



Document title	Status of the 2013-2014 annual PLC data reporting
Code	3-1
Category	CMNT
Agenda Item	3 – Results of annual and periodic reporting of the inputs of nutrients and selected heavy metals to the Baltic Sea and the results of using the reporting WEB application
Submission date	13.9.2016
Submitted by	PLC Data Manager
Reference	

Background

The document contains an information on the status of annual reporting of PLC data 2013/2014 and major data gaps. The information is provided by the PLC data manager.

Contracting Parties are invited to inform about major obstacles in timely reporting the data.

Action requested

The Meeting is invited to take note of the information and discuss further implementation of the PLC-6 project in terms of elaboration of the assessment products based on the reported data. Particularly, the Meeting is invited to agree on the procedure to fill in gaps in the data and to approve of the assessment dataset by the national experts.

STATUS OF THE 2013 DATA REPORTING ON DIRECT SOURCES

DIRECT SOURCES of 2013 to be reported

The following direct sources should have been reported on 2013 data:

- Discharges and flow of monitored rivers and unmonitored areas (parameters listed in the PLC Guidelines)
- Transboundary discharges (N_{tot}, P_{tot}), flow and retention (N_{tot}, P_{tot})
- Discharges and flows of direct point sources (parameters listed in the PLC Guidelines)

Deadline for reporting the discharges of direct sources of 2013 was considerably delayed. It was agreed on that the upload of the 2013 data would take place through the PLC PLUS application. Due to the tests the deadline was on the end of March 2015.

Reporting procedure

Reporting templates with background information were provided to the CPs for data entry. The updated templates were uploaded in the HELCOM Pollution Load User System (PLUS) Application.

http://apps.nest.su.se/helcom_plus/

At the first stage the CPs uploaded the data but not inserted. Insertion of the data was partly carried out by the Data Manager. Later on, updates and insertion have more and more been carried out by the CPs.

By the end of August 2016 the state of the annual reporting of 2013 on direct sources was as it follows:

Table 1. The state of the reporting by Contracting Party

COUNTRY	UPLOADED	INSERT	FINAL VERIFICATION (QA)
DE	X	X	IN PROCESS
DK	X	X	IN PROCESS
EE	X	X	IN PROCESS
FI	X	X	IN PROCESS
LT	X	X	IN PROCESS
LV	X	X	IN PROCESS
PL	X	X	IN PROCESS
RU	X	X	IN PROCESS
SE	X	X	IN PROCESS

The final verification will be 'IN PROCESS' until the Quality check has been completed.

Inserted direct data and the reporting status by country

The 2013 data of all 9 countries have been inserted in the data base. The quality assurance of the reported data has been carried out as in the Application, and manual verification has been started. In the tables below have been indicated the number of sources to be reported and the mandatory parameters which have been reported. Value '0' indicates that nothing has been reported.

Success of reporting by country and by source have been compiled in tables 2-10, but more detailed information on reported sources can be downloaded at: <https://portal.helcom.fi/workspaces/PLC-6->

[9/PLC6%20Annual%20Reporting%20Templates/STATUS OF PLC DATA OF 2013/STATUS%20PLC%20DATA%20REPORTING%20OF%202013%20DATA ON DIRECT SOURCES 2016 09 12.xlsx](#)

Table 2. Reported Danish data of 2013

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
DENMARK	SUBCATCHMENTS	TOTAL	110	0	108	0	110	0	110	0	110	0	110	110
			TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	215	0	215	0	0	0	0	0	215	0	0	215
			TO BE REPORTED	BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	47	35	0	0	0	44	0	0	34	0	32	0
			TO BE REPORTED	BOD5	BOD7	FLOW	NTOT	PTOT						
	DIR AQUACULTURE	TOTAL	20	20	0	0	20	20						

Major gaps/missing data:

- Flow missing: Lindholm å and Halsted å 300m
- Heavy metal loads and nutrient fractions of MWWTPs
- Heavy metal loads of Industrial plants

In addition, there is some conflict in coding with Rohden å and Rohden å 300m NS Årup Mølle dambruk.

Table 3. Reported Estonian data of 2013

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
ESTONIA	SUBCATCHMENTS	TOTAL	22	14	22	7	22	22	0	22	22	18	22	22
				Cd	Flow	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	3	0	3	0	0	0	0	0	3	0	0	3
				BOD	Cd	Cr	Cu	Flow	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	2	0	0	0	0	0	0	0	0	0	0	0
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- Some heavy metal loads of sub-catchments
- MWWTP loads reported as aggregated by basin (aggregations include also connected industrial plants)
- The most essential data on MWWTPs have been reported but nutrient fractions are missing
- Data on Industrial plants have not been reported as they are connected to MWWTPs for treatment (earlier reported as aggregated and in 2014 have been reported two individual industrial plants: Estonian Cell AS and Tallinna sadam AS)

In addition, wrong coding in catchments, e.g., indirect point sources have been coded as direct. Should be verified.

Table 4. Reported Finnish data of 2013

COUNTRY	SOURCE		TO BE REP	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
FINLAND	SUBCATCHMENTS	TOTAL	34	27	34	20	33	0	34	0	34	27	34	34
				Cd	Flow	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	51	5	47	6	43	0	0	0	47	5	1	41
				BOD	Cd	Cr	Cu	Flow	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	64	29	12	16	17	58	10	18	50	11	41	18
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	100	0	0	0	100	100						

Major gaps/missing data:

- Some heavy metal loads of sub catchments are missing and a few nutrient fractions
- NO23-N loads are missing on MMWWTPs
- Incomplete reporting of Industrial plants

Table 5. Reported German data of 2013

COUNTRY	SOURCE		TO BE REP	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
GERMANY	SUBCATCHMENT	TOTAL	26	26	26	26	26	26	0	26	26	26	26	26
				Cd	Flow	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	12	4	12	4	12	8	0	8	12	4	0	12
				BOD	Cd	Cr	Cu	Flow	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	3	3	2	3	3	3	2	3	3	2	3	2
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- PO4-P data on MMWWTPs (should be either monitored or calculated)

Table 6. Reported Latvian data of 2013

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
LATVIA	SUBCATCHMENTS	TOTAL	20	2	14	2	11	11	0	11	11	2	11	11
				Cd	Flow	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	5	2	5	2	4	3	0	3	5	2	4	5
				BOD	Cd	Cr	Cu	Flow	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	5	5	1	1	1	5	1	1	5	1	5	1
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- Several flow data of 4 subcatchments,
 - rivers Venta and Daugava
 - unmonitored areas of Gulf of Riga and Baltic Proper

- Loads of rivers Saka, Irbe and Salaca (3 subcatchments)
- The most essential point source data reported (flow, Ntot, Ptot), but very few plants (5 MWWTPs and 5 Industrial plants)
- Latvian parts of the transboundary loads or loads at the border of Barta, Venta, Gauja and Lielupe are missing (totals reported)

Table 7. Reported Lithuanian data of 2013

COUNTRY	SOURCE		TO BE REP	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
LITHUANIA	SUBCATCHMENTS	TOTAL	6	4	6	4	4	4	4	4	4	4	4	4
				Cd	Flow	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	8	0	8	2	0	2	0	2	3	2	2	3
				BOD	Cd	Cr	Cu	Flow	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	10	9	0	1	1	10	0	1	6	0	6	1
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

-Reporting of subcatchment loads and flow completed

Major gaps/missing data:

- Transboundary loads at the border
- Most of the MWWTP data are missing (excluding flow)
- Almost half of the data on Industrial plants are missing (excluding flow)

Table 8. Reported Polish data of 2013

COUNTRY	SOURCE		TO BE REP	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
POLAND	SUBCATCHMENTS	TOTAL	25	22	25	22	22	22	0	22	24	22	22	24
				Cd	Flow	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	17	13	16	13	14	0	0	13	16	13	12	16
				BOD	Cd	Cr	Cu	Flow	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	2	0	0	0	0	0	0	0	0	0	0	0
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- Load data of the river Ina, and the Polish parts of Vistula and Oder
- Either NO2 – N or NO23-N loads of MWWTPs are all missing
- A few other loads of MWWTPs missing.
- Number of INDUSTRIAL PLANTS, 'to be reported' is based on assumption that the same sources will be reported as in previous years

Table 9. Reported Russian data of 2013

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
RUSSIA	SUBCATCHMENTS	TOTAL	11	4	9	0	5	5	0	5	4	4	5	4
				Cd	Flow	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	13	0	13	0	13	2	0	2	13	2	12	12
				BOD	Cd	Cr	Cu	Flow	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	2	2	0	0	2	2	0	1	2	1	0	2
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											
COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
RUSSIA	SUBCATCHMENTS	TOTAL	7	4	5	0	5	5	0	5	4	4	5	4
				Cd	Flow	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	13	0	13	0	13	2	0	2	13	2	12	11
				BOD	Cd	Cr	Cu	Flow	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	2	2	0	0	2	2	0	1	2	1	0	2
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- Ntot and Ptot loads of the Pregolya river are missing
- All data on unmonitored areas are missing
- MWWTPs reported partly as individually and partly as aggregated by basin (but unknown nr_of_plants)
- Heavy metals and nutrient fractions are mostly missing on MWWTPs
- Industrial plants reported as aggregated by basin (but unknown nr_of_plants) and Ptot loads are missing to the Gulf of Finland (the St. Petersburg region) and Baltic Proper (the Kaliningrad region), integration of industries to MWWTPs at least in St. Petersburg
- Transboundary loads of Pregolya and Neva are missing

Table 10. Reported Swedish data of 2013

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
SWEDEN	SUBCATCHMENT	TOTAL	50	45	50	45	44	0	45	0	45	45	45	45
				Cd	Flow	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	139	51	139	50	0	0	0	0	139	49	0	139
				BOD	Cd	Cr	Cu	Flow	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	53	0	0	0	0	0	0	0	48	0	46	0
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	3	0	0	0	3	3						

Major gaps/missing data:

- Fractions of nutrients and some heavy metal loads are missing on MWWTPs
- Flow and heavy metal loads of Industrial plants are missing
- Aquacultural plants reported as aggregated (total number of plants 13)

Discharges of the Swedish transboundary rivers Dalälven, Enningdalsälven, Göta älv, Indalsälven, Lule älv, Piteälv, Skellefte älv, Torne älv, Ume älv and Ångerman älv discharges are considered to be completely for Sweden. The Torne älv – Tornionjoki flow and loads will be divided in between Sweden and Finland.

Quality control of the data

Partial quality assurance of the data have been carried out in the Application in the upload/insert procedure, and can be obtained in the Application and in there in 'Data' and 'Request data for year/ time series' as shown below (Figure 1). Some quality assurance have been carried out by data reporters and data manager. This will be continued until all data have been quality assured.

The screenshot shows the HELCOM Pollution Load User System interface. At the top, there are navigation links: Home, Data, Map, Data report, Documentation, Administrator, and Authentication. The user name 'Pekka Kotil' is visible in the top right corner. The main interface is divided into several sections:

- Source:** A dropdown menu showing 'SUBCATCHMENT STATIONS' and 'AQUACULTURE INDUSTRIAL POINT SOURCE MUNICIPAL POINT SOURCE'.
- Period:** A dropdown menu showing 'PLC-3 2014', '2013', '2012', and '2011'.
- Parameters:** A dropdown menu showing 'NNH4', 'NNO2', 'NNO3', and 'NTOT'.
- Quality Assurance Legend:** A table showing different QA categories and their descriptions:

3.14	No quality assurance	3.14	Corrected by data reporter	3.14	Corrected by quality assurer/data manager
3.1415	Questionable data	3.1415	Rejected by data reporter	3.1415	Rejected by quality assurer/data manager
3.1415926536	Accepted data	3.1415926536	Approved by data reporter	3.1415926536	Approved by quality assurer/data manager
3.1415926 m3/s	"Unexpected" unit				
- Location:** A dropdown menu showing 'FINLAND' and 'All sub-basins of the Bz'.
- Buttons:** 'Get data' and 'Save as csv'.
- Table:** A table with columns: Source code, Source name, Country code, Subbasin code, Period, and NTOT [t/a]. The table lists 16 sources with their respective NTOT values for the year 2013.

Source code	Source name	Country code	Subbasin code	Period	NTOT [t/a]
SCFI00001	AURAJOKI	FI	ARC	2013	744.0000
SCFI00017	KISKONJOKI	FI	ARC	2013	370.0000
SCFI00041	PAIMIONJOKI	FI	ARC	2013	720.0000
SCFI00057	USKELANJOKI	FI	ARC	2013	460.0000
SCFI00165	ARCFILAND	FI	ARC	2013	3450.0000
RCFI00013	KEMIJOKI	FI	BOB	2013	5120.0000
RCFI00039	OULLUJOKI	FI	BOB	2013	3020.0000
SCFI00005	ILJOKI	FI	BOB	2013	2020.0000
SCFI00009	KALAJOKI	FI	BOB	2013	2730.0000
SCFI00015	KIIMINGINJOKI	FI	BOB	2013	994.0000
SCFI00023	KURVAJOKI	FI	BOB	2013	308.0000
SCFI00027	KYRONJOKI	FI	BOB	2013	3200.0000
SCFI00031	LAPUANJOKI	FI	BOB	2013	1950.0000

Figure 1. Retrieval of the data in the PLUS Application

Automated quality assurance is based on the existing data and many of the values cannot be evaluated statistically. Minimum requirement of 5 years of data of the same source is needed to conduct the statistical quality assurance, otherwise inserted data have been considered as unchecked, i.e., not verified. Verification needs to be carried out manually. The manual verification can be done in the PLUS application value by value (by data reporters, data manager) or by revision the data in the database (by data manager).

The existing and actively used categories of QA have been listed in Table 11. The QA level 1 (automated verification of format), level 2 (statistical test) and level 3 (manual verification) are active at present.

Table 11. Categories of Quality Assurance (QA) in the database.

FLAG	QA LEVEL	Description	Active
NQ	1	No Quality	Y
QU	2	Questionable	Y
AC	2	Accepted	Y
A3	3	Approved by data reporter	Y
C3	3	Corrected by data reporter	Y
R3	3	Rejected by data reporter	Y
A4	4	Approved by quality assurer/Data Manager	N
C4	4	Corrected by quality assurer/Data Manager	N
R4	4	Rejected by quality assurer/Data Manager	N

The status of the QA process of 2013 mandatory data is as it follows in table 12. The results have been pooled to two categories: Accepted (AC)/ Corrected (C) and No Quality (NQ) /questionable (QU).

Table 12. The state of the QA of 2013 mandatory data

Source	Accepted / Corrected	AC + C in %	No quality or questionable	NQ + QU in %
Riverine loads	1512	59.1	1048	40.1
Flow	224	46.6	257	53.4
Unmon load/flow	250	92.9	17	7.1
Direct Point sources	1184	28.9	2906	71.1

Apart from the data of unmonitored areas almost approximately half of the data still needs to be verified and of point sources > 70%, respectively. The reason for high number of NQ is very often too low number of data of the same source (see above – a minimum requirement of 5 years).

STATUS OF THE PLC-6 DATA REPORTING ON DIRECT SOURCES 2014

DIRECT SOURCES to be reported

The following direct sources should be reported on 2014 data:

- Discharges and flow of monitored rivers and unmonitored areas (parameters listed in the PLC Guidelines)
- Transboundary discharges (N_{tot}, P_{tot}), flow and retention (N_{tot}, P_{tot})
- Discharges and flows of direct point sources (parameters listed in the PLC Guidelines).

Deadline for reporting the discharges of direct sources was on the 31 of December 2015.

Reporting procedure

Tentatively prefilled country wise reporting templates with background information were provided to the CPs for their corrections and amendments. After their corrections/amendments the templates with updated information were verified by the Data Manager. The updated templates were returned to the CPs for data reporting and put available also in the HELCOM Pollution Load User System (PLUS) Application http://apps.nest.su.se/helcom_plus/

The CPs were instructed to:

- 1) Enter the data in the templates (as instructed in the PLC Guidelines)
- 2) Upload the data file in the Application
- 3) Carry out the verification and
- 4) Insert the data

By the end of August 2016 the state of the periodic reporting of direct sources was as follows:

Table 13. The state of the reporting of direct loads of 2014 by Contracting Party

COUNTRY	UPLOAD	INSERT	VERIFICATION NEEDED	QUALITY ASSURANCE
DE	X	X	-	IN PROCESS
DK	X	X	(part of the flow data?)	IN PROCESS
EE	X	X	(transboundary data)	IN PROCESS
FI	X	X	-	IN PROCESS
LT	X	X	(transboundary data)	IN PROCESS
LV	X	X	(transboundary data)	IN PROCESS
PL	X	X	(transboundary data)	IN PROCESS
RU	X	X	(total and transboundary data)	IN PROCESS
SE	X	X	-	IN PROCESS

Data of all CP have been uploaded and inserted, and the verification is in process.

Data of several countries may still need some verification, especially the data of transboundary loads and flows. The upload and insert procedures have been completed (Table 13), but especially the transboundary flows and loads need to be verified. Some of the inserted data might have been rejected by the PLUS Application. All countries have succeeded to insert most of the data.

The manual quality assurance (QA) of the reported direct sources (monitored rivers, unmonitored areas and direct point sources) is going on. The automated QA of the Application covers only one part of the verification. The statistical verification procedure requires at least 5 years data on the same source (a subcatchment, a station or a plant) in order to be carried out. The QA of the 2014 data have been compiled in table 14.

Table 14. The state of the QA of 2014 mandatory data

Source	Accepted / Corrected	AC + C in %	No quality or questionable	NQ + QU in %
Riverine loads	1687	65.8	876	34.2
Flow	313	60.1	208	39.3
Unmon load/flow	250	91.6	23	8.4
Direct point sources	1633	37.7	2699	62.3

For the QA compilation the reported point source data have been included as totals.

Inserted direct data and the status by country

The status of the reporting by country has been compiled here below (tables 15-23). Only the mandatory parameters have been listed in the tables. Some countries have reported NO_{2,3}-N separately as NO₂-N and NO₃-N.

More detailed information on reported sources can be downloaded at PLC-6 workspace:

https://portal.helcom.fi/workspaces/PLC-6-9/PLC6%20Annual%20Reporting%20Templates/STATUS_OF_PLC_DATA_OF_2014/STATUS%20PLC%20DATA%20REPORTING%20OF%202014%20DATA%20ON%20DIRECT%20SOURCES_2016_09_12.xlsx

Table 15. Reported Danish data 2014

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
DENMARK	SUBCATCHMENTS		114	0	113	0	113	0	113	0	114	0	113	114
			TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP		238	0	238	0	0	0	0	0	238	0	0	238
			TO BE REPORTED	BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY		55	38	0	0	0	51	0	0	39	0	32	0
			TO BE REPORTED	BOD5	BOD7	FLOW	NTOT	PTOT						
	DIR AQUACULTURE		22	22	0	0	22	22						

Major gaps/missing data:

- Flow data of monitored 45 rivers have been entered by changing the parameter_type 'LTA' to 'AVE'
- Fractions of nutrients in Viby å and flow of Lindholm Å, Voerbjerg
- Heavy metal loads of all subcatchments
- Fractions of nutrients and heavy metals of MWWTPs
- Some Ntot and Ptot loads and all heavy metal loads of Industrial plants

Table 16. Reported Estonian data 2014

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
ESTONIA	SUBCATCHMENT	TOTAL	23	12	23	12	21	21	0	21	21	12	21	21
				Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	7	2	7	1	0	0	0	0	7	2	0	7
				BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	2	0	0	0	0	2	0	0	1	0	1	0
				BOD5	BOD7	FLOW	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- Total loads of the river(s) Narva (and Pärnu) as only Estonian proportion of the loads have been reported
- Some heavy metals
- Nutrient data to be adjusted (of transboundary rivers)
- Flow data, fractions of nutrients and some heavy metals of MWWTPs
- Only two industrial plants reported, but many Industrial plants have been integrated to MWWTPs for treatment

Table 17. Reported Finnish data 2014

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
FINLAND	SUBCATCHMENT	TOTAL	35	25	34	18	33	0	34	0	35	25	34	35
				Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	60	5	59	5	58	0	0	0	60	5	1	56
				BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	65	29	14	19	18	58	9	19	51	14	41	18
				BOD5	BOD7	FLOW	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	127	0	0	0	127	127						

Major gaps/missing data:

- Some heavy metals
- Nutrient data to be adjusted (transboundary rivers)
- Nutrient fractions and some heavy metal loads of MWWTPs
- Some nutrients loads, flow data and heavy metal loads of Industrial plants
- BOD loads of Aquaculture plants

Apart from the above Seleznevka added since last spring as it is now considered as transboundary river and should be reported

Table 18. Reported German data 2014

COUNTRY	SOURCE		TO BE REP	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
GERMANY	SUBCATCHME	TOTAL	26	24	26	24	24	24	0	24	26	24	24	26
				Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	13	5	13	5	13	13	0	13	13	5	5	13
				BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	4	4	4	4	4	4	4	4	4	4	4	4
				BOD5	BOD7	FLOW	Ntot	Ptot						
	DIR AQUACULTU	TOTAL	NO DATA											

Nutrient fractions have been added

Major gaps/missing data:

- Heavy metal loads of unmonitored areas
- Some PO4-P and heavy metal loads of MWWTPs

Table 19. Reported Latvian data 2014

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
LATVIA	SUBCATCHMENT	TOTAL	19	10	12	0	11	11	0	11	15	10	11	17
				Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	5	2	5	1	4	3	0	3	5	2	4	5
				BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	9	0	1	1	1	9	1	1	6	1	6	1
				BOD5	BOD7	FLOW	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- Some flow data and nutrients loads missing of transboundary rivers and they need to be verified
- Hg data of rivers and unmonitored areas
- Flow data of unmonitored areas

- Some data of MWWTPs
- Some Ntot, Ptot and most of the heavy metal data of Industrial plants
- No aquaculture loads reported

Table 20. Reported Lithuanian data 2014

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
LITHUANIA	SUBCATCHMENT	TOTAL	11	4	10	4	4	4	0	4	9	4	4	9
				Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	8	2	8	2	2	2	0	2	3	2	0	3
				BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	8	6	0	0	0	8	0	0	5	1	5	1
				BOD5	BOD7	FLOW	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- Some heavy metal loads and some nutrient fractions
- Some nutrient loads, fractions and heavy metal data of MWWTPs
- Some nutrient loads and heavy metal data of Industrial plants
- No data on aquaculture
- Loads and flow of transboundary rivers to be verified

Table 21. Reported Polish data 2014

COUNTRY	SOURCE		TO BE REP	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
POLAND	SUBCATCHMENT	TOTAL	25	23	23	23	23	23	0	23	23	23	23	23
				Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PPO4	Ptot
	DIR MWWTP	TOTAL	17	11	17	13	11	10	0	10	16	11	8	16
				BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	2	0	0	0	0	0	0	0	0	0	0	0
				BOD5	BOD7	FLOW	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- Transboundary data of Vistula and Oder and some other transboundary parts (Pregolya and Nemunas).
- A few Ntot, Ptot values, some fractions of nutrients and heavy metals of MWWTPs
- no data on DIR INDUSTRY

Table 22. Reported Russian data 2014

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PP04	Ptot
RUSSIA	SUBCATCHMENT	TOTAL	11	4	8	1	5	5	0	5	4	4	5	4
				Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PP04	Ptot
	DIR MWWTP	TOTAL	14	2	14	6	14	2	0	10	13	6	14	12
				BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	2	2	2	2	2	1	2	2	1	2	0	2
				BOD5	BOD7	Flow	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	NO DATA											

Major gaps/missing data:

- Data on Unmonitored areas in the Baltic Proper
- Transboundary flow and loads of Neva and Seleznevka (Russian proportion)
- some nutrients and the fractions and heavy metals of MWWTPs (partly reported as aggregated, but number of plants is not known)
- Industrial plants reported as aggregated (reported as aggregated, but number of plants is not known)
- Apart from Ni, all heavy metal loads are 0.0 t/a(?).

Table 23. Reported Swedish data 2014

COUNTRY	SOURCE		TO BE REPORTED	Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PP04	Ptot
SWEDEN	SUBCATCHMENT	TOTAL	47	47	47	47	47	0	47	0	47	47	47	47
				Cd	FLOW	Hg	NNH4	NNO2	NNO23	NNO3	Ntot	Pb	PP04	Ptot
	DIR MWWTP	TOTAL	135	0	135	51	0	0	0	0	135	52	0	135
				BOD	Cd	Cr	Cu	FLOW	Hg	Ni	Ntot	Pb	Ptot	Zn
	DIR INDUSTRY	TOTAL	52	0	0	0	0	0	0	0	43	0	46	0
				BOD5	BOD7	FLOW	Ntot	Ptot						
	DIR AQUACULTURE	TOTAL	3	0	0	0	3	3						

Major gaps/missing data:

- Nutrient fractions and some heavy metal loads of MWWTPs
- Some Ntot and Ptot loads, all flow and heavy metal data of Industrial plants
- Aquaculture plants reported as aggregated

Discharges of the Swedish transboundary rivers Dalälven, Enningdalsälven, Göta älv, Indalsälven, Lule älv, Piteälv, Skellefte älv, Torne älv, Ume älv and Ångerman älv discharges are considered to be completely for Sweden. The Torne älv – Tornionjoki flow and loads will be divided in between Sweden and Finland.