

# WISE WFD reference spatial data sets

Technical Report

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## Imprint

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## Summary

1. This report describes the following Water Framework Directive (WFD) reference spatial data sets, which are part of the information in the Water Information System for Europe (WISE):
  - River basin districts
  - River basin district sub-units
  - Surface water bodies
  - Groundwater bodies
  - Monitoring sites
2. The data sets include information reported to the European Commission in the 1<sup>st</sup> River Basin Management Plans (henceforth WFD2010) and in the 2<sup>nd</sup> River Basin Management Plans (henceforth WFD2016). Detailed information about the structure and content of the spatial data sets reported in WFD2016 can be found in the [WISE GIS Guidance](#).
3. The data reported in WFD2010 were updated using data reported in WFD2016, whenever the spatial objects are identical in 2010 and 2016. For WFD2010 objects, some information may be missing, if the objects no longer exist in the 2<sup>nd</sup> River Basin Management Plans, and were not reported in WFD2016.
4. The geometry of water bodies is reported using polygons or polylines. Separate *shapefiles* are provided for each geometry type, due to the limitations of the *shapefile* format. Polygonal geometries are published in the *SurfaceWaterBody shapefile*, linear geometries in *SurfaceWaterBodyLine shapefile*.
5. In WFD2010, Data Providers were not required to report the geometry of all water bodies. For some water bodies, the latitude and longitude of an arbitrary point is available. In other cases, only the river basin district (RBD) is known. This information is published in two special *shapefiles* that contain point geometries and may contain empty geometries (*SurfaceWaterBodyPoint* and *GroundWaterBodyPoint*).
6. The geometry of all spatial objects is published in WGS 84 (urn:ogc:def:crs:EPSG::4326). The geometry of the objects was not edited or corrected: topological and positional errors may exist. Please refer to the quality control feedback provided in the original deliveries in the Central Data Repository ([CDR](#)).
7. The size of spatial objects was calculated from the projected geometries in ETRS89-LAEA (urn:ogc:def:crs:EPSG::3035). For WFD2010 objects without proper geometry, the reported size (area or length) is used where available.
8. After consultation with the EU Water Directors, and per agreement between the European Commission and the Data Providers, as communicated to the Common Implementation Strategy (CIS) Working Group Data and Information Sharing (WG DIS) on 2017-06-07, the following access and use limitations are applicable to the WFD reference spatial data sets:
  - a. The information about drinking water monitoring sites ([DWD](#) or [DRI](#)) will not be published due to safety and security concerns. The same applies to any monitoring site identified by Data Providers as "[not for publication](#)".
  - b. The information provided by the United Kingdom will not be made publicly available for download. The information provided by the United Kingdom can be used by the European Commission and the European Environment Agency for visualisation purposes.
9. The use limitations and the access and other constraints set by the Data Providers are described in the metadata files associated with each delivery in CDR. In WFD2010, not all Data Providers reported structured metadata. In WFD2016, all Data Providers reported structured metadata. Refer to Annex 1 for further information and to the original metadata for further information, prior to any use.
10. The datasets publicly available for download include information for the countries that have reported under WFD2016 as of 2019-03-31. Information for Lithuania is not included.

## Data content

The WFD reference spatial data sets contain information reported to the European Commission under the Water Framework Directive (WFD) reporting obligations.

Public data sets can be downloaded via the EEA Spatial Data Infrastructure ([SDI](#)).

Each data set contains information relevant for the first River Basin Management Plans (RBMP) or for the second RBMPs, respectively `wfd2010` or `wfd2016`.

### First River Basin Management Plans (WFD2010)

The data sets compile the available spatial data related to the first RBMPs, which were due in 2010.

See <http://rod.eionet.europa.eu/obligations/521> for further information on the WFD2010 reporting.

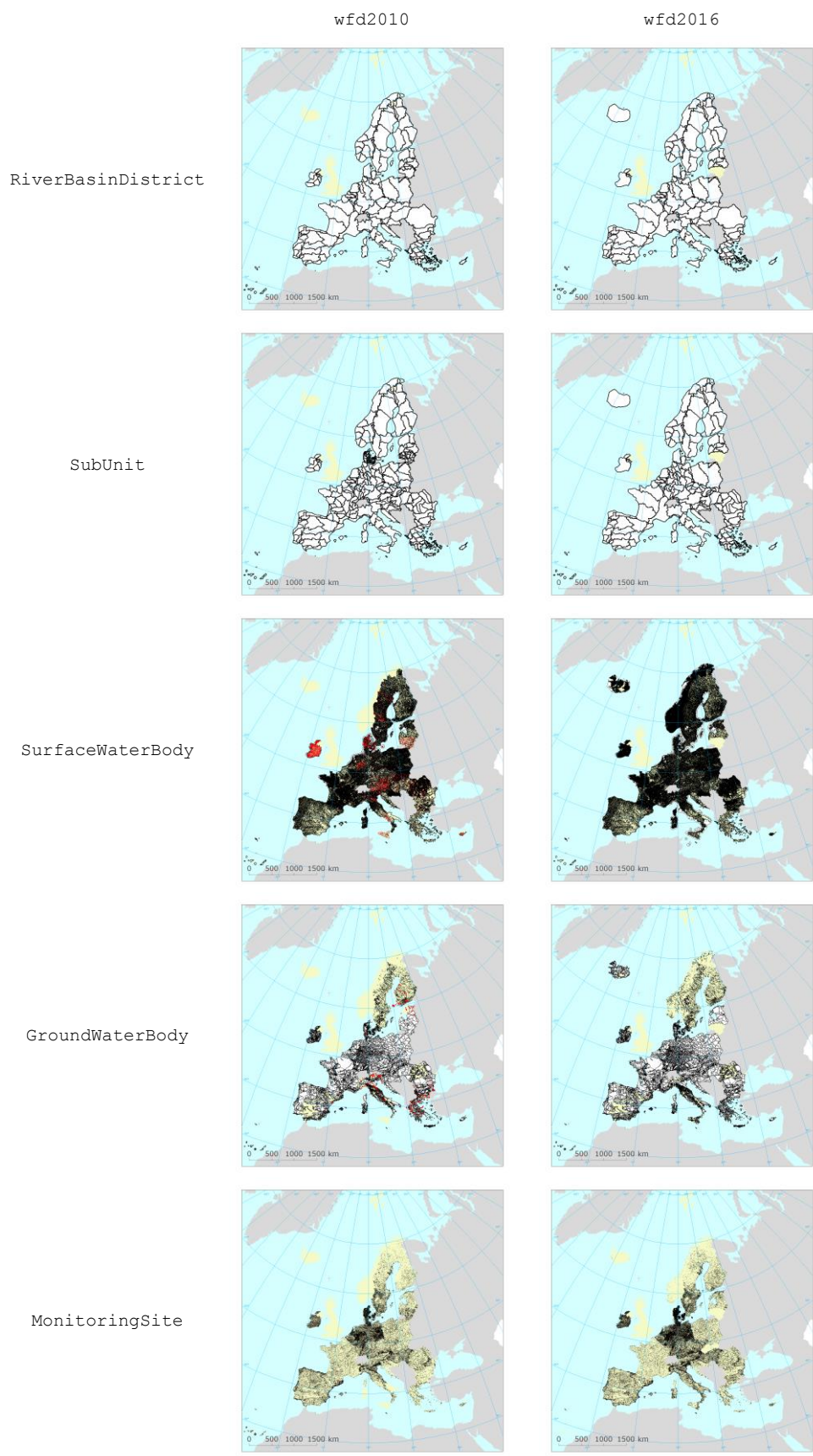
The data sets were prepared to support the reporting of the second RBMPs due in 2016 (hereafter WFD2016). See <http://rod.eionet.europa.eu/obligations/715> for further information on the WFD2016 reporting.

The data reported in WFD2010 were updated using data reported in WFD2016, whenever the spatial objects are identical in 2010 and 2016. For WFD2010 objects, some information may be missing, if the objects no longer exist in the 2nd River Basin Management Plans, and were not reported in WFD2016.

### Second River Basin Management Plans (WFD2016)

The data sets compile the available spatial data related to the second RBMPs, as of 2019-03-31.

Table 1. Illustrative thumbnail images with extracts of the public WFD reference spatial data sets.



Each data set contains one or more *shapefiles* as summarized in Table 2.

Table 2. WFD reference spatial data sets and corresponding *shapefiles*.

Data set	Shapefile	Geometry type	Observations
River basin districts	RiverBasinDistrict	Polygon	
River basin district subunits	SubUnit	Polygon	
Surface water bodies	SurfaceWaterBody	Polygon	
	SurfaceWaterBodyLine	Polyline	
	SurfaceWaterBodyPoint	Point	Only for the 1 <sup>st</sup> RBMP (WFD2010). The <i>shapefile</i> may contain empty geometries.
Groundwater bodies	GroundWaterBody	Polygon	
	GroundWaterBodyPoint	Point	Only for the 1 <sup>st</sup> RBMP (WFD2010). The <i>shapefile</i> may contain empty geometries.
Monitoring sites	MonitoringSite	Point	The 1 <sup>st</sup> RBMP (WFD2010) dataset may contain empty geometries.

The data sets follow the WISE spatial data model described in the WISE GIS guidance, available at [http://cdr.eionet.europa.eu/help/WFD/WFD\\_521\\_2016/GISGuidance/WISE\\_GISGuidance.pdf](http://cdr.eionet.europa.eu/help/WFD/WFD_521_2016/GISGuidance/WISE_GISGuidance.pdf)

The formal specification is available at [http://cdr.eionet.europa.eu/help/WFD/WFD\\_521\\_2016/UML/GML\\_Schemas\\_6.0.6.zip](http://cdr.eionet.europa.eu/help/WFD/WFD_521_2016/UML/GML_Schemas_6.0.6.zip)

The *shapefile* templates are available at [http://cdr.eionet.europa.eu/help/WFD/WFD\\_521\\_2016/Shapes/Shapefiles\\_6.0.6.zip](http://cdr.eionet.europa.eu/help/WFD/WFD_521_2016/Shapes/Shapefiles_6.0.6.zip)

Refer to the WISE GIS guidance for the mapping between the GML elements in the XML schema and the corresponding fields in the *shapefile* format.

Table 3 lists the fields that are present in the *shapefiles*, but not in the reported data. These fields store information related to quality control and/or simplify the use of the data.

Table 3. Additional fields present in the *shapefiles*: *cYear*, *country*, *lat*, *lon*, *statusCode*, *statusDate*, *remarks* and *qcCheck*.

Field name	Description
cYear	Integer field containing the value <b>2010</b> in the <i>shapefiles</i> pertaining to WFD2010 and the value <b>2016</b> in the <i>shapefiles</i> pertaining to WFD2016
country	Two-letter ISO code of the country (ISO 3166 alpha-2), except for Greece and the United Kingdom, for which the abbreviations EL and UK are used.
lat	Latitude, in decimal degrees, of an arbitrary point located within the geometry of the object (if available)
lon	Longitude, in decimal degrees, of an arbitrary point located within the geometry of the object (if available)
statusCode	Status code of the thematic identifier in the WISE register (refer to <a href="#">Status</a> for further information).
statusDate	Date of reference for the status code (typically the date when the data is extracted for publication).
remarks	Currently used only for records where cYear = 2010, provides information about the reason why a given identifier has been superseded or deprecated, or why the 2010 and 2016 objects are not identical.
qcCheck	Additional information about the comparability between 2010 and 2016 objects, or about quality issues detected in the data (please refer to the CDR deliveries for a full report on the quality control of WFD2016 deliveries).

## Data processing

- The WFD2016 spatial data files were reported as GML files and were subject to automated quality control upon delivery, automated harvest and version-control management. Only the [latest CDR delivery](#) per Data Provider, prior to 2018-09, is included in the dataset
- Specific issues or inconsistencies were clarified with the support of the WFD2016 national reporting contacts. No geometric or topological error correction was performed. Basic automated editing of string values (upper-casing, trimming, removal of invalid characters or values) was performed. See Annex 2.
- The WFD2010 spatial data files, reported as *shapefiles*, were not subject to automated quality control upon delivery, automated harvest or version-control management. The data sets include partial updates (per data set and per river basin district) submitted until 2016-03-17. It is not possible to trace a spatial object in the data set to a specific CDR delivery.
- The data reported in WFD2010 were updated using data reported in WFD2016, whenever the spatial objects are identical in 2010 and 2016. Identical objects have `wiseEvolutionType` in ('noChange','changeCode','change'). For WFD2010 objects, some information may be missing, if the objects no longer exist in the second River Basin Management Plans, and were not reported in WFD2016. Objects that no longer exist in 2016 have `wiseEvolutionType` = 'deletion'.
- In the WFD2010 reporting, some information required by the current WISE spatial data model was not requested. Where available, the missing information was compiled from the WFD2010 non-spatial reporting or from the WFD2016 reporting.
- All objects reported in the WFD2010 non-spatial data files are included in the dataset. The geometry of the objects was obtained from the spatial data files, where available. A conventional geometry is used if only the location of the representative point is known.
- The WFD2010 reporting requested only the location of a representative point (for example, a centroid) for some objects, e.g. for water bodies. For example, the WFD2010 spatial data files include the geometry of large water bodies, but normally do not include smaller water bodies.

Table 4 describes the different data processing options in the production of the European reference data sets. See Table 5 and Table 6 for the information applicable to each *shapefile*.

Table 4. Data processing and data source precedence (see also Table 5 and Table 6).

Notation	Description
r	The European reference spatial data set contains the value <b>reported</b> by the Data Provider (if available).
d	The European reference spatial data set contains a value <b>derived</b> from other data reported by the Data Provider. E.g. the size was derived from the geometry, or the WFD2010 data was updated or derived using information reported in WFD2016.
i	<b>Not applicable</b> , i.e. the European reference spatial data set does not contain a given field.
r/d	The value <b>reported</b> by the Data Provider (if available) takes precedence over <b>derived</b> values.
d/r	The <b>derived</b> value (if it can be calculated) takes precedence over the <b>reported</b> value.

Table 5 describes the structure of the *shapefiles* with river basin districts, sub-units or water bodies.

The three SurfaceWaterBody *shapefiles* have an identical structure (see Table 2). The two GroundWaterBody *shapefiles* have an identical structure (see Table 2). The first column of Table 5 contains the name of the data element in the WISE GML files reported by Data Providers. The second column contains the name of the field in the *shapefile*: due to the limitations of the *shapefile* format, it has a maximum of 10 characters.

Table 5 also presents the source of the information included in the *shapefile*, according to the notation explained in Table 4.

Table 5. Structure and content of the RiverBasinDistrict, SubUnit, SurfaceWaterBody and GroundWaterBody shapefiles.

WISE GML	Shapefile	RiverBasinDistrict	SubUnit	SurfaceWaterBody	GroundWaterBody	Notes
geometry	shape	r	r	r/d	r	(1)
inspireIdLocalId	localId	r	r	r	r	
inspireIdNamespace	namespace	r	r	r	r	
inspireIdVersionId	versionId	r/d	r/d	r/d	r/d	(2)
thematicIdIdentifier	thematicId	r	r	r	r	
thematicIdIdentifierScheme	thematicIdSch	r	r	r	r	
beginLifespanVersion	beginLife	r/d	r/d	r/d	r/d	(3)
endLifespanVersion	endLife	r	r	r	r	
predecessorsIdentifier	predecessId	r/d	r/d	r/d	r/d	(4)
predecessorsIdentifierScheme	predecessIdSch	r/d	r/d	r/d	r/d	(4)
successorsIdentifier	successId	r/d	r/d	r/d	r/d	(4)
successorsIdentifierScheme	successIdSch	r/d	r/d	r/d	r/d	(4)
wiseEvolutionType	wEvolution	r/d	r/d	r/d	r/d	(5)
nameTextInternational	nameTextInt	r/d	r/d	r/d	r/d	(6)
nameText	nameText	r	r	r	r	
nameLanguage	nameTextLan	r	r	r	r	
designationPeriodBegin	desigBegin	r	r	r	r	
designationPeriodEnd	desigEnd	r	r	r	r	
zoneType	zoneType	r	r	r	r	
specialisedZoneType	spZoneType	i	r	r	r	
relatedZoneIdentifier	rZoneId	i	r/d	r/d	r/d	(7)
relatedZoneIdentifierScheme	rZoneIdSch	i	r	r	r	
relatedZoneTransboundaryIdentifier	rTrnsId	i	i	r	r	
relatedZoneTransboundaryIdentifierScheme	rTrnsIdSch	i	i	r	r	
sizeValue	sizeValue	d	d	d/r	d/r	(8)
sizeUom	sizeUoM	d	d	d/r	d/r	(8)
meanDepth	meanDepth	i	i	r	i	
horizons	horizons	i	i	i	d/r	(9)
link	link	r	r	r	r	
	cYear	d	d	d	d	
	country	d	d	d	d	
	lat	d	d	d	d	
	lon	d	d	d	d	
	statusCode	d	d	d	d	
	statusDate	d	d	d	d	
	remarks	d	d	d	d	
	qcCheck	d	d	d	d	

## Notes:

- (1) No geometric or topological error correction was performed. Refer to the CDR deliveries for the quality control results for WFD2016 data. See Annex 2 for specific changes in the SurfaceWaterBody geometries.
- (2) In the absence of a reported value and for internal data management purposes, the *inspireIdLocalId* value was set to the original national identifier of the spatial object.
- (3) In the absence of a reported value and for internal data management purposes, the *inspireIdVersionId* value was set to 'yyyymmdd', based on the CDR delivery date.
- (4) In the absence of a reported value and for internal data management purposes, the *beginLifespanVersion* value was set to 'yyyy-mm-dd', based on the CDR delivery date.
- (5) Where applicable, the information was consolidated using both the WFD2010 and the WFD2016 information.
- (6) In the absence of a reported value and for internal data management purposes, the *nameTextInternational* was set to the *nameText* value.
- (7) For the WFD2010 datasets and for internal data management purposes, the *relatedZoneIdentifier* value of objects with *wiseEvolutionType* = 'deletion' was updated to the corresponding WFD2016 identifier, where it could be determined.
- (8) Where possible, the size (area/length) of the spatial objects was derived from the geometry.
- (9) Where applicable, the information was consolidated using with information reported in the GroundwaterBodyHorizon dataset.



Table 6. Structure and content of the MonitoringSite shapefiles.

WISE GML	Shapefile	MonitoringSite	Notes
geometry	shape	r	(1) The WFD2010 information has low reliability. Refer to the CDR deliveries for the quality control results for WFD2016 data.
inspireIdLocalId	localId	r/d	(2) In the absence of a reported value and for internal data management purposes, the <i>inspireIdLocalId</i> value was set to the original national identifier of the spatial object.
inspireIdNamespace	namespace	r	
inspireIdVersionId	versionId	r/d	(3) In the absence of a reported value and for internal data management purposes, the <i>inspireIdVersionId</i> value was set to 'yyyymmdd', based on the CDR delivery date.
thematicIdIdentifier	thematicId	r	
thematicIdIdentifierScheme	themaIdSch	r	
beginLifespanVersion	beginLife	r/d	(4) In the absence of a reported value and for internal data management purposes, the <i>beginLifespanVersion</i> value was set to 'yyyy-mm-dd', based on the CDR delivery date.
endLifespanVersion	endLife	r	
supersedesIdentifier	precedesId	r/d	(5) Where applicable, the information was consolidated using both the WFD2010 and the WFD2016 information.
supersedesIdentifierScheme	predIdSch	r/d	See note (5).
supersededByIdentifier	successId	r/d	See note (5).
supersededByIdentifierScheme	succeIdSch	r/d	See note (5).
wiseEvolutionType	wEvolution	r/d	See note (5).
nameTextInternational	nameTxtInt	r/d	(6) In the absence of a reported value and for internal data management purposes, the <i>nameTextInternational</i> was set to the <i>nameText</i> value.
nameText	nameText	r	
nameLanguage	nameTxtLan	r	
operationalActivityPeriodBegin	opActBegin	r	
operationalActivityPeriodEnd	opActEnd	r	
featureOfInterestIdentifier	foild	r	(7) The WFD2010 information has low reliability. The identifiers of water bodies that no longer exist in 2016 were kept in the data set.
featureOfInterestIdentifierScheme	foildSch	r	
relatedToIdentifier	rSiteId	r	
relatedToIdentifierScheme	rSiteIdSch	r	
mediaMonitoredBiota	mediaBiota	r	
mediaMonitoredWater	mediaWater	r	
mediaMonitoredSediment	mediaSedim	r	
purpose	purpose	r/d	(8) The values reported in the spatial data sets were updated with additional data from the descriptive data reporting.
catchmentArea	catchArea	r	
maximumDepth	maxDepth	r	
confidentialityStatus	confStatus	r/d	(10) All sites related with drinking water abstraction were updated and marked as 'not for publication'.
link	link	r	
	cYear	d	
	country	d	
	lat	d	
	lon	d	
	statusCode	d	
	statusDate	d	
	remarks	d	
	qcCheck	d	

## Data policy

Per agreement between the European Commission and the Data Providers, after consultation with the EU Water Directors on 2017-04-11 ([https://circabc.europa.eu/sd/a/420decec-d487-4d7b-84d3-b9eb8af281f6/Note\\_publication%20of%20data%20reported%20in%20WISE\\_final.docx](https://circabc.europa.eu/sd/a/420decec-d487-4d7b-84d3-b9eb8af281f6/Note_publication%20of%20data%20reported%20in%20WISE_final.docx)), and as communicated to the Common Implementation Strategy (CIS) Working Group Data and Information Sharing (WG DIS) on 2017-06-07, the following constraints are applicable:

- The information about drinking water monitoring sites (DWD or DRI) will not be made publicly available due to safety and security concerns. The same applies to any monitoring site identified by Data Providers as "not for publication".
- The information provided by the United Kingdom will not be made publicly available for download. The information provided by the United Kingdom can be used by the European Commission and the European Environment Agency for visualisation purposes.

The 2017-06-07 agreement supplements the "WISE Reporting Arrangements" dated 2007-03-01, which define the conditions applicable to the European Commission (EC) and the European Environmental Agency (EEA).

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Please refer to the legal notice (<http://cdr.eionet.europa.eu/legalnotice>) for information on access and re-use of CDR data sets.

For the CDR data sets listed in *Annex 1 - Data sources*, a summary is provided in the **CDR\_metadata.txt** file, which accompanies the WISE WFD reference spatial data sets (see Table 7 for a description of the file).

Table 7. Fields present in CDR\_metadata.txt file.

Field name	Description
cYear	Integer field containing the value <b>2010</b> in the <i>shapefiles</i> pertaining to WFD2010 and the value <b>2016</b> in the <i>shapefiles</i> pertaining to WFD2016
country	Two-letter ISO code of the country (ISO 3166 alpha-2), except for Greece and the United Kingdom, for which the abbreviations EL and UK are used.
dataset	Applicable WISE WFD reference spatial data set.
envelopeReleased	Date when the envelope contained in file was delivered in CDR.
oblURI	URL of the reporting obligation.
fileURI	URL of the file.
fileIsRestricted	Public access to the file (0) or restricted access to the file (1)
wiseCategory	Access constraints for 2010 data, if reported.
title	CDR data set title or data set title in the spatial metadata file, if reported.
abstract	Abstract in the spatial metadata file, if reported.
useLimitation	Use limitation(s) in the spatial metadata file, if reported.
accessConstraints	Access constraints(s) in the spatial metadata file, if reported.
otherConstraints	Other constraints(s) in the spatial metadata file, if reported.

## References

- WISE GIS Guidance - Guidance on the reporting of spatial data to WISE. Version 6.0.6. 2016-04-29.  
[http://cdr.eionet.europa.eu/help/WFD/WFD\\_521\\_2016/GISGuidance/WISE\\_GISGuidance.pdf](http://cdr.eionet.europa.eu/help/WFD/WFD_521_2016/GISGuidance/WISE_GISGuidance.pdf)
- WFD Reporting Guidance 2016 - Final draft 6.0.6. 2016-04-26.  
[http://cdr.eionet.europa.eu/help/WFD/WFD\\_521\\_2016/Guidance/WFD\\_ReportingGuidance.pdf](http://cdr.eionet.europa.eu/help/WFD/WFD_521_2016/Guidance/WFD_ReportingGuidance.pdf)
- Central Data Repository data flow specific instructions: <http://cdr.eionet.europa.eu/help/WFD>

## Annex 1 - Data sources

Generically speaking:

- Information on river basin districts and sub-units was submitted under the "Water Framework Directive - River Basin Districts and Competent Authorities" [Article 3] reporting obligation (<http://rod.eionet.europa.eu/obligations/525>). Data originally delivered in 2004 and 2005 was moved to the Central Data Repository (<http://cdr.eionet.europa.eu/>), which contains information from the EU-28 Member States plus Norway, reported between 2007-03-11 and 2012-06-22 (including resubmissions and updates).
- Information on surface water bodies (rivers, lakes, transitional and coastal water bodies - including artificial and heavily modified water bodies), groundwater bodies and protected areas was reported under the "Water Framework Directive - Characterisation of River Basin Districts" [Article 5] reporting obligation (<http://rod.eionet.europa.eu/obligations/136>). Data originally delivery in 2004 and 2005 was moved to the Central Data Repository (<http://cdr.eionet.europa.eu/>), which contains information from the EU-28 Member States (except Croatia, Greece, Malta and Romania), plus Norway, reported between 2005-01-26 and 2011-09-26 (including resubmissions and updates).
- Information on monitoring sites was reported under the "Water Framework Directive - Monitoring Programmes" [Article 8] reporting obligation (<http://rod.eionet.europa.eu/obligations/520>). The Central Data Repository (<http://cdr.eionet.europa.eu/>) contains information from the EU-28 Member States (except Croatia and Malta) reported between 2007-03-16 and 2012-03-21 (including resubmissions and updates). For some countries or river basin districts, updates to the spatial data were submitted under "Water Framework Directive - River Basin Management Plans - 2010 Reporting" [Article 13] reporting obligation (<http://rod.eionet.europa.eu/obligations/521>).
- The reporting of the first River Basin Management Plans was first due in 2010-03-23. The Central Data Repository (<http://cdr.eionet.europa.eu/>) contains information from the EU-28 Member States plus Norway, reported between 2009-09-14 and 2016-03-17 (including resubmissions and updates). The data sources above will hereafter be referred to as WFD2010.
- For the second River Basin Management Plans, spatial data was reported under the "Water Framework Directive - River Basin Management Plans - 2016 Spatial data" (hereafter WFD2016). See <http://rod.eionet.europa.eu/obligations/717> for further information on the reporting.

The WISE WFD reference spatial data sets contain data from the [CDR](#) data files listed in the **CDR\_metadata.txt**.

## Annex 2 - Surface water bodies

### Issues related to the geometry

The following 147 surface water bodies - which were reported either as polylines, or both as polylines and polygons - are edited in the published data sets:

For the 1<sup>st</sup> RBMPs (WFD2010):

- BG2KA900L021, HRDDL925002

For the 2nd RBMPs (WFD2016):

- BG1IS200L1021, BG1IS700L1005, BG1IS700L1306, BG1OG600L1015, BG1VT300L1012, BG2KA800L027, BG2KA800L029, BG2KA900L021, BG2MA600L016, BG2SE900L027, BG2SE900L037, HRCDLN006, HRCDLN007, HRCDRI0002\_020, HRCDRN0002\_003, HRCDRN0002\_017, HRCDRN0011\_007, HRCDRN0012\_002, HRCDRN0028\_002, HRCDRN0035\_001, HRCDRN0040\_001, HRCDRN0042\_001, HRCDRN0052\_001, HRCDRN0061\_002, HRCDRN0071\_002, HRCDRN0078\_001, HRCDRN0081\_002, HRCDRN0089\_002, HRCDRN0110\_001, HRCDRN0119\_001, HRCDRN0132\_002, HRCDRN0143\_001, HRCDRN0178\_001, HRCDRN0204\_001, HRCDRN0216\_001, HRCDRN0218\_001, HRCDRN0241\_001, HRCDRN0260\_001, HRCDRN0271\_001, HRCDRN0292\_001, HRCDRN0293\_001, HRCSLN007, HRCSLN010, HRCSLN011, HRCSLN018, HRCSLN022, HRCSRI0029\_001, HRCSRI0029\_005, HRCSRN0021\_004, HRCSRN0024\_004, HRCSRN0066\_001, HRCSRN0083\_002, HRCSRN0114\_001, HRCSRN0114\_002, HRCSRN0123\_002, HRCSRN0140\_001, HRCSRN0154\_001, HRCSRN0163\_001, HRCSRN0177\_001, HRCSRN0214\_001, HRCSRN0265\_001, HRCSRN0281\_001, HRCSRN0284\_001, HRCSRN0292\_002, HRCSRN0300\_001, HRCSRN0309\_001, HRCSRN0320\_002, HRCSRN0330\_001, HRCSRN0331\_001, HRCSRN0338\_001, HRCSRN0344\_001, HRCSRN0344\_002, HRCSRN0369\_001, HRCSRN0395\_001, HRCSRN0402\_001, HRCSRN0422\_001, HRCSRN0444\_001, HRCSRN0461\_001, HRCSRN0470\_001, HRCSRN0477\_001, HRCSRN0487\_001, HRCSRN0504\_001, HRCSRN0512\_001, HRCSRN0557\_001, HRCSRN0558\_001, HRCSRN0590\_001, HRCSRN0603\_001, HRCSRN0669\_001, HRDDL925002, HRJKLN003, HRJKRI0035\_001, HRJKRN0002\_005, HRJKRN0002\_009, HRJKRN0012\_003, HRJKRN0013\_001, HRJKRN0023\_001, HRJKRN0032\_002, HRJKRN0033\_002, HRJKRN0051\_001, HRJKRN0078\_003, HRJKRN0089\_001, HRJKRN0092\_001, HRJKRN0146\_002, HRJKRN0156\_001, HRJKRN0249\_001, HRJOLN001, HRJORN0003\_001, HRJORN0007\_001, HRJORN0009\_001, HUANS479, HUANS480, HUANS481, HUANS489, HUANS490, HUANS491, HUANS494, HUANS497, HUANS498, HUANS500, HUANS501, HUANS502, HUANS506, HUANS511, HUANS514, HUANS515, HUANS516, HUANS517, HUANS519, HUANS522, HUANS526, HUANS531, HUANS533, HUANS537, HUANS538, HUANS540, HUANS543, HUANS546, HUANS548, HUANS551, HUANS553, HUANS554, HUANS557, HUANS558, HUANS563, HUANS565

Please refer to the CDR deliveries for BG, HU and HR if you require the original geometries.

### Issues related to predecessors and successors

Due to field size restrictions, the information about the successors of water body with identifier BG1IS200R022 are not included in the shapefiles. The full list of 30 successors is provided below:

- BG1IS200R1022,BG1IS200R1033,BG1IS200R1043,BG1IS200R1122,BG1IS200R1133,BG1IS200R1142, BG1IS200R1143,BG1IS200R1222,BG1IS200R1233,BG1IS200R1242,BG1IS200R1243,BG1IS200R1322, BG1IS200R1333,BG1IS200R1342,BG1IS200R1343,BG1IS200R1422,BG1IS200R1433,BG1IS200R1442, BG1IS200R1443,BG1IS200R1522,BG1IS200R1533,BG1IS200R1542,BG1IS200R1622,BG1IS200R1633, BG1IS200R1642,BG1IS200R1722,BG1IS200R1733,BG1IS200R1742,BG1IS200R1833,BG1IS200R1933

More 26000 water bodies reported in the first RBMP are no longer designated in the second RBMP. They can be identified using the following query: wiseEvolutionType = 'deletion' AND cYear = 2010.

### Issues related with the associated sub-unit

For the water bodies reported in the 1<sup>st</sup> RBMP that are no longer designated in the 2<sup>nd</sup> RBMP, the original related zone identifier was kept, with the following exceptions:

- If the sub-unit identifier changed in the 2<sup>nd</sup> RBMPs, then the newest identifier is provided;
- If the sub-unit no longer exists in the 2<sup>nd</sup> RBMPs, the identifier of the current subunit was determined using spatial analysis or the information in the successors of the water body.

### Issues related to centrelines

A consolidated European dataset with the SurfaceWaterBodyCentreline information is not yet available. Please refer to the CDR deliveries if you require the SurfaceWaterBodyCentreline information.

## Annex 3 - Groundwater bodies

### Issues related to predecessors and successors

Over 500 water bodies reported in the 1<sup>st</sup> RBMP are no longer designated in the 2<sup>nd</sup> RBMP. They can be identified using the following query: wiseEvolutionType = 'deletion' AND cYear = 2010.

### Issues related with the associated river basin district

For the water bodies reported in the 1<sup>st</sup> RBMP that are no longer designated in the 2<sup>nd</sup> RBMP, the original related zone identifier was kept, with the following exceptions:

- if the river basin district identifier changed in the 2<sup>nd</sup> RBMPs, then the newest identifier is provided;
- if the river basin district no longer exists in the 2<sup>nd</sup> RBMPs, the identifier of the current river basin district was determined using spatial analysis or the information in the successors of the water body.

### Issues related to horizons

A consolidated European dataset with the GroundwaterBodyHorizon information is not available. Please refer to the CDR deliveries if you require the GroundwaterBodyHorizon information.