



OSPAR
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Comprehensive Study and assessment of Riverine Inputs and Direct Discharges (RID)

OSPAR Contracting Parties' RID 2021 Data Report



OSPAR Contracting Parties' RID 2021 Data Report

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**OSPAR Commission
for the Protection of the Marine Environment
of the North-East Atlantic**

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Addendum:

[National 2021 RID data reports \(excel and word files\)](#)

Executive summary

This report presents the results of monitoring undertaken by OSPAR Contracting Parties for the Riverine Inputs and Direct Discharges Programme (RID) during 2021. The purpose of the RID Programme is to assess, as accurately as possible, all riverine inputs and direct discharges of selected pollutants to Convention waters on an annual basis, and to contribute to the implementation of the Joint Assessment and Monitoring Programme (JAMP). The OSPAR Convention area is divided into five main regions: the Arctic Waters, the Greater North Sea, the Celtic Seas, the Bay of Biscay, and the Wider Atlantic.

Determinands monitored on a mandatory basis include nutrients, heavy metals (mercury, cadmium, copper, zinc, and lead), suspended particulate matter, and salinity (in saline waters). Several more determinands can be monitored on a voluntary basis. Direct discharge sources can include sewage treatment plants, industry, and aquaculture; some Contracting Parties also report urban runoff. Not all Contracting Parties report their direct discharges.

Since the programme started in 1990, many Contracting Parties report an overall reduction in flow normalized riverine loads of nutrients and metals, although there are large variations from year to year. Direct discharges of nutrients and metals are also declining in many areas, with some exceptions. Some Contracting Parties reported about the long-term effects of loads on riverine loads.

The report for 2021 contains a compacted version of the earlier reports, as the focus was put on the feasibility study of transferring the entire RID database to HELCOM PLUS database. Hence, no changes in database structure or historical data re-submissions

Récapitulatif

Ce rapport présente les résultats de la surveillance entreprise par les Parties contractantes OSPAR dans le cadre du programme sur les apports fluviaux et les rejets directs (RID) au cours de l'année 2021. L'objectif du programme RID est d'évaluer, aussi précisément que possible, tous les apports fluviaux et les rejets directs de polluants sélectionnés dans les eaux de la Convention sur une base annuelle, et de contribuer à la mise en œuvre du Programme conjoint d'évaluation et de surveillance (JAMP). La zone de la Convention OSPAR est divisée en cinq régions principales : les eaux arctiques, la mer du Nord au sens large, les mers celtiques, le golfe de Gascogne et la côte ibérique, et l'Atlantique au large.

Les déterminants faisant l'objet d'une surveillance obligatoire sont les nutriments, les métaux lourds (mercure, cadmium, cuivre, zinc et plomb), la matière particulaire en suspension et la salinité (des eaux salines). Plusieurs autres déterminants peuvent être surveillés sur une base volontaire. Les sources de rejets directs peuvent inclure les stations d'épuration des eaux usées, l'industrie et l'aquaculture ; certaines Parties contractantes notifient également les écoulements urbains. Les rejets directs ne sont pas notifiés par toutes les Parties contractantes.

Depuis le lancement du programme en 1990, de nombreuses Parties contractantes font état d'une réduction globale des charges fluviales de nutriments et de métaux normalisées en fonction du débit, bien qu'il y ait de grandes variations d'une année à l'autre. Les rejets directs de nutriments et de métaux sont également en baisse dans de nombreuses régions, à quelques exceptions près.

Le rapport pour 2021 contient une version compacte des rapports précédents, car l'accent a été mis sur l'étude de faisabilité du transfert de l'ensemble de la base de données du RID vers la base de données HELCOM PLUS.

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	Limit 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).

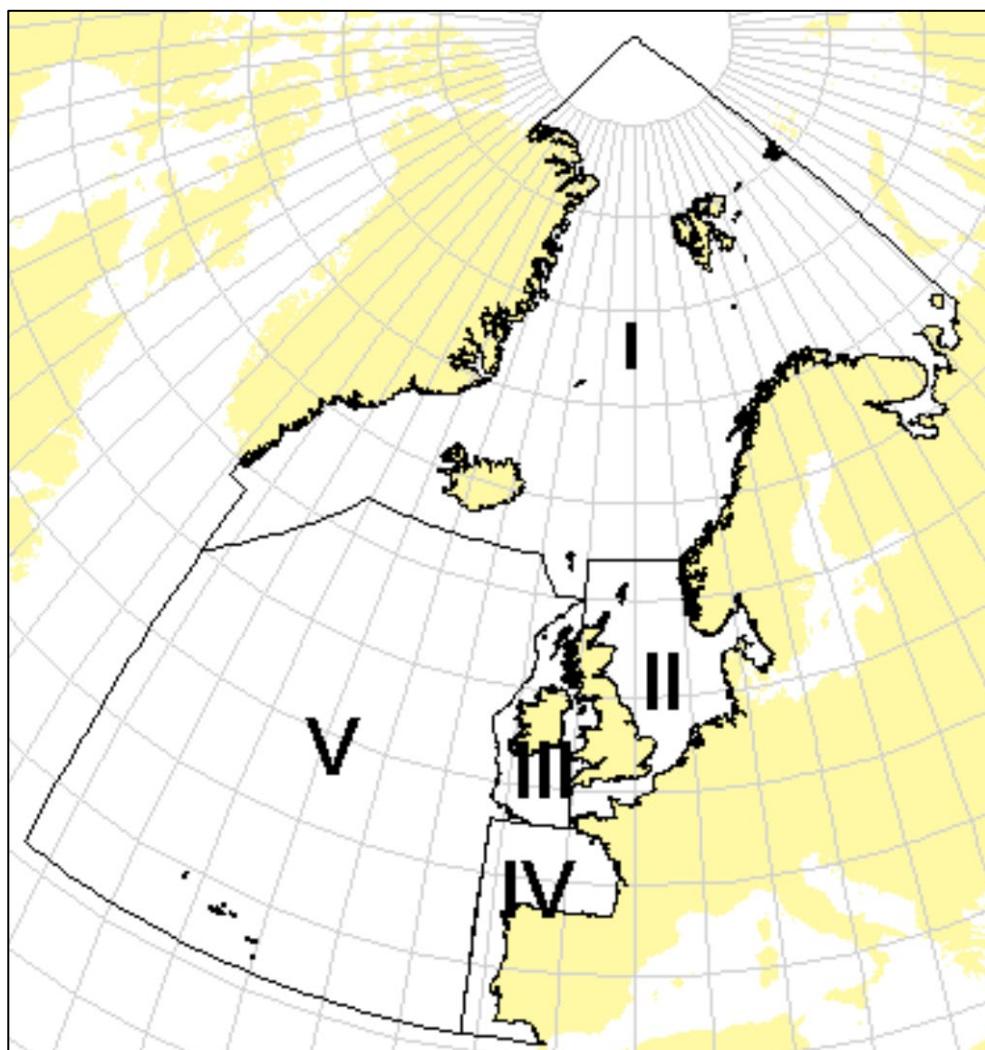


Figure 1. OSPAR Maritime Area and Regions. I: Arctic Waters, II: Greater North Sea, III: Celtic Seas, IV: Bay of Biscay and V: Wider Atlantic.

¹ At its Tenth Meeting (Lisbon, 1988) the Paris Commission¹ (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	
- Irish Sea	III	- Atlantic (ESP)	IV
- Atlantic	IV	Sweden	
Germany		- Kattegat (SWE)	II
- North Sea (GER)	II	- Skagerrak (SWE)	II
Iceland		UK	
- Atlantic	I	- North Sea (North)	II
Ireland		- North Sea (South)	II
- Irish Sea	III	- Channel	II
- Celtic Sea	III	- Irish Sea	III
- Atlantic	III	- Celtic Sea	III
Netherlands		- Atlantic	III
- North Sea (NL)	II		

Submission of RID data for 2021

Table 2 provides an overview of the status of 2021 RID data submitted by Contracting Parties by 6 January 2023. All Contracting Parties except Denmark had a deadline of 1 November 2022 for submitting data and text reports. Denmark had a deadline of 1 December 2022.

Table 2. Overview of submitted 2021 RID information by Contracting Parties

Contracting Party	RID 2021 written report submitted	RID 2021 Data submitted	RID 2021 Data validated	Comments
Belgium				
Denmark				
France				
Germany				Delay reported.
Iceland				
Ireland				
Netherlands				
Norway				
Portugal				Delay reported
Spain				
Sweden				
UK				

Green = data submitted; White = no data submitted; Light green = report is under preparation.

Table 3. Overview of information for 2021 on inputs to the OSPAR Maritime Area reported by Contracting Parties

Contracting Party	Sewage effluents	Industrial effluents	Aquaculture discharges	Other direct discharges	Monitored rivers	Unmonitored rivers
Belgium						
Denmark						
France						
Germany						
Iceland						
Ireland						
Netherlands						
Norway						
Portugal						
Spain						
Sweden						
United Kingdom						

Green = data submitted; White = no data submitted; Grey = no data will be submitted by this Contracting Party from this source.

Overview tables 1-4 (AA-tables) for 2021 are given in Annex I.

Preliminary results for reporting year 2021

The preliminary results for reporting year 2021, provided by the Contracting Parties for water discharge, nutrients, heavy metals, and other issues are given in Tables 4-7, respectively.

Table 4. Water discharges in reporting year 2021 as reported by the Contracting Parties

Hydrology	
Contracting Party	Give a short summary of this year's results, as compared (in %) to the long-term water discharge average 1991-2020 (If you use another period, please indicate which).
Belgium	Compared with the LTA 2010-2020 (including the very dry years 2017, 2018, and 2019) discharges to the North Sea, an increase in the mean flow of 17% in 2021 was noticed. The increase was higher in the Scheldt River and river basin (ca. +25 %) and highest in the Yser river (+40 %).
Iceland	Overall water flow in the monitored rivers in Iceland was around 6% lower than the long-term average.
Ireland	Overall water flow for the main rivers monitored was 3% lower in 2021 than the long-term average (1990-2020). The river Maigue (-36%), Nore (-15%), Liffey (-14%), Barrow and Tolka (both -11%) had the lowest flows in comparison to the long-term average.
Netherlands	
Norway	Overall water discharge in 2021 was uncommonly low. This caused, amongst others, low water levels in Norwegian hydropower reservoirs.
UK	Nine reporting regions (E5, E17, E20, E22-24, E28, NI1, E30) reported their lowest flow rate in the last 10 years, though most appear to be within normal variability in the context of the entire time series. Region E25 (Irish Sea) reports a maximum value since 1990 (excluding 2020, during which non-representative temporal monitoring across the year due to covid may have impacted values) and a 77 % increase from the previous 10 years' average. The total UK flow is 33 % reduced relative to the previous 10 years' average, with decreased flows into all regional seas except for North Sea South (5 % increase), and the most significant decrease to the Atlantic (65 %).

Table 5. Nutrient and sediment loads in reporting year 2021 as reported by the Contracting Parties

Nutrients, sediment etc.	
Contracting Party	Give a short summary (1-2 sentences) of this year's result, as compared (in %) to the last 10-year average.
Belgium	Compared with the LTA 2010-2020 discharges to the North Sea, an increase in loads of 12,5% for t-N and 8,6% for t-P in 2021 is calculated. Values of Tot-N meet +23% for the Scheldt River and river basin. Values of Tot-P range show an increase of 23% in the Scheldt River, but a substantial decrease of 12,7 % in the Canal Ghent-Terneuzen. Nutrient loads to the North Sea annually decreased by 2,38% for Tot-N and 2,23% for Tot-P since 2000. Overall discharges of SPM to the North Sea increased by 45% in 2021 compared with the 2010-2020 period. This is mainly due to discharges from the coastal area (+74%) and the Canal Ghent-Terneuzen (+83%).
Iceland	No major changes in riverine nutrient inputs this year from monitored rivers in Iceland.
Ireland	Increases of TP and PO ₄ were noted this year in the riverine nutrient inputs in the Irish and Celtic Seas while there was little change in TN and TON. Inputs of TN were seen in the Atlantic, which was 21% above the last 10 year average. This was due to increases in the Corrib (22%) and the Erne (36%). In direct discharges, large increases of TN (52%) and TP (60%) were observed discharging in to the Atlantic while a decrease of TP was noted in the Celtic Sea (-38%).
Netherlands	The trends of riverine inputs from Rhine/Meuse to North Sea are derived on calculations for the years 1990 – 2020 with the combination of the reported yearly loads and flows for OSPAR RID from measurements at Haringvlietsluizen (Meuse and Rhine), Maassluis (Rhine), and Den Oever (Rhine) and Kornwerderzand (Rhine) and Vrouwezand (Rhine). In 1990 the absolute loads for total Nitrogen (N-tot) resp. total Phosphorus (P-tot) from rivers Rhine and Meuse to the North Sea were approximately 330 kiloton resp. 21 kiloton. In 2011 the absolute loads for total Nitrogen (N-tot) resp. total Phosphorus (P-tot) from rivers Rhine and Meuse to the North Sea were approximately 211 kiloton resp. 6 kiloton. In 2021 these loads of N-tot resp. P-tot were reduced to approximately 207 kiloton resp. 7 kiloton. There are no significant trends for N-tot and P-tot in the last 10 years.
Norway	Direct discharges of nutrients from fish farming have increased steadily during the last ten years. As a result, the total Norwegian inputs to the sea of these substances has also increased.
UK	<ul style="list-style-type: none"> • Rivers: SPM decreased by >50% (compared to last 10 years) in 16 of 13 regions for which it was reported, while increasing in 9 regions with a 350% increase reported for E18 (English Channel) in which it was the highest since 1990. NH₄ decreased by >50% in 9 regions while increasing by >50% in 2 regions. NO₃ and PO₄ values were typically closer to their 10-year mean. UK-wide riverine inputs decreased by 16 to 31 % relative to the 10-year average, with a 46 % decrease for SPM. • Industry (direct discharge): Only 4 regions reported values (E5: NH₄ and SPM, E6 & E7: SPM only, NI1: all), with English values >-50% compared to last-10 years' average. • Sewage (direct discharge): nearly all English & Welsh (E-) regions report SPM and NH₄ (only) for direct sewage discharges with >50% decrease in NH₄ in most (13/19) regions, but only 4/27 for SPM, with apparent large increases being small relative to pre-2010 values. <p>At the UK-level total direct discharges (based on limited monitoring/reporting) have decreased by 60 to 99 %, which may in-part reflected reduced monitoring/reporting.</p>

Table 6. Loads of heavy metals in reporting year 2021 as reported by the Contracting Parties

Heavy metals	
Contracting Party	Give a short summary (1-2 sentences) of this year's result, as compared (in %) to the last 10-year average.
Belgium	Discharges of heavy metals to the North Sea in 2021 show an increase in Cu-t (+50,8%), Hg-t (+15,2%), Cd-t (+6,5%), Zn-t (+36,9%), and Pb-t (+16,1%) loads compared with the LTA 2010-2020.
Iceland	No major changes in most metal inputs this year. However, the average mercury load over the last 5 years is higher than in the years before. The reason for that is unknown.
Ireland	Riverine metal inputs of Zinc and Copper in to the Irish Sea increased in 2021, primarily due to large increase of these metals in the Dodder, Tolka and Liffey (>300%). Lead in the Dodder (8000%) and Tolka (184%) rivers also showed significant increases. The Bandon and Barrow also had large increases Copper while the Bandon also had a large increase in Zinc. Overall riverine metal inputs were down in the Celtic and Atlantic Seas. Direct Discharges of metals were down in all areas except for small increase in Cadmium in the Irish Sea (17%) and Copper (14%), Lead (14%) and Zinc (10%) in the Atlantic. For direct discharges, 2015-2020 were used for the average.
Netherlands	In 2011 the absolute loads for Hg resp. Pb resp Zn from rivers Rhine and Meuse to the North Sea were approximately 4,3 ton resp. 0,9 ton resp. 977 ton. In 2021 this loads of Hg resp. Pb resp Zn were reduced to approximately 3,7 ton resp. 1 ton resp. 935 ton. There is no significant trend for Pb. The trend for Hg resp. Zn had decreasing 15% resp. 4%.
Norway	Overall, total loads to Norwegian maritime areas are compatible with those from previous years. Inputs of nutrients and copper from direct discharges continue to increase due to the increase of the discharges to the sea from aquaculture.
UK	<ul style="list-style-type: none"> • Rivers: Metal inputs have decreased relative to the average of the last 10 years for most metals in most regions for which they are reported (78% of values). At the UK level they have decreased by 22 to 45%, though reduced monitoring may be a factor. • Industry: Where reported (only 6 regions), metals are a mix of >50% decreases (48% of values) and >50% increases (22% of values) from the 10-year average. These apparent large changes reflect low values close to detection limits. • Sewage: Metal inputs are reported for only 8 regions and all are decreased compared to the average of the last 10 years, with 80% of inputs decreased by >50%. • At the UK-level, total direct discharges of metals have decreased by 80 to 96% compared to the average of the last 10 years. Despite the correction for previously reported now unmonitored areas (see details below), this is likely at least partially due to reduced monitoring in 2021.

Table 7. Other comments regarding data delivery in year 2021 as reported by the Contracting Parties

Any other comments	
Contracting Party	<i>Example: Unusual concentrations, specific episodes; missing data, quality issues, new direct sources, problems with hydrological estimates, etc.</i>
Belgium	Long-term effects of droughts can be illustrated by the Scheldt River over the period 1990-2021. Compared with this, the LTA 1990-2010 of the annual minimum flows is 10,4% higher, but the LTA 2010-2021 (see Fig. 7) is 20,6% lower. In 2021, the annual minimum flow decreased by 5,5% compared with the 1990-2021 LTA. 2021 is considered a very wet year (precipitation in 2021: 1039 mm; normal: 837 mm).
Iceland	Last year we reported for the first time on one new river (Norðurá), which is a direct runoff river. Data upload from the new river Norðurá will be postponed until the database is ready for transfer.
Ireland	The high values of Zinc, Copper and Lead in the Dodder, Tolka and Liffey have been checked with the laboratory and they cannot find any issues with the testing of these samples, so these high values are reported as accurate results. These parameters will be closely watched next year.
Netherlands	It was due to organisation problems till now not possible to deliver for all the discharge area for all branches of the river Rhine the calculation of the loads and flow. In this year the loads and flow for IJmuiden (Rhine) are missing.
Norway	
UK	See the country report

Annex I. Annual Overview Tables for the reporting year 2021 (AA Tables)

- AA Table 1a Information Received on Inputs to the Maritime Area of the OSPAR Convention in 2021
- AA Table 1b Determinands Reported by Contracting Parties in 2021
- AA Table 2 Direct Discharges to the Maritime Area of the OSPAR Convention in 2021 by Country
- AA Table 3 Riverine Inputs to the Maritime Area of the OSPAR Convention in 2021 by Country
- AA Table 4a Sum of Direct (Table 2) and Riverine (Table 3) Inputs to the Maritime Area of the OSPAR Convention in 2021 by Country
- AA Table 4b Sum of Direct and Riverine Inputs to the Maritime Area of the OSPAR Convention in 2021 by Sea Area

AA Table 1a. 2021

Information Received on Inputs to the Maritime Area of the OSPAR Convention in 2021

Country	Direct Discharges				Coastal Areas	Riverine Inputs	
	Sewage Effluents	Industrial Effluents	Aquaculture Discharges	Other Discharges		Monitored Rivers	Unmonitored Areas
Belgium							
- North Sea (BE)	NA	NA	NA	NA		+	NA
Denmark							
- Skagerrak (DK)	+	+	+	NI		+	+
- Kattegat (DK)	+	+	+	NI		+	+
- North Sea (DK)	+	+	+	NI		+	+
France							
- Channel	NI	NI	NI	NI		+	+
- Atlantic	NI	NI	NI	NI		+	+
- Irish Sea	NI	NI	NI	NI		+	+
Germany							
- North Sea (GER)	NI	NI	NI	NI		NI	NI
Iceland							
- Atlantic	NI	NI	NI	NI		+	NI
Ireland							
- Irish Sea	+	+	NI	NI		+	+
- Celtic Sea	+	+	+	NI		+	+
- Atlantic	+	+	+	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 Coast (PO)	NI	NI	NI	NI		NI	NI
Spain							
- Atlantic (ESP)	+	+	+	NI		+	NI
Sweden							
- Kattegat (SWE)	+	+	NI	NI		+	+
- Skagerrak (SWE)	+	+	NI	NI		+	+
UK							
- North Sea (North)	+	+	NI	NI		NI	NI
- North Sea (South)	+	+	NI	NI		NI	NI
- Channel	+	+	NI	NI		NI	NI
- Irish Sea	+	+	NI	NI		NI	NI
- Celtic Sea	+	NI	NI	NI		NI	NI
- Atlantic	NI	+	NI	NI		NI	NI

+ = Information available

NI = No information

NA = Not applicable

AA Table 1b. 2021

Determinands reported by Contracting Parties in 2021

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

+ : 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. 2021

Direct Discharges to the Maritime Area of the OSPAR Convention in 2021 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 upper	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	
Denmark	Kattegat (DK)	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	0.06 0.06	0.55 0.55	0.04 0.04	0.62 0.62	0.06 0.06	NI NI	
	North Sea (DK)	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	0.02 0.02	0.08 0.08	0.00 0.00	0.09 0.09	0.01 0.01	NI NI	
	Skagerrak (DK)	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	0.05 0.05	0.01 0.01	0.00 0.00	0.07 0.07	0.01 0.01	NI NI	
									0.05	0.01	0.00	0.07	0.01	NI NI	
France	Atlantic	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	
	Channel	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	
	Irish Sea	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	
	North Sea (GER)	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	
Iceland	Atlantic	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	
Ireland	Atlantic	lower upper	0.00 0.00	0.00 0.00	0.28 0.28	0.08 0.08	1.25 1.25	NI NI	NI NI	NI NI	NI NI	1.26 1.26	0.17 0.17	0.47 0.47	
	Celtic Sea	lower upper	0.02 0.02	0.01 0.01	0.83 0.83	0.27 0.27	2.65 2.65	NI NI	NI NI	NI NI	NI NI	1.97 1.97	0.20 0.20	1.93 1.93	
	Irish Sea	lower upper	0.02 0.02	0.00 0.00	2.44 2.44	0.59 0.59	9.81 9.81	NI NI	NI NI	NI NI	NI NI	4.24 4.24	0.75 0.75	12.79 12.79	
Netherlands	North Sea (NL)	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	
Norway	Barents Sea (NO)	lower upper	0.00 0.00	0.00 0.00	348.8 348.8	0.00 0.00	0.23 0.23	NI NI	NI NI	16.33 16.33	2.16 2.16	2.35 2.35	20.52 20.52	3.44 3.44	235.9 235.9
	North Sea (NO)	lower upper	0.03 0.03	0.00 0.00	385.9 385.9	0.77 0.77	6.88 6.88	NI NI	NI NI	19.61 19.61	2.49 2.49	2.81 2.81	24.76 24.76	4.14 4.14	11.0 11.0
	Norwegian Sea (NC)	lower upper	0.02 0.02	0.00 0.00	576.3 576.3	0.09 0.09	4.65 4.65	NI NI	NI NI	27.54 27.54	3.59 3.59	3.98 3.98	34.66 34.66	5.83 5.83	233.2 233.2
	Skagerrak (NO)	lower upper	0.03 0.03	0.01 0.01	7.7 7.7	0.27 0.27	19.15 19.15	NI NI	NI NI	4.69 4.69	0.31 0.31	0.08 0.08	6.25 6.25	0.13 0.13	2.7 2.7
Portugal	Bay of Biscay and	lower upper	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	NI NI	
Spain	Atlantic (ESP)	lower upper	0.05 0.05	0.76 0.76	4.00 4.00	0.37 0.37	19.88 19.88	0.01 0.01	0.00 0.00	8.24 8.24	4.84 4.84	1.67 1.67	16.96 16.96	1.58 1.58	228.3 228.3
Sweden	Kattegat (SWE)	lower upper	0.01 0.01	0.00 0.00	0.18 0.18	0.06 0.06	4.47 4.47	NI NI	NI NI	0.12 0.12	NI NI	NI NI	0.23 0.23	0.01 0.01	NI NI
	Skagerrak (SWE)	lower upper	0.00 0.00	0.00 0.00	0.01 0.01	0.00 0.00	0.31 0.31	NI NI	NI NI	0.01 0.01	NI NI	NI NI	0.02 0.02	0.00 0.00	NI NI
UK	Atlantic	lower upper	NI NI	0.00 0.00	NI NI	NI NI	NI NI	NI NI	0.15 0.15	0.12 0.12	0.22 0.22	0.56 0.56	0.30 0.30	5.08 5.08	
	Celtic Sea	lower upper	NI NI	0.43 0.43	0.04 0.12	2.53 2.53	NI NI	NI NI	0.17 0.19	NI NI	NI NI	NI NI	NI NI	2.13 2.31	
	Channel	lower upper	0.00 0.00	NI NI	0.13 0.13	0.02 0.02	0.10 0.10	NI NI	NI NI	0.81 0.86	NI NI	0.29 0.30	0.71 0.71	NI NI	5.32 5.47
	Irish Sea	lower upper	0.00 0.00	NI NI	0.62 0.62	0.56 0.56	4.92 4.92	NI NI	NI NI	0.16 0.16	NI NI	NI NI	NI NI	NI NI	2.98 2.98
	North Sea (North)	lower upper	0.01 0.01	0.01 0.01	4.96 4.96	NI NI	4.75 4.75	NI NI	NI NI	0.56 0.56	NI NI	NI NI	NI NI	NI NI	12.46 12.46
	North Sea (South)	lower upper	0.00 0.02	0.00 0.00	0.37 2.09	0.08 1.80	1.36 5.52	NI NI	NI NI	0.59 0.64	NI NI	NI NI	NI NI	NI NI	11.15 11.49

NI: No information

NA: Not applicable

AA Table 3. 2021

Riverine Inputs to the Maritime Area of the OSPAR Convention in 2021 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 1.02	0.18	36.44	23.76	170.92	NA	NA	1.28	25.57	0.99	28.20	2.01	342.50
Denmark	Kattegat (DK)	lower NI	NI	NI	NI	NI	NI	NI	0.48	13.25	0.23	17.01	0.50	NI
		upper NI	NI	NI	NI	NI	NI	NI	0.48	13.25	0.23	17.01	0.50	NI
	North Sea (DK)	lower NI	NI	NI	NI	NI	NI	NI	0.47	12.06	0.12	15.03	0.44	NI
		upper NI	NI	NI	NI	NI	NI	NI	0.47	12.06	0.12	15.03	0.44	NI
France	Skagerrak (DK)	lower NI	NI	NI	NI	NI	NI	NI	0.04	0.70	0.02	0.89	0.04	NI
		upper NI	NI	NI	NI	NI	NI	NI	0.04	0.70	0.02	0.89	0.04	NI
	Atlantic	lower 0.22	0.01	13.26	8.73	29.11	0.00	NI	3.70	280.71	6.25	232.79	10.33	3408.85
		upper 1.48	0.89	15.46	19.29	42.20	0.16	NI	3.74	280.71	6.42	351.25	10.34	3412.66
Channel	lower 0.14	0.00	28.41	4.00	88.84	0.00	NI	3.67	199.85	2.89	120.32	4.43	1029.37	
		upper 0.31	0.26	28.41	4.27	90.59	0.03	NI	3.67	199.85	2.89	224.20	4.43	1029.99
	Irish Sea	lower 0.02	0.00	0.43	0.36	3.05	0.00	NI	0.15	28.43	0.40	16.73	0.53	142.11
		upper 0.02	0.00	0.43	0.36	3.05	0.01	NI	0.15	28.43	0.41	31.97	0.53	142.70
Germany	North Sea (GER)	lower NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Iceland	upper NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Atlantic	lower 0.05	0.05	6.16	0.39	10.73	NI	NI	0.17	0.72	0.38	0.79	0.38	2104.00	
	upper 0.05	0.05	6.16	0.39	10.73	NI	NI	0.17	0.72	0.38	0.79	0.38	2104.00	
Ireland	Atlantic	lower 0.37	0.01	29.22	2.84	107.35	NI	NI	0.24	8.36	0.25	22.81	0.57	90.42
		upper 0.58	0.39	34.06	5.42	109.63	NI	NI	0.51	8.92	0.32	23.04	0.59	153.35
	Celtic Sea	lower 0.47	0.07	48.19	9.37	156.09	NI	NI	0.65	48.75	0.75	61.47	1.45	184.12
		upper 0.68	0.55	53.38	11.59	158.66	NI	NI	0.78	48.77	0.78	61.47	1.45	242.34
Irish Sea	lower 0.49	0.07	26.91	29.96	146.67	NI	NI	0.30	18.28	0.18	20.86	0.47	111.32	
		upper 0.49	0.16	27.29	30.20	146.67	NI	NI	0.32	18.28	0.19	20.86	0.47	120.73
	North Sea (NL)	lower 3.72	0.97	249.59	155.08	919.51	22.45	0.00	7.46	157.87	3.78	206.62	6.97	2267.38
		upper 3.72	0.97	249.59	155.08	935.02	22.45	0.00	7.55	157.93	3.83	207.41	6.97	2322.13
Norway	Barents Sea (NO)	lower 0.03	0.02	15.98	0.68	23.94	NI	NI	0.39	3.73	0.12	8.69	0.28	403.66
		upper 0.03	0.02	15.98	0.68	23.94	NI	NI	0.39	3.73	0.12	8.69	0.28	403.66
	North Sea (NO)	lower 0.23	0.02	14.04	4.98	54.76	NI	NI	0.87	11.94	0.11	19.66	0.36	50.35
		upper 0.23	0.02	14.04	4.98	54.76	NI	NI	0.87	11.94	0.11	19.66	0.36	50.35
Norwegian Sea	(N) lower	0.19	0.03	35.78	2.41	82.89	NI	NI	0.94	10.49	0.19	20.33	0.54	152.95
		upper 0.19	0.03	35.78	2.41	82.89	NI	NI	0.94	10.49	0.19	20.33	0.54	152.95
	Skagerrak (NO)	lower 0.90	0.13	74.58	20.49	261.73	NI	NI	0.90	21.39	0.45	33.07	0.91	408.06
		upper 0.90	0.13	74.58	20.49	261.73	NI	NI	0.90	21.39	0.45	33.07	0.91	408.06
Portugal	Bay of Biscay	anc 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	NI
Spain	Atlantic (ESP)	lower 3.46	0.03	610.87	6.79	1210.31	0.41	0.00	7.34	31.30	0.36	44.83	1.17	255.11
	upper 3.48	0.05	611.60	6.84	1214.54	11.45	1.23	7.35	31.32	0.36	45.04	1.19	255.58	
Sweden	Kattegat (SWE)	lower 0.31	0.05	31.70	8.55	83.30	NI	NI	0.62	16.23	0.10	25.61	0.58	NI
		upper 0.31	0.05	31.70	8.55	83.30	NI	NI	0.62	16.23	0.10	25.61	0.58	NI
	Skagerrak (SWE)	lower 0.04	0.01	3.25	0.94	9.92	NI	NI	0.08	0.96	0.02	2.22	0.08	NI
		upper 0.04	0.01	3.25	0.94	9.92	NI	NI	0.08	0.96	0.02	2.22	0.08	NI
UK	Atlantic	lower 0.30	0.06	19.58	2.68	27.02	NI	NI	0.65	11.58	0.57	14.49	0.73	69.74
		upper 0.30	0.06	19.58	2.68	27.02	NI	NI	0.65	11.58	0.57	14.49	0.73	69.74
	Celtic Sea	lower 0.11	0.01	14.97	3.87	47.59	0.00	0.00	0.71	30.48	0.93	24.86	NI	77.47
		upper 0.21	0.03	15.04	4.92	49.61	5.76	11.97	0.75	30.48	0.93	24.87	NI	79.77
	Channel	lower 0.72	0.06	35.60	16.05	126.95	0.00	0.00	0.24	22.03	0.49	22.46	NI	274.98
		upper 0.72	0.10	35.60	16.05	126.95	15.58	34.19	0.44	22.87	0.54	22.46	NI	276.96
	Irish Sea	lower 0.68	0.15	34.07	43.50	180.73	12.17	20.84	0.98	23.25	0.83	31.87	0.14	240.94
		upper 0.68	0.15	34.07	43.50	180.73	12.17	20.84	0.98	23.25	0.83	31.87	0.14	240.94
North Sea (North)	lower 0.75	0.23	20.99	29.02	177.98	4.14	7.66	0.76	20.87	0.46	26.93	NI	124.98	
		upper 0.75	0.23	20.99	29.02	177.98	4.14	7.66	0.76	20.87	0.46	26.93	NI	124.98
	North Sea (South)	lower 1.03	0.08	52.55	57.66	219.18	0.32	0.00	1.31	70.11	2.34	75.32	NI	250.08
		upper 1.04	0.15	52.55	57.66	219.18	32.57	66.21	1.35	70.11	2.34	75.32	NI	251.73

NI: No information

NA: Not applicable

AA Table 4a. 2021

Sum of Direct (Table 2) and Riverine (Table 3) Inputs to the Maritime area of the OSPAR Convention in 2021 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 1.02	0.18	36.44	23.76	170.92	NA	NA	1.28	25.57	0.99	28.20	2.01	342.5
		upper 1.02	0.18	36.44	23.76	170.92	NA	NA	1.28	25.57	0.99	28.20	2.01	342.5
Denmark	Kattegat (DK)	lower NI	NI	NI	NI	NI	NI	NI	0.54	13.81	0.27	17.62	0.55	NI
		upper NI	NI	NI	NI	NI	NI	NI	0.54	13.81	0.27	17.62	0.55	NI
	North Sea (DK)	lower NI	NI	NI	NI	NI	NI	NI	0.49	12.14	0.12	15.12	0.45	NI
		upper NI	NI	NI	NI	NI	NI	NI	0.49	12.14	0.12	15.12	0.45	NI
	Skagerrak (DK)	lower NI	NI	NI	NI	NI	NI	NI	0.09	0.71	0.02	0.96	0.05	NI
		upper NI	NI	NI	NI	NI	NI	NI	0.09	0.71	0.02	0.96	0.05	NI
France	Atlantic	lower 0.22	0.01	13.26	8.73	29.11	0.00	NI	3.70	280.71	6.25	232.79	10.33	3408.9
		upper 1.48	0.89	15.46	19.29	42.20	0.16	NI	3.74	280.71	6.42	351.25	10.34	3412.7
	Channel	lower 0.14	0.00	28.41	4.00	88.84	0.00	NI	3.67	199.85	2.89	120.32	4.43	1029.4
		upper 0.31	0.26	28.41	4.27	90.59	0.03	NI	3.67	199.85	2.89	224.20	4.43	1030.0
	Irish Sea	lower 0.02	0.00	0.43	0.36	3.05	0.00	NI	0.15	28.43	0.40	16.73	0.53	142.1
		upper 0.02	0.00	0.43	0.36	3.05	0.01	NI	0.15	28.43	0.41	31.97	0.53	142.7
Germany	North Sea (GER)	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
Iceland	Atlantic	lower 0.05	0.05	6.16	0.39	10.73	NI	NI	0.17	0.72	0.38	0.79	0.38	2104.0
		upper 0.05	0.05	6.16	0.39	10.73	NI	NI	0.17	0.72	0.38	0.79	0.38	2104.0
Ireland	Atlantic	lower 0.37	0.01	29.49	2.92	108.59	NI	NI	0.24	8.36	0.25	24.07	0.74	90.9
		upper 0.58	0.39	34.33	5.50	110.87	NI	NI	0.51	8.92	0.32	24.30	0.76	153.8
	Celtic Sea	lower 0.48	0.08	49.02	9.65	158.74	NI	NI	0.65	48.75	0.75	63.45	1.65	186.0
		upper 0.69	0.56	54.21	11.87	161.31	NI	NI	0.78	48.77	0.78	63.45	1.65	244.3
	Irish Sea	lower 0.51	0.07	29.35	30.55	156.48	NI	NI	0.30	18.28	0.18	25.10	1.22	124.1
		upper 0.51	0.16	29.73	30.79	156.48	NI	NI	0.32	18.28	0.19	25.10	1.22	133.5
Netherlands	North Sea (NL)	lower 3.72	0.97	249.59	155.08	919.51	22.45	0.00	7.46	157.87	3.78	206.62	6.97	2267.4
		upper 3.72	0.97	249.59	155.08	935.02	22.45	0.00	7.55	157.93	3.83	207.41	6.97	2322.1
Norway	Barents Sea (NO)	lower 0.03	0.02	364.82	0.68	24.17	NI	NI	16.72	5.89	2.47	29.21	3.72	639.6
		upper 0.03	0.02	364.82	0.68	24.17	NI	NI	16.72	5.89	2.47	29.21	3.72	639.6
	North Sea (NO)	lower 0.26	0.03	399.98	5.74	61.65	NI	NI	20.48	14.43	2.92	44.42	4.51	61.4
		upper 0.26	0.03	399.98	5.74	61.65	NI	NI	20.48	14.43	2.92	44.42	4.51	61.4
	Norwegian Sea (N)	lower 0.20	0.04	612.05	2.50	87.54	NI	NI	28.48	14.08	4.17	54.99	6.36	386.2
		upper 0.20	0.04	612.05	2.50	87.54	NI	NI	28.48	14.08	4.17	54.99	6.36	386.2
	Skagerrak (NO)	lower 0.93	0.13	82.29	20.76	280.88	NI	NI	5.60	21.70	0.53	39.33	1.04	410.7
		upper 0.93	0.13	82.29	20.76	280.88	NI	NI	5.60	21.70	0.53	39.33	1.04	410.7
Portugal	Bay of Biscay anc	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 3.50	0.79	614.87	7.16	1230.19	0.42	0.00	15.58	36.14	2.03	61.79	2.75	483.4
		upper 3.53	0.82	615.60	7.20	1234.42	11.46	1.23	15.59	36.15	2.03	62.00	2.78	483.9
Sweden	Kattegat (SWE)	lower 0.32	0.06	31.88	8.61	87.77	NI	NI	0.74	16.23	0.10	25.84	0.59	NI
		upper 0.32	0.06	31.88	8.61	87.77	NI	NI	0.74	16.23	0.10	25.84	0.59	NI
	Skagerrak (SWE)	lower 0.04	0.01	3.26	0.94	10.23	NI	NI	0.10	0.96	0.02	2.24	0.08	NI
		upper 0.04	0.01	3.26	0.94	10.23	NI	NI	0.10	0.96	0.02	2.24	0.08	NI
UK	Atlantic	lower 0.30	0.06	19.58	2.68	27.02	NI	NI	0.80	11.70	0.79	15.05	1.03	74.8
		upper 0.30	0.06	19.58	2.68	27.02	NI	NI	0.80	11.70	0.79	15.05	1.03	74.8
	Celtic Sea	lower 0.11	0.01	15.39	3.92	50.12	0.00	0.00	0.88	30.48	0.93	24.86	NI	79.6
		upper 0.21	0.03	15.47	5.05	52.13	5.76	11.97	0.93	30.48	0.93	24.87	NI	82.1
	Channel	lower 0.72	0.06	35.73	16.07	127.05	0.00	0.00	1.05	22.03	0.79	23.16	NI	280.3
		upper 0.72	0.10	35.73	16.07	127.05	15.58	34.19	1.30	22.87	0.84	23.16	NI	282.4
	Irish Sea	lower 0.69	0.15	34.69	44.07	185.65	12.17	20.84	1.14	23.25	0.83	31.87	0.14	243.9
		upper 0.69	0.15	34.69	44.07	185.65	12.17	20.84	1.14	23.25	0.83	31.87	0.14	243.9
	North Sea (North)	lower 0.76	0.23	25.94	29.02	182.73	4.14	7.66	1.32	20.87	0.46	26.93	NI	137.4
		upper 0.76	0.23	25.94	29.02	182.73	4.14	7.66	1.32	20.87	0.46	26.93	NI	137.4
	North Sea (South)	lower 1.03	0.08	52.92	57.74	220.55	0.32	0.00	1.91	70.11	2.34	75.32	NI	261.2
		upper 1.06	0.15	54.636	59.462	224.701	32.57	66.21	1.988	70.1061	2.34	75.325	NI	263.2

NI: No information

NA: Not applicable

AA Table 4b. 2021

Sum of Direct and Riverine Inputs to the Maritime area of the OSPAR Convention in 2021 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	0.03	0.02	364.82	0.68	24.17	NI	NI	16.72	5.89	2.47	29.21	3.72	639.57
	upper	0.03	0.02	364.82	0.68	24.17	NI	NI	16.72	5.89	2.47	29.21	3.72	639.57
Atlantic Ocean	lower	0.67	0.07	49.07	5.60	135.61	NI	NI	1.04	20.06	1.04	39.12	1.78	165.71
	upper	0.88	0.45	53.92	8.18	137.89	NI	NI	1.31	20.62	1.12	39.35	1.79	228.65
Bay of Biscay and Iberian Coast	lower	3.72	0.80	628.13	15.89	1259.29	0.43	0.00	19.29	316.85	8.27	294.58	13.08	3892.26
	upper	5.01	1.71	631.07	26.49	1276.62	11.62	1.23	19.32	316.86	8.45	413.24	13.12	3896.54
Celtic Sea	lower	0.60	0.09	64.41	13.56	208.86	0.00	0.00	1.54	79.24	1.68	88.31	1.65	265.64
	upper	0.90	0.59	69.68	16.91	213.44	5.76	11.97	1.72	79.26	1.71	88.32	1.65	326.35
Channel	lower	0.86	0.06	64.14	20.06	215.89	0.00	0.00	4.73	221.88	3.67	143.48	4.43	1309.67
	upper	1.04	0.36	64.14	20.34	217.64	15.61	34.19	4.98	222.72	3.73	247.36	4.43	1312.41
Irish Sea	lower	1.21	0.22	64.47	74.98	345.18	12.17	20.84	1.59	69.95	1.41	73.70	1.90	510.15
	upper	1.21	0.31	64.85	75.22	345.18	12.18	20.84	1.62	69.95	1.42	88.94	1.90	520.14
Kattegat	lower	0.32	0.06	31.88	8.61	87.77	NI	NI	1.28	30.04	0.37	43.46	1.14	NI
	upper	0.32	0.06	31.88	8.61	87.77	NI	NI	1.28	30.04	0.37	43.46	1.14	NI
North Sea (main body)	lower	6.79	1.49	764.87	271.35	1555.36	26.92	7.66	32.94	300.99	10.61	396.62	13.94	3069.92
	upper	6.82	1.56	766.59	273.07	1575.02	59.17	73.87	33.10	301.05	10.66	397.41	13.94	3126.65
Norwegian Sea	lower	0.20	0.04	612.05	2.50	87.54	NI	NI	28.48	14.08	4.17	54.99	6.36	386.18
	upper	0.20	0.04	612.05	2.50	87.54	NI	NI	28.48	14.08	4.17	54.99	6.36	386.18
Skagerrak	lower	0.97	0.15	85.54	21.70	291.11	NI	NI	5.78	23.38	0.56	42.53	1.17	410.74
	upper	0.97	0.15	85.54	21.70	291.11	NI	NI	5.78	23.38	0.56	42.53	1.17	410.74

NI: No information

Annex II Statistical information on river catchment areas

Statistical Information on River Catchment Areas

River	Catchment area [km ²]	Countries	Share in catchment area		Population (1990)		LTA* [1000 m ³ /d]	LTA-period [a]
			[km ²]	[%]	[10E6]	[%]		
Statistical Information provided by Belgium:								
Coastal Area	2675	<i>Belgium France</i>	NI	>1082 NI NI	~0.497 >0,305 0.014 0.177	NI NI	2367 708 501 1158	NI
	Western							
	Middle Eastern							
Scheldt basin	22004	<i>Belgium (1) France Netherlands (1)</i>	13324 6680 2000	61 30 9	~10 6.9 ~2,7 0.4	NI	11139	1949-2008
Ghent-Terneuzen canal	NI	<i>(1) Ghent-Terneuzen canal comprised Belgium Netherlands</i>	NI NI	NI NI	NI	NI	1 885	1991-2008
Statistical Information provided by Denmark:								
Vid å Brøns å Ribe å Kongeaen Sneum å Varde å Skjern å Stor å Brede å Omme å Grøn å	248.3	DK	248	81			300.5	78-07
	94.1	DK	94	100			107.0	74-07
	675	DK	675	100			756.6	33-07
	426.6	DK	427	100			627.0	90-07
	223	DK	223	100			283.1	66-07
	815	DK	815	100			1048.8	69-07
	1558.4	DK	1558	100			2108.2	74-07
	1096.7	DK	1097	100			1427.3	71-07
	290	DK	290	100			311.0	22-07
	612	DK	612	100			743.1	83-07
	563	DK	563	100			606.2	59-07
	10809	=Total of Danish rivers discharging to the North Sea					8230	71-90
Liver å Uggerby å	249.8	DK	250	100			226.4	89-07
	347.5	DK	348	100			351.3	89-07
	1097	=Total of Danish rivers discharging to the Skagerrak					863	71-90
Karup å Jordbro å Skals å Simmersted å Elling å Voer å Ger å Lindeborg å Haslevgard å Kastbjerg å Guden å Ry å	626.8	DK	527	100			635.2	86-07
	110.9	DK	111	100			110.7	80-07
	556.4	DK	556	100			389.7	73-07
	214.9	DK	215	100			207.6	92-07
	132.2	DK	132	100			123.2	89-07
	238.7	DK	239	100			247.6	89-07
	153.8	DK	154	100			149.6	85-07
	317.8	DK	318	100			310.3	83-07
	75	DK	75	100			62.3	89-07
	96.3	DK	96	100			70.1	76-07
	2602.9	DK	2 603	100			2837.8	78-07
	285	DK	285	100			264.7	72-07
	15828	=Total of Danish rivers discharging to the Kattegat					5284	71-90

River	Catchment area [km ²]	Countries	Share in catchment area [%]	Population (1990) [10E6]	LTA* [%]	LTA-period [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
Saâne	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	Germany	13152	85.00	3.75	7690 1941-2006
		Netherlands	2400	15.00	0.6	15
Weser	46306	Germany	-	-	9.0	-
Elbe	148268	Germany	148268	100	25.11	-
		Czech Republic	96932	65.38	19.09	76.03
		Austria	50176	33.84	5.97	23.78
		Poland	920	0.62	0.05	0.20
Eider	2065	Germany	-	-	0.159	-
						2391 1974-2006

River	Catchment area [km ²]	Countries	Share in catchment area [km ²]	Population (1990) [10E6]	LTA* [1000 m ³ /d]	LTA-period [a]
Statistical Information provided by Ireland:						
Boyne	2695	Ireland	-	-	NI	-
Liffey	1256	Ireland	-	-	NI	-
					1459	1900-2006
Avoca	652	Ireland	-	0	NI	-
Slaney	1762	Ireland	-	-	NI	-
	6365	=Total of main Irish rivers discharging to the Irish Sea				
Barrow	3067	Ireland	-	-	NI	-
Nore	2530	Ireland	-	-	NI	-
Suir	3610	Ireland	-	-	NI	-
					5889.024	1972-2006
Blackwater	3324	Ireland	-	-	NI	-
Lee	1253	Ireland	-	-	NI	-
Bandon	608	Ireland	-	-	NI	-
Deel	486	Ireland	-	-	NI	-
Maigue	1052	Ireland	-	-	NI	-
Shannon Old Chan.	11700	Ireland	-	-	NI	-
Shannon Tailrace		Ireland				13307.33
Fergus	1042	Ireland	-	-	NI	-
	28672	=Total of main Irish rivers discharging to the Celtic Sea				
Corrib	3138	Ireland	-	-	NI	-
Moy	2086	Ireland	-	-	NI	-
Erne	4372	Ireland/UK	2572/1800	60/40	NI	-
	9596	=Total of main Irish rivers discharging to the Atlantic				
Statistical Information provided by The Netherlands (with assistance from Germany and Belgium)						
Rhine	185000			2) 55.6	6	
		Switzerland	1) 28000	15	3.0	
		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	
		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	
		Netherlands	2400	15.00	0.6	15
1) Catchment areas rounded off to the nearest hundred km ²						
2) Population Rhine catchment per country requires further analysis						
3) Population Meuse catchment: rough estimates						
4) Estimated discharge at outlet: 2.300 m ³ /s * 24 h/d * 3600 s/h						
5) Estimated discharge at outlet: 325 m ³ /s * 24 h/d * 3600 s/h						
Statistical Information provided by Norway:						
Glomma (1)	41918	Norway	100.00	0.62	100	61350
Drammenselva (2)	17034	Norway	100.00	0.2	100	28850
Numedalslågen (3)	5577	Norway	100.00	0.04	100	10200
Skienelva (4)	10772	Norway	100.00	0.11	100	23535
Otra (5)	3738	Norway	100.00	0.03	100	12870
	79039	=Total of Norwegian rivers discharging to the Skagerrak				
Orreelva (6)	105	Norway	100.00	0.01	100	335
Suldsalslågen (7)	1457	Norway	100.00	0.003	100	7420
	1562	=Total of Norwegian rivers discharging to the North Sea				
Orkla (8)	3053	Norway	100.00	0.02	100	5710
Vefsna (9)	4122	Norway	100.00	0.01	100	15655
	7175	=Total of Norwegian rivers discharging to the Norwegian Sea				
Altaelva (10)	7373	Norway	100.00	0.005	100	7495
	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
		Spain	55769	69.2	6.14	68.0
Douro	97600	Portugal	18600	19.1	1.76	43.5
		Spain	79000	80.9	2.28	56.5
Miño/Minho	17000	Portugal	900	5.3	0.07	7.9
		Spain	16100	94.7	0.86	92.1

River	Catchment area [km ²]	Countries	Share in catchment area [km ²]	Population (1990) [%]	LTA* [1000 m ³ /d]	LTA-period [a]
Statistical Information provided by Spain:						
Oyarzun	74	Spain	74	100	0.055	100
Urola	266	Spain	266	100	0.176	100
Oria	860	Spain	860	100	0.020	100
Cadagua		Spain				
Asua		Spain				
Galindo		Spain				
Ibaizabal		Spain				
Urola	342	Spain	342	100	0.082	100
Deva	531	Spain	531	100	0.146	100
Artibay	106	Spain	106	100	0.016	100
Lea	81	Spain	81	100	0.010	100
Oca	132	Spain	132	100	0.022	100
Butron	175	Spain	175	100	0.024	100
Barbadun	135	Spain	135	100	0.020	100
Nervión	1764	Spain	1764	100	0.997	100
Pas	620	Spain	606	97		1 105
Eo	818	Spain	715	87		
Saja	955	Spain	955	100	0.104	100
Nalón	4866	Spain	4866	100	0.539	100
Miera	291	Spain	291	100	0.016	100
Sella	1246	Spain	1246	100	0.035	100
Masma	291	Spain	291	100	0.014	100
Oro	189	Spain	189	100	0.007	100
Landro	270	Spain	270	100	0.017	100
Sor	202	Spain	202	100	0.007	100
Mera	127	Spain	127	100	0.007	100
Forcadas	68	Spain	68	100	0.000	100
Grande de Jubia	182	Spain	182	100	0.004	100
Belelle	60	Spain	60	100	0.003	100
Eume	470	Spain	470	100	0.013	100
Mandeo	457	Spain	457	100	0.039	100
Mero	345	Spain	345	100	0.042	100
Allones	516	Spain	516	100	0.049	100
Grande	283	Spain	283	100	0.002	100
Castro	140	Spain	140	100	0.004	100
Jallas	504	Spain	504	100	0.022	100
Tambre	1530	Spain	1530	100	0.059	100
Furelos		Spain				3828
Deza		Spain				1994-2005
Traba	122	Spain	122	100	0.004	100
Ulla	2803	Spain	2803	100	0.104	100
	156	Spain	156	100		1337
Umia	440	Spain	440	100	0.052	100
Lerez	450	Spain	450	100	0.085	100
Verdugo	334	Spain	334	100	0.021	100
Miño	17247	Spain	16347	94.8	0.881	25716
		Portugal	900	5.2		1975-95
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
		Portugal	11525	17.2		1.912 - 1.995
Piedras	550	Spain	550	100	0.034	100
Odiel	2417	Spain	2417	100	0.211	100
Guadaira		Spain				1 200
Tinto	1727	Spain	1727	100	0.090	100
Guadalquivir	63241	Spain	63241	100	4.966	100
Guadiamar						3423
Guadalete	3360	Spain	3360	100	0.555	100
TOTAL	356726	Spain	301093	84.4	20.907	NI
		Portugal	55515	15.6		70553
		TOTAL	356608	100		

River	Catchment area [km ²]	Countries	Share in catchment area [%]	Population (1990) 2005 [10E6]	LTA* [1000 m ³ /d]	LTA-period [a]
Statistical Information provided by Sweden:						
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
Fylleå (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 ni	50530 1961-1990
		Norway	7450.00	14.80		
	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	-
Conon (SC2b)	NI	-	-	-	NI	NI
Baeuly (SC2b)	NI	-	-	-	NI	NI
Findhorn (SC2b)	NI	-	-	-	NI	NI
Shin (SC2b)	NI	-	-	-	NI	NI
Helmsdale (SC2b)	NI	-	-	-	NI	NI
Naver (SC2b)	NI	-	-	-	NI	NI
Thurso (SC2b)	NI	-	-	-	NI	NI
Brora (SC2b)	NI	-	-	-	NI	NI
Oykel (SC2b)	NI	-	-	-	NI	NI
Nairn (SC2b)	NI	-	-	-	NI	NI
Carron (Sutherland) (SC2b)	NI	-	-	-	NI	NI
Wick (SC2b)	NI	-	-	-	NI	NI
Halladale (SC2b)	NI	-	-	-	NI	NI
Hope (SC2b)	NI	-	-	-	NI	NI
Alness (SC2b)	NI	-	-	-	NI	NI
Cassley (SC2b)	NI	-	-	-	NI	NI
Fleet (SC2b)	NI	-	-	-	NI	NI
Berriedale Water (Sc2b)	NI	-	-	-	NI	NI
Borgie (SC2b)	NI	-	-	-	NI	NI
Forss Water (SC2b)	NI	-	-	-	NI	NI
Loch of Stenness (SC2b)	NI	-	-	-	NI	NI
Glass (SC2b)	NI	-	-	-	NI	NI
Strathy (Sc2b)	NI	-	-	-	NI	NI
Mickle Burn (SC2b)	NI	-	-	-	NI	NI
Dunbeath Water (SC2b)	NI	-	-	-	NI	NI
Spey (SC3)	NI	-	-	-	NI	NI
					5 600	

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
Caron (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
Torrige (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
Cadogton (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 Glywddy (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 (SC2)	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	-		NI	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 (SC2a)	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 Ghriomarstaith	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			NI	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



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Our vision is a clean, healthy and biologically diverse North-East Atlantic Ocean, which is productive, used sustainably and resilient to climate change and ocean acidification.

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