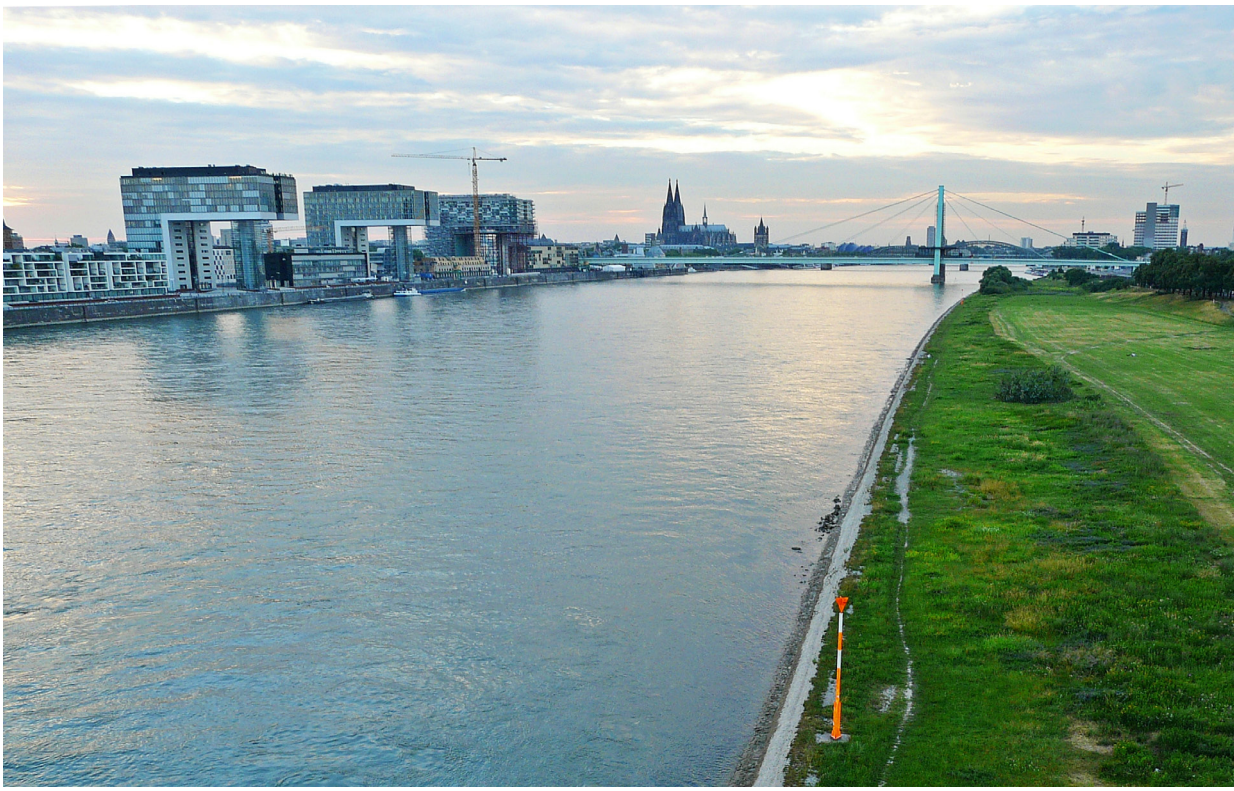
OSPAR COMMISSION

Riverine Inputs and Direct Discharges to Convention Waters

OSPAR Contracting Parties' RID 2014 Data Report



2016

Monitoring and Assessment Series

OSPAR Convention

The Convention for the Protection of the Marine Environment of the North-East Atlantic (the "OSPAR Convention") was opened for signature at the Ministerial Meeting of the former Oslo and Paris Commissions in Paris on 22 September 1992. The Convention entered into force on 25 March 1998. It has been ratified by Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland and the United Kingdom and approved by the European Union and Spain.

Convention OSPAR

La Convention pour la protection du milieu marin de l'Atlantique du Nord-Est, dite Convention OSPAR, a été ouverte à la signature à la réunion ministérielle des anciennes Commissions d'Oslo et de Paris, à Paris le 22 septembre 1992. La Convention est entrée en vigueur le 25 mars 1998. La Convention a été ratifiée par l'Allemagne, la Belgique, le Danemark, la Finlande, la France, l'Irlande, l'Islande, le Luxembourg, la Norvège, les Pays-Bas, le Portugal, le Royaume-Uni de Grande Bretagne et d'Irlande du Nord, la Suède et la Suisse et approuvée par l'Union européenne et l'Espagne

Acknowledgement

This report has been prepared by Csilla Farkas and Eva Skarbøvik

NIBIO
NORWEGIAN INSTITUTE OF BIOECONOMY RESEARCH

Contents

National 2014 RID data reports (excel and word files):

https://odims.ospar.org/en/submissions/ospar_rid_data_reports_2014_01_001/

Glossary

Catchment area	The area of land delimited by watersheds draining into a body of water (river, basin, reservoir, sea).
Cd	Cadmium
Cu	Copper
Direct discharges	Point sources discharging directly to coastal or transitional waters.
Heavy metals	Five heavy metals are mandatory in the RID Programme: cadmium, copper, lead, mercury and zinc.
Hg	Mercury
LOD	Limit of Detection. The minimum concentration of a compound that can be detected.
LOQ	**L**imit of quantification. The minimum concentration of a compound that can be quantified confidently. LOQ is determined by assessing the variability (standard deviation) of replicate measurements of analytes at a concentration near the detection limit.
Main river	This term is on its way out of the RID Programme, as main and tributary rivers are now exchanged with the term "monitored rivers". A main river was defined as a river that was monitored at least once a month (12 datasets) every year. Main rivers should be major load bearing rivers.
Monitored area	The catchment upstream of the RID river monitoring station.
Monitored river	All rivers that have RID water quality monitoring stations, irrespective of sampling frequency.
Monitoring station	The site at which water samples are collected for chemical analyses within the RID Programme.
Pb	Lead
Riverine inputs	A mass of a determinand carried to the maritime area by a watercourse (natural or man-made) per unit of time.
SPM	Suspended Particulate Matter
Total inputs	The sum of inputs as measured in the monitored rivers, and estimated from

	unmonitored areas and direct discharges.
Total-N	Total Nitrogen
Total-P	Total Phosphorus
Tributary river	This term is on its way out of the RID Programme, as main and tributary rivers are now being exchanged with the term “monitored rivers”. A tributary river would have a separate catchment from a main river and an outlet directly to the maritime area or to a main river downstream of a river monitoring point. A tributary river should be a minor load bearing river and can be sampled at a frequency determined by each Contracting Party.
Unmonitored area	Any land area not covered by a riverine monitoring station. This can include the part of the catchment located downstream of the riverine monitoring station and all unmonitored catchments. Unmonitored areas can have both diffuse and point sources of pollution. If point sources are discharging directly to coastal or transitional waters, they are named “direct discharges” and should be reported as such.
Zn	Zinc

Introduction

The Comprehensive Study on Riverine Inputs and Direct Discharges (RID; agreement 1998-5, update 2014-04)[1] is part of the wider Joint Assessment and Monitoring Programme of OSPAR. The purpose of the RID Study is to assess, as accurately as possible, all riverine inputs and direct discharges of selected pollutants to Convention waters on an annual basis. The OSPAR Convention area is divided into five main regions (Figure 1; Table 1).

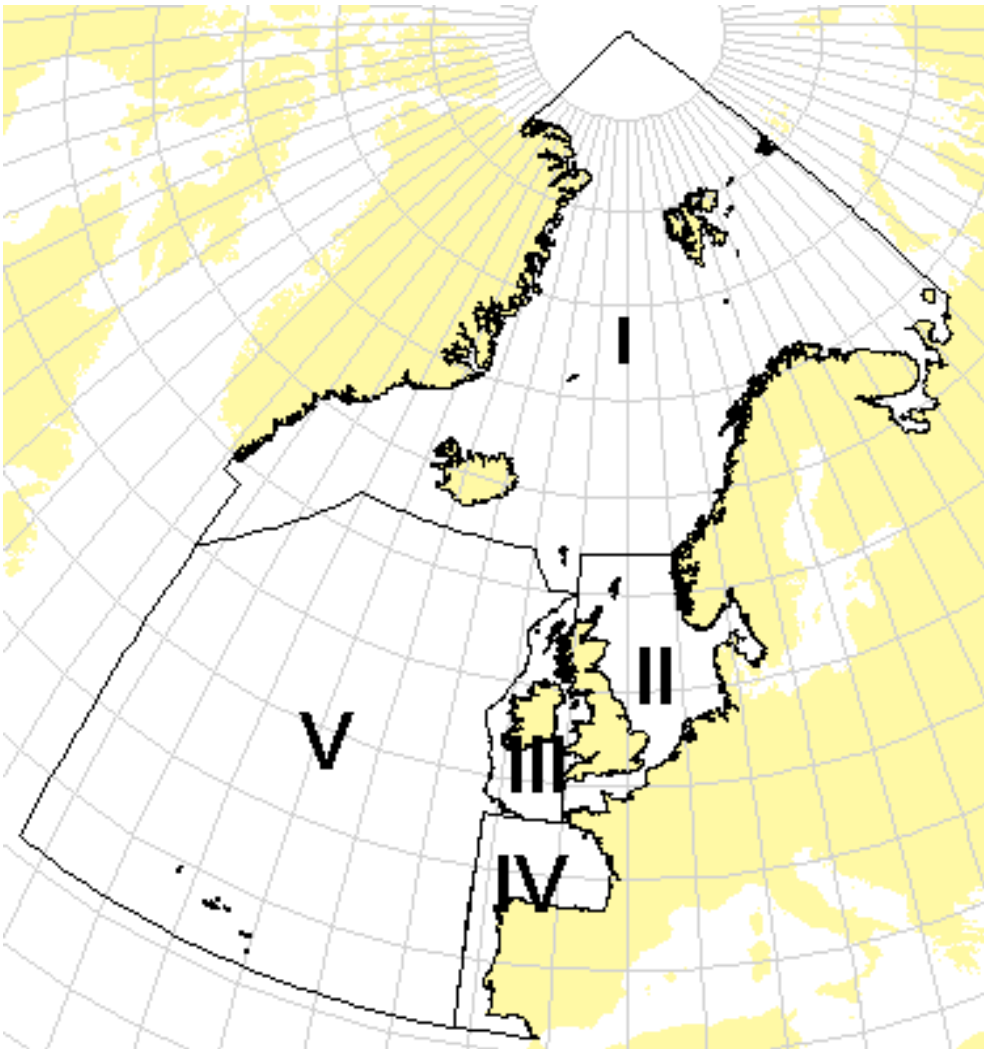


Figure 1. OSPAR Maritime Area and Regions. I: Arctic Waters, II: Greater North Sea, III: Celtic Seas, IV: Bay of Biscay and V: Wider Atlantic.

[1] At its Tenth Meeting (Lisbon, 1988) the Paris Commission[1] (PARCOM) adopted the Principles of the Comprehensive Study on Riverine Inputs (PARCOM 10/10/1, § 4.25 (e)). The RID Principles were reviewed in 1998, 2005, and 2014 (agreement 2014-04).

Table 1. Assignment of countries and sea areas to OSPAR Regions.

Country / Sea Area	OSPAR Region	Country / Sea Area	OSPAR Region
Belgium		Norway	
- North Sea (BE)	II	- Norwegian Sea (NO)	I
Denmark		- Barents Sea (NO)	I
- Skagerrak (DK)	II	- Skagerrak (NO)	II
- Kattegat (DK)	II	- North Sea (NO)	II
- North Sea (DK)	II	Portugal	
France		- Bay of Biscay and Iberian Coast (PO)	IV
- Channel	II	Spain	
- Atlantic	IV	- Atlantic (ESP)	IV
Germany		Sweden	
- North Sea (GER)	II	- Kattegat (SWE)	II
Iceland		- Skagerrak (SWE)	II
- Atlantic	I	UK	
Ireland		- North Sea (North)	II
- Irish Sea	III	- North Sea (South)	II
- Celtic Sea	III	- Channel	II
- Atlantic	III	- Irish Sea	III
Netherlands		- Celtic Sea	III
- North Sea (NL)	II	- Atlantic	III

Submission of RID data for 2014

Table 2 provides an overview of the status of 2014 RID data submitted by Contracting Parties (CPs) by March 15th 2016. All CPs except Denmark had a deadline of November 1st 2015 for submitting data and text reports. Denmark had a deadline of December 1st 2015.

Table 2. Overview of submitted 2014 RID information by Contracting Parties.

Contracting Party	RID 2014 written report submitted	RID 2014 Data submitted	RID 2014 Data validated
Belgium	X	X	X
Denmark	X	X	X
France	X	X	X
Germany	X	X	X
Iceland	X	X	Sent for validation
Ireland		X	X
Netherlands		X	X
Norway	X	X	X
Portugal			
Spain	X	X	X
Sweden	X	X	X
United Kingdom	X	X	Sent for validation

Table 3. Overview of information for 2014 on inputs to the OSPAR Maritime Area reported by Contracting Parties (green = data submitted; red = no data submitted).

Contracting Party	Sewage effluents	Industrial effluents	Aquaculture discharges	Other direct discharges	Monitored rivers	Unmonitored rivers
Belgium [1]						
Denmark						
France						
Germany						
Iceland						
Ireland						
Netherlands						
Norway						
Portugal						
Spain [2]						
Sweden						
UK [3]						

[1] Belgium reports that no sewage or industrial effluents discharge directly to Belgium's Convention Waters.

[2] For direct discharges, Spain reports on calendar years (i.e. 2014), whereas for riverine inputs data are reported for hydrological years (i.e. Oct 2013 – Sept 2014).

[3] UK does not report inputs from main and tributary rivers separately, as they report on areas rather than individual rivers

Overview tables 1-4 (AA-tables) are given in Annex I for 2014.

Status of RID data for 2012-2013

Due to changes in the structure of the database, imports of RID data to the database and validation routines were not fully completed for the years 2012 and 2013. Hence, in Tables 4-7 we provide updated information on the status of submitted RID data for 2012 and 2013. In those cases where there is delays in validation, the 2012 and 2013 data will be validated when the entire set of historical data are submitted, imported in the database and subsequently sent for validation.

Table 4. Overview of submitted 2012 RID information by Contracting Parties.

Contracting Party	RID 2012 written report submitted	RID 2012 Data submitted	RID 2012 Data validated
Belgium			
Denmark			*
France			**
Germany			*
Iceland			
Ireland			
Netherlands			*
Norway			
Portugal			
Spain			*
Sweden			
United Kingdom			

* Data will be validated when all historical data are updated in the new RID database format for the CP in question.
** Validation has been done, but the requested corrections have not yet been imported to the database.

Table 5. Overview of submitted 2013 RID information by Contracting Parties.

Contracting Party	RID 2013 written report submitted	RID 2013 Data submitted	RID 2013 Data validated *
Belgium			
Denmark			
France			*
Germany			
Iceland			
Ireland			
Netherlands			
Norway			
Portugal			
Spain			
Sweden			
United Kingdom			

* Validation has been done, but the requested corrections have not yet been imported in the database.

Table 6. Overview of information for 2012 on inputs to the OSPAR Maritime Area reported by Contracting Parties (green = data submitted; red = no data submitted).

Contracting Party	Sewage effluents	Industrial effluents	Aquaculture discharges	Other direct discharges	Monitored rivers	Unmonitored rivers
Belgium [1]						
Denmark						
France						
Germany						
Iceland						
Ireland						
Netherlands						
Norway						
Portugal						
Spain [2]						
Sweden						
UK [3]						

[1] Belgium reports that no sewage or industrial effluents discharge directly to Belgium's Convention Waters.

[2] For direct discharges, Spain reports on calendar years (i.e. 2014), whereas for riverine inputs data are reported for hydrological years (i.e. Oct 2013 – Sept 2014).

[3] UK does not report inputs from main and tributary rivers separately, as they report on areas rather than individual rivers

Table 7. Overview of information for 2013 on inputs to the OSPAR Maritime Area reported by Contracting Parties (green = data submitted; red = no data submitted).

Contracting Party	Sewage effluents	Industrial effluents	Aquaculture discharges	Other direct discharges	Monitored rivers	Unmonitored rivers
Belgium [1]						
Denmark						
France						
Germany						
Iceland						
Ireland						
Netherlands						
Norway						
Portugal						
Spain [2]						
Sweden						
UK [3]						

[1] Belgium reports that no sewage or industrial effluents discharge directly to Belgium's Convention Waters.

[2] For direct discharges, Spain reports on calendar years (i.e. 2014), whereas for riverine inputs data are reported for hydrological years (i.e. Oct 2013 – Sept 2014).

[3] UK does not report inputs from main and tributary rivers separately, as they report on areas rather than individual rivers

Overview tables of data from 2012 and 2013 are given in Annexes II and III.

Status of historical data submission

Following the changes in the database, there was a need for many CPs to resubmit data in order to ensure a harmonised database. This work is still ongoing, an overview of the status has therefore been provided, see Table 8. For the CPs not listed (Germany, Iceland, Ireland, the Netherlands, and Portugal), no resubmission was needed.

Table 8. Overview of status of the database, including historical data.

CP	Tasks performed	Tasks remaining
Belgium	New submission has been done, and data in the database has been validated by the CP.	
Denmark		Denmark is to resubmit historical data early in 2016.
France	France re-submitted their historical data from 1989 until 2004 due to some changes in the calculation methods. They provided tables in non-RID formats for the other years.	Historical data from 1989 to 2004 have been sent for validation. NIBIO is to correct the data for years 2005-2011 and send for validation.
Norway	New submission has been done, and data in the database has been validated by the CP.	
Spain	Data for aquaculture has to be imported in the database manually.	NIBIO is still working on the Spanish dataset; NIBIO will then send files for validation to Spain.
Sweden	New submission has been done, and data in the database has been validated by the CP.	
UK	Data for aquaculture for 2008-2011 from old 5d tables were imported in the database (as new table 5c) and added to total loads in new table 5e. Earlier data exist on a different format, and cannot be resubmitted in any foreseeable future.	Data for 2008-2011 have been sent to UK for validation.

Annex I Annual Overview Tables for the reporting year 2014 (AA Tables)

AA Table 1a Information Received on Inputs to the Maritime Area of the OSPAR Convention in 2014

AA Table 1b Determinands Reported by Contracting Parties in 2014

AA Table 2 Direct Discharges to the Maritime Area of the OSPAR Convention in 2014 by Country

AA Table 3 Riverine Inputs to the Maritime Area of the OSPAR Convention in 2014 by Country

AA Table 4a Sum of Direct (Table 2) and Riverine (Table 3) Inputs to the Maritime Area of the OSPAR Convention in 2014 by Country

AA Table 4b Sum of Direct and Riverine Inputs to the Maritime Area of the OSPAR Convention in 2014 by Sea Area

AA Table 1a. 2014

Information Received on Inputs to the Maritime Area of the OSPAR Convention in 2014

Country	Direct Discharges					Riverine Inputs	
	Sewage Effluents	Industrial Effluents	Aquaculture Discharges	Other Discharges	Coastal Areas	Monitored Rivers	Unmonitored Areas
Belgium							
- North Sea (BE)	NI	NI	NI	NI		+	NI
Denmark							
- Skagerrak (DK)	+	+	+	+		+	+
- Kattegat (DK)	+	+	+	+		+	+
- North Sea (DK)	+	+	+	+		+	+
France							
- Channel	NI	NI	NI	NI		+	+
- Atlantic	NI	NI	NI	NI		+	+
Germany							
- North Sea (GER)	+	+	NI	NI		+	NI
Iceland							
- Atlantic	NI	NI	NI	NI		+	NI
Ireland							
- Irish Sea	+	+	NI	NI		+	+
- Celtic Sea	+	+	NI	NI		+	+
- Atlantic	+	+	NI	NI		+	+
Netherlands							
- North Sea (NL)	NI	NI	NI	NI		+	NI
Norway							
- Norwegian Sea (NO)	+	+	+	NI		+	+
- Barents Sea (NO)	+	+	+	NI		+	+
- Skagerrak (NO)	+	+	+	NI		+	+
- North Sea (NO)	+	+	+	NI		+	+
Portugal							
- Bay of Biscay and Iberian Co	NI	NI	NI	NI		NI	NI
Spain							
- Atlantic (ESP)	+	+	NI	NI		+	NI
Sweden							
- Kattegat (SWE)	+	+	NI	NI		+	+
- Skagerrak (SWE)	+	+	NI	NI		+	+
UK							
- North Sea (North)	+	+	+	NI		+	NI
- North Sea (South)	+	+	NI	NI		+	NI
- Channel	+	+	NI	NI		+	NI
- Irish Sea	+	+	NI	NI		+	NI
- Celtic Sea	+	+	NI	NI		+	NI
- Atlantic	+	+	+	NI		+	NI

+ = Information available
NI = No information

AA Table 1b. 2014

Determinands reported by Contracting Parties in 2014

Country	Determinands													
	Cd	Hg	Cu	Pb	Zn	g-HCH	PCBs	NH4-N	NO3-N	PO4-P	N-Total	P-Total	SPM	others
Belgium														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	+	+	+	+	+	+	+	+	+	+	+	+	+	
Denmark														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	+	+	+	+	+	NI	
- riverine inputs	NI	NI	NI	NI	NI	NI	NI	+	+	+	+	+	+	
France														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	R+(4)	R+(4)	R+(4)	R+(4)	R+(3)	R+(4)	NI	R+(3)	+(3)	R+(3)	R+(4)	R+(3)	R+(3)	
Germany														
- direct inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	+	+	+	+	
- riverine inputs	R+(4)	R+(3)	+(3)	R+(3)	R+(3)	R+(4)	R+(4)	R+(3)	+(3)	R+(3)	+(3)	+(3)	R+(4)	
Iceland														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	+	+	+	+	+	NI	NI	NI	+	+	+	+	NI	
Ireland														
- direct inputs	+	NI	+	+	+	NI	NI	NI	NI	NI	+	+	+	
- riverine inputs	R+(4)	R+(4)	R+(4)	R+(4)	R+(3)	NI	NI	R+(4)	R+(3)	R+(4)	R+(3)	R+(3)	R+(4)	
Netherlands														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	Mineral Oil,EOX,PAK6
Norway														
- direct inputs	+	+	+	+	+	NI	+	+	+	+	+	+	+	As,Total Cr,Ni,TOC
- riverine inputs	+(3)	+(4)	+(3)	+(3)	+(3)	NI	NI	+(3)	+(3)	+(4)	+(3)	+(3)	+(3)	As,Total Cr,Ni,TOC
Portugal														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
Spain														
- direct inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	
- riverine inputs	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(3)	R+(4)	R+(4)	R+(4)	R+(4)	
Sweden														
- direct inputs	+	+	+	+	+	NI	NI	+	NI	NI	+	+	NI	
- riverine inputs	+(3)	+(3)	+(3)	+(3)	+(3)	NI	NI	+(3)	+(3)	+(3)	+(3)	+(3)	NI	
UK														
- direct inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	
- riverine inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	

+ : Data provided

R: Estimate given as a range

(3) 70 % of measurements above detection limit

(4) Less than 70 % of measurements above detection limit

NI: No information

AA Table 2. 2014

Direct Discharges to the Maritime Area of the OSPAR Convention in 2014 by Country

Country	Region		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Belgium	North Sea (BE)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Denmark	Kattegat (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.040	0.360	0.028	0.423	0.045	NI
		upper	NI	NI	NI	NI	NI	NI	NI	0.040	0.360	0.028	0.423	0.045	NI
	North Sea (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.008	0.070	0.004	0.122	0.009	NI
		upper	NI	NI	NI	NI	NI	NI	NI	0.008	0.070	0.004	0.122	0.009	NI
	Skagerrak (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.001	0.010	0.001	0.027	0.004	NI
		upper	NI	NI	NI	NI	NI	NI	NI	0.001	0.010	0.001	0.027	0.004	NI
France	Atlantic	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	Channel	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Germany	North Sea (GER)	lower	4.E-04	0.00	1.58	0.71	8.06	0.01	0.03	1.66	1.69	0.07	3.50	0.37	1.54
		upper	6.E-02	0.05	2.23	1.35	13.08	0.27	1.84	1.66	1.69	0.07	3.50	0.37	1.54
Iceland	Atlantic	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Ireland	Atlantic	lower	0.01	NI	0.83	0.39	7.70	NI	NI	NI	NI	NI	0.70	0.21	4.32
		upper	0.01	NI	0.83	0.39	7.70	NI	NI	NI	NI	NI	0.70	0.21	4.32
	Celtic Sea	lower	0.02	NI	3.20	4.40	21.50	NI	NI	NI	NI	NI	2.67	0.65	18.59
		upper	0.02	NI	3.20	4.40	21.50	NI	NI	NI	NI	NI	2.67	0.65	18.59
	Irish Sea	lower	0.06	NI	7.50	3.30	63.00	NI	NI	NI	NI	NI	6.83	1.58	38.13
		upper	0.06	NI	7.50	3.30	63.00	NI	NI	NI	NI	NI	6.83	1.58	38.13
Netherlands	North Sea (NL)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Norway	Barents Sea (NC	lower	9.E-07	3.E-07	70.21	0.00	0.00	NI	NI	3.58	0.48	0.51	4.49	0.75	NI
		upper	9.E-07	3.E-07	70.21	0.00	0.00	NI	NI	3.58	0.48	0.51	4.49	0.75	NI
	North Sea (NO)	lower	7.E-02	3.E-03	309.46	0.78	9.13	NI	0.1	17.78	2.23	2.43	22.48	3.59	7.35
		upper	7.E-02	3.E-03	309.46	0.78	9.13	NI	0.1	17.78	2.23	2.43	22.48	3.59	7.35
	Norwegian Sea (	lower	4.E-03	2.E-03	579.24	0.06	1.27	NI	NI	31.10	4.03	4.38	39.16	6.43	6.76
		upper	4.E-03	2.E-03	579.24	0.06	1.27	NI	NI	31.10	4.03	4.38	39.16	6.43	6.76
	Skagerrak (NO)	lower	0.03	0.01	8.79	0.80	20.11	NI	42.88	4.74	0.32	0.10	6.32	0.17	1.68
		upper	0.03	0.01	8.79	0.80	20.11	NI	42.88	4.74	0.32	0.10	6.32	0.17	1.68
Portugal	Bay of Biscay an	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Spain	Atlantic (ESP)	lower	0.30	0.20	0.49	0.35	10.21	0.02	0.04	0.52	1.06	0.32	5.04	0.83	242.55
		upper	1.56	1.20	10.94	19.98	25.09	1.06	1.22	3.85	1.46	0.60	7.70	1.25	257.68
Sweden	Kattegat (SWE)	lower	0.03	0.01	1.73	0.09	5.25	NI	NI	1.03	NI	NI	1.64	0.05	NI
		upper	0.03	0.01	1.73	0.09	5.25	NI	NI	1.03	NI	NI	1.64	0.05	NI
	Skagerrak (SWE	lower	0.00	0.00	0.19	0.01	0.97	NI	NI	0.14	NI	NI	0.29	0.01	NI
		upper	0.00	0.00	0.19	0.01	0.97	NI	NI	0.14	NI	NI	0.29	0.01	NI
UK	Atlantic	lower	0.00	0.00	77.72	0.61	31.97	0.64	NI	3.80	1.26	0.66	13.86	1.93	15.94
		upper	0.29	0.01	78.27	1.30	32.12	1.34	NI	3.80	1.26	0.66	13.86	1.93	15.95
	Celtic Sea	lower	0.01	0.00	1.27	0.37	9.81	0.00	NI	3.07	0.76	0.36	3.68	0.36	5.34
		upper	0.02	0.00	1.27	0.64	9.83	1.44	NI	3.14	0.77	0.37	3.74	0.37	5.48
	Channel	lower	0.02	0.00	5.16	0.94	11.03	0.07	0.00	3.88	2.51	0.66	7.03	0.66	5.81
		upper	0.03	0.01	5.17	1.11	11.05	3.37	10.97	3.96	2.55	0.72	7.06	0.72	5.85
	Irish Sea	lower	0.01	0.01	0.39	0.45	12.08	0.17	NI	0.70	0.64	0.43	1.43	0.46	7.03
		upper	1.70	0.01	3.83	4.65	12.60	0.96	NI	0.73	0.65	0.43	1.47	0.46	7.32
	North Sea (North	lower	0.02	0.01	22.74	1.62	37.43	0.56	0.00	9.74	3.02	1.81	19.35	2.80	26.58
		upper	0.04	0.02	22.86	1.71	37.45	3.75	11.39	9.74	3.07	1.82	19.35	2.81	26.68
	North Sea (South	lower	0.03	0.08	15.39	3.20	57.46	0.63	0.02	2.29	13.88	3.22	18.52	3.22	110.02
		upper	0.11	0.09	15.40	4.03	57.48	11.67	52.31	2.31	13.90	3.23	18.53	3.23	110.42

AA Table 3. 2014

Riverine Inputs to the Maritime Area of the OSPAR Convention in 2014 by Country

Country	Sea Area		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Belgium	North Sea (BE)	lower	0.54	0.04	10.40	1.40	36.12	4.06	1.44	0.91	19.20	1.01	25.36	2.10	240.53
		upper	0.54	0.04	10.40	1.40	36.12	4.06	1.44	0.91	19.20	1.01	25.36	2.10	240.53
Denmark	Kattegat (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.53	18.92	0.34	22.73	0.74	NI
		upper	NI	NI	NI	NI	NI	NI	NI	0.53	18.92	0.34	22.73	0.74	NI
	North Sea (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.53	14.20	0.16	17.13	0.65	NI
		upper	NI	NI	NI	NI	NI	NI	NI	0.53	14.20	0.16	17.13	0.65	NI
	Skagerrak (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.06	1.18	0.02	1.45	0.07	NI
		upper	NI	NI	NI	NI	NI	NI	NI	0.06	1.18	0.02	1.45	0.07	NI
France	Atlantic	lower	0.71	0.06	127.19	1.70	522.78	0.00	NI	3.85	366.19	3.70	288.45	8.50	3155.22
		upper	2.92	1.43	143.88	105.51	651.84	879.67	NI	3.96	366.19	3.71	448.11	8.52	3157.70
	Channel	lower	1.37	0.00	69.29	46.06	387.70	5.01	NI	2.48	209.78	2.43	173.26	4.36	905.21
		upper	1.62	0.83	70.32	54.78	387.76	197.68	NI	2.49	209.78	2.43	235.94	4.36	905.74
Germany	North Sea (GER)	lower	2.23	1.19	111.71	67.61	561.99	1.00	0.00	3.52	73.05	1.35	91.30	4.47	954.16
		upper	2.54	1.21	111.71	70.65	565.99	21.38	16.30	3.52	73.05	1.36	91.30	4.47	1104.90
Iceland	Atlantic	lower	0.06	0.02	5.77	0.40	14.11	NI	NI	NI	0.50	0.38	1.49	0.26	NI
		upper	0.06	0.02	5.77	0.40	14.11	NI	NI	NI	0.50	0.38	1.49	0.26	NI
Ireland	Atlantic	lower	0.18	0.00	15.78	0.03	80.54	NI	NI	0.18	12.95	0.18	20.04	0.58	83.53
		upper	0.48	1.09	28.99	21.84	85.31	NI	NI	0.51	13.89	0.33	21.21	0.62	134.42
	Celtic Sea	lower	0.31	0.00	31.65	0.03	93.42	NI	NI	0.90	71.65	0.81	78.31	1.48	180.16
		upper	0.71	1.66	43.79	33.19	96.01	NI	NI	1.13	71.67	0.88	78.37	1.48	250.76
	Irish Sea	lower	0.44	0.05	41.82	3.54	113.79	NI	NI	0.28	26.73	0.20	30.15	0.47	87.04
		upper	0.45	0.44	42.42	11.25	113.79	NI	NI	0.32	26.73	0.21	30.15	0.47	97.17
Netherlands	North Sea (NL)	lower	6.50	0.60	229.16	97.75	1099.09	38.50	50.55	6.43	163.36	5.14	214.60	8.74	1296.51
		upper	6.61	0.60	229.32	97.75	1099.33	38.50	58.76	6.47	163.38	5.15	214.90	8.78	1393.93
Norway	Barents Sea (NO)	lower	0.15	0.01	23.37	1.04	23.28	NI	NI	0.41	2.03	0.07	6.23	0.16	81.66
		upper	0.18	0.03	23.38	1.06	23.31	NI	NI	0.41	2.03	0.07	6.23	0.16	81.70
	North Sea (NO)	lower	0.57	0.03	22.98	9.89	103.35	NI	NI	1.33	17.76	0.19	29.14	0.51	95.88
		upper	0.61	0.07	22.99	9.89	103.37	NI	NI	1.35	17.76	0.21	29.14	0.51	95.88
	Norwegian Sea (NO)	lower	0.29	0.03	34.44	2.60	66.38	NI	NI	1.26	13.29	0.19	23.96	0.56	137.69
		upper	0.37	0.07	34.45	2.63	66.43	NI	NI	1.28	13.29	0.21	23.97	0.56	137.81
	Skagerrak (NO)	lower	1.48	0.05	90.04	35.14	571.23	NI	NI	1.40	20.95	0.55	38.34	1.06	452.57
		upper	1.49	0.10	90.04	35.14	571.23	NI	NI	1.41	20.95	0.56	38.34	1.06	452.57
Portugal	Bay of Biscay and Iberian Coast (PO)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Spain	Atlantic (ESP)	lower	0.06	0.02	62.33	0.50	129.86	0.55	0.01	1.57	31.53	0.35	49.46	1.07	210.08
		upper	3.69	0.39	173.88	17.01	338.26	63.03	803.58	1.94	31.92	16.81	55.48	1.84	236.02
Sweden	Kattegat (SWE)	lower	0.40	0.07	50.10	11.00	126.00	NI	NI	0.84	17.96	0.23	27.98	0.72	NI
		upper	0.40	0.07	50.10	11.00	126.00	NI	NI	0.84	17.96	0.23	27.98	0.72	NI
	Skagerrak (SWE)	lower	0.08	0.02	5.82	1.78	20.20	NI	NI	0.12	1.13	0.05	2.91	0.14	NI
		upper	0.08	0.02	5.82	1.78	20.20	NI	NI	0.12	1.13	0.05	2.91	0.14	NI
UK	Atlantic	lower	0.03	0.05	66.78	15.86	114.77	NI	NI	0.95	11.59	0.64	16.19	1.47	171.87
		upper	2.28	0.18	69.15	17.51	123.64	NI	NI	1.16	12.68	0.72	16.34	1.48	185.94
	Celtic Sea	lower	0.41	0.06	55.32	63.54	275.58	0.05	0.00	1.05	48.75	1.37	58.23	1.37	532.83
		upper	1.76	0.21	57.32	74.45	282.78	59.26	64.68	1.17	48.75	1.43	58.32	1.43	537.36
	Channel	lower	0.73	0.10	70.29	27.14	253.18	0.09	0.00	0.48	34.85	0.81	40.00	0.81	672.25
		upper	1.01	0.17	70.42	29.55	255.92	32.74	81.50	0.57	34.85	0.83	40.00	0.83	674.72
	Irish Sea	lower	1.13	0.10	96.83	71.38	412.39	1.16	0.00	1.81	35.64	1.79	44.79	2.09	563.59
		upper	2.46	0.27	98.76	77.33	415.78	69.69	97.50	2.09	35.86	1.90	44.79	2.17	575.72
	North Sea (North)	lower	0.62	0.06	55.03	77.44	297.53	0.00	0.00	0.63	29.36	0.45	39.21	1.36	510.77
		upper	5.05	0.36	57.21	79.78	312.92	10.78	28.89	1.09	30.49	0.67	39.23	1.38	528.22
	North Sea (South)	lower	1.36	0.10	77.50	69.39	326.80	0.52	0.00	2.12	99.25	3.19	106.67	3.19	378.59
		upper	1.54	0.23	77.53	70.30	327.23	52.82	128.59	2.16	99.25	3.20	106.68	3.20	379.72

AA Table 4a. 2014

Sum of Direct (Table 2) and Riverine (Table 3) Inputs to the Maritime area of the OSPAR Convention in 2014 by Country

Sea Area	Region		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Belgium	North Sea (BE)	lower	0.54	0.04	10.40	1.40	36.12	4.06	1.44	0.91	19.20	1.01	25.36	2.10	240.53
		upper	0.54	0.04	10.40	1.40	36.12	4.06	1.44	0.91	19.20	1.01	25.36	2.10	240.53
Denmark	Kattegat (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.57	19.28	0.36	23.15	0.78	NI
		upper	NI	NI	NI	NI	NI	NI	NI	0.57	19.28	0.36	23.15	0.78	NI
	North Sea (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.53	14.27	0.16	17.25	0.66	NI
		upper	NI	NI	NI	NI	NI	NI	NI	0.53	14.27	0.16	17.25	0.66	NI
	Skagerrak (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.06	1.19	0.03	1.48	0.07	NI
		upper	NI	NI	NI	NI	NI	NI	NI	0.06	1.19	0.03	1.48	0.07	NI
France	Atlantic	lower	0.71	0.06	127.19	1.70	522.78	0.00	NI	3.85	366.19	3.70	288.45	8.50	3155.22
		upper	2.92	1.43	143.88	105.51	651.84	879.67	NI	3.96	366.19	3.71	448.11	8.52	3157.70
	Channel	lower	1.37	0.00	69.29	46.06	387.70	5.01	NI	2.48	209.78	2.43	173.26	4.36	905.21
		upper	1.62	0.83	70.32	54.78	387.76	197.68	NI	2.49	209.78	2.43	235.94	4.36	905.74
Germany	North Sea (GER)	lower	2.23	1.19	113.29	68.32	570.06	1.01	0.03	5.18	74.74	1.41	94.80	4.84	955.70
		upper	2.60	1.26	113.94	72.00	579.07	21.65	18.14	5.18	74.74	1.43	94.80	4.84	1106.44
Iceland	Atlantic	lower	0.06	0.02	5.77	0.40	14.11	NI	NI	NI	0.50	0.38	1.49	0.26	NI
		upper	0.06	0.02	5.77	0.40	14.11	NI	NI	NI	0.50	0.38	1.49	0.26	NI
Ireland	Atlantic	lower	0.19	0.00	16.61	0.42	88.24	NI	NI	0.18	12.95	0.18	20.74	0.79	87.86
		upper	0.48	1.09	29.82	22.23	93.01	NI	NI	0.51	13.89	0.33	21.91	0.83	138.74
	Celtic Sea	lower	0.33	0.00	34.85	4.43	114.92	NI	NI	0.90	71.65	0.81	80.98	2.13	198.75
		upper	0.73	1.66	46.99	37.59	117.51	NI	NI	1.13	71.67	0.88	81.04	2.13	269.35
	Irish Sea	lower	0.50	0.05	49.32	6.84	176.79	NI	NI	0.28	26.73	0.20	36.99	2.04	125.17
		upper	0.51	0.44	49.92	14.55	176.79	NI	NI	0.32	26.73	0.21	36.99	2.04	135.30
Netherlands	North Sea (NL)	lower	6.50	0.60	229.16	97.75	1099.09	38.50	50.55	6.43	163.36	5.14	214.60	8.74	1296.51
		upper	6.61	0.60	229.32	97.75	1099.33	38.50	58.76	6.47	163.38	5.15	214.90	8.78	1393.93
Norway	Barents Sea (NC	lower	0.15	0.01	93.58	1.04	23.29	NI	NI	3.99	2.51	0.58	10.72	0.90	81.66
		upper	0.18	0.03	93.58	1.06	23.31	NI	NI	3.99	2.51	0.58	10.72	0.90	81.70
	North Sea (NO)	lower	0.64	0.04	332.43	10.67	112.48	NI	0.10	19.11	19.98	2.63	51.62	4.10	103.23
		upper	0.68	0.07	332.45	10.67	112.50	NI	0.10	19.13	19.98	2.64	51.62	4.10	103.23
	Norwegian Sea (	lower	0.30	0.03	613.68	2.66	67.65	NI	NI	32.36	17.32	4.57	63.13	6.99	144.45
		upper	0.37	0.07	613.69	2.68	67.70	NI	NI	32.37	17.32	4.59	63.13	6.99	144.57
	Skagerrak (NO)	lower	1.51	0.06	98.83	35.93	591.34	NI	42.88	6.14	21.27	0.65	44.66	1.23	454.25
		upper	1.52	0.11	98.84	35.93	591.34	NI	42.88	6.15	21.27	0.66	44.66	1.23	454.25
Portugal	Bay of Biscay an	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Spain	Atlantic (ESP)	lower	0.36	0.22	62.82	0.85	140.07	0.56	0.05	2.09	32.59	0.67	54.50	1.90	452.63
		upper	5.25	1.59	184.82	36.99	363.35	64.08	804.80	5.79	33.38	17.41	63.18	3.10	493.70
Sweden	Kattegat (SWE)	lower	0.43	0.07	51.83	11.09	131.25	NI	NI	1.87	17.96	0.23	29.62	0.76	NI
		upper	0.43	0.07	51.83	11.09	131.25	NI	NI	1.87	17.96	0.23	29.62	0.76	NI
	Skagerrak (SWE	lower	0.08	0.02	6.01	1.79	21.17	NI	NI	0.25	1.13	0.05	3.20	0.15	NI
		upper	0.08	0.02	6.01	1.79	21.17	NI	NI	0.25	1.13	0.05	3.20	0.15	NI
UK	Atlantic	lower	0.03	0.06	144.50	16.47	146.74	0.64	NI	4.74	12.85	1.30	30.05	3.40	187.81
		upper	2.57	0.19	147.42	18.81	155.76	1.34	NI	4.96	13.94	1.37	30.20	3.40	201.88
	Celtic Sea	lower	0.42	0.06	56.59	63.91	285.39	0.05	0.00	4.12	49.51	1.74	61.91	1.74	538.17
		upper	1.78	0.21	58.59	75.09	292.61	60.70	64.68	4.31	49.52	1.81	62.06	1.81	542.83
	Channel	lower	0.75	0.10	75.45	28.08	264.22	0.16	0.00	4.36	37.36	1.46	47.03	1.46	678.06
		upper	1.04	0.18	75.59	30.65	266.97	36.11	92.46	4.53	37.40	1.55	47.06	1.55	680.57
	Irish Sea	lower	1.14	0.10	97.22	71.83	424.47	1.33	0.00	2.51	36.28	2.22	46.22	2.55	570.62
		upper	4.16	0.28	102.59	81.98	428.38	70.65	97.50	2.82	36.51	2.33	46.25	2.63	583.04
	North Sea (North	lower	0.64	0.07	77.77	79.06	334.96	0.56	0.00	10.37	32.38	2.26	58.56	4.16	537.36
		upper	5.09	0.37	80.07	81.49	350.37	14.53	40.28	10.83	33.56	2.49	58.59	4.19	554.90
	North Sea (South	lower	1.39	0.18	92.90	72.59	384.26	1.14	0.02	4.41	113.12	6.41	125.19	6.41	488.61
		upper	1.64	0.32	92.93	74.33	384.71	64.49	180.90	4.47	113.14	6.42	125.21	6.42	490.15

AA Table 4b. 2014

Sum of Direct and Riverine Inputs to the Maritime area of the OSPAR Convention in 2014 by Sea Area

Sea Area		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Arctic Ocean	lower	0.15	0.01	93.58	1.04	23.29	NI	NI	3.99	2.51	0.58	10.72	0.90	81.66
	upper	0.18	0.03	93.58	1.06	23.31	NI	NI	3.99	2.51	0.58	10.72	0.90	81.70
Atlantic Ocean	lower	0.22	0.06	161.11	16.89	234.97	0.64	NI	4.92	25.80	1.48	50.79	4.19	275.67
	upper	3.06	1.28	177.24	41.04	248.77	1.34	NI	5.47	27.83	1.70	52.11	4.23	340.62
Bay of Biscay and Iberian Coast	lower	1.07	0.28	190.01	2.55	662.85	0.56	0.05	5.94	398.78	4.37	342.95	10.40	3607.85
	upper	8.17	3.01	328.70	142.50	1015.18	943.75	804.80	9.74	399.56	21.12	511.29	11.61	3651.40
Celtic Sea	lower	0.75	0.06	91.44	68.34	400.31	0.05	0.00	5.02	121.15	2.54	142.90	3.87	736.92
	upper	2.51	1.87	105.58	112.68	410.12	60.70	64.68	5.44	121.19	2.68	143.10	3.94	812.18
Channel	lower	2.12	0.10	144.74	74.14	651.91	5.17	0.00	6.84	247.14	3.90	220.29	5.82	1583.27
	upper	2.66	1.01	145.91	85.43	654.72	233.79	92.46	7.01	247.18	3.98	283.00	5.91	1586.31
Irish Sea	lower	1.64	0.15	146.54	78.67	601.26	1.33	0.00	2.79	63.01	2.42	83.21	4.60	695.80
	upper	4.67	0.72	152.51	96.53	605.18	70.65	97.50	3.14	63.24	2.54	83.24	4.68	718.34
Kattegat	lower	0.43	0.07	51.83	11.09	131.25	NI	NI	2.44	37.24	0.60	52.78	1.55	NI
	upper	0.43	0.07	51.83	11.09	131.25	NI	NI	2.44	37.24	0.60	52.78	1.55	NI
North Sea (main body)	lower	11.95	2.12	855.95	329.80	2536.96	45.27	52.15	46.95	437.06	19.03	587.37	31.02	3621.94
	upper	17.17	2.66	859.11	337.65	2562.10	143.23	299.61	47.53	438.28	19.30	587.71	31.10	3889.18
Norwegian Sea	lower	0.30	0.03	613.68	2.66	67.65	NI	NI	32.36	17.32	4.57	63.13	6.99	144.45
	upper	0.37	0.07	613.69	2.68	67.70	NI	NI	32.37	17.32	4.59	63.13	6.99	144.57
Skagerrak	lower	1.59	0.08	104.84	37.72	612.52	NI	42.88	6.45	23.58	0.73	49.34	1.45	454.25
	upper	1.60	0.13	104.85	37.72	612.52	NI	42.88	6.46	23.58	0.74	49.34	1.45	454.25

Annex II Annual Overview Tables for the reporting year 2013 (AA Tables)

AA_II Table 1a Information Received on Inputs to the Maritime Area of the OSPAR Convention in 2013

AA_II Table 1b Determinands Reported by Contracting Parties in 2013

AA_II Table 2 Direct Discharges to the Maritime Area of the OSPAR Convention in 2013 by Country

AA_II Table 3 Riverine Inputs to the Maritime Area of the OSPAR Convention in 2013 by Country

AA_II Table 4a Sum of Direct (Table 2) and Riverine (Table 3) Inputs to the Maritime Area of the OSPAR Convention in 2013 by Country

AA_II Table 4b Sum of Direct and Riverine Inputs to the Maritime Area of the OSPAR Convention in 2013 by Sea Area

AA_II Table 1a

Information Received on Inputs to the Maritime Area of the OSPAR Convention in 2013

Country	Direct Discharges					Riverine Inputs	
	Sewage Effluents	Industrial Effluents	Aquaculture Discharges	Other Discharges	Coastal Areas	Monitored Rivers	Unmonitored Areas
Belgium							
- North Sea (BE)	NI	NI	NI	NI		+	NI
Denmark							
- Skagerrak (DK)	+	+	+	+		+	+
- Kattegat (DK)	+	+	+	+		+	+
- North Sea (DK)	+	+	+	+		+	+
France							
- Channel	NI	NI	NI	NI		+	+
- Atlantic	NI	NI	NI	NI		+	+
Germany							
- North Sea (GER)	+	+	NI	NI		+	+
Iceland							
- Atlantic	NI	NI	NI	NI		+	NI
Ireland							
- Irish Sea	+	+	NI	NI		+	+
- Celtic Sea	+	+	NI	NI		+	+
- Atlantic	+	+	NI	NI		+	+
Netherlands							
- North Sea (NL)	+	NI	NI	NI		+	NI
Norway							
- Norwegian Sea (NO)	+	+	+	NI		+	+
- Barents Sea (NO)	+	+	+	NI		+	+
- Skagerrak (NO)	+	+	+	NI		+	+
- North Sea (NO)	+	+	+	NI		+	+
Portugal							
- Bay of Biscay and Iberian Coast (PO)	NI	NI	NI	NI		NI	NI
Spain							
- Atlantic (ESP)	+	+	NI	NI		+	NI
Sweden							
- Kattegat (SWE)	+	+	NI	NI		+	+
- Skagerrak (SWE)	+	+	NI	NI		+	+
UK							
- North Sea (North)	+	+	+	NI		+	NI
- North Sea (South)	+	+	NI	NI		+	NI
- Channel	+	+	NI	NI		+	NI
- Irish Sea	+	+	NI	NI		+	NI
- Celtic Sea	+	+	NI	NI		+	NI
- Atlantic	+	+	+	NI		+	NI

+ = Information available
NI = No information

AA_II Table 1b

Determinands Reported by Contracting Parties in 2013

Country	Determinands													
	Cd	Hg	Cu	Pb	Zn	g-HCH	PCBs	NH4-N	NO3-N	PO4-P	N-Total	P-Total	SPM	others
Belgium														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	+	+	+	+	+	+	+	+	+	+	+	+	+	
Denmark														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	+	+	NI	
- riverine inputs	NI	NI	NI	NI	NI	NI	NI	+	+	+	+	+	+	
France														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	R+(4)	R+(4)	R+(4)	R+(3)	R+(3)	R+(4)	NI	R+(3)	+(3)	R+(3)	R+(4)	R+(3)	R+(3)	
Germany														
- direct inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	+	+	+	+	
- riverine inputs	R+(4)	R+(4)	+(3)	R+(3)	R+(4)	R+(4)	R+(4)	R+(3)	+(3)	R+(3)	+(3)	+(3)	R+(4)	
Iceland														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	+	+	+	+	+	NI	NI	NI	+	+	+	+	NI	
Ireland														
- direct inputs	+	NI	+	+	+	NI	NI	NI	NI	NI	+	+	+	
- riverine inputs	R+(4)	R+(4)	R+(3)	R+(4)	+(3)	NI	NI	R+(4)	R+(3)	R+(4)	+(3)	R+(3)	R+(4)	
Netherlands														
- direct inputs	+	+	+	+	+	NI	NI	NI	NI	NI	+	+	NI	
- riverine inputs	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	Mineral Oil,EOX,PAK6
Norway														
- direct inputs	+	+	+	+	+	NI	+	+	+	+	+	+	+	As,Total Cr,Ni,TOC
- riverine inputs	+(3)	+(4)	+(3)	+(3)	+(3)	NI	NI	+(3)	+(3)	+(4)	+(3)	+(3)	+(3)	As,Total Cr,Ni,TOC
Portugal														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
Spain														
- direct inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	
- riverine inputs	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	
Sweden														
- direct inputs	+	+	+	+	+	NI	NI	+	NI	NI	+	+	NI	
- riverine inputs	+(3)	+(3)	+(3)	+(3)	+(3)	NI	NI	+(3)	+(3)	+(3)	+(3)	+(3)	NI	
UK														
- direct inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	
- riverine inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	

+ : Data provided

R: Estimate given as a range

(3) 70 % of measurements above detection limit

(4) Less than 70 % of measurements above detection limit

NI: No information

AA_II Table 2

Direct Discharges to the Maritime Area of the OSPAR Convention in 2013 by Country

Country	Region		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Belgium	North Sea (BE)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Denmark	Kattegat (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0.47	0.05	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0.47	0.05	NI
	North Sea (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0.09	0.01	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0.09	0.01	NI
	Skagerrak (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0.02	0.00	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	0.02	0.00	NI
France	Atlantic	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	Channel	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Germany	North Sea (GER)	lower	0.00	0.00	1.58	0.73	8.45	0.01	0.03	1.67	1.72	0.07	3.52	0.38	1.53
		upper	0.05	0.04	2.19	1.36	13.47	0.27	2.84	1.67	1.72	0.07	3.52	0.38	1.53
Iceland	Atlantic	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Ireland	Atlantic	lower	0.01	NI	0.83	0.39	7.70	NI	NI	NI	NI	NI	0.70	0.21	4.32
		upper	0.01	NI	0.83	0.39	7.70	NI	NI	NI	NI	NI	0.70	0.21	4.32
	Celtic Sea	lower	0.02	NI	3.20	4.40	21.50	NI	NI	NI	NI	NI	2.67	0.65	18.59
		upper	0.02	NI	3.20	4.40	21.50	NI	NI	NI	NI	NI	2.67	0.65	18.59
	Irish Sea	lower	0.06	NI	7.50	3.30	63.00	NI	NI	NI	NI	NI	6.83	1.58	38.13
		upper	0.06	NI	7.50	3.30	63.00	NI	NI	NI	NI	NI	6.83	1.58	38.13
Netherlands	North Sea (NL)	lower	0.02	0.01	0.42	0.41	4.17	NI	NI	NI	NI	NI	1.33	0.17	NI
		upper	0.02	0.01	0.42	0.41	4.17	NI	NI	NI	NI	NI	1.33	0.17	NI
Norway	Barents Sea (NO)	lower	0.00	0.00	75.54	NI	NI	NI	NI	3.67	0.49	0.53	4.60	0.77	0.02
		upper	0.00	0.00	75.54	NI	NI	NI	NI	3.67	0.49	0.53	4.60	0.77	0.02
	North Sea (NO)	lower	0.06	0.01	302.34	0.55	10.32	NI	0.01	16.89	2.10	2.27	21.37	3.35	5.78
		upper	0.06	0.01	302.34	0.55	10.32	NI	0.01	16.89	2.10	2.27	21.37	3.35	5.78
	Norwegian Sea (NO)	lower	0.01	0.00	540.66	0.38	1.55	NI	0.65	28.12	3.62	3.91	35.44	5.74	5.51
		upper	0.01	0.00	540.66	0.38	1.55	NI	0.65	28.12	3.62	3.91	35.44	5.74	5.51
	Skagerrak (NO)	lower	0.04	0.01	7.87	0.51	14.65	NI	1.01	4.41	0.30	0.10	5.88	0.17	2.06
		upper	0.04	0.01	7.87	0.51	14.65	NI	1.01	4.41	0.30	0.10	5.88	0.17	2.06
Portugal	Bay of Biscay and Iberian Coast (PO)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Spain	Atlantic (ESP)	lower	0.01	0.02	0.32	0.11	2.91	0.10	0.00	0.56	0.65	0.07	2.07	0.16	2.14
		upper	1.17	0.84	6.63	15.20	20.46	3.50	4.93	3.55	1.17	0.55	3.29	0.56	113.46
Sweden	Kattegat (SWE)	lower	0.03	0.01	1.66	0.07	5.00	NI	NI	0.95	NI	NI	1.54	0.04	NI
		upper	0.03	0.01	1.66	0.07	5.00	NI	NI	0.95	NI	NI	1.54	0.04	NI
	Skagerrak (SWE)	lower	0.00	0.00	0.23	0.01	0.93	NI	NI	0.16	NI	NI	0.31	0.01	NI
		upper	0.00	0.00	0.23	0.01	0.93	NI	NI	0.16	NI	NI	0.31	0.01	NI
UK	Atlantic	lower	0.01	0.00	103.81	0.79	37.22	0.87	0.00	5.05	1.31	1.01	14.94	2.30	21.73
		upper	0.31	0.01	104.39	1.56	37.38	2.05	0.00	5.05	1.31	1.01	14.95	2.30	21.75
	Celtic Sea	lower	0.01	0.00	1.74	0.23	9.55	0.01	0.14	3.44	0.66	0.36	4.22	0.36	5.11
		upper	0.03	0.00	1.74	0.54	9.57	2.09	0.41	3.51	0.69	0.37	4.28	0.37	5.21
	Channel	lower	0.01	0.00	4.22	0.45	8.15	0.36	0.00	4.32	2.15	0.66	6.95	0.66	6.35
		upper	0.02	0.00	4.22	0.60	8.15	6.95	7.07	4.38	2.18	0.72	6.98	0.72	6.36
	Irish Sea	lower	0.01	0.01	0.96	0.38	12.21	0.04	0.00	0.42	0.62	0.35	1.12	0.40	7.39
		upper	1.50	0.01	3.88	4.08	12.74	0.48	0.21	0.51	0.62	0.35	1.19	0.40	8.23
	North Sea (North)	lower	0.03	0.02	31.72	1.64	35.92	0.77	0.00	11.80	2.49	1.75	20.47	2.77	24.19
		upper	0.04	0.02	31.74	1.73	36.02	5.18	8.93	11.80	2.54	1.76	20.47	2.79	24.25
	North Sea (South)	lower	0.04	0.10	15.49	3.23	55.76	0.00	0.00	4.17	12.72	2.67	20.10	2.67	98.65
		upper	0.25	0.10	18.22	7.14	62.20	21.59	42.40	4.19	12.74	2.67	20.10	2.67	98.94

AA_II Table 3

Riverine Inputs to the Maritime Area of the OSPAR Convention in 2013 by Country

Country	Sea Area		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Belgium	North Sea (BE)	lower	0.51	0.05	13.14	1.73	41.04	4.58	38.05	2.53	26.06	1.11	34.35	2.29	307.42
		upper	0.51	0.05	13.14	1.73	41.04	4.58	38.05	2.53	26.06	1.11	34.35	2.29	307.42
Denmark	Kattegat (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.16	4.61	0.07	17.92	0.58	15.90
		upper	NI	NI	NI	NI	NI	NI	NI	0.16	4.61	0.07	17.92	0.58	15.90
	North Sea (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.33	7.50	0.07	15.28	0.58	30.14
		upper	NI	NI	NI	NI	NI	NI	NI	0.33	7.50	0.07	15.28	0.58	30.14
	Skagerrak (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.04	0.70	0.01	1.12	0.05	4.73
		upper	NI	NI	NI	NI	NI	NI	NI	0.04	0.70	0.01	1.12	0.05	4.73
France	Atlantic	lower	0.67	0.14	147.95	1.45	454.04	0.00	NI	4.79	412.06	3.33	390.22	13.12	9371.63
		upper	3.09	1.75	168.26	121.35	613.03	956.51	NI	4.90	412.06	3.38	520.77	13.14	9376.94
	Channel	lower	1.67	0.00	107.94	64.35	448.84	18.54	NI	3.67	238.85	2.61	230.83	4.36	1432.63
		upper	1.95	0.98	108.73	71.56	449.57	191.18	NI	3.68	238.85	2.61	275.70	4.36	1433.11
Germany	North Sea (GER)	lower	4.90	1.70	224.03	121.25	1124.87	17.00	3.40	6.12	186.03	2.47	221.16	8.10	1453.27
		upper	5.51	1.71	224.03	128.39	1160.57	58.40	26.27	6.63	186.03	2.52	221.16	8.10	1596.53
Iceland	Atlantic	lower	0.02	0.03	8.36	0.37	8.49	NI	NI	NI	0.53	0.39	1.11	0.28	NI
		upper	0.02	0.03	8.36	0.37	8.49	NI	NI	NI	0.53	0.39	1.11	0.28	NI
Ireland	Atlantic	lower	0.00	0.06	21.73	3.12	84.33	NI	NI	0.25	5.68	0.13	15.32	0.49	68.38
		upper	1.58	0.91	23.99	13.28	84.33	NI	NI	0.63	8.72	0.27	15.32	0.51	147.20
	Celtic Sea	lower	0.02	0.10	26.66	18.14	124.00	NI	NI	0.62	44.16	0.59	50.98	0.87	252.68
		upper	2.34	1.34	30.59	30.46	124.00	NI	NI	0.82	44.31	0.64	50.98	0.92	333.52
	Irish Sea	lower	0.18	0.04	12.03	5.98	93.24	NI	NI	0.22	17.44	0.09	19.91	0.18	51.83
		upper	0.70	0.30	12.26	8.61	93.24	NI	NI	0.22	17.44	0.10	19.91	0.19	60.02
Netherlands	North Sea (NL)	lower	7.40	1.04	284.95	159.84	990.50	25.28	138.59	7.34	211.15	5.00	273.60	9.45	2142.28
		upper	9.10	1.04	284.95	159.84	990.67	25.28	147.56	7.39	211.28	5.01	273.98	9.45	2253.54
Norway	Barents Sea (NO)	lower	0.23	0.00	69.48	2.87	31.55	NI	NI	0.30	2.05	0.06	5.45	0.19	28.19
		upper	0.28	0.02	69.48	2.90	31.57	NI	NI	0.30	2.05	0.06	5.45	0.19	28.23
	North Sea (NO)	lower	0.44	0.03	24.75	8.99	103.17	NI	NI	1.32	16.72	0.41	27.87	0.70	225.83
		upper	0.46	0.06	24.77	9.00	103.19	NI	NI	1.32	16.72	0.42	27.87	0.71	225.84
	Norwegian Sea (NO)	lower	0.32	0.04	47.89	6.81	127.50	NI	NI	1.36	14.66	0.38	27.78	0.88	390.39
		upper	0.44	0.08	47.90	6.83	127.52	NI	NI	1.38	14.66	0.39	27.79	0.88	390.52
	Skagerrak (NO)	lower	0.93	0.06	94.82	17.56	662.89	NI	NI	1.31	19.70	0.41	33.94	0.89	383.58
		upper	0.94	0.10	94.82	17.56	662.89	NI	NI	1.31	19.70	0.42	33.94	0.89	383.58
Portugal	Bay of Biscay and Iberian Coast (PO)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Spain	Atlantic (ESP)	lower	0.00	0.03	0.25	0.00	0.82	0.00	0.00	0.09	1.31	0.06	2.01	0.09	81.07
		upper	7.38	0.22	197.33	17.73	224.86	71.51	233.15	0.89	15.81	0.53	12.80	0.98	203.85
Sweden	Kattegat (SWE)	lower	0.27	0.04	32.50	6.46	81.40	NI	NI	0.75	13.81	0.21	20.78	0.47	NI
		upper	0.27	0.04	32.50	6.46	81.40	NI	NI	0.75	13.81	0.21	20.78	0.47	NI
	Skagerrak (SWE)	lower	0.04	0.01	3.71	0.93	11.10	NI	NI	0.14	0.81	0.05	2.04	0.10	NI
		upper	0.04	0.01	3.71	0.93	11.10	NI	NI	0.14	0.81	0.05	2.04	0.10	NI
UK	Atlantic	lower	0.08	0.04	32.79	13.09	94.15	NI	NI	0.81	9.51	0.58	13.23	1.55	174.37
		upper	0.81	0.17	35.14	14.83	96.86	NI	NI	1.13	10.54	0.66	13.54	1.56	185.25
	Celtic Sea	lower	0.52	0.35	45.33	35.11	254.83	0.00	0.00	0.88	41.32	1.19	45.07	1.19	447.31
		upper	1.53	0.45	46.22	44.26	258.49	39.52	47.83	1.04	41.32	1.24	45.14	1.24	449.83
	Channel	lower	0.53	0.18	41.35	16.15	147.82	0.11	0.00	0.39	27.56	0.64	31.19	0.64	181.60
		upper	0.66	0.23	41.48	18.24	150.32	21.87	56.68	0.47	27.57	0.65	31.19	0.65	183.53
	Irish Sea	lower	0.81	0.23	60.12	77.33	298.29	0.27	0.00	1.80	29.45	1.42	36.31	1.64	398.10
		upper	1.35	0.34	60.97	81.91	299.89	33.98	59.47	2.07	29.67	1.53	36.31	1.72	408.27
	North Sea (North)	lower	0.51	0.03	34.74	88.51	218.93	0.00	0.00	0.57	22.59	0.27	28.57	0.81	243.31
		upper	1.26	0.28	36.56	90.58	219.47	9.91	26.63	0.95	23.58	0.48	28.58	0.85	263.99
	North Sea (South)	lower	0.97	0.08	52.18	42.51	215.67	0.14	0.00	1.91	86.08	2.85	89.88	2.85	235.54
		upper	1.11	0.17	52.20	43.59	216.62	38.63	103.51	1.94	86.08	2.86	89.89	2.86	236.45

AA_II Table 4a

Sum of Direct (Table 2) and Riverine (Table 3) Inputs to the Maritime Area of the OSPAR Convention in 2013 by Country

Sea Area	Region		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Belgium	North Sea (BE)	lower	0.51	0.05	13.14	1.73	41.04	4.58	38.05	2.53	26.06	1.11	34.35	2.29	307.42
		upper	0.51	0.05	13.14	1.73	41.04	4.58	38.05	2.53	26.06	1.11	34.35	2.29	307.42
Denmark	Kattegat (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.16	4.61	0.07	18.39	0.63	15.90
		upper	NI	NI	NI	NI	NI	NI	NI	0.16	4.61	0.07	18.39	0.63	15.90
	North Sea (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.33	7.50	0.07	15.37	0.59	30.14
		upper	NI	NI	NI	NI	NI	NI	NI	0.33	7.50	0.07	15.37	0.59	30.14
	Skagerrak (DK)	lower	NI	NI	NI	NI	NI	NI	NI	0.04	0.70	0.01	1.13	0.05	4.73
		upper	NI	NI	NI	NI	NI	NI	NI	0.04	0.70	0.01	1.13	0.05	4.73
France	Atlantic	lower	0.67	0.14	147.95	1.45	454.04	0.00	NI	4.79	412.06	3.33	390.22	13.12	9371.63
		upper	3.09	1.75	168.26	121.35	613.03	956.51	NI	4.90	412.06	3.38	520.77	13.14	9376.94
	Channel	lower	1.67	0.00	107.94	64.35	448.84	18.54	NI	3.67	238.85	2.61	230.83	4.36	1432.63
		upper	1.95	0.98	108.73	71.56	449.57	191.18	NI	3.68	238.85	2.61	275.70	4.36	1433.11
Germany	North Sea (GER)	lower	4.90	1.70	225.61	121.97	1133.32	17.01	3.43	7.79	187.75	2.54	224.68	8.47	1454.81
		upper	5.56	1.75	226.22	129.75	1174.04	58.67	29.11	8.29	187.75	2.59	224.68	8.47	1598.06
Iceland	Atlantic	lower	0.02	0.03	8.36	0.37	8.49	NI	NI	NI	0.53	0.39	1.11	0.28	NI
		upper	0.02	0.03	8.36	0.37	8.49	NI	NI	NI	0.53	0.39	1.11	0.28	NI
Ireland	Atlantic	lower	0.01	0.06	22.56	3.51	92.03	NI	NI	0.25	5.68	0.13	16.02	0.70	72.70
		upper	1.59	0.91	24.82	13.67	92.03	NI	NI	0.63	8.72	0.27	16.02	0.72	151.52
	Celtic Sea	lower	0.04	0.10	29.86	22.54	145.50	NI	NI	0.62	44.16	0.59	53.65	1.52	271.27
		upper	2.36	1.34	33.79	34.86	145.50	NI	NI	0.82	44.31	0.64	53.65	1.57	352.11
	Irish Sea	lower	0.24	0.04	19.53	9.28	156.24	NI	NI	0.22	17.44	0.09	26.75	1.75	89.96
		upper	0.76	0.30	19.76	11.91	156.24	NI	NI	0.22	17.44	0.10	26.75	1.76	98.15
Netherlands	North Sea (NL)	lower	7.42	1.05	285.37	160.24	994.67	25.28	138.59	7.34	211.15	5.00	274.94	9.62	2142.28
		upper	9.12	1.05	285.37	160.25	994.84	25.28	147.56	7.39	211.28	5.01	275.31	9.62	2253.54
Norway	Barents Sea (NO)	lower	0.23	0.00	145.02	2.87	31.55	NI	NI	3.97	2.54	0.58	10.05	0.96	28.21
		upper	0.28	0.02	145.02	2.90	31.57	NI	NI	3.97	2.54	0.59	10.05	0.96	28.25
	North Sea (NO)	lower	0.49	0.04	327.09	9.54	113.49	NI	0.01	18.21	18.82	2.68	49.24	4.06	231.62
		upper	0.52	0.07	327.10	9.54	113.51	NI	0.01	18.21	18.82	2.69	49.24	4.06	231.62
	Norwegian Sea (NO)	lower	0.33	0.04	588.56	7.19	129.06	NI	0.65	29.48	18.28	4.29	63.22	6.62	395.90
		upper	0.45	0.08	588.57	7.21	129.08	NI	0.65	29.50	18.28	4.30	63.23	6.62	396.03
	Skagerrak (NO)	lower	0.97	0.07	102.69	18.07	677.54	NI	1.01	5.72	20.00	0.51	39.82	1.06	385.63
		upper	0.98	0.11	102.69	18.07	677.54	NI	1.01	5.72	20.00	0.52	39.82	1.06	385.63
Portugal	Bay of Biscay and Iberian Coast (PO)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Spain	Atlantic (ESP)	lower	0.01	0.05	0.56	0.11	3.73	0.10	0.00	0.65	1.96	0.13	4.08	0.25	83.21
		upper	8.55	1.06	203.96	32.93	245.32	75.01	238.07	4.44	16.99	1.07	16.09	1.55	317.31
Sweden	Kattegat (SWE)	lower	0.30	0.05	34.16	6.53	86.40	NI	NI	1.69	13.81	0.21	22.32	0.51	NI
		upper	0.30	0.05	34.16	6.53	86.40	NI	NI	1.69	13.81	0.21	22.32	0.51	NI
	Skagerrak (SWE)	lower	0.04	0.01	3.94	0.94	12.03	NI	NI	0.30	0.81	0.05	2.35	0.11	NI
		upper	0.04	0.01	3.94	0.94	12.03	NI	NI	0.30	0.81	0.05	2.35	0.11	NI
UK	Atlantic	lower	0.10	0.04	136.60	13.89	131.37	0.87	0.00	5.85	10.81	1.59	28.17	3.85	196.09
		upper	1.12	0.17	139.53	16.39	134.25	2.05	0.00	6.18	11.85	1.66	28.49	3.86	207.00
	Celtic Sea	lower	0.53	0.35	47.07	35.34	264.38	0.01	0.14	4.33	41.98	1.55	49.30	1.55	452.42
		upper	1.56	0.46	47.95	44.79	268.06	41.60	48.24	4.55	42.01	1.61	49.42	1.61	455.04
	Channel	lower	0.54	0.18	45.57	16.60	155.97	0.47	0.00	4.71	29.71	1.30	38.14	1.30	187.96
		upper	0.67	0.24	45.70	18.84	158.47	28.82	63.75	4.85	29.75	1.37	38.17	1.37	189.89
	Irish Sea	lower	0.82	0.23	61.08	77.71	310.49	0.31	0.00	2.22	30.07	1.77	37.43	2.04	405.49
		upper	2.84	0.35	64.84	85.99	312.63	34.47	59.68	2.57	30.29	1.88	37.50	2.12	416.50
	North Sea (North)	lower	0.54	0.05	66.46	90.15	254.84	0.77	0.00	12.37	25.08	2.02	49.04	3.59	267.50
		upper	1.30	0.31	68.29	92.31	255.49	15.08	35.56	12.75	26.12	2.23	49.05	3.64	288.24
	North Sea (South)	lower	1.01	0.17	67.67	45.74	271.43	0.14	0.00	6.08	98.81	5.52	109.98	5.52	334.19
		upper	1.37	0.28	70.42	50.73	278.82	60.22	145.90	6.12	98.82	5.53	109.99	5.53	335.39

AA_II Table 4b

Sum of Direct and Riverine Inputs to the Maritime Area of the OSPAR Convention in 2013 by Sea Area

Sea Area		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Arctic Ocean	lower	0.23	0.00	145.02	2.87	31.55	NI	NI	3.97	2.54	0.58	10.05	0.96	28.21
	upper	0.28	0.02	145.02	2.90	31.57	NI	NI	3.97	2.54	0.59	10.05	0.96	28.25
Atlantic Ocean	lower	0.10	0.10	159.16	17.40	223.40	0.87	0.00	6.11	16.49	1.71	44.19	4.55	268.79
	upper	2.71	1.08	164.35	30.06	226.28	2.05	0.00	6.81	20.56	1.93	44.51	4.57	358.52
Bay of Biscay and Iberian Coast	lower	0.68	0.19	148.51	1.56	457.77	0.10	0.00	5.44	414.03	3.47	394.30	13.37	9454.84
	upper	11.64	2.81	372.22	154.28	858.35	1031.52	238.07	9.34	429.05	4.45	536.86	14.69	9694.25
Celtic Sea	lower	0.56	0.46	76.93	57.88	409.88	0.01	0.14	4.95	86.14	2.14	102.94	3.07	723.69
	upper	3.92	1.80	81.75	79.66	413.56	41.60	48.24	5.38	86.32	2.25	103.07	3.18	807.15
Channel	lower	2.21	0.18	153.52	80.96	604.82	19.01	0.00	8.38	268.57	3.91	268.97	5.66	1620.59
	upper	2.62	1.22	154.43	90.40	608.04	220.01	63.75	8.52	268.61	3.98	313.87	5.73	1623.00
Irish Sea	lower	1.06	0.27	80.61	86.98	466.73	0.31	0.00	2.44	47.51	1.86	64.18	3.79	495.46
	upper	3.61	0.66	84.61	97.90	468.87	34.47	59.68	2.80	47.73	1.98	64.25	3.88	514.64
Kattegat	lower	0.30	0.05	34.16	6.53	86.40	NI	NI	1.85	18.42	0.28	40.71	1.14	15.90
	upper	0.30	0.05	34.16	6.53	86.40	NI	NI	1.85	18.42	0.28	40.71	1.14	15.90
North Sea (main body)	lower	14.87	3.06	985.33	429.38	2808.78	47.78	180.09	54.64	575.17	18.94	757.60	34.14	4767.95
	upper	18.37	3.50	990.55	444.32	2857.74	163.84	396.19	55.63	576.35	19.23	757.99	34.21	5044.41
Norwegian Sea	lower	0.33	0.04	588.56	7.19	129.06	NI	0.65	29.48	18.28	4.29	63.22	6.62	395.90
	upper	0.45	0.08	588.57	7.21	129.08	NI	0.65	29.50	18.28	4.30	63.23	6.62	396.03
Skagerrak	lower	1.01	0.08	106.63	19.01	689.56	NI	1.01	6.06	21.50	0.57	43.31	1.22	390.36
	upper	1.02	0.12	106.63	19.01	689.56	NI	1.01	6.06	21.50	0.59	43.31	1.22	390.36

Annex III Annual Overview Tables for the reporting year 2012 (AA Tables)

AA_III Table 1a Information Received on Inputs to the Maritime Area of the OSPAR Convention in 2012

AA_III Table 1b Determinands Reported by Contracting Parties in 2012

AA_III Table 2 Direct Discharges to the Maritime Area of the OSPAR Convention in 2012 by Country

AA_III Table 3 Riverine Inputs to the Maritime Area of the OSPAR Convention in 2012 by Country

AA_III Table 4a Sum of Direct (Table 2) and Riverine (Table 3) Inputs to the Maritime Area of the OSPAR Convention in 2012 by Country

AA_III Table 4b Sum of Direct and Riverine Inputs to the Maritime Area of the OSPAR Convention in 2012 by Sea Area

AA_III Table 1a

Information Received on Inputs to the Maritime Area of the OSPAR Convention in 2012

Country	Direct Discharges					Riverine Inputs	
	Sewage Effluents	Industrial Effluents	Aquaculture Discharges	Other Discharges	Coastal Areas	Monitored Rivers	Unmonitored Areas
Belgium							
- North Sea (BE)	NI	NI	NI	NI		+	NI
Denmark							
- Skagerrak (DK)	NI	NI	NI	NI		NI	NI
- Kattegat (DK)	NI	NI	NI	NI		NI	NI
- North Sea (DK)	NI	NI	NI	NI		NI	NI
France							
- Channel	NI	NI	NI	NI		+	+
- Atlantic	NI	NI	NI	NI		+	+
Germany							
- North Sea (GER)	+	+	NI	NI		+	+
Iceland							
- Atlantic	NI	NI	NI	NI		+	NI
Ireland							
- Irish Sea	+	+	NI	NI		+	NI
- Celtic Sea	+	+	NI	NI		+	NI
- Atlantic	+	+	NI	NI		+	NI
Netherlands							
- North Sea (NL)	+	NI	NI	NI		+	NI
Norway							
- Norwegian Sea (NO)	+	+	+	NI		+	+
- Barents Sea (NO)	+	+	+	NI		+	+
- Skagerrak (NO)	+	+	+	NI		+	+
- North Sea (NO)	+	+	+	NI		+	+
Portugal							
- Bay of Biscay and Iberian Coast (PO)	NI	NI	NI	NI		NI	NI
Spain							
- Atlantic (ESP)	+	+	NI	NI		+	NI
Sweden							
- Kattegat (SWE)	+	NI	NI	+		+	+
- Skagerrak (SWE)	+	NI	NI	+		+	+
UK							
- North Sea (North)	+	+	+	NI		+	NI
- North Sea (South)	+	+	NI	NI		+	NI
- Channel	+	+	NI	NI		+	NI
- Irish Sea	+	+	NI	NI		+	NI
- Celtic Sea	+	+	NI	NI		+	NI
- Atlantic	+	+	+	NI		+	NI

+ = Information available
NI = No information

AA_III Table 1b

Determinands Reported by Contracting Parties in 2012

Country	Determinands													
	Cd	Hg	Cu	Pb	Zn	g-HCH	PCBs	NH4-N	NO3-N	PO4-P	N-Total	P-Total	SPM	others
Belgium														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	+	+	+	+	+	+	NI	+	+	+	+	+	+	
Denmark														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
France														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	R+	R+	R+	R+	R+	R+	NI	R+	R+	R+	R+	R+	R+	
Germany														
- direct inputs	NI	R+	NI	R+	NI	R+	NI	R+	NI	R+	NI	+	NI	
- riverine inputs	NI	R+(3)	NI	+(3)	NI	R+(4)	NI	R+(3)	NI	R+(3)	NI	+(3)	NI	
Iceland														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	+	+	+	+	+	NI	NI	NI	+	+	+	+	NI	
Ireland														
- direct inputs	+	NI	+	+	+	NI	NI	NI	NI	NI	+	+	+	
- riverine inputs	R+(4)	R+(4)	R+(3)	R+(4)	+(3)	NI	NI	R+(4)	R+(3)	R+(3)	R+(3)	R+(3)	R+(4)	
Netherlands														
- direct inputs	+	+	+	+	+	NI	NI	NI	NI	NI	+	+	NI	
- riverine inputs	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	+	+(4)	+(4)	+(4)	+(4)	+(4)	+(4)	EOX,PAK6
Norway														
- direct inputs	+	+	+	+	+	NI	+	+	+	+	+	+	+	As,Total Cr,Ni,TOC
- riverine inputs	+(3)	+(4)	+(3)	+(3)	+(3)	+(4)	+(3)	+(3)	+(3)	+(4)	+(3)	+(3)	+(3)	As,Total Cr,Ni,TOC
Portugal														
- direct inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
- riverine inputs	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	
Spain														
- direct inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	
- riverine inputs	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(4)	R+(3)	R+(4)	R+(4)	R+(4)	R+(4)	
Sweden														
- direct inputs	+	+	+	+	+	NI	NI	+	NI	NI	+	+	NI	
- riverine inputs	+(3)	+(3)	+(3)	+(3)	+(3)	NI	NI	+(3)	+(3)	+(3)	+(3)	+(3)	NI	
UK														
- direct inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	
- riverine inputs	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	R+	

+ : Data provided

R: Estimate given as a range

(3) 70 % of measurements above detection limit

(4) Less than 70 % of measurements above detection limit

NI: No information

AA_III Table 2

Direct Discharges to the Maritime Area of the OSPAR Convention in 2012 by Country

Country	Region		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Belgium	North Sea (BE)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Denmark	Kattegat (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	North Sea (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	Skagerrak (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
France	Atlantic	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	Channel	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Germany	North Sea (GER)	lower	NI	5.E-04	NI	0.72	NI	0.01	NI	1.67	NI	0.07	NI	0.32	NI
		upper	NI	0.04	NI	1.35	NI	0.27	NI	1.67	NI	0.07	NI	0.38	NI
Iceland	Atlantic	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Ireland	Atlantic	lower	0.01	NI	0.83	0.39	7.70	NI	NI	NI	NI	NI	0.70	0.21	4.32
		upper	0.01	NI	0.83	0.39	7.70	NI	NI	NI	NI	NI	0.70	0.21	4.32
	Celtic Sea	lower	0.02	NI	3.20	4.40	21.50	NI	NI	NI	NI	NI	2.67	0.65	18.59
		upper	0.02	NI	3.20	4.40	21.50	NI	NI	NI	NI	NI	2.67	0.65	18.59
	Irish Sea	lower	0.06	NI	7.50	3.30	63.00	NI	NI	NI	NI	NI	6.83	1.58	38.13
		upper	0.06	NI	7.50	3.30	63.00	NI	NI	NI	NI	NI	6.83	1.58	38.13
Netherlands	North Sea (NL)	lower	0.02	0.01	0.42	0.41	4.17	NI	NI	NI	NI	NI	1.33	0.17	NI
		upper	0.02	0.01	0.42	0.41	4.17	NI	NI	NI	NI	NI	1.33	0.17	NI
Norway	Barents Sea (NO)	lower	NI	5.E-04	47.89	1.E-05	NI	NI	NI	3.27	0.43	0.47	4.11	0.68	0.02
		upper	NI	5.E-04	47.89	1.E-05	NI	NI	NI	3.27	0.43	0.47	4.11	0.68	0.02
	North Sea (NO)	lower	0.07	3.E-03	233.47	1.00	10.34	NI	0.00	17.91	2.25	2.42	22.63	3.57	6.11
		upper	0.07	3.E-03	233.47	1.00	10.34	NI	0.00	17.91	2.25	2.42	22.63	3.57	6.11
	Norwegian Sea (NO)	lower	0.06	2.E-03	397.59	3.26	1.87	NI	0.06	28.52	3.69	4.00	35.92	5.86	8.65
		upper	0.06	2.E-03	397.59	3.26	1.87	NI	0.06	28.52	3.69	4.00	35.92	5.86	8.65
	Skagerrak (NO)	lower	0.04	0.01	9.12	0.42	15.20	NI	46.89	4.29	0.29	0.10	5.72	0.17	1.59
		upper	0.04	0.01	9.12	0.42	15.20	NI	46.89	4.29	0.29	0.10	5.72	0.17	1.59
Portugal	Bay of Biscay and Iberian Coast (PO)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Spain	Atlantic (ESP)	lower	0.47	0.21	2.00	1.84	23.17	0.22	0.20	10.29	2.11	1.58	16.27	1.96	307.99
		upper	3.07	1.20	13.84	18.63	33.26	31.95	41.17	11.15	2.39	1.58	16.66	2.03	308.15
Sweden	Kattegat (SWE)	lower	4.E-03	4.E-03	1.32	0.06	2.30	NI	NI	1.06	NI	NI	1.61	0.04	NI
		upper	4.E-03	4.E-03	1.33	0.06	2.32	NI	NI	1.06	NI	NI	1.61	0.04	NI
	Skagerrak (SWE)	lower	5.E-04	4.E-04	0.08	0.01	0.13	NI	NI	0.17	NI	NI	0.31	5.E-03	NI
		upper	5.E-04	4.E-04	0.08	0.01	0.13	NI	NI	0.17	NI	NI	0.31	5.E-03	NI
UK	Atlantic	lower	0.02	1.E-03	109.33	0.85	36.33	1.67	NI	4.43	1.67	1.37	14.92	2.61	17.72
		upper	0.31	5.E-03	109.90	1.56	36.46	1.79	NI	4.43	1.67	1.37	14.92	2.61	17.73
	Celtic Sea	lower	0.02	0.03	1.40	1.92	42.70	0.00	0.43	3.24	0.69	0.31	3.95	0.31	4.32
		upper	0.04	0.03	1.41	2.26	42.73	2.43	1.07	3.32	0.72	0.33	4.02	0.33	4.49
	Channel	lower	0.01	4.E-03	4.66	0.71	11.63	0.26	0.00	5.03	2.26	0.69	7.36	0.69	10.97
		upper	0.02	0.01	4.67	0.84	11.65	5.37	7.35	5.09	2.30	0.74	7.39	0.74	11.00
	Irish Sea	lower	0.02	0.01	0.79	0.88	10.39	0.14	0.00	0.51	0.43	0.31	1.02	0.36	8.17
		upper	1.18	0.01	3.10	3.74	11.28	0.46	0.35	0.55	0.43	0.32	1.05	0.36	8.41
	North Sea (North)	lower	0.04	0.01	103.70	2.18	46.83	1.53	0.00	9.22	3.02	2.49	24.25	4.24	57.43
		upper	0.04	0.02	103.70	2.20	46.83	5.59	8.65	9.22	3.07	2.50	24.25	4.25	57.49
	North Sea (South)	lower	0.05	0.11	19.86	3.67	53.26	0.00	0.00	5.38	10.40	2.45	20.40	2.45	125.07
		upper	0.13	0.12	19.92	4.42	53.57	22.70	41.67	5.40	10.41	2.46	20.40	2.46	125.34

AA_III Table 3

Riverine Inputs to the Maritime Area of the OSPAR Convention in 2012 by Country

Country	Sea Area		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Belgium	North Sea (BE)	lower	0.53	0.05	14.82	1.85	62.30	6.25	NI	3.85	27.12	1.30	34.28	2.85	319.46
		upper	0.53	0.05	14.82	1.85	62.30	6.25	NI	3.85	27.12	1.30	34.28	2.85	319.46
Denmark	Kattegat (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	North Sea (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	Skagerrak (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
France	Atlantic	lower	3.01	1.18	115.26	7.60	857.97	0.00	NI	3.57	253.23	2.35	246.92	6.65	3177.99
		upper	5.79	3.77	125.92	69.34	898.22	526.10	NI	3.73	253.23	2.47	298.89	6.81	3189.24
	Channel	lower	1.18	0.00	89.35	62.09	422.16	6.51	NI	3.33	173.00	2.17	153.19	4.29	837.46
		upper	1.44	0.68	90.61	67.52	422.46	152.70	NI	3.35	173.01	2.17	166.47	4.29	838.50
Germany	North Sea (GER)	lower	NI	1.58	NI	108.34	NI	11.40	NI	5.99	NI	1.69	NI	6.15	NI
		upper	NI	1.59	NI	108.34	NI	32.20	NI	5.99	NI	1.73	NI	6.15	NI
Iceland	Atlantic	lower	0.02	0.02	5.94	0.21	6.89	NI	NI	NI	0.60	0.26	1.15	0.40	NI
		upper	0.02	0.02	5.94	0.21	6.89	NI	NI	NI	0.60	0.26	1.15	0.40	NI
Ireland	Atlantic	lower	0.00	0.02	32.58	1.27	139.97	NI	NI	0.08	7.82	0.31	19.05	0.62	53.22
		upper	2.02	1.02	33.19	10.94	139.97	NI	NI	0.62	10.02	0.44	19.05	0.63	195.17
	Celtic Sea	lower	0.00	0.02	44.19	0.87	146.61	NI	NI	0.71	54.76	0.85	64.14	1.20	171.00
		upper	2.94	1.48	45.29	15.02	146.61	NI	NI	1.00	55.20	0.92	64.16	1.27	286.80
	Irish Sea	lower	0.17	0.04	18.75	7.51	227.69	NI	NI	0.22	19.74	0.14	23.84	0.31	143.56
		upper	0.84	0.38	18.75	10.35	227.69	NI	NI	0.23	19.74	0.15	23.88	0.33	154.12
Netherlands	North Sea (NL)	lower	3.22	0.61	248.85	91.73	789.82	20.40	74.30	7.87	171.97	4.34	231.82	7.31	1599.52
		upper	5.43	0.61	248.85	92.12	789.82	20.40	78.53	7.97	172.05	4.34	232.55	7.34	1633.22
Norway	Barents Sea (NO	lower	0.16	0.01	19.44	1.24	34.46	0.00	0.00	0.65	2.10	0.04	6.90	0.14	22.83
		upper	0.20	0.02	19.44	1.26	34.48	0.74	5.15	0.65	2.10	0.04	6.90	0.15	22.87
	North Sea (NO)	lower	0.62	0.11	25.05	10.58	108.50	1.45	10.12	1.39	17.93	0.21	30.66	0.56	77.13
		upper	0.55	0.05	25.01	10.58	108.44	0.00	0.00	1.37	17.93	0.19	30.66	0.55	76.92
	Norwegian Sea (	lower	0.39	0.04	53.83	4.34	105.85	0.00	0.00	1.37	15.22	0.27	28.75	0.77	241.35
		upper	0.50	0.08	53.84	4.36	105.87	1.62	11.31	1.38	15.22	0.28	28.76	0.77	241.50
	Skagerrak (NO)	lower	1.05	0.07	78.51	21.66	745.69	0.62	0.00	1.00	17.73	0.63	34.56	1.21	580.54
		upper	1.05	0.10	78.51	21.66	745.69	10.41	72.69	1.01	17.73	0.64	34.56	1.21	580.54
Portugal	Bay of Biscay an	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Spain	Atlantic (ESP)	lower	0.22	0.03	21.66	0.38	193.81	0.90	0.00	2.54	35.76	1.72	33.77	2.79	732.74
		upper	5.55	0.13	129.77	12.67	310.36	46.88	357.89	2.74	36.89	1.82	39.14	3.52	747.68
Sweden	Kattegat (SWE)	lower	0.43	0.06	51.60	11.70	133.00	NI	NI	1.13	17.42	0.31	28.19	0.74	NI
		upper	0.43	0.06	51.60	11.70	133.00	NI	NI	1.13	17.42	0.31	28.19	0.74	NI
	Skagerrak (SWE	lower	0.06	0.01	4.55	1.32	16.30	NI	NI	0.13	1.05	0.06	2.71	0.13	NI
		upper	0.06	0.01	4.55	1.32	16.30	NI	NI	0.13	1.05	0.06	2.71	0.13	NI
UK	Atlantic	lower	0.12	0.05	32.00	7.03	101.31	NI	NI	0.57	8.59	0.45	12.59	1.33	174.25
		upper	0.98	0.17	33.73	23.61	130.12	NI	NI	0.93	9.68	0.54	13.00	1.34	186.48
	Celtic Sea	lower	0.54	0.05	59.88	41.13	277.95	0.00	0.00	0.89	44.88	1.33	47.43	1.33	624.71
		upper	1.68	0.17	60.95	51.99	284.38	46.63	55.30	1.06	44.90	1.41	47.50	1.41	626.87
	Channel	lower	0.59	0.10	50.73	21.31	175.16	0.00	0.14	0.35	29.16	0.81	34.17	0.81	319.11
		upper	0.73	0.16	50.84	23.28	176.89	26.13	68.38	0.46	29.16	0.83	34.17	0.83	321.77
	Irish Sea	lower	1.50	0.22	101.68	178.85	508.33	1.40	0.00	2.74	41.73	2.20	52.86	2.61	827.61
		upper	2.43	0.39	102.16	190.28	522.67	52.90	90.76	3.18	42.11	2.34	52.93	2.71	841.39
	North Sea (North	lower	1.04	0.07	47.71	239.71	348.31	0.81	0.00	0.68	30.82	0.42	42.42	1.12	365.76
		upper	1.16	0.35	47.87	240.90	349.95	14.96	38.13	1.08	31.95	0.65	42.47	1.17	387.64
	North Sea (South	lower	1.44	0.10	77.11	74.19	302.46	0.06	0.00	2.04	89.49	4.04	95.32	4.04	387.94
		upper	1.66	0.21	77.14	75.60	304.99	48.61	126.14	2.08	89.49	4.04	95.34	4.04	390.48

AA_III Table 4a

Sum of Direct (Table 2) and Riverine (Table 3) Inputs to the Maritime Area of the OSPAR Convention in 2012 by Country

Sea Area	Region		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Belgium	North Sea (BE)	lower	0.53	0.05	14.82	1.85	62.30	6.25	NI	3.85	27.12	1.30	34.28	2.85	319.46
		upper	0.53	0.05	14.82	1.85	62.30	6.25	NI	3.85	27.12	1.30	34.28	2.85	319.46
Denmark	Kattegat (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	North Sea (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
	Skagerrak (DK)	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
France	Atlantic	lower	3.01	1.18	115.26	7.60	857.97	0.00	NI	3.57	253.23	2.35	246.92	6.65	3177.99
		upper	5.79	3.77	125.92	69.34	898.22	526.10	NI	3.73	253.23	2.47	298.89	6.81	3189.24
	Channel	lower	1.18	0.00	89.35	62.09	422.16	6.51	NI	3.33	173.00	2.17	153.19	4.29	837.46
		upper	1.44	0.68	90.61	67.52	422.46	152.70	NI	3.35	173.01	2.17	166.47	4.29	838.50
Germany	North Sea (GER)	lower	NI	1.58	NI	109.06	NI	11.41	NI	7.66	NI	1.76	NI	6.47	NI
		upper	NI	1.63	NI	109.68	NI	32.47	NI	7.66	NI	1.80	NI	6.53	NI
Iceland	Atlantic	lower	0.02	0.02	5.94	0.21	6.89	NI	NI	NI	0.60	0.26	1.15	0.40	NI
		upper	0.02	0.02	5.94	0.21	6.89	NI	NI	NI	0.60	0.26	1.15	0.40	NI
Ireland	Atlantic	lower	0.01	0.02	33.41	1.66	147.67	NI	NI	0.08	7.82	0.31	19.76	0.83	57.54
		upper	2.02	1.02	34.02	11.33	147.67	NI	NI	0.62	10.02	0.44	19.76	0.84	199.49
	Celtic Sea	lower	0.02	0.02	47.39	5.27	168.11	NI	NI	0.71	54.76	0.85	66.81	1.86	189.59
		upper	2.96	1.48	48.49	19.42	168.11	NI	NI	1.00	55.20	0.92	66.83	1.92	305.39
	Irish Sea	lower	0.23	0.04	26.25	10.81	290.69	NI	NI	0.22	19.74	0.14	30.68	1.89	181.69
		upper	0.90	0.38	26.25	13.65	290.69	NI	NI	0.23	19.74	0.15	30.71	1.91	192.25
Netherlands	North Sea (NL)	lower	3.23	0.62	249.27	92.14	793.99	20.40	74.30	7.87	171.97	4.34	233.15	7.48	1599.52
		upper	5.45	0.62	249.27	92.53	793.99	20.40	78.53	7.97	172.05	4.34	233.89	7.51	1633.22
Norway	Barents Sea (NC	lower	0.16	0.01	67.33	1.24	34.46	0.00	0.00	3.92	2.54	0.51	11.01	0.83	22.85
		upper	0.20	0.02	67.33	1.26	34.48	0.74	5.15	3.92	2.54	0.51	11.01	0.83	22.89
	North Sea (NO)	lower	0.69	0.11	258.52	11.58	118.83	1.45	10.12	19.30	20.18	2.63	53.29	4.12	83.24
		upper	0.62	0.05	258.48	11.57	118.77	0.00	0.00	19.28	20.18	2.61	53.29	4.12	83.03
	Norwegian Sea (	lower	0.45	0.04	451.42	7.60	107.72	0.00	0.06	29.89	18.91	4.26	64.67	6.63	249.99
		upper	0.56	0.08	451.43	7.62	107.74	1.62	11.37	29.90	18.91	4.28	64.68	6.63	250.14
	Skagerrak (NO)	lower	1.09	0.08	87.63	22.09	760.89	0.62	46.89	5.29	18.02	0.73	40.28	1.38	582.13
		upper	1.10	0.12	87.64	22.09	760.89	10.41	119.58	5.30	18.02	0.74	40.28	1.38	582.13
Portugal	Bay of Biscay an	lower	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
		upper	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Spain	Atlantic (ESP)	lower	0.69	0.24	23.66	2.22	216.99	1.12	0.20	12.83	37.87	3.30	50.05	4.75	1040.72
		upper	8.63	1.33	143.61	31.31	343.62	78.83	399.06	13.89	39.28	3.40	55.80	5.54	1055.83
Sweden	Kattegat (SWE)	lower	0.44	0.07	52.92	11.76	135.30	NI	NI	2.19	17.42	0.31	29.80	0.78	NI
		upper	0.44	0.07	52.93	11.76	135.32	NI	NI	2.19	17.42	0.31	29.81	0.78	NI
	Skagerrak (SWE	lower	0.06	0.01	4.63	1.33	16.43	NI	NI	0.30	1.05	0.06	3.01	0.13	NI
		upper	0.06	0.01	4.63	1.33	16.43	NI	NI	0.30	1.05	0.06	3.01	0.13	NI
UK	Atlantic	lower	0.14	0.05	141.32	7.87	137.64	1.67	NI	5.00	10.26	1.82	27.51	3.94	191.97
		upper	1.29	0.18	143.63	25.18	166.58	1.79	NI	5.36	11.34	1.90	27.92	3.95	204.21
	Celtic Sea	lower	0.57	0.07	61.28	43.05	320.65	0.00	0.43	4.13	45.57	1.65	51.38	1.65	629.03
		upper	1.72	0.20	62.36	54.24	327.11	49.06	56.37	4.38	45.62	1.73	51.51	1.73	631.35
	Channel	lower	0.60	0.11	55.39	22.01	186.79	0.26	0.14	5.38	31.42	1.50	41.52	1.50	330.08
		upper	0.74	0.16	55.50	24.13	188.53	31.50	75.73	5.55	31.46	1.57	41.55	1.57	332.77
	Irish Sea	lower	1.52	0.23	102.47	179.73	518.72	1.53	0.00	3.25	42.16	2.51	53.88	2.97	835.77
		upper	3.60	0.40	105.25	194.02	533.95	53.36	91.10	3.73	42.54	2.65	53.98	3.07	849.80
	North Sea (North	lower	1.08	0.08	151.41	241.88	395.14	2.34	0.00	9.91	33.84	2.91	66.67	5.36	423.19
		upper	1.20	0.37	151.57	243.10	396.78	20.54	46.79	10.30	35.01	3.15	66.73	5.42	445.14
	North Sea (South	lower	1.49	0.21	96.97	77.87	355.72	0.06	0.00	7.43	99.89	6.49	115.72	6.49	513.01
		upper	1.79	0.33	97.06	80.02	358.56	71.31	167.80	7.48	99.90	6.50	115.74	6.50	515.82

AA_III Table 4b

Sum of Direct and Riverine Inputs to the Maritime Area of the OSPAR Convention in 2012 by Sea Area

Sea Area		Cd [t/a]	Hg [t/a]	Cu [t/a]	Pb [t/a]	Zn [t/a]	g-HCH [kg/a]	PCBs [kg/a]	NH4-N [kt/a]	NO3-N [kt/a]	PO4-P [kt/a]	N-Total [kt/a]	P-Total [kt/a]	SPM [kt/a]
Arctic Ocean	lower	0.16	0.01	67.33	1.24	34.46	0.00	0.00	3.92	2.54	0.51	11.01	0.83	22.85
	upper	0.20	0.02	67.33	1.26	34.48	0.74	5.15	3.92	2.54	0.51	11.01	0.83	22.89
Atlantic Ocean	lower	0.15	0.08	174.74	9.53	285.32	1.67	NI	5.08	18.08	2.13	47.26	4.77	249.52
	upper	3.31	1.19	177.65	36.50	314.25	1.79	NI	5.98	21.36	2.34	47.67	4.78	403.70
Bay of Biscay and Iberian Coast	lower	3.70	1.41	138.92	9.82	1074.96	1.12	0.20	16.41	291.10	5.65	296.97	11.40	4218.72
	upper	14.41	5.10	269.54	100.64	1241.84	604.93	399.06	17.62	292.51	5.87	354.69	12.36	4245.07
Celtic Sea	lower	0.59	0.10	108.66	48.32	488.77	0.00	0.43	4.84	100.33	2.50	118.19	3.50	818.62
	upper	4.68	1.68	110.84	73.67	495.22	49.06	56.37	5.39	100.82	2.66	118.35	3.66	936.74
Channel	lower	1.78	0.11	144.74	84.10	608.95	6.77	0.14	8.72	204.43	3.67	194.71	5.79	1167.54
	upper	2.19	0.84	146.11	91.65	610.99	184.20	75.73	8.89	204.46	3.73	208.02	5.85	1171.27
Irish Sea	lower	1.75	0.27	128.72	190.53	809.41	1.53	0.00	3.47	61.90	2.66	84.56	4.85	1017.47
	upper	4.51	0.78	131.50	207.67	824.65	53.36	91.10	3.96	62.28	2.80	84.69	4.98	1042.04
Kattegat	lower	0.44	0.07	52.92	11.76	135.30	NI	NI	2.19	17.42	0.31	29.80	0.78	NI
	upper	0.44	0.07	52.93	11.76	135.32	NI	NI	2.19	17.42	0.31	29.81	0.78	NI
North Sea (main body)	lower	6.96	2.59	770.95	534.37	1725.93	40.46	74.30	55.99	352.99	19.41	503.12	32.77	2938.20
	upper	9.66	3.10	771.24	538.77	1730.47	152.41	303.24	56.57	354.26	19.73	503.93	32.93	2996.88
Norwegian Sea	lower	0.45	0.04	451.42	7.60	107.72	0.00	0.06	29.89	18.91	4.26	64.67	6.63	249.99
	upper	0.56	0.08	451.43	7.62	107.74	1.62	11.37	29.90	18.91	4.28	64.68	6.63	250.14
Skagerrak	lower	1.15	0.10	92.26	23.41	777.32	0.62	46.89	5.59	19.07	0.79	43.29	1.52	582.13
	upper	1.16	0.13	92.26	23.42	777.32	10.41	119.58	5.60	19.07	0.79	43.29	1.52	582.13

Annex IV Statistical information on river catchment areas

Statistical Information on River Catchment Areas

River	Catchment area [km2]	Countries	Share in catchment area [km2]	[%]	Population (1990) [10E6]	[%]	LTA* [1000 m3/d]	LTA-period [a]
Statistical Information provided by Belgium:								
Coastal Area	**2675**				**~0.497**		**2367**	NI
Western	1689	*Belgium*	>1082	NI	>0,305	NI	708	
		France	NI	NI	NI	NI		
Middle	499	*Belgium*			0.014		501	
Eastern	487	*Belgium*			0.177		1158	
Scheldt basin								
Scheldt	**22004**				**~10**		**11139**	1949-2008
		Belgium (1)	13324	*61*	6.9			
		France	6680	*30*	~2,7			
		Netherlands (1)	2000	*9*	0.4			
		(1) Ghent-Terneuzen canal comprised						
Ghent-Terneuzen canal	**NI**						**1 885**	1991-2008
		Belgium	NI		NI			
		Netherlands	NI		NI			
Statistical Information provided by Denmark:								
Vid å	248.3	*DK*	*248*	*81*			300.5	78-07
Brøns å	94.1	*DK*	*94*	*100*		*100*	107.0	74-07
Ribe å	675	*DK*	*675*	*100*		*100*	756.6	33-07
Kongeaen	426.6	*DK*	*427*	*100*		*100*	627.0	90-07
Sneum å	223	*DK*	*223*	*100*		*100*	283.1	66-07
Varde å	815	*DK*	*815*	*100*		*100*	1048.8	69-07
Skjern å	1558.4	*DK*	*1558*	*100*		*100*	2108.2	74-07
Stor å	1096.7	*DK*	*1097*	*100*		*100*	1427.3	71-07
Brede å	290	*DK*	*290*	*100*		*100*	311.0	22-07
Omme å	612	*DK*	*612*	*100*		*100*	743.1	83-07
Grøn å	563	*DK*	*563*	*100*		*100*	606.2	59-07
Total	**10809**	**=Total of Danish rivers discharging to the North Sea**					**8230**	**71-90**
Liver å	249.8	*DK*	*250*	*100*		*100*	226.4	89-07
Uggerby å	347.5	*DK*	*348*	*100*		*100*	351.3	89-07
	1097	**=Total of Danish rivers discharging to the Skagerrak**					**863**	**71-90**
Karup å	626.8	*DK*	*527*	*100*		*100*	635.2	86-07
Jordbro å	110.9	*DK*	*111*	*100*		*100*	110.7	80-07
Skals å	556.4	*DK*	*556*	*100*		*100*	389.7	73-07
Simmersted å	214.9	*DK*	*215*	*100*		*100*	207.6	92-07
Elling å	132.2	*DK*	*132*	*100*		*100*	123.2	89-07
Voer å	238.7	*DK*	*239*	*100*		*100*	247.6	89-07
Ger å	153.8	*DK*	*154*	*100*		*100*	149.6	85-07
Lindeborg å	317.8	*DK*	*318*	*100*		*100*	310.3	83-07
Haslevgard å	75	*DK*	*75*	*100*		*100*	62.3	89-07
Kastbjerg å	96.3	*DK*	*96*	*100*		*100*	70.1	76-07
Guden å	2602.9	*DK*	*2 603*	*100*		*100*	2837.8	78-07
Ry å	285	*DK*	*285*	*100*		*100*	264.7	72-07
	15828	**=Total of Danish rivers discharging to the Kattegat**					**5284**	**71-90**

River	Catchment area	Countries	Share in catchment area		Population (1990)		LTA*	LTA-period
	[km2]		[km2]	[%]	[10E6]	[%]	[1000 m3/d]	[a]
Statistical Information provided by France:								
Coastal area	2308	*France*		*100*	0.61	*100*	2764	1989 - 2006
Canche	3895	*France*		*100*	0.38	*100*	4579	1961 - 2006
Somme	5916	*France*		*100*	0.59	*100*	3197	1963 - 2006
Béthune et Bresle	2153	*France*		*100*	0.16	*100*	2074	1998 - 2006
Saane	1718	*France*		*100*	0.16	*100*	2938	1996 - 2006
Seine	64953	*France*		*100*	13.94	*100*	44842	1974 - 2006
Andelle	789	*France*		*100*	0.05	*100*	691	1972 - 2006
Eure	6023	*France*		*100*	0.60	*100*	2246	1971 - 2006
Coastal area	2439	*France*		*100*	0.93	*100*	1599	1989 - 2006
Risle	2545	*France*		*100*	0.16	*100*	1642	1976 - 2006
Dives	1815	*France*		*100*	0.11	*100*	1296	1968 - 2006
Douve	1474	*France*		*100*	0.08	*100*	625	1989 - 2006
Orne	2976	*France*		*100*	0.40	*100*	2506	1984 - 2006
Seulles	547	*France*		*100*	0.06	*100*	346	1970 - 2006
Touques	1311	*France*		*100*	0.10	*100*	1037	1981 - 2006
Vire	2077	*France*		*100*	0.15	*100*	2246	1993 - 2006
Coastal area	1302	*France*		*100*	0.16	*100*	1174	1989 - 2006
Sélune et Sée	1623	*France*		*100*	0.09	*100*	1987	1994 - 2006
Sienne	1135	*France*		*100*	0.09	*100*	1328	1989 - 2006
Aulne	4312	*France*		*100*	0.52	*100*	6653	1969 - 2006
Rance et Couesnon	2848	*France*		*100*	0.27	*100*	2160	1983 - 2006
Coastal area	4961	*France*		*100*	0.49	*100*	3654	1989 - 2006
	119122	=Total of rivers discharging in ZONE II			20.10		91 582	
Blavet et Scorff	4649	*France*		*100*	0.50	*100*	5702	1982 - 2006
Coastal area	2868	*France*		*100*	0.32	*100*	4558	1989 - 2006
Vilaine	10144	*France*		*100*	0.90	*100*	5443	2001 - 2006
Coastal area	3636	*France*		*100*	0.82	*100*	2847	1989 - 2006
Loire	110178	*France*		*100*	6.67	*100*	73526	1868 - 2006
Sèvre Nantaise	4664	*France*		*100*	0.52	*100*	4234	1993 - 2006
Lay	4522	*France*		*100*	0.39	*100*	3456	1971 - 2006
Sèvre Niortaise	4363	*France*		*100*	0.42	*100*	4752	1992 - 2006
Coastal area	291	*France*		*100*	0.02	*100*	239	1989 - 2006
Boutonne	2141	*France*		*100*	0.14	*100*	1754	1989 - 2006
Charente	7526	*France*		*100*	0.43	*100*	5357	1979 - 2006
Coastal area	1172	*France*		*100*	0.09	*100*	446	1989 - 2006
Seudre	988	*France*		*100*	0.06	*100*	432	1971 - 2006
Eyre	2036	*France*		*100*	0.03	*100*	1814	1967 - 2006
Coastal area	2810	*France*		*100*	0.10	*100*	2264	1989 - 2006
Dordogne	14605	*France*		*100*	0.55	*100*	21859	1997 - 2006
Isle	8472	*France*		*100*	0.40	*100*	6912	1971 - 2006
Coastal area	870	*France*		*100*	0.09	*100*	647	1989 - 2006
Dropt	2672	*France*		*100*	0.21	*100*	1989	1989 - 2006
Garonne	38227	*France*		*100*	2.24	*100*	40003	1966 - 2006
Lot	11541	*France*		*100*	0.35	*100*	12614	2000 - 2006
Coastal area	3875	*France*		*100*	0.75	*100*	10983	1989 - 2006
Coastal area	3105	*France*		*100*	0.15	*100*	2501	1989 - 2006
Adour	7977	*France*		*100*	0.37	*100*	7690	1920 - 2006
Bidouze	1041	*France*		*100*	0.04	*100*	938	1989 - 2006
Gaves réunis	5504	*France*		*100*	0.32	*100*	17453	1925 - 2006
Luy	1367	*France*		*100*	0.10	*100*	1814	1966 - 2006
Nive	1153	*France*		*100*	0.12	*100*	3197	1968 - 2006
Coastal area	644	*France*		*100*	0.10	*100*	1825	1989 - 2006
	263040	=total of rivers discharging in ZONE IV			17.19		247 250	
Statistical Information provided by Germany:								
Ems	15552						7690	1941-2006
		Germany	13152	85.00	3.75	85		
		Netherlands	2400	15.00	0.6	15		
Weser	46306	*Germany*	-	-	9.0	-	31541	1941-2003
Elbe	148268		148268	100	25.11	-	74500	1926-2003
		Germany	*96932*	*65.38*	*19.09*	*76.03*		
		Czech Republic	*50176*	*33.84*	*5.97*	*23.78*		
		Austria	*920*	*0.62*	*0.05*	*0.20*		
		Poland	*240*	*0.16*	*NI*	*NI*		
Eider	2065	*Germany*	-	-	0.159	-	2391	1974-2006

River	Catchment area [km2]	Countries	Share in catchment area [km2]	[%]	Population (1990) [10E6]	[%]	LTA* [1000 m3/d]	LTA-period [a]
Statistical Information provided by Ireland:								
Boyne	2695	Ireland	-	-	NI	-	3280	1940-2006
Liffey	1256	Ireland	-	-	NI	-	1459	1900-2006
								1956-2006
Avoca	652	Ireland	-	0	NI	-	1562.112	1986-2006
Slaney	1762	Ireland	-	-	NI	-	3208.032	1990-2006
	6365	**=Total of main Irish rivers discharging to the Irish Sea**						
Barrow	3067	Ireland	-	-	NI	-	3784.32	1996-2006
Nore	2530	Ireland	-	-	NI	-	3602.016	1972-2006
Suir	3610	Ireland	-	-	NI	-	5889.024	1972-2006
								1953-2006
Blackwater	3324	Ireland	-	-	NI	-	7521.984	1955-2006
Lee	1253	Ireland	-	-	NI	-	3435.264	1957-2006
Bandon	608	Ireland	-	-	NI	-	1858	1975-2006
Deel	486	Ireland	-	-	NI	-	624.672	1982-2006
Maigue	1052	Ireland	-	-	NI	-	1513.728	1990-2006
Shannon Old Chan.	11700	Ireland	-	-	NI	-	4499.712	1990-2006
Shannon Tailrace		Ireland					13307.33	1947-2006
Fergus	1042	Ireland	-	-	NI	-	1 598	1956-2006
	28672	=Total of main Irish rivers discharging to the Celtic Sea						
								1973-06 excl.
Corrib	3138	Ireland	-	-	NI	-	9011.52	86-90, 92-93
Moy	2086	Ireland	-	-	NI	-	5405.184	1974-2006
Erne	4372	**Ireland/UK**	2572/1800	60/40	NI	-	7 333	1951-2006
	9596	**=Total of main Irish rivers dischrging to the Atlantic**						
Statistical Information provided by The Netherlands (with assistance from Germany and Belgium)								
Rhine	185000				2) 55.6		4) 198720	1901-1995
		Switzerland	1) 28000	15	3.0	6		
		France	24000	13	3.7	7		
		Luxembourg	2500	1	0.3	1		
		Germany	105900	57	32.5	65		
		Netherlands	21000	11	10.9	21		
		Belgium	700	0				
		Austria	2500	1				
		Liechtenstein	300	0				
		Italy	100	0				
Meuse	33500				3) 7.15		5) 28080	1911-1995
		France	8500	25	0.50			
		Luxembourg	100	0	0.05			
		Belgium	13150	39	2.00			
		Germany	4300	13	1.00			
		Netherlands	7400	22	3.60			
Scheldt	22004				~10		9331	1949-1995
		France	6680	30.00	~2.7	~27		
		Belgium	13324	61.00	6.9	69		
		Netherlands	2000	9.00	0.4	4		
Ems	15552						7690	1941-2006
		Germany	13152	85.00	3.75	85		
		Netherlands	2400	15.00	0.6	15		
Statistical Information provided by Norway:								
Glomma (1)	41918	Norway		100.00	0.62	100	61350	1961-1990
Drammenselva (2)	17034	Norway		100.00	0.2	100	28850	1961-1990
Numedalslågen (3)	5577	Norway		100.00	0.04	100	10200	1961-1990
Skienselva (4)	10772	Norway		100.00	0.11	100	23535	1961-1990
Otra (5)	3738	Norway		100.00	0.03	100	12870	1961-1990
	79039	**=Total of Norwegian rivers discharging to the Skagerrak**						
Orreelva (6)	105	Norway		100.00	0.01	100	335	1961-1990
Suldalslågen (7)	1457	Norway		100.00	0.003	100	7420	1961-1990
	1562	**=Total of Norwegian rivers discharging to the North Sea**						
Orkla (8)	3053	Norway		100.00	0.02	100	5710	1961-1990
Vefsna (9)	4122	Norway		100.00	0.01	100	15655	1961-1990
	7175	**=Total of Norwegian rivers discharging to the Norwegian Sea**						
Altaelva (10)	7373	Norway		100.00	0.005	100	7495	1961-1990
	95149	**Total catchment for main rivers discharging to all four regions**						
	126706	**Total catchment for tributary rivers discharging to all four regions**						
	221855	**Total catchment for monitored rivers**						
Statistical Information provided by Portugal:								
Tejo	80149	Portugal	24380	30.8	2.89	32.0	15900	50
		Spain	55769	69.2	6.14	68.0	34800	50
Douro	97600	Portugal	18600	19.1	1.76	43.5	22500	50
		Spain	79000	80.9	2.28	56.5	40900	50
Miño/Minho	17000	Portugal	900	5.3	0.07	7.9	6000	15
		Spain	16100	94.7	0.86	92.1	29000	15

1) Catchment areas rounded off to the nearest hundred km2
2) Population Rhine catchment per country requires further analysis
3) Population Meuse catchment: rough estimates
4) Estimated discharge at outlet: 2.300 m3/s * 24 h/d * 3600 s/h
5) Estimated discharge at outlet: 325 m3/s * 24 h/d * 3600 s/h

River	Catchment area	Countries	Share in catchment area		Population (1990)		LTA*	LTA-period
	[km2]		[km2]	[%]	[10E6]	[%]	[1000 m3/d]	[a]
Statistical Information provided by Spain:								
Oyarzun	74	Spain	74	100	0.055	100	166	
Urumea	266	Spain	266	100	0.176	100	633	
Oria	860	Spain	860	100	0.020	100	740	
Cadagua		Spain						
Asua		Spain						
Galindo		Spain						
Ibaizabal		Spain						
Urola	342	Spain	342	100	0.082	100	447	
Deva	531	Spain	531	100	0.146	100	694	
Artibay	106	Spain	106	100	0.016	100	NI	
Lea	81	Spain	81	100	0.010	100	NI	
Oca	132	Spain	132	100	0.022	100	NI	
Butron	175	Spain	175	100	0.024	100	NI	
Barbadun	135	Spain	135	100	0.020	100	NI	
Nervión	1764	Spain	1764	100	0.997	100	1 105	
Pas	620	Spain	606	97				
Eo	818	Spain	715	87				
Saja	955	Spain	955	100	0.104	100	1 166	
Nalón	4866	Spain	4866	100	0.539	100	6 977	
Miera	291	Spain	291	100	0.016	100	352	
Sella	1246	Spain	1246	100	0.035	100	832	
Masma	291	Spain	291	100	0.014	100	404	1970-2005
Oro	189	Spain	189	100	0.007	100	389	1970-2005
Landro	270	Spain	270	100	0.017	100	629	1975-2005
Sor	202	Spain	202	100	0.007	100	528	1996-2005
Mera	127	Spain	127	100	0.007	100	435	1970-2005
Forcadas	68	Spain	68	100	0.000	100	183	1970-2005
Grande de Jubia	182	Spain	182	100	0.004	100	318	1970-2005
Belelle	60	Spain	60	100	0.003	100	1 484	1970-2005
Eume	470	Spain	470	100	0.013	100	1 696	1970-2005
Mandeo	457	Spain	457	100	0.039	100	771	1970-2005
Mero	345	Spain	345	100	0.042	100	456	1984-2005
Allones	516	Spain	516	100	0.049	100	988	1970-2005
Grande	283	Spain	283	100	0.002	100	647	1970-2005
Castro	140	Spain	140	100	0.004	100	167	1970-2005
Jallas	504	Spain	504	100	0.022	100	739	1970-2005
Tambre	1530	Spain	1530	100	0.059	100	3828	1994-2005
Furelos		Spain						
Deza		Spain						
Traba	122	Spain	122	100	0.004	100	316	1970-2005
Ulla	2803	Spain	2803	100	0.104	100	1337	1971-2005
	156	Spain	156	100				
Umia	440	Spain	440	100	0.052	100	846	1970-2005
Lerez	450	Spain	450	100	0.085	100	1249	1970-1999
Verdugo	334	Spain	334	100	0.021	100	484	1970-2005
Miño	17247	Spain	16347	94.8	0.881		25716	1975-95
		Portugal	900	5.2				
Duero	97670	Spain	78960	80.8	3.093			
		Portugal	18710	19.2				
Tajo	80190	Spain	55810	69.6	6.459			
		Portugal	24380	30.4				
Guadiana	67122	Spain	55597	82.8	1.800		8556	1.912 - 1.995
		Portugal	11525	17.2				
Piedras	550	Spain	550	100	0.034	100	61	
Odiel	2417	Spain	2417	100	0.211	100	1 200	1967-1995
Guadaira		Spain						
Tinto	1727	Spain	1727	100	0.090	100	178	1966-1995
Guadalquivir	63241	Spain	63241	100	4.966	100	3423	1942-88
Guadiamar								
Guadalete	3360	Spain	3360	100	0.555	100	413	
TOTAL	**356726**	**Spain**	**301093**	**84.4**	**20.907**	**NI**	**70553**	
		Portugal	**55515**	**15.6**	**NI**			
		TOTAL	**356608**	**100**				

River	Catchment area	Countries	Share in catchment area		Population (1990)		LTA*	LTA-period
	[km2]		[km2]	[%]	[10E6]	[%]	[1000 m3/d]	[a]
Statistical Information provided by Sweden:					2005			
Vege å (95)	498	Sweden	498	100	0.0430	100	440	1961-1990
Rönne å (96)	1890	Sweden	1890	100	0.0903	100	2030	1961-1990
Stensån (97)	284	Sweden	284	100	0.0065	100	350	1961-1990
Lagan (98)	6444	Sweden	6444	100	0.1181	100	7410	1961-1990
Genevadsån (99)	225	Sweden	225	100	0.0046	100	350	1961-1990
Fylleån (100)	359	Sweden	359	100	0.0092	100	650	1961-1990
Nissan (101)	2682	Sweden	2682	100	0.0834	100	3690	1961-1990
Suseån (102)	441	Sweden	441	100	0.0074	100	640	1961-1990
Ätran (103)	3343	Sweden	3343	100	0.0657	100	5070	1961-1990
Himleån (104)	214	Sweden	214	100	0.0127	100	330	1961-1990
Viskan (105)	2201	Sweden	2201	100	0.1236	100	2760	1961-1990
Rolfsån (106)	723	Sweden	723	100	0.0281	100	1030	1961-1990
Kungsbackaån (107)	310	Sweden	310	100	0.0404	100	410	1961-1990
Göta älv (108)	50230	Sweden	42780.00	85.20	0.8776	ni	50530	1961-1990
		Norway	7450.00	14.80	ni	ni		
	69844	**=Total of Swedish rivers discharging to the Kattegat**						
Bäveån (109)	302	Sweden	302	100	0.0226	100	350	1961-1990
Örekilsälven (110)	1327	Sweden	1327	100	0.0138	100	2050	1961-1990
Strömsån (111)	253	Sweden	253	100	0.0056	100	390	1961-1990
Enningsdalsälven (112)	704	Sweden	704	100	0.0029	100	1360	1961-1990
	2586	**=Total of Swedish rivers discharging to the Skagerrak**						
Statistical Information provided by the United Kingdom:								
Ness (SC2b)	NI	-	-	-	NI	-	7 600	NI
Conon (SC2b)	NI	-	-	-	NI	-	NI	NI
Baeuly (SC2b)	NI	-	-	-	NI	-	NI	NI
Findhorn (SC2b)	NI	-	-	-	NI	-	NI	NI
Shin (SC2b)	NI	-	-	-	NI	-	NI	NI
Helmsdale (SC2b)	NI	-	-	-	NI	-	NI	NI
Naver (SC2b)	NI	-	-	-	NI	-	NI	NI
Thurso (SC2b)	NI	-	-	-	NI	-	NI	NI
Brora (SC2b)	NI	-	-	-	NI	-	NI	NI
Oykel (SC2b)	NI	-	-	-	NI	-	NI	NI
Nairn (SC2b)	NI	-	-	-	NI	-	NI	NI
Carron (Sutherland) (SC2	NI	-	-	-	NI	-	NI	NI
Wick (SC2b)	NI	-	-	-	NI	-	NI	NI
Halladale (SC2b)	NI	-	-	-	NI	-	NI	NI
Hope (SC2b)	NI	-	-	-	NI	-	NI	NI
Alness (SC2b)	NI	-	-	-	NI	-	NI	NI
Cassley (SC2b)	NI	-	-	-	NI	-	NI	NI
Fleet (SC2b)	NI	-	-	-	NI	-	NI	NI
Berriedale Water (Sc2b)	NI	-	-	-	NI	-	NI	NI
Borgie (SC2b)	NI	-	-	-	NI	-	NI	NI
Forss Water (SC2b)	NI	-	-	-	NI	-	NI	NI
Loch of Stenness (SC2b)	NI	-	-	-	NI	-	NI	NI
Glass (SC2b)	NI	-	-	-	NI	-	NI	NI
Strathy (Sc2b)	NI	-	-	-	NI	-	NI	NI
Mickle Burn (SC2b)	NI	-	-	-	NI	-	NI	NI
Dunbeath Water (SC2b)	NI	-	-	-	NI	-	NI	NI
Spey (SC3)	NI	-	-	-	NI	-	5 600	NI

UK cont.

River	Catchment area	Countries	Share in catchment area		Population (1990)		LTA*	LTA-period
	[km2]		[km2]	[%]	[10E6]	[%]	[1000 m3/d]	[a]
Dee (Grampian) (SC3)	NI	-	-	-	NI	-	NI	NI
Don (SC3)	NI	-	-	-	NI	-	NI	NI
Deveron (SC3)	NI	-	-	-	NI	-	NI	NI
Ythan (SC3)	NI	-	-	-	NI	-	NI	NI
Ugie (SC3)	NI	-	-	-	NI	-	NI	NI
Bervie Water (SC3)	NI	-	-	-	NI	-	NI	NI
Lossie (SC3)	NI	-	-	-	NI	-	NI	NI
Tay (SC4)	NI	-	-	-	NI	-	14 000	NI
Earn (SC4)	NI	-	-	-	NI	-	NI	NI
North Esk (Tayside) (SC4	NI	-	-	-	NI	-	NI	NI
South Esk (Tayside) (SC4	NI	-	-	-	NI	-	NI	NI
Eden SC4)	NI	-	-	-	NI	-	NI	NI
Lunan Water (SC4)	NI	-	-	-	NI	-	NI	NI
Dighty Water (SC4)	NI	-	-	-	NI	-	NI	NI
Tweed (SC5)	NI	-	-	-	NI	-	NI	NI
Forth (SC5)	NI	-	-	-	NI	-	4 300	NI
Whiteadder Water (SC5)	NI	-	-	-	NI	-	NI	NI
Leven (Fife) (SC5)	NI	-	-	-	NI	-	NI	NI
Almond (SC5)	NI	-	-	-	NI	-	NI	NI
Esk (Lothian) (SC5)	NI	-	-	-	NI	-	NI	NI
Tyne (SC5)	NI	-	-	-	NI	-	3 900	NI
Allan Water (SC5)	NI	-	-	-	NI	-	NI	NI
Devon (SC5)	NI	-	-	-	NI	-	NI	NI
Carron (Falkirk) (SC5)	NI	-	-	-	NI	-	NI	NI
Avon (SC5)	NI	-	-	-	NI	-	NI	NI
Eye Water (SC5)	NI	-	-	-	NI	-	NI	NI
Water of Leith (SC5)	NI	-	-	-	NI	-	NI	NI
Tweed (E1)	NI	-	-	-	NI	-	NI	NI
Coquet (E1)	NI	-	-	-	NI	-	NI	NI
Wansbeck (E1)	NI	-	-	-	NI	-	NI	NI
Blyth (E1)	NI	-	-	-	NI	-	NI	NI
Tyne (E2)	NI	-	-	-	NI	-	NI	NI
Derwent (E2)	NI	-	-	-	NI	-	NI	NI
Team (E2)	NI	-	-	-	NI	-	NI	NI
Wear (E3)	NI	-	-	-	NI	-	NI	NI
Skerne (E5)	NI	-	-	-	NI	-	NI	NI
Tees (E5)	NI	-	-	-	NI	-	NI	NI
Tot.N.Sea (N) catch.	50000						89300	1960 to 1990
Aire (E8)	NI	-	-	-	NI	-	NI	NI
Derwent (E8)	NI	-	-	-	NI	-	NI	NI
Don (E8)	NI	-	-	-	NI	-	NI	NI
Ouse (E8)	NI	-	-	-	NI	-	NI	NI
Wharfe (E8)	NI	-	-	-	NI	-	NI	NI
Ancholme (E8)	NI	-	-	-	NI	-	NI	NI
Trent (E8)	NI	-	-	-	NI	-	7800	NI
Idle (E8)	NI	-	-	-	NI	-	NI	NI
Welland (E9)	NI	-	-	-	NI	-	NI	NI
Nene (E9)	NI	-	-	-	NI	-	NI	NI
Ouse (E9)	NI	-	-	-	NI	-	NI	NI
Witham (E9)	NI	-	-	-	NI	-	NI	NI
Glan (E9)	NI	-	-	-	NI	-	NI	NI
Hundred Foot River (E9)	NI	-	-	-	NI	-	NI	NI
Ten Mile River (E9)	NI	-	-	-	NI	-	NI	NI
Bure (E10)	NI	-	-	-	NI	-	NI	NI
Wensum (E10)	NI	-	-	-	NI	-	NI	NI
Stour (E10)	NI	-	-	-	NI	-	NI	NI
Gipping (E10)	NI	-	-	-	NI	-	NI	NI
Waveney (E10)	NI	-	-	-	NI	-	NI	NI
Yare (E10)	NI	-	-	-	NI	-	NI	NI
Colne (E11)	NI	-	-	-	NI	-	NI	NI
Chalmer (E11)	NI	-	-	-	NI	-	NI	NI
Blackwater (E11)	NI	-	-	-	NI	-	NI	NI
Thames (E12)	NI	-	-	-	NI	-	6700	NI

UK Cont

Beam (E12)	NI	-	-	-	NI	-	NI	NI
Beverley Brook (E12)	NI	-	-	-	NI	-	NI	NI
Brent (E12)	NI	-	-	-	NI	-	NI	NI
Crane (E12)	NI	-	-	-	NI	-	NI	NI
Ingrebourne (E12)	NI	-	-	-	NI	-	NI	NI
Lee (E12)	NI	-	-	-	NI	-	NI	NI
Ravensbourne (E12)	NI	-	-	-	NI	-	NI	NI
Roding (E12)	NI	-	-	-	NI	-	NI	NI
Wandle (E12)	NI	-	-	-	NI	-	NI	NI
Tot.N.Sea (S) catch.	62000						32300	1960 to 1990
Medway (E13)	NI	-	-	-	NI	-	NI	NI
Stour (E13)	NI	-	-	-	NI	-	1130	NI
Rother (E13)	NI	-	-	-	NI	-	NI	NI
Adur (E14)	NI	-	-	-	NI	-	NI	NI
Ouse (E14)	NI	-	-	-	NI	-	NI	NI
Cuckmere (E14)	NI	-	-	-	NI	-	NI	NI
Arun (E14)	NI	-	-	-	NI	-	NI	NI
Itchen (E15)	NI	-	-	-	NI	-	NI	NI
Test (E15)	NI	-	-	-	NI	-	NI	NI
Blackwater (E15)	NI	-	-	-	NI	-	NI	NI
Frome (E16)	NI	-	-	-	NI	-	NI	NI
Stour (E16)	NI	-	-	-	NI	-	NI	NI
Avon (E16)	NI	-	-	-	NI	-	1330	NI
Axe (E17)	NI	-	-	-	NI	-	NI	NI
Dart (E17)	NI	-	-	-	NI	-	NI	NI
Exe (E17)	NI	-	-	-	NI	-	1360	NI
Gara (E17)	NI	-	-	-	NI	-	NI	NI
Otter (E17)	NI	-	-	-	NI	-	NI	NI
Teign (E17)	NI	-	-	-	NI	-	NI	NI
Cober (E18)	NI	-	-	-	NI	-	NI	NI
Erme (E18)	NI	-	-	-	NI	-	NI	NI
Fal (E18)	NI	-	-	-	NI	-	NI	NI
Fowey (E18)	NI	-	-	-	NI	-	NI	NI
Gara (E18)	NI	-	-	-	NI	-	NI	NI
Lynher (E18)	NI	-	-	-	NI	-	NI	NI
Par (E18)	NI	-	-	-	NI	-	NI	NI
Plym (E18)	NI	-	-	-	NI	-	NI	NI
Porthleven (E18)	NI	-	-	-	NI	-	NI	NI
St Austel (E18)	NI	-	-	-	NI	-	NI	NI
Tavy (E18)	NI	-	-	-	NI	-	NI	NI
Tamar (E18)	NI	-	-	-	NI	-	1940	NI
Tot.Channel catch.	22000						16500	1960-1990
Camel (E19)	NI	-	-	-	NI	-	NI	NI
Hayle (E19)	NI	-	-	-	NI	-	NI	NI
Menalhyl (E19)	NI	-	-	-	NI	-	NI	NI
Red River (E19)	NI	-	-	-	NI	-	NI	NI
Taw (Yeo) (E19)	NI	-	-	-	NI	-	NI	NI
Taw (2) (E20)	NI	-	-	-	NI	-	NI	NI
Torridge (E20)	NI	-	-	-	NI	-	NI	NI
Parrett (E21)	NI	-	-	-	NI	-	NI	NI
Tone (E21)	NI	-	-	-	NI	-	NI	NI
Bristol Avon (E22)	NI	-	-	-	NI	-	NI	NI
Severn (2) (E22)	NI	-	-	-	NI	-	9100	NI
Wye (E23)	NI	-	-	-	NI	-	6200	NI
Usk (E23)	NI	-	-	-	NI	-	NI	NI
Rhymney (E23)	NI	-	-	-	NI	-	NI	NI
Ely (E23)	NI	-	-	-	NI	-	NI	NI
Afon Lwyd (E23)	NI	-	-	-	NI	-	NI	NI
Ebbw Fawr (E23)	NI	-	-	-	NI	-	NI	NI
Taff (E23)	NI	-	-	-	NI	-	NI	NI
Cadoxton (E24)	NI	-	-	-	NI	-	NI	NI
Neath (E24)	NI	-	-	-	NI	-	NI	NI
Ogmore (E24)	NI	-	-	-	NI	-	NI	NI
Thaw (E24)	NI	-	-	-	NI	-	NI	NI
Tawe (E24)	NI	-	-	-	NI	-	NI	NI
Ewenny (E24)	NI	-	-	-	NI	-	NI	NI
Nant Y Fendrod (E24)	NI	-	-	-	NI	-	NI	NI
Thaw Kenson (E24)	NI	-	-	-	NI	-	NI	NI
Dafen (E25)	NI	-	-	-	NI	-	NI	NI

UK Cont.

W Cleddau (E25)	NI	-	-	-	NI	-	NI	NI
Tywi (E25)	NI	-	-	-	NI	-	3700	NI
Taf (E25)	NI	-	-	-	NI	-	NI	NI
Loughor (E25)	NI	-	-	-	NI	-	NI	NI
Tot.Celtic S. catch.	32000						36400	1960-1990
Teifi (E26)	NI	-	-	-	NI	-	NI	NI
Ystwyth (E26)	NI	-	-	-	NI	-	NI	NI
Rheidol (E26)	NI	-	-	-	NI	-	NI	NI
Mawddach (E26)	NI	-	-	-	NI	-	NI	NI
Dyfi (E26)	NI	-	-	-	NI	-	NI	NI
Glaslyn (E26)	NI	-	-	-	NI	-	NI	NI
Afon Goch (2) (E27)	NI	-	-	-	NI	-	NI	NI
Clwyd (E27)	NI	-	-	-	NI	-	NI	NI
Cefni (E27)	NI	-	-	-	NI	-	NI	NI
Conwy (E27)	NI	-	-	-	NI	-	NI	NI
Dee (E27)	NI	-	-	-	NI	-	3020	NI
Nant Glywdyr (E27)	NI	-	-	-	NI	-	NI	NI
Alt (E28)	NI	-	-	-	NI	-	NI	NI
Mersey (E28)	NI	-	-	-	NI	-	3540	NI
Weaver (E28)	NI	-	-	-	NI	-	NI	NI
Darwen (E29)	NI	-	-	-	NI	-	NI	NI
Douglas (E29)	NI	-	-	-	NI	-	NI	NI
Ribble (E29)	NI	-	-	-	NI	-	NI	NI
Kent (E29)	NI	-	-	-	NI	-	NI	NI
Lune (E29)	NI	-	-	-	NI	-	3020	NI
Wyre (E29)	NI	-	-	-	NI	-	NI	NI
Leven (E29)	NI	-	-	-	NI	-	NI	NI
Derwent (E30)	NI	-	-	-	NI	-	NI	NI
Eden (E30)	NI	-	-	-	NI	-	4320	NI
Nith (SC1)	NI	-	-	-	NI	-	NI	NI
Annan (SC1)	NI	-	-	-	NI	-	NI	NI
Dee (Solway) (SC1)	NI	-	-	-	NI	-	NI	NI
Esk (Solway) (SC1)	NI	-	-	-	NI	-	NI	NI
Cree (SC1)	NI	-	-	-	NI	-	NI	NI
Bladnoch (SC1)	NI	-	-	-	NI	-	NI	NI
Water of Luce (SC1)	NI	-	-	-	NI	-	NI	NI
Urr Water (SC1)	NI	-	-	-	NI	-	NI	NI
Lochar Water (SC1)	NI	-	-	-	NI	-	NI	NI
Newry (NI2)	NI				NI	-	NI	NI
Quoile (NI2)	NI				NI	-	NI	NI
Lagan (NI2)	NI				NI	-	NI	NI
Tot.Irish Sea catch.	35000						48400	1960-1990
Clyde (SC2)	NI	-	-	-	NI	-	4 000	NI
Awe (SC2)	NI	-	-	-	NI	-	NI	NI
Leven (Loch Lomond (SC	NI	-	-	-	NI	-	NI	NI
Ayr (SC2)	NI	-	-	-	NI	-	NI	NI
Irvine (SC2)	NI	-	-	-	NI	-	NI	NI
Kelvin (SC2)	NI	-	-	-	NI	-	NI	NI
Stinchar (SC2)	NI	-	-	-	NI	-	NI	NI
Doon (SC2)	NI	-	-	-	NI	-	NI	NI
Water of Girvan (SC2)	NI	-	-	-	NI	-	NI	NI
White Cart Water (SC2)	NI	-	-	-	NI	-	NI	NI
Garnock (SC2)	NI	-	-	-	NI	-	NI	NI

UK cont.

Etive (SC2)	NI	-	-	-	NI	-	NI	NI
Eachaig (SC2)	NI	-	-	-	NI	-	NI	NI
Black Cart Water (SC2)	NI	-	-	-	NI	-	NI	NI
Gryfe (SC2)	NI	-	-	-	NI	-	NI	NI
Add (SC2)	NI	-	-	-	NI	-	NI	NI
Lochy (SC2a)	NI	-	-	-	NI	-	5 400	NI
Ewe (SC2a)	NI	-	-	-	NI	-	NI	NI
Shiel (SC2a)	NI	-	-	-	NI	-	NI	NI
Leven (Lochaber) (SC2a)	NI	-	-	-	NI	-	NI	NI
Morar (SC2a)	NI	-	-	-	NI	-	NI	NI
Inver (SC2a)	NI	-	-	-	NI	-	NI	NI
Carron (Wester Ross (SC	NI	-	-	-	NI	-	NI	NI
Gruinard (SC2a)	NI	-	-	-	NI	-	NI	NI
Broom (SC2a)	NI	-	-	-	NI	-	NI	NI
Kirkaig (SC2a)	NI	-	-	-	NI	-	NI	NI
Ling (SC2a)	NI	-	-	-	NI	-	NI	NI
Laxford (SC2a)	NI	-	-	-	NI	-	NI	NI
Abhainn Ghriomarstaidh	NI	-	-	-	NI	-	NI	NI
Aline (SC2a)	NI	-	-	-	NI	-	NI	NI
Loch Linnhe (SC2a)	NI	-	-	-	NI	-	NI	NI
Bush (NI1)	NI				NI		NI	NI
Bann (NI1)	NI				NI		7900	NI
Roe (NI1)	NI				NI		NI	NI
Faughan (NI1)	NI				NI		NI	NI
Burn Dennet NI1	NI				NI		NI	NI
Mourne (NI1)	NI				NI		NI	NI
Finn (NI1)	NI				NI		NI	NI
Tot.Atlantic catchm.	42000						49700	1960-1990

***) LTA = Long-term average**

Annex V. RID Monitoring Results 2014 based on submitted (written) reports

The below overview is based on Part 1 of the annual written reports from each CP, delivered by January 6th 2016. These include reports from

- Belgium
- France
- Germany
- Norway
- Sweden
- UK

In general, riverine inputs are closely connected to the water discharges of the reporting year. In France and Germany, water flow was lower than long-term average values, and the riverine inputs were therefore in general lower than in former years. On the other hand, Norway and Sweden reported higher water discharges in 2014 as compared to long-term normals, and this resulted in higher loads from rivers to the sea in these parts of the North-Atlantic. UK reports that water discharges in 2014 were higher than in 2013. In Belgium, regional flow trend analyses are not meaningful because of the heterogeneity of the available data. More reliable data sets are available for the Scheldt river, showing a stable annual mean flow between 100 and 150 m^3/s over the last decade. Historical data sets from this river show flow levels exceeding 150 m^3/s between 1998 and 2002.

More meaningful assessments of changes in pollutant loads from European rivers will require flow normalisation of the loads. The actual loads will, however, reflect climatic changes and give a more proper measure of the total loads to the sea.

At INPUT 2016, a suggestion was made to streamline the word reports better, so that they can be used in the annual, written RID reports to give assessments of last year's monitoring results. A suggestion on how this can be done in practice will be presented at INPUT 2017.

Belgium

Riverine inputs

Status (monitoring year 2014)

Flows: Since minimum flows include negative values, calculations have been excluded from table 1. The figures of mean, LTA and maximum flows show the percentage of the Scheldt river and of the Scheldt basin compared to the total flow drained to the North sea. These percentages are very consistent, taken into account the complex water network system of connected rivers and canals. Flow percentage of the Scheldt river is between 64% and 68% compared to the total and ranging from 78% to 85% in the case of the Scheldt basin.

Table 1. Percentage of flows discharged by the Scheldt river and the Scheldt river basin compared with the total flow discharged to the North Sea.

2014		**Total OSPAR**	**Scheldt river**	**%**	**Scheldt basin**	**%**
Flow Rate	[1000m³/d]	13400	8787	66	11420	85
LTA	[1000m³/d]	14332	9696	68	11831	83
Minimum FR	[1000m³/d]	1084	1528		1738	
Maximum FR	[1000m³/d]	58929	37641	64	45720	78

Concentrations: Concentrations of chemical contaminants are not reported as mean values. Comparison of maximum values of heavy metals is only relevant for Zn and they show little difference between the Scheldt and Coastal areas, although larger rivers and canals show higher values. Nitrogen concentrations show more or less comparable values on all monitoring sites, but the highest values are monitored in the agricultural areas of the coastal region. Nitrogen levels of the Canal Ghent-Terneuzen are also higher than the Scheldt, which indicates the impact of industrial activities and the urban area of Ghent. The same conclusion can be drawn for phosphorous. Regarding SPM, values are significantly higher for the Scheldt river compared to all other monitoring stations, which is clearly an effect of the tidal regime.

Loads: The parameters lindane and PCBs excepted, the 2014 data set is sufficiently consistent to allow some regional comparison (Table 2). Compared with the coastal region, loads from the Scheldt basin, and in particular the Scheldt river, are considerably higher. This river covers the largest part of the Belgian territory draining to the North Sea. For the heavy metals, loads from the Scheldt river range between 64% and 77%. The highest percentage is reached for suspended matter (88%) which is due to the tidal impact on the Scheldt, transporting a high mass of sediments. Nutrient loads of nitrogen and phosphorous reach lower percentages (23% to 59%) indicating the impact of the coastal region as an agricultural area with intensive piggery. However, considering the Scheldt basin in total – including the Canal Ghent-Terneuzen – both heavy metal and nutrient percentages increase significantly. Comparing the Scheldt area with the coastal area may result in some overestimation of the impact of the Scheldt basin loads since monitoring sites are located near the border, directly impacted by the heavy harbour industries of Antwerp and Ghent. Because of the complex water network in the Ghent area, water is diverted to different directions in times of floods and droughts, which hampers a thorough impact evaluation.

Table 2. Percentage of loads discharged by the Scheldt river and the Scheldt river basin compared with the total load discharged to the North Sea.

2014		Total OSPAR	Scheldt river	%	Scheldt basin	%
Cd	[t/a]	0,542	0,417	77	0,489	90
Hg	[t/a]	0,042	0,029	70	0,036	87
Cu	[t/a]	10,398	7,532	72	9,064	87
Pb	[t/a]	1,404	0,969	69	1,226	87
Zn	[t/a]	36,119	23,104	64	31,472	87
g-HCH	[kg/a]	4,056	4,056		4,056	
PCBs	[kg/a]	1,442				
NH4-N	[kt/a]	0,913	0,209	23	0,566	62
NO3-N	[kt/a]	19,203	11,384	59	15,788	82
PO4-P	[kt/a]	1,009	0,471	47	0,778	77
N-Total	[kt/a]	25,358	14,203	56	20,353	80
P-Total	[kt/a]	2,096	1,230	59	1,693	81
SPM	[kt/a]	240,529	211,493	88	216,967	90

The conclusions on the calculated loads are in line with the observations on flows and concentrations and seem to reflect very well the impact of human activities.

Trends (monitoring period 2000-2014)

Flows: Regional flow trend analyses based on RID table 9, and in particular of the coastal area, are not meaningful because of the heterogeneity of the available data, not including some important flows. More reliable data sets are available for the Scheldt river (Fig. 1), showing a stable annual mean flow between 100 and 150 m³/s over the last decade. Historical data sets show flow levels exceeding 150 m³/s between 1998 and 2002.

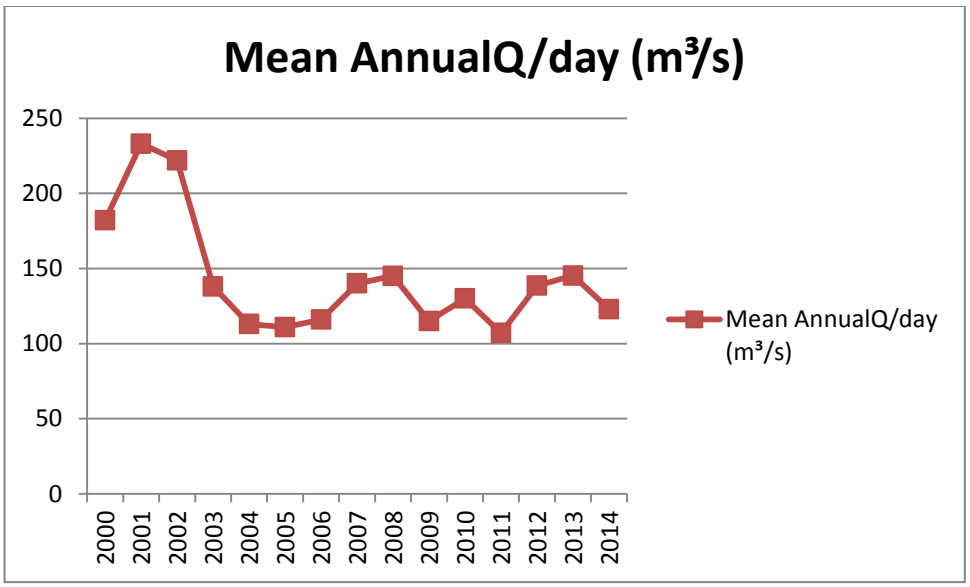


Fig. 1. Flow trend of the Scheldt river at Antwerp (Belgian-Dutch border) showing annual mean values (in m³/s) of the daily flows.

Loads: Trend analysis of pollutant loads is not reliable in the coastal area and for hazardous substance because of the data gaps and low concentration values in the historical data series. On the other hand, nutrients are frequently monitored and values exceed LODs. Nitrogen loads discharged to the North Sea (Fig. 2) show equal

trends for total nitrogen and nitrates and low values for ammonia. Lower ammonia values result from: 1) decrease of discharges from pollution sources, 2) breakdown by available oxygen, resulting in higher nitrogen levels. There is a striking similarity between total nitrogen and nitrate load discharges and the mean annual flow.

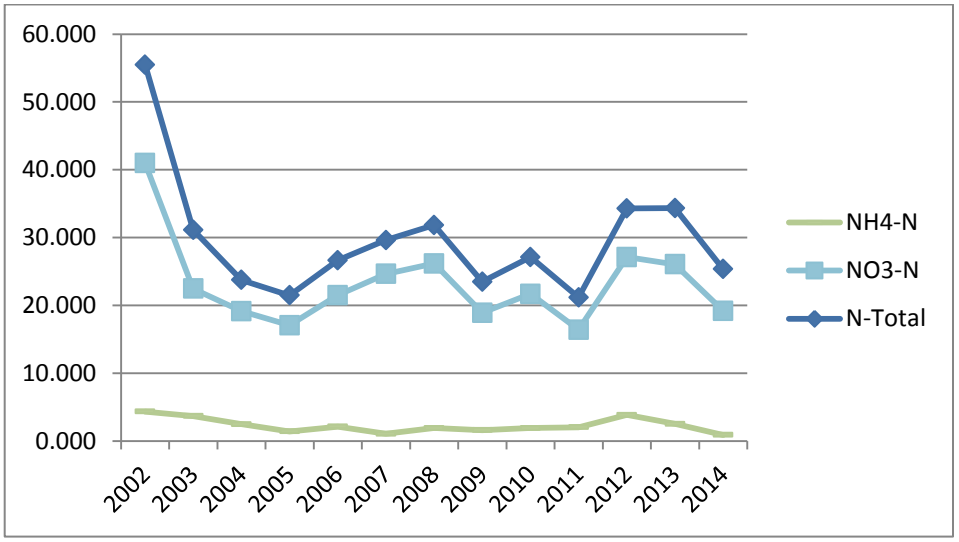


Fig. 2. Loads of nitrogen components discharged to the North Sea.

Considering the flow rate of the river Scheldt, nitrogen loads show similar trends as the totals discharged to the North Sea (Fig. 3). At the level of the Belgian territory, discharges from the Scheldt river have the highest share of nutrient transport to the North Sea. The overall conclusion is a slight downward trend of nitrogen loads considering additional monitoring stations from 2008 on.

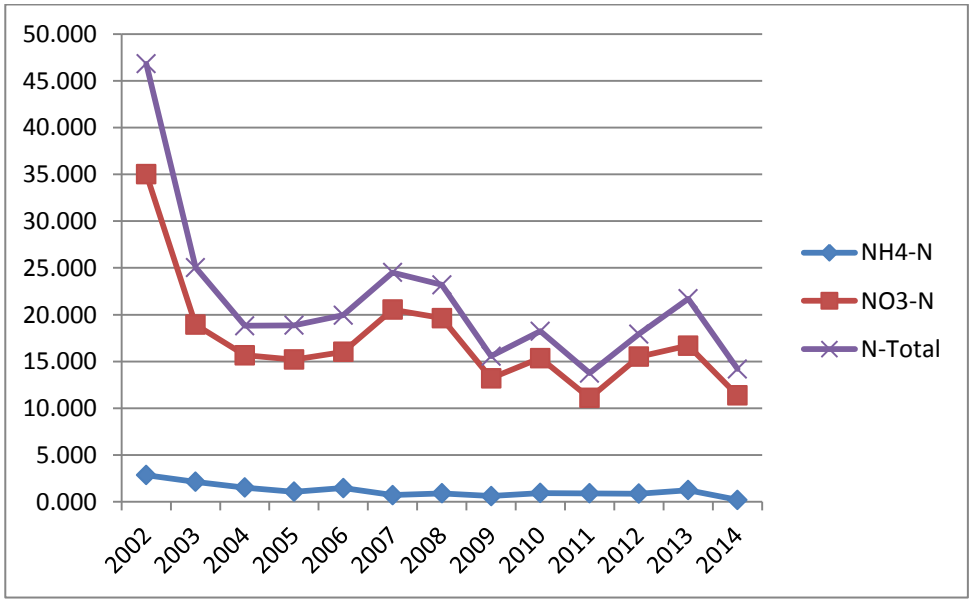


Fig. 3. Loads of nitrogen components discharged by the Scheldt river.

Looking at the phosphorous trends (Fig. 4), a similar conclusion can be drawn for the period 2002-2008. From 2009 on, total phosphorous loads transported by the Scheldt are significantly lower than country totals. This can be partially explained by the inclusion of the Canal Ghent-Terneuzen since 2011 (in the figure part of the North Sea total). However, this cannot explain the increased values of 2009-2010. On the other hand, the increasing

load trend during the last decade is also a result of improved monitoring, including additional stations. In this respect, P load trends do not fit with N load trends.

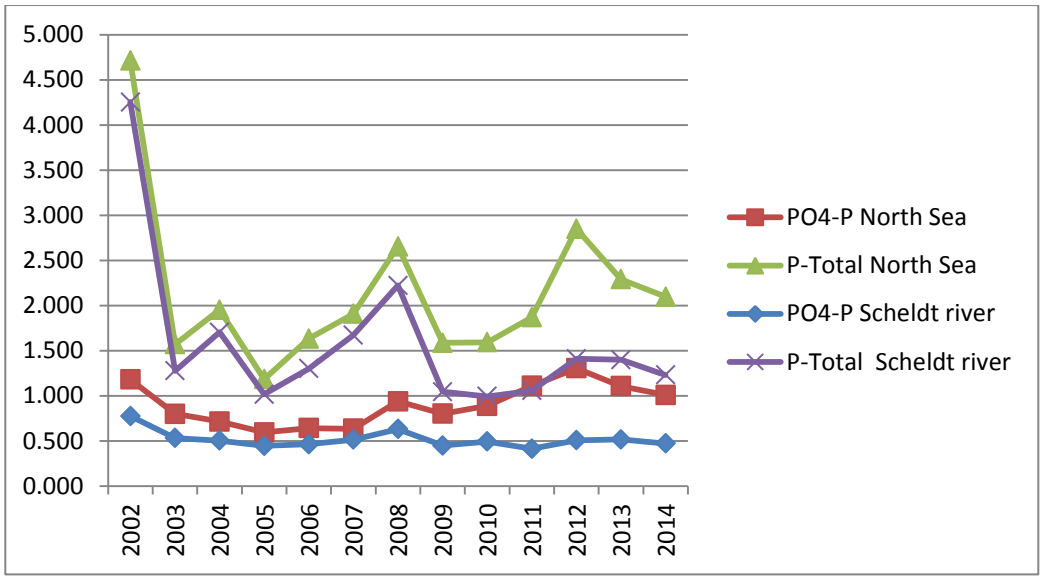


Fig. 4. Loads of phosphorous components discharged to the North sea (total loads) and by the Scheldt river.

The observations for P are even more striking for Suspended Particular Matter (SPM) (Fig. 5). Because of the tidal character of the Scheldt river a mass of sediments is carried to the North Sea. Trend differentiation between total loads to the North Sea and discharged loads from the Scheldt river from 2009 is partially due to improved monitoring efforts.

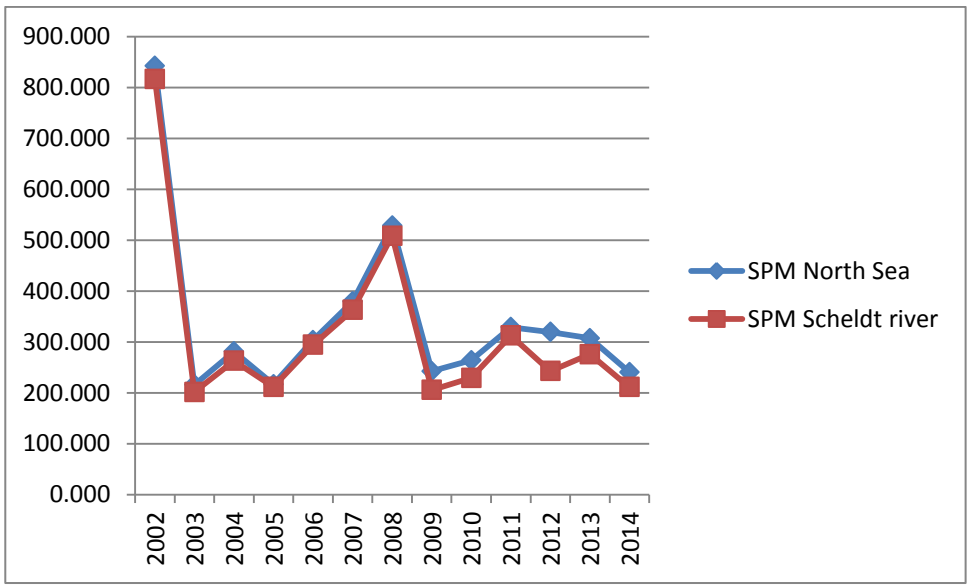


Fig. 5. Loads of SPM discharged to the North sea (total loads) and by the Scheldt river.

The trend series of lindane is a peculiar case (Fig. 6). In the years following the 2002-2003 peak, there is a significant downward trend of lindane loads, not comparable with the nutrient and SPM trends. It is assumed

this is a result of the EU Commission Decision related to the Council Directive 91/414/EEC[1] as approved on 20 December 2000. Implemented in 2001, significant lower values are maintained from 2004 on, in particular in the coastal region with intensive agricultural activities.

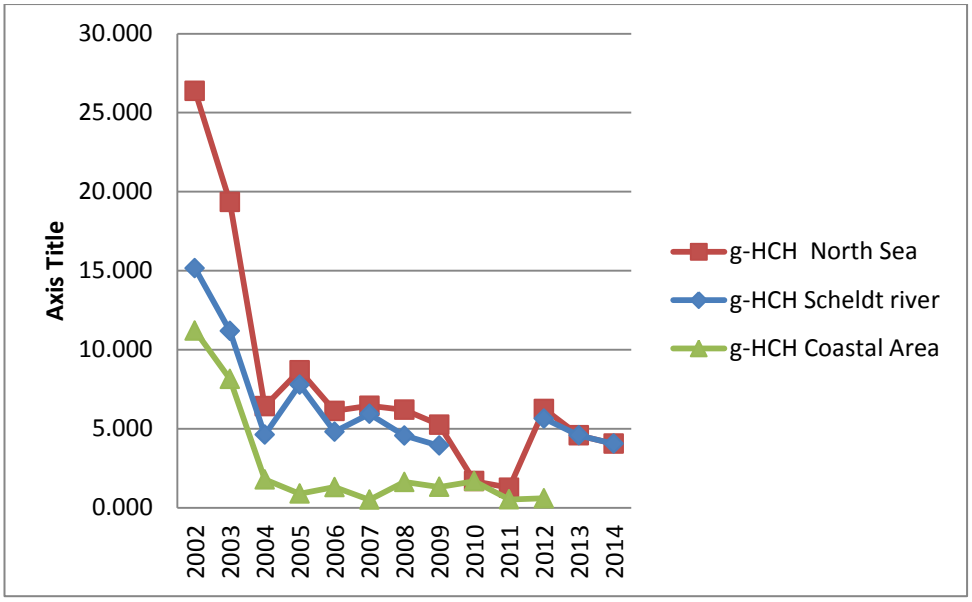


Fig. 6. Loads of lindane discharged to the North sea (total loads) and by the Scheldt river and the Coastal region.

Direct discharges

There are no direct discharges to Belgium's convention waters.

Unmonitored areas

Not estimated.

Overall loads

Overall loads are similar to riverine inputs since there are no direct discharges and no estimations of loads from unmonitored areas.

[1] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32000D0801&qid=1442325994558&from=EN.

France

The French monitoring stations and catchment areas are shown in the map below.

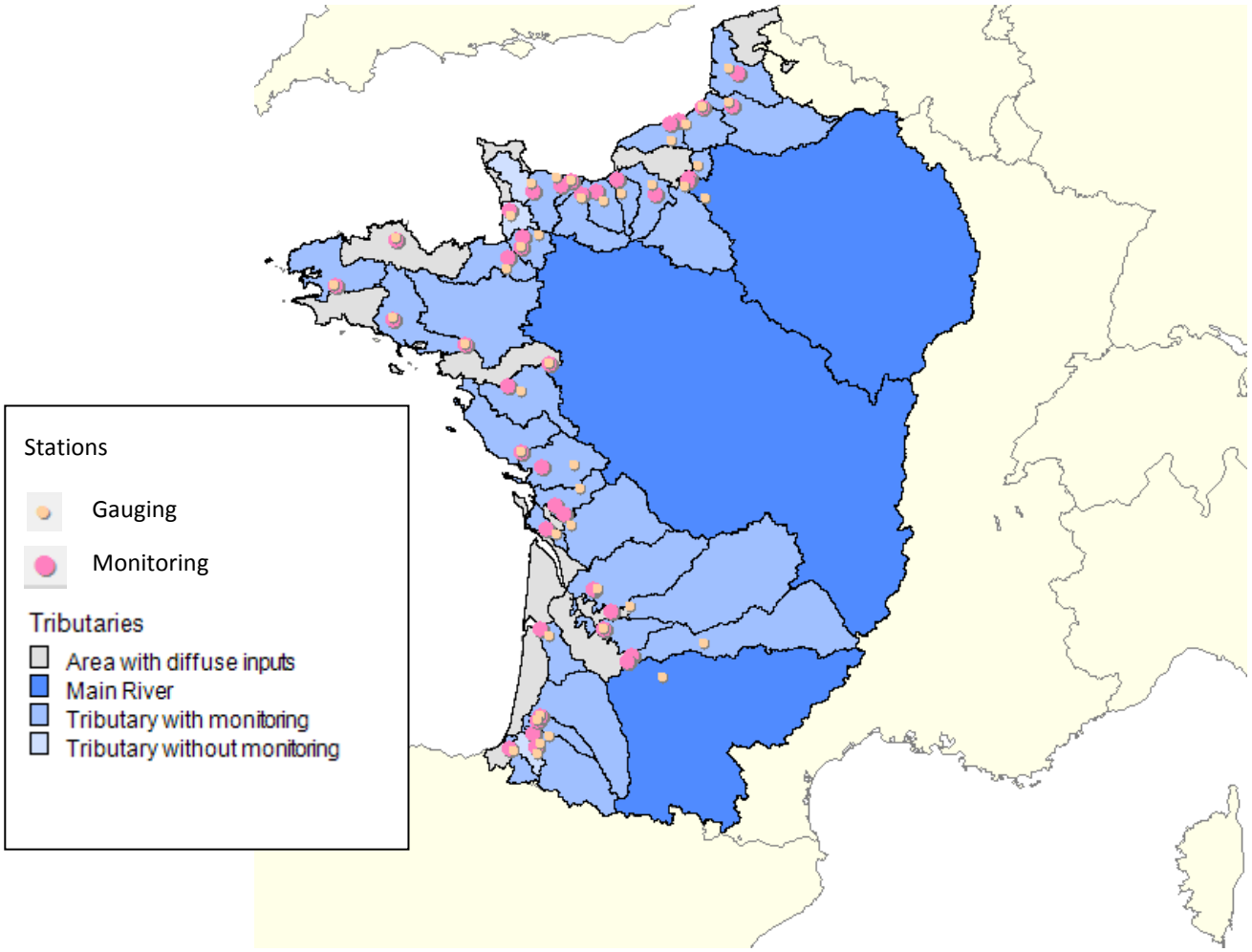


Figure 1: General map of Ospar zones and stations

The French RID program covers 382,161 km^2, hence 70 % of the total land area. The inputs due to 94% of the French RID program are assessed thanks to monitoring and gauging stations and 84 % of the French OSPAR area is really monitored (figure 2). Considering our previous results about run-offs and load borne, three are declared as "main rivers": Loire, Seine and Garonne. The three corresponding areas represent more than 50% of the total surface (figure 1).

Riverine inputs

The riverine inputs of nitrogen have decreased in 2014, compared to 2013, according to the evolution of the flow: -12 % for the NO3-N and -25 % for the NH4-N (figure 3). However, the inputs remain important, more than 560 kt.

The riverine inputs of total phosphorus have also decreased, -26 %, but not those linked to PO4-P, that remain almost equal to the inputs of the previous year (figure 4).

Compared to 2013, the inputs of SPM have decreased a lot, -60 %, but in fact, return to more classical values, around 4000 kt per year (figure 5).

Consequently, the global linear trend of NO3-N inputs is on a slight increase over the last 10 years. The trend of SPM inputs is particularly influenced by the results in 2013 and so, increases more than NO3-N. In spite of an increasing flow, the global trend of total P is still on a decrease, even if the evolution of PO4-P is quite different in 2014.

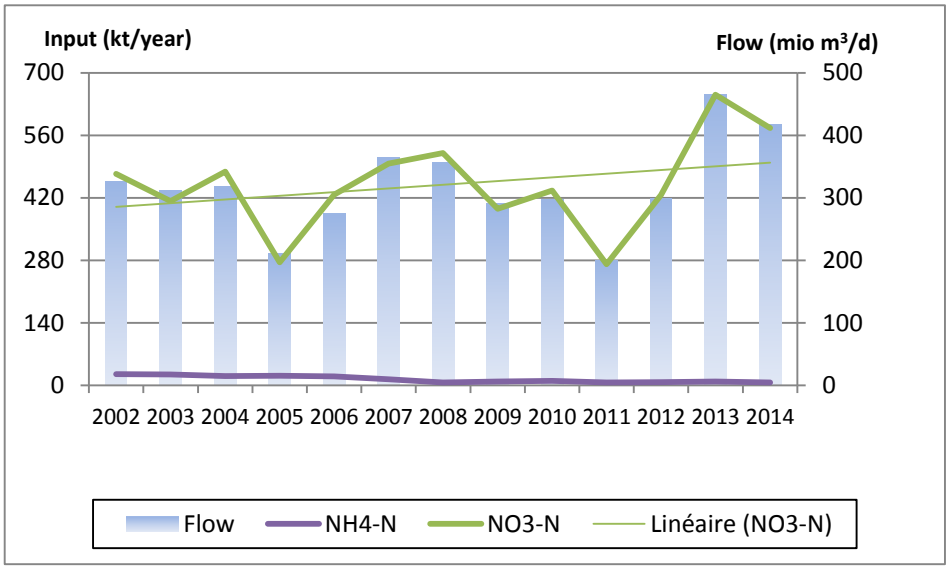


Figure 3: Evolution of the NO3-N and NH4-N inputs since 2002

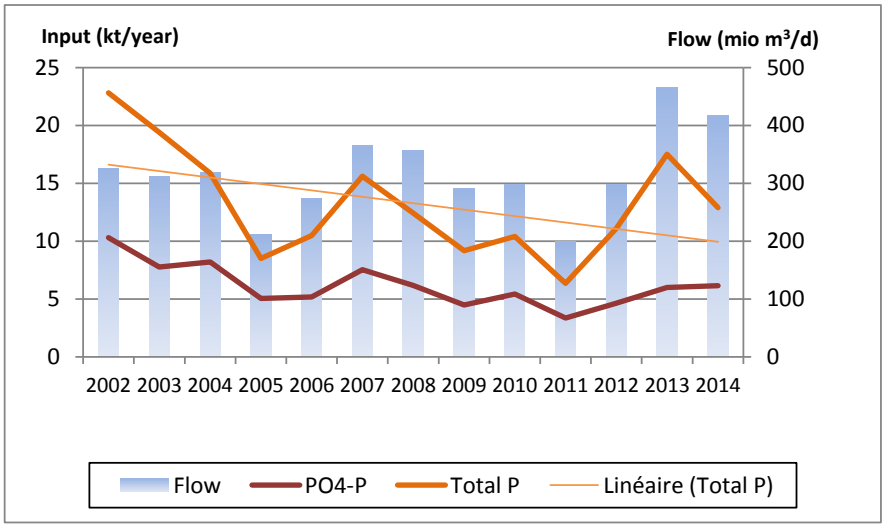


Figure 4: Evolution of the PO4-P and total P inputs since 2002

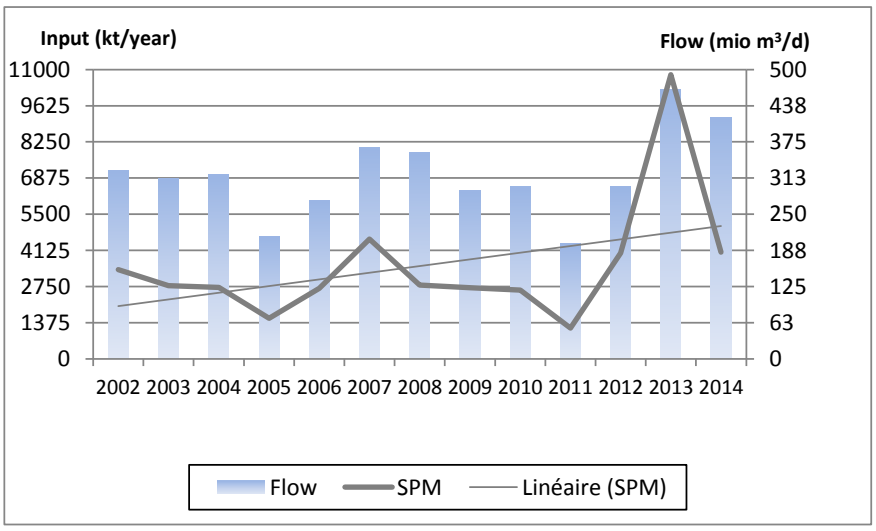


Figure 5: Evolution of the SPM inputs since 2002

Converted into an index basis with 2009=100, the inputs of NO3-N are completely correlated with the river flows, on the contrary to those of NH4-N (figure 6). It is very difficult to draw a tendency. The inputs of SPM have exploded in 2013 due to floods.

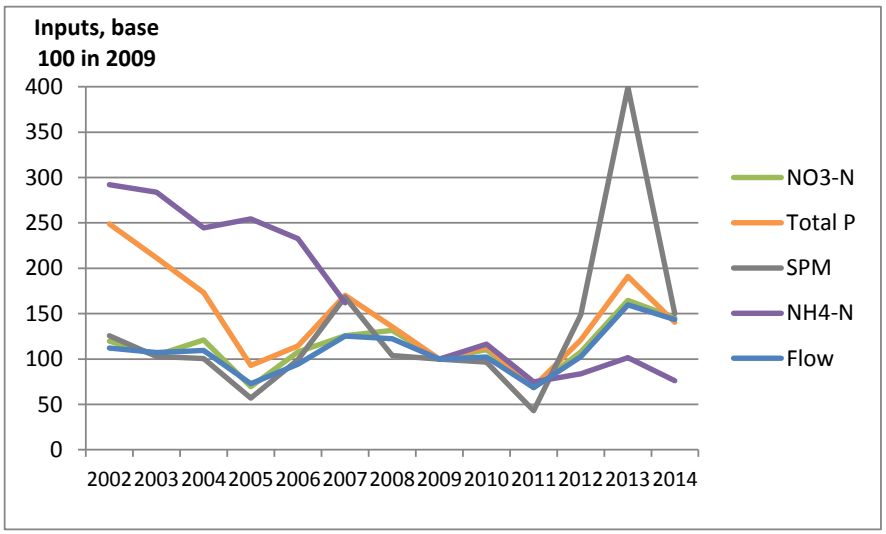


Figure 6: Evolution of the nutrients and SPM inputs, in a basis 100 in 2009, compared to the flows

The nutrients and SPM inputs from the region IV are more important than those from the region II (figure 7, 8 and 9). The evolution of the NO3-N inputs is comparable between the two regions Ospar over the last three years, on the contrary to the evolution of the phosphorus inputs. The inputs of phosphorus from the region II have been quite stable since 2012 whereas those from the region IV have a lot of inter-annual variations. The inputs of SPM in the region IV are influenced by a period of floods occurred in 2013 for the main river Garonne. The inputs values return in 2014 at the level of 2012 even if the flows are always important (figure 10).

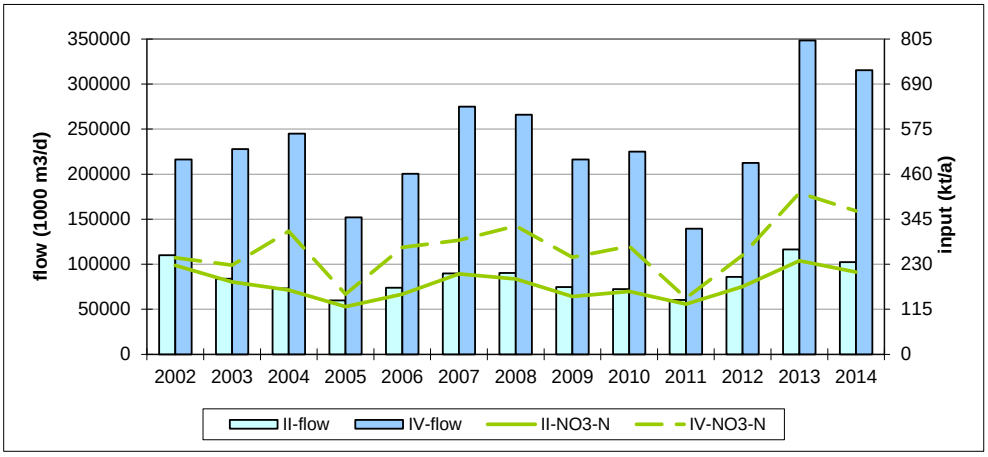


Figure 7: Evolution of the NO3-N inputs by Ospar region since 2002

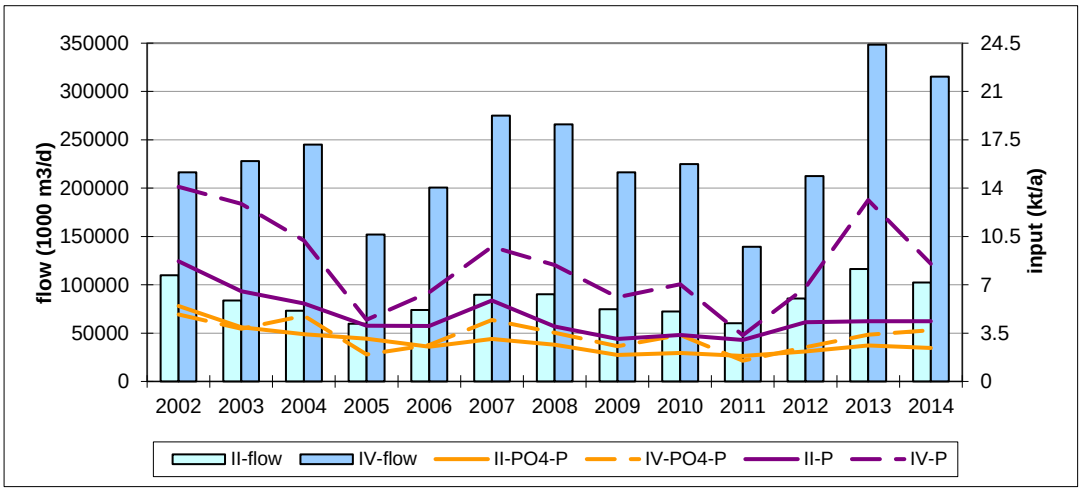


Figure 8: Evolution of the phosphorus inputs by Ospar region since 2002

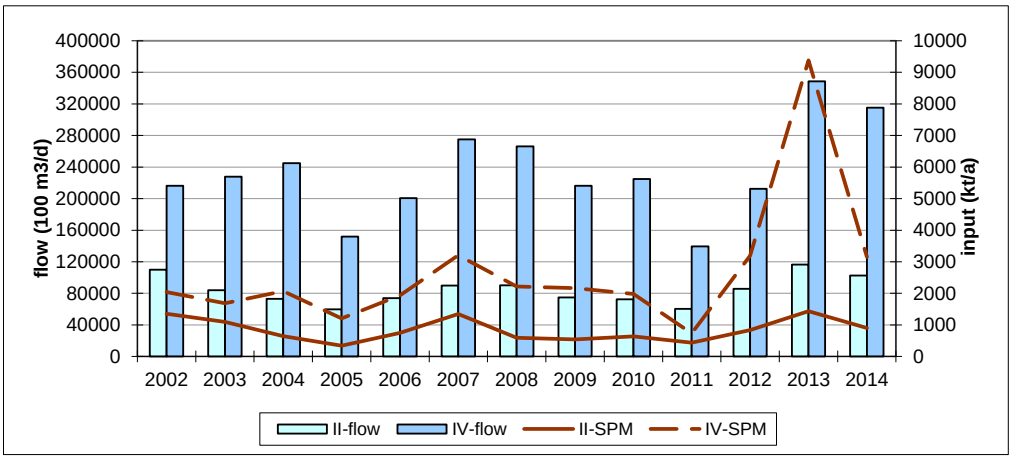


Figure9: Evolution of the SPM inputs by Ospar region since 2002

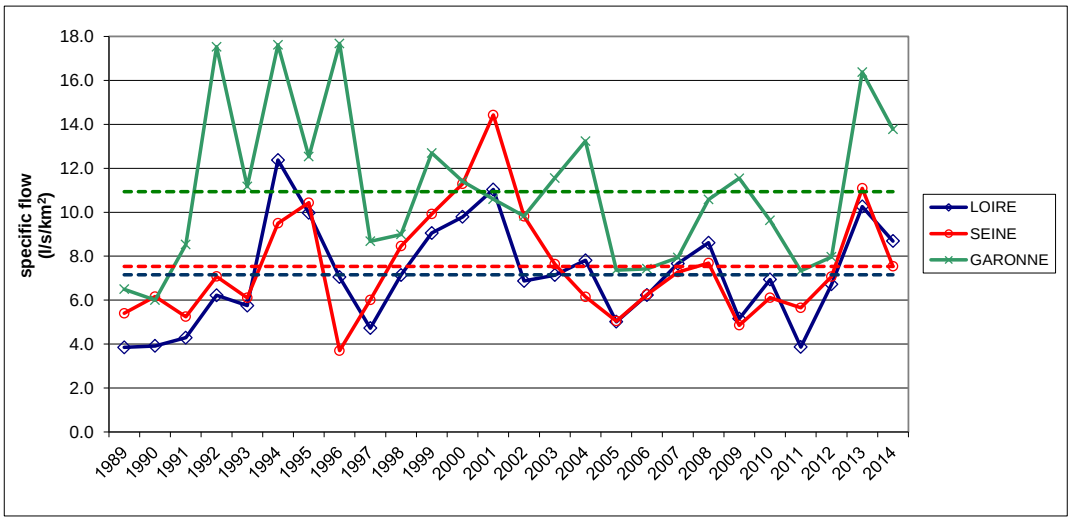


Figure 10: Specific flow of the main rivers since 1989

The monitoring of metals has been again incomplete in 2014, so it is impossible to calculate the total riverine inputs for metals. And the non-quantified analyses prevent from comprehensive study. Nevertheless, the total metals inputs due to main rivers show a decrease between 2012 and 2014 for cadmium and zinc. The inputs of copper and lead are rather stable. It is impossible to conclude for mercury since the analyses are non-quantified.

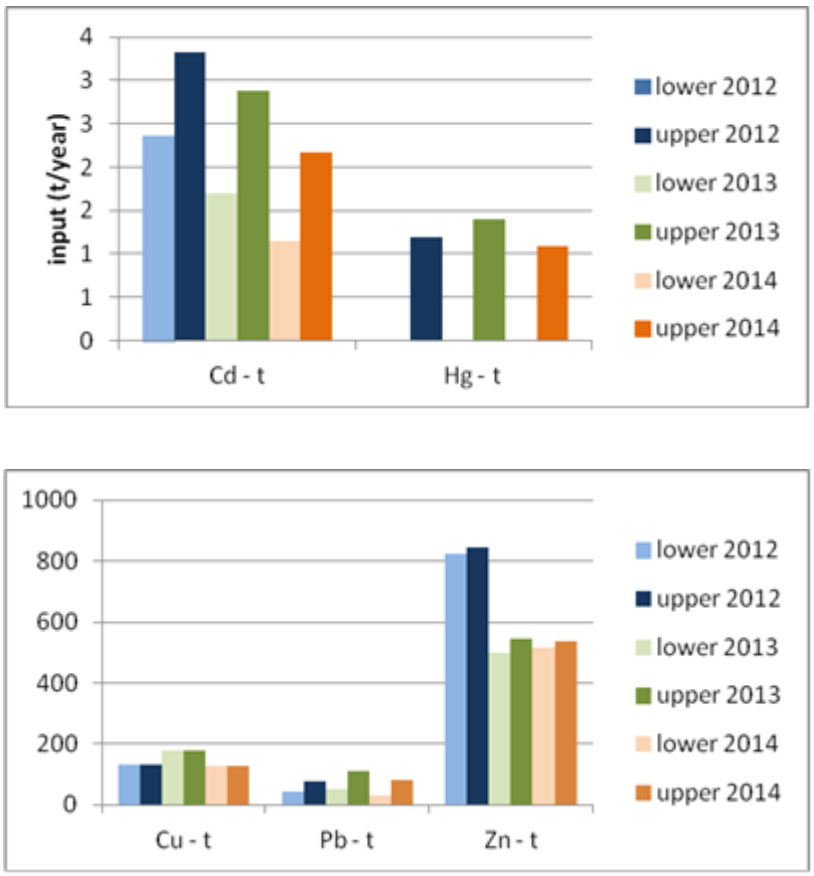


Figure 11: Annual metals inputs of the main rivers from 2012 to 2014

Direct discharges

No estimation of direct discharges regarding the difficulties to gather the raw data compared to the real proportion of direct discharges in the overall loads (less than 10%).

Unmonitored areas

The results are presented in the section on rivers, as a part of riverine inputs.

The share of inputs due to unmonitored areas does not exceed 15 %, that remains consistent with the share of drainage basins.

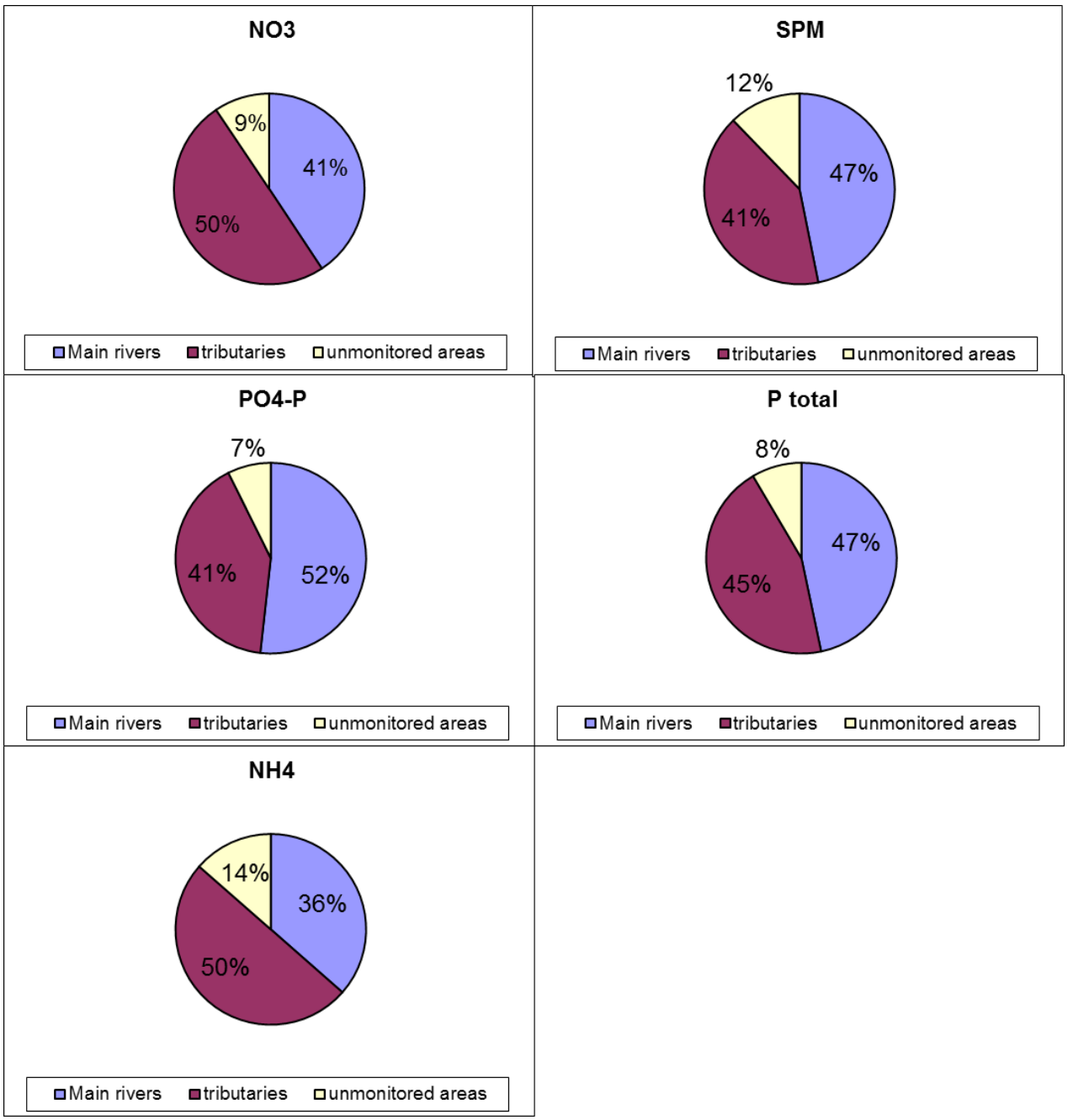


Figure 12: distribution of the nutrients inputs according to the status of the zones

Overall loads

See part I, riverine inputs.

Germany

The German monitoring stations and catchment areas are shown in the map below.

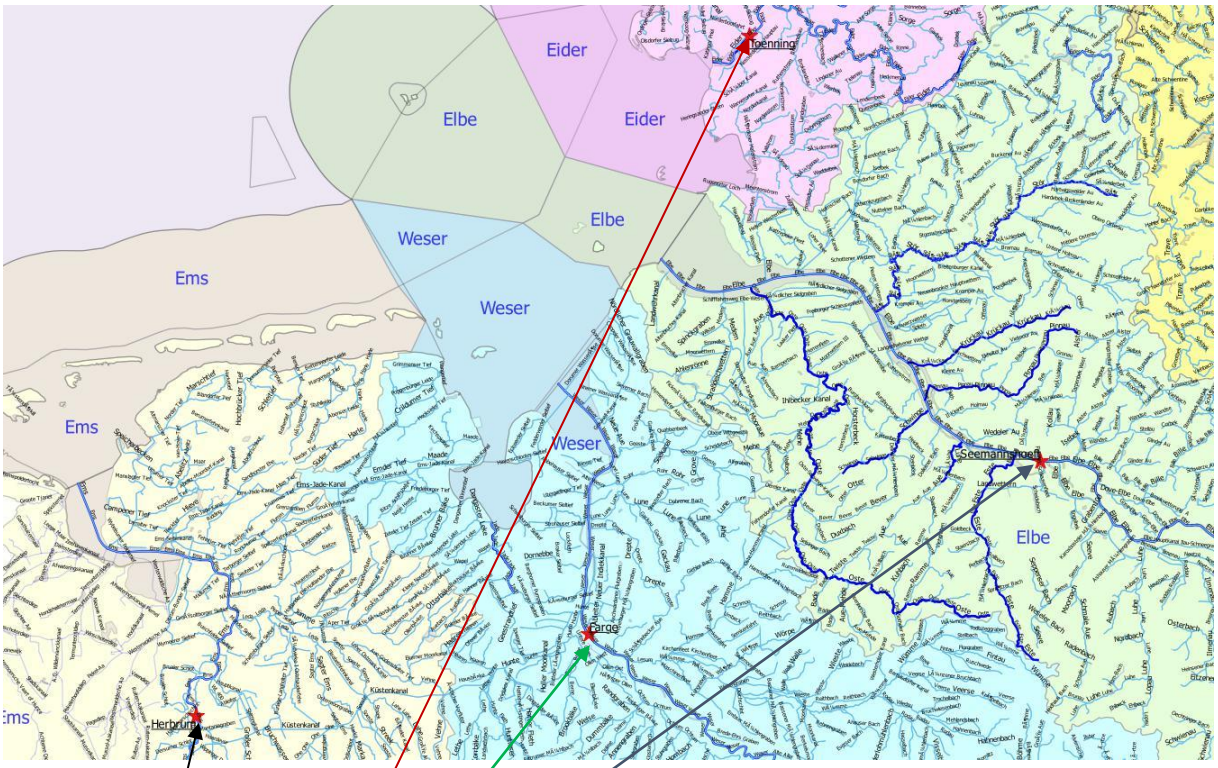


Table 1 Station details

River, sub-area and discharge area	Monitoring area [km²]	catchment coverage [%]	LON	LAT	LAWA	Nature of receiving water
ELBE - St. Pauli (Estuary) Seemannshoeft in Hamburg (km 628,5)	139.775	95	9,882	53,542	HH011, Seemanns-hoeft	tidal range 3.6m
WESER - Farge (Estuary) , North of Bremen, Hemelinger Weserwehr	47.373	90	8,505	53,209	N119, Farge	tidal range 3.7m
EMS - Herbrum (at tidal weir) , South of Papenburg	16.566	70	7,314	53,032	N115, Herbrum	no tidal influence
EIDER (Estuary, at tidal weir) and TREENE	4.776	82	8,956	54,314	SH18, Tönning	no tidal influence

On average, Germany monitors inputs of selected pollutants in 92% of the total catchment area draining to the Atlantic.

Riverine inputs

Elbe: Due to meteorological conditions the water flow in 2014 was far below the annual long term values. Consequently the estimated loads were lower than 2013 and comparable to 2012.

Ems:

Weser: 2014 has been a very dry year resulted in flow far below the long-term average. Inputs and concentration values were similar to the year 2012 with comparable flow rates and few exceptions.

Eider:

Direct discharges

Elbe: no significant changes compared to previous years.

The loads of Elbe downstream of the measurement sites for riverine inputs are estimates based on extrapolation of the data of the past years.

Ems:

Weser: no significant changes compared to previous years.

The loads of Weser downstream of the measurement sites for riverine inputs are estimates based on population equivalents.

Unmonitored areas

No information.

Elbe: The general diminishing trend of the last years is continued also in 2014. However, the very low values in 2014 are triggered predominantly by the specific hydro-meteorological conditions in 2014. The high inter-annual variability continues.

Ems:

Weser:

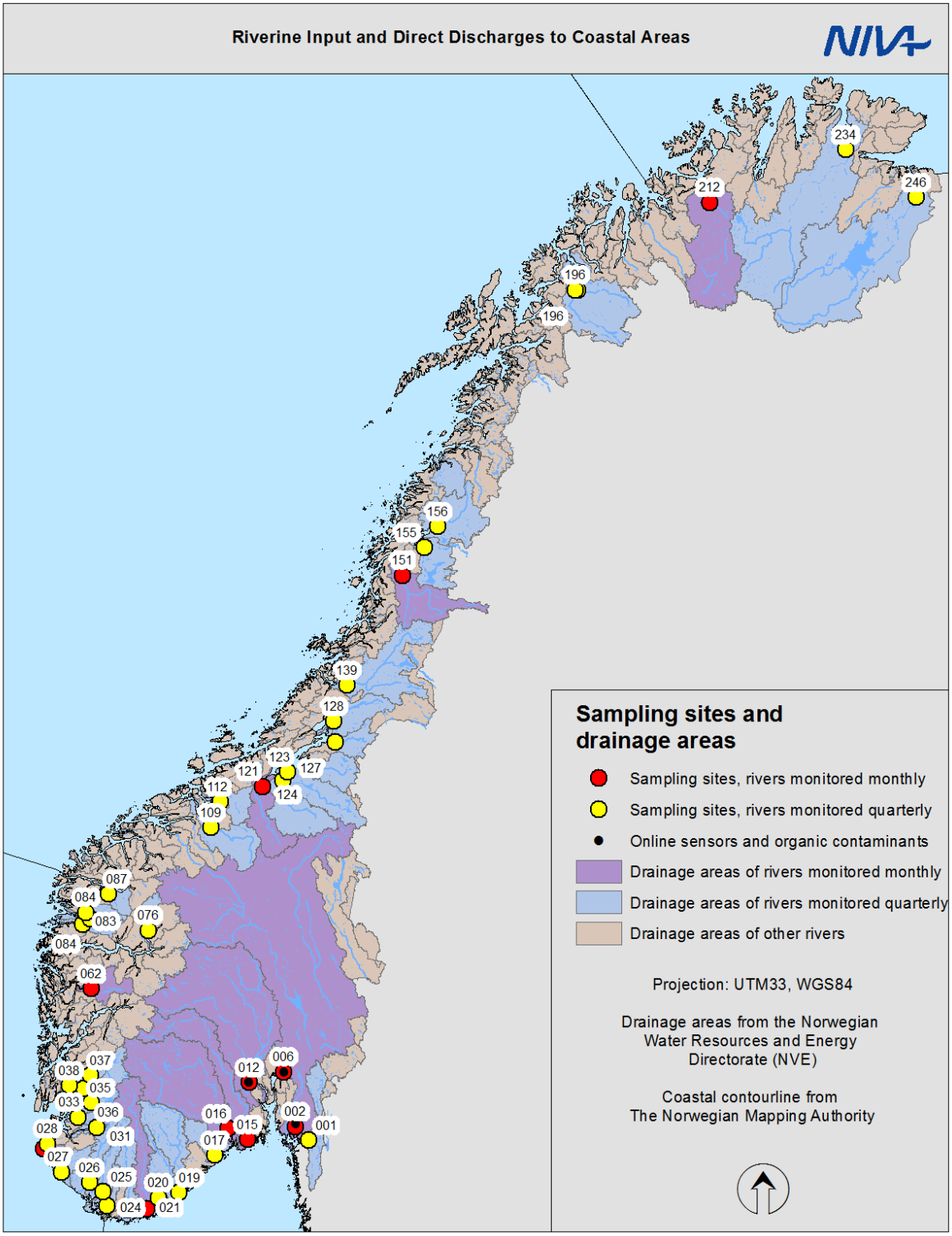
Eider did not show significant changes neither in loads nor in concentration values compared to the previous year. The exception was the load of Ammonia-N which was half of that of 2012.

Weser: In 2014 the annual flow of the river Weser was even a little below the flow of 2012. All loads were little lower except of Hg and PO4-P.

No measurements were carried out for the Weser tributaries.

Norway

The Norwegian monitoring stations and catchment areas are shown in the map below.



Riverine inputs

Table 1 shows the riverine loads of nutrients, SPM and Table 2 the loads of metals in 2014, as compared to the average for the period 1990-2013. In the Skagerrak region, all rivers had high water discharges in 2014, and this is reflected in the increased nutrient, sediment and to some extent metal loads as compared to former years' averages. In the three other maritime regions, water discharges in 2014 varied, with increases in Rivers Vosso and Alta, decrease in River Orkla and no change in River Vefsna. In all three regions, nutrient and suspended sediment loads were lower than the long-term average. Overall, the increases in the Skagerrak region resulted in an increase of loads to the sea from Norway as compared to the average of the former 24 years.

Table 1. Total riverine loads (155 rivers) of total nitrogen (TN), total phosphorus (TP) and suspended particulate matter (SPM) as an average for 1990-2013 and in 2014. Increases are marked with red text colour and decreases with green text colour.

Maritime area	Nitrogen (tonnes)		Phosphorus (tonnes)		SPM (1000 tonnes)	
	Average 1990-2013	2014	Average 1990-2013	2014	Average 1990-2013	2014
Skagerrak	30251	35278	781	982	372	453
North Sea	13813	12994	288	275	106	96
Norwegian Sea and Barents Sea combined*	13414	11227	461	319	264	219
Total Norway	57478	59499	1530	1576	742	768

* In 2014, the border between the Norwegian Sea and the Barents Sea was moved towards south in order to coincide with Norwegian reporting regions to the WFD; hence the two sea areas have been combined to allow for comparisons in this table.

Table 2. Total riverine loads (in tonnes) of eight metals as an average for 1990-2013 and in 2014. Based on data from 155 rivers. Increases are marked in red text, decreases in green text. Upper estimates are used.

Metal	Skagerrak		North Sea		Norwegian and Barents Sea**		Total Norway	
	Mean*	2014	Mean*	2014	Mean*	2014	Mean*	2014
Arsenic	12	14	6	6	10.9	6.7	29	26
Lead	29	35	13	10	13.7	3.7	55	49
Cadmium	2.2	1.5	1.4	0.6	1.6	0.5	5.2	2.6
Cobber	92	90	30	23	102.8	57.8	225	171
Zinc	376	571	149	103	215.2	89.7	741	764
Nickel	43	50	17	17	83.9	53.7	144	120
Chrome	27	26	18	11	64.7	33.4	110	70
Mercury (kg)	210	99	80	69	131.3	90.5	421	259

** 1990-2013.*

** Combined, since the borders between these seas were merged in 2014.

Direct discharges

In 2014, the total inputs from direct discharges of total nitrogen amounted to about 72 000 tonnes and of total phosphorus about 11 000 tonnes. The majority of the nutrients derive from fish farming along the coastline.

For all metals except copper the riverine loads account for about 85-95% of the total inputs to Norwegian coastal waters. As for copper, only 15 % derives from rivers, the rest from direct discharges. This is explained by high copper discharges from fish farming, since the fish cages are protected from algae growth with copper-containing chemicals. Discharges of other metals from fish farming, including any residues from the fish fodder, are not estimated. The

quantification of discharges of copper from fish farming is based on sales statistics for a number of antifouling products in regular use. The chart below shows the total discharges of copper from fish farming. A considerably higher quantity is registered for both 2013 and 2014 compared to previous years. The number of new product declarations in the official register increased between 2012 and 2013.

Unmonitored areas

Loads from unmonitored areas are modelled or calculated (based on previous monitoring), and changes from one year to the next reflect changes in water discharges, and to some extent also changes in agricultural practices (included in the model used).

Overall loads

Overall, the total loads to the Norwegian maritime areas did not differ significantly from former years, when increased water discharge is taken into account.

In terms of long-term loads, statistical analyses this year were done on actual loads, and not flow normalised. The most important results are listed below:

High water discharges to the Skagerak in 2014; since this area has large rivers, the total inputs from Norway increased somewhat as compared to the average of the 24 former years of monitoring.

Total nitrogen loads were reduced in River Vefsna (Norwegian sea), but increased in Rivers Glomma, Drammenselva and Numedalslågen (Skagerak); this corresponds to increases in water discharge in these three rivers. When the load estimates are flow normalised, only nitrogen loads in River Numedalslågen increase significantly.

Total phosphorus loads decreased in River Vefsna (Norwegian Sea), and increased in Rivers Drammenselva and Numedalslågen (Skagerak). However if water discharge is taken into account, no trends were detected in the two Skagerak rivers.

Five metals were tested for long-term trends (Cd, Cu, Ni, Pb and Zn). Metals have either been reduced or kept stable during the 24 years, even when the trend analyses are done on loads that have not been flow normalised. The exception is Cu in River Drammenselva, which increased. In the three northernmost rivers that are monitored monthly (Rivers Orkla, Vefsna and Altaelva) all the five metal compounds investigated showed a statistically significant downward trend.

Unexplained increases in concentration and load of zinc have been detected in River Glomma during the last four years (2011-2014). In 2014 the load was less than in 2013.

Sweden

The Swedish monitoring stations and catchment areas are shown in the map below.

Riverine inputs

Comparatively high water flows during 2014, which have resulted in inputs of most reported variables that are somewhat higher than normal.

Direct discharges

The clearly dominating point source in the Swedish OSPAR area is the sewage plant Ryaverket, which serves a large area around Göteborg. Their variation in treatment results between years thus dominates the statistics for the whole area. Ryaverket reported for 2014 higher emissions of nitrogen and phosphorous than the year before (but lower than several earlier years.)

Unmonitored areas

Comparatively high water flows during 2014, which have resulted in inputs of most reported variables that are somewhat higher than normal.

Overall loads

Comparatively high water flows during 2014, which have resulted in inputs of most reported variables that are somewhat higher than normal.

Annual report on riverine inputs and direct discharges to Convention waters

Spain

Map of riverine sampling stations:

The Spanish discharge area influencing the North-East Atlantic is divided into 8 River Basin Districts (RBD) with a total of 51 rivers which either flow into an estuary, as a tributary river, or directly into the coastal water *(see Figure 1).*

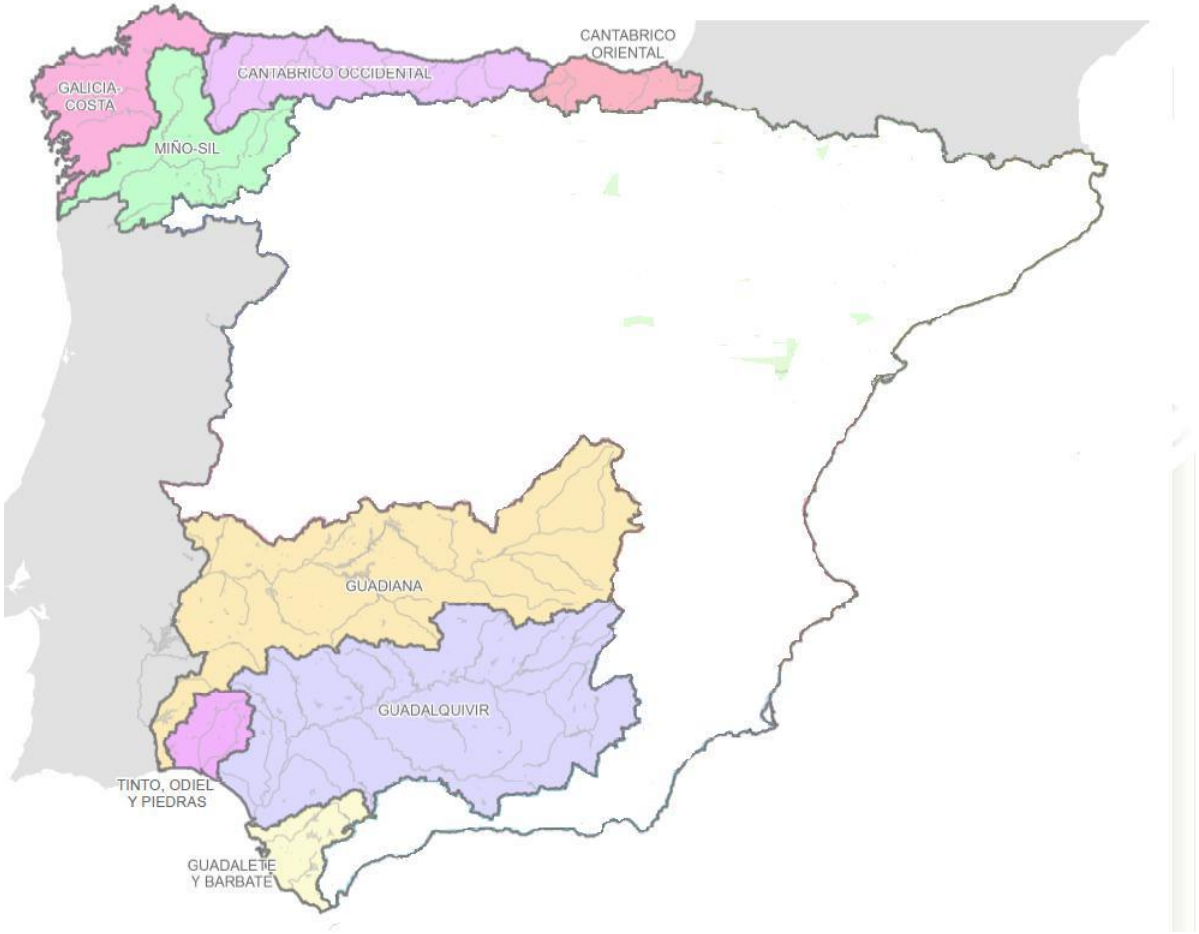


Figure 2: Spanish River systems and direct discharge areas

The following Table 1 shows a general overview of the Spanish River system (for riverine inputs) and direct discharge areas (for direct discharges) included in the data report.

Regarding the temporal scope of the data reported it is very important to note that the direct discharges data correspond to the natural year (from 1st January to 31st December 2014) while the indirect discharges data correspond to the hydrological year (from 1st October 2013 to 30th September 2014).

Table 2: General overview of river systems and discharge areas included in the data report

Country: Spain		
Name of river, subarea and discharge area		
Discharge area	**River**	**Nature of receiving water**
CANTÁBRICO-OCCIDENTAL	Miera	coastal water
	Nalón	coastal water
	Eo	coastal water
	Asón	estuary
	Pas	coastal water
	Saja	coastal water
	Sella	coastal water
GALICIA -COSTA	Allones	coastal water
	Belelle	coastal water
	Castro	coastal water
	Deza	main river
	Eume	coastal water
	Forcadas	coastal water
	Furelos	main river
	Grande	coastal water
	Grande de Jubia	coastal water
	Jallas	coastal water
	Landro	coastal water
	Lerez	coastal water
	Mandeo	coastal water
	Masma	coastal water
	Mera	coastal water
	Mero	coastal water
	Oro	coastal water
	Sor	coastal water
	Tambre	coastal water
	Traba	coastal water

Country: Spain		
Name of river, subarea and discharge area		
Discharge area	**River**	**Nature of receiving water**
	Ulla	coastal water
	Umia	coastal water
	Verdugo	coastal water
GUADALETE-BARBATE	Guadalete	coastal water
GUADIANA	Guadiana	coastal water
GUADALQUIVIR	Guadalquivir	main river
MIÑO-SIL	Louro	main river
	Miño	coastal water
CANTÁBRICO ORIENTAL	Artibay	coastal water
	Asua	estuary
	Barbadún	estuary
	Butron	coastal water
	Cadagua	estuary
	Deva	coastal water
	Galindo	estuary
	Ibaizabal	estuary
	Lea	coastal water
	Nervión	coastal water
	Oca	coastal water
	Oria	coastal water
	Oyarzun	coastal water
	Urola	coastal water
	Urumea	coastal water
TINTO-ODIEL-PIEDRAS	Tinto	coastal water
	Odiel	coastal water
	Piedras	coastal water

Part I: Information on results from the monitoring

i. Riverine inputs

Total riverine inputs in comparison with previous years are presented in the following table:

TOTAL RIVERINE INPUTS 2005 - 2014														
YEAR		Cd	Hg	Cu	Pb	Zn	g-HCH	PCBs	NH4-N	NO3-N	PO4-P	Total N	Total P	SPM
UNITS		[10^3 kg]	[10^3 kg]	[10^3 kg]	[10^3 kg]	[10^3 kg]	[kg]	[kg]	[10^6 kg]	[10^6 kg]	[10^6 kg]	[10^6 kg]	[10^6 kg]	[10^6 kg]
2005	lower	0.104	0.021	4.062	3.754	196.006	0.011	0.003	2.593	15.741	0.506	35.743	0.972	286.201
	upper	71.848	4.090	133.618	134.608	425.741	63.731	224.075	4.065	30.203	1.776	40.787	1.609	364.683
2006	lower	0.186	0.000	6.932	2.169	341.688	0.146	0.000	3.856	28.139	0.652	53.278	1.050	259.376
	upper	84.789	3.574	200.136	172.665	709.248	197.936	687.360	6.235	56.919	2.183	61.361	2.681	348.498
2007	lower	0.008	0.000	23.166	0.092	415.189	1.235	0.000	3.557	27.094	0.591	51.098	0.806	238.230
	upper	28.605	3.577	95.223	84.340	517.752	52.119	132.883	11.631	59.669	1.450	84.033	1.509	279.676
2008	lower	0.049	0.030	13.389	5.007	282.393	0.000	0.000	3.490	18.198	0.643	37.338	1.580	333.996
	upper	8.641	1.148	53.061	59.162	391.524	44.728	41.195	5.235	42.247	1.107	45.241	1.821	530.280
2009	lower	0,1631	0,01	36,1699	8,1587	80,1606	0	0	2,6033	18,3541	0,4954	21,8082	1,0884	289,5152
	upper	2,2083	0,3711	161,1273	21,0526	283,5174	29,9266	45,086	2,6876	22,3887	0,7111	26,5451	1,1937	320,29
2010	lower	0,2462	0,3149	45,1308	1,1297	122,5438			2,8176	28,1703	0,5382	25,7492	1,1069	261,35
	upper	8,2303	0,7669	144,2535	24,3694	325,4652	45,4278	57,4331	2,951	28,1893	0,9511	26,3564	1,5007	279,5213
2011	lower	4,2446	0,0661	31,484	1,2975	271,1112	8,0668	0	0,6614	24,6823	0,6064	18,9597	0,5378	276,2017
	upper	14,1554	0,3903	138,9157	20,0185	386,6275	111,6882	0	0,9505	24,7576	0,6654	21,8838	1,3497	295,463
2012	lower	0,2246	0,03	21,662	0,3814	193,8148	0,9022	0	2,5389	35,757	1,7228	33,7739	2,7926	732,739
	upper	5,5547	0,1329	129,772	12,6711	310,3568	46,8752	357,894	2,7405	36,8886	1,8194	39,1356	3,5181	747,6769
2013	lower	0,1025	0,1192	95,1072	5,7602	172,2737	14,2381	87,4094	1,0427	18,1759	0,7293	14,665	1,0864	269,7616
	upper	7,5632	0,3259	204,6607	23,905	316,9058	82,0266	259,1362	1,4534	23,8369	0,9518	24,2667	1,8773	338,6547
2014	lower	0,058306282	0,02	62,33299334	0,5010894	129,8594958	0,547828139	0,007	1,568187216	31,53185703	0,35463811	49,457428	1,071735696	210,0791176
	upper	3,693841532	0,38996212	173,8797379	17,01226512	338,2572987	63,02580479	803,5838566	1,940466681	31,91827308	16,80985878	55,47917731	1,841429924	236,0196502

ii. Direct discharges

Sewage discharges in comparison with previous years are presented in the following table:

Year		2009		2010		2011		2012		2013		2014	
Estimate		lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper
Cd	[10^3 kg]	0,009	5,690	0,336	6,131	0,005	5,566	0,3726	2,966	0,003	0,890	0,260	1,362
Hg	[10^3 kg]	0,072	10,522	0,377	1,384	0,285	0,901	0,0668	0,969	0,016	0,719	0,144	1,137
Cu	[10^3 kg]	5,142	18,769	1,373	19,173	6,420	26,465	0,6186	12,291	0,250	5,340	0,757	9,951
Pb	[10^3 kg]	0,317	22,646	5,455	31,300	0,123	20,882	1,5298	18,280	0,073	14,462	0,625	19,726
Zn	[10^3 kg]	27,065	37,396	27,977	43,906	26,154	33,620	12,3056	21,858	2,279	10,083	17,372	20,555

Year		2009		2010		2011		2012		2013		2014	
g-HCH	[kg]	0,066	1,576	0,000	2,513	0,073	32,675	0,2194	31,003	0,103	1,606	0,028	1,659
PCBs	[kg]	0,000	6,263	0,000	3,395	0,006	32,652	0,0000	31,599	0,000	2,874	0,000	3,201
NH_4-N	[10^6 kg]	5,969	5,971	8,106	8,132	7,953	7,986	7,9411	8,757	0,556	2,233	5,248	1,616
NO_3-N	[10^6 kg]	1,426	1,717	1,284	1,586	1,658	1,837	1,9625	2,243	0,619	0,983	1,280	1,273
PO_4-P	[10^6 kg]	0,548	0,549	0,492	0,493	0,820	0,824	1,2533	1,254	0,066	0,263	1,131	0,318
Total N	[10^6 kg]	14,173	14,173	13,453	13,467	14,294	14,294	15,2939	15,627	1,945	2,416	11,080	6,159
Total P	[10^6 kg]	1,451	1,452	2,242	2,245	1,700	1,705	1,7369	1,791	0,142	0,371	1,136	0,735
SPM	[10^6 kg]	61,462	61,476	220,800	220,943	28,277	28,346	24,2779	24,423	1,993	4,823	12,215	9,124

Industrial effluents in comparison with previous years are presented in the following table:

Year		2009		2010		2011		2012		2013		2014	
Estimate		lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper
Cd	[10^3 kg]	0,276	0,414	0,178	0,652	0,101	0,133	**0,095**	0,106	0,004	0,280	0,044	0,249
Hg	[10^3 kg]	0,523	0,727	0,012	0,189	0,032	0,245	0,142	0,227	0,001	0,123	0,021	0,141
Cu	[10^3 kg]	3,185	3,394	0,792	1,060	0,776	1,158	1,379	1,548	0,065	1,291	0,815	1,379
Pb	[10^3 kg]	0,244	0,997	0,226	2,233	0,208	1,206	0,305	0,354	0,039	0,739	0,063	0,764
Zn	[10^3 kg]	5,614	11,566	4,033	9,322	5,065	11,019	10,869	11,404	0,632	10,374	4,464	10,851
g-HCH	[kg]	0,260	0,377	0,000	1,664	0,000	0,240	0,000	0,950	0,000	1,894	0,000	1,849
PCBs	[kg]	0,000	7,025	0,720	9,408	0,443	9,147	0,197	9,570	0,000	2,052	0,042	2,359
NH_4-N	[10^6 kg]	1,467	2,505	1,730	2,781	0,443	1,492	2,352	2,391	0,008	1,316	0,118	1,432
NO_3-N	[10^6 kg]	0,090	0,093	0,089	0,091	0,093	0,098	0,147	0,147	0,036	0,192	0,112	0,100
PO_4-P	[10^6 kg]	0,029	0,043	0,020	0,022	0,018	0,022	0,323	0,324	0,007	0,282	0,005	0,295
Total N	[10^6 kg]	1,781	2,266	1,250	1,469	0,829	1,343	0,981	1,037	0,128	0,870	1,015	1,250
Total P	[10^6 kg]	0,182	0,358	0,067	0,245	0,071	0,252	0,224	0,236	0,015	0,192	0,025	0,174
SPM	[10^6 kg]	331,952	338,820	188,220	195,147	268,793	275,732	283,708	283,732	0,149	108,634	241,250	250,766

Total direct discharges in comparison with previous years are presented in the following table:

Year		2009		2010		2011		2012		2013		2014	
Estimate		lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper
Cd	[10 3 kg]	0,009	5,690	0,336	6,131	0,005	5,566	0,3726	2,966	0,003	0,890	0,303	1,556
Hg	[10 3 kg]	0,072	10,522	0,377	1,384	0,285	0,901	0,0668	0,969	0,016	0,719	0,195	1,199
Cu	[10 3 kg]	5,142	18,769	1,373	19,173	6,420	26,465	0,6186	12,291	0,250	5,340	0,487	10,944
Pb	[10 3 kg]	0,317	22,646	5,455	31,300	0,123	20,882	1,5298	18,280	0,073	14,462	0,353	19,976
Zn	[10 3 kg]	27,065	37,396	27,977	43,906	26,154	33,620	12,3056	21,858	2,279	10,083	10,214	25,089
g-HCH	[kg]	0,066	1,576	0,000	2,513	0,073	32,675	0,2194	31,003	0,103	1,606	0,017	1,056
PCBs	[kg]	0,000	6,263	0,000	3,395	0,006	32,652	0,0000	31,599	0,000	2,874	0,042	1,218
NH4-N	[106 kg]	5,969	5,971	8,106	8,132	7,953	7,986	7,9411	8,757	0,556	2,233	0,523	3,846
NO3-N	[106 kg]	1,426	1,717	1,284	1,586	1,658	1,837	1,9625	2,243	0,619	0,983	1,060	1,460
PO4-P	[106 kg]	0,548	0,549	0,492	0,493	0,820	0,824	1,2533	1,254	0,066	0,263	0,319	0,605
Total N	[106 kg]	14,173	14,173	13,453	13,467	14,294	14,294	15,2939	15,627	1,945	2,416	5,045	7,705

Year		2009		2010		2011		2012		2013		2014	
Estimate		lower	upper	lower	upper	lower	upper	lower	upper	lower	upper	lower	upper
Total P	[106 kg]	1,451	1,452	2,242	2,245	1,700	1,705	1,7369	1,791	0,142	0,371	0,826	1,254
SPM	[106 kg]	61,462	61,476	220,800	220,943	28,277	28,346	24,2779	24,423	1,993	4,823	242,547	257,683

iii. Unmonitored areas

Not estimated

iv. Overall loads

Part II: Methodology

A. Overall information on changes in the monitoring methods

Has the monitoring programme been changed this year?

No: __X_

Yes: ___

If yes, please indicate which parts of the programme that have changed and give additional comments below the table when needed:

Methodology of components	Main change since last year
Direct discharges	
- Sewage	
- Industry	
- Aquaculture	
- Other	

Riverine monitoring	
Unmonitored areas	
Analytical methods or LOD/LOQ	
Water discharge	
Other	

Information: All details on this year's methodology should be given in the following sections. Please give a description of the methods used even if the methodology does not differ from previous years. This is necessary for keeping track of each year's methodology in the archives.

B. Direct discharges (Tables 5a-5e)

Information: Please give a comprehensive description of the methods used for determining direct discharges. If the methodology differs from the recommended methodology of the RID Principles, please give comments and explanations for this deviation.

The methodology description should, to the best possible extent, give information on:

- Which types of point sources are included (e.g. all industries or only the larger ones);
- General geographical location of point sources (e.g. are point sources downstream of the sampling sites in monitored rivers included? How far up the river mouths are point sources in unmonitored areas included, or are these not included at all?)
- Sampling procedures or measurements/calculations used.
- If possible, a list of analytical methods used, including the LOQ. How are values below LOQ dealt with when calculating inputs? Give comments if LOQs are higher than recommended in the RID Principles.
- If any inter- or extrapolation of data series is done, please explain the method.
- Give any other relevant information.

Use the number of pages needed.

i. Sewage

Measurement and reporting of direct discharges data in Spain is carried out by the different Autonomous Communities (Regions). Therefore, methodologies change from one discharge area to another, and also within the same discharge area, as different laboratories perform the analyses. However, some general comments can be extracted. The load data are calculated based on the available information on flows and concentrations owned by the Autonomous Communities.

There are basically four data sources for flow calculations: annual discharge declarations provided by sewage plant managers in compliance with national legislation and Regulation nº 166/2006 of the European Parliament and of the Council of 18 January concerning the establishment of a European Pollutant Release and Transfer Register and the Directive 2008/1 concerning integrated pollution prevention and control; discharge permits issued; official discharge registries based on direct measurement from sewage plants (performed daily, weekly or monthly depending on the plant), and population discharges estimations (taking into account seasonal population variations using and expression recommended by the Ministry of Environment).

For concentration values, data sources are: annual discharge declarations provided by sewage plant managers, laboratory measurements from samples of sewage effluents and other direct discharges, estimations based on RID methodology or on historical studies, and different detection limits depending on the lab analyses.

The number of sample varies depending on the analysed parameter and for every parameter this varies among the different Autonomous communities and laboratories.

The methods performed are: spectrophotometry, atomic absorption spectrometry, oxidation, filtration and gravity. Other parameters measured in sewage effluents are:

Other parameters measured in sewage effluents are: COD, BOD5 (País Vasco, Galicia)

NTK (País Vasco)

Fe, Mn, Cr, Ni, Al, oil and fats (País Vasco)

Only industrial effluents that comply with urban discharge regulations and limits can be eliminated through sewage networks.

ii. Industry

The methods are similar to those used to measure the sewage effluents.

In Galicia, loads for Cd, Hg, Cu, Pb and Zn are calculated with expression 5 of the guidelines. Also in this region, marine culture discharges are calculated through the maximum authorized difference in concentration from input water and discharges. Therefore, only upper estimates are provided.

In Andalucía, the flow considered for industrial effluents includes refrigeration water (96% of total flow).

In País Vasco discharge area hydroelectric refrigeration waters have not been included in the industrial effluents.

In Cantabria and Andalucía loads data do not take into account urban run-off and stormwater overflows

In Andalucía there is information on number of urban runoff and stormwater overflow authorised discharge points

Other parameters measured in industrial effluents are:

PCB (País Vasco) and in some sources of País Vasco there are data of BTEX, AOX, chlorinated solvents, and others HCHs different to lindane.

iii. Aquaculture

iv. Urban storm runoff

v. Any other direct discharges reported

Determinand coverage for direct discharges (indicate with an X):

Determinand	Sewage	Industry	Aquaculture	Storm/urban	Other
Tot-P	X	X			
PO_4-P	X	X			
Tot-N	X	X			
NH_4-N	X	X			
NO_3-N	X	X			

SiO_2					
TOC					
SPM	X	X			
Conductivity					
pH					
As					
Cd	X	X			
Cu	X	X			
Cr					
Hg	X	X			
Ni					
Pb	X	X			
Zn	X	X			
PCB	X	X			
Lindane	X	X			
Other (please specify)					

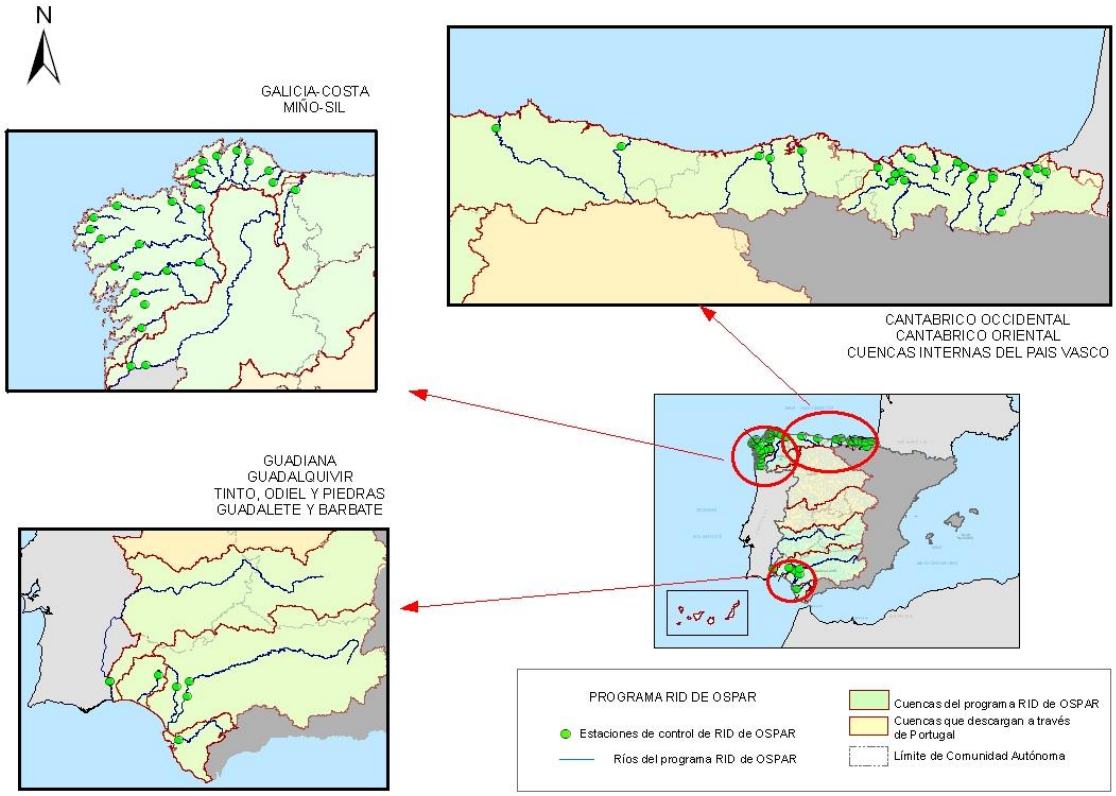
C. Riverine inputs (Tables 6a-6c)

Information: Please give a comprehensive overview of the methods used for riverine inputs. If the methodology differs from the recommended methodology of the RID Principles, please give comments and explanations for this deviation.

The methodological description should cover the following items (if there are rivers with differing monitoring procedures, please provide a description for each type):

Use the number of pages needed.

i. Station network[2]



River_code	River Name	River Basin District	Station Name	UTMX_H30	UTMY_H30	River Type
OIA102	Oyarzun	PAÍS VASCO	Ugaldetxo (Oiartzun)	590515	4795320	PRINCIPAL
URU400	Urumea	PAÍS VASCO	Ergobia (Urumea)	584835	4792305	PRINCIPAL
ORI606	Oria	PAÍS VASCO	Sorabilla (Oria)	578670	4784730	PRINCIPAL

[2] Include a list of coordinates in addition to the map in Part I.

River_code	River Name	River Basin District	Station Name	UTMX_H30	UTMY_H30	River Type
URO520	Urola	PAÍS VASCO	Aizarnazabal (Urola)	562170	4789410	PRINCIPAL
DEB492	Deba	PAÍS VASCO	Elgoibar (Deba)	549271	4788470	PRINCIPAL
ART202	Artibay	PAÍS VASCO	Gardotza (Artibai)	544383	4796473	PRINCIPAL
LEA196	Lea	PAÍS VASCO	Oleta (Lea)	540110	4799215	PRINCIPAL
OKA114	Oca	PAÍS VASCO	Gernika (Oka)	526526	4795202	PRINCIPAL
BUT226	Butron	PAÍS VASCO	Gatika (Butroe)	510850	4802050	PRINCIPAL
GAL095	Galindo	PAÍS VASCO	Gorostiza (Galindo)	500670	4792090	TRIBUTARIO
KAD504	Cadagua	PAÍS VASCO	Alonsotegi (Kadagua)	500390	4787845	TRIBUTARIO
IBA518	Ibaizabal	PAÍS VASCO	LA PEÑA	512320	4786565	TRIBUTARIO
ASU160	Asua	PAÍS VASCO	Sangroniz (Asua)	505175	4793460	TRIBUTARIO
NO02610001	Louro	MIÑO-SIL	Puente N-550 en Tui-PontevedrA	33729	4672733	TRIBUITARIO
NO02620002	Miño	MIÑO-SIL	Salvaterra de Miño-Pontevedra	45314	4673405	PRINCIPAL
NO00340003	Saja	CANTABRICO OCCIDENTAL	Barrio Obrero en Torrelavega	415330	4803373	PRINCIPAL
NO00280007	Nalon	CANTABRICO OCCIDENTAL	Pravia-Asturias	249062	4820244	PRINCIPAL
EO011	Eo	CANTABRICO OCCIDENTAL	El Llano-Vegadeo-Asturias	168306	4816895	PRINCIPAL
NO00340006	Pas	CANTABRICO OCCIDENTAL	Quijano-Piélagos-Cantabria	422205	4801925	PRINCIPAL
NO00310009	Sella	CANTABRICO OCCIDENTAL	Toraño-Cangas de Onís-Asturias	328245	4809000	PRINCIPAL
NO00350003	Miera	CANTABRICO OCCIDENTAL	Puente Agüero-Entrambasaguas-Cantabria	441957	4806362	PRINCIPAL
NO00610003	Nervion	CANTABRICO ORIENTAL	La Peña-Arrigorriaga-Vizcaya	506762	4788025	PRINCIPAL
RW.18.020	Masma	GALICIA COSTA	Masma	154079	4826869	PRINCIPAL
RW.17.010	Oro	GALICIA COSTA	Oro	146461	4832234	PRINCIPAL
RW.17.120	Landro	GALICIA COSTA	Landro	129651	4839977	PRINCIPAL
RW.16.040	Sor	GALICIA COSTA	Sor	120205	4848194	PRINCIPAL
RW.15.060	Mera	GALICIA COSTA	Mera	103920	4843850	PRINCIPAL
RW.14.040	Grande de Jubia	GALICIA COSTA	Grande de Jubia	89754	4832721	PRINCIPAL
RW.14.030	Forcadas	GALICIA COSTA	Forcadas	92274	4839772	PRINCIPAL
RW.14.080	Belelle	GALICIA COSTA	Belelle	83526	4829957	PRINCIPAL
RW.13.050	Eume	GALICIA COSTA	Eume	86660	4820487	PRINCIPAL
RW.12.040	Mandeo	GALICIA COSTA	Mandeo	89581	4801089	PRINCIPAL
RW.11.060	Mero	GALICIA COSTA	Mero	67479	4806699	PRINCIPAL
RW.10.070	Allones	GALICIA COSTA	Allones	22099	4803232	PRINCIPAL
RW.09.030	Grande	GALICIA COSTA	Grande	3152	4794238	PRINCIPAL
RW.08.020	Castro	GALICIA COSTA	Castro	318	4784184	PRINCIPAL
RW.07.040	Jallas	GALICIA COSTA	Jallas	9413	4776392	PRINCIPAL
RW.06.180	Tambre	GALICIA COSTA	Tambre	40362	4771963	PRINCIPAL
RW.06.250	Traba	GALICIA COSTA	Traba	20265	4753797	PRINCIPAL
RW.05.310	Ulla	GALICIA COSTA	Ulla	39147	4746519	PRINCIPAL
RW.04.050	Umia	GALICIA COSTA	Umia	37015	4732096	PRINCIPAL

River_code	River Name	River Basin District	Station Name	UTMX_H30	UTMY_H30	River Type
RW.03.070	Lerez	GALICIA COSTA	Lerez	45211	4722970	PRINCIPAL
RW.01.100	Verdugo	GALICIA COSTA	Verdugo	42221	4703483	PRINCIPAL
RW.05.090	Furelos	GALICIA COSTA	Furelos	89870	4757470	TRIBUITARIO
RW.05.210	Deza	GALICIA COSTA	Deza	63423	4750114	TRIBUITARIO
GV09620001	Guadalquivir	GUADALQUIVIR	Guadalquivir en Alcalá del Río	237080	4156797	PRINCIPAL
GN00000049	Guadiana	GUADIANA	R. GUADIANA-SANLUCAR DE GUADIANA. PUERTO FLUVIAL	635541	4148676	PRINCIPAL
AA10620001	Guadalete	GUADALETE-BARBATE	El Portal	220359	4058815	PRINCIPAL
AA00000057	Tinto	TINTO-ODIEL-PIEDRAS	E.A. Puente Romano de Niebla	174589	4141671	PRINCIPAL
AA00000754	Piedras	TINTO-ODIEL-PIEDRAS	E. LOS MACHOS-CENTRO DE PRESA	127379	4138004	PRINCIPAL
AA00000056	Odiel	TINTO-ODIEL-PIEDRAS	R. ODIEL-E.A. GIBRALEÓN. CTRA. HUELVA-AYAMONTE	147763	4144350	PRINCIPAL

ii. Sampling methodology

Measurement and calculation of riverine inputs data in Spain is carried out by the different River Basin Districts and Autonomous Communities (Regions). Therefore, methodologies change from one discharge area to another, and also within the same discharge area, as different laboratories perform the analyses.

iii. Sampling frequency

Regarding the temporal scope of the data reported it is very important to note that indirect discharges data correspond to the hydrological year (from 1st October 2013 to 30th September 2014).

iv. Chemical parameters and their analytical method, incl. LOD/LOQ

v. Values below LOD/LOQ[3]

[3] Explain how values below LOQ/LOD are dealt with when calculating loads. Give comments if LOQs are higher than recommended in the RID Principles.

This year, like in previous years it has been decided to use LODs for the upper estimates so in the cases where authorities work with LOQs it has been transformed to LOD in order to obtain upper estimates. Limit of Quantification (LOQ) = 10 s

Limit of Detection (LOD) = 3s

s= standard deviation from measurements taken at low concentration samples

LOD = 3 x LOQ / 10 = 0.3 LOQ

vi. Water discharge[4]

vii. Calculation method for determining loads

Measurement and calculation of riverine inputs data in Spain is carried out by the different River Basin Districts and Autonomous Communities (Regions). Therefore, methodologies change from one discharge area to another, and also within the same discharge area, as different laboratories perform the analyses. These are some particular comments regarding each discharge area.

Determinand coverage for riverine inputs (indicate with an X):

Please fill in the table as far as possible. If different rivers are monitored differently (e.g. less load-bearing rivers are monitored with fewer parameters), please indicate this/prepare a separate table.

Pais Vasco discharge area

Determinand	Analytical method	LOQ*	LOD*	UNITS	Comments
Tot-P			0,0113	*mg P/L*	
PO_4-P	Colorimetric. Acid ascorbic method		0,0054	*mg PO43-/L*	
Tot-N	Oxidation to nitrate. Colorimetric// Kjeldahl		0,3333	*mg N/l*	
NH_4-N	Indophenol Blue Colorimetric		0,0129	*mg N/l*	

[4] Could include information on whether the discharge is monitored or modelled (if modelled, please state which model); monitoring frequency, etc.

Determinand	Analytical method	LOQ*	LOD*	UNITS	Comments
	method				
NO_3-N	Nitrite reduction. Colorimetric		0,0376	*mg NO_3^-/l*	
SiO_2					
TOC					
SPM	Filtration, gravimetry		0,3333	*mg/l*	
Conductivity					
pH					
As					
Cd	Atomic emission spectrometry with plasma (ICP/AES), SM 3120 B		0,0066	*mg Cd/l*	
Cu	Atomic emission spectrometry with plasma (ICP/AES), SM 3120 B		0,3333	*mg Cu/l*	
Cr					
Hg	Atomic Absorption spectrometry with cold Steam		0,0033	*mg Hg/l*	
Ni					
Pb	Atomic emission spectrometry with plasma (ICP/AES), SM 3120 B		0,3333	*mg Pb/l*	
Zn	Atomic emission spectrometry with plasma (ICP/AES), SM 3120 B			*mg Zn/l*	
PCB	Analysis based on EPA 8081B gas chromatography with electron capture detection (GC/ECD)		0,3333	*ng/l*	
Lindane	Solid-phase extraction using C18 cartridges and elution in apolar solvent following method EPA 525.1.		0,3333	*ng/l*	
Other (please specify)					

* Please remember to give units.

Cantábrico discharge area

Determinand	Analytical method	LOQ*	LOD*	UNITS	Comments
Tot-P		0,02	0,0066	*mg P/L*	

Determinand	Analytical method	LOQ*	LOD*	UNITS	Comments
PO_4-P	Atomic Absorption Spectrophotometry	0,0652	0,0217	*mg PO43-/L*	
Tot-N	Mass Spectrometry by inductive coupling plasma			*mg N/l*	
NH_4-N	UV/vis. Spectrometry	0,0155	0,0051	*mg N/l*	
NO_3-N	Ionic Cromatography	0,6777	0,2259	*mg NO_3^-/l*	
SiO_2					
TOC					
SPM	Gravimetry	3	1	*mg/l*	
Conductivity					
pH					
As					
Cd	Emission Spectrometry by inductive coupling plasma	0,02	0,0066	*mg Cd/l*	
Cu	Emission Spectrometry by inductive coupling plasma	1	0,3333	*mg Cu/l*	
Cr					
Hg	Atomic Fluorescence	0,03	0,01	*mg Hg/l*	
Ni					
Pb	Emission Spectrometry by inductive coupling plasma	2	0,6666	*mg Pb/l*	
Zn	Emission Spectrometry by inductive coupling plasma	5	1,6666	*mg Zn/l*	
PCB	Gas Cromatography	20	6,6666	*ng/l*	
Lindane	Gas Cromatography	5	1,6666	*ng/l*	
Other (please specify)					

Miño -Sil discharge area

Determinand	Analytical method	LOQ*	LOD*	UNITS	Comments
Tot-P	Molecular Absorption Spectrometry	0,05	0,0166	*mg P/L*	
PO_4-P	Molecular Absorption Spectrometry	0,016307	0,0054	*mg PO43-/L*	
Tot-N	Sum of NO3-N, NO2-N y N.Kjeldah	1	0,3333	*mg N/l*	
NH_4-N	Molecular Absorption	0,03882	0,0129	*mg N/l*	

	Spectrometry	45			
NO_3-N	Ionic Cromatography	0,11295	0,0376	*mg NO_3^-/l*	
SiO_2					
TOC					
SPM	Gravimetry	3	1	*mg/l*	
Conductivity					
pH					
As					
Cd	Emission Spectrometry by inductive coupling plasma	0,05	0,0166	*mg Cd/l*	
Cu	Emission Spectrometry by inductive coupling plasma	1	0,3333	*mg Cu/l*	
Cr					
Hg	Fluorescencia atómica	0,015	0,005	*mg Hg/l*	
Ni					
Pb	Emission Spectrometry by inductive coupling plasma	1	0,3333	*mg Pb/l*	
Zn	Emission Spectrometry by inductive coupling plasma	5	1,6666	*mg Zn/l*	
PCB				*ng/l*	
Lindane	Gas Cromatography	10	3,3333	*ng/l*	
Other (please specify)					

Galicia -Costa discharge area:

Determinand	**Analytical method**	**LOQ***	**LOD***	**UNITS**	**Comments**
Tot-P	Molecular Absorption Spectrometry	0,05	0,0166	*mg P/L*	
PO_4-P	Molecular Absorption Spectrometry	0,0058	0,0019	*mg PO43-/L*	
Tot-N	Sum of NO3-N, NO2-N y N.Kjeldah	1	0,3333	*mg N/l*	
NH_4-N	Molecular Absorption Spectrometry	0,0388	0,0129	*mg N/l*	
NO_3-N	Molecular Absorption Spectrometry	0,0013	0,0004	*mg NO_3^-/l*	
SiO_2					

TOC					
SPM	Gravimetry	2	0,6666	*mg/l*	
Conductivity					
pH					
As					
Cd	Emission Spectrometry by inductive coupling plasma	0,2	0,0666	*mg Cd/l*	
Cu	Emission Spectrometry by inductive coupling plasma	1	0,3333	*mg Cu/l*	
Cr					
Hg	Fluorescencia atómica	0,05	0,0166	*mg Hg/l*	
Ni					
Pb	Emission Spectrometry by inductive coupling plasma	1	0,3333	*mg Pb/l*	
Zn	Emission Spectrometry by inductive coupling plasma	10	3,3333	*mg Zn/l*	
PCB				*ng/l*	
Lindane	Gas Cromatography	5	1,6666	*ng/l*	
Other (please specify)					

Guadiana discharge area:

Determinand	**Analytical method**	**LOQ***	**LOD***	**UNITS**	**Comments**
Tot-P	Plasma Spectrophotometry	0,1	0,0333	*mg P/L*	
PO_4-P	Molecular Absorption Spectrometry	0,0163	0,0054	*mg PO43-/L*	
Tot-N	Autoanalyzer (Quimioluminiscence detector	1	0,3333	*mg N/l*	
NH_4-N	Molecular Absorption Spectrophotometry	0,0388245	0,0129	*mg N/l*	
NO_3-N	Ionic chromatography	0,2259	0,0753	*mg NO_3^-/l*	
SiO_2					
TOC					
SPM	Gas chromatography	10	3,3333	*mg/l*	
Conductivity					
pH					

As					
Cd	Plasma Spectrophotometry	0,1	0,0333	*mg Cd/l*	
Cu	Plasma Spectrophotometry	0,1	0,0333	*mg Cu/l*	
Cr					
Hg	Molecular Absorption Spectrophotometry	0,01	0,0033	*mg Hg/l*	
Ni					
Pb	Autoanalyzer (Quimioluminiscence detector	1	0,3333	*mg Pb/l*	
Zn	Plasma Spectrophotometry	0,1	0,0333	*mg Zn/l*	
PCB	Gas chromatography	20	6,6666	*ng/l*	
Lindane	Gas chromatography	20	6,6666	*ng/l*	
Other (please specify)					

Atlántica Andaluza discharge area:

Determinand	**Analytical method**	**LOQ***	**LOD***	**UNITS**	**Comments**
Tot-P	UV/vis. Spectrometry	0,1	0,03333	*mg P/L*	
PO_4-P	UV/vis. Spectrometry	0,0163	0,0054	*mg PO43-/L*	
Tot-N	Espectrofotometría infrarroja	2	0,6666	*mg N/l*	
NH_4-N	UV/vis. Spectrometry	0,0388	0,0129	*mg N/l*	
NO_3-N	UV/vis. Spectrometry	0,2259	0,0753	*mg NO_3^-/l*	
SiO_2					
TOC					
SPM	Gravimetry	2,5	0,8333	*mg/l*	
Conductivity					
pH					
As					
Cd	Mass Spectrometry by inductive coupling plasma	0,5	0,1666	*mg Cd/l*	
Cu	Mass Spectrometry by inductive coupling plasma			*mg Cu/l*	
Cr					

Hg	Atomic Absorption Spectrometry	0,01	0,0033	*mg Hg/l*	
Ni					
Pb	Mass Spectrometry by inductive coupling plasma	1	0,3333	*mg Pb/l*	
Zn	Mass Spectrometry by inductive coupling plasma	10	3,3333	*mg Zn/l*	
PCB	Gas Chromatography	10	3,3333	*ng/l*	
Lindane	Gas Chromatography	0,1	0,0333	*ng/l*	
Other (please specify)					

D. Unmonitored areas (Table 6d)

Information: Please give a thorough description of the method used for estimating loads from unmonitored areas. If a model is used, please give information on and *references* to this model.

Use the number of pages needed.

i. Methodology

ii. Proportion of unmonitored area

Please fill in the table below:

	km²	**%**
Total area of your country		
Total area draining to the OSPAR Maritime Area		100% *
Monitored area draining to the OSPAR Maritime Area		
Unmonitored area draining to the OSPAR Maritime Area		

* The total land area *draining to the OSPAR Maritime area* is set to 100%. The proportions of monitored and unmonitored area should be given relative to this.

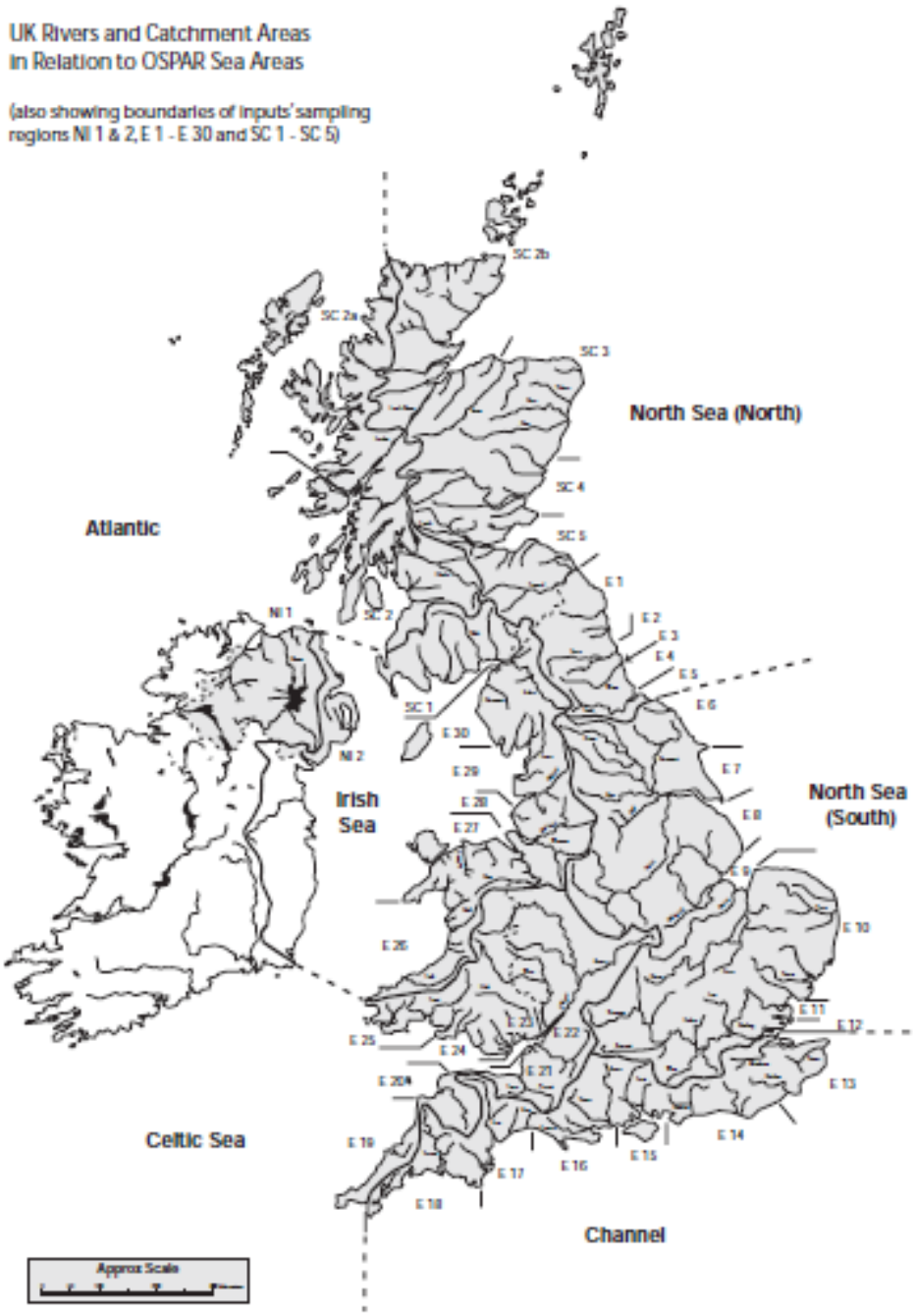
iii. E. Quality assessment

Information: Please give relevant information on how quality assessment is carried out.

United Kingdom

The results are presented as summary statistics for each of six sea areas adjacent to the UK, namely: the North Sea (North); the North Sea (South); the Channel; the Celtic Sea; the Irish Sea; and the Atlantic.

These six sea areas are subdivided into 39 sampling regions. Hundreds of UK rivers are included in these sampling areas. The boundaries of these sampling regions are generally the same as or very close to the boundaries of the ICES Zones and are indicated on the map below (which also shows UK rivers and the catchment areas related to the six sea areas).



Riverine inputs

All of the UK regions (England and Wales, Scotland and Northern Ireland) have reported that riverine flows in 2014 have generally been higher than those for 2013. 2014 can be regarded as an exceptionally wet year. Total flows for UK rivers in 2014 were over 20% higher than 2013. This is generally, with a few exceptions (particularly for mercury), led to a corresponding increase in riverine loads.

In Scotland, in areas SC1 and SC4 there was almost a 50% increase.

Direct Discharges

Across the UK sewage flows and industrial flows were also broadly similar to those in 2013. There are no consistent trends in sewage and industrial flows or loads in 2014.

Unmonitored areas

The aim of the survey, as in earlier years, has been to achieve at least 90% coverage of the overall inputs from the UK. As with earlier years, the total inputs reported have not been proportioned up to give a 100% estimated value. This means that the results reported are consistent with the estimates reported for earlier years. Because of the location of the monitoring stations, riverine inputs are expected to cover some 80% of the landmass. As direct inputs account for most significant inputs downstream of the riverine monitoring stations, it is considered that for most regions, the 90% coverage target has probably been met, but we are aware there is some uncertainty regarding this estimate.

Overall loads

As mentioned above, overall loads are generally higher than last year due to the fact that rainfall levels are higher with extremely wet conditions in a large part of the UK in 2014.

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OSPAR's vision is of a clean, healthy and biologically diverse North-East Atlantic used sustainably

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