

Country fiche: Sweden

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1. Introduction

The European Environment Agency (EEA) manages water data and information reported either voluntarily by EEA member countries (water quality in groundwater, rivers, lakes; emissions of pollutants and water quantity); and data reported via REPORTNET under EU water directives: Water Framework Directive (WFD); Bathing Water Directives (BWD) and Urban Waste Water Treatment Directive (UWWTD), Nitrate Directive (NiD) and Drinking water Directive (DWD). Reported data are processed at EEA and stored in water data center. They can be also accessible on EEA home page. Data reported under Nitrate Directive (NiD) and Drinking water Directive (DWD) are not yet available at EEA water data center home page.

The aim of the country fiches is both to clean-up and correcting errors in the data member countries now have reported for 15-20 years. Some errors have been introduced by the EEA and its Topic Centres handling of the reported data; others is due to errors introduced in member countries reporting.

Another aspect is to improve the spatial and temporal coverage and to ensure that the relevant determinands are reported.

- In some cases member countries will be asked for more stations to increase the spatial coverage or density of stations; or questions on why data have not been reported from some of the RBDs.
- EEA water quality indicators are for trend assessments based on consistent time series with some gap filling. For a single country consistent time series are established for the defined period (e.g. 1992-2012; or 2000-2012) with some gap filling(e.g. up to 3 years) and only stations with values for all years in the defined period are used. This ensure that any trend is because of change in the observations and not in the stations included.
- In the current data set the reporting of some high priority determinands has stopped or there has been change in the determinands in the database e.g. cadmium changed to dissolved cadmium. EEA wants to clarify if these changes are real changes or it has been errors/misinterpretations introduced in compiling the databases. In addition, the aim is to ensure that the high priority determinands (e.g. nitrate or orthophosphate) have as complete coverage as possible.

The last part is on ensuring linkage between the different Waterbases by having a common coding system (Water Body ID) and linked to different reference layers such as the RBDcodes.

2. Reporting obligations from European Water Directives

The European Environment Agency (EEA) holds inland data sets reported either voluntarily by EEA member countries (water quality in groundwater, rivers, lakes; emissions of pollutants and water quantity); and data reported via EU water directives: Water Framework Directive; Bathing Water Directives; Urban Waste Water Treatment Directive, Nitrate Directive and Drinking water Directive (NiD and DWD data not yet available at EEA water data centre home page).

Sweden reporting of data in relation to EU water directives have in the last years been uploaded to the [Reportnet](#) Central Data Repository (CDR [Sweden](#)) and below is listed an overview of Sweden's reporting in relation to water directives (Remark this is an overview of what is available in CDR and Sweden may have reported by other format directly to the European Commission).

- [Bathing Water Directive \(2006/7/EC\)](#) [Link 1](#) , [Link 2](#), [Link 3](#)– Sweden reporting under the Bathing Water Directive is further described in the annual national report published by EEA available at [Link](#) and the data is available here [Link](#)
- [Drinking Water Directive Report \(98/83/EC\)](#) - [Link](#). Data related to two “3 yearly report on quality of water for human consumption” are available for the period 2005-2007 and 2008-2010.
- [Floods Directive](#) Preliminary flood risk assessment
 - Floods Directive Unit of Management and Competent Authorities. [Link](#), Swedish Competent Authority and Units of Management,
 - Preliminary flood risk assessment [Link](#).
- [Nitrates Directive \(91/676/EEC\)](#) - [Link](#). Report/data related to the Nitrate Directive reporting period 2004-2007 and 2008-2011.
- [Urban Waste Water Treatment Directive](#)
 - Monitoring (91/271/EEC) [Art 15] - [Link](#). 2011 UWWT data plus archive over previous reporting.
 - Article 16 - Situation report – [Link](#). No data in CDR yet.
 - Article 17 - National Implementation Programme – [Link](#).
- [Water Framework Directive](#)
 - Art. 3 reporting (River Basin Districts and Competent Authorities) – [Link](#).
 - Art. 5 reporting – [Link](#).
 - Art. 8 (Monitoring programmes) – [Link](#).
 - Art. 13 (River Basin Management Plans) – [Link](#).
 - Art. 15.3 Progress on implementation of programmes of measures – [Link](#).

3. Overview on WFD reporting in Sweden



Figure 1.1: Map of River Basin District

- International River Basin Districts (within EU)
- International River Basin Districts (outside EU)
- National River Basin Districts (within EU)
- Coastal Waters
- Countries (outside EU)

Source: WISE, Eurostat (country borders)

Source: Swedish WFD implementation report

http://ec.europa.eu/environment/water/water-framework/pdf/CWD-2012-379_EN-Vol3_SE.pdf

RBD	Name	Size ³ (km ³) (Area including coastal waters shown in brackets)	Countries sharing RBD
SE1**	Bothnian Bay RBD (Bottenviken)	147000 (155000)	FI, NO
SE1TO	Torne river (managed as part of SE1)		FI
SENO1104	Troms (managed as part of SE1)		NO
SENO1103	Nordland (managed as part of SE1)		NO
SENO1102	Troendelag (managed as part of SE2)		NO
SE2**	Bothnian Sea RBD (Bottenhavet)	141000 (147000)	NO
SE3**	North Baltic RBD (Norra Östersjön)	37000 (44000)	-
SE4**	South Baltic RBD (Södra Östersjön)	54000 (65000)	-
SE5**	Skagerrak and Kattegat RBD (Västerhavet)	69000 (73000)	NO
SENO5101	Glomma (managed as part of SE2 and SE5)		NO

Table 1.1: Overview of Sweden's River Basin Districts

Note: ** Main RBDs shown. All the small international parts of these RBDs are reported in separate envelopes in CDR (<http://cdr.eionet.europa.eu/se/ewfdart13>), but the RBMPs are the same as those for the main RBDs, and are adopted and reported at the same dates.

Source: River Basin Management Plans reported to WISE⁴: <http://cdr.eionet.europa.eu/se/ewfdart13>

The WISE-WFD database contains data from River Basin Management Plans reported by EU Member States according to article 13 of the Water Framework Directive. A number of aggregation

queries provide an overview on number and statistics of water bodies, on status assessments and pressures and impacts for both surface water bodies and groundwater bodies.

The following queries are available:

- Numbers and statistics of surface water bodies
- Ecological and chemical status of surface water bodies
- Significant pressures affecting surface water bodies
- Impacts on surface water bodies
- Numbers and statistics of groundwater bodies
- Chemical and quantitative status of groundwater bodies

The information is aggregated at country, river basin district (RBD) or in some cases even RBD-subunit level and can be downloaded [here](#).

4. Eionet priority data flows – SoE data (Waterbase)

The EEA Eionet priority data flows identify a set of agreed, stable, well-defined objectives to provide a focus for countries when they are putting procedures in place for regular reporting. Sweden has in the period from 2000 to 2014 reported on water quality in rivers, lakes and groundwater. Information on water quantity has been reported in 2005 and 2006, and from 2010 to today; but the delivered data for Water quantity do not meet the requirements for a high score. Emissions are reported since 2009.

Sweden – performance of EEA priority inland data flows

Data flow name	Progress 2000	Progress 2001	Progress 2002	Progress 2003	Progress 2004	Progress 2005	Progress 2006	Progress 2007	Progress 2008	Progress 2009	Progress 2010	Progress 2011	Progress 2012
EWN1: River quality													
EWN2: Lake quality													
EWN3: Groundwater quality													
EWN4: Water quantity	N/A	N/A	N/A	N/A	N/A			N/A	N/A	N/A			
WISE1: Water emission quality	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A				

Data flow name	Status	Progress 2012-2013	Progress 2013-2014	Remark
EWN1: River quality	2014-02-25			Data delivered on time and in the requested format. Monitoring stations with coordinates provided. Data on 5 preferred SoE nutrient delivered. Hazardous substances data delivered. Proxy pressures data provided. Some long time series on preferred SoE available. Biology data delivered.
EWN2: Lake quality	2014-02-27			Data delivered on time and in the requested format. Monitoring stations with coordinates provided. Data on 5 preferred SoE nutrient delivered. Hazardous substances data delivered. Proxy pressures data provided for almost all stations. Long time series on preferred SoE nutrients available. Biology data delivered.
EWN3: Groundwater quality	2014-02-04			Data delivered on time and in the requested format. Data for 3 of the 5 requested chemical substances provided, all in disaggregated form. Monitoring sites with coordinates and links to GW bodies provided. GIS data for GW bodies and list of GW bodies with most important attributes and pressure data provided.
EWN4: Water quantity (1)	2014-02-07			Data delivered on time. Reported both regional and point data. Reported: 5 regional parameters at RBD level for 90% of the RBDs; groundwater data for 50% of the RBDs.
WISE1: Emissions to water (1)	2014-02-03			Data delivered on time. Emission discharges from point sources are provided for 8 nutrients or organic matter determinands and 32 hazardous substances. Emission discharges from diffuse sources are provided for 2 determinands. 7 determinands from diffuse sources reported in past years.

Note: Further information and scoring criteria is available here:

<http://www.eionet.europa.eu/dataflows/pdf2013/history?country=SE>
http://www.eionet.europa.eu/dataflows/pdf2013/country_summary?country=SE

4.1 Rivers and Lakes

Note: all queries (which are still under development) and outcomes on rivers and lakes can be found here: http://www.tcvoe.si/wise_soe_country_fiche/#

In Chapters 2.1.1 and 2.1.4 reporting on nutrients, organic matter and general physico-chemical determinands is illustrated. For simplification only the term nutrients is used in the descriptions.

Rivers – Nutrients, Organic Matter and General Physico-Chemical Determinands

Issues to be clarified

- Have data for all SoE nutrients of highest priority¹ been reported consistent over the years?
- Are stations with monitoring of highest priority nutrients covering all RBDs?
- Are longer time series (since 1992) for preferred nutrients available?
- Are stations codes consistent and is it possible to link the stations with WFD water bodies?
- Member State specific issues, if such occur

Sweden has been reporting data from nutrients in rivers from 1965 on. The table below provides an overview by determinands of the number of river stations per year for the period 1992 to 2012. In Sweden total oxidised nitrogen and total nitrogen were reported, nitrate was not, and reporting on total oxidised nitrogen stopped in 2011. Very few stations have been reported with BOD7

¹ Determinands of highest priority in terms of EEA's needs are determinands which are or will be used in EEA assessments (e.g. CSI).

measurement. And there was a change in 2003/2004: until 2003 CODMn was reported, after 2003 CODCr.

Table 1: Number of river stations per determinand/year (nutrients of highest EEA priority)

Determinand_Nutrients	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Nitrate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0
Total oxidised nitrogen	113	113	113	113	113	113	113	113	113	114	114	115	113	115	115	119	119	117	118	117	117
Total nitrogen	114	114	114	114	114	114	113	113	113	114	114	115	113	115	115	95	78	75	120	118	118
Orthophosphates	113	113	113	113	113	113	113	113	113	114	114	115	112	114	115	117	116	117	118	116	117
Total phosphorus	114	114	114	114	114	114	113	113	113	114	114	115	113	115	115	119	119	117	120	118	118
BOD7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	3	1	1	1
Total organic carbon (TOC)	72	76	76	76	88	88	89	89	91	112	112	115	112	115	115	118	117	116	118	116	118
CODMn	0	0	0	0	0	0	0	0	0	0	0	0	96	96	96	97	94	91	93	92	90
CODCr	113	113	113	113	113	113	112	112	112	101	101	96	0	0	0	0	0	0	0	0	0
Total ammonium	113	113	113	113	113	113	113	113	113	113	114	114	115	113	115	118	117	117	119	117	117

Note: In the current data set the reporting of some high priority determinands has stopped or there has been a change in the determinands in the database (e.g. CODMn/CODCr). EEA wants to clarify if these changes are real changes or it has been errors/misinterpretations introduced in compiling the databases. In addition, the aim is to ensure that the high priority determinands (e.g. nitrate or orthophosphate) have as complete coverage as possible.

Table 2 shows the number of river stations by River Basin Districts which reported on nutrients for the period from 1992 – 2012. Sweden reported data from around 127 river stations for nutrients in 7 RBDs in this period. The reporting on nutrients was stable during this period.

Table 2: Number of river stations for nutrients by River Basin Districts for the period 1992 – 2012

RBDcode	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
SE1	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
SE1TO	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
SE2	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	21	20	21	21	21	21
SE3	11	11	11	11	11	11	11	11	11	11	11	12	12	12	12	9	9	9	9	8	8
SE4	26	26	26	26	26	26	25	25	25	26	26	26	23	26	26	32	32	30	31	31	31
SE5	34	34	34	34	34	34	34	34	34	34	34	34	35	34	34	34	35	34	36	35	36
SENO5101	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	114	114	114	114	114	113	113	113	113	114	114	115	113	115	115	119	119	117	120	118	119

Note: One aspect of the country fiches is to improve the spatial coverage and ensure that stations are reported for all RBDs.

The figure below illustrates the river stations with nutrient reporting in 2013 (covering the year 2012) in Sweden. From this it can be seen that the density of reported monitoring stations is not very high.

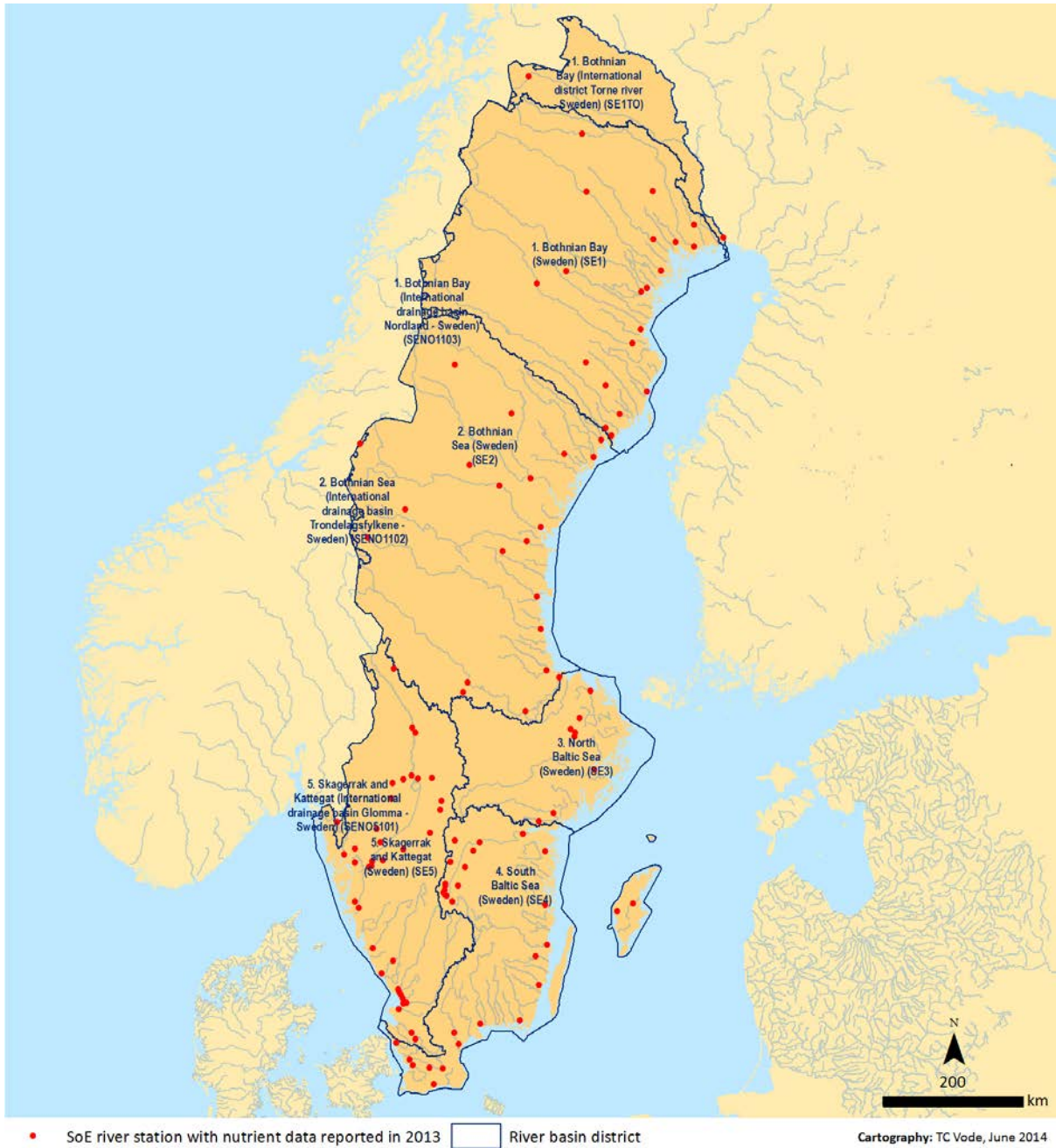


Figure 1: SoE river stations with nutrient data reported in 2013 in Sweden's RBDs

For the period 1992 to 2012 Sweden has reported around 127 river stations with monitoring of total oxidised nitrogen, nearly all stations have a very long period - 21 years - of observation (Table 3).

Table 3: Length of total oxidized nitrogen time series in Sweden for period 1992 – 2012 (value in the table fields is number of stations with x years' time series)

RBDcode	1 yr	2 yr	3 yr	4 yr	5 yr	6 yr	7 yr	8 yr	9 yr	10 yr	11 yr	12 yr	13 yr	14 yr	15 yr	16 yr	17 yr	18 yr	19 yr	20 yr	21 yr
No of stations with time series	3	2	0	0	0	7	0	0	0	1	0	4	0	0	5	2	0	0	1	0	102

with x years length																			
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Note: EEA water quality indicators are used for trend assessments based on consistent time series with some gap filling. For a single country consistent time series are established for the defined period (e.g. 1992-2012; or 2000-2012) with some gap filling (e.g. up to 3 years) and only stations with values for all years in the defined period are used. This ensures that any trend is because of change in the observations and not in the stations included.

Questions to Sweden regarding the reporting on nutrients in rivers:

- CODCr has been changed to CODMn in 2004 – what is the reason for this, was there a change in the methodology?
- Not much data on BOD have been reported, are there more stations where BOD is measured? Can they be redelivered?
- Why did reporting on total oxidized nitrogen stop in the last years? Can data be redelivered?
- Can more stations be reported to increase spatial coverage?

DRAFT

Rivers – hazardous substances

Issues to be clarified:

- Have data for all SoE preferred² hazardous substances which are monitored in the Member State been reported and consistent for the years in which data are available?
- Are stations with monitoring of SoE preferred hazardous substances covering all RBDs?

Sweden has been reporting data on hazardous substances in rivers since 2001. In Table 4 there is an overview on the reporting of some preferred hazardous substances (metals and some pesticides) only as example. In general many data have been reported on metals and pesticides, but most stations are used to report on metals. The reporting on metals, esp. heavy metals, was very stable during this period, reporting on pesticides (and some other substances) includes only few stations.

Table 4: Hazardous substances (examples for preferred substances) in rivers by number of stations and year

Determinand_HazSubs	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Cadmium	71	69	72	72	72	71	83	81	70	68	72	89	96
Mercury	39	39	40	40	40	40	63	65	53	52	54	67	67
Lead	71	71	72	72	72	71	83	81	70	71	72	89	96
Nickel	70	70	71	72	72	71	83	81	70	71	72	89	96
Chromium	0	0	71	72	72	71	83	81	70	71	72	89	96
Manganese and its compounds	0	0	73	70	70	66	82	81	69	76	76	95	105
Iron and its compounds	0	0	73	70	70	69	82	81	69	76	76	96	105
Zinc	72	72	73	73	73	69	84	82	71	72	73	90	97
Cobalt and its compounds	0	0	69	69	69	69	80	78	67	68	69	89	96
Aluminium and its compounds	0	0	70	70	70	70	81	79	3	0	0	91	96
Molybdenum and its compounds	0	0	1	1	1	1	6	9	10	10	18	0	18
Arsenic	0	0	71	72	72	71	83	81	70	71	72	89	96
Vanadium and its compounds	0	0	69	69	69	69	79	76	66	66	69	87	94
Copper	72	72	73	73	73	69	84	82	71	72	73	90	97
Diuron	2	2	2	2	2	1	2	2	0	2	2	2	2
Trifluralin	2	2	2	2	2	0	2	2	0	2	2	2	2
Desisopropylatrazine	0	0	0	0	0	0	0	0	0	2	2	2	2
Propyzamide	2	2	2	2	2	0	0	0	0	2	2	2	2
Metamitron	0	0	0	0	0	0	0	0	0	2	2	2	2
Atrazine	2	2	2	2	2	0	2	2	0	2	2	2	2
Fenitrothion	0	0	0	0	2	0	0	2	0	2	2	2	2
Alpha-Endosulfan	2	2	2	2	2	0	2	2	0	2	2	2	2
Dichlorprop (2,4-DP)	0	0	0	0	0	0	0	0	0	2	2	2	2

Note: In the current data set the reporting of some high priority determinands has stopped or there has been

² The lists of preferred substances are based on legislation, spatial and temporal availability. Preferred substances are also covered by Hazardous substances report regularly.

change in the determinands in the database. EEA wants to clarify if these changes are real changes or it has been errors/misinterpretations introduced in compiling the databases. In addition, the aim is to ensure that the high priority determinands (e.g. priority substances) have as complete coverage as possible.

- An overview of reporting on supportive determinands will be added in final versions of country fiches -

Table 5 shows the number of river stations by River Basin Districts which reported on preferred hazardous substances for the period from 2001 – 2012. In this period Sweden reported data from 99 river stations. The reporting was stable in the Swedish RBDs.

Table 5: Number of values for preferred hazardous substances by River Basin Districts

RBDcode	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
SE1	17	17	17	17	17	17	19	18	16	16	16	18
SE1TO	2	2	2	2	2	2	2	2	2	2	2	2
SE2	18	18	18	18	18	18	19	19	18	18	18	19
SE3	6	6	7	7	7	7	7	7	6	6	6	7
SE4	13	13	13	13	13	13	18	21	16	17	17	22
SE5	18	18	18	18	18	17	21	18	16	16	17	24
SENO5101	1	1	1	1	1	1	1	1	1	1	1	1
Total	75	75	76	76	76	75	87	86	75	76	77	93

Questions to Sweden regarding the reporting on hazardous substances in rivers:

- Does data exist for determinands to fill the gaps in reporting?
- Are data from 1992 to 2000 available?
- Are there more stations for preferred determinands available that have so far not been reported? Can the data be resubmitted for stations / years which have not been reported so far?

Rivers – Biology

Issues to be clarified:

- Are status classes reported? If not, why not?
- Are EQR values reported? If not, why not?
- Can reported EQR values be normalised? If not, why not?
- Are stations with monitoring covering all RBDs of the Member States?

In general care should be taken to ensure that the stations reported are geographically representative, as well as representative in terms of the whole range of ecological status classes for each major impact type, and that all major river types are included.

Sweden reported river biology data (both phytoplankton and macroinvertebrates) for all years 2010-2012. Sweden reports status classes as well as EQR values, which can be normalised with few exceptions.

The number of stations (205) for both phytoplankton and macroinvertebrates dropped by ca. 35% from 2010 to 2011. For the two BQEs, respectively 67% and 61% of the stations are reported for two or more years. For macroinvertebrates, data representing three different impact types have been reported from all stations. Aggregation period is Autumn.

Table 6: Number of river biology records per determinand, aggregation period and year.

BQE	CountryCode	DeterminandBiology	ImpactType	AggregationPeriod	2010	2011	2012
PB	SE	PhytoplanktonEQR_E	E	Autumn	23	16	14
MI	SE	InvertebrateEQR_A	A	Autumn	22	14	15
MI	SE	InvertebrateEQR_E	E	Autumn	22	13	15
MI	SE	InvertebrateEQR_G	G	Autumn	22	14	15

Table 7: Number of river biology records per BQE, RBD and year.

BQE	CountryCode	RBDcode	2010	2011	2012
PB	SE	SE1	7	5	5
PB	SE	SE1TO	1	1	1
PB	SE	SE2	4	3	3
PB	SE	SE3	3	2	1
PB	SE	SE4	4	2	1
PB	SE	SE5	4	3	3
MI	SE	SE1	18	9	12
MI	SE	SE1TO	3	2	3
MI	SE	SE2	12	9	9
MI	SE	SE3	9	6	6
MI	SE	SE4	12	6	6
MI	SE	SE5	12	9	9

Questions to Sweden regarding the reporting on biology in rivers:

- Aggregation period in Sweden is Autumn, but should preferably be reported as Annual (cf. data dictionary). Could this be changed?

Lakes – Nutrients, Organic Matter and General Physico-Chemical Determinands

Issues to be clarified:

- Have data for all SoE nutrients of highest priority³ been reported consistent over the years?
- Are stations with monitoring of highest priority nutrients covering all RBDs of the Member States?
- Are longer time series (since 1992) for preferred nutrients available?
- Are stations codes consistent and is it possible to link the stations with WFD water bodies?
- Member State specific issues, if such occur

Sweden has been reporting data from nutrients in lakes from 1965 on. The table below provides an overview by determinands of the number of lake stations per year for the period 1992 to 2012. In 2007 and 2008, only few stations were used to report on nutrients. Very few information was reported on nitrate and total oxidised nitrogen, but instead on total nitrogen. Very few stations were reported for BOD5 and CODMn. Also Secchi depths may become a relevant determinand for lakes and reservoirs, which has been seldom reported.

Table 8: Number of lake stations per determinand/year (nutrients of highest priority)

Determinand_Nutrients	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Nitrate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total oxidised nitrogen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	115	0
Total nitrogen	141	141	141	164	174	181	178	181	181	181	181	181	181	181	180	4	6	14	115	116	120
Orthophosphates	141	141	141	164	174	181	178	181	181	181	181	181	181	180	180	4	19	119	115	116	119
Total phosphorus	141	141	141	164	174	181	178	181	181	181	181	181	181	181	180	4	19	120	115	116	120
Chlorophyll a	5	5	5	5	129	139	130	123	123	128	128	126	131	125	128	4	18	112	5	109	117
BOD7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	1
Total organic carbon (TOC)	137	137	137	160	173	181	177	180	181	181	181	181	181	181	179	4	18	118	114	114	117
CODMn	0	0	0	0	0	0	0	0	0	4	4	4	2	4	4	0	0	3	2	2	2
Total ammonium	141	141	141	164	174	181	178	181	181	181	181	181	181	181	180	4	18	118	114	115	119

Note: In the current data set the reporting of some high priority determinands has stopped or there has been a change in the determinands in the database. EEA wants to clarify if these changes are real changes or it has been errors/misinterpretations introduced in compiling the databases. In addition, the aim is to ensure that the high priority determinands (e.g. nitrate or orthophosphate) have as complete coverage as possible.

Table 9 shows the stations which reported on nutrients for the period from 1992 – 2012. Data are reported from 196 stations in this period for Sweden's RBDs. In 2007 and 2008 only few stations were reported. Fewer stations were reported in years 2009 – 2012 than in the period before 2007.

Table 9: Number of lake stations for nutrients by River Basin Districts

³ Determinands of highest priority in terms of EEA's needs are determinands which are or will be used in EEA assessments (e.g. CSI).

RBDcode	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
SE1	13	13	13	12	16	17	17	17	17	17	17	17	17	17	17	1	1	16	16	16	16
SE1TO	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0	3	3	3	2
SE2	24	24	24	26	27	28	28	28	28	28	28	28	28	28	28	0	4	20	19	19	20
SE3	22	22	22	27	25	27	25	27	27	27	27	27	27	27	27	0	2	20	19	19	20
SE4	36	36	36	42	47	49	48	49	49	49	49	49	49	49	49	2	7	35	32	33	35
SE5	42	42	42	53	55	56	56	56	56	56	56	56	56	56	55	1	4	26	25	25	26
SENO5101	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
Total	141	141	141	164	174	181	178	181	181	181	181	181	181	181	180	4	19	121	115	116	120

Note: One aspect of the country fiches is to improve the spatial coverage and ensure that stations are reported for all RBDs.

Questions to Sweden regarding the reporting on nutrients, organic matter and general physico-chemical determinands in lakes:

- Does data exist for determinands to fill the gaps in reporting? All priority determinands in 2007 and 2008? Can data be resubmitted?
- Can more stations be reported for BOD7 and CODMn and can data be resubmitted?
- Chlorophyll a has been reported very often, but in some years there are gaps (1992 – 1995, 2010); can the data be resubmitted?

Lakes – Hazardous Substances

Issues to be clarified:

- Have data for all SoE preferred⁴ hazardous substances which are monitored in the Member State been reported and consistent for the years in which data are available?
- Are stations with monitoring of SoE preferred hazardous substances covering all RBDs?

For most substances data have not reported only for some years.

Sweden has been reporting data on hazardous substances in rivers since 2001. In Table 10 there is an overview on the reporting of some preferred hazardous substances to illustrate (heavy metals, some pesticides as example). In general many data have been reported on metals and pesticides, but most of the stations are used to report on metals. The reporting on heavy metals was very stable during this period, reporting on pesticides (and some other substances) includes only few stations and years.

Table 10: SoE preferred hazardous substances (examples) in lakes by number of stations and year

Determinand_HazSubs	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cadmium	71	69	72	72	72	71	83	81	70	68	72	89
Lead	71	71	72	72	72	71	83	81	70	71	72	89
Mercury	39	39	40	40	40	40	63	65	53	52	54	67
Nickel	70	70	71	72	72	71	83	81	70	71	72	89
Fenpropimorph	0	0	0	0	0	0	0	0	0	2	2	2
MCPA	2	2	2	2	2	2	2	2	2	2	2	2
Metolachlor	0	0	0	0	0	0	0	0	0	2	2	2
Alpha-HCH	2	2	2	2	2	0	2	2	2	2	2	2
Propyzamide	2	2	2	2	2	0	0	0	0	2	2	2
Desisopropylatrazine	0	0	0	0	0	0	0	0	0	2	2	2
Linuron	0	0	0	0	0	0	0	0	0	2	2	2
Metazachlor	2	2	2	2	2	0	0	0	0	2	2	2
Alpha-Endosulfan	2	2	2	2	2	0	2	2	0	2	2	2
Propiconazole	2	2	2	2	2	0	0	0	0	2	2	2

Note: In the current data set the reporting of some high priority determinands has stopped or there has been change in the determinands in the database. EEA wants to clarify if these changes are real changes or it has been errors/misinterpretations introduced in compiling the databases. In addition, the aim is to ensure that the high priority determinands (e.g. priority substances) have as complete coverage as possible.

Table 11 shows the number of river stations by River Basin Districts which reported on preferred hazardous substances for the period from 2001 – 2012. In this period Sweden reported data from 99 lake stations. The reporting in this period was stable.

⁴ The lists of preferred substances are based on legislation, spatial and temporal availability. Preferred substances are also covered by Hazardous substances report regularly.

Table 11: Number of lake stations by River Basin Districts for preferred hazardous substances

RBDcode	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
SE1	17	17	17	17	17	17	19	18	16	16	16	18
SE1TO	2	2	2	2	2	2	2	2	2	2	2	2
SE2	18	18	18	18	18	18	19	19	18	18	18	19
SE3	6	6	7	7	7	7	7	7	6	6	6	7
SE4	13	13	13	13	13	13	18	21	16	17	17	22
SE5	18	18	18	18	18	17	21	18	16	16	17	24
SENO5101	1	1	1	1	1	1	1	1	1	1	1	1
Total	75	75	76	76	76	75	87	86	75	76	77	93

Note: One aspect of the country fiches is to improve the spatial coverage and ensure that stations are reported for all RBDs.

Questions to Sweden regarding the reporting on hazardous substances in lakes:

- Does data exist for determinands to fill the gaps in reporting?
- Are older data than what has been reported available (from 1992 – 2000)?
- Are there more stations for the determinands available that have so far not been reported?
- Can the data be resubmitted for stations / years which have not been reported so far?

Lakes – Biology

Issues to be clarified:

- Are status classes reported? If not, why not?
- Are EQR values reported? If not, why not?
- Can reported EQR values be normalised? If not, why not?
- Are stations with monitoring covering all RBDs of the Member States?

In general it should be assured that the stations reported are geographically representative. It means representative in terms of the whole range of ecological status classes and as well all major lake types need to be included.

Sweden reported lakes biology data (both phytoplankton and macrophytes) for all years 2010-2012. Additional metrics for phytoplankton were reported for the same years, as well as time series for 2 stations. Sweden reports status classes as well as EQR values, which can be normalised in most cases. Some class boundaries are not defined for both phytoplankton and macrophytes. For phytoplankton, the number of stations (686) has been very high for all three years. 97% of the stations are reported for two or more years. Data representing two different impact types were reported from all stations. For macrophytes, the number of stations is relatively high for all three years. 6% of the stations are reported for two or more years. For both BQEs the aggregation period is summer.

All additional metrics for phytoplankton are reported from a high number of stations for all years 2010-2012. 100% of the stations are reported for two or more years. For chlorophyll, the number of

stations dropped by ca. 50% from 2010 to 2011. Aggregation period is Summer (and for one record Autumn).

Table 12: Number of lake biology records per determinand, aggregation period and year. (a) EQR values and/or status class. (b) Additional metrics in original scale.

a)

BQE	CountryCode	DeterminandBiology	ImpactType	AggregationPeriod	2010	2011	2012
PP	SE	PhytoplanktonEQR_A	A	Summer	111	107	104
PP	SE	PhytoplanktonEQR_E	E	Summer	110	102	98
MP	SE	MacrophyteEQR_E	E	Summer	19	16	19

b)

BQE	CountryCode	DeterminandBiology	AggregationPeriod	2010	2011	2012
PP	SE	Chlorophyll_a	Autumn		1	
PP	SE	Chlorophyll_a	Summer	228	113	110
PP	SE	CyanobacteriaProportion	Summer	111	107	104
PP	SE	TotalPhytoplanktonBiomass	Summer	111	107	104

Table 13: Number of lake biology records per BQE, RBD and year. (a) EQR values and/or status class. (b) Additional metrics in original scale.

a)

BQE	CountryCode	RBDcode	2010	2011	2012
PP	SE	SE1	32	28	28
PP	SE	SE1TO	6	5	4
PP	SE	SE2	38	34	36
PP	SE	SE3	38	38	32
PP	SE	SE4	57	57	56
PP	SE	SE5	48	45	44
PP	SE	SENO5101	2	2	2
MP	SE	SE1	2	3	3
MP	SE	SE2	4	2	3
MP	SE	SE3	3	2	7
MP	SE	SE4	5	5	4
MP	SE	SE5	5	4	2
PP	SI	SI_RBD_1	2	2	2

b)

BQE	CountryCode	RBDcode	2010	2011	2012
PP	SE	SE1	64	42	39
PP	SE	SE1TO	12	9	6
PP	SE	SE2	74	53	56
PP	SE	SE3	72	57	50

PP	SE	SE4	128	90	91
PP	SE	SE5	96	74	73
PP	SE	SENO5101	4	3	3

Questions to Sweden regarding the reporting on biology in lakes:

- For both BQEs the aggregation period is Summer, but should preferably be Annual (cf. data dictionary).
- Aggregation for additional metrics period is Summer (and for one record Autumn), but should preferably be reported as Annual (cf. data dictionary).

Some more comments on different QA issues:

EQR data:

- *Phytoplankton: Minor quality issues have been corrected. For some of the records, normalised EQRs could not be calculated because the relevant class boundaries were not defined.*
- *Remark from data provider: "One out of three PP metrics for Eutrophication - TrophicPlanktonIndex (TPI) (EQR's for Totalbiomass and Cyano% are not included)". Sweden is encouraged to include all their phytoplankton metrics in the reporting of phytoplankton EQR in the coming years (as one aggregated value, either national EQR or normalised EQR).*
- *Macrophytes: For some of the records, normalised EQRs could not be calculated because the relevant class boundaries (poor/bad) were not defined.*
- *Remark from data provider: "NOTE! Aggregation of supportive data are NOT aggregated in the same way as macrophyte investigations!"*

4.2 Groundwater quality

Issues to be clarified:

- Have data for all SoE nutrients of highest priority (in terms of EEA's needs) in groundwater been reported consistent over the years?
- Have disaggregated data for all highest priority SoE nutrients in groundwater been reported consistent over the years?
- Are all RBDs in the MS covered with reporting on highest priority SoE nutrients in groundwater?
- Have data on preferred hazardous substances, if monitored by Member State, in groundwater been reported for all years in which they are available?
- Are all RBDs in the MS covered with reporting on preferred SoE hazardous substances in groundwater?

Groundwater - Nutrients, Organic Matter and General Physico-Chemical Determinands

Sweden reported aggregated data on groundwater nutrients from 2000 to 2006 for nitrate, ammonium and dissolved oxygen (Table 14). Since 2007 disaggregated data on highest priority nutrients have been reported (Table 15). No data have been reported on Nitrite. Only few stations have been reported for dissolved oxygen before 2010.

Table 14: (Highest priority) nutrients in groundwater aggregated (value = number of stations per country in which given determinand was reported)

DeterminandName	2000	2001	2002	2003	2004	2005	2006
Nitrate	8	8	8	8	8	8	8
Ammonium	8	8	8	8	8	8	8
Dissolved Oxygen	2	0	5	4	3	3	3

Table 15: (Highest priority) nutrients in groundwater disaggregated (value = number of stations per country in which given determinand was reported)

DeterminandName	2007	2008	2009	2010	2011	2012
Nitrate	22	24	24	65	44	101
Ammonium	22	24	24	65	44	72
Dissolved Oxygen	9	10	9	55	34	60

Note: In the current data set the reporting of high priority determinands has stopped or nutrients have been reported as aggregated data only. The aim is to ensure that the high priority determinands (preferably disaggregated data) have as complete coverage as possible.

No data are available of following RBDs: SEN01102, SEN01103, SEN01104, SEN05101. However this is not significant, because all these RBDs represent together ca. 3-5% of area of Sweden (in the mountain regions adjacent to the boundary with Norway). In 2011 there was few reporting in SE3, SE4 and SE5. In RBDs SE1 and SE1TO no data were reported from 2007 – 2009.

Table 16: Number of groundwater stations for highest priority nutrients (only disaggregated data are included here) by River Basin Districts

RBDcode	2007	2008	2009	2010	2011	2012
SE1	0	0	0	6	7	10
SE1TO	0	0	0	1	1	1
SE2	5	5	5	19	14	21
SE3	5	6	6	14	7	10
SE4	7	8	8	11	9	30
SE5	5	5	5	14	6	31

Note: One aspect of the country fiches is to improve the spatial coverage and ensure that stations are reported for all RBDs.

Groundwater - Hazardous substances

In Table 17 there is an overview on the reporting of the preferred hazardous substances in groundwater in Sweden. Sweden has been reporting information on hazardous substances (only metals) in groundwater since 2008. In 2008 only few stations were reported.

Table 17: Number of groundwater stations per determinand (preferred hazardous substances)/year

DeterminandName	2008	2009	2010	2011	2012
Chromium	3	16	60	28	66
Copper dissolved	3	16	60	28	66
Zinc dissolved	3	16	60	28	66
Cadmium dissolved	3	16	60	28	66
Nickel dissolved	3	16	60	28	66
Lead dissolved	3	16	60	28	66

Note: In the current data set the reporting of preferred substances has stopped or data have not been reported. The aim is to ensure that the high priority determinands (e.g. priority substances) have as complete coverage as possible.

Data for main RBDs in Sweden were reported from 2008 to 2009. Some of RBDs didn't report on hazardous substances in some years.

Table 18: Number of groundwater stations for preferred hazardous substances by River Basin Districts

RBDcode	2008	2009	2010	2011	2012
SE1	0	0	6	4	9
SE1TO	0	0	1	1	1
SE2	1	1	16	3	18
SE3	0	2	13	6	7
SE4	1	8	10	8	15
SE5	1	5	14	6	16

Note: One aspect of the country fiches is to improve the spatial coverage and ensure that stations are reported for all RBDs.

Questions to Sweden regarding the reporting on groundwater

- Data for some RBDs are missing in some years (e.g. SE1 and SE1TO nutrients 2007 - 2009, hazardous substances in 2008, 2009). Could they be resubmitted?
- Fewer stations on dissolved oxygen were reported in 2009 and the years before – can data be resubmitted?
- Aggregated reporting of nutrients from 2000 – 2006 – are data available disaggregated?
- 60 - 66 stations are used for reporting of hazardous substances. Could Sweden focus on keeping all these stations, to avoid the reduction of stations for monitoring as it happened in 2009 and 2011? Or could the reason for such a reduction be clarified? If data are available, can they be resubmitted?
- Are there more data on relevant pesticides available and could they be resubmitted?
- Are older data than what has been reported available (from 1992 on)?

4.3 Emissions

Issues to be clarified:

- Does Member State report data on emissions or are the tables prefilled from E-PRTR reporting?
- What type of source apportionment has been reported?
- Which determinands have been reported for the different emissions categories (nutrients from point and diffuse sources, hazardous substances from point and diffuse sources)
- Have data been reported from all RBDs (if relevant)?

Sweden presented records from E-PRTR as well as country-reported records. The following tables shows an overview on reporting nutrients and hazardous substances from point and diffuse sources and the groups of emission sources which have been used. The value in the table fields represents the number of RBDs in which the determinands were reported.

It can be seen from the tables that Sweden reported data for all emission categories and information on different sources of emissions. The periods of reporting changed. There was a change in COD/CODCr/CODMn reporting from 2009 – to 2010 (Table 19). CODCr and CODMn were not distinguished in the previous versions of data dictionary, so this could be the reason. Most often reported hazardous substances are metals.

Table 19: Nutrients emissions from point sources (value means the number of spatial units in which the determinand was reported for that year)

Determinand_Nutrients	2006	2007	2008	2009	2010	2011	2012

Ammonium			5	5	5	5	6
BOD7				5	5	5	6
COD			5	5			
CODCr				5	5	5	6
CODMn					5	5	6
Nitrate			5	5	5	5	6
Total Nitrogen	5		5	5	5	5	6
Total Organic Carbon (TOC)			5	5	5	5	6
Total Phosphorus	5		5	5	5	5	6

Sources of emissions reported:

- R Riverine Input to Coastal Water
- D0 Direct Discharges to Coastal and Transitional Water total
- I Industrial Waste Water Discharges total
- U Urban Waste Water Discharges total
- U2 Urban Waste Water Treated Discharges total

Table 20: Hazardous substances emissions from point sources (value means the number of spatial units in which the determinand was reported for that year)

Determinand_HazSubs	CASNumber	2003	2008	2009	2010	2011	2012
1,1,2,2-tetrachloroethene	127-18-4			1	1	1	1
1,1,2-trichloroethene	79-01-6			2			3
1,2-Dichloroethane	107-06-2			2	1	1	1
Adsorbable organic halogens (AOX)				5	3	1	3
Anthracene	120-12-7			1	1		
Arsenic	7440-38-2		5	5	5	5	6
Benzene	71-43-2			4	2	3	2
Benzo(b)fluoranthene	205-99-2			1			
Benzo(g,h,i)perylene	191-24-2			1			
Cadmium	7440-43-9	5	5	5	5	5	6
Copper	7440-50-8	5	5	5	5	5	6
Cyanides (as total CN)	57-12-5			4	5	4	4
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7			3	4	4	2
Dichloromethane	75-09-2			2	1		
Fluoranthene	206-44-0			2	2		
Chromium	7440-47-3		5	5	5	5	6
Lead	7439-92-1		5	5	5	5	6
Mercury	7439-97-6	5	5	5	5	5	6
Naphthalene	91-20-3			3	2	1	1
Nickel	7440-02-0		5	5	5	5	6
Polyaromatic hydro-carbons (PAH) (sum)				5	4	4	4
Tetrachloromethane	56-23-5			2	1		

Toluene	108-88-3			4	1	3	1
Trichloromethane	67-66-3			2	1	1	3
Zinc	7440-66-6	5	5	5	5	5	6

Sources of emissions reported:

D0	Direct Discharges to Coastal and Transitional Water total
I	Industrial Waste Water Discharges total
O	Other Waste Water Discharges total
R	Riverine Input to Coastal Water
U	Urban Waste Water Discharges total
U2	Urban Waste Water Treated Discharges total

Table 21: Nutrients emissions from diffuse sources (value means the number of spatial units in which the determinand was reported for that year)

Determinand_Nutrients	2006	2009
Total Nitrogen	5	6
Total Phosphorus	5	6

Sources of emissions reported:

- NP Total Diffuse Emissions to Inland Waters
- NP1 Agricultural Emissions
- NP2 Atmospheric Deposition
- NP3 Un-Connected Dwellings Emissions
- NP4 Urban Diffuse Emissions
- NP7 Other Diffuse Emissions
- NP8 Background Emissions

Table 22: Hazardous substances emissions from diffuse sources (value means the number of spatial units in which the determinand was reported for that year)

Determinand_HazSubs	2003	2005
Cadmium	5	5
Copper	5	5
Lead		5
Mercury	5	5
Nickel		5
Zinc	5	5

Sources of emissions reported:

- NP Total Diffuse Emissions to Inland Waters
- NP1 Agricultural Emissions
- NP2 Atmospheric Deposition
- NP3 Un-Connected Dwellings Emissions

NP4 Urban Diffuse Emissions

NP7 Other Diffuse Emissions

Questions to Sweden regarding the reporting on emissions:

- Are older data than reported available or more current data – in case of diffuse sources?
- Are there more data from RBDs which didn't report in some years or at all available (if relevant)?
- Could the COD records from 2008 and 2009 be assigned as CODMn or CODCr?

4.4 Waterbase WaterQuantity

Sweden has been submitting water quantity data under WISE-SoE#3 every year since this dataflow was established in 2009. As shown in Table 23 the reported data include both point (stations) and areal data (water balance, water abstraction, water use). The point data refer to groundwater level and the streamflow time series cover the period 2009-2012. On the other hand, many of the reported areal data (e.g. water balance parameters) cover the period 1998-2012. The spatial scale for all reported areal data is RBD. The reported time scale is annual (183 TS) and monthly (124 TS).

Table 23: Number of reported time series (of any time scale) per parameter
(see <http://etcd.eionet.europa.eu/dataelements/7433> for the description of parameters)

Parameter	Number of time series
Groundwater level	160
Stream flow	10
wa_total_abstraction	5
wa_total_abstraction_sw	5
wa_total_abstraction_gw	5
wb_areal_precipitation	18
wb_act_evapotranspiration	18
wb_total_act_ext_inflow	6
wb_total_actual_outflow	18
wb_total_actual_outflow_sea	10
wb_total_actual_outflow_neighbour	8
wu_total_freshwater_used-total	4
wu_public_water_supply-total	5
wu_public_water_supply-domestic	5
wu_public_water_supply-nace_c	5
wu_public_water_supply-nace_i	5
wu_self_supply-total	5
wu_self_supply-domestic	5
wu_self_supply-nace_a	5
wu_self_supply-nace_c	5

The location of the reported stations projected on the map is shown on Figure 2, where:

- Clusters of stations measuring groundwater level (well)
- Stream flow station



Figure 2: Location of stations

Some inconsistencies have been detected through TS analysis of annual water use data reported in 2008. Table 24 shows these issues.

Table 24: QA issues

RBD	Rule	Equation	Ref. year	Equation analysis
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SE4	wu_public_water_supply-total + wu_self_supply-total = wu_total_freshwater_used-total	671.200000 = 713.100000	2007	227.500000 + 443.700000 = 713.100000
SE5	wu_public_water_supply-total + wu_self_supply-total = wu_total_freshwater_used-total	524.300000 = 481.900000	2007	215.500000 + 308.800000 = 481.900000

The following reported stations are apparently located outside the country and/or the declared RBD borders.

Station code	Longitude	Latitude	Declared RBD
105	12.8901	63.514	SE5
84_54	57.287671	15.641546	SE4
84_55	57.282023	15.642725	SE4

5. Matching of stations/water bodies

For the integrated assessment with the Water Framework Directive as well as other Water Directives it is a prerequisite that SoE stations can be linked to stations or water bodies from the other reporting streams. That was often not possible in former assessments and should be improved in the future, especially with regards to the next assessment of WFD reporting.

All the datasets reported to WISE have different fields to identify the stations or water bodies. The WISE-WFD database with data reported for the first RBMPs has the **water body code** (Surface or Groundwater) as one of the main codes. The WISE-SoE Groundwater, Rivers and Lake databases have a field with the **water body codes** (WaterBodyID/ GWBcode_WFD).

Database	Water Body Code
WISE-WFD database	<i>Surface water bodies</i> EUSurfaceWaterBodyCode SWB_MS_Code SWB_NAME
WISE_SoE rivers	WaterBodyID WaterBodyName
WISE_SoE lakes	WaterBodyID WaterBodyName
WISE-WFD database	<i>Groundwater bodies</i> EUGroundWaterBodyCode SWB_MS_Code SWB_NAME
WISE_SoE groundwater bodies Groundwater stations	GWBcode_WFD GWBcode_WFD

The following overview shows some statistics of the availability of WaterBodyID for SoE surface water stations or WaterBodyCode for SoE groundwater stations and groundwaterbodies and their matching with WFD EUSurfaceWaterBodyCode and WFD SWB_MS_CD.

WISE-SoE rivers

Sweden has reported WaterBodyID for most of its WISE-SOE river stations (124 of 135); there are match between 114 of 135 river stations and the WFD water bodies EUSurfaceWaterbody CODE, as well if SWB_MS_CD is used (see Table 25).

Table 25 WISE SoE rivers water quality dataset - statistics of the availability of rivers monitoring stations and their attributes (waterbody ID) and the results of the matching of the SoE rivers waterbody ID with WFD EUSURFACEWATERBODYCODE and SWB_MS_CD

SOE_STATIONS_TO TAL	SOE_WATERBODYID_EX ISTS	MATCH_EUSURFACEWATERBODY CODE	MATCH_SWB_MS _CD
135	124	114	114

WISE-SoE lakes

Sweden has reported WaterBodyID for 160 of 203 lakes; there are match of 90 of 203 lake stations and the WFD water bodies (Table 26).

Table 26: WISE SoE lakes water quality dataset - statistics of the availability of lakes monitoring stations and their attributes (water body ID) and the results of the matching of the SoE lakes waterbodyID with WFD EUSURFACEWATERBODYCODE and SWB_MS_CD

SOE_STATIONS_TOTAL	SOE_WATERBODYID_EXISTS	MATCH_EUSURFACEWATERBODYCODE	MATCH_SWB_MS_CD
203	160	90	90

WISE-SoE groundwater

The majority of Swedens WISE-SoE groundwater bodies (126 of 129) and all WISE-SoE groundwater stations (149 of 149) have GWB codes. There are high match of 125 groundwater bodies with WFD water bodies and of 124 groundwater stations with WFD water bodies (Table 22; Table 23).

Table 27: WISE SoE groundwater quality dataset - statistics of the availability of groundwaterbodies and their SOE_GWBCODE_WFD and the results of the matching of the SoE groundwater SOE_GWBCODE_WFD with WFD EUGROUNDWATERBODYCODE and GWB_MS_CD

SOE_GWB_TOTAL	SOE_GWBCODE_WFD_EXISTS	MATCH_EUGROUNDWATERBODYCODE	MATCH_GWB_MS_CD
129	126	125	125

Table 28: WISE SoE groundwater quality dataset - statistics of the availability of groundwater monitoring stations and their attributes (SOE_GWBCODE_WFD) and the results of the matching of the SoE groundwater SOE_GWBCODE_WFD with WFD EUGROUNDWATERBODYCODE and GWB_MS_CD

SOE_GW_STATIONS_TOTAL	SOE_GWBCODE_WFD_EXISTS	MATCH_EUGROUNDWATERBODYCODE	MATCH_GWB_MS_CD
149	149	124	124

Questions to Sweden:

- Can the waterbody code as defined in the WFD guidance (EUSurfaceWaterBodyCode) be reported for all stations and water bodies?
- Could stations that are not active and where the station information is from before 2007 (if this is the case) be updated with WBCode?

- Other statistics on matching (see example Spain) will be included in the country fiche in a next version -