EUROPEAN TOPIC CENTRE
ON WATER

UNDER CONTRACT
TO THE EUROPEAN
ENVIRONMENT
AGENCY

Guidance on Updating of Priority Data Flows for EUROWATERNET – Transitional, Coastal and Marine Waters and the Population of WATERBASE

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1. Introduction

Significant progress has been made in implementing EUROWATERNET as a priority data flow for the collection of European River, Lake and Groundwater data. Data flows for Quantity and Emissions are in their development stages. The EEA also requires timely, targeted, relevant and reliable information on Transitional, Coastal and Marine Waters.

The EEA has already been working closely with the Marine Conventions to initiate data flows and MARINEBASE has been developed as a first step in storing data provided by the Conventions. There is now a need to update the table structures and data held in MARINEBASE for use in the EEA indicator reports and in readiness for the first data flow through the EUROWATERNET process. This database will be renamed WATERBASE-Transitional, Coastal and Marine Waters.

The EUROWATERNET-Transitional, Coastal and Marine Water guidelines detail the content and format of data required from both the Marine Conventions and each country. The station classification system is applied to ensure that data from the same station type is comparable.

It is recognised that whilst countries already make a data supply to the Marine Conventions, the time series are somewhat incomplete. It is not the intention that the EUROWATERNET data flow should require countries to make duplicate supplies of data and so any data already submitted to the Marine Conventions need not be re-supplied through the EUROWATERNET process. It will be requested direct from the Marine Conventions. However, it is necessary to ask each country to supply any missing or additional data. The content and format of the data request is the same for both the Marine Conventions and each country.

2. EUROWATERNET concept

EUROWATERNET is designed to give a representative assessment of water types and human pressures affecting the quality and quantity of water within each Member Country and across the EEA area.

EUROWATERNET is firmly based on existing national and international water monitoring networks. However, there are often large differences in national water monitoring networks because:

- they are established to meet national needs and priorities
- many are only ‘impact’ networks in relation to major point source discharges
- many only monitor nationally large or important water bodies

There are, therefore, very large differences in existing networks in terms of:

- objectives
- water body types monitored
- numbers of monitoring stations
- determinands measured

This is why the implementation of EUROWATERNET has been and will remain a step-by-step process, evolving and extending as national networks develop and change across Europe.

The existing MARINEBASE database represents a "first step in collecting and combining data from various sources into a common framework for presentation of environmental conditions" (MARINEBASE: Technical Report 58, 2001). It closely reflects the data structures and fields used by the Marine Conventions and ICES. Data has been reported in various formats and with different data descriptions. The contents of MARINEBASE were updated in 2001 by data request and exchange with the Marine Conventions and NRCs. There is now a need to revise the structure of MARINEBASE and impose definite requirements on the content and format of data to be included in the database.

The revised MARINEBASE will be renamed WATERBASE-Transitional, Coastal and Marine Waters (TCM) and will focus on data to be used in the production of indicator-based reports and other environmental assessments at both the regional and European scale, requested through the EUROWATERNET data flow procedure. It will also reflect the general format and appearance of the other water datasets. WATERBASE-TCM will have four main elements:

- details of the monitoring stations' physical characteristics
- disaggregated water column, biota and sediment chemical quality data
- details of proxy pressures applicable to each monitoring station, and
- data on riverine and direct input loads

Much of the data stored in the existing version of MARINEBASE is supplemental to the needs of EUROWATERNET and is not specifically required. It is anticipated that the number of look-up tables in the database will be reduced.

It is hoped that there will be continued collaborations with the Marine Conventions in gathering data under EUROWATERNET, in order to prevent countries from making duplicate submissions of data.

3. Water Types - Water Framework Directive definitions

At the very basic level we need to distinguish between transitional, coastal and marine waters. It is logical to use the Water Framework Directive (WFD) definitions for transitional and coastal waters:

"Transitional waters are bodies of surface water in the vicinity of river mouths which are partly saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows."

"'Coastal water' means surface water on the landward side of a line, every point of which is at a distance of one nautical mile on the seaward side from the nearest point of the baseline from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters."

Marine waters would then by default be *"waters seaward of coastal waters"*.

The WFD CIS Working Group 2.4 (COAST) provides further details in "*Guidance on Typology, Reference Conditions and Classification Systems for Transitional and Coastal Waters".*

One key distinguishing physical characteristic of transitional waters (based on the WFD definition) is salinity. The width of coastal waters varies as the baseline from which the breadth of territorial waters is measured differs from country to country. Some include offshore islands as the baseline, which can mean that the coastal water can extend tens of kilometres offshore, and certainly more than the 1 nautical mile limit in the definition. For each monitoring station we require both the distance from the nearest mainland and distance from nearest land (if it is close to an offshore island).

4. Types of Monitoring Station

The definition of the type of monitoring stations to be included in EUROWATERNET Transitional, Coastal and Marine Waters are as follows:

Reference stations would occur in waters that are minimally impacted by human activity.

Reference stations in transitional waters would have catchments or drainage basins with little or no human activity and the percentage of natural landscape would be higher than 90%. They would also be expected to be minimally impacted through inflow of water, which is impacted by human activity, from the adjacent coastal or marine waters.

Reference stations in coastal waters would also be associated with River Basin Districts with little or no human activity and the percentage of natural landscape would be higher than 90%. In addition, it would be expected that the adjacent marine waters with which water is exchanged would be minimally impacted by human activity.

In terms of physico-chemical determinands and hazardous substances (including WFD Priority Substances, Dangerous Substances Directive Lists I and II, and the Marine Conventions' lists of priority substances) that occur naturally, it might be expected that the concentrations measured at these stations would give an indication of 'background levels'.

Transitional, coastal and marine waters remote from the main centres of human activity may of course still be impacted by the atmospheric deposition of contaminants, in particular volatile synthetic substances. In these waters this may be the principal or only pollution source and data from such areas might be used to assess the significance of atmospheric deposition. However, stations in such waters would not qualify as reference stations if the deposited contaminants resulted in a measurable ecological effect.

Representative stations[1] would reflect the general quality of the transitional and coastal water body and marine water area with respect to pressures placed upon them. Stations selected under EUROWATERNET should be representative of the physico-chemical quality elements, such as nutrients and organic pollution indicators, and also representative of hazardous substances, including those detailed on the WFD Priority Substance List, Lists I and II of the Dangerous Substances Directive and the Marine Conventions' lists of priority substances (see Annex 1). The water quality at these stations would be influenced by diffuse and/or point sources of

[1] Harmonised selection methodology and criteria for representative stations in transitional waters, including for example the salinity question for nutrients and other dissolved substances, will be crucial. Guidelines are available from Marine Conventions or ICES.

pollution depending on human activities upstream and in adjacent waters. It would be expected that pollutants from point sources would be fully mixed and diluted within the ambient water flow/volume. These stations may be included within National Networks used to obtain an overview of the numbers and concentrations of hazardous substances present and of the general levels of nutrients and organic pollution indicators. This type of station is likely to be included in 'surveillance' monitoring programmes as required by the WFD. Many of these stations may therefore have a long time series of data.

Under EUROWATERNET Impact an additional type of monitoring station is identified. **Impact stations** are monitoring stations within the zone (area or volume of water) where initial mixing of emissions from a particular discharge or concentrated group of discharges takes place with the receiving waters (sometimes also called 'hot spots'). Concentrations of determinands would be expected to be relatively high ('worst-case' concentrations) at these stations. These stations may be used by the regulatory authorities to assess the compliance of discharges within standards or limits. Thus, monitoring at these stations may in some cases be limited to those substances present within any particular discharge. Stations of this type are likely to be included in 'operational' monitoring programmes as required by the WFD. Many of these stations may therefore have a relatively long time series of data and as such should be included in the EUROWATERNET reporting procedure. Data is not requested from monitoring stations established for ad-hoc purposes, such as for investigative monitoring, and which are sampled for only a limited time period.

Countries should report data from all of the above station types. Comparisons will be made by station type in order that like is compared with like.

5. Number of stations

Our aim is not only to make EUROWATERNET representative of the pressures on transitional, coastal and marine waters but also of the numbers and types of water bodies and areas. This is consistent with the aim of surveillance monitoring under the WFD, which requires the monitoring of "*sufficient water bodies to provide an assessment of the overall surface water status within each catchment or sub-catchments within the River Basin District*."

EU Member States have started the process of typifying their transitional and coastal waters to establish the number of water body types and which will require assessment and/or monitoring under the WFD. As every national River Basin District will require a plan, it is likely that the assessment and/or monitoring of quality in some countries will become more geographically spread at the national level than it is at present.

The EEA is currently reliant on information submitted by the Marine Convention Contracting Parties to ICES and/or Commissions, supplemented by additional national data. It is likely therefore that there is more information available at the national level than is submitted to the Marine Conventions and ICES.

EUROWATERNET will require monitoring data for the specified determinands from **all** representative, reference and impact stations in national transitional and coastal water monitoring programmes except data from investigative monitoring. Ultimately, an assessment will have to be undertaken to determine how representative this information is of the transitional and coastal water bodies at the national level. For example, it will be of use to know how many transitional waters are monitored

compared to the total number of transitional waters in a country or the length of coastal waters monitored as a proportion of the total national coastline.

6. Determinands and supporting information required for EUROWATERNET

It is our aim to make proposals consistent as far as possible with other requirements and initiatives such as the WFD and EUNIS. We will be requesting data from three different environmental compartments: water column, sediment and biota. It will be necessary to know what compartments are sampled at each station. Not all stations will sample all compartments.

The EUROWATERNET data request will be an annual event and the data will ultimately be uploaded annually from the working database (WATERBASE-TCM) to the Reference WATERBASE, along with the other water datasets. In the near future we will also be requesting data on the biological communities of transitional, coastal and marine waters. These aspects will also be simultaneously developed for rivers and lakes.

The following Tables list the information we are requesting under EUROWATERNET-Transitional, Coastal and Marine Waters.

Table 6.1 denotes the physical characteristic data required for each transitional, coastal and marine water monitoring station.

Tables 6.2, 6.3 and 6.4 contain details of the data relating to concentrations of determinands in water column, biota and sediment measured at each station. The concentration values of each determinand are requested.

Table 6.5 contains a list of the proxy pressure information required.

Data should be submitted using Excel spreadsheets or ASCII text files (tab or semi-colon separated) based on the structure and layout of the Excel templates provided. (**EWN_TCM_Concentrations.xls**.)

Table 6.1 Physical characteristics of EUROWATERNET Transitional, Coastal and Marine Water stations (to be submitted only once but updated if appropriate)

Field Name	Description	Type / Format
WATER_TYPE	Water Body Type As defined by the WFD: T = Transitional water C = Coastal water M = Marine water.	Text 1 char
TYPE_DESC	Water Body Type Description Additional water body description, e.g. Estuary, Coastal Lagoon, Embayment.	Text 50 chars
STN_ID	National Station ID Station/sampling area indicator unique at national level. This should be the same ID as previously supplied. A station may be a geographically fixed location. A station may also be a broader area in which actual sampling locations may vary from survey-to-survey. A station may also be an area with a defined salinity range within which samples have to be taken. Areas will however be recorded and reported as a discrete sampling location.	Text 50 chars
STN_ NAME	National Station Name	Text 50 chars
STN_REPORTING	Station Reporting Purpose The monitoring station is used for the following reporting purposes: N = National purposes MC = Marine Conventions EC = European Commission Multiple entries separated by commas allowed (e.g. N,EC).	Text 10 chars
CRY_CD	Country Code ISO3166 two digit country code, see Annex 6.	Text 2 chars
WATER_NAME	Water Body Name	Text 50 chars
SEA_NAME	Marine Water Body Name Consistent with Marine Convention nomenclature.	Text 50 chars
CATCH_NAME	Catchment Name Major river catchment/basin draining into transitional or coastal water.	Text 50 chars
COAST_MAIN	Mainland Coast Distance from nearest mainland coast expressed in kilometres (km).	Number 2 decimal places
COAST_CLOSE	Closest Coast Distance from closest coast expressed in kilometres (km). (If different from COAST_MAIN)	Number 2 decimal places
REGION	Region Region where the transitional or coastal water is located.	Text 50 chars
LONG	Longitude (X) International geographical co-ordinates of the monitoring station/area in decimal degrees format.	Number 5 decimal places
LAT	Latitude (Y) International geographical co-ordinates of the monitoring station/area in decimal degrees format.	Number 5 decimal places

Field Name	Description	Type / Format
STN_TYPE	EUROWATERNET Station Type B = Reference station R(PHYS) = Station representative of general conditions in terms of physico-chemical quality elements (e.g nutrients, organic matter) I(PHYS) = Station impacted directly by discharges affecting physico-chemical conditions R(HZ) = Station representative of general conditions in terms of hazardous substances I(HZ) = Station impacted directly by specific discharges containing hazardous substances Station can be of more than one type – separate entries with commas, e.g. B,R(PHYS).	Text 30 chars
MATRIX	Matrix Environmental compartments measured at station. Any combination of codes: W = Water Column B = Biota S = Sediment Separate entries with commas (e.g. W,B,S).	Text 10 chars
SALINITY_MEAN	Mean Annual Salinity Expressed in practical salinity units (psu).	Number 4 decimal places
SALINITY_MIN	Minimum Annual Salinity Expressed in practical salinity units (psu).	Number 4 decimal places
SALINITY_MAX	Maximum Annual Salinity Expressed in practical salinity units (psu).	Number 4 decimal places
TEMPERATURE	Mean Annual Temperature Expressed in degrees Celsius (^{o}C).	Number 2 decimal places
TIDAL_MEAN	Mean Tidal Range At the transitional or coastal station expressed in metres (m).	Number 2 decimal places
DEPTH	Mean Annual Depth Expressed in metres (m).	Number 2 decimal places
RESIDENCE	Residence Time Of transitional or coastal water body, expressed in number of days.	Integer
MIXING	Mixing Characteristics At transitional water monitoring station: FM = Fully Mixed PM = Partially Mixed VS = Vertically Stratified	Text 2 chars
REMARKS	Remarks Additional comments.	Text 100 chars

Table 6.2 Concentrations of physico-chemical and hazardous substances in water (to be submitted annually)

Field Name	Description	Type / Format
STN_ID	National Station ID Station indicator unique at national level. This should be the same ID as supplied in Table 6.1.	Text 50 chars
CRY_CD	Country Code ISO3166 two digit country code, see Annex 6.	Text 2 chars
YEAR	Year Calendar year when sample was taken (YYYY).	Integer
MONTH	Month Month when sample was taken (1-12).	Integer
DAY	Day Day of month when sample was taken (1-31).	Integer
DEPTH	Sampling depth Expressed in metres (m).	Number 1 decimal
THERM_POS	Vertical Position Relative to Thermocline AT = Above Thermocline IT = In Thermocline BT = Below Thermocline	Text 2 chars
HALO_POS	Vertical Position Relative to Halocline AH = Above Halocline IH = In Halocline BH = Below Halocline	Text 2 chars
SAMPLE_ID	Sample Identifier Unique number required if multiple samples taken within station-country-date-determinand.	Text 8 chars
CAS_No	Chemical Abstract Service Number Of hazardous substance listed in Annex 1.	Text 20 chars
DETERMINAND	Determinand Name of element or chemical component analysed in format as detailed in Annexes 1 and 2.	Text 50 chars
UNIT	Unit of Measurement Hazardous substances listed in Annex 1 expressed in micrograms per litre (µg/l). Physico-chemical substances expressed in format as detailed in Annex 2.	Text 20 chars
CONC	Concentration Of determinand in sample.	Number 4 decimal places
SALINITY	Salinity Of sample or salinity to which sample concentration is normalised, expressed in practical salinity units (psu).	Number 1 decimal place
<LoD	Less than Limit of Detection Flag Flag to indicate sample below analytical limit of detection in format -999.	Integer
LoD	Limit of detection That concentration for which there is a desirably small probability that the determinand will not be detected (usually detected with 95% confidence). Expressed in same units as CONC.	Number 4 decimal places
DTR_LMT	Limit of determination The smallest concentration that can be distinguished from the analytical blank at a chosen level of statistical confidence (usually 95%). Expressed in same units as CONC.	Number 4 decimal places
REMARKS	Remarks Any additional comments.	Text 100 chars

Table 6.3 Concentrations of hazardous substances in biota (to be submitted annually)

Field Name	Description	Type / Format
STN_ID	National Station ID Station indicator unique at national level. This should be the same ID as supplied in Table 6.1.	Text 50 chars
CRY_CD	Country Code ISO3166 two digit country code, see Annex 6.	Text 2 chars
YEAR	Year Calendar year when sample was taken (YYYY).	Integer
MONTH	Month Month when sample was taken (1-12).	Integer
DAY	Day Day of month when sample was taken (1-31).	Integer
SPECIES	Species Code See Annex 4.	Text 8 chars
TISSUE	Tissue Code See Annex 5.	Text 2 chars
SAMPLE_ID	Sample Identifier Unique number required if multiple samples taken within station-country-date-determinand.	Text 8 chars
CAS_No	Chemical Abstract Service Number Of hazardous substances listed in Annex 1.	Text 20 chars
DETERMINAND	Determinand Name of element or chemical component analysed from the list in Annex 1.	Text 50 chars
UNIT	Unit of Measurement Expressed as weight ratio microgrammes per kilogramme dry weight (µg/kg dw) or microgrammes per kilogramme fresh weight (µg/kg fw).	Text 20 chars
BASIS	Basis of Measurement D = Dry W = Wet L = Lipid (fat).	Text 1 char
CONC	Concentration Of determinand in sample.	Number 4 decimal places
<LoD	Less than Limit of Detection Flag Flag to indicate sample below analytical limit of detection in format -999.	Integer
LoD	Limit of detection That concentration for which there is a desirably small probability that the determinand will not be detected (usually detected with 95% confidence). Expressed in same units as CONC.	Number 4 decimal places
DTR_LMT	Limit of determination The smallest concentration that can be distinguished from the analytical blank at a chosen level of statistical confidence (usually 95%). Expressed in same units as CONC.	Number 4 decimal places
DRY_FRESH_RATIO	Ratio of Dry Weight to Fresh Weight Expressed as percentage (%).	Number 2 decimal places
FAT_PRC	Fat Content Expressed as percentage (%) of total dry matter.	Number 2 decimal places
REMARKS	Remarks Any additional comments.	Text 100 chars

Table 6.4 Concentrations of hazardous substances in sediment (to be submitted annually)

Name	Description	Type / Format
STN_ID	National Station ID Station indicator unique at national level. This should be the same ID as supplied in Table 6.1.	Text 50 chars
CRY_CD	Country Code ISO3166 two digit country code, see Annex 6.	Text 2 chars
YEAR	Year Calendar year when sample was taken (YYYY).	Integer
MONTH	Month Month when sample was taken (1-12).	Integer
DAY	Day Day of month when sample was taken (1-31).	Integer
SAMPLE_ID	Sample Identifier Unique number required if multiple samples taken within station-country-date-determinand.	Text 8 chars
CAS_No	Chemical Abstract Service Number Of hazardous substances listed in Annex 1.	Text 20 chars
DETERMINAND	Determinand Name of element or chemical component analysed from the list in Annex 1.	Text 50 chars
UNIT	Unit of Measurement Expressed as weight ratio micrognammes per kilogramme dry weight (µg/kg dw) or micrognammes per kilogramme fresh weight (µg/kg fw).	Text 20 chars
CONC	Concentration Of determinand in sample.	Number 4 decimal places
<LoD	Less than Limit of Detection Flag Flag to indicate sample below analytical limit of detection in format -999.	Integer
LoD	Limit of detection That concentration for which there is a desirably small probability that the determinand will not be detected (usually detected with 95% confidence). Expressed in same units as CONC.	Number 4 decimal places
DTR_LMT	Limit of determination The smallest concentration that can be distinguished from the analytical blank at a chosen level of statistical confidence (usually 95%). Expressed in same units as CONC.	Number 4 decimal places
BOTTOM_DEPTH	Bottom Depth At sampled site expressed in metres (m).	Number 2 decimal places
SAMPLER	Sampling Equipment Used	Text 50 chars
SED_DEPTH_TOP	Top of Analysed Sediment Layer Measured from the sediment surface, expressed in centimetres (cm). Value will be zero if same as sediment surface.	Integer
SED_DEPTH_BOTTOM	Bottom of Analysed Sediment Layer Measured from top of analysed sediment layer, expressed in centimetres (cm).	Integer
ORG_C	Organic Carbon Expressed as percentage (%) of total dry weight.	Number 2 decimal places
GRAIN_TYPE	Sediment Type Sediment type description if no analysis of grain size. M = Mud FS = Fine Sand MS = Middle Sand CS = Coarse Sand G = Gravel	Text 2 chars

Name	Description	Type / Format
FRACTION	Size Fraction Analysed Upper limit of particle size in analysed fraction, expressed in micrometres (µm). Blank if whole sediment has been analysed.	Integer
DRY_WET_RATIO	Ratio of Dry Weight to Wet Weight Expressed as percentage (%).	Number
BASIS	Dry/Wet Weight Result Flag D = Dry Weight W = Wet Weight	Text 1 char
REMARKS	Remarks Any additional comments.	Text 100 chars

Table 6.5 Proxy pressure information required for each monitoring station (to be submitted once and updated if appropriate)

Name	Description	Type / Format
STN_ID	National Station ID Station indicator unique at national level. This should be the same ID as supplied in Table 6.1.	Text 50 chars
CRY_CD	Country Code ISO3166 two digit country code, see Annex 6.	Text 2 chars
POPULATION	Population Density In the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as capita per square kilometre (capita/km^2).	Number 2 decimal places
Land use information based on Corine Land Cover or equivalent		
URBAN	Urban Area Urbanisation in the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as percentage (%).	Number 2 decimal places
WETLAND	Wetland Wetland in the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as percentage (%).	Number 2 decimal places
NATURE	Natural Land Natural land in the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as percentage (%).	Number 2 decimal places
FOREST	Forest Forest in the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as percentage (%).	Number 2 decimal places
AGRI_TOT	Total Agricultural Land Total Agricultural area in the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as percentage (%).	Number 2 decimal places
AGRI_OTHER	Other Agricultural Land Other Agricultural area in the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as percentage (%).	Number 2 decimal places
ARABLE	Arable Land Arable land in the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as percentage (%).	Number 2 decimal places
PASTURE	Pastural Land Pastural land area in the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as percentage (%).	Number 2 decimal places
OTHER	Other Land Use Other land use in the catchment / drainage basin upstream of the transitional water or within the River Basin District to which the coastal water has been assigned. Expressed as percentage (%).	Number 2 decimal places
Other anthropogenic activities (if any)		

Name	Description	Type / Format
SEWAGE_DISCHARGE	Sewage Discharge Direct discharges* from sewage treatment works to the water body. U = UWWT NU = Non-UWWT BU = Both	Text 10 chars
INDUST_DISCHARGE	Industrial Discharge Direct discharges* from industry to the water body. E = EPER NE = Non-EPER BE = Both	Text 10 chars
OTHER_DISCHARGE	Other Discharge Direct discharges* from other sources to the water body. Y = Yes N = No	Text 1 char
OIL_EXTRACT	Oil Extraction Exploration for or extraction of oil. Y = Yes N = No	Text 1 char
GAS_EXTRACT	Gas Extraction Exploration for or extraction of gas. Y = Yes N = No	Text 1 char
SPOIL	Dredged Spoil Disposal Ground Y = Yes N = No	Text 1 char
WASTE	Waste Disposal Ground Y = Yes N = No	Text 1 char
LANDFILL	Landfill Water body directly impacted by leachate from landfill disposal sites. Y = Yes N = No	Text 1 char
MARICULTURE	Mariculture Fish and shellfish farming. Y = Yes N = No	Text 1 char
FISHING	Fishing Commercial fishing activity. Y = Yes N = No	Text 1 char
MARINA	Marina Presence of a marina. Y = Yes N = No	Text 1 char
PORT	Port Presence of port facilities. Y = Yes N = No	Text 1 char
OTHER	Any Other Activities Y = Yes N = No	Text 1 char
REMARKS	Remarks Any additional comments.	Text 100 chars

***** The OSPAR RID Guidelines define *direct discharge* as:

"a mass of a determinand discharged to the maritime area from land-based sources (sewage effluents, industrial effluents or other) per unit of time at a point on a coast or to an estuary downstream of the point at which the riverine estimate of input is made."

7. Riverine loads and direct discharges into marine waters

We also require aggregated information on the riverine loads and the loads from direct discharges to Europe's Seas. This is to be based on the information submitted to the Regional Sea Conventions and is summarised below in Table 7.1. Some of this information is reported on an annual basis (such as for the OSPAR RID programme) whilst information for the Baltic Pollution Load Compilation is only collected on a 5-yearly basis. Our aim is to gain as complete a temporal (years) and spatial (countries and sea regions) coverage as possible.

We are asking for annually aggregated load information for each river station used in calculating riverine loads entering your sea (see Table 7.2). We require the national station identifiers and details of the sea area into which the river discharges, along with details of the regional sea that it is part of (e.g. Celtic Sea, Bothnian Bay). We are also asking for the average discharge/flow at each river station for each year (either measured or calculated), and the long term annual averages for each station (see Table 7.3). The flow information is required in order to interpret the riverine load data. For direct discharges we are requesting annually aggregated load data for each sea area. Thus the identifier used for the sea area in terms of direct discharges **must** equate to the identifier used for sea area into which the riverine load discharges. This is to ensure that we can relate riverine loads to direct discharge loads.

As for the EUROWATERNET data, this information will be used to formulate indicators for use in the EEA's assessments and reports.

It should be noted that the EEA/ETC-WTR has developed EUROWATERNET-Emissions, which will be used in the future to collect disaggregated source-oriented information on pollutant loads to surface waters. This will eventually be used to supplement the load information requested here. EUROWATERNET-Emissions is also consistent with the requirements of the IPPC Directive (e.g. for an EPER) and with the HARP initiative.

We ask that each country supplies data using the templates provided (**EWN_TCM_Inputs.xls**). Each template refers to one Marine Convention and details the relevant countries and sea areas for which data is required.

Table 7.1 Determinands required for riverine and direct load assessments for Marine Conventions

Determinand	Units	OSPAR RID	HELCOM PLC	MAP	Black Sea
Nitrate	Tonnes/yr	✔M	✔M1, V4		✔
Nitrite	Tonnes/yr		✔V		✔
Orthophosphate	Tonnes/yr	✔M	✔M1, V4		✔
Total nitrogen	Tonnes/yr	✔M	✔M6	✔1, 2, 7, 8	✔
Total phosphorus	Tonnes/yr	✔M	✔M6	✔1, 2, 7, 8	✔
Ammonia	Tonnes/yr	✔M	✔M1, V4		✔
Total mercury	kg/yr	✔M	✔M	✔1, 2, 7	
Total cadmium	kg/yr	✔M	✔M		✔
Total zinc	kg/yr	✔M	✔M	✔1, 2, 7	
Total lead	kg/yr	✔M	✔M	✔1, 2, 7	✔
Copper	kg/yr		✔M		✔
Nickel	kg/yr		✔M2, V5		
Chromium	kg/yr		✔M2, V5	✔1, 2, 7	
Gamma-HCH	kg/yr	✔M			
Suspended particulate matter	Tonnes/yr	✔M	✔ V1, M3	✔1, 2, 7, 8	✔
Salinity (in saline waters)	psu	✔M			
Flow	m^3/sec	✔			
Volume				✔1, 2, 7, 8	
Hydrocarbons	Tonnes/yr	✔R (PAHs[2] and mineral oil[3] strongly recommended)		✔1, 2, 7	✔
PCBs (the following congeners: IUPAC Nos 28, 52, 101, 118, 153, 138, 180);	kg/yr	✔R			
Other hazardous substances (particularly organohalogen compounds)	kg/yr	✔R		✔1, 8	
BOD-7	Tonnes/yr		✔M		
BOD-5				✔1, 2, 7, 8	✔
COD-Mn	Tonnes/yr		✔V1		
COD-Cr	Tonnes/yr		✔M2	✔1, 2, 7, 8	
TOC	Tonnes/yr		✔V	✔8	
AOX	Tonnes/yr		✔V1, M2		
Radioactivity				✔1, 2	

RID OSPAR's Comprehensive Study on Riverine Inputs and Direct Discharges
PLC3 HELCOMS Pollution Load Compilation 1995
MAP Survey of pollutants from land-based sources in the Mediterranean
M Mandatory
R Recommended
V Voluntary
1 Riverine inputs
2 Industrial effluents
3 Untreated municipal or industrial effluents
4 Municipal and industrial effluents
5 Riverine inputs and municipal effluents
6 Includes diffuse inputs from the coastal zone
7 Domestic sewage
8 Agricultural run-off

[2] These are as follows: phenanthrene, anthracene, fluoranthene, pyrene, benzo[*a*]anthracene, chrysene, benzo[*a*]pyrene, benzo[*ghi*]perylene, indeno[*1,2,3-cd*]pyrene.
[3] Provided that a suitable method is available.

Table 7.2 Yearly riverine input loads

Field Name	Description	Type / Format
CRY_CD	Country Code ISO3166 two digit country code, see Annex 6.	Text 2 chars
YEAR	Year Of aggregation period.	Integer
STN_ID	National Station ID Station/sampling area indicator unique at national level.	Text 50 chars
LONG	Longitude (X) International geographical co-ordinates of the monitoring station in decimal degrees format.	Number 5 decimal places
LAT	Latitude (Y) International geographical co-ordinates of the monitoring station in decimal degrees format.	Number 5 decimal places
STN_ NAME	National Station Name	Text 50 chars
RIVER_NAME	River Name In which loads are measured.	Text 50 chars
CATCH_NAME	Catchment Name Major river catchment or river basin name.	Text 50 chars
SEA_AREA_NAME_ID	Sea Area Name or ID Into which river discharges.	Text 50 chars
SEA_REGION_NAME	Regional Sea Name Of which Sea Area is a part of.	Text 50 chars
SEA_CONVENTION_AREA	Marine Convention Sea Area Name	Text 50 chars
Estimate	Estimate Lower estimate based on treating determinand values that are less than the limits of detection as zero. Upper estimate based on treating determinand values that are less than the limits of detection as values equivalent to the limit of detection value.	Number 4 decimal places
Nitrate	Nitrate Load of Nitrate expressed in kilotonnes (kt).	Number 4 decimal places
Nitrite	Nitrite Load of Nitrite: expressed in kilotonnes (kt).	Number 4 decimal places
Orthophosphate	Orthophosphate Load of Orthophosphate: expressed in kilotonnes (kt).	Number 4 decimal places
Total Nitrogen	Total Nitrogen Load of Total Nitrogen expressed in kilotonnes (kt).	Number 4 decimal places
Total Phosphorus	Total Phosphorus Load of Total Phosphorus expressed in kilotonnes (kt).	Number 4 decimal places
Ammonia	Ammonia Load of Ammonia expressed in kilotonnes (kt).	Number 4 decimal places
Total Mercury	Total Mercury Load of Total Mercury expressed in tonnes (t).	Number 4 decimal places
Total Cadmium	Total Cadmium Load of Total Cadmium expressed in tonnes (t).	Number 4 decimal places
Total Zinc	Total Zinc Load of Total Zinc expressed in tonnes (t).	Number 4 decimal places
Total Lead	Total Lead Load of Total Lead expressed in tonnes (t).	Number 4 decimal places

Field Name	Description	Type / Format
Copper	Copper Load of Copper expressed in tonnes (t).	Number 4 decimal places
Nickel	Nickel Load of Nickel expressed in tonnes (t).	Number 4 decimal places
Chromium	Chromium Load of Chromium expressed in tonnes (t).	Number 4 decimal places
Gamma-HCH	Gamma-HCH Load of Gamma-HCH expressed in tonnes (t).	Number 4 decimal places
Suspended Particulate Matter	Suspended Particulate Matter Load of Suspended Particulate Matter expressed in tonnes (t).	Number 4 decimal places
Hydrocarbons	Hydrocarbons Load of Hydrocarbons expressed in kilotonnes (kt).	Number 4 decimal places
Detergents	Detergents Load of Detergents expressed in kilotonnes (kt).	Number 4 decimal places
Phenols	Phenols Load of Phenols expressed in kilotonnes (kt).	Number 4 decimal places
PCB-28	PCB-28 Load of PCB-28 expressed in tonnes (t).	Number 4 decimal places
PCB-52	PCB-52 Load of PCB-52 expressed in tonnes (t).	Number 4 decimal places
PCB-101	PCB-101 Load of PCB-101 expressed in tonnes (t).	Number 4 decimal places
PCB-118	PCB-118 Load of PCB-118 expressed in tonnes (t).	Number 4 decimal places
PCB-153	PCB-153 Load of PCB-153 expressed in tonnes (t).	Number 4 decimal places
PCB-138	PCB-138 Load of PCB-138 expressed in tonnes (t).	Number 4 decimal places
PCB-180	PCB-180 Load of PCB-180 expressed in tonnes (t).	Number 4 decimal places
Total PCBs	Total PCBs Load of Total PCBs expressed in tonnes (t).	Number 4 decimal places
Other Hazardous Substances	Other Hazardous Substances Load of Other Hazardous Substances expressed in tonnes (t). Provide name and CAS No of any additional hazardous substances monitored.	Number 4 decimal places
BOD-7	BOD-7 Load of BOD-7 expressed in kilotonnes (kt).	Number 4 decimal places
BOD-5	BOD-5 Load of BOD-5 expressed in kilotonnes (kt).	Number 4 decimal places
COD-Mn	COD-Mn Load of COD-Mn expressed in kilotonnes (kt).	Number 4 decimal places
COD-Cr	COD-Cr Load of COD-Cr expressed in kilotonnes (kt).	Number 4 decimal places

Field Name	Description	Type / Format
Total Organic Carbon	Total Organic Carbon Load of Total Organic Carbon expressed in kilotonnes (kt).	Number 4 decimal places
Organic Compounds	Organic Compounds Load of Organic Compounds expressed in kilotonnes (kt).	Number 4 decimal places
Tritium	Tritium Load of Tritium expressed in Becquerels (Bq).	Number 4 decimal places
Radionuclides	Radionuclides Load of Radionuclides expressed in Becquerels (Bq). Provide name of any additional radionuclides monitored.	Number 4 decimal places
Average Riverine flow for the Year	Average Riverine flow for the Year Expressed in cubic metres per second (m^3/sec).	Number 2 decimal places
Long Term Annual Average Riverine Flow	Long Term Annual Average Riverine Flow Expressed in cubic metres per second (m^3/sec).	Number 2 decimal places
Remarks	Remarks Additional comments.	Text 100 chars

Table 7.3 Yearly direct discharges

Field Name	Description	Type / Format
CRY_CD	Country Code ISO3166 two digit country code, see Annex 6.	Text 2 chars
YEAR	Year Of aggregation period.	Integer
SEA_AREA_NAME_ID	Sea Area Name or ID Into which river discharges.	Text 50 chars
SEA_REGION_NAME	Regional Sea Name Of which Sea Area is a part of.	Text 50 chars
SEA_CONVENTION_AREA	Marine Convention Sea Area Name	Text 50 chars
Estimate	Estimate Lower estimate based on treating determinand values that are less than the limits of detection as zero. Upper estimate based on treating determinand values that are less than the limits of detection as values equivalent to the limit of detection value.	Number 4 decimal places
Nitrate	Nitrate Direct Discharges of Nitrate expressed in kilotonnes (kt).	Number 4 decimal places
Nitrite	Nitrite Direct Discharges of Nitrite: expressed in kilotonnes (kt).	Number 4 decimal places
Orthophosphate	Orthophosphate Direct Discharges of Orthophosphate: expressed in kilotonnes (kt).	Number 4 decimal places
Total Nitrogen	Total Nitrogen Direct Discharges of Total Nitrogen expressed in kilotonnes (kt).	Number 4 decimal places
Total Phosphorus	Total Phosphorus Direct Discharges of Total Phosphorus expressed in kilotonnes (kt).	Number 4 decimal places
Ammonia	Ammonia Direct Discharges of Ammonia expressed in kilotonnes (kt).	Number 4 decimal places
Total Mercury	Total Mercury Direct Discharges of Total Mercury expressed in tonnes (t).	Number 4 decimal places
Total Cadmium	Total Cadmium Direct Discharges of Total Cadmium expressed in tonnes (t).	Number 4 decimal places
Total Zinc	Total Zinc Direct Discharges of Total Zinc expressed in tonnes (t).	Number 4 decimal places
Total Lead	Total Lead Direct Discharges of Total Lead expressed in tonnes (t).	Number 4 decimal places
Copper	Copper Direct Discharges of Copper expressed in tonnes (t).	Number 4 decimal places
Nickel	Nickel Direct Discharges of Nickel expressed in tonnes (t).	Number 4 decimal places
Chromium	Chromium Direct Discharges of Chromium expressed in tonnes (t).	Number 4 decimal places
Gamma-HCH	Gamma-HCH Direct Discharges of Gamma-HCH expressed in tonnes (t).	Number 4 decimal places
Suspended Particulate Matter	Suspended Particulate Matter Direct Discharges of Suspended Particulate Matter expressed in tonnes (t).	Number 4 decimal places
Hydrocarbons	Hydrocarbons Direct Discharges of Hydrocarbons expressed in kilotonnes (kt).	Number 4 decimal places

Field Name	Description	Type / Format
Detergents	Detergents Direct Discharges of Detergents expressed in kilotonnes (kt).	Number 4 decimal places
Phenols	Phenols Direct Discharges of Phenols expressed in kilotonnes (kt).	Number 4 decimal places
PCB-28	PCB-28 Direct Discharges of PCB-28 expressed in tonnes (t).	Number 4 decimal places
PCB-52	PCB-52 Direct Discharges of PCB-52 expressed in tonnes (t).	Number 4 decimal places
PCB-101	PCB-101 Direct Discharges of PCB-101 expressed in tonnes (t).	Number 4 decimal places
PCB-118	PCB-118 Direct Discharges of PCB-118 expressed in tonnes (t).	Number 4 decimal places
PCB-153	PCB-153 Direct Discharges of PCB-153 expressed in tonnes (t).	Number 4 decimal places
PCB-138	PCB-138 Direct Discharges of PCB-138 expressed in tonnes (t).	Number 4 decimal places
PCB-180	PCB-180 Direct Discharges of PCB-180 expressed in tonnes (t).	Number 4 decimal places
Total PCBs	Total PCBs Direct Discharges of Total PCBs expressed in tonnes (t).	Number 4 decimal places
Other Hazardous Substances	Other Hazardous Substances Direct Discharges of Other Hazardous Substances expressed in tonnes (t). Provide name and CAS No of any additional hazardous substances monitored.	Number 4 decimal places
BOD-7	BOD-7 Direct Discharges of BOD-7 expressed in kilotonnes (kt).	Number 4 decimal places
BOD-5	BOD-5 Direct Discharges of BOD-5 expressed in kilotonnes (kt).	Number 4 decimal places
COD-Mn	COD-Mn Direct Discharges of COD-Mn expressed in kilotonnes (kt).	Number 4 decimal places
COD-Cr	COD-Cr Direct Discharges of COD-Cr expressed in kilotonnes (kt).	Number 4 decimal places
Total Organic Carbon	Total Organic Carbon Direct Discharges of Total Organic Carbon expressed in kilotonnes (kt).	Number 4 decimal places
Organic Compounds	Organic Compounds Direct Discharges of Organic Compounds expressed in kilotonnes (kt).	Number 4 decimal places
Tritium	Tritium Direct Discharges of Tritium expressed in Becquerels (Bq).	Number 4 decimal places
Radionuclides	Radionuclides Direct Discharges of Radionuclides expressed in Becquerels (Bq). Provide name of any additional radionuclides monitored.	Number 4 decimal places
Volume for the Year	Volume for the Year Expressed in cubic metres (m^3).	Number 2 decimal places
Long Term Annual Discharge Volume	Long Term Annual Discharge Volume Expressed in cubic metres per second (m^3/sec).	Number 2 decimal places
Remarks	Remarks Additional comments.	Text 100 chars

8. Delivery of Data Files

Preferably the supplied templates should be used for data exchange.

Data files for the EUROWATERNET Transitional, Coastal and Marine Water priority data flow should be uploaded to the national repository of your country.This is the delivery point for all national data requested under EIONET priority data flows.

Your national repository is either your country's folder in the Central Data Repository or a designated CIRCLE Interest Group on your national EIONET server. This depends on the choice of your country for delivering EIONET priority data. Please see the result of the repository choice on the EIONET portal.

If your country has opted for the Central Data Repository (CDR) EUROWATERNET data deliveries have to be uploaded to your country's folder under EEA Requests.The online Help ('Help Area' button) explains how to create new envelopes and upload data files.

If your country has chosen to deliver the EIONET priority data to the CIRCLE Interest Group on the national EIONET server, EUROWATERNET deliveries should be uploaded to the appropriate library sub-section.Use the 'File Upload' button to upload the data files.

File upload permissions to country folders on the CDR or to the national CIRCLE Interest Group for data deliveries are organised by the National Focal Point (NFP).Please contact your NFP if you have a question.

9. Timetable

The data and information obtained through EUROWATERNET is required for the formulation of indicators that will be used in a number of EEA reports including:

- Environmental Signals
- Water Indicator Report

The schedule for the update of EUROWATERNET and for the production of factsheets for the above reports is outlined below.

	Nov 02	Dec	Jan 03	Feb	Mar	Apr	May	Jun	Jul
Letter requesting data sent to NFPs	◆								
EUROWATERNET update									
Deadline for updated data from countries			◆						
Inclusion of data into database and validation procedure									
Draft fact sheets									
NFP comments on factsheets									

MARINEBASE will be updated with the data collected through the EUROWATERNET process and will be used in the production of factsheets for upcoming reports.

10. Summary

In summary, this is what is requested from you, as the data supplier:

1. The application of the EUROWATERNET criteria described in this paper to your national monitoring networks for the identification and selection of transitional, coastal and marine waters for inclusion in WATERBASE-TCM and ultimately Reference WATERBASE.

2. The submission of your national information on transitional, coastal and marine waters to the ETC/WTR electronically, preferably using the Central Data Repository on CIRCLE or on your national EIONET server. If the latter option is used please notify the ETC/WTR core team of the location of the information and arrange for access to be obtained. Excel templates will be provided, detailing the preferred data exchange formats.

3. The most recent quality data available, ideally from **2001** should be submitted. In addition, for each selected transitional, coastal and marine water we need data from as many previous years as are available and/or comparable in order to produce as **long a time series** as possible.

4. Confirmation that you have received the data request letter for submission of EUROWATERNET transitional, coastal and marine water data by **15 November 2002**.

5. Receipt of your national EUROWATERNET data by **31 January 2003**.

For any **further information** on these guidelines or for technical assistance please contact Steve Nixon of the **ETC/WTR Core Team**, based at the Water Research Centre, Swindon, UK. Contact details below.

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fax: +44 1793 865001
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Annex 1 Priority Substances identified by the Water Framework Directive, Lists I and II of the Dangerous Substances Directive and by the Marine Conventions

WFD_PS Water Framework Directive Priority Substance
WFD_PHS Water Framework Directive Priority Hazardous Substance
WFD_PSR Water Framework Directive Priority Substance under Review
DSD Dangerous Substances Directive

HELCOM, OSPAR } Priority substances as listed by HELCOM and OSPAR

CAS No	Substance	WFD_PS	WFD_PHS	WFD_PSR	DSD	HELCOM	OSPAR
	Aliphatic Hydrocarbons						
4904-61-4	1,5,9 cyclododecatriene						✓
294-62-2	Cyclododecane						✓
	Brominated diphenylethers		✓				
1163-19-5	Bis(pentabromophenyl) ether						
32536-52-0	Diphenyl ether, octabromo deviate						
32534-81-9	Diphenyl ether, pentabromo derivative						
	Metallic Compounds						
7440-43-9	Cadmium and its compounds		✓		✓	✓	✓
7440-47-3	Chromium and its compounds					✓	✓
7440-50-8	Copper and its compounds				✓		
7439-92-1	Lead and its compounds			✓	✓	✓	✓
7439-97-6	Mercury and its compounds		✓		✓	✓	✓
7440-02-0	Nickel and its compounds	✓			✓		
7782-49-2	Selenium and its compounds					✓	
7440-66-6	Zinc and its compounds				✓		
	Organic Ester						
51000-52-3	Neodecanoic acid, ethanyl ester						✓
	Organic Nitrogen Compound						
55525-54-7	3,3'-(ureylenedimethylene)bis(3,5,5-trimethylcyclohexyl) diisocyanate						
793-24-8	4-(dimethylbutylamino) diphenylamin (6PPD)						✓
	Organohalogens						
79-94-7	Tetrabromobisphenol A (TBBP-A)						✓
77-47-4	Hexachlorocyclopentadiene (HCCP)						✓
87-61-6	(1,2,3-trichlorobenzene)			✓			✓
120-82-1	(1,2,4-trichlorobenzene)			✓			✓
108-70-3	(1,3,5-trichlorobenzene)			✓			✓
85535-84-8	C_{10-13}-Chloralkanes		✓			✓	✓
67-66-3	Trichloromethane	✓			✓	✓	
85-22-3	Pentabromoethylbenzene						✓
2440-02-0	Heptachloronorbornene						✓
1825-21-4	Pentachloroanisole						✓
36065-30-2	2,4,6-bromophenyl 1-2(2,3-dibromo-2-methylpropyl)						✓
	Polychlorinated naphthalenes:						
1321-65-9	Trichloronaphthalene						✓
1335-88-2	Tetrachloronaphthalene						✓
1321-64-8	Pentachloronaphthalene						✓
1335-87-1	Hexachloronaphthalene						✓
32241-08-0	Heptachloronaphthalene						✓
2234-13-1	Octachloronaphthalene						✓
70776-03-3	Naphthalene, chloro derivatives			✓	✓		✓
	Organophosphate						

CAS No	Substance	WFD_PS	WFD_PHS	WFD_PSR	DSD	HELCOM	OSPAR
603-35-0	Triphenyl phosphine						✓
	Organosilicane						
107-46-0	Hexamethyldisiloxane (HMDS)						✓
	Organotin Compounds						
36643-28-4	(TBT-ion)		✓				
688-73-3	Tributyltin compounds		✓		✓		✓
	Pesticides and Biocides						
106-93-4	1,2-Dibromoethane					✓	
93-76-5	2,4,5-T					✓	
107-13-1	Acrylonitrile					✓	
309-00-2	Aldrin				✓	✓	
140-57-8	Aramite					✓	
319-86-8	beta-HCH					✓	
57-74-9	Chlordane					✓	
1034-41-9	Chlordecone (Kepone)					✓	
6164-98-3	Chlordimeform					✓	
789-02-6	DDT, o,p'				✓	✓	
50-29-3	DDT, p,p'				✓	✓	
72-55-9	DDE, p, p'				✓		
72-54-8	DDD, p, p'				✓		
53-19-0	DDD, o, p'				✓		
60-57-1	Dieldrin				✓	✓	
72-20-8	Endrin				✓	✓	
144-49-0	Fluoroacetic acid and derivatives					✓	
608-73-1	Hexachlorocyclohexane		✓			✓	✓
58-89-9	(gamma-isomer, Lindane)		✓		✓	✓	✓
76-44-8	Heptachlor					✓	
118-74-1	Hexachlorobenzene		✓		✓	✓	
297-78-9	Isobenzane					✓	
465-73-6	Isodrin				✓	✓	✓
4234-79-1	Kelevan					✓	
2385-85-5	Mirex					✓	
4636-83-3	Morfamquat					✓	
1836-75-5	Nitrophen					✓	
87-86-5	Pentachlorophenol			✓	✓	✓	✓
82-68-8	Quintozene					✓	
8001-35-2	Toxaphene					✓	
115-32-2	Dicofol						✓
115-29-7	Endosulfan			✓			✓
959-98-8	(alpha-Endosulfan)			✓	✓		
72-43-5	Methoxychlor						✓
1582-09-8	Trifluralin			✓	✓		✓
2104-64-5	Ethyl O-(p-nitrophenyl) phenyl phosphonothionate (EPN)						✓
70124-77-5	Flucythrinate						✓
2227-13-6	Tetrasul						
	Pharmaceutical						
512-04-9	Diosgenin						✓
23593-75-1	Clotrimazole						✓
	Phenols						✓
9016-45-9	Nonylphenolethoxylate & degradation/transformation products					✓	
84852-15-3	Nonylphenol, 4-					✓	
732-26-3	2,4,6-tri-tert-butylphenol						✓
1806-26-4	Octylphenols			✓			
140-66-9	(para-tert-octylphenol)						✓
25154-52-3	Nonylphenols		✓				
104-40-5	(4-(para)-nonylphenol)						
8452-15-3	(4-nonylphenol, branched)						
	Phthalate Esters						
	Diethylhexylphthalate					✓	
84-74-2	Dibutylphthalate			✓		✓	
117-81-7	Di (2-ethylhexyl) phthalate (DEHP)			✓		✓	
84-66-2	Di-ethyl phthalate			✓			
84-69-5	Di-iso-butyl phthalate			✓			

CAS No	Substance	WFD_PS	WFD_PHS	WFD_PSR	DSD	HELCOM	OSPAR
85-68-7	Butyl benzyl phthalate (BBP)			✓			
	Polycyclic Aromatic Hydrocarbons		✓			✓	✓
50-32-8	(benzo-a-pyrene)						
205-99-2	(benzo-b-fluoranthene)						
191-24-2	(benzo-g,h,i-perylene)						
207-08-9	(benzo-k-fluoranthene)						
206-44-0	(fluoroanthene)						
193-39-5	(indeno(1,2,3-cd) pyrene)						
98-51-1	4-tert-butyltoluene						✓
	Polycyclic Halogenated Aromatic Compounds						
36355-01-8	Hexabromobiphenyl					✓	
1336-36-3	Polychlorinated biphenyls				✓	✓	✓
7012-37-5	2,4,4'-trichlorobiphenyl (CB28)						
35693-99-3	2,2',5,5'-tetrachlorobiphenyl (CB52)						
32598-13-3	3,3',4,4'-tetrachlorobiphenyl (CB77)				✓		
37680-73-2	2,2',4,5,5'-pentachlorobiphenyl (CB101)						
32598-14-4	2,3,3',4,4'-pentachlorobiphenyl (CB105)						
31508-00-6	2,3',4,4',5-pentachlorobiphenyl (CB118)				✓		
35065-28-2	2,2',3,4,4',5'-hexachlorobiphenyl (CB138)						
35065-27-1	2,2',4,4',5,5'-hexachlorobiphenyl (CB153)						
38380-08-4	2,3,3',4,4',5-hexachlorobiphenyl (CB156)						
32774-16-6	3,3',4,4',5,5' HexCB (PCB169)				✓		
35065-29-3	2,2',3,4,4',5,5'-heptachlorobiphenyl (CB180)						
2051-24-3	5,5',6,6'-decachlorobiphenyl (CB209)						
106-43-4	PCT (mixtures)					✓	
1746-01-6	TCDD (dioxins & furans)					✓	
	Brominated flame retardants						✓
	Polychlorinated dibenzodioxins (PCDD)					✓	✓
136677-10-6	Polychlorinated dibenzofurans (PCDF)					✓	✓
	Synthetic Musk						
81-15-2	Musk xylene					✓	✓
15972-60-8	Alachlor	✓					
120-12-7	Anthracene			✓	✓		
1912-24-9	Atrazine			✓	✓		
71-43-2	Benzene	✓			✓		
470-90-6	Chlorfenvinphos	✓					
2921-88-2	Chlorpyrifos			✓			
107-06-2	1,2-Dichloroethane	✓			✓		
75-09-2	Dichloromethane	✓			✓		
919-86-8	Demeton-S-methyl				✓		
62-73-7	Dichlorvos				✓		
60-51-5	Dimethoate				✓		
330-54-1	Diuron	✓					
87-68-3	Hexachlorobutadiene		✓		✓		
34123-59-6	Isoproturon	✓					
330-55-2	Linuron				✓		
608-93-5	Pentachlorobenzene		✓				
122-34-9	Simazine	✓			✓		
12002-48-1	Trichlorobenzenes			✓	✓		

Annex 2 Physico-chemical determinands required for chemical quality

Determinand	Abbreviation	Unit	Water Body[1]
BOD5	BOD5	µMol O_2	T
BOD7	BOD7	µMol O_2	T
Chlorophyll a	Chl-a	µg/l	T, C, M
COD	COD	µMol O_2	T
Dissolved Oxygen[2]	O_2	µMol O_2	T, C, M
Nitrate	NO_3 -N	µMol N	T, C, M
Nitrate to Orthophosphate ratio	NO_3 /PO_4	Molar ratio	T, C, M
Organic Nitrogen	mg/l N	µMol N	T, C, M
Orthophosphate	PO_4 –P	µMol P	T, C, M
Oxygen Saturation[2]	O_2	%	T, C, M
Silicate	SiO_3 -Si	µMol Si	T, C, M
Total Ammonium	NH_4 -N	µMol N	T, C, M
Total Nitrogen	TOT-N	µMol N	T, C, M
Total Nitrogen to Total Phosphorus ratio	TOT-N /TOT-P	Molar ratio	T, C, M
Total Organic Carbon	TOC	µMol C	T
Total Oxidised Nitrogen	NO_3 -N + NO_2 -N	µMol N	T, C, M
Total Phosphorus	TOT-P	µMol P	T, C, M

[1] **Water Body:**
T = Transitional water
C = Coastal water
M = Marine water

[2] Particularly in relation to measuring and detecting low oxygen concentrations in bottom layers of water.

Annex 4 Species Codes used in sampling of biota

Biota data should use the Species Codes detailed in this list, based on the ICES coding method of the first four characters of the genus name followed by a space and the first three characters of the species name. The primary list is based on the recommended species for the different Marine Conventions. Please also include data for other species that are included in long-term monitoring programmes, using the same coding convention as detailed above.

Species Code	Systematic Name	English Name	MC[1]
ARIS ANT	Aristeus antennatus	Blue and red shrimp	M
BOOP BOO	Boops boops	Bogue	M
CLUP HAR	Clupea harengus	Atlantic herring	B
CRAS GIG	Crassostrea gigas	Giant cupped oyster	O
GADU MOR	Gadus morhua	Atlantic cod	B, O
FUCU VES	Fucus vesiculosis	Bladder wrack	B
LIMA LIM	Limanda limanda	Common dab	O
MACO BAL	Macoma balthica	Baltic tellin	B
MERL MCC	Merluccius merluccius	European hake	M, O
MERL MNG	Merlangius merlangus	Whiting	O
MULL BAR	Mullus barbatus	Red mullet	M
MULL SUR	Mullus surmuletus	Striped red mullet	M
MYTI EDU	Mytilus edulis	Common mussel	B, O
MYTI GAL	Mytilus galloprovincialis	Mediterranean mussel	M
NEPH NOR	Nephrops norvegicus	Norway lobster	M, O
PERC FLU	Perca fluviatilis	Perch	B
PLAT FLE	Platichthys flesus	European flounder	B, O
SADU ENT	Saduria entomon		B
THUN THY	Thunnus thynnus	Northern bluefin tuna	M
ZOAR VIV	Zoarces viviparus	Vivparous blenny	B

[1] **MC** **Marine Convention**
B = Baltic, HELCOM Combine programme
M =Mediterranean MAP
O = OSPAR, JAMP

Annex 5 Tissue Codes used in sampling of biota

Biota data should be reported using the Tissue Codes in this list.

Tissue Code	English Name
LI	Liver
MU	Muscle
SB	Soft parts (homogenised whole body without carapace or shell)
WO	Whole body

Annex 6 Selected ISO Country codes

The Country Code should be reported using the ISO 3166 A2 codes in this list.

Official name of country	ISO A2
Albania	AL
Armenia	AM
Austria	AT
Azerbaijan	AZ
Belarus	BY
Belgium	BE
Bosnia and Herzegovina	BA
Bulgaria	BG
Croatia	HR
Cyprus	CY
Czech Republic	CZ
Denmark	DK
Estonia	EE
Finland	FI
France	FR
Georgia	GE
Germany	DE
Gibraltar	GI
Great Britain	GB
Greece	GR
Hungary	HU
Iceland	IS
Ireland	IE
Italy	IT
Kazakstan	KZ
Kyrgyzstan	KG
Latvia	LV
Liechtenstein	LI
Lithuania	LT
Luxembourg	LU
Macedonia, the Former Yugoslav Republic of	MK
Malta	MT
Moldova, Republic of	MD
Netherlands	NL
Norway	NO
Poland	PL
Portugal	PT
Romania	RO
Russian Federation	RU
Slovakia	SK
Slovenia	SI
Spain	ES
Sweden	SE
Switzerland	CH
Tajikistan	TJ
Turkey	TR
Turkmenistan	TM
Ukraine	UA
Uzbekistan	UZ
Yugoslavia	YU