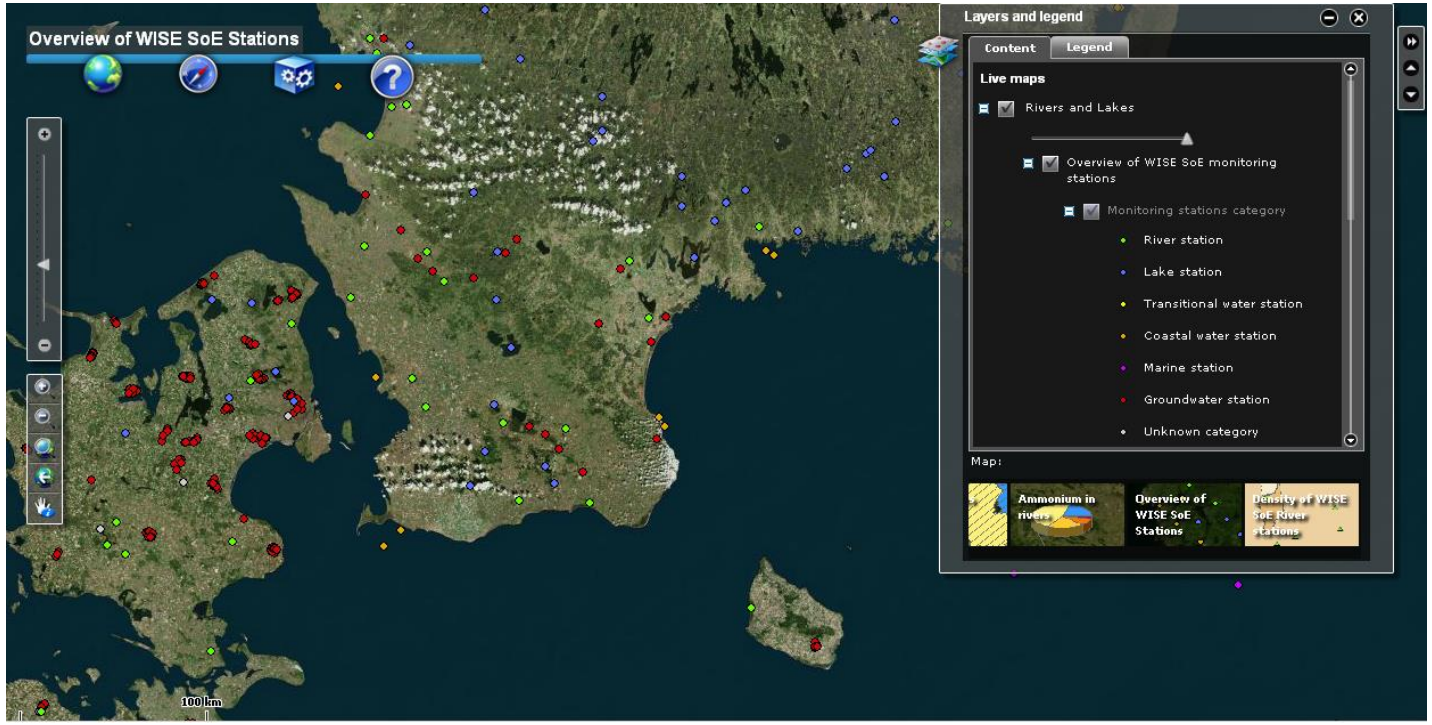
2. EEA uses of biological data (WISE-4 data)

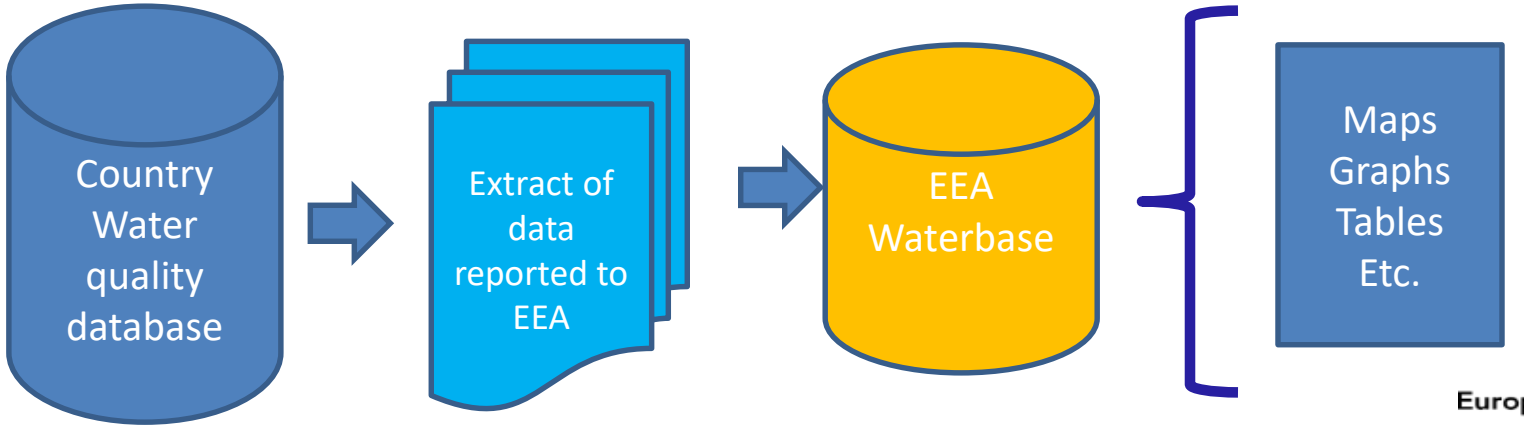
It is the European Environment Agency's (EEA) task to provide objective, reliable and comparable information on the environment in order to allow the European Commission, Member Countries and the general public to judge the effectiveness of environmental policy and the needs for policy development. This comprises 'state of the environment' assessments using indicators to assess current status, pressures and impacts as well as trends in the mid and long-term.

Status of Europe's waters

- **Overall water quality** (overall status, ecological status, conservation status of freshwater habitats and species);
- **Water pollution and quality** (e.g. nutrients in groundwater, rivers and lakes; pollution sources and emissions);
- **Water and health** (Bathing water quality, drinking water quality, hazardous substances related to health)
- **Water resources focus on water scarcity and drought** (Water Exploitation Index, water abstraction by sectors, water resource accounts, water efficiency)
- **Floods and water related disasters**
- **Climate change impacts on water and water adaptation measures**
- **Hydromorphological /structural activities** (e.g. hydropower, navigation, number of barriers in rivers, straightened rivers).

Water quality based on national information





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Objectives of the biology data flow

- Aim: to show **trends in ecological status** at the European scale
  - Biology is more important for ecological status than abiotic elements
  - Improved status of biological elements can take longer time
- SoE Biology data: ecological status as **continuous values**
  - Ecological Quality Ratios (EQR) can detect trends across and **within status classes**
- Normalised EQR values (nEQR) are **comparable across countries** and water body types
  - Information on national classification systems is requested

Data reported per Biological Quality Element





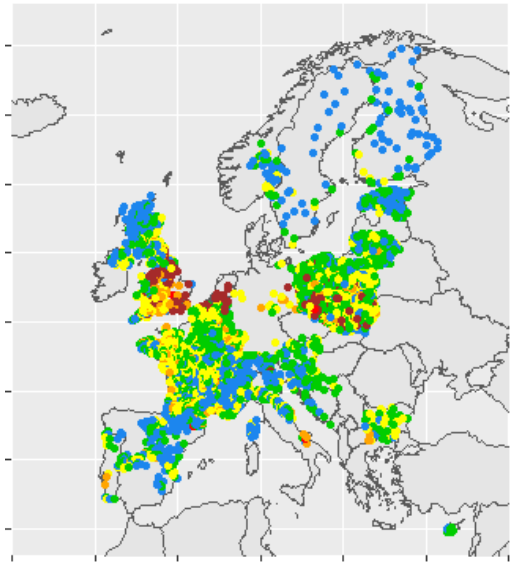
Year	Phytobenthos in rivers			Invertebrates in rivers			Phytoplankton in lakes			Macrophytes in lakes		
	status class	EQR	nEQR	status class	EQR	nEQR	status class	EQR	nEQR	status class	EQR	nEQR
2004	1	1	1	136	136	136						
2005	50	50	50	77	77	77				11	11	
2006	60	60	60	110	110	105	5	5				
2007	162	162	158	180	180	167	7	6	2	58	58	49
2008	225	225	210	327	327	315	12	12	7	27	24	5
2009	299	294	177	455	442	312	22	22	4	31	31	
2010	2211	2136	1798	1918	1877	1579	240	193	174	165	159	128
2011	2003	1957	1860	1989	1896	1658	419	366	345	159	154	126
2012	1116	1030	993	1277	1131	1135	358	284	352	145	129	141
2013	1226	1216	1173	1137	1127	997	362	308	317	144	142	134
2014	1583	1200	1561	1575	1143	1025	370	329	314	304	251	295
2015	1114	1105	1082	1005	999	930	472	421	425	273	270	242
2016	470	465	470	566	561	543	118	103	118	29	27	29
2017	322	315	322	409	403	403	167	96	167	46	46	46
Total	**10842**	**10216**	**9915**	**11161**	**10409**	**9382**	**2552**	**2145**	**2225**	**1392**	**1302**	**1195**

Data reported per country and water category

Country code	River waterbodies			Lake water bodies		
	status class	EQR	nEQR	status class	EQR	nEQR
AT	71	71	66	27	26	27
BE	375	375	374	5	5	5
BG	86	86	86	3	3	3
CH	79					
CY	22	21	22	1	1	
DE	28			38		
DK	32	32				
EE	198	198	188	8	8	7
ES	247	247	247			
FI	71	71	67	48	48	48
FR	1279	1279	1275			
HR	44	44	44	4	4	4
IE	184	184	184	76	74	76
IT	334	329	302	18	17	5
LT	386	386	386	319	319	319
LU	5	5	5			
LV	41	20	20	5	5	5
NL	56	56	41	100	100	83
NO	87	87	87	20	12	12
PL	1739	1739	1709	465	465	465
PT	44					
RO	110	110	108	3	3	3
SE	34	34	34	109	109	108
SI	22		15	11	2	11
SK	32	32	32			
UK	1188	1123	1130	138	132	106
Total	**6794**	**6529**	**6422**	**1398**	**1333**	**1287**

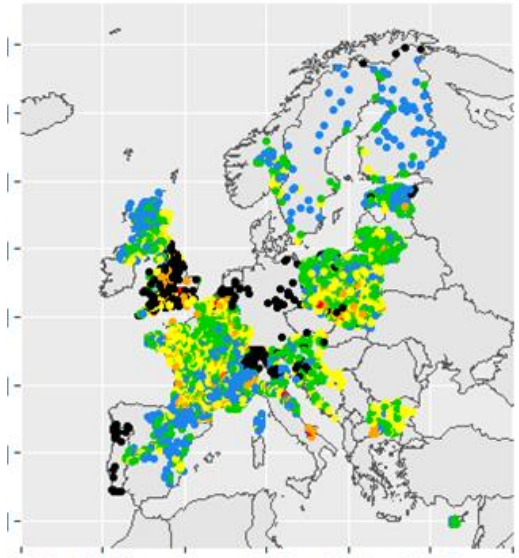
Example: phytobenthos in rivers

Reported status class



Note: Brown dots = moderate or worse

Status class based on nEQR



Note: Black dots = nEQR not available

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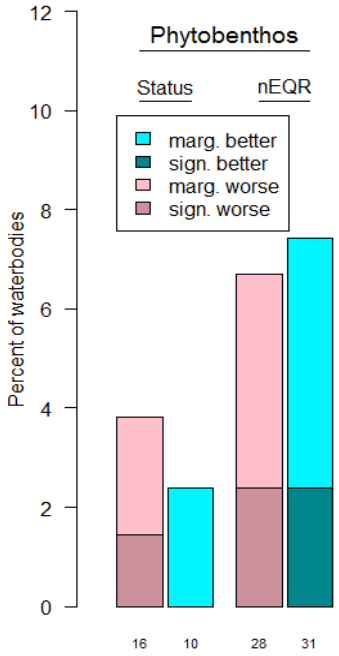
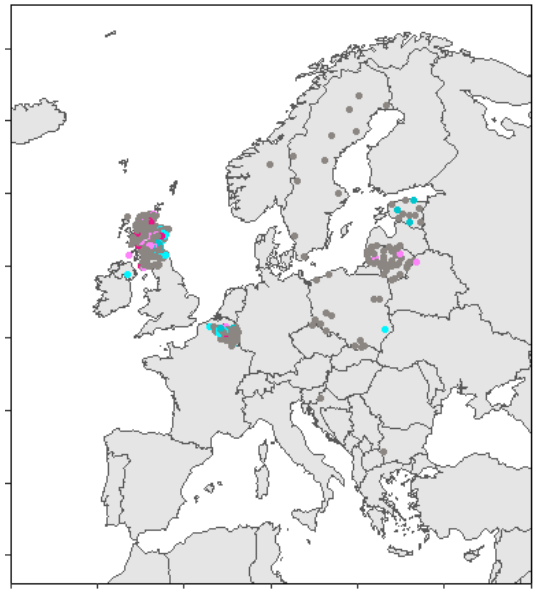
Trends in ecological status, by nEQR vs. status class

Example:
trend analysis for phytobenthos in rivers

- Water bodies with data from ≥4 years
- Analysis of nEQR values reveal more significant trends than status class

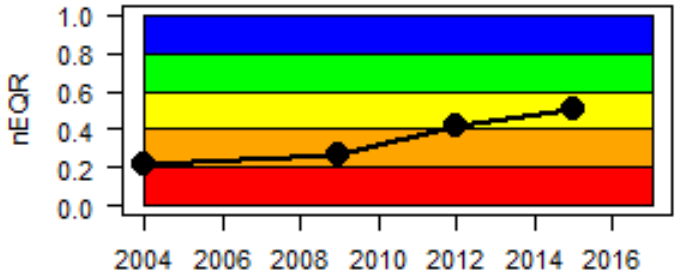




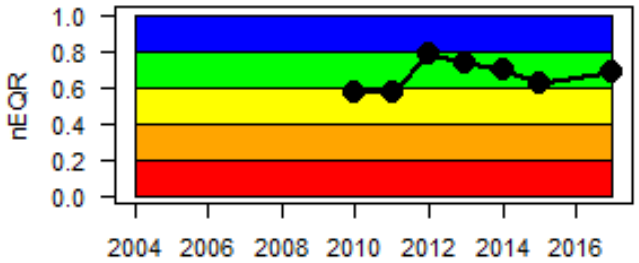
Note: Only water bodies with ≥ 4 years
Gray dots = no significant trend

For trend analysis of all BQEs, we found:

- Trend in nEQR, but not in status class: 99 water bodies



- Trend in status class, but not in nEQR: 25 water bodies



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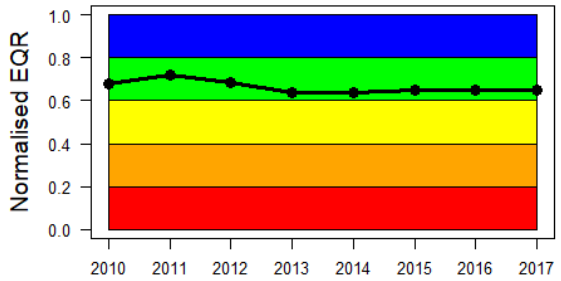
Time series aggregated to European level

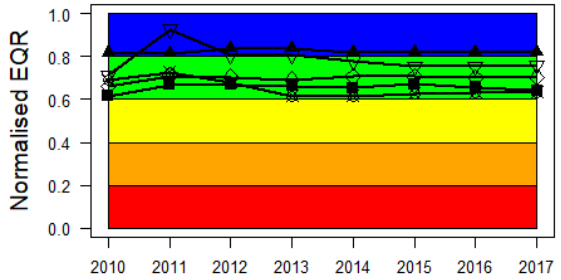
Example: invertebrates in rivers – general degradation

European level



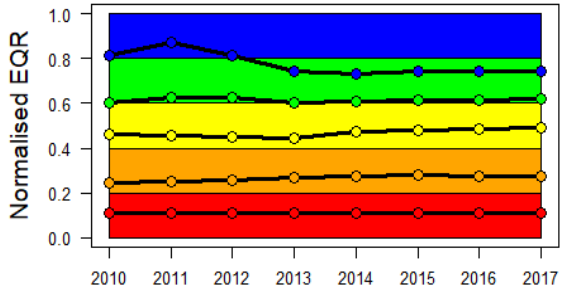
n = 590

Aggregated by region



East n = 9
North n = 12
South n = 3
Southeast n = 96
West n = 410

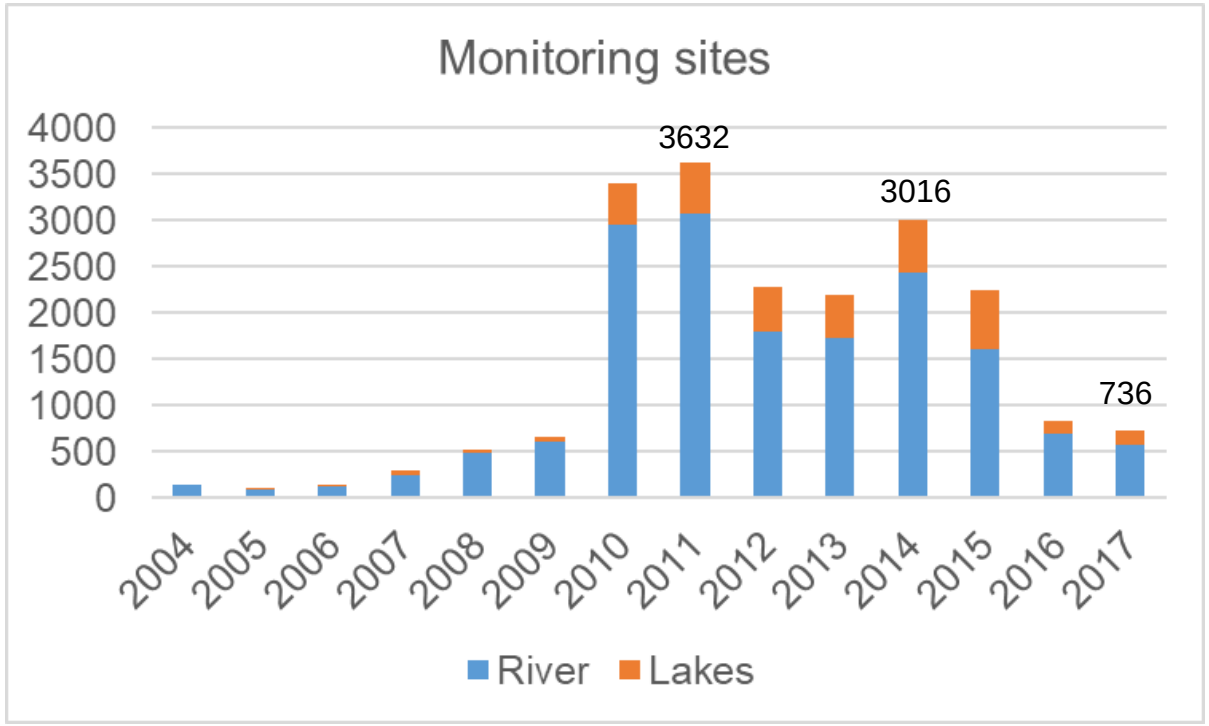
Aggregated by initial status class

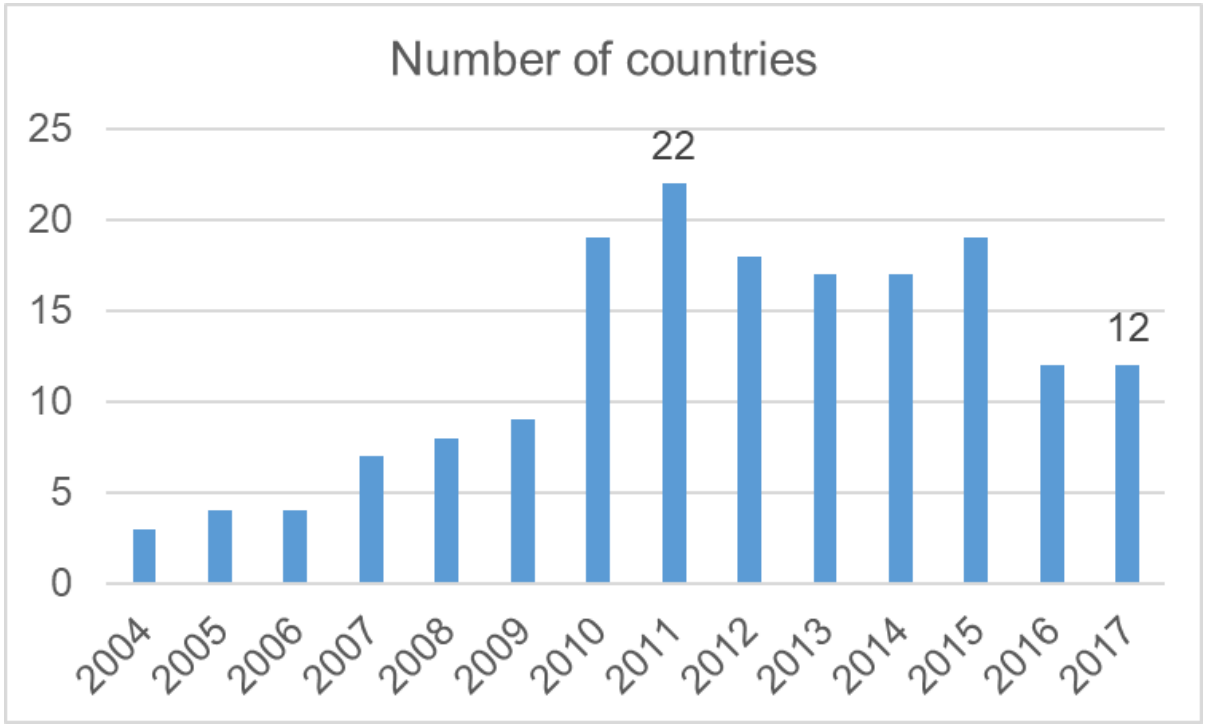


High: n = 326
Good: n = 136
Moderate: n = 108
Poor: n = 19
Bad: n = 1

- Inter/extrapolation of 1-3 missing years
- Complete series for 2010-2017:
  - RW phytobenthos 258; invertebrates 590
  - LW phytoplankton 220; macrophytes 14
- Temporal patterns for invertebrates:
  - Regions: nEQR slightly decreased in West (n=410) and East (n = 9)
  - Initial status: nEQR decreased for High status (n = 326); slightly increased for Moderate (n = 108)
- We need more complete series of EQR values, representing BQEs in all European regions and status classes!

Reporting of biological data





Total 9900 monitoring sites with biological data
2013-2017: 4666 river sites and 1255 lake sites
Related to WFD monitoring of biological quality elements

- Lakes: Macrophyte and Phytoplankton
- Rivers: only Invertebrate and Phytobenthos

22 countries have reported biological data
Countries that implement WFD- only Switzerland has also reported biological data

3. Overview of the 2016-2018 WISE-4 data calls

Covering data from 2013-2017
Implementation of WISE-4 data model

Overview of the 2018 WISE-4 data call – WISE-2 new

- 2013-2017: Start WISE-4, no reporting 2014-2015.
- Reporting: Water quality rivers, lakes, groundwater, and biological data.
- WISE-5 & WFD Spatial
- Waterbase (version 11 – May 2019)
  - Water quality: Disaggregated data: 34 million records (monitoring site, date, determinands)
  - Water quality: Aggregated data: 2.3 million records (monitoring site, year, determinands)
  - Biological data:
    - BiologyEQRData (22 countries and +30.000 records);
    - EQRClassificationProcedure (+2.200 records)
- Countries have started 438 Folders; 317 completed; 74 pending correction requested; and 47 in draft (and not released).
- **Cleanup**: *Folders in draft or correction requested and have been replaced by a new folder with blockers or errors corrected*.

Reporting of biological data – years 2013-2017

Countries	2013	2014	2015	2016	2017	dCount	River	Lakes
Austria	68	5	27	CR	CR	73	44	29
Belgium	167	142	121	159	92	410	409	1
Bulgaria	Bwq	Bwq	63	60	73	96	93	1
Croatia	31	3	16	28	19	53	49	4
Cyprus	8	8	8	6	12	22	21	1
Denmark	25	23	25	23	6	29	29	
Estonia	57	68	47	26	41	186	176	10
Germany	38	52	29	Bwq	Bwq	66	24	42
Ireland	90	137	136	74	136	324	179	145
Latvia	22	19	19	AD	AD	27	21	6
Lithuania	241	326	320	214	136	730	413	317
Luxembourg			2	3	3	3	3	
Netherlands	118	97	75	B	D	134	41	93
Poland	676	726	755	Bwq	Bwq	1995	1629	366
Romania	122	122	118	AD	AD	123	120	3
Slovakia	23	26	12	13	12	30	30	
Slovenia	14	18	10	16	13	31	18	13
Spain	162	187	64	CR	AD	253	253	
Sweden			138	Bwq	Bwq	138	34	104
United Kingdom	339	1057	269	217	193	1202	1080	120
dCount	**2201**	**3016**	**2254**	**839**	**736**	**5925**	4666	**1255**

20 EU countries have reported biological data, most of these countries have reported data for all five years.

Some data are in CDR but not in Waterbase, mainly due to blockers of water quality (Bwq) in the same folders, others have reported later in 2019 After the Deadline (AD); few folders have asked for corrections (CR) Three years are blocked (B) or in draft (D)

4 EU countries that reported biological data before 2013 have not reported biological data.

4 EU countries have never reported biological data.

2 EEA countries (CH and NO) have not reported 2013-17.

Non WFD countries did not report biological data.

Reporting of biological data – years 2013-2017

	2013	2014	2015	2016	2017
Countries that reported before 2013					
Italy					
Finland					
France					
Portugal					
Switzerland					
Norway					B
EU Member States that have not reported biological data					
Czechia, Greece,Hungary, Malta					
Other countries that have not reported biological data					
Albania, Bosnia-Herzegovina, Iceland, Liechtenstein,					
Montenegro, North Makedonia, Serbia, Kosovo					

20 EU countries have reported biological data, most of these countries have reported data for all five years.
Some data are in CDR but not in Waterbase, mainly due to blockers of water quality (Bwq) in the same folders, others have reported later in 2019 After the Deadline (AD); few folders have asked for corrections (CR)
Three years are blocked (B) or in draft (D)

4 EU countries that reported biological data before 2013 have not reported biological data in the period 2013-2017.

4 EU countries have never reported biological data.

2 EEA countries (CH and NO) have not reported biological data 2013-2017.

Non WFD countries did not report biological data (except Switzerland).

Example of a blocked files and not being harvested and included in Waterbase

Overview | History | Data quality

Datalevering 2018 - data 2016

Description

Obligations WISE SoE - Water Quality (WISE-4)

Period 2018 - Not applicable

Coverage [redacted]

Status Task(s) in progress: **Draft** (us[redacted]

The last AutomaticQA run has flagged this envelope as unfit for release.

Note

If you want to stay updated about events in this envelope Subscribe to receive notifications dataflow(s).

Files in this envelope

1	WISE-SoE_WaterQuality_2016_20171128_BiologyEQRClassificationProcedure.xml	*Data*
2	WISE-SoE_WaterQuality_2016_20171128_BiologyEQRData.xml	*Data*
3	WISE-SoE_WaterQuality_2016_20171128_DisaggregatedData.xml	*Data*

Remember to release the envelope when you have uploaded all files

Feedback for this envelope

- AutomaticQA result for file WISE-SoE_WaterQuality_2016_20171128_BiologyEQRClassific water-quality-tbl-biology-eqr-classification-procedure (Posted automatically on 02 Apr 2019)
- [BLOCKER] AutomaticQA result for file WISE-SoE_WaterQuality_2016_20171128_Biology quality-tbl-biology-eqr-data (Posted automatically on 02 Apr 2019)
- [BLOCKER] AutomaticQA result for file WISE-SoE_WaterQuality_2016_20171128_Disaggr water-quality-tbl-disaggregated-data (Posted automatically on 02 Apr 2019)
- AutomaticQA result for: WISE SoE - Water Quality (WISE-4) Envelope (Posted automaticall

BLOCKER - some of the monitoringSiteIdentifier values are missing in the reference list.

The following tests were performed against

- 1. Mandatory values test - OK
- 2. Record uniqueness test - OK
- 3. Data types test - OK
- 4. Valid codes test - OK
- 5. Monitoring site identifier format test - OK
- 6. Monitoring site identifier reference test - BLOCKER
- 7. Water body category test - ERROR
- 8. Reference year test - OK
- 9. Sampling period test - OK
- 10. Result values - limits test - OK
- 11. Determinands and Water body category test - ERROR

Quality control - 1st level quality control

The following tests were performed against

- 1. Mandatory values test - OK
- 2. Record uniqueness test - OK
- 3. Data types test - OK
- 4. Valid codes test - OK
- 5. Monitoring site identifier format test - OK
- 6. Monitoring site identifier reference test - BLOCKER
- 7. Water body category test - ERROR
- 8. Reference year test - OK
- 9. Sampling period test - OK
- 10. Result values - limits test - OK
- 11. Determinands and Water body category test - ERROR

7. Water body category test

Tested whether data are reported only from inland surface water bodies (parameterWaterBodyCategory is LW or RW)

	parameterWaterBodyCategory	Number of records detected
☐	CW	6
☐	TW	4

11. Determinands and Water body category test

Tested whether only relevant observedPropertyDeterminandBiologyEQRCode is reported in the given water body category:

- LW: only Macrophyte and Phytoplankton
- RW: only Invertebrate and Phytobenthos

	Water body categories	Irrelevant determinands
☐	LW	EEA_13-01-4, EEA_14-05-1
☐	RW	EEA_14-05-1

EEA_13-01-4: InvertebrateEQR_G
EEA_14-05-1: FishEQR

Document at WISE-SoE help WISE SoE Quality control rules

2019 data call – Overview and description for the different QC rule categories

- **BLOCKER**. A critical error. The envelope can not be released. Normally, a blocker is an error in the format of the file, or in the structure or content of the data. Such a critical error makes it impossible for the delivery to be harvested and integrated into the European database. The envelope can only be released if every incorrect file is removed and replaced by corrected files
- **ERROR**. A non-critical error. The envelope can be released, but part of its content may be excluded from the European database (or be marked as having low reliability). Data Reporters are strongly advised to correct the non-critical errors. If the automated QC returned errors, a clarification or a resubmission may be requested by the Data Client, when the data is processed, and the final feedback is added to the envelope.
- **WARNING**. An issue that may be an error. Data Reporters are advised to check the correctness of the records or values that raised the warning. The envelope can be released. If the automated QC returned warnings, a clarification may be requested by the Data Client, when the data is processed and the final feedback is added to the envelope.
- **INFO**. Other issues related to the quality of the data. The envelope can be released. A clarification may be requested by the Data Client, when the data is processed and the final feedback is added to the envelope. Note that the observation status and the remarks fields can be used to provide include the clarifications in the delivery itself.
- **OK**. The automatic QC did not detect quality issues. The envelope can be released.
- In addition to the tests described in this document, a result values -**limits test** is implemented in WISE-4&6 (Water Quality). The test checks if the resultObservedValue is within the acceptable value range for each determinand.

Blockers, errors, warnings

BiologyEQRClassificationProcedure

- 1. Mandatory values test - WARNING
- 2. Record uniqueness test - WARNING
- 3. Data types test - OK
- 4. Valid codes test - OK
- 5. Reporting country code test - OK
- 6. Water body category test - OK
- 7. Determinands and Water body category test - OK
- 8. Boundary values - mathematical relation rules test - OK

1. Mandatory values test
Tested the presence of mandatory values - CountryCode, observedPropertyDeterminandBiologyEQRCode, parameterWaterBodyCategory, parameterNCSWaterBodyType, parameterICStatusOfDeterminandBiologyEQR.

In addition reporting of parameterBoundaryValueClasses12, parameterBoundaryValueClasses23, parameterBoundaryValueClasses34 and parameterBoundaryValueClasses45 values is also prefered. Values parameterBoundaryValueClasses34 and parameterBoundaryValueClasses45 could be ommited for AWB and HMWB.

		WARNING		
			Number	Value
BE Wallonia	2011-14	parameterBoundaryValueClasses12	98	-empty-
BE Wallonia	2015	parameterBoundaryValueClasses12	98	-empty-
BE Wallonia	2016-2017	parameterBoundaryValueClasses12	98	-empty-
BE Flanders	2013-2014	parameterBoundaryValueClasses12	8	-empty-
BE Flanders	2017	parameterBoundaryValueClasses12	20	-empty-
Cyprus	2013-14	parameterBoundaryValueClasses12	1	-empty-
Cyprus	2014-15	parameterBoundaryValueClasses12	1	-empty-

2. Record uniqueness test
Tested uniqueness of the records. Combination of the values CountryCode, observedPropertyDeterminandBiologyEQRCode, parameterWaterBodyCategory, parameterNCSWaterBodyType must be unique for each record in the table. No multiplicities can exist.

Country(	observedPrope	paramete	parameterNC	paramete	paramete	paramete	paramete	paramete	paramete	paramete	pr
AT	EEA_124-04-9	RW	MZB_18_2	RW-R-L2	Natural	true	0.81	0.56	0.38	0.25	
AT	EEA_124-04-9	RW	MZB_18_2	RW-R-L2	Natural	true	0.7	0.42	0.29	0.2	
AT	EEA_124-04-9	RW	MZB_13_2	RW-R-E4	Natural	true	0.7	0.42	0.29	0.2	
AT	EEA_124-04-9	RW	MZB_13_2	RW-R-E4	Natural	true	0.81	0.56	0.38	0.25	

6. Water body category test - ERROR
7. Determinands and Water body category test - ERROR

- 1. Mandatory values test - OK
- 2. Record uniqueness test - OK
- 3. Data types test - OK
- 4. Valid codes test - OK
- 5. Reporting country code test - OK
- 6. Water body category test - ERROR
- 7. Determinands and Water body category test - ERROR
- 8. Boundary values - mathematical relation rules test - OK

4. Valid codes test

Tested the correctness of values against the respective codelists. Checked values are CountryCode, observedPropertyDeterminandBiologyEQRCode, parameterWaterBodyCategory, parameterWFDIntercalibrationWaterBodyType, parameterNaturalAWBHMWB, parameterICStatusOfDeterminandBiologyEQR, resultObservationStatus.

- **BLOCKER** - some of the values do not exist in the respective code lists.

	Element name	Incorrect values	Number of records detected
☐	observedPropertyDeterminandBiologyEQRCode	EEA_13-04-7	15

Instead of using EEA_13-04-7 InvertebrateEQR_E – code EEA13_01-4 InvertebrateEQR_G should have been used.

Vocabulary: *Observed property - biology EQR determinands*

Id	Label	Status
EEA_11-01-8	PhytoplanktonEQR_G	Deprecated - retired
EEA_11-02-9	PhytoplanktonEQR_H	Deprecated - retired
EEA_11-03-0	PhytoplanktonEQR_A	Deprecated - retired
EEA_11-04-1	PhytoplanktonEQR_E	Valid
EEA_11-08-5	PhytoplanktonEQR	Valid
EEA_121-01-7	MacroalgaeEQR	Valid
EEA_122-02-1	AngiospermsEQR	Valid
EEA_123-01-3	MacrophyteEQR_G	Deprecated - retired
EEA_123-02-4	MacrophyteEQR_H	Deprecated - retired
EEA_123-03-5	MacrophyteEQR_A	Deprecated - retired
EEA_123-04-6	MacrophyteEQR_E	Valid
EEA_124-01-6	PhytobenthosEQR_G	Deprecated - retired
EEA_124-02-7	PhytobenthosEQR_H	Deprecated - retired
EEA_124-03-8	PhytobenthosEQR_A	Deprecated - retired
EEA_124-04-9	PhytobenthosEQR_E	Valid
EEA_13-01-4	InvertebrateEQR_G	Valid
EEA_13-02-5	InvertebrateEQR_H	Deprecated - retired
EEA_13-03-6	InvertebrateEQR_A	Deprecated - retired
EEA_13-04-7	InvertebrateEQR_E	Deprecated - retired
EEA_13-05-8	InvertebrateEQR	Valid

https://dd.eionet.europa.eu/vocabulary/wise/ObservedPropertyBiologyEQR

6. Monitoring site identifier reference test - BiologyEQRData

WARNING - some of the monitoringSiteIdentifier values are missing in the reference list. Please assure that it is not due to an error and that they are reported under WFD, or report them under WISE Spatial data reporting.

- 1. Mandatory values test - OK
- 2. Record uniqueness test - OK
- 3. Data types test - OK
- 4. Valid codes test - OK
- 5. Monitoring site identifier format test - OK
- 6. Monitoring site identifier reference test - WARNING
- 7. Water body category test - OK
- 8. Reference year test - OK
- 9. Sampling period test - OK
- 10. Result values - limits test - OK
- 11. Determinands and Water body category test - OK

Period during WFD 2nd RBMP reporting of monitoring sites

Tested presence of the monitoringSiteIdentifier and its respective monitoringSiteIdentifierScheme in the official reference list. The list has been created from the previously reported data on monitoring sites.
Due to the ongoing reporting of WFD data, which includes also update of the monitoring sites, the detected discrepancies are currently not considered as errors. They will be considered as blocker errors in the future reporting cycles.

monitoringSiteIdentifier	monitoringSiteIdentifierScheme	number of records
BG1IS00431MS280	euMonitoringSiteCode	1
BG3AR00085MS0282	euMonitoringSiteCode	1
BG3AR00761MS0263	euMonitoringSiteCode	1
BG3MA00613MS0700	euMonitoringSiteCode	1

The 4 monitoring sites have been reported in WFD spatial data

monitoringSiteIdentifier	monitoringSiteIdentifierScheme	number of records
SI815	euMonitoringSiteCode	1
SI865	euMonitoringSiteCode	1

*The 2 monitoring sites have **not** been reported in WFD spatial data – and EEA does not know the name, location and its related WaterBodyCode*

6. Monitoring site identifier reference test - BiologyEQRData

BLOCKER - some of the monitoringSiteIdentifier values are missing in the reference list.

Please assure that it is not due to an error and that they are reported under WFD (scheme: euMonitoringSiteCode), or report them under WISE Spatial data reporting (scheme: eionetMonitoringSiteCode).

- 1. Mandatory values test - OK
- 2. Record uniqueness test - OK
- 3. Data types test - OK
- 4. Valid codes test - OK
- 5. Monitoring site identifier format test - OK
- 6. Monitoring site identifier reference test - BLOCKER
- 7. Water body category test - OK
- 8. Reference year test - OK
- 9. Sampling period test - OK
- 10. Result values - limits test - OK
- 11. Determinands and Water body category test - OK

6. Monitoring site identifier reference test

Tested presence of the monitoringSiteIdentifier and its respective monitoringSiteIdntifierScheme in the official reference list. The list has been created from the previously reported data on monitoring sites.

monitoringSiteIdentifier	monitoringSiteIdentifierScheme	number of records
IEGBNIIENW_36_272	euMonitoringSiteCode	2
IEGBNIIENW_36_445	euMonitoringSiteCode	2
IEGBNIIENW_38_693	euMonitoringSiteCode	1
IEGBNISH_26_689	euMonitoringSiteCode	2
IESW_22_210	euMonitoringSiteCode	2
IEWE_32_452	euMonitoringSiteCode	2

monSiteId	Status	monSiteScheme	Label
IEMLNW_36_272_0010_S	stable	euMonitoringSiteCode	PB_0010:_M_1:_LIT_0010;_SHORE
IEMLNW_36_272_0030_S	stable	euMonitoringSiteCode	NW_36_272_M_3
IEMLNW_36_272_0040_S	stable	euMonitoringSiteCode	NW_36_272_M_4
IEMLNW_36_272_0050_S	stable	euMonitoringSiteCode	M_2
IENW_36_272	experimental	eionetMonitoringSiteCode	MUSHLIN (LOUGH)

monSiteId	Status	monSiteScheme	Label
IEMLNW_36_445_0010_OP	stable	euMonitoringSiteCode	MACNEAN LOWER STATION 10
IEMLNW_36_445_0020_S	stable	euMonitoringSiteCode	MCNEAN LWR SURROGATE SHORE S
IEMLNW_36_445_0060_OP	stable	euMonitoringSiteCode	NW_36_445_M_1
IEMLNW_36_445_0070_OP	stable	euMonitoringSiteCode	NW_36_445_M_10
IENW_36_445	experimental	eionetMonitoringSiteCode	MACNEAN LOWER

6. Monitoring site identifier reference test (2013-2017)

BiologyEQRData
- monitoringSiteIdentifier
- monitoringSiteIdentifierScheme

Vocabulary: Monitoring sites
- monitoringSiteIdentifier
- monitoringSiteIdentifierScheme
- status
- label (name)

BiologyEQRData (5929 reported monitoring sites)

- 154 monitoringSiteIdentifier are not in reference list; 12 monitoring sites do not have same monitoringSiteIdentifierScheme (eionetMonitoringSiteCode ≠ euMonitoringSiteCode)
- 5759 montoring sites (monitoringSiteIdentifier & monitoringSiteIdentifierScheme) are equal, of which
  - 5702 montoring sites where status are valid, stable or experimental
  - 57 montoring sites where status are deprecated (retired) or superceeded

6. Monitoring site identifier reference test (2013-2017)

154 monitoringSiteIdentifier are not in reference list

Country	Antal af mon
EE	38
IE	76
PL	20
RO	1
SI	2
UK	17
Total	**154**

12 monitoring sites do not have same monitoringSiteIdentifierScheme (eionetMonitoringSiteCode = euMonitoringSiteCode)

Country	monSiteId
DK	11
RO	1
Total	**12**

57 montoring sites where status are deprecated (retired) or superceeded

Country	monSiteId
EE	2
LT	32
NL	3
PL	2
RO	8
SE	10
Total	**57**

Before 2016 (2013-2015) as they would have been blocked, because not in reference list

Reporting of biological data – years 2013-2017 - next steps

Countries	2013	2014	2015	2016	2017	dCount	River	Lakes
Austria	68	5	27	CR	CR	73	44	29
Belgium	167	142	121	159	92	410	409	1
Bulgaria	Bwq	Bwq	63	60	73	96	93	1
Croatia	31	3	16	28	19	53	49	4
Cyprus	8	8	8	6	12	22	21	1
Denmark	25	23	25	23	6	29	29	
Estonia	57	68	47	26	41	186	176	10
Germany	38	52	29	Bwq	Bwq	66	24	42
Ireland	90	137	136	74	136	324	179	145
Latvia	22	19	19	AD	AD	27	21	6
Lithuania	241	326	320	214	136	730	413	317
Luxembourg			2	3	3	3	3	
Netherlands	118	97	75	B	D	134	41	93
Poland	676	726	755	Bwq	Bwq	1995	1629	366
Romania	122	122	118	AD	AD	123	120	3
Slovakia	23	26	12	13	12	30	30	
Slovenia	14	18	10	16	13	31	18	13
Spain	162	187	64	CR	AD	253	253	
Sweden			138	Bwq	Bwq	138	34	104
United Kingdom	339	1057	269	217	193	1202	1080	120
dCount	**2201**	**3016**	**2254**	**839**	**736**	**5925**	4666	**1255**
Countries that reported before 2013								
Italy								
Finland								
France								
Portugal								
Switzerland								
Norway						B		
EU Member States that have not reported biological data								
Czechia, Greece,Hungary, Malta								
Other countries that have not reported biological data								
Albania, Bosnia-Herzegovina, Iceland, Liechtenstein,								
Montenegro, North Makedonia, Serbia, Kosovo								
Bwq: blocked water quality; AD: after deadline; CR: correction requested								
B: blocked & D: draft								

20 EU countries have reported biological data, most of these countries have reported data for all five years.

Some data are in CDR but not in Waterbase, mainly due to blockers of water quality (Bwq) in the same folders, others have reported later in 2019 After the Deadline (AD); few folders have asked for corrections (CR)
Three years are blocked (B) or in draft (D)

4 EU countries that reported biological data before 2013 have not reported biological data.

4 EU countries have never reported biological data.

2 EEA countries (CH and NO) have not reported 2013-17.

Non WFD countries did not report biological data.

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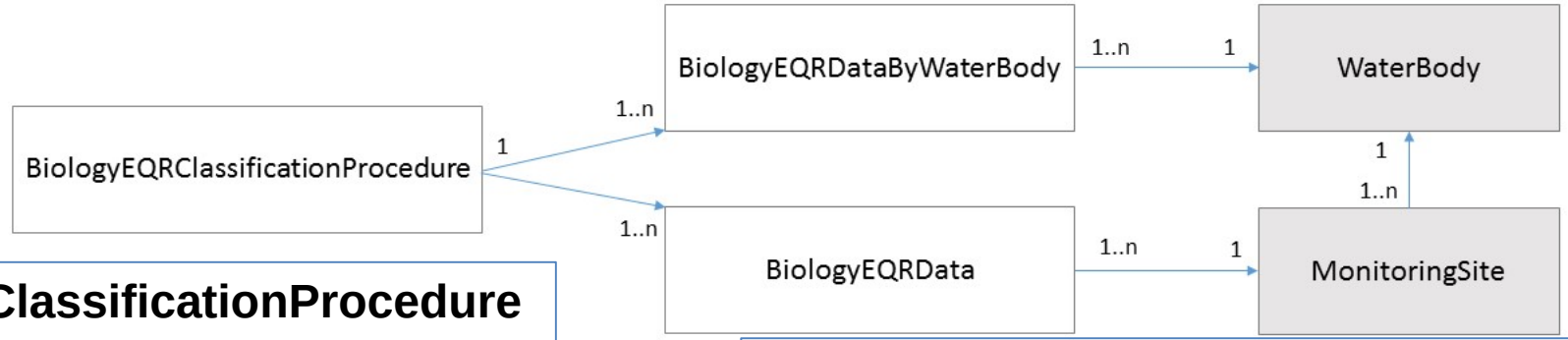
4. 2019 WISE-4 and WISE-2 datacall

2019 data call

- This year EEA are launching WISE-2 for biological data, which will be replacing WISE-4 in future years. WISE-2 has a similar structure to WISE-4 but also
  - allows the reporting by monitoring sites or by water body, and
  - with improved performance and better options for feedback on reported data.
  - In the future comparison with previous years (extra quality control).
- Both WISE-4 and WISE-2 will be open this year, however,
  - Freshwater (rivers and lakes) should be reported via WISE-4
  - Coastal and transitional should be reported via WISE-2 and only with euMonitoringSiteCode in reference list
- EEA's future developments on improvements in reporting and of Quality Controls (QC) and feedback information (dashboards) will be concentrated on WISE-2 biological data.

Reporting of biological data – structure of WISE-4 and WISE-2



BiologyEQRClassificationProcedure

- Country Code
- Determinand code for biology data
- Water body category code
- Water body type code in the WFD
- Water body type in the National Classification System
- Intercalibration System
- Natural, artificial or heavily modified water body
- Intercalibration status of the biological quality element (WISE-4)
- Boundary value between
  - High-Good
  - Good-Moderate
  - Moderate-Poor
  - Poor-Bad
- Description of the biological analytical method (WISE-2)
- Observation status flag
- Remarks

WISE-4 & WISE-2 data dictionaries

BiologyEQRdata / BiologyEQRdatabyWaterBody

- Monitoring site identifier / Water body identifier
- Monitoring site identifier scheme / Water body identifier scheme
- Determinand code for biology data (BQE)
- Water body category code
- Water body type in the National Classification System
- Natural, artificial or heavily modified water body (WISE-2)
- Classification system (WISE-2)
- Reference period (year)
- Sampling period
- Ecological status class
- Number of samples
- Ecological quality ratio value (resultEQRValue)
- Normalised ecological quality ratio value (resultNormalisedEQRValue)
- Observation status flag
- Remarks

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WISE-4 & WISE-2 data dictionaries

2019 data call – WISE-2 and WISE-4

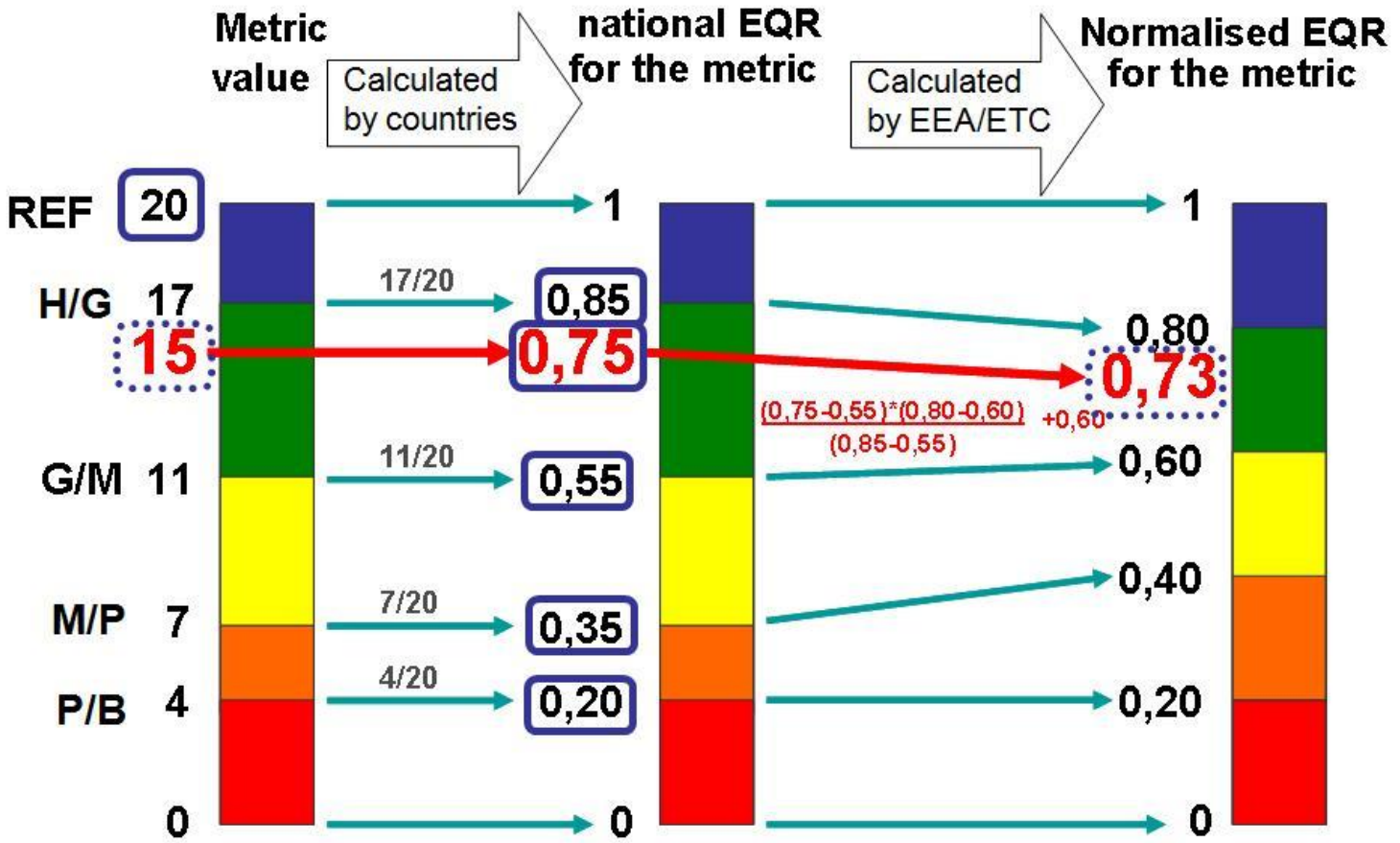
- **BiologyEQRClassificationProcedure** (Type specific boundaries between H-G-M-P-B); **BiologyEQRdata (**monitoring sites**) or BiologyEQRdatabyWaterBody**
- **Where** (Monitoring site Identification, water body identification, category (rivers, lakes, groundwater etc.))
- **When** (Reference period (year); sampling period (period))
- **What** (*Determinand code for biology data (BQE) -LW: Macrophyte and Phytoplankton; RW: Invertebrate and Phytobenthos TRAC: ?*)
- **Result** (Ecological quality ratio value (resultEQRValue) and Normalised ecological quality ratio value (resultNormalisedEQRValue))
- **Parameter** (Water body type by WFD or by national system, boundaries H-G-M-P-B)
- **How** (biological analytical method)
- **Obs** (remarks)

Reporting of biological data

Reporting of biological metric values and class boundaries in EQR scale

The figure illustrates the 3 scales for biological metric values and classification systems:
(1) original metric value, (2) national EQR and (3) normalised EQR.
Metric values in the normalised EQR scale are comparable across countries, and will therefore be used in graphs etc.
Data providers are asked to report as follows (as marked by the symbol ☐):
- metrics value in the national EQR scale (where possible)
- class boundaries in the national EQR scale
- reference conditions in the original metric value scale

This way, EEA/ETC can calculate metric values and class boundaries into the two other scales (as marked by ⬚).



2019 data call – WISE-2 & WISE-4

- Preparation of the data set
- WISE SoE helpdesk functions
- Quality controls (warnings, errors, blockers)
- How to solve problems if a file has blockers?
- Release of the folder.

Reading the WISE SoE Reportnet Guidance is a good cookbook for the reporting process - https://cdr.eionet.europa.eu/help/WISE_SoE/wise4/WISE_SoE_ReportnetGuidance_v1.8_2018-10-01.pdf

2019 data call – two important webpages

https://cdr.eionet.europa.eu/help/WISE_SoE

https://cdr.eionet.europa.eu/help/WISE_SoE/wise4

WISE SoE

The following material is intended for national reporters of WISE SoE data.
It shows how to use Reportnet tools during the reporting process and how to improve the qua

Dataflow specific instructions

- WISE SoE - Emissions (WISE-1)
- WISE SoE - Biological data in rivers, lakes, transitional and coastal waters (WISE-2)
- WISE SoE - Water Quantity (WISE-3)
- WISE SoE - Water Quality (WISE-4)
- WISE - Spatial Data (WISE-5)
- WISE SoE - Water Quality (WISE-6)

WISE dataflows

- WISE SoE Data Flows
- Water Framework Directive
- Floods Directive
- Bathing Water Directive

WISE SoE - Water Quality (WISE-4)

The following material is intended for national reporters of WISE-4 data.
It describes how to use Reportnet during the reporting process and how to improve the quality of deli

Dataflow specific instructions

- Reporting obligation
- Data dictionary
- WISE SoE - Water Quality (WISE-4) Reporters
- Reporting guidance for Watch list 2017
- Reportnet Guidance - Units of measure for dioxin-like substances
- Rules for automatic quality control (QC) - Upper and lower limits
- WISE SoE Quality control rules
- WISE SoE Reportnet guidance

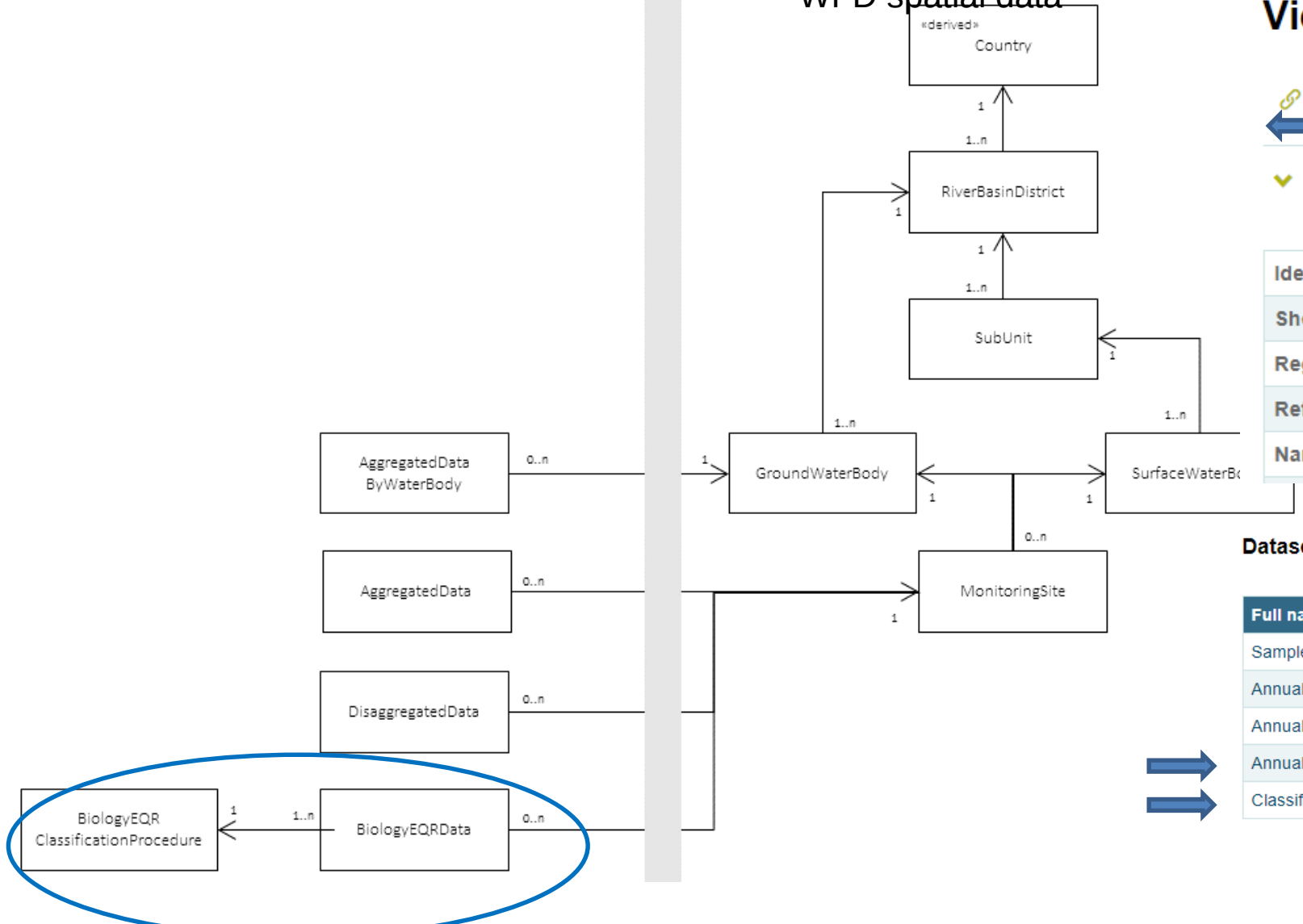
WISE-2 (not fully updated)
https://cdr.eionet.europa.eu/help/WISE_SoE/wise2

2019 data call - WISE-4 – data dictionary

WISE SoE Water Quality (WISE-4)

WISE Spatial Data (WISE-5)

WFD spatial data



http://dd.eionet.europa.eu/datasets/latest/WISE-SoE_WaterQuality

View dataset definition

Data model | Tables

Exports

Identifier	**WISE-SoE_WaterQuality**
Short name	WISE SoE - Water Quality
Registration status	Released 21 November 2017
Reference URL	http://dd.eionet.europa.eu/datasets/latest/WISE-
Name	WISE SoE - Water Quality (WISE-4)

Dataset tables

Full name	Short name
Sample data by monitoring site	DisaggregatedData
Annual statistics data by monitoring sit ...	AggregatedData
Annual statistics data by water body	AggregatedDataByWaterBody
Annual biology EQR data by monitoring si ...	BiologyEQRData
Classification procedure for ecological ...	BiologyEQRClassificationProcedu

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2019 data call – Preparation of the data set and steps

- Using the Data Dictionary
- WISE-4 http://dd.eionet.europa.eu/datasets/latest/WISE-SoE_WaterQuality or WISE-2 http://dd.eionet.europa.eu/datasets/latest/WISE-SoE_Biology
- Export the needed template(s) and codelists (if needed)
- Follow the instructions in the WISE SoE Reportnet Guidance the latest version can always be found here https://cdr.eionet.europa.eu/help/WISE_SoE/wise4
- Test your files in the https://cdrsandbox.eionet.europa.eu/
  - Username: datareporter
  - Password: datareporter
- Correct blockers, errors and check warnings – ask the WISE SoE Helpdesk for help
- Upload the files – cleanup and delete superceeded folders.

2019 data call – 1. Level qualiy controls

- Mandatory values test. **Tests the presence of the mandatory values,** e.g. monitoringSiteIdentifier, determinandCode, year etc.
- Record uniqueness test. **Tests the uniqueness of the records**. **No duplicate records can exist**.
- Data types test. **Tests that the format of reported values matches the Data Dictionary specifications**.
- Valid codes test. **Tests the validity of the values against the respective code lists**.
- **Monitoring site identifier reference test**. Tests the presence of the monitoringSiteIdentifier and its respective monitoringSiteIdentifierScheme in the WISE register. The list has been created from previously reported data on monitoring sites.

2019 data call – next steps

- Announcement letter 17 July 2019 – New letter is drafted
- **The call for spatial data (WISE-5) is open from now until October 31st 2019.**
  - **Important to check that the monitoring sites you want to report data from are in the monitoringSite vocabulary http://dd.eionet.europa.eu/vocabulary/wise/MonitoringSite/view**
- **The call for the other WISE dataflows will run from Monday 14th October 2019 until Friday 17th January 2020.**
  - **WISE-2 (and WISE-6) will open in beginning of November**
- **Download templates for data; - test the data set in https://cdrsandbox.eionet.europa.eu/**
- **If there are Blockers that prevent release of the folder**
  - **correct the issues;**
  - **contact the helpdesk for help; or**
  - **split the data set into two files (one data set without Blockers and a separate file with problematic records).**
- **Upload the files to CDR and clean-up in CDR by deleting folders that have been superceeded.**

Discussion, comments and questions?

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Thanks to Member States, reporters, ETC, IT consultants and colleagues at EEA