



UNDER CONTRACT
TO THE EUROPEAN
ENVIRONMENT
AGENCY

**Guidance on Updating of
Priority Data Flows through
EUROWATERNET and the
Population of Waterbase**

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1. INTRODUCTION

This paper contains guidance on the updating of priority data flows obtained through EUROWATERNET and the subsequent inclusion of data and information on rivers, lakes (reservoirs) and groundwaters into WATERBASE.

The data and information obtained through EUROWATERNET is required for updating the dataflows and datasheets associated with the EEA's core set of indicators and for the Environmental Signals 2003.

Guidelines for the implementation of EUROWATERNET have been published by the EEA [in Technical Report No. 7 \(1998\)](#). These are due to be updated early in 2003 to take into account the requirements of the Water Framework Directive and the EEA's need to develop data flows for biological quality elements.

The deadline for the update of EUROWATERNET is **31 December 2002**. A further request for updating EUROWATERNET data flows for transitional, coastal and marine waters will be made by 21 October 2002. The deadline for return of the latter data will be 5 January 2003.

2. DATA REQUIRED

The data required at present for EUROWATERNET-Basic is summarised below.

Rivers:	Nutrients (all those available from: nitrate, nitrite, organic nitrogen, soluble reactive phosphorus or orthophosphate, total ammonium, total inorganic nitrogen, total oxidised nitrogen, total nitrogen, total phosphorus) Chlorophyll a pH Organic pollution indicators (all those available from: biochemical oxygen demand, chemical oxygen demand, dissolved oxygen, oxygen saturation, total organic carbon) Water flow
Lakes:	Nutrients (all those available from: nitrate, nitrite, soluble reactive phosphorus or orthophosphate, total ammonium, total inorganic nitrogen, total oxidised nitrogen, total nitrogen, total phosphorus) Chlorophyll a pH Organic pollution indicators (all those available from: biochemical oxygen demand, chemical oxygen demand, dissolved oxygen, oxygen saturation, total organic carbon) Secchi disc depth Alkalinity Conductivity
Groundwater:	General characteristics of GW-bodies GIS-maps with supportive information Nitrate Total ammonium Nitrite Dissolved oxygen

The data required at present for EUROWATERNET-Impact is summarised below.

Rivers and Lakes:	Water Framework Directive Priority Substances and other monitored hazardous substances
Groundwater:	Pesticides that are Water Framework Directive Priority Substances + Pesticides which are supposed to be most important (in terms of endangering groundwater)

3. UPDATE OF EUROWATERNET-BASIC FOR RIVERS IN YOUR COUNTRY

Most countries have implemented EUROWATERNET-Basic in their countries and have submitted aggregated data to the ETC/WTR for inclusion in WATERBASE. The **river** data submitted by you to date and stored in WATERBASE are available in the EIONET Data Service:

<http://dataservice.eionet.eu.int/dataservice/metadetails.asp?table=Rivers>
[CIRCLE Login is required for this website].

Once logged in, you will see the meta-data page of the Rivers dataset. Besides the [Metadata] tab, there are two other pages related to this dataset:

[Data Files] You will find 2 tables on river data: Stations table and Chemicals table. You can view the field descriptions and other meta-information on the table.

[Download] You can download the Stations table (1 file with all EUROWATERNET stations from all countries) and your country's chemicals table (1 file per country).

Opening files in MS Excel:

Please note that values are separated by commas. You might have to change your Windows settings in order to import properly:

Start Button>Settings>Control Panel>Regional Settings>

Number>List separator = ',' (comma without the quotes).

Restart MS Excel after changing the settings.

There may be gaps in terms of EUROWATERNET requirements in the information already submitted. We would urge you to fill in these gaps with the requested information. In particular we wish to focus your attention on:

1. Updating your national data with the most recent data (for most countries this would be for the year 2001)
2. Filling in any gaps in existing data and providing answers to specific questions detailed in your country's validation file: [EWN Rivers <country> Validation.xls](#) which can be downloaded from the EIONET Water Interest Group on CIRCLE.
3. Provision of as long a time series as possible for as many stations as possible.
4. Submission of river discharge data for all stations either based on gauged flows at the monitoring station, or based on estimates or calculation derived from the nearest gauging station to the monitoring station.
5. Submission of the requested data (above) for all flux stations: these would include those stations used for the calculation of riverine loads required for national purposes and also Marine and International River Conventions.
6. Provision of upstream catchment pressure information for each station based on Corine Land Cover data or its equivalent.
7. Please use the Excel spreadsheet "[Rivers-2002.xls](#)" for the data transmission.

The implementation of EUROWATERNET for **rivers** is the responsibility of Steve Nixon of the **ETC/WTR Core Team**, based at the Water Research Centre, Swindon, UK, contact details given below:

tel: +44 1793 865166
fax: +44 1793 865001
e-mail: nixon@wrcplc.co.uk

4. UPDATE OF EUROWATERNET-BASIC FOR LAKES IN YOUR COUNTRY

The data held on **lakes and reservoirs** in your country is available for your examination in the EIONET Data Service:

<http://dataservice.eionet.eu.int/dataservice/metadetails.asp?table=Lakes>
[CIRCLE Login is required for this website].

Once logged in, you will see the meta-data page of the Lakes dataset. Besides the [Metadata] tab, there are two other pages related to this dataset:

[Data Files] You will find 2 tables on lakes data: Stations table and Chemicals table. You can view the field descriptions and other meta-information on the table.

[Download] You can download the Stations table (1 file with all EUROWATERNET stations from all countries) and your country's chemicals table (1 file per country).

Opening files in MS Excel:

Please note that values are separated by commas. You might have to change your Windows settings in order to import properly:
Start Button>Settings>Control Panel>Regional Settings>Number>List separator = ',' (comma without the quotes).
Restart MS Excel after changing the settings.

As with rivers, there are gaps in terms of EUROWATERNET requirements in the information already submitted. We would urge you to fill in these gaps with the requested information. In particular we wish to focus your attention on:

1. Updating your national data with the most recent data (for most countries this would be for the year 2001).
2. Provision of as long a time series as possible for as many stations as possible.
3. Provision of basic information on each lake such as surface area and geographical location co-ordinates.

We request that you provide aggregated annual average values for each lake monitoring station. We would prefer data submission to be in a simple columnar format (e.g. tab-separated ASCII) similar to Annex 4. Alternatively, you may use the spreadsheet "[Lakes-2002.xls](#)". If you use any other format, please provide a brief explanation of the contents.

The implementation of EUROWATERNET for **lakes** is the responsibility of Jens Bøgestrand of the **National Environmental Research Institute**, Denmark, contact details given below:

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5. UPDATE OF EUROWATERNET-BASIC FOR GROUNDWATER IN YOUR COUNTRY

Most countries have implemented EUROWATERNET in their countries and have submitted aggregated and disaggregated data to the ETC/WTR for inclusion in WATERBASE.

Access to the information on **groundwaters** from your country which is held in WATERBASE is available via the Internet (password-protected access). It will help to identify gaps between information available in the country and information submitted on important groundwater bodies in terms of the EUROWATERNET guidelines. As EUROWATERNET-Groundwater is implemented we would urge you to fill in these gaps with the requested information.

EUROWATERNET-Groundwater aims to improve the knowledge of nitrogen compounds in groundwater (quality data) and of the characteristics of groundwater bodies (general characterisation). Additional information on **pesticides** (quality data) is required. Information available on as many groundwater bodies as possible (fulfilling the EUROWATERNET-Groundwater criteria) should be included.

In particular we wish to focus your attention on:

1. Updating your national data with the most recent data (for most countries this would be for the year 2001).
2. Provision of as long a time series as possible for as many groundwater bodies as possible.
3. Filling of gaps in already submitted information (list of all important groundwater bodies within your country, general characterisations of important groundwater bodies, GIS maps, groundwater quality data).
4. Submission of general characterisations and quality data for additional groundwater bodies.

During the 2001 update process several countries asked for assistance in aggregating their quality data. In order to keep your effort and amount of time for delivering data as small as possible, we offer to undertake the aggregation of delivered data and suggest that you submit disaggregated (raw) data at monitoring site level. This means that for all the determinands listed you would provide all monitoring data for all the years for which you have data.

If you prefer you can provide aggregated data.

Details on the required information and the structure for the submission of data are given in Annex 5 and 6.

Submission and validation of groundwater data is possible via the Internet (password-protected access to the ETC Working Database on Groundwater).

NRCs that have already been involved in groundwater data delivery via Internet will receive a mail with a reminder on their username and password.

New NRCs that have not been involved in earlier data collection:
Please contact Johannes Grath (details see below).

The implementation of EUROWATERNET for **groundwater** is the responsibility of Johannes Grath of the **Austrian Working Group on Water**, Federal Environment Agency (Vienna), Austria, contact details given below:

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fax.: +43 1 31304 3700

e-mail: grath@ubavie.gv.at

6. DEVELOPMENT AND IMPLEMENTATION OF EUROWATERNET-QUANTITY IN YOUR COUNTRY

The development and implementation of EUROWATERNET includes a specific task aimed at obtaining comparable information on the water resources status of inland waters. It is understood that water resources monitoring has to be based on existing national networks but for practical purposes experience shows that data on the totality of rain gauge and gauging stations in each country is not available.

Moreover, in some cases it is not possible to directly measure the determinant under consideration and it has to be estimated with the aid of different tools. For example, this is the case when estimating internal renewable resources which have to be calculated assuming that a non-altered regime is being dealt with, i.e. reconstructing the hydrological regime that would exist in the absence of hydraulic works and water abstraction or using mathematical modeling.

As part of its work programme, the ETC/WTR has already developed station selection procedures and a methodology for water resources assessment using only data from the stations selected. This methodology has been agreed with Eurostat and has been described in "EUROWATERNET: Water quantity aspects. Technical guidelines for implementation". The methodology has been applied in Spain, UK and Hungary and is being tested in Greece and Denmark.

If tests show that methodology is suitable, countries will be asked to select the stations that will constitute the network and also to provide the following data for each station selected:

Precipitation data:

- ID (number and/or name to identify the station)
- Longitude , latitude and elevation
- Mean annual precipitation for the last ten years

River discharge data:

- ID (number and/or name to identify the station)
- Longitude , latitude and elevation
- Surface area of the basin monitored by the gauging station
- Mean annual discharge for the last ten years

Data would then be updated annually to obtain the main water resources components in each country.

We are now seeking further volunteer countries to pilot EUROWATERNET-Quantity. The technical guidelines are available in the [EIONET IG on Water](#).

The implementation of EUROWATERNET for **quantity** is the responsibility of Manuel Menéndez of **the Centro de Estudios y Experimentación de Obras Públicas (CEDEX)**, Madrid, Spain, contact details given below:

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fax: +34 913357922
e-mail: manuel.menendez@cedex.es

Please contact Dr Menéndez if your country wishes to participate in piloting EUROWATERNET-Quantity, and from whom further technical guidance and assistance can be obtained.

7. EUROWATERNET-IMPACT NETWORK

The implementation of EUROWATERNET-Impact was started in 2001. We wish to obtain comparable and harmonised information on the concentrations and distribution of the Water Framework Directive Priority Substances and other hazardous substances (including List I and List II substances under the Dangerous Substances Directive) in rivers and lakes, and for groundwater the pesticides included as Priority Substances. The list of Priority Substances or groups of substances with the other requested substances is given in Annex 2. For groups of substances, examples of specific substances are given.

New criteria are proposed for the selection of monitoring stations and for the supportive information required for interpretation of the information: these are given in Annex 3. These criteria are considered as proposals and will be reconsidered in the light of experience when the EUROWATERNET guidelines are updated during 2003.

A structure for the submission of the data is also given in Annex 3. Please use the available spreadsheets for the transmission of your data.

8. DELIVERY OF DATA FILES

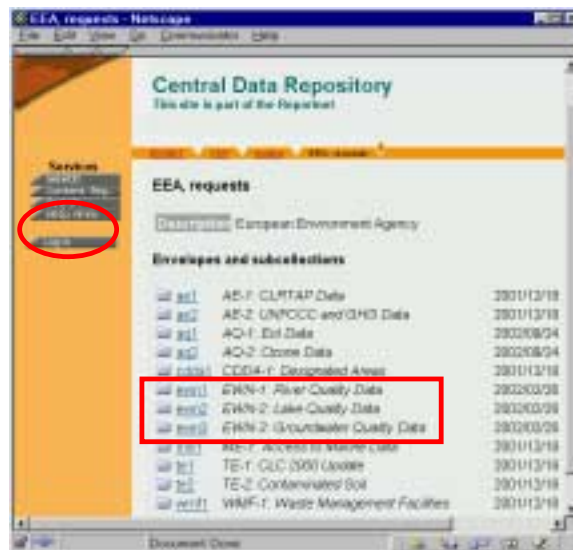
Data files for the EUROWATERNET Priority Data Flows on Rivers, Lakes and Groundwater shall be uploaded to the national repository of your country. This is the delivery point for all national data requested under EIONET Priority Data Flows.

The 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.

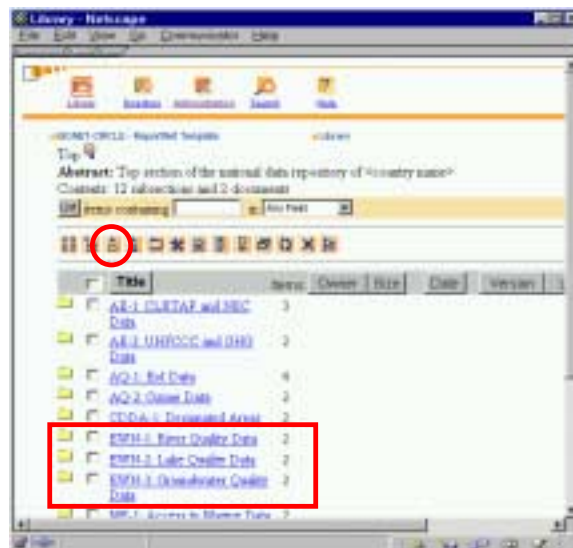
Subcollections for River, Lake and Groundwater data are already available. The online help ('Help Area' button) explains how to create new envelopes and how to finally upload the data files.



If your country has opted for delivering the EIONET Priority Data to the CIRCLE Interest Group on the national EIONET Server:

EUROWATERNET data deliveries have to be uploaded to the respective library subsection for River, Lake and Groundwater data

Please use the CIRCLE file upload button for submitting the data file.



File upload permissions to country folders on CDR or to the national CIRCLE Interest Group for data deliveries are organised by the respective National Focal Point. Please contact [your National Focal Point](#) in case you have any question.

9. SUMMARY

In summary, this is what is now requested from you:

1. The application of the EUROWATERNET criteria to your national monitoring networks for the identification and selection of rivers, lakes and groundwater bodies for inclusion in WATERBASE
2. Please validate existing information in WATERBASE and fill in any gaps in terms of numbers and types of water bodies, types of station (especially flux stations), physical characteristics and pressure information together with the required water quality and water flow indicators. For Rivers, a validation spreadsheet has been provided which lists missing fields of data and specific questions for your country, see file : [EWN Rivers <country> Validation.xls](#) which can be downloaded from the EIONET Water Interest Group.
3. Delivery of files with rivers, lakes and groundwater data:
Please upload your data to the national repository of your country. This is either your country's folder in the Central Data Repository or a designated CIRCLE Interest Group on your national EIONET server. In both cases, your [National Focal Point](#) coordinates the upload of data files. More information on the [national repository choice](#) is available on the EIONET Portal.
4. Please prepare you national data deliveries in the data exchange formats described in this guidance document and make use of the templates provided in the [EIONET Interest Group on Water](#).
5. The transmission of your rivers and lakes data in aggregated format. Groundwater data can be supplied in either its aggregated or disaggregated form
6. The most recent water quality data available, ideally from **2001**. In addition, for each selected river and lake station and groundwater well 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
7. An acknowledgement (to Steve Nixon at the address below) of the receipt of this paper and confirmation of your participation in EUROWATERNET by **31 October 2002**.
8. Receipt of your national EUROWATERNET data by **31 December 2002**
9. Consideration as to whether your country could contribute (on a voluntary basis) to the piloting and development of EUROWATERNET-Quantity

For any further information on this note or the technical guidelines please contact **Steve Nixon** or **Tim Lack** of the **ETC/WTR Core Team** based at the Water Research Centre, Swindon, UK, contact details given below:

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Tim Lack

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ANNEX 1 STRUCTURE REQUIRED FOR THE SUBMISSION OF AGGREGATED DATA FOR EUROWATERNET-BASIC NETWORK FOR RIVERS (SEE EXCEL SPREADSHEET “[Rivers-2002.xls](#)”)

STN_ID	STN_NAME	YEAR	PERIOD	PERIOD_LENGTH	DETERMINAND	UNITS	LoD	DTR_LMT	NO_SAMPLES	AVERAGE	MAXIMUM	MINIMUM	STDV	MEDIAN	10_ILE	90_ILE	REMARKS

STN_ID	National Station ID: Used to link data provided by the participating countries and Waterbase. This should be the same number for each of the stations you have submitted before. Text	DETERMINAND	
STN_NAME	National Station Name: Text	UNITS	
YEAR	Year of measurements: Number. Long Integer	BOD5	mg/l O ₂
PERIOD	Period of aggregation of data: Annual = aggregated over the whole year, Summer = aggregated over the summer months; Winter = aggregated over winter months: Text.	BOD7	mg/l O ₂
PERIOD_LENGTH	Number of months in period of aggregation: Number. Long Integer	Chlorophyll a	µg/l
DETERMINAND	Determinand name. Text in the format given below	COD	mg/l O ₂
UNITS	Unit of measurement: Text in the format given below	Dissolved Oxygen	mg/l O ₂
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). Number. Single. Same units as AVERAGE	Nitrate	mg/l N
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%). Number. Single. Same units as AVERAGE	Nitrite	mg/l N
NO_SAMPLES	Number of samples in aggregation period: Number. Long Integer	Organic Nitrogen	mg/l N
AVERAGE	Average concentration over aggregation period: Number. Single. Format: fixed, 4 decimal places	Orthophosphate	mg/l P
MAXIMUM	Maximum concentration over aggregation period: Number. Single. Format: fixed, 4 decimal places	Oxygen Saturation	%
MINIMUM	Minimum concentration over aggregation period: Number. Single. Format: fixed, 4 decimal places	pH	pH
STDV	Standard deviation of concentration over aggregation period: Number. Single. Format: fixed, 4 decimal places	Total Ammonium	mg/l N
MEDIAN	Median concentration over aggregation period: Number. Single. Format: fixed, 4 decimal places	Total Inorganic Nitrogen	mg/l N
10_ILE	Tenth percentile concentration over aggregation period: Number. Single. Format: fixed, 4 decimal places	Total Nitrogen	mg/l N
90_ILE	Ninetieth percentile concentration over aggregation period: Number. Single. Format: fixed, 4 decimal places	Total Organic Carbon	mg/l C
REMARKS	Remarks: Text. Size: 100 characters	Total Oxidised Nitrogen	mg/l N
		Total Phosphorus	mg/l P

ANNEX 2 PRIORITY SUBSTANCES IDENTIFIED BY THE WATER FRAMEWORK DIRECTIVE

CAS- No.	Substance	Classification
15972-60-8	Alachlor	WFD_PS
120-12-7	Anthracene	WFD_PSR, DS
1912-24-9	Atrazine	WFD_PSR, DS
71-43-2	Benzene	WFD_PS, DS
na	Brominated diphenylethers	WFD_PHS
1163-19-5	Bis(pentabromophenyl) ether	
32536-52-0	Diphenyl ether, octabromo deviate	
32534-81-9	Diphenyl ether, pentabromo derivative	
85535-84-8	C ₁₀₋₁₃ -Chloralkanes	WFD_PHS
7440-43-9	Cadmium and its compounds	WFD_PHS, DS, DW
470-90-6	Chlorfenvinphos	WFD_PS
2921-88-2	Chlorpyrifos	WFD_PSR
107-06-2	1,2-Dichloroethane	WFD_PS, DS
75-09-2	Dichloromethane	WFD_PS, DS
117-81-7	Di (2-ethylhexyl) phthalate (DEHP)	WFD_PSR
84-66-2	Di-ethyl phthalate	WFD_PSR
84-69-5	Di-iso-butyl phthalate	WFD_PSR
84-74-2	Di-(n-butyl) phthalate (DBP)	WFD_PSR
85-68-7	Butyl benzyl phthalate (BBP)	WFD_PSR
330-54-1	Diuron	WFD_PS
115-29-7	Endosulfan	WFD_PSR
959-98-8	(alpha-Endosulfan)	WFD_PSR, DS
608-73-1	Hexachlorocyclohexane	WFD_PHS
58-89-9	(gamma-isomer, Lindane)	WFD_PHS, DS
118-74-1	Hexachlorobenzene	WFD_PHS, DS
87-68-3	Hexachlorobutadiene	WFD_PHS, DS
34123-59-6	Isoproturon	WFD_PS
7439-92-1	Lead and its compounds	WFD_PSR, DS, DW
7439-97-6	Mercury and its compounds	WFD_PHS, DS, DW
91-20-3	Naphthalene	WFD_PSR, DS
7440-02-0	Nickel and its compounds	WFD_PS, DS, DW
25154-52-3	Nonylphenols	WFD_PHS
104-40-5	(4-(para)-nonylphenol)	
8452-15-3	(4-nonylphenol, branched)	
1806-26-4	Octylphenols	WFD_PSR
140-66-9	(para-tert-octylphenol)	
608-93-5	Pentachlorobenzene	WFD_PHS
87-86-5	Pentachlorophenol	WFD_PSR, DS
n.a.	Polyaromatic Hydro-carbons (PAH)	WFD_PHS
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)	
122-34-9	Simazine	WFD_PS, DS

CAS- No.	Substance	Classification
688-73-3	Tributyltin compounds	WFD_PHS, DS
36643-28-4	(TBT-ion)	WFD_PHS
12002-48-1	Trichlorobenzenes	WFD_PSR, DS
87-61-6	(1,2,3-trichlorobenzene)	WFD_PSR
120-82-1	(1,2,4-trichlorobenzene)	WFD_PSR
108-70-3	(1,3,5-trichlorobenzene)	WFD_PSR
67-66-3	Trichloromethane	WFD_PS, DS, DW
1582-09-8	Trifluralin	WFD_PSR, DS
7440-50-8	Copper and its compounds	DS
789-02-6 50-29-3	DDT (2,4'-isomer) and (4,4'-isomer) and metabolites (DDD, DDE)	DS
72-55-9	DDE, p, p'	DS
72-54-8	DDD, p, p'	DS
53-19-0	DDD, o, p'	DS
919-86-8	Demeton-S-methyl	DS
62-73-7	Dichlorvos	DS
60-51-5	Dimethoate	DS
309-00-2	Aldrin	DS
60-57-1	Dieldrin	DS
72-20-8	Endrin	DS
465-73-6	Isodrin	DS
330-55-2	Linuron	DS
1336-36-3	Polychlorinated biphenyls	DS
31508-00-6	2,4,5,3,4-PeCB (PCB118)	DS
32598-13-3	3,4,3,4-TeCB (PCB77)	DS
32774-16-6	3,3',4,4',5,5' HexCB (PCB169)	DS
7440-66-6	Zinc and its compounds	DS

WFD_PS Water Framework Directive Priority Substance

WFD_PHS WFD Priority Hazardous Substance

WFD_PSR WFD Priority Substance under Review

DS Dangerous Substances Directive

DW Drinking Water Directive

ANNEX 3 EUROWATERNET-IMPACT NETWORK FOR WATER FRAMEWORK DIRECTIVE PRIORITY SUBSTANCES AND OTHER NATIONALLY MONITORED HAZARDOUS SUBSTANCES

1. Selection of river stations

The information and data obtained through EUROWATERNET is derived from existing national and/or regional monitoring networks within each Member Country. For the EUROWATERNET-Basic network Member Countries have been asked to select rivers and river stations according to criteria described in the technical guidelines (EEA Technical Report No. 7). These stations are expected to be able to provide a **general overview, based on truly comparable data, of the water quality of rivers at a European level.**

For EUROWATERNET-Basic 'types' of monitoring station were identified. These included:

Reference river stations would be in catchments with little or no human activity and the percentage of natural landscape would be higher than 90%. In terms of the Priority Substances that occur naturally it might be expected that the concentrations measured at these stations would give an indication of 'background levels'. In addition, for volatile synthetic substances the data from these stations might be used to assess the significance of atmospheric deposition.

Representative river stations would reflect the majority of rivers in a region/area with human activities in the catchment consistent with the region's/areas activities. The water quality at these stations would be influenced by diffuse sources of pollution and/or point sources depending on the human activities upstream. The pollutants from point sources would be expected to have become 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 of hazardous substances present and their concentrations. This type of station is likely to be included in 'surveillance' monitoring programmes as required by the Water Framework Directive. Many of these stations may therefore have a long time series of data.

For EUROWATERNET-Impact an additional type of monitoring station is identified.

Impact river stations: monitoring stations within the zone (area or volume of water) where initial mixing of the emissions takes place within the receiving waters. 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 with standards or limits. Thus monitoring at these stations may in some cases be limited to those substances present within any particular discharge. This type of station is likely to be included in 'operational' monitoring programmes as required by the Water Framework Directive. Many of these stations may therefore have a relatively long time series of data.

Thus what is requested are data from **all** stations at which the Priority Substances are measured for operational or surveillance reasons. Data are not requested from those monitoring stations which might be established for ad-hoc purposes such as for investigative monitoring and which may therefore be sampled for only a limited time period.

It should be noted that the representative stations selected for EUROWATERNET-Impact might not be the same as those used for EUROWATERNET-Basic.

2. Determinands required

The determinands requested are those given in the Priority Substance List for the Water Framework Directive (see Annex 2), and any other nationally monitored hazardous substance. For each station we also request data from the most recent year (ideally for 2001) with as many previous years as possible.

3. Level of aggregation of data

For the Priority Substance and hazardous substance impact network we also request that disaggregated data are submitted. This is different from EUROWATERNET-Basic where annually statistically aggregated data are requested. This difference is because we expect that many of the analytical determinations will be at or below the limit of detection for the analytical method. The single sample determinations are required to give a more robust assessment of how the data should be statistically treated and presented.

4. Structure of requested information

The collection of disaggregated data for priority substances will necessitate the definition of more fields within Waterbase. This will include a field for the limit of detection¹, limit of determination², a flag field for when samples are below the limit of detection, day and month of sampling.

STN_ID	CAS_No	DETER	DAY	MONTH	YEAR	MATRIX	CONC	UNIT	<LoD	LoD	DTR_LMT	REMARKS

¹ The LoD is that concentration for which there is a desirably small probability that the determinand will not be detected (usually with 95% confidence).

² The smallest concentration that can be distinguished from the analytical blank at a chosen level of statistical confidence (usually 95%).

STN_ID National Station ID: Used to link data provided by the participating countries and Waterbase. This should be the same number for each of the stations you have submitted before. Text

CAS_No The Chemical Abstract Service number for each determinand (see Priority Substance List). Text

DETER Determinand name: Text

DAY Day the sample was taken: Number. Long Integer

MONTH Month the sample was taken: Number. Long Integer

YEAR Year the sample was taken: Number., Long Integer

MATRIX Matrix of analysis: F = Analysis undertaken on filtered water sample, T = Analysis undertaken on unfiltered water sample

CONC Concentration of determinand: Number. Single. Format: fixed, 4 decimal places

UNIT Unit of measurement: Text mg/l, µg/l or ng/l (use only one unit for each determinand). Text

<LoD Flag to indicate sample below analytical limit of detection: -999. Number. Long Integer

LoD Limit of detection: Number. Single. Format: same units as CONC

DTR_LMT Limit of determination: Number. Single. Format: same units as CONC

REMARKS Sample Remarks: Text. Size: 100 characters

As for EUROWATERNET-Basic we also request information on the physical characteristics of each of the monitoring stations. This information is used in the interpretation of the data and to ensure that like is compared with like. The requested information and data fields are shown in the Table below.

STN_ID	STN_NAME	CRY_CD	REV_YEAR	STN_CAT	STN_TYP	BASIN_NM	CATCH_NM	REGION	LONG	LAT	ALTITUDE	DISCHARGE	CATCH_AREA	REMARKS

STN_ID National Station ID: Used to link data provided by the participating countries and Waterbase. This should be the same number for each of the stations you have submitted before. Text

STN_NAME National Station Name: Text

CRY_CD Country Code: ISO3166 two digit code. Text

REV_YEAR Year of Revision: Last year of revision or update of EUROWATERNET. Number. Long Integer

STN_CAT Station Category: Water body type - see definitions below. RV = River, CN = Canal, LK = Lake, RS = Reservoir, GW = Groundwater body, TW = Transitional water, CW = Coastal Water, MW = Marine Water. Text

STN_TYP Station Type: Station can fall into more than one type - see definitions below. B = Reference, R = Representative, F = Flux, L = Largest, Most Important, I = Impact. Text

BASIN_NM River Basin Name: Name provided at national level. Text

CATCH_NM Catchment Name: Name provided at national level. Text

REGION Region: Region where the station is located, provided at national level. Text

LONG Longitude (x): International Geographical Co-ordinates of the monitoring station in decimal format. Number. Double. Format: Fixed, 6 decimal places

LAT Latitude (y): International Geographical Co-ordinates of the monitoring station in decimal format. Number. Double. Format: Fixed, 6 decimal places

ALTITUDE Altitude: Altitude in metres where the station is located. Number. Single. Format: Fixed, 3 decimal places

DISCHARGE Mean long term river discharge: in m³/s at the monitoring station (or at the nearest river flow gauging station, in which case should be flagged with "**"). Number. Single. Fixed, 3 decimal places

CATCH_AREA Upstream catchment area: Related ONLY to the station location. Number. Single. Format: Fixed, 3 decimal places

REMARKS Site Remarks: Text. Size: 100 characters

Code	STN_CAT	Description / Definition
RV	River	A body of inland water flowing for the most part on the surface of the land but which may flow underground for part of its course.
CN	Canal	An artificial surface watercourse or conduit which may have biological and hydrological characteristics of a river and/or a lake depending on the hydrological operational regime. Reaches of canals may be separated by dams or weirs with communicating locks. Canals should be distinguished from natural rivers which may have canalised or physically modified reaches constructed for purposes such as navigation and flood defence.
LK	Lake	A body of standing inland surface water.
RS	Reservoir	Man-made lakes that might be created by flooding river valleys or might have a completely artificial water storage basins.
GW	Groundwater Body	A distinct volume of groundwater within an aquifer or aquifers.
TW	Transitional Water	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.
CW	Coastal Water	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.
MW	Marine Water	Surface waters on the seaward side of the boundary of coastal waters.

STN_ID	POPULATION	URBAN	WETLAND	NATURE	FOREST	AGRI_TOT	AGRI_OTHER	ARABLE	PASTURE	OTHER	REMARKS

STN_ID	National Station ID: Used to link data provided by the participating countries and Waterbase. This should be the same number for each of the stations you have submitted before. Text
POPULATION	Population: Population density (capita/km ²) of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
	Land use information based on Corine Land cover or equivalent
URBAN	Urban: Urban land use as % of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
WETLAND	Wetland: Wetland land use as % of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
NATURE	Nature: Natural land use as % of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
FOREST	Forest: Forested land use as % of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
AGRI_TOT	Total Agricultural: Total Agricultural land use as % of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
AGRI_OTHER	Other Agricultural: Other Agricultural land use as % of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
ARABLE	Arable: Arable land use as % of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
PASTURE	Pasture: Pastural land use as % of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
OTHER	Other: Other land use as % of the upstream catchment area of the station. Number. Double. Format: Fixed, 3 decimal places
REMARKS	Catchment remarks: Text. Size: 100 characters

ANNEX 4 STRUCTURE REQUIRED FOR THE SUBMISSION OF DATA FOR EUROWATERNET-BASIC NETWORK FOR LAKES (SEE EXCEL SPREADSHEET "[Lakes-2002.xls](#)")

1. Basic information for lakes and reservoirs

Country code	Region	Lake name	National id-code	Latitude	Longitude	Surface area	Mean depth	Max depth	Residence time	Catchment area	Altitude	Volume	Reference	Representative	Largest/important	Reservoir	Remarks
Text	Text	Text	Text	Decimal degrees	Decimal degrees	km ²	m	m	years	km ²	m	mio. m ³	1/0	1/0	1/0	1/0	Text

Country code	Country Code: ISO3166 two digit code. Text
Region	Region: Region where the station is located, provided at national level. Text
Lake name	National lake name: Text
National ID-code	National Station ID: Used to link data provided by the participating countries and Waterbase. This should be the same number for each of the stations you have submitted before. Text
Latitude	Latitude (y): International Geographical Co-ordinates of the monitoring station in decimal format. Number.
Longitude	Longitude (x): International Geographical Co-ordinates of the monitoring station in decimal format. Number.
Surface area	Surface area of the lake in square kilometres. Number.
Mean depth	Mean depth of lake in metres. Equals volume/surface area. Number.
Max depth	Maximum depth of lake in metres. Number.
Residence time	Average water residence time expressed as years. Equals volume/annual flow. Number.
Catchment area	Upstream catchment area of lake. Number.
Altitude	Altitude of lake surface in metres. Number.
Volume	Volume of water in lake as million cubic metres. Equals surface area*mean depth. Number.
Reference	Indicates whether the lake is considered a reference lake (value=1) or not (value=0). Boolean.
Representative	Indicates whether the lake is considered a representative lake (value=1) or not (value=0). Boolean.
Largest/important	Indicates whether the lake is considered as one of the largest or most important lakes (value=1) or not (value=0). Boolean.
Reservoir	Indicates whether the lake is a reservoir (value=1) or a natural lake (value=0). Boolean.
Remarks	Additional important information on lake. Text.

2. Format for quality data

Country code	National ID-code	Determinand	Unit	Year	Averaging period	Months	Number of samples	Average	Median	Minimum	Maximum
Text	Text	Text	Text	yyyy	Text	Integer	Integer				

Country code	Country Code: ISO3166 two digit code. Text
National ID-code	National Station ID: Used to link data provided by the participating countries and Waterbase. This should be the same number for each of the stations you have submitted before. Text
Determinand	Determinand code as listed below. Text.
Unit	Unit of measurement, preferably the standard units as listed below. Text.
Year	Year of measurements: Number. 4 digits
Averaging period	Period of aggregation of data: Annual = aggregated over the whole year, Summer = aggregated over the summer months; Winter = aggregated over winter months: Text.
Months	Number of months in period of aggregation: Integer.
Number of samples	Number of samples in aggregation period: Integer.
Average	Average concentration over aggregation period: Number.
Median	Median concentration over aggregation period: Number.
Minimum	Minimum concentration over aggregation period: Number.
Maximum	Maximum concentration over aggregation period: Number.

Standard determinand codes and units.

Determinand code (lowercase)	Description	Standard unit
ptot	Total phosphorus	mg/l P
po4p	Orthophosphate	mg/l P
ntot	Total nitrogen	mg/l N
no3n	Nitrate nitrogen	mg/l N
no2n	Nitrite nitrogen	mg/l N
no23n	Nitrate and nitrite nitrogen (oxidised nitrogen)	mg/l N
nh4n	Ammonia nitrogen	mg/l N
bod5	BOD5	mg/l O2
bod7	BOD7	mg/l O2
cod	COD unspecified	mg/l O2
codmn	COD manganate method	mg/l O2
codcr	COD chromate method	mg/l O2
toc	Total organic carbon	mg/l C
ox	Oxygen concentration	mg/l O2
oxsat	Oxygen saturation	%
secchi	Secchi depth transparency	m
chla	Chlorophyll a	mg/l
pH	pH	pH
alk	Alkalinity	meq/l
cond	Conductivity	µS/cm

ANNEX 5 STRUCTURE REQUIRED FOR THE SUBMISSION OF DATA FOR EUROWATERNET-BASIC NETWORK FOR GROUNDWATER

(see various [Excel template spreadsheets](#))

Selection of groundwater bodies

The information and data obtained through EUROWATERNET is derived from existing national and/or regional monitoring networks within each Member Country. For EUROWATERNET-Groundwater Member Countries have been asked to select **important** groundwater bodies according to criteria described in the technical guidelines (EEA Technical Report No. 7 (1998)). These groundwater bodies are expected to be able to provide a **general overview, based on truly comparable data, of the water quality of groundwaters on the European level.**

Important groundwater bodies as defined in the guidelines meet at least one of the three requirements below:

- > 300 km²;
- of regional, socio-economic or environmental importance in terms of quantity and quality;
- exposed to severe or major impacts.

1 Basic information

Please provide/complete a **LIST** of all groundwater bodies within your country which fulfil the criteria of the guidelines (EEA Technical Report No. 7 (1998)). Additionally, add some key information on each groundwater body, if available.

- It is possible to submit the information via the **Internet** by adding and filling in a new **online-form**. The account is password-protected and data provision and update will be possible by direct access to the database. Only authorised partners will have access to their own data. **Please use the online form if possible!** The Internet-address will be distributed to the relevant person as soon as the contact person is announced.
- If you prefer to use the Excel-files, please use the file ([GWLST CC³.XLS](#)).

³ CC...please change to your country code e.g. AT, BE,...

The structure of the requested information is as follows:

EWN-Code	National code (if available)	Name of the groundwater body	Location (province etc.)	Area (in km ²)	Main aquifer type (porous, fractured or karst)
CC001					

EWN-Code: CC...country code, ###...number

Main aquifer type: Please take care to exclusively select „porous media“, „fractured media“ or „karst“



- via **Internet online-form** (recommended)
- Excel-file: [GWLST CC⁴.XLS](#)

- Please provide a (revised) digital **MAP (GIS)** of your country showing the boundaries of all groundwater bodies from the list GWLST_CC.XLS and the co-ordinates of all sampling sites. With these maps it is intended to give an overview of groundwater bodies in Europe.
 - Map preferred as **shape-format** or *.**dx**f or *.**e00** or *.**dgn** or as *.**dwg-file**.
- Please give **additional information on the GIS-map** (as an ASCII-text-file) on the reference year, the projection and on the precision of the map (ideally between 1:50 000 and 1:200 000), units, spheroid, radius of sphere of reference, longitude of centre of projection, latitude of centre of projection, false easting, false northing.
Furthermore, we require confirmation that the GIS-data can be used for the ETC/WTR work under contract to the EEA.

If a GIS map as described above is not available, a country map indicating the location of the groundwater bodies and a separate map for each groundwater body indicating the monitoring stations would be helpful.



GIS-Map and additional information
(or paper version)

2. General characterisation

Please provide/complete a general characterisation (in accordance with the guidelines) for those groundwater bodies on which information is available.

- A list of the information required and a help-file including details on definitions is available: Excel-files [GWLST CC⁴.XLS](#) and [GG help.DOC](#).

⁴ CC...please change to your country code e.g. AT, BE,...

- It will be possible to submit the general characterisation via the **Internet** by filling in an **online-form**. The account is password-protected and data provision and update will be possible by direct access to the database. Only authorised partners will have access to their own data. **Please use the on-line form if possible!** The Internet-address will be distributed to the relevant person as soon as the contact person is announced.
- If you prefer to use the Excel-files, use one separate file for each groundwater body.



- via **Internet online-form** (recommended)
- or Excel-file: [GG CCxxx.XLS](#)
(**CC**...country code, **xxx**... number of gw-body)

3. Groundwater quality

The determinands requested are **nitrate** (in mg NO₃/l), **ammonium** (in mg NH₄/l), **nitrite** (in mg NO₂/l), **dissolved oxygen** (in mg/l) and **pesticides** (in µg/l).

Pesticides: The pesticide substances requested are those given in the Priority Substances List for the Water Framework Directive (see Table 1). Furthermore, please submit information on pesticide substances which are supposed to be most important in terms of endangering groundwater in your country.

Table 1: Pesticide substances listed in the Priority Substances List for the Water Framework Directive

CAS-No.	Substance
15972-60-8	Alachlor
1912-24-9	Atrazine
470-90-6	Chlorfenvinphos
2921-88-2	Chlorpyrifos
330-54-1	Diuron
115-29-7	Endosulfan
959-98-8	(alpha-Endosulfan)

CAS-No.	Substance
608-73-1	Hexachlorocyclohexane
58-89-9	(gamma-isomer, Lindane)
118-74-1	Hexachlorobenzene
34123-59-6	Isoproturon
122-34-9	Simazine
1582-09-8	Trifluralin

3.1 Disaggregated (raw) data

In order to keep your effort and amount of time for delivering data as small as possible, we offer to undertake the aggregation of delivered data and suggest that you submit **disaggregated (raw) data** at monitoring site level. This would allow for more flexibility (e.g. regarding different concentration classes) when aggregating data and ensure the consistent treatment of values below the limit of quantification and the limit of detection.

Information required is:

- general information on the monitoring site (name, co-ordinates, type of use, well or spring)
- additional information on the co-ordinate system if co-ordinates are provided
- quality data for the determinands (NO₃, NH₄, NO₂, O₂, Pesticides) e.g.:
 - **12.5** or
 - **<12.5** (below the limit of quantification) or
 - **[12.5]** (below the limit of detection)

Structure of requested information

The collection of disaggregated data will necessitate general information on the monitoring site.

MPoint-ID	name	Body_code	well/spring	Type of use	longitude	latitude

<u>MPoint-ID</u>	code of the sampling station. <u>format</u> : country code plus individual code (e.g.: AT10000562). Char(16). essentiell
<u>Name</u>	name of the sampling station. Char(64). essential
<u>Body_code</u>	groundwater body code. <u>format</u> : country code plus 3 digits (EWN-code) (e.g.: AT250). Char(5). essentiell
<u>well/spring</u>	W...well, S...spring
<u>Type of use</u>	DRW...drinking water, IND...industrial supply, OTH...other use, SUR...surveillance
<u>Longitude</u>	longitude (x): International Geographic Co-ordinates of the monitoring site in decimal form
<u>Latitude</u>	latitude (y): International Geographic Co-ordinates of the monitoring site in decimal form

Groundwater quality data

MPoint-ID	date	Param-ID1	Value1	Param-ID2	Value2	→	Param-IDn	Value n

<u>MPoint-ID</u>	code of the sampling station. <u>format</u> : country code plus individual code (e.g.: AT10000562). Char(16). essentiell
<u>Date</u>	Date of sampling. format: YYYY-MM-DD essential
<u>Param-ID</u>	codes see table below. For additional pesticides not listed please provide a separate list of substances + codes assigned + units .
<u>Value</u>	quality data. units for determinands are defined in the table below. notation of values below the limit of quantification: <value notation of values below the limit of detection: [value]

Param-ID	DETERMINAND	UNIT	Param-ID	DETERMINAND	UNIT
500	Nitrate	mg NO ₃ /l	508	Diuron	µg/l
501	Ammonium	in mg NH ₄ /l	509	Endosulfan (alpha-Endosulfan)	µg/l
502	Nitrite	mg NO ₂ /l	510	Hexachlorocyclohexane (gamma-isomer, Lindane)	µg/l
503	Dissolved oxygen	mg O ₂ /l	511	Hexachlorobenzene	µg/l
504	Alachlor	µg/l	512	Isoproturon	µg/l
505	Atrazine	µg/l	513	Simazine	µg/l
506	Chlorfenvinphos	µg/l	514	Trifluralin	µg/l
507	Chlorpyrifos	µg/l			

For submission of disaggregated data directly from your national database please see **Annex 6** where the interface for raw data submission is defined. Information in Annex 6 is primarily intended for IT experts who will most probably deal with the data queries and transfer.

3.2 Aggregated data

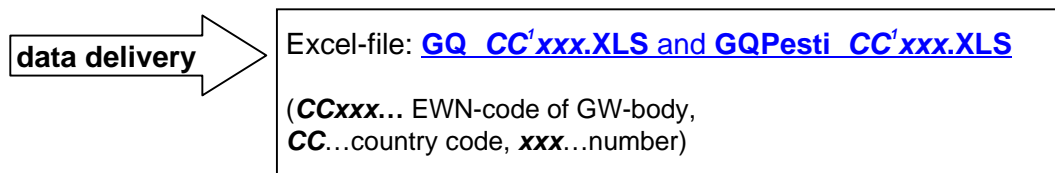
If you prefer to submit aggregated data the following information is required for each groundwater body.

- aggregated data on nitrate, ammonium, nitrite, dissolved oxygen and pesticides according to the Excel form [GG CC⁵xxx.XLS](#).
- aggregated data on pesticides according to the Excel form [GQPesti CC'xxx.XLS](#).
- information on the **type of sampling site** and **monitoring frequency**

Quality data should be based on available data and be provided as proposed in the Guidelines – EEA Technical Report No. 7 (1998). The results for one sampling site should be aggregated as annual mean value. The results of individual monitoring points within a groundwater body should be aggregated for the groundwater body as a whole. (see Excel-file [GQ CC'xxx.XLS](#) and [GQPesti CC'xxx.XLS](#))

Fill in data in the Excel-files ([GQ CC'xxx.XLS](#)). There are separate data sheets called: ammonium, nitrite, nitrate and dissolved oxygen. With regard to the pesticides please use the Excel-file [GQPesti CC'xxx.XLS](#) and use **separate data sheets** for **each pesticide**.

Use one separate file for each groundwater body and add the EWN-code of the groundwater body into the file name.



4. Data validation - Online access

For those countries which have already contributed to EUROWATERNET-Groundwater we offer the possibility to validate already delivered data. Validation can be done via the Internet.

Silence will be taken as validation!

The internet account is password-protected. Only authorised partners will get access to the data. The Internet-address will be distributed to the NRCs-groundwater as soon as possible.

⁵ CC...please change to your country code e.g. AT, BE,...

Quality data: In case of corrections via the Internet please print the respective page, insert the corrected values on the printout and send the corrections to us by mail or fax.

Address:

Umweltbundesamt
Johannes Grath
Spittelauer Laende 5
A-1090 Wien
Austria
fax: +43-(0)1-31304-3700

Submissions of raw data will substitute already submitted aggregated data.

Please note that all submissions during the current data collection are taken as validated.

ANNEX 6 INTERFACE STRUCTURE FOR THE SUBMISSION OF DISAGGREGATED DATA FOR EUROWATERNET-BASIC NETWORK FOR GROUNDWATER

Information in Annex 6 is primarily intended for IT experts who will most probably deal with the data queries and transfer.

The EEA indicated at the Bridging the Gap conference in Paris in February 2001 that the ETC/WTR was going to further examine the statistical robustness of the data provided by EUROWATERNET. Furthermore, during the 2001 update process several countries asked for assistance in aggregating their quality data. In order to keep your effort and amount of time for delivering data as small as possible, we offer to undertake the aggregation of delivered data and suggest that you submit disaggregated (raw) data at monitoring site level. This means that for all the determinands listed you would provide all monitoring data for all of the years you have data.

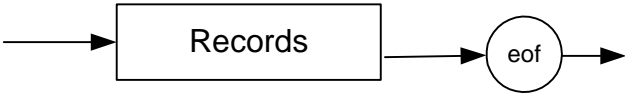
An interface was developed in order to ensure a well-regulated data transfer from the national groundwater database to WATERBASE. The logical structure of the interface allows for the submission of all kind of groundwater information for EUROWATERNET-Groundwater. For the current data collection the interface is only intended to be used for the submission of **disaggregated data on the level of sampling sites** and for the **description of the sampling sites**.

For the submission of **general information** on groundwater bodies and for **aggregated quality** data please see Annex 5 and use the [available Excel-forms](#).

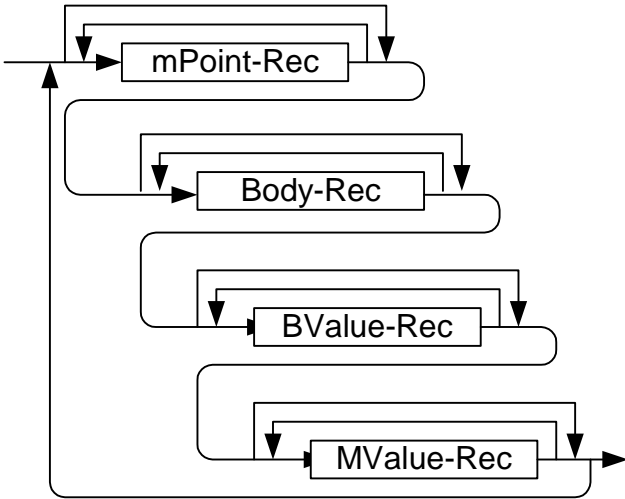
Logical structure of the interface

The following figures describe the logical structure of the interface

File



Records

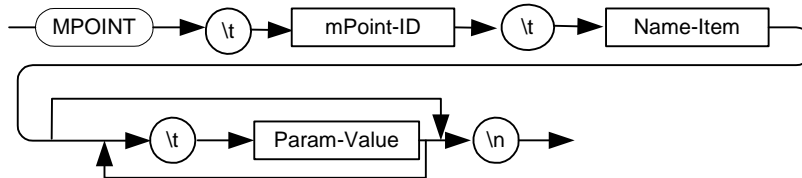


Detailed Description – Types of Records

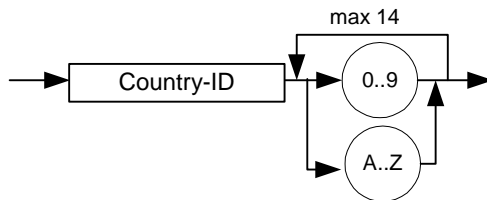
This section describes the types of records

mPoint-Rec

Data (Param-Value) describing a **measurement point** (sampling site)

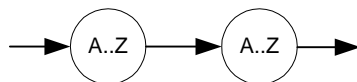


mPoint-ID



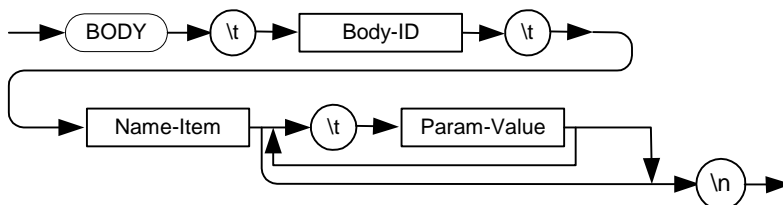
Country-ID

country abbreviations see Table 4



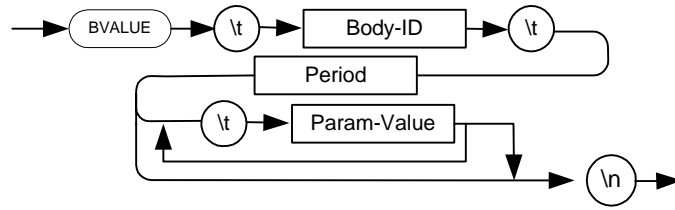
Body-Rec

Data (Param-Value) describing a **groundwater body**



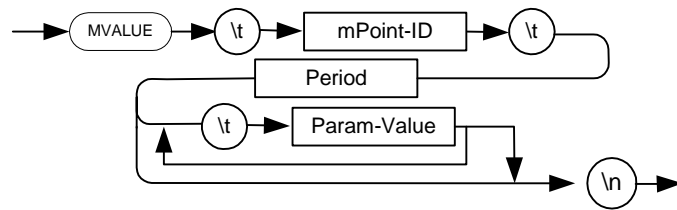
BValue-Rec

Data on the level of a groundwater body



Mvalue-Rec

Data on the level of a monitoring site

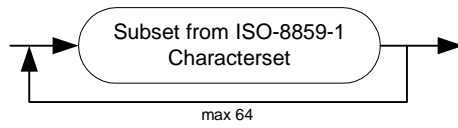


e.g.:

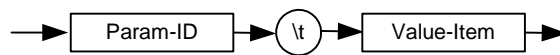
MVALUE→AT10000562→date 1998-07-15→250→45.45↵

Miscellaneous Phrases

Name-Item

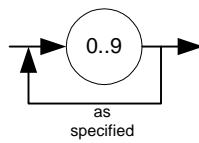


Param-Value

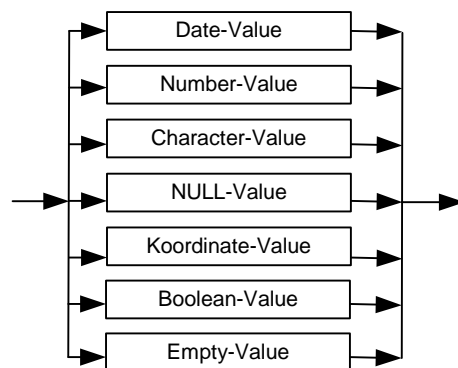


Param-ID

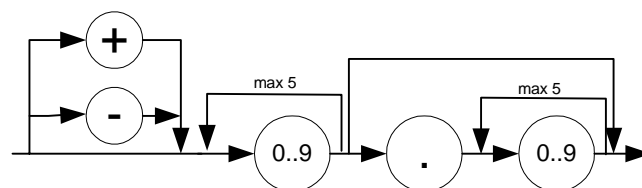
specifications see Table 3



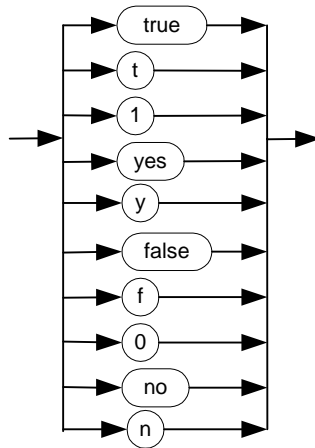
Value-Item



Number-Value

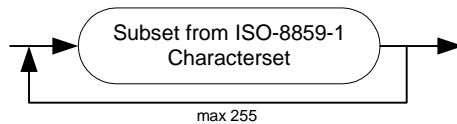


Boolean-Value

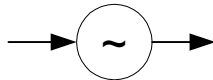


Values interpreted as true: 'true', 't', '1', 'yes' and 'y'
 Values interpreted as false: 'false', 'f', '0'⁶, 'no' and 'n'

Character-Value



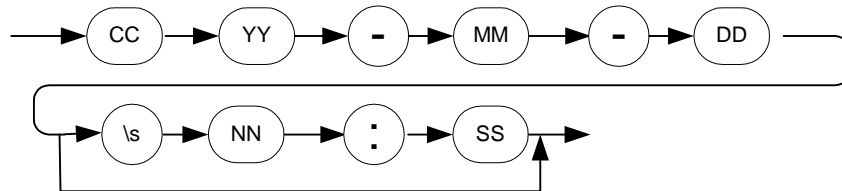
NULL-Value



Date-Value

Date-Value is based on the "*best practice*" which is internationally recommended in [ISO 8601](#) and in the ["Technical Note" of the W3C](#).

This is a subset of the recommendations.



CC Century
 YY Year
 MM Month
 DD Day

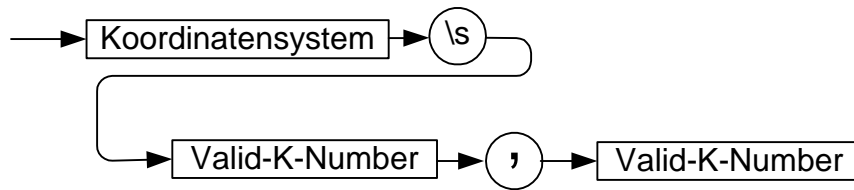
NN Minute
 SS Second

All: two digits (with leading Zero if necessary)

e.g.: 2001-01-01 12:30 *or* 1957-05-07

⁶ Digit Null (Code 48)

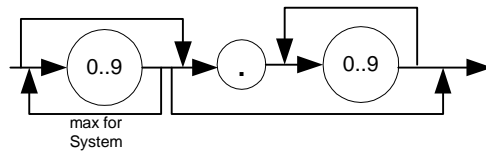
Co-ordinates



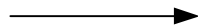
Co-ordinate System: LBT for Lambert, GKK for Gauss-Krueger...

e.g.: LBT 123344.45,343433.34 **or** GKK 98723,343432

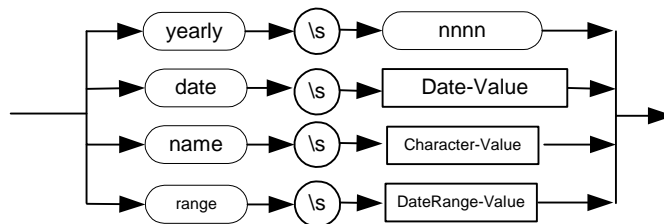
Valid-K-Number



Empty-Value

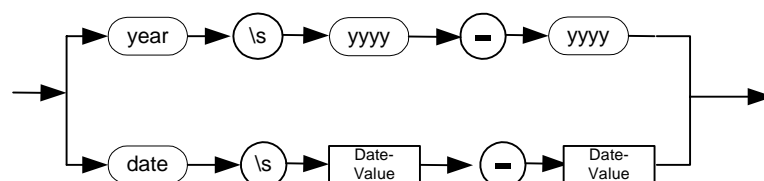


Period



e.g.: yearly 1998 **or** name summer **or** range year 1987-1989

DateRange-Value



Upload of data

The Value-Item is going to be uploaded into the database after a formal checking. If the data set is already existing in the database, the content will be overwritten. → overwriting of data

Overwriting of data

A data set is uniquely defined by the Body-ID or the mPoint-ID, by the Period and the Param-ID. If such a data set already exists in the database, its content will be substituted by the most recent version.

Deleting of data

When the Value-Item is delivered empty then the data set will be removed from the database.

Values below the limit of quantification (LOQ) and below the limit of detection (LOD)

- Values below the limit of quantification (LOQ) are noted as: < Number-Value
- Values below the limit of detection (LOD) are noted as: [Number-Value]

NULL

Some parameters may have NULL values, i.e. the values for that parameter was not initialized. Note that a NULL value for a string is different from an empty string. You should think about a NULL value as an "unknown" value. In the Interface the NULL value is indicated with the Symbol "~" (tilde).

TABLE 1**Subset from Character ISO-8859-1**

Char	Code	Name	Description
	32	-	Normal space
!	33	-	Exclamation
"	34	quot	Double quote
#	35	-	Hash or pound
\$	36	-	Dollar
%	37	-	Percent
&	38	-	Ampersand
'	39	-	Apostrophe
(40	-	Open bracket
)	41	-	Close bracket
*	42	-	Asterisk
+	43	-	Plus sign
,	44	-	Comma
-	45	-	Minus sign
.	46	-	Period
/	47	-	Forward slash

Char	Code	Name	Description
0	48	-	Digit 0
1	49	-	Digit 1
2	50	-	Digit 2
3	51	-	Digit 3
4	52	-	Digit 4
5	53	-	Digit 5
6	54	-	Digit 6
7	55	-	Digit 7
8	56	-	Digit 8
9	57	-	Digit 9
:	58	-	Colon
;	59	-	Semicolon
<	60	lt	Less than
=	61	-	Equals
>	62	gt	Greater than
?	63	-	Question mark

Char	Code	Name	Description
@	64	-	At sign
A	65	-	A
B	66	-	B
C	67	-	C
D	68	-	D
E	69	-	E
F	70	-	F
G	71	-	G
H	72	-	H
I	73	-	I
J	74	-	J
K	75	-	K
L	76	-	L
M	77	-	M
N	78	-	N
O	79	-	O

Char	Code	Name	Description
P	80	-	P
Q	81	-	Q
R	82	-	R
S	83	-	S
T	84	-	T
U	85	-	U
V	86	-	V
W	87	-	W
X	88	-	X
Y	89	-	Y
Z	90	-	Z
[91	-	Open square bracket
\	92	-	Backslash
]	93	-	Close square bracket
^	94	-	Pointer
_	95	-	Underscore

Char	Code	Name	Description	Char	Code	Name	Description
`	96	-	Grave accent	p	112	-	p
a	97	-	a	q	113	-	q
b	98	-	b	r	114	-	r
c	99	-	c	s	115	-	s
d	100	-	d	t	116	-	t
e	101	-	e	u	117	-	u
f	102	-	f	v	118	-	v
g	103	-	g	w	119	-	w
h	104	-	h	x	120	-	x
i	105	-	i	y	121	-	y
j	106	-	j	z	122	-	z
k	107	-	k	{	123	-	Left brace
l	108	-	l		124	-	Vertical bar
m	109	-	m	}	125	-	Right brace
n	110	-	n	~	126	-	Tilde
o	111	-	o	✘	127	-	(Unused)

TABLE 2

Description of special letters

Letter	Description
\n	new line <cr> <lf> \x0D \x0A
\t	tabulator <tab> \x08
\s	normal space
Eof	file-end symbol, will be automatically assigned by the system.

TABLE 3**Param-ID**

Parameter-mode	Param-ID	Textual Representation	Type	
BODY	1	co-ordinate	co-ordinate	
	2	Size in km2	Number	
	3	Type of Body	Character	PM...porous media KM...karstic media FM...fractured media
MPOINT	400	name	character	
	401	co-ordinate	co-ordinate	
	402	well or spring	character	W...well S...spring
	403	Type of use	character	DRW...drinking water site IND...industrial use OTH...other use SUR...surveillance
	404	GW-body code	character	
MVALUE	500	Nitrate, in mg NO ₃ /l	number / character	
	501	Ammonium, in mg NH ₄ /l	number / character	
	502	Nitrite, in mg NO ₂ /l	number / character	
	503	Dissolved oxygen, in mg O ₂ /l	number / character	
	504	Alachlor, in µg/l	number / character	
	505	Atrazine, in µg/l	number / character	
	506	Chlorfenvinphos, in µg/l	number / character	
	507	Chlorpyrifos, in µg/l	number / character	
	508	Diuron, in µg/l	number / character	
	509	Endosulfan (alpha-Endosulfan) , in µg/l	number / character	
510	Hexachlorocyclohexane (gamma-isomer, Lindane), in µg/l	number / character		

	511	Hexachlorobenzene, in µg/l	number / character	
	512	Isoproturon, in µg/l	number / character	
	513	Simazine, in µg/l	number / character	
	514	Trifluralin, in µg/l	number / character	

Examples:

MPOINT→⁷AT10000562→behind the green house↵⁸

MPOINT→AT10000562→behind the green house→401→LAM 122345,46664→402→W→403→IRR→404→AT250↵

MVALUE→AT10000562→date 1998-07-15→500→45.45→501→<0.2→502→[0.01]→503→5.6↵

⁷ → (t) TAB

⁸ ↵ (n) NEW-LINE