



Baltic Marine Environment Protection Commission

12th Meeting of the Sixth Baltic Sea Pollution Load
Compilation Project (PLC-6)

PLC-6 12-2016

Helsinki, Finland, 14-16 September 2016

Document title	Status of the 2014 periodic PLC data reporting
Code	3-2
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
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Submitted by	PLC Data Manager
Reference	

Background

According to HELCOM Recommendations 26/2, the quantified waterborne discharges from point sources and losses from non-point pollution sources and quantified natural background losses into inland surface waters within the catchment area of the Baltic Sea located within the borders of the Contracting Parties are reported to HELCOM every sixth year as specified in the Guidelines starting in 2006. Later on, it has been agreed on to quantify the water borne discharges on the 2012/2014 data. German and Polish reporting is based on 2012 data and the rest of the countries have reported data on 2014. Further, it has also been agreed that the Contracting Parties should report periodic data at the latest by the end of December 2015.

The document contains information on the status of the periodic reporting of PLC-6 on indirect sources and major gaps in reporting.

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 2012/2014 periodic PLC-6 data reporting

Apart from the direct discharges of monitored rivers, unmonitored areas and direct point sources, the PLC-6 compilation consists of:

- Ntot and Ptot discharges of Diffuse sources by subcatchment and by source into the fresh water;
 - Ntot and Ptot discharges and flow of indirect point sources;
 - Ntot and Ptot discharges of diffuse and point sources by subcatchment and by source into the Baltic Sea;
- and
- Retention of nutrients (Ntot and Ptot) in the river system by subcatchment

The deadline for reporting indirect discharges and retention data was on the 31th of December 2015.

Reporting procedure

The Data Manager provided the tentatively prefilled country wise reporting templates with background information (i.e., a list of monitored rivers, unmonitored areas and indirect point sources) to each CP and instructed each national data reporter to amend and/or correct the prefilled templates and return them to the Data Manager. After the revision of the templates, they were returned to the CPs for their data entry according to the PLC Water Guidelines.

The CPs were instructed to

- 1) enter the data
- 2) upload the reporting template (data file) in the PLUS Application
- 3) carry out verification (check data) on the file (and to correct if needed)
- 4) insert the data in the data base

The PLUS (HELCOM Pollution Load User System) Application conducted the preliminary check (QA1: format, data type, etc.) and listed errors, notifications and warnings, as well as, the statistical check (QA2: statistical comparison of the data with the existing data). Both QA1 and QA2 procedures are still being developed, so further verification needs to be carried out manually. Some test features of QA3 (QA3: approval/correction/rejection functions) have recently been added in the Application.

Reporting of data by Contracting party

By the 31th of August 2016 three CPs (DK, FI, SE) have almost completed the reporting on indirect sources.

Four CPs (EE, LT, LV and RU) have uploaded and inserted part of their data. Estonia has reported very few data. Lithuania has completed diffuse losses, retention and source apportionment, but indirect point sources haven't been reported at all. Latvia misses the reporting of transboundary data. Russia's reporting covers the river Luga and unmonitored areas, while data of the rivers Neva and Narva are lacking. Reporting of the seven countries is based on 2014 data.

Two CPs (DE and PL) haven't reported any data on indirect sources (Table 1). Germany has informed that they will report the data by the end of August – early September 2016. Polish data on indirect sources

have been approved by the Polish authorities and the preparations for reporting have been started. Both German and Polish reporting will be based on 2012 data.

Final quality check for most of the data should be carried out manually, as no QA3 level for the periodic reporting, such as diffuse sources, retention and source apportionment, hasn't yet been included in the Application.

Table 1. The state of the reporting on indirect discharges and retention of 2014 by Contracting Party (31.08.2016)

COUNTRY	UPLOAD	INSERT	VERIFICATION/INSERT	QUALITY ASSURANCE
DK	X	X	-	IN PROCESS
EE	(X) ^(1, 2)	(X) ^(1, 2)	NEEDED	TO BE CARRIED OUT
FI	X	X	-	IN PROCESS
DE	NO DATA	NO DATA	NO DATA	TO BE CARRIED OUT
LT	X ^(2,3)	X ^(2,3)	NEEDED	TO BE CARRIED OUT
LV	X ⁽²⁾	X ⁽²⁾	NEEDED	TO BE CARRIED OUT
PL	NO DATA	NO DATA	NO DATA	TO BE CARRIED OUT
RU	X ^(1, 2)	X ^(1, 2)	NEEDED	TO BE CARRIED OUT
SE	X	X	-	IN PROCESS

⁽¹⁾ Data are missing

⁽²⁾ Incomplete reporting

⁽³⁾ Missing point source data

A compilation of the inserted mandatory data and the major gaps and missing data have been listed by source in Tables 2-10.

The main sources in the tables are:

Diffuse losses (diffuse discharges into the fresh water)

Indirect Municipal waste water plants (nutrient discharges into the fresh water)

Indirect Industrial plants (nutrient discharges into the fresh water)

Indirect Aquacultural plants (nutrient discharges into the fresh water)

Retention of nutrients in river systems;

Source apportionment (all nutrient discharges into the Baltic Sea)

The sources in the Diffuse source table:

DIS = total Diffuse discharges into the fresh water (if supplementary categories cannot be reported as AGS, ATS, MFS, NBS, SCS and SWS)

TRS = Transboundary discharges into the fresh water (at the border, if supplementary categories cannot be reported as AGS, ATS, MFS, NBS, SCS and SWS)

UKS = Unknown losses (total discharges if no categories can be defined)

Defined categories of Diffuse discharges (DIS) into the fresh water:

AGS = Discharges of agriculture

ATS = Discharges of Atmosphere deposition

MFS = Discharges of Managed Forestry

NBS = Discharges of Natural background sources

SCS = Discharges of Scattered dwellings

SWS = Discharges of Storm water and over flows

The sources in Source apportionment table:

DUL = Unknown Diffuse discharges into the Baltic Sea (if supplementary categories cannot be reported as AGL, ATL, MFL, NBL, SCL, SWL or DIL)

Defined categories of Diffuse discharges into the Baltic Sea:

AGL = Discharges of agriculture

ATL = Discharges of atmosphere deposition

MFL = Discharges of managed forestry

NBL = Discharges of natural background sources

SCL = Discharges of scattered dwellings

SWL = Discharges of storm water and over flows

DIL = Sum of discharges of more than one category

PUL = Point source discharges into the Baltic Sea (if supplementary categories cannot be reported as

AQL, INL, MWL or OTL)

AQL = Discharges of aquaculture

INL = Discharges of industrial plants

MWL = Discharges of municipal waste water treatment plants

OTL = Discharges of other plants than the three categories

PIL = Sum of discharges of more than one point source category

TRL = Transboundary discharges into the Baltic Sea (if supplementary categories cannot be reported as AGL, ATL, MFS, NBL, SCL, SWL, DIL, AQL, INL, MWL, OTL or PIL)

UKL = Unknown discharges into the Baltic Sea (unknown total discharges if any categories cannot be defined)

In each table, '1' stands for reported data and '0' missing data, respectively.

1	REPORTED DATA
0	MISSING DATA

Number of sources to be reported and number data which have been reported in the tables and major gaps of mandatory data have been listed below each table.

Table 2. Reported Danish data 2014 on indirect sources

COUNTRY	SOURCE		PRAM	TO BE REP	AGS	ATS	DIS	MFS	NBS	SCS	SWS	TRS	UKS							
DENMARK	DIFFUSE LOSSES	TOTAL	PTOT	114	114	0	0	114	114	114	0	0	0							
		TOTAL	NTOT	114	114	0	0	114	114	114	0	0	0	0						
COUNTRY	SOURCE			TO BE REP	Ntot	Ptot														
	RETENTION	TOTAL		114	114	114														
COUNTRY	SOURCE		PRAM	TO BE REP	AGL	ATL	DIL	DUL	MFL	NBL	SCL	SWL	AQL	INL	MWL	OTL	PIL	TRL	UKL	
	SOURCE APPORTIONM	TOTAL	PTOT	114	114	114	0	0	0	114	114	114	114	114	114	114	0	0	0	0
		TOTAL	NTOT	114	114	114	0	0	0	114	114	114	114	114	114	114	0	0	0	0
COUNTRY				TO BE REP	FLOW	Ntot	Ptot													
	INDIR MWWTP	TOTAL		598	598	598	598													
				TO BE REP	FLOW	Ntot	Ptot													
	INDIR INDUSTRY	TOTAL		100	97	25	19													
				TO BE REP	FLOW	Ntot	Ptot													
	INDIR AQUACULTURE	TOTAL		94	0	93	93													

Major gaps/missing data in the reporting:

-Several Ntot and Ptot discharges of industrial plants, otherwise reporting have been completed

Table 3. Reported Estonian data 2014 on indirect sources

COUNTRY	SOURCE		PRAM	TO BE REP	AGS	ATS	DIS	MFS	NBS	SCS	SWS	TRS	UKS						
ESTONIA	DIFFUSE LOSSES	TOTAL	PTOT	22	0	0	0	0	0	0	0	0	0	7					
		TOTAL	NTOT	22	0	0	0	0	0	0	0	0	0	0	7				
COUNTRY	SOURCE			TO BE REP	Ntot	Ptot													
	RETENTION	TOTAL		22	13	13													
COUNTRY	SOURCE		PRAM	TO BE REP	AGL	ATL	DIL	DUL	MFL	NBL	SCL	SWL	AQL	INL	MWL	OTL	PIL	TRL	UKL
	SOURCE APPORTIONM	TOTAL	PTOT	22	0	0	0	7	0	0	0	0	0	0	1	2	0	0	0
		TOTAL	NTOT	22	0	0	0	7	0	0	0	0	0	0	1	2	0	0	0
COUNTRY				TO BE REP	FLOW	Ntot	Ptot												
	INDIR MWWTP	TOTAL		9	9	9	9												
				TO BE REP	FLOW	Ntot	Ptot												
	INDIR INDUSTRY	TOTAL		8	8	7	7												
				TO BE REP	FLOW	Ntot	Ptot												
	INDIR AQUACULTURE	TOTAL		0	0	0	0												

Major gaps/missing data in the reporting:

-Diffuse sources of all subcatchments have been re-reported, but all data should be verified by the national reporter

-Some retention data

-Only a few subcatchments of source apportionment discharges and no further categories than diffuse unknown (DUL) have been reported

-Transboundary loads completely

-Ntot and Ptot discharges of an industrial plant (RAKVERE LIHAKOMBINAAT AS)

-No data on aquacultural plants to be reported

Table 4. Reported Finnish data 2014 on indirect sources

COUNTRY	SOURCE		PRAM	TO BE REP	AGS	ATS	DIS	MFS	NBS	SCS	SWS	TRS	UKS							
FINLAND	DIFFUSE LOSSES	TOTAL	PTOT	34	34	34	0	34	34	34	34	0	0							
		TOTAL	NTOT	34	34	34	0	34	34	34	34	34	0	0						
COUNTRY	SOURCE			TO BE REP	Ntot	Ptot														
	RETENTION	TOTAL		34	34	34														
COUNTRY	SOURCE		PRAM	TO BE REP	AGL	ATL	DIL	DUL	MFL	NBL	SCL	SWL	AQL	INL	MWL	OTL	PIL	TRL	UKL	
	SOURCE APPORTIONMENT	TOTAL	PTOT	34	34	34	0	0	34	34	34	34	30	34	34	0	0	0	0	
		TOTAL	NTOT	34	34	34	0	0	34	34	34	34	31	34	34	0	0	0	0	
COUNTRY				TO BE REP	FLOW	Ntot	Ptot													
	INDIR MWWTP	TOTAL		368	365	368	349													
	INDIR INDUSTRY	TOTAL		998	161	941	929													
	INDIR AQUACULTURE	TOTAL		65	0	63	64													

Major gaps/missing data in the reporting:

-Flow data of aquacultural plants (plants discharging into the fresh water), otherwise reporting have been completed.

Table 5. Reported German data 2014 on indirect sources

COUNTRY	SOURCE		PRAM	TO BE REP	AGS	ATS	DIS	MFS	NBS	SCS	SWS	TRS	UKS							
GERMANY	DIFFUSE LOSSES	TOTAL	PTOT	27	0	0	0	0	0	0	0	0	0							
		TOTAL	NTOT	27	0	0	0	0	0	0	0	0	0	0						
COUNTRY	SOURCE			TO BE REP	Ntot	Ptot														
	RETENTION	TOTAL		27	2	2														
COUNTRY	SOURCE		PRAM	TO BE REP	AGL	ATL	DIL	DUL	MFL	NBL	SCL	SWL	AQL	INL	MWL	OTL	PIL	TRL	UKL	
	SOURCE APPORTIONMENT	TOTAL	PTOT	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		TOTAL	NTOT	27	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
COUNTRY				TO BE REP	FLOW	Ntot	Ptot													
	INDIR MWWTP	TOTAL		2	2	2	2													
	INDIR INDUSTRY	TOTAL		3	3	3	3													
	INDIR AQUACULTURE	TOTAL																		

Major gaps/missing data in the reporting:

- All data of diffuse losses
- Most of the data on retention
- All data of Source apportionment
- Some missing MWWTPs (reported only 2 plants) for the whole catchment
- Some missing industrial plants (reported only 2 plants) for the whole catchment, MOKKEREI ALTENTREPTOW reported twice
- No data on aquacultural plants to be reported

Table 6. Reported Latvian data 2014 on indirect sources

COUNTRY	SOURCE		PRAM	TO BE REP	AGS	ATS	DIS	MFS	NBS	SCS	SWS	TRS	UKS							
LATVIA	DIFFUSE LOSSES	TOTAL	PTOT	13	0	0	11	0	12	0	0	0	1							
		TOTAL	NTOT	13	0	0	12	0	12	0	0	0	0	0						
COUNTRY	SOURCE			TO BE REP	Ntot	Ptot														
	RETENTION	TOTAL		13	13	13														
COUNTRY	SOURCE		PRAM	TO BE REP	AGL	ATL	DIL	DUL	MFL	NBL	SCL	SWL	AQL	INL	MWL	OTL	PIL	TRL	UKL	
	SOURCE APPORTIONMENT	TOTAL	PTOT	13	0	0	12	0	0	0	0	0	0	0	0	0	12	0	0	
		TOTAL	NTOT	13	0	0	12	0	0	0	0	0	0	0	0	0	0	12	0	0
COUNTRY				TO BE REP	FLOW	Ntot	Ptot													
	INDIR MWWT	TOTAL		26	26	26	26													
				TO BE REP	FLOW	Ntot	Ptot													
	INDIR INDUSTRY	TOTAL		19	19	19	19													
				TO BE REP	FLOW	Ntot	Ptot													
	INDIR AQUACULTURE	TOTAL (aggregated)		2	2	2	2													

Major gaps/missing data in the reporting:

- further categories than DIS on total discharges into the fresh water haven't been reported
- further categories than DIL on total discharges into Baltic Sea haven't been reported
- Transboundary catchments of other CPs not reported (DAUGAVA, BARTA, VENTA, LIELUPE)
- Aquacultural plants reported as aggregated

Table 7. Reported Lithuanian data 2014 on indirect sources

COUNTRY	SOURCE		PRAM	TO BE REP	AGS	ATS	DIS	MFS	NBS	SCS	SWS	TRS	UKS							
LITHUANIA	DIFFUSE LOSSES	TOTAL	PTOT	9	9	0	0	0	9	0	9	6	0							
		TOTAL	NTOT	9	9	9	0	0	9	0	9	6	0							
COUNTRY	SOURCE			TO BE REP	Ntot	Ptot														
	RETENTION	TOTAL		9	9	9														
COUNTRY	SOURCE		PRAM	TO BE REP	AGL	ATL	DIL	DUL	MFL	NBL	SCL	SWL	AQL	INL	MWL	OTL	PIL	TRL	UKL	
	SOURCE APPORTIONMENT	TOTAL	PTOT	9	9	0	0	0	9	0	9	9	0	0	0	0	8	6	0	
		TOTAL	NTOT	9	9	9	0	0	9	0	9	9	9	0	0	0	8	6	0	
COUNTRY				TO BE REP	FLOW	Ntot	Ptot													
	INDIR MWWT	TOTAL		0	0	0	0													
				TO BE REP	FLOW	Ntot	Ptot													
	INDIR INDUSTRY	TOTAL		0	0	0	0													
				TO BE REP	FLOW	Ntot	Ptot													
	INDIR AQUACULTURE	TOTAL		0	0	0	0													

Major gaps/missing data in the reporting:

- Only a few categories of diffuse losses (diffuse discharges into the fresh water) have been reported and NBS includes also MFS (informed by national data reporter)
- Only a few categories of Source apportionment (discharges into the Baltic Sea) have been reported and NBS includes also MFS (informed by national data reporter)
- Point sources reported as sum of categories
- All indirect point source discharges into the fresh water are missing (to be reported later)

Table 8. Reported Polish data 2014 on indirect sources

COUNTRY	SOURCE		PRAM	TO BE REP	AGS	ATS	DIS	MFS	NBS	SCS	SWS	TRS	UKS						
POLAND	DIFFUSE LOSSES	TOTAL	PTOT	23	0	0	0	0	0	0	0	0	0						
		TOTAL	NTOT	23	0	0	0	0	0	0	0	0	0	0					
COUNTRY	SOURCE			TO BE REP	Ntot	Ptot													
	RETENTION	TOTAL		23	0	0													
COUNTRY	SOURCE		PRAM	TO BE REP	AGL	ATL	DIL	DUL	MFL	NBL	SCL	SWL	AQL	INL	MWL	OTL	PIL	TRL	UKL
	SOURCE APPORTIONM	TOTAL	PTOT	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		TOTAL	NTOT	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COUNTRY				TO BE REP	FLOW	Ntot	Ptot												
	INDIR MWWTP	TOTAL		0	0	0	0												
				TO BE REP	FLOW	Ntot	Ptot												
	INDIR INDUSTRY	TOTAL		0	0	0	0												
				TO BE REP	FLOW	Ntot	Ptot												
	INDIR AQUACULTURE	TOTAL		0	0	0	0												

Major gaps/missing data in the reporting:

-All data on indirect discharges of 2014, but data reporting has been started as the approval by the Polish authorities has been received.

Table 9. Reported Russian data 2014 on indirect sources

COUNTRY	SOURCE		PRAM	TO BE REP	AGS	ATS	DIS	MFS	NBS	SCS	SWS	TRS	UKS						
RUSSIA	DIFFUSE LOSSES	TOTAL	PTOT	6	0	0	3	0	3	0	0	0	0						
		TOTAL	NTOT	6	0	0	3	0	3	0	0	0	0	0					
COUNTRY	SOURCE			TO BE REP	Ntot	Ptot													
	RETENTION	TOTAL		6	3	3													
COUNTRY	SOURCE		PRAM	TO BE REP	AGL	ATL	DIL	DUL	MFL	NBL	SCL	SWL	AQL	INL	MWL	OTL	PIL	TRL	UKL
	SOURCE APPORTIONM	TOTAL	PTOT	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		TOTAL	NTOT	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COUNTRY				TO BE REP	FLOW	Ntot	Ptot												
	INDIR MWWTP	TOTAL		7	7	7	7												
				TO BE REP	FLOW	Ntot	Ptot												
	INDIR INDUSTRY	TOTAL		7	7	7	7												
				TO BE REP	FLOW	Ntot	Ptot												
	INDIR AQUACULTURE	TOTAL		0	0	0	0												

Major gaps/missing data in the reporting:

-Diffuse losses and natural background losses reported for Luga and unmonitored areas of Gulf of Finland and the Baltic Proper, but further categories are missing

-All data of Neva, Narva, Seleznevka and Pregolya

-Retention data of Neva, Narva, Seleznevka and Pregolya

-All source apportionment data

-All tranboundary data

Table 10. Reported Swedish data 2014 on indirect sources

COUNTRY	SOURCE		PRAM	TO BE REPORTED	AGS	ATS	DIS	MFS	NBS	SCS	SWS	TRS	UKS						
SWEDEN	DIFFUSE LOSSES	TOTAL	PTOT	47	47	47	0	47	47	47	46	0	0						
		TOTAL	NTOT	47	47	47	0	47	47	47	47	0	0						
COUNTRY	SOURCE			TO BE REPORTED	Ntot	Ptot													
	RETENTION	TOTAL		47	47	47													
COUNTRY	SOURCE		PRAM	TO BE REPORTED	AGL	ATL	DIL	DUL	MFL	NBL	SCL	SWL	AQL	INL	MWL	OTL	PIL	TRL	UKL
	SOURCE APPORTIONM	TOTAL	PTOT	47	47	47	0	0	47	47	47	46	0	30	44	0	0	0	0
		TOTAL	NTOT	47	47	47	0	0	47	47	47	46	0	30	44	0	0	0	0
COUNTRY				TO BE REPORTED	FLOW	Ntot	Ptot												
	INDIR MWWTP	TOTAL (aggregated)		47	0	47	47												
				TO BE REPORTED	FLOW	Ntot	Ptot												
	INDIR INDUSTRY	TOTAL (aggregated)		31	0	29	30												
				TO BE REPORTED	FLOW	Ntot	Ptot												
	INDIR AQUACULTURE	TOTAL (aggregated)		10	0	7	10												

Some adjustments needed in industrial plants as plants ISE0040 and ISE0041 have been double coded both in names and recipient water body (subcatchment of discharge).

Point sources have been aggregated by subcatchments, but the number of plants reported in the database as well as in the names of the plants.

Major gaps/missing data in the reporting:

-Flow data of point sources, otherwise reporting completed

Notes of the reporting procedure

The tentatively prefilled templates with background information were provided for the CPs for their amendments and corrections. The CPs were supposed to return the templates with amended, corrected or approved background information to the Data Manager.

Some CPs returned the corrected /amended templates (background information) and returned them, some countries didn't provide any corrections. The 'updated and finalized' templates were returned to the CPs and to be used for data entry, even if the background information hadn't been corrected and/or amended.

Correction/amendment procedure of background information has turned to be more laborious than expected, both for the national data reporters and the data manager. Several 'rounds' of corrections were conducted, but in some cases the correction requests were just neglected by the CPs.

During the reporting, some discrepancies were found in the templates by the CPs during the data entry or when uploading and verifying the data. Also the instructions (comment box vs. drop down menu) were in a few cases were conflicting with the reporting requirements, containing, e.g., wrong or unnecessary options or abbreviations. The discrepancies in the templates and instructions have been corrected.. The updates of reporting templates and instructions have been provided in the PLUS Application Portal to be downloaded.

Despite the data entry instructions various ways of reporting has taken place. The verification procedure of the PLUS Application results in a report (show log) which lists errors, warnings, notifications at the QA level 1 i.e., format and conformity of the data with the data base structure. Any listed error leads to rejection of the data. At the QA level 2, verification procedure of the values, comprises successfulness of reporting as 3 separate categories: distrust values, suspicious values or unchecked values. The verification procedure is based on statistical tests. Reporting wrong data and sequential 'Check data' lead to many errors and warnings. An example of a report 'show log' is in Figure 1. The number of unchecked values defines the needs of manual verification, as quality flagging of the inserted data is the objective.

New features have been added in the QA procedure. Once the ‘Check and insert’ or ‘Check and insert/upload’ there are ‘Total number of processed rows’ and ‘Number of rows passed QA level 1 and the former notification ‘Number of the rejected rows’ has been moved here.

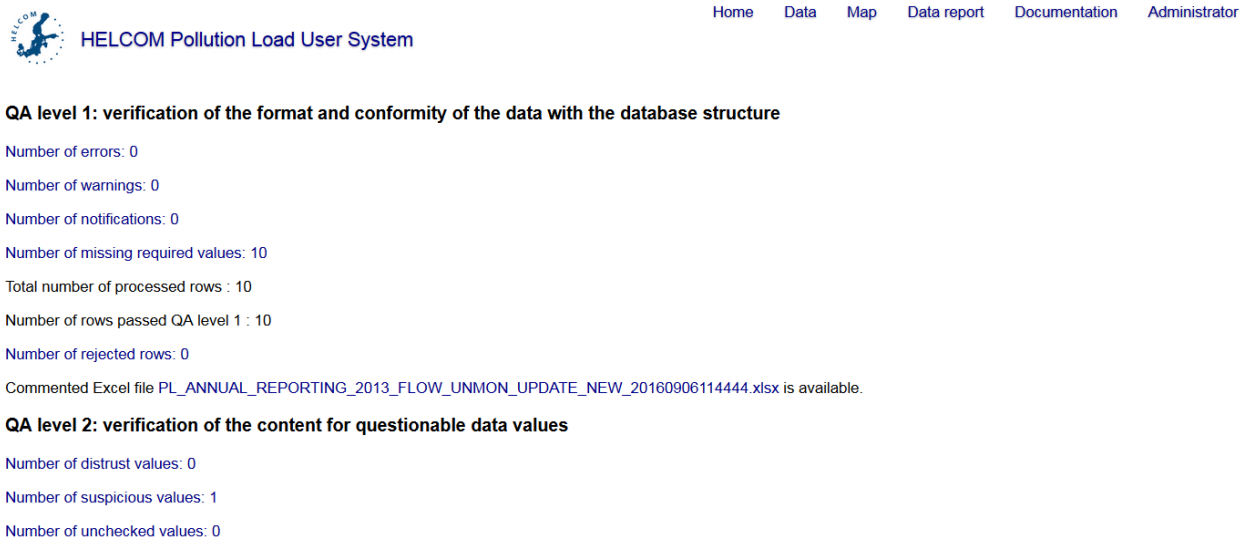


Figure 1. A result of reporting (upload and check data) in ‘Show log’ in the PLUS Application.

In the PLUS Application, the ‘Check’ and ‘Check and insert’ are different procedures. The ‘Check’ covers the verification based on the rules of QA1 and QA2 and the ‘Check and insert’ includes the ‘Check’, but also verifies that inserted data will obey the existing integrity rules and internal constraints (Figure 2). Otherwise, the data will not be inserted.

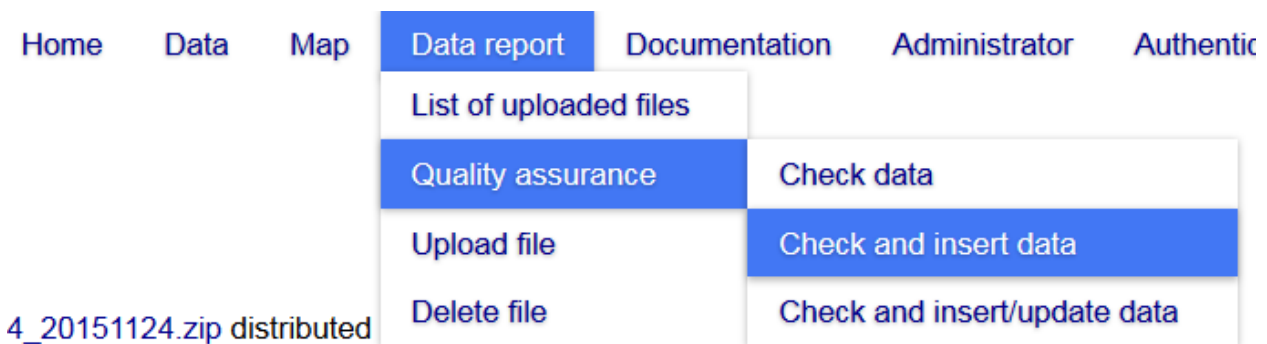


Figure 2. The menu of Data report – Quality assurance in the PLUS Application

Moreover, a QA level 3 check has been also added in the Application. All data which have been inserted, but still need to be verified, can be listed by choosing ‘Run QA3 checks’. Data of any country or period can be chosen in the drop down menu (figure 3).

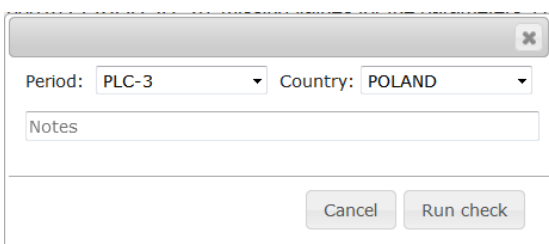


Figure 3. Drop down menu view after clicking ‘Run QA3 checks’ to choose the Period and Country.

The result can be seen in the list of 'Show QA3 logs' (figure 4), which will show a list of QA3 log for chosen data, i.e., period and country.

The screenshot shows the HELCOM Pollution Load User System interface. At the top, there is a navigation menu with 'Home', 'Data', 'Map', 'Data report', 'Documentation', 'Administrator', and 'Authent'. The 'Data report' menu is open, showing options like 'List of uploaded files', 'Quality assurance', 'Upload file', and 'Delete file'. The 'Quality assurance' option is selected, and a sub-menu is open with options: 'Check data', 'Check and insert data', 'Check and insert/update data', 'Run QA3 checks', and 'Show QA3 logs'. The 'Show QA3 logs' option is highlighted. Below the menu is a table with columns: Log id, First name, Surname, e-mail, Period, Country, Date of QA, and an empty column. The table contains 10 rows of data.

Log id	First name	Surname	e-mail	Period	Country	Date of QA	
19	Pekka	Kotilainen	pekka.kotilainen@ymparisto.fi	PLC-6	FI	2016-09-13 12:5	
18	Natalia	Ivaskova	ivaskova@helcom.ru	PLC-6	RU	2016-08-17 12:3	
17	Alexander	Sokolov	alesok@me.com	PLC-6	RU	2016-07-08 08:43:21.82	Show log
16	Dietmar	Koch	dietmar.koch@yahoo.com	2013	DE	2016-05-24 09:00:54.837	Show log
15	Jytte	Erfurt	je@bios.au.dk	1995	DK	2016-05-19 10:19:17.967	Show log
14	Jytte	Erfurt	je@bios.au.dk	PLC-6	DK	2016-05-18 13:40:36.183	Show log
13	Alexander	Sokolov	alesok@me.com	PLC-6	LT	2016-05-17 19:53:40.07	Show log new criteria for unmonitored
12	Alexander	Sokolov	alesok@me.com	2008	DE	2016-05-17 19:53:14.71	Show log new criteria for unmonitored
11	Svajunas	Plunge	s.plunge@aaa.am.lt	PLC-6	LT	2016-05-17 07:42:44.877	Show log Test
10	Pekka	Kotilainen	pekka.kotilainen@ymparisto.fi	2008	DE	2016-05-17 07:34:29.067	Show log

Figure 4. Choosing the show QA3 log in the Application.

The entire reporting procedure, instruction and verification reports are still not clear for all data reporters. After the insertion of the data in many cases the errors, warnings and notifications haven't been understood as the amendments and corrections haven't been carried out.