

Welcome
to the 3rd virtual meeting of the
Water Framework Directive CIS WG Chemicals
subgroup on Emissions to Water
8th June 2021



Agenda

13.15		Start the GoToMeeting connection
13.20-13.30		Check in time (to test the connection)
13.30-13.40	1	Start of the meeting, round the table, instruction (Bouke Ottow)
13.40-13.45	2	Goal of the project, scope of the meeting (Caroline Whalley)
13.45-14.10	3	Proposal how to combine the documents and finalize the work (Joost van den Roovaart)
14.10-14.40	4	Presentation of Eurometaux, part A: Diffuse Sources of Cd, Ni and Pb to Water (Sean Comber)
<i>14.40-14.50</i>		<i>Break</i>
14.50-15.05	5	Presentation of the Danube Hazardous Substances project (Oliver Gabriel)
15.05-15.15	6	Presentation docs of Pathway 7 on CSO/storm water overflows and Pathway 8 on treated urban waste water (Antje Ullrich)
15.15-15.25	7	Presentation of the Eurometaux work, part B: Sources and fate of metals and metalloids in UWWTPs – the Nickel and Cadmium cases (Sean Comber)
15.25-15.45		Combined questions and discussion on agenda items 6 and 7
15.45-16.00	8	Follow up and inventory of contributions (Bouke Ottow and Joost van den Roovaart)
16.00	9	Closing of the meeting (Caroline Whalley)



Proposal how to combine the documents and finalize the work



Proposal how to combine the documents and finalize the work

- Document *Proposal for a simplified method for the quantification of emissions to water (14nd August 2020) and table with emission factors*



Proposal how to combine the documents and finalize the work

Proposal for a simplified method for the quantification of emissions to water

Updated draft version 14th August 2020

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Document being drafted under CIS WG Chemicals activity, sub-group on emissions.

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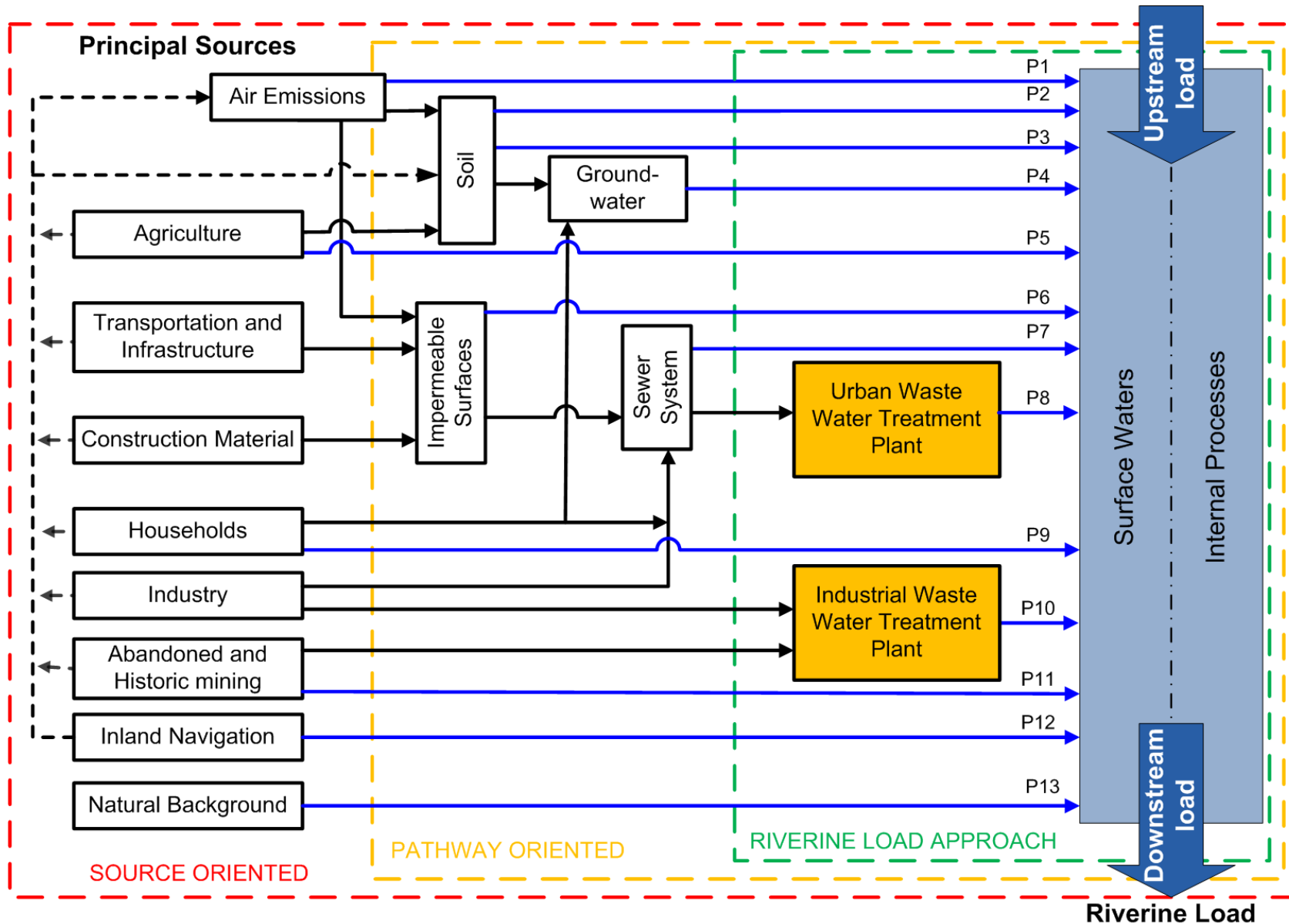
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Proposal how to combine the documents and finalize the work



P1	Atmospheric Deposition directly to surface water
P2	Erosion
P3	Surface runoff from unsealed areas
P4	Interflow, Tile Drainage and
P5	Direct discharges and drifting
P6	Surface Runoff from sealed Areas
P7	Storm Water Outlets, Combined Sewer overflows, Unconnected sewers
P8	Urban Waste Water treated
P9	Individual - treated and untreated-household discharges
P10	Industrial Waste Water treated
P11	Direct Discharges from Mining
P12	Direct Discharges from Navigation
P13	Natural Background



Proposal how to combine the documents and finalize the work

Pathway	Pathway name	Emission factor	Ntot	Ptot	Cadmium	Lead	Mercury	Nickel	Anthracene	Benzo(a)pyrene	Benzo(g,h,i)perylene	Fluoranthene	DEHP	Unit
P1	Atmospheric Deposition directly to surface water	EMEP Flux			*	*	*			*				g/ha/year
P2	Erosion	Metal content fine soil			0.3	27	0.1	33						mg/kg dry weight
P3	Surface runoff from unsealed areas	Mean metal content of fertilisers:												
		- Cattle manure			0.3	12	0.2	9						mg/kg dry weight
		- Pig manure			0.6	13	0.4	17						mg/kg dry weight
		- Poultry manure			0.3	9	0.1	14						mg/kg dry weight
		- P-fertiliser			14	9	0.03	21						mg/kg dry weight
		- N-fertiliser			0.2	6	0.01	5					mg/kg dry weight	
P4	Interflow, Tile Drainage and Groundwater	Mean metal content of drainage water			2	15	0.05	10						ug/l
P5	Direct discharges and drifting	-												
P6	Surface Runoff from sealed Areas	-												
P7	Storm Water Outlets	Mean metal concentration in storm sewer overflows			3	80	0.4	45						ug/l
		Mean metal concentration in sewer and treatment plant overflows			2	60	0.5	30						ug/l
P8	Urban Waste Water treated	Effluent load Tertiary treatment	830	80	0.09	0.31	0.02	0.05					0.06	g/p.e.
		Effluent load Secondary treatment	1850	170	0.09	0.31	0.02	0.05					0.35	g/p.e.
		Effluent load Primary treatment	2410	200	0.64	0.74	0.09	0.91					0.035	g/p.e.
P9	Individual treated household discharges (IBA)	Mean metal concentration in wastewater from households	4285	791	0.05	0.79	0.018	0.5	0.0007			0.025		ug/l
P10	Industrial Waste Water treated	-												
P11	Direct Discharges from Mining	-												
P12	Direct Discharges from Navigation	-												
P13	Natural Background	-												
* country specific emission factor from EMEP modelling data														
		pollutant relevant for this pathway												
		pollutant not relevant for this pathway												
		unknown if pollutant is relevant for this pathway												



Proposal how to combine the documents and finalise

- Document *Proposal for a simplified method for emissions to water (14th August 2020)* and table
- Document *Calculating emissions from urban waste water treatment plants to surface waters (14th August 2020)*

DRAFT DOCUMENT 14th August 2020

DRAFT PAPER

Calculating emissions from urban waste water treatment plants to surface waters

This activity is carried out by the European Topic Centre for Inland, Coastal and Marine Waters (ETC/ICM) for the European Environment Agency (EEA) and is part of the Action Plan 2020: 1.5.2.3: Improving the reporting of emissions to water, Task 3. Gap-analysis for UWWTPs for less frequently monitored pollutants. This document has no legal status. The goal of the document is only to help EU Member States to improve the quantification of emissions within the existing legislation.

1) Background

Under the Water Framework Directive (WFD), according to Article 5 of the Directive 2008/105/EC on Environmental Quality Standards (amended 2013/39/EU) Member States (MS) are required to report an inventory of annual emissions, discharges and losses of priority substances. The inventories should give information on the relevance of priority substances at the spatial scale of the River Basin District (RBD) or the national part of an international RBD, and on the loads discharged to the aquatic environment. This give information on the success of measures to reduce emissions and indicate whether further efforts may be needed to deliver good chemical status of surface waters.

Pursuant to Article 5(6) of EQS Directive a "Technical Guidance Document" was prepared. This guidance document aims to help MS establish the inventory and to reduce the burden by focusing on substances that are relevant at the RBD level. Ensuring EU wide comparability of the results was another objective of the guidance. The guidance recommends a two-step analysis to assess in the first step the current relevance (applying the described three relevance and two emission criteria) of each substance (EQS Directive, Annex I, Part A) at the RBD level. The aim is to identify those substances which are of high relevance to concentrate the efforts to those substances. In the second step, for the substances of high relevance a more detailed analysis using a tiered approach should be performed (EU 2012). Different approaches are described. They vary in complexity in order to account for the wide range of data sources available across MS. The level (tier) with lowest complexity and informational value about true sources is based on 'Point source information'. To quantify point source emissions data on point sources accordingly emissions factors should be used (EU 2012).

Results of the first reporting exercises (2nd River Basin Management Plan (RBMP) cycle) show main problems according to consistency, completeness and quality of reported emission data. The first inventory was incomparable between MS. For most substances, MS did not report point source emissions. Reasons might be that:

- substances were identified as not relevant or even only of minor relevance at RBD level. In that case, according to the recommendations of the guidance, only river loads at the RBD level are required,
- there is still a lack of reliable point source data emission factors.

Point sources such as urban wastewater treatment plants (UWWTPs) and industrial dischargers can be important sources for emissions to water. In particular, the urban waste water system collects a variety of pollutants coming from many different sources in urban areas (households (domestic chemicals, pharmaceuticals...), traffic (e.g. combustion processes), facade coatings (wall paint) etc.).

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Proposal how to combine the documents and finalize the work

- Document *Proposal for a simplified method for the quantification of emissions to water (14th August 2020) and table with emission factors*
- Document *Calculating emissions from urban waste water treatment plants to surface waters (14th August 2020) = Pathway 8*
- Add Fact Sheets per Pathway as annexes in main document
- Format Fact Sheets



Format Fact Sheets

- 1 Introduction:
 - > Short description of the pathway
 - > Relation to other pathways (possible overlap)
 - > Main known (primary) sources behind the pathway
 - > Main pollutants
- 2 Calculation method:
 - > Explanation of calculation method
 - > Or model results including data input
- 3 Activity rates:
 - > What activity rate can be used
 - > Available spatial distribution of the activity rate
 - > Where to find information of the activity rate
 - > Overview of activity rates per EU MS (when available)
- 4 Emission factors:
 - > Overview of emission factors per pollutant
 - > Possible differences between MS when relevant
- 5 Emissions to surface water:
 - > Proposed distribution of calculated emissions to surface water, sewer system, soil & groundwater
- 6 Data gaps:
 - > Data gaps (sources, pollutants) and uncertainties
- 7 References:
 - > References to literature and other links



Selection of Pollutants

Pollutants: selection of 10 pollutants including nutrients

1. Comments from WG Chemicals and ECOSTAT

- Proposal to skip nutrients

2. Data available for more pollutants (example UWWTPs)

- Proposal to include more (priority) substances in the Fact Sheets
- ... if available

Pollutant
total – Nitrogen*
total – Phosphorus*
Cadmium
Lead
Mercury
Nickel
Benzo(a)pyrene
Fluoranthene
4-Nonylphenol
DEHP



Open questions/discussion

