



## Appendix 13.2 Short GIS guidance for reporting under the Urban Waste Water Treatment Directive

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## 1. Introduction

The aim of this document is to explain needs and specifications for spatial data in relation to reporting under UWWTD Directive (91/271/EEC). There is a need to obtain spatial data systematically, to improve the positional accuracy, the topological correctness and furthermore to harmonise the format of the data across the EU. Spatial data is of crucial importance to produce high quality maps which are in turn essential for presentational purposes and to make accurate GIS analyses.

## 2. Scope of the guidance

GIS guidance for reporting under the UWWTD provides instructions and rules for unified data production and compilation. It sets a framework for reported spatial data in terms of common coordinate reference system, scale and positional accuracy. It specifies requirements on data consistency and quality (coding, geometry and topological rules), principles of naming reported files and data exchange format. Furthermore it provides a checklist for GIS datasets compilation and set of shapefile templates for harmonised reporting.

## 3. User requirements

Following GIS datasets have to be reported under the UWWTD

- The designation of Receiving Areas.
- The delineation of the Agglomeration (submitted as tabular data only via UWWTD questionnaire).
- The recording of Urban Wastewater Treatment Plants (submitted as tabular data only via UWWTD questionnaire).
- The recording of Discharge Points (submitted as tabular data only via UWWTD questionnaire).

GIS dataset supplementing tabular datasets reported are used for visualization of the status of the implementation of UWWTD on EU level, compliance assessment on the EU and national level and for (future) development of indicators. Moreover GIS datasets of receiving areas will be used for developing EU 27 reference layer.

User requirements in terms of data quality, recommended reference system and spatial resolution, were specified for 2007 UWWTD reporting exercise in a document “Background document on specifications for reporting geographical data under UWWTD” and are further elaborated in this guidance.

## 4. As-is analysis and gap analysis

GIS dataset reported in 2007 UWWTD reporting exercise with two main objectives:

- To assess quality of reported GIS shapefiles of receiving areas
- To assess potential use of shapefiles for WISE reference layer of receiving areas

Analysis focused mainly on:

- Consistence check of data reported in shapefiles and tabular data reported in 2007 UWWTD Questionnaire
- Consistence with requirements on coding
- Consistence with requirement on data exchange format
- Consistence with requirements on reference system, spatial resolution
- Consistence with topological rules

GIS datasets of 13 MSs were analysed and following gaps identified:

- Inconsistencies between data on receiving areas reported in tabular form and in shapefiles (differences in names and codes, not matching data entries)
- Recommended reference system not always used
- Missing prj- and dbf- files in reported datasets
- Problems with non ASCII characters, which cause that object name is no displayed completely
- Missing file of metadata
- Inconsistencies with topological rules (namely gaps between polygons, polygons not matching country boundary line, polygons not closed, sensitive areas-rivers without delineated catchment, sensitive areas-transitional waters delineated inland).

## 5. Products

### GIS layers relating to Member State submitted GIS datasets: Urban Wastewater Treatment Directive

Code	Layer	Definition	Scale	Key Attributes	Layer Type
UWWT1	Agglomerations	Agglomeration point features. Agglomerations are linked to Treatment Plants.	1:250,000	Unique ID Name City Load	Point
UWWT2	Urban Wastewater Treatment Plants	Urban Wastewater Treatment Plants. Treatment Plants are linked to Agglomerations and Discharge Points.	1:250,000	Unique ID Name Region (NUTS)	Point
UWWT3	Discharge Points	Discharge Points. Discharge Points link to a specific Treatment Plant and Sensitive Area. Discharge Points could also be linked to the Water Body, Receiving Water, RBD etc.	1:250,000	Unique ID Name Region (NUTS)	Point
UWWT4	Sensitive Area - River	Sensitive Area – River. Sensitive Areas can link to many Discharge Points.	1:250,000	Unique ID National ID Name	Line
UWWT5	Sensitive Area - Lake	Sensitive Area – Lake. Sensitive Areas can link to many Discharge Points.	1:250,000	Unique ID National ID Name	Polygon
UWWT6	Sensitive Area – Coastline	Sensitive Area – Coastline. Sensitive Areas can link to many Discharge Points.	1:250,000	Unique ID National ID Name	Line
UWWT7	Sensitive Area – Coast Area	Sensitive Area – Coast Area. Sensitive Areas can link to many Discharge Points.	1:250,000	Unique ID National ID Name	Polygon
UWWT8	Sensitive Area – Transitional Water	Sensitive Area – Transitional Water. Sensitive Areas can link to many	1:250,000	Unique ID National ID Name	Polygon

		Discharge Points.			
UWWT9	Sensitive Area - Catchment	Sensitive Area – Catchment. Sensitive Areas can link to many Discharge Points.	1:250,000	Unique ID National ID Name	Polygon
UWWT10	Less Sensitive Area – Transitional Water	Less Sensitive Area – Transitional Water. Sensitive Areas can link to many Discharge Points.	1:250,000	Unique ID National ID Name	Polygon
UWWT11	Less Sensitive Area - Coastline	Less Sensitive Area - Coastline . Sensitive Areas can link to many Discharge Points.	1:250,000	Unique ID National ID Name	Polygon

**Maps produced for WISE viewer;**

[WISE map of Urban Waste Water Treatment Agglomerations](#)

[WISE map of Urban Waste Water Treatment Plants](#)

**WISE reference GIS datasets of UWWT receiving areas** shall be available in November 2009

## 6. Maintenance

Principles and criteria applied in data maintenance are based are specified in chapters 7, 8 and 9 of this guidance.

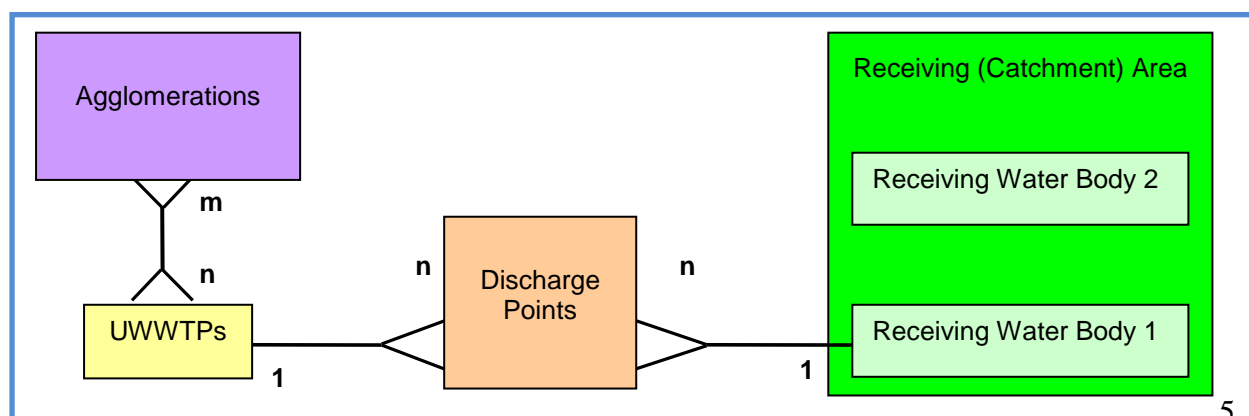
## 7. Data content and structure

### Description of data content and structure

The basic elements for the implementation of the Urban Wastewater Treatment Directive are:

- The designation of Receiving Areas.
- The delineation of the Agglomeration.
- The recording of Urban Wastewater Treatment Plants.
- The recording of Discharge Points.

For the purposes of the Urban Wastewater Treatment Directive these layers are linked as shown below:

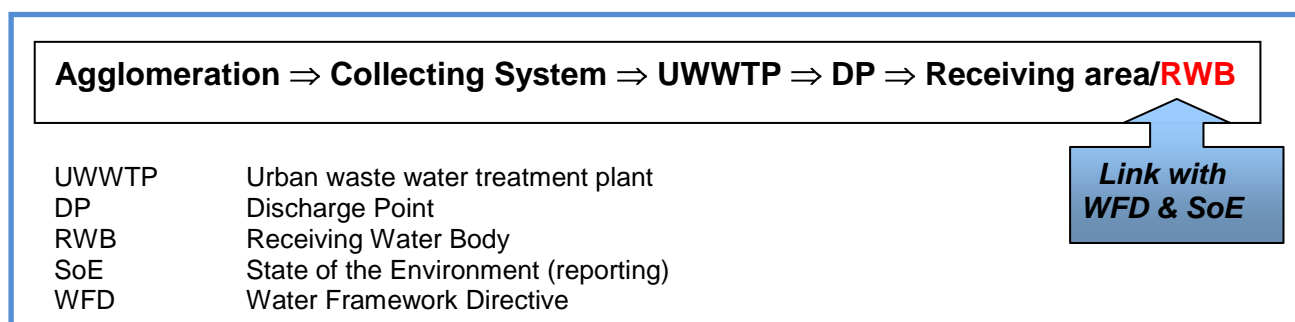


**Conceptual data model for linking agglomeration – treatment plant(s) – discharge point(s) and receiving areas/water bodies**

GIS layers are available for each of the following.

- **Agglomeration:** an area where the population and/or economic activities are sufficiently concentrated for urban wastewater to be collected and conducted to an Urban Wastewater Treatment Plant or to a final Discharge Point
- **A Receiving Water** is any type of water body where water or wastewater is discharged. Member States have to identify water bodies as sensitive areas in accordance with the criteria of the Urban Wastewater Treatment Directive (eutrophication, high concentration of nitrates in surface waters intended for abstraction of drinking water, areas where further treatment is necessary to fulfil other directives). In sensitive areas and catchment of sensitive areas Member States have to ensure the provision of more advanced treatment.
- **Treatment Plants** identify the location and provide general information about their treatment capacity (in p.e.) and other relevant information. The information refers to the maximum flows and loads of the influent the treatment plant is designed for, which conform to the specified consent standard. The information also provides detail about the wastewater infrastructure being (or planned to be) in place.
- **Discharge Points** identify the location, where wastewater treated in an UWWTP or collected in collecting system and discharged without treatment reaches the Receiving Water. Besides establishing the link between UWWTP/ collecting system without treatment and the receiving water some supplementary information is given for the Discharge Points.

The diagram below shows the links within the UWWTD GIS layers and the other related WISE layers.



**Principal pathway of urban wastewater as foreseen by UWWTD**

### Data consistency and quality

The spatial datasets delivered to the Commission concerning the UWWTD Directive should be represented as following regarding the geometry types:

- ✓ **Point features: Agglomerations/UWWTPs/Discharge Points in the ETRS 89 reference system delivered as table in the UWWTD-Questionnaire. Coordinates should be based on ISO 6709:1983 (Standard representation of longitude, latitude and altitude for geographic point locations).**
- ✓ **Line features: Sensitive areas – rivers, - coastline and less sensitive areas in the ETRS 89 reference system delivered as shapefile** (the corresponding shapefiles will be uploaded via the electronic UWWTD questionnaire to the same physical location as the export files of the questionnaire. Tabular information on sensitive areas in the questionnaire has to refer to the corresponding name and location of the files)
- ✓ **Polygon features: Sensitive areas – lakes, – coast area and catchments in the ETRS 89 reference system delivered as shape file** (the corresponding shapefiles will be uploaded via the electronic UWWTD questionnaire to the same physical location as the export files of the questionnaire. Tabular information on sensitive areas in the questionnaire has to refer to the corresponding name and location of the files)

### ***Topological rules for LINE FEATURES in the terms of ArcGIS software***

#### **Sensitive areas-Rivers:**

- Must not have dangles (exceptions are sources and mouth)
- Must not overlap
- Must not intersect (nodes at intersections)
- Must not touch interior
- Must be covered by boundary of river basins
- Must not overlap with coastal waters, transitional waters
- Outlet of each feature must touch coastline

#### **Coastline/less sensitive areas:**

- Must not overlap
- Must not overlap with transitional waters, rivers, lakes
- Must touch transitional waters, national boundaries, river basins

### ***Topological rules for POLYGON FEATURES in the terms of ArcGIS software***

#### **Sensitive areas-Lakes:**

- Must not overlap
- Must not overlap with coastal waters, transitional waters
- Must be covered by river basin districts

#### **Sensitive areas-Coast area:**

- Must not overlap
- Must not have gaps
- Must not overlap with transitional waters, rivers, lakes
- Must touch transitional waters, national boundaries, river

#### **Catchments of sensitive areas:**

- Must not overlap
- Must not have gaps
- Must be covered by extent of river basin districts
- Must not overlap with coastal waters
- Must not overlap with transitional waters
- Boundary must be covered by river sub basins
- Must cover features of river sub basins
- Must contain at least one river
- Must touch the coastline

## **ID management and update**

### **MS submitted GIS data**

Concise coding will ease up electronic data transfer in the future and allow linkage to additional datasets that use the same coding mechanism. GIS feature coding is the assignment of unique identification codes to each table or spatial feature that will be referenced by GIS. This assignment needs to be managed to ensure uniqueness at national and international level. Standard code formats

will ease electronic data transfer and enhance the possibility of central querying against distributed storage.

Unique European codes should be generated by placing the ISO 2 character national code for each Member State in front of up to 22 characters unique identifier codes generated within Member States.

### **Coding of point information**

The Urban Wastewater Directive leads to the establishment of 3 features requiring unique coding at European Level. These features are:

Agglomerations  
Wastewater Treatment Plants  
Discharge Points

By specifying a code one should ensure the persistence of the code in the future. Therefore it is recommended to use upper case and **characters from A to Z and figures from 0 to 9 only**. Codes for selected features (rivers, lakes etc) are presumed to be consistent with previously reported coding systems for the Water Framework directives Article 3 and 5 to be in line with further reporting within WISE.

### **Unique European codes are provided by following format**

**MS #1#2....#22 where:**

**MS = 2 character Member State identifier, in accordance with ISO 3166-1-Alpha-2 country codes, and**

**#1#2...#22 = an up to 22 character feature code that is unique within the Member State symbol # = wildcard character (a wildcard character can be used to substitute for any other character or characters in a string).**

### **Coding of sensitive areas and less sensitive areas**

The feature code for **sensitive areas** should be unique also among the different types of sensitive areas. Therefore the following format for the sensitive areas code is recommended:

**MS SA #1#2....#22 where:**

**MS = 2 character Member State identifier, in accordance with ISO 3166-1-Alpha-2 country codes, and**

**SA = a 2 character code for the sensitive area (see below)**

**#1#2...#22 = an up to 22 character feature code that is unique within the Member State symbol # = wildcard character (a wildcard character can be used to substitute for any other character or characters in a string).**

The following 2 character unique identifiers for sensitive areas are recommended:

RI	for Sensitive Area – river
LK	for Sensitive Area – lake
CL	for Sensitive Area – coastline
CA	for Sensitive Area – coast area
CM	for Sensitive Area – catchment
LS	for Less sensitive area (coastline)
TW	for Sensitive Areas and Less Sensitive Areas – transitional waters*



**\*Definitions:**

Transitional waters - WFD Article 2(6): 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. Transitional waters are for example estuaries and lagoons.

Estuary: is a semi-enclosed body of water where fresh water from the land, usually from a river, meets salt water from the sea. In the sense of UWWTD (Art. 2.12) an “estuary” means the transitional area at the mouth of a river between fresh-water and coastal waters.

Lagoon (tropical): is bordered by land on at least one side and is blocked from the sea by sandbars or coral reefs. Lagoons are typically shallow and do not have a major point source of fresh water input, such as a river, but do collect fresh water as it is discharged from the land through storm water runoff. The salinity of a lagoon depends on; seasonal rainfall, fresh water flowing from the land, evaporation, and the exposure to sea water.

Examples how to use unique identifiers:

A sensitive area lake in Italy might have the identifier  
or an agglomeration in Spain might have the identifier

ITLK45734  
ES6712454212145

**Use of the MS #1#2....#22 and MS SA #1#2....#22 is the only requirement for unique European feature identification codes. Codes of this format should be used for initial and subsequent references to features reporting to the Commission.**

Underscores (“\_”) must not be used directly after the Member State identifier (MS). This could result in difficulties when creating European codes by placing the ISO 2 character national code for each Member state in front of up to 22 characters unique identifier codes generated within Member States. However, underscores can be used as part of the 22 character feature code (e.g. an agglomeration in Spain might have the identifier ESAG\_67124542145)

Life cycle of the spatial objects reported under the UWWTD are derived from provision of articles 5.6 and 6.4 of the Directive.

Principles of historic data management are specified in Appendix 9 of Guidance Document No. 22 Updated Guidance on Implementing the Geographical Information System (GIS) Elements of the EU Water policy.

## 8. Data production

### Data capturing/selection criteria

The factor determining the required detail of spatial data is the size of the smallest feature to be shown on digital and paper maps.

This ‘spatial detail’ determines both the minimum mapping area and the number of coordinates used to describe an element. For example on a large scale map (1:250.000) a river is presented with more points than on a small scale map (1:1.000.000) where small meanders may not be represented.

For the WFD the level of spatial detail is set to 0.5 km<sup>2</sup> surface for lakes and to a 10 km<sup>2</sup> catchment area for rivers that leads to a scale of 1:250.000.

The GIS Working Group recommends for WFD needs a positional accuracy for the reporting of 1000 metres (corresponding to an input scale of approximately 1:1.000.000) in the short term. In the long term a positional accuracy of 125 m (1:250.000) is strongly recommended for higher positional data accuracy for web mapping purposes. The scale of 1:250,000 is preferable/advisable to use.

**As for the scale and positional accuracy of GIS UWWTD data concerning point features (e.g. agglomerations, UWWTPs and Discharge Points), sensitive area features (e.g. catchments, lakes, rivers) the accuracy of 125 m (1:250.000) is strongly recommended as a minimum.**

Data precision: coordinates – in decimal degrees in 6 digits behind the comma.

## Spatial representation

- ✓ **Point features: Agglomerations/UWWTPs/Discharge Points in the ETRS 89 reference system delivered as table in the UWWTD-Questionnaire. Coordinates should be based on ISO 6709:1983 (Standard representation of longitude, latitude and altitude for geographic point locations).**
- ✓ **Line features: Sensitive areas – rivers, - coastline and less sensitive areas in the ETRS 89 reference system delivered as shapefile** (the corresponding shapefiles will be uploaded via the electronic UWWTD questionnaire to the same physical location as the export files of the questionnaire. Tabular information on sensitive areas in the questionnaire has to refer to the corresponding name and location of the files)
- ✓ **Polygon features: Sensitive areas – lakes, – coast area and catchments in the ETRS 89 reference system delivered as shape file** (the corresponding shapefiles will be uploaded via the electronic UWWTD questionnaire to the same physical location as the export files of the questionnaire. Tabular information on sensitive areas in the questionnaire has to refer to the corresponding name and location of the files)

## Coordinate reference system

The use of a common coordinate reference system is particularly important for the harmonisation of geographic information across Europe. Spatial data provided by Member States are often insufficiently documented (e.g., the used projection is unknown or is only partially described). The use of different coordinate systems is a potential source of errors when national data are imported into a European wide system. **Therefore it is important that Member States shall provide data for reporting under a single coordinate system.**

**The ETRS89** (European Terrestrial Reference System) is recommended by the WFD GIS Working Group for pan Europe spatial data collection, storage and analyses.

**Therefore it is recommended to use ETRS 89 for the national point feature and area feature datasets regarding the UWWT Directive.**

The description and definition of ETRS89 is based on the convention of ISO19111, the 'Spatial referencing by coordinates' standard. For further documentation on ETRS89, see <http://crs.bkg.bund.de/crs-eu/> and <http://www.eionet.eu.int/gis>.

## 9. Data exchange format

The **shapefile (ESRI Standard)** is recommended by the WFD GIS working group as data exchange format for vector data because it is compatible with systems operated by the Commission. This vector data format stores the location, shape and attributes of geographic features by sequences of points and their relations and supports point, line and polygon features.

Geometric data will be reported to the Commission in the so-called "shapefile" format. This format is placed in the public domain and therefore most GIS software packages are able to generate files in this format.

The format consists of the following files:

- shp – file (\*.shp): File contains geometry of the geographic features. This is a direct access, variable record length file in which each record describes a shape with a list of its vertices. *[Note: xml schemas will be developed in the frame of WISE]*
- Attribute file (\*.dbf): This contains features attributes with one record per feature. The one to one relationship between geometry and attribute is based on record number. It is a Dbase IV format file which can be read by most software packages.

- Index file (\*.shx): Contains relations between geometry (\*.shp) and attribute (\*.dbf) part of the data

**Not including any of the three above mentioned files causes shapefile to be incomplete and therefore corrupted and unreadable for GIS software**

- Projection file (\*.prj): detailed description of the geographic reference system and should be included in each spatial dataset delivered to the Commission.

These four files must be zipped (compressed) into 1 file before transfer to the Commission.

**The proposal for UWWTD reporting is to use the shape file format and apply state of the art geographic information technology focussing on accessing geographic data through internet browsers directly from the Member States.**

**Warning: The shapefile format proved to be limitative for the transfer of NON ASCII characters (for example Cyrillic, Greek but also an umlaut or accent grave).**

**The .dbf component (shapefile Dbase IV format) depends for its character set representation on the code page of the PC where it is made. Therefore the topographic names stored in the shapefile might be corrupted upon transfer to the Commission. In order to avoid the problem Commission asks ASCII representation of the names in addition to original language names. As for solving this problem the Commission recently proposed to do this with 3 columns regarding names:**

- ☐ Name in original language
- ☐ Indication of the language
- ☐ Name in ASCII characters

**There is still a discussion on this issue within the WISE technical group.**

## Reference to the schema repository

Member States are recommended to use predefined exchange formats ([“Templates for reporting UWWTD GIS datasets”](#)) for reporting. They are available on CIRCA (EEA Circa interest group [“WISE Water Directives reporting, UWWTD data request 2009](#), subfolder 02-Manual and supporting documents).

In order to check that reported data is correctly referenced within the required ETRS-89 coordinate system and placed inside the country for which GIS datasets are submitted, Member States are recommended to use shapefile of EuroRegionalMap 1:250 000 country boundaries. Shapefiles of country boundaries are available on CIRCA (EEA Circa interest group [“WISE Water Directives reporting](#), in folder [“WISE restricted data distribution”](#)). Folder includes:

- Licence conditions document (ESTAT-ERM-licence ConditionsForWISE.pdf)
- Metadata (metadata-ERM-reporting country boundaries)
- 27 national files with ERM country boundaries

Please note, that the access to the national files with ERM country boundaries is restricted (ie.is granted only to authorised WISE data providers for UWWTD).

## Naming of files

Applying common file naming conventions helps streamlining the validation process when data is received into the WISE system. The file naming include the following elements:

- MS ID;
- Feature set name;
- Date.

The file naming should have the following structure:

[MS ID]\_[Feature set name]\_[Date]

Where UWWTD relevant feature set names are specified in the table below.

UWWTD datasets	Recommended Feature set Name
Agglomeration	MS*_Agglo
UWWTP	MS*_UWWTP
Discharge Point	MS*_DisPoint
Sensitive Area - river	MS*_SA_river
Sensitive Area - lake	MS*_SA_lake
Sensitive Area – coastline	MS*_SA_coastl
Sensitive Area – coast area	MS*_SA_coasta
Sensitive Area – transitional water	MS*_SA_TW
Sensitive Area - catchment	MS*_SA_catchm
Less sensitive Area – transitional water	MS*_LSA_TW
Less sensitive area - coastline	MS*_LSA_coastl

\*MS = 2 character Member State identifier (for example UK\_SA\_river = Sensitive area river of United Kingdom)

Example: BG\_BG\_SA\_river\_20091130

## 10. Data compilation

It is essential that data delivered to the Commission are homogeneous and of general good quality. Quality control includes the following questions:

- Are the values and codes in tabular data within the range defined in guideline documents?
- Are 'IDs' in accordance with the given standards?
- Does the geometry, either being points, lines or polygons, have an acceptable structure and topology, e.g. are polygons closed, do they overlap, do they have gaps and lines forming networks linked properly to nodes?
- Do the geometric accuracy, coordinate reference system, projection and file format follow the specifications?

Has metadata been filled in, including aspects of accuracy, coordinate system, methodology and source?

Quality control must be carried out and documented before GIS data upload to CDR.

#### Checklist for UWWTD GIS data reporting

☑1/ use appropriate shapefile templates for your country

- UWWTD template shapefiles
  - countries are provided with all shapefile types according to type of receiving area designated under the UWWTD, but **use only those relevant for your country** – e.g. landlocked countries do not use templates for marine areas
  - copy your features inside the appropriate template and **fill in the attributes**
  - **if not using templates, please make sure your data is projected in ETRS-89 coordinate system and attributes have the structure required -> see UWWTD GIS Guidance for the data dictionary of each dataset**
- EuroRegionalMap 1:250 000 country boundaries
  - for your convenience to see that your data is correctly referenced within the required ETRS-89 coordinate system and placed inside your country
  - if possible fit your data inside the boundaries of your country to avoid overshoots or undershoots between neighbouring countries

☑2/ use only ASCII character encoding for naming your features

- using national characters beyond 7 bit ASCII table will lead to incorrect displaying of these characters at EU level

☑3/ assure that your data is reported in ETRS-89 coordinate system

- both if using or not using UWWTD templates provided, check the spatial reference of your data
  - display your UWWTD data together with your country boundaries template to assure they fit each other. If not, your UWWTD data is shifted or have an incorrect spatial reference and need to be corrected.
- do not use your country specific or other coordinate systems (no UTM, no local spheroids and projections)
  - if you are not able to project your local coordinate system to ETRS-89, please provide us at least with enough information regarding your coordinate system that we are able to make the transformation

☑4/ check topology rules for line and polygon features

- check topology of your data to comply with the rules defined in the UWWTD GIS Guidance
  - in case your data is not compliant with topology rules, it could be rejected and you would be asked for the corrections
  - if you are not sure about the topology rules, consult your GIS colleagues, who should be able to help you and make the topology check for you

## 11. Metadata

Metadata is the information and documentation, which makes data understandable and shareable for users over time.

The WFD GIS working group recommends the application of the rules laid down in **ISO 19115** for creating a metadata profile.

Some of the main aspects covered in a metadataset are: name of the data, description of data, coordinate reference system, source and methodology – including version of specification on which the compilation is based, responsible party, ownership, user rights, process steps and dataset accuracy

The WISE metadata profile applies to spatial datasets, dataset series and services, and may be applicable to other resource types. It defines the minimum requirements for the functional concepts of discovery and data usage. The proposal is in line with the draft implementing rules for metadata of the INSPIRE initiative. The profile is mainly based on the guidelines for metadata included within Guidance Document No. 22 Updated Guidance on Implementing the Geographical Information System (GIS) Elements of the EU Water policy.

For UWWTD reporting it is strongly recommended to use the basic elements from this form and to integrate this information as part of the UWWTD Questionnaire.

#### Dataset metadata form mapped to ISO19115

Label		Name	Example	Value
<b>Metadata (information on metadata)</b>		MD_Metadata		
CharacterSet		characterSet	007 (ISO/IEC 8859-1)	
Language		language	ENG	
Standard Name		metadataStandardName	ISO 19115:2003	
Standard Version		metadataStandardVersion	WISE 1.0	
Creation Date		dateStamp	2006-01-29	
<b>Contact</b>		contact		
Name		individualName		
Organisation Name		organisationName	European Commission . EG Environment	
position name		positionName		
role		role	007 (pointOfContact)	
<b>Data Identification</b>		MDDataIdentification		
<b>citation</b>		citation		
	Title		Main Rivers	
	date	date		
	Date	refDate	2007-03-22	
	Date type	dateType	002 (publication)	
Abstract		abstract	Vector dataset with the main rivers of Europe, whose catchment is exceeding 0000 km2.	
<b>Contact Info</b>		contactInfo		
	Name	individualName	either name, organisation name or position name have to be documented	
	Organisation Name	organisationName		
	position name	positionName		
	- Address	- address		
	Cit	city		
	Postal code	postalCode		
	Country	country		
	Administrative Area	administrativeArea		
	email	electronicMailAddress		
	Phone	phone		
	Voice phone	voice		
	Fax	facsimile		
	Online Resource	onlineResource		
	Hours of service	hoursOfService		
	Contact instructions	contactInstructions		
	- linkage	linkage	<a href="http://www.wise.eu">http://www.wise.eu</a>	
<b>Topic Category</b>		topicCategory	13 (inland waters)	
Spatial representation type		spatialRepresentationType	001 (vector)	

Label				Name	Example	Value
<u>Spatial Resolution</u>				spatialResolution		
<u>equivalent scale</u>				equivalentScale		
<u>Denominator</u>				denominator	10000000	
<u>distance</u>				distance		
<u>Language</u>				language	ENG	
<u>Characteraset</u>					007 (ISO/IEC 8859-1)	
<u>Extent</u>				extent		
<u>Geographic Element</u>				geographicElement		
<u>Ex_GeographicBounding Box</u>				EX_GeographicBounding Box		
<u>Most western coordinate</u>				westBoundLongitude	-20	
<u>Most eastern coordinate</u>				eastBoundLongitude	50	
<u>Most southern coordinate</u>				southBoundLatitude	25	
<u>Most northern coordinate</u>				northBoundLatitude	80	
<u>Ex_GeographicDescription</u>				Ex_GeographicDescription	or	
<u>Geographic Identifier</u>				geographicIdentifier		
<u>code</u>				code	Europe, 15 (RBD code)	
<u>Ex_BoundingPolygon</u>				EX_BoundingPolygon		
<u>polygon</u>				polygon		
<u>Distribution Information</u>				distributionInfo		
<u>distributionFormat</u>				distributionFormat		
<u>Name</u>				name	GML	
<u>Version</u>				version	3.0	
<u>digitalTransferOptions</u>				transferOptions		
<u>online</u>				online		
<u>linkage</u>				linkage	<a href="http://www.wise.eu/download">http://www.wise.eu/download</a>	
<u>Data quality information</u>				dataQualityInfo		
<u>Scope</u>				scope		
<u>Level</u>				level	dataset	
<u>Lineage</u>				lineage		
<u>statement</u>				steatement	The dataset has been create from national contributions due to reporting obligations according to the water framework directive.	
<u>Process step</u>				processStep		
<u>description</u>				decription		
<u>source</u>				source		
<u>description</u>				description		
<u>Reference system Information</u>				referenceSystemInfo	if not WGS84 or ETRS89	
<u>Name of coordinate reference system (CRS)</u>				referenceSystemIdentifier	AT_MGI / AT_TM	
<u>Prime Meridian</u>				Prime Meridian	Greenwich	
<u>Prime meridian greenwich longitude</u>				Prime meridian greenwich longitude	0°	
<u>code</u>				code	it is recommended to use EPSG codes	
<u>Projection</u>				projection	Transverse Mercator Projection	
<u>False Easting</u>				falseEasting	500 000 m	
<u>False Northing</u>				falseNorthing	0 m	
<u>Central Meridian</u>				centralMeridian	24° E	
<u>Latitide of Origin</u>				latitudeOfOrigin	0°	
<u>Scale factor at central meridian</u>				scaleFactor	0.9996	
<u>code</u>				code	it is recommended to use EPSG	

Label	Name	Example	Value
		<b>codes</b>	
<u>Ellipsoid</u>	ellipsoid	Bessel 1841	
Ellipsoid semi major axis	Ellipsoid semi major axis	6 378 137 m	
Ellipsoid semi minor axis	Ellipsoid semi minor axis	635 911 m	
Ellipsoid inverse flattening	Ellipsoid inverse flattening	298.2572222	
<b>code</b>	<b>code</b>	<b>it is recommended to use EPSG codes</b>	
<u>datum</u>	datum	MGI	
	<b>code</b>	<b>it is recommended to use EPSG codes</b>	

## 12. Coordination and organisation

- EC organisation responsible for reporting- DG ENV
- Helpdesk
  - On Reportnet CDR (in case of login problems): <http://eionet.europa.eu/help>, [helpdesk@eionet.europa.eu](mailto:helpdesk@eionet.europa.eu)
  - On 2009 UWWTD reporting exercise: [Petra.Ronen@cenia.cz](mailto:Petra.Ronen@cenia.cz)

Address for data submission.

**Member State URL to UWWT folder in EEA Central Data Repository**

Austria <http://cdr.eionet.europa.eu/at/eu/uwwt>  
 Belgium <http://cdr.eionet.europa.eu/be/eu/uwwt>  
 Bulgaria <http://cdr.eionet.europa.eu/bg/eu/uwwt>  
 Cyprus <http://cdr.eionet.europa.eu/cy/eu/uwwt>  
 Czech Republic <http://cdr.eionet.europa.eu/cz/eu/uwwt>  
 Denmark <http://cdr.eionet.europa.eu/dk/eu/uwwt>  
 Estonia <http://cdr.eionet.europa.eu/ee/eu/uwwt>  
 Finland <http://cdr.eionet.europa.eu/fi/eu/uwwt>  
 France <http://cdr.eionet.europa.eu/fr/eu/uwwt>  
 Germany <http://cdr.eionet.europa.eu/de/eu/uwwt>  
 Greece <http://cdr.eionet.europa.eu/gr/eu/uwwt>  
 Hungary <http://cdr.eionet.europa.eu/hu/eu/uwwt>  
 Ireland <http://cdr.eionet.europa.eu/ie/eu/uwwt>  
 Italy <http://cdr.eionet.europa.eu/it/eu/uwwt>  
 Latvia <http://cdr.eionet.europa.eu/lv/eu/uwwt>  
 Lithuania <http://cdr.eionet.europa.eu/lt/eu/uwwt>  
 Luxembourg <http://cdr.eionet.europa.eu/lu/eu/uwwt>  
 Malta <http://cdr.eionet.europa.eu/mt/eu/uwwt>  
 Netherlands <http://cdr.eionet.europa.eu/nl/eu/uwwt>  
 Poland <http://cdr.eionet.europa.eu/pl/eu/uwwt>  
 Portugal <http://cdr.eionet.europa.eu/pt/eu/uwwt>  
 Romania <http://cdr.eionet.europa.eu/ro/eu/uwwt>  
 Slovakia <http://cdr.eionet.europa.eu/sk/eu/uwwt>  
 Slovenia <http://cdr.eionet.europa.eu/si/eu/uwwt>  
 Spain <http://cdr.eionet.europa.eu/es/eu/uwwt>  
 Sweden <http://cdr.eionet.europa.eu/se/eu/uwwt>  
 United Kingdom <http://cdr.eionet.europa.eu/gb/eu/uwwt>



### 13. Reporting documents and links

- [Templates for reporting UWWTD GIS datasets](#)
- [EuroRegionalMap 1:250 000 country boundaries](#)

### 14. Appendix

- Appendix 1: Data dictionary for UWWTD GIS datasets
- Appendix 2: Examples of topology errors