

Water Statistics – Data Compilation on River Basin Level

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Introduction

The Czech Statistical Office is a responsible entity for providing information about the state of the environment via the OECD/Eurostat Joint Questionnaire. Within this questionnaire is the Czech Statistical Office providing also the information concerning the water management.

The main targets in the water management area for the EU states are given by the EU Water Framework Directive (WFD) (2000/60/EC) and the EU 6th Environmental Action Programme. It is concerning mainly water protection against pollution, securing of effective and balanced use of available water resources etc.

At present are the data from the water statistics area presented via the OECD/Eurostat Joint Questionnaire (JQ) for the whole country. To achieve the targets stated within the WFD a need for more detailed data arouse. WFD defines terms like river basin district (RBD) and RBD-subunit. The Czech Statistical Office launched the Eurostat project to be able to meet this new demand. The project No 50303.2008.003-2008.348 is based on the water management data aggregation according to these regional units and is supposed to uncover data resources divided according to the RBD – and RBD-subunits in the structure and extent given in the JQ. So far, the Czech Republic wasn't providing data in this structure.

Project targets

- To find relevant data resources for filling-in the Inland Waters tables according to the RBD and RBD -subunits
- Identification and description of data resources
- Obtaining primary data for creating the JQ – Inland Waters
- Out of the available data compile an OECD/Eurostat Joint Questionnaire for the years 2006, 2007 and 2008.
- Describe procedures and classification of data, uncover the main problems in recording.
- The project will not deal with the table 7 – the part concerning the monitoring of discharging heavy metals into the wastewaters. Within the Czech Republic is this problem being dealt with only via the Integrated pollution system and regarding the substances and their amounts being recorded by the JQ to Eurostat we don't find it useful to record their outflows into RBD and RBD-subunits

General characteristics of the Czech Republic area

Due to a very broken relief of its territory has the Czech Republic a very dense hydro graphic network of watercourses and it is situated on a divide of three seas – Northern, Baltic and Black. Basically all its important courses are flowing into neighbouring countries and only very exceptionally are the courses flowing to the Czech Republic. The divide of the Northern, Baltic and Black sea is dividing the Czech

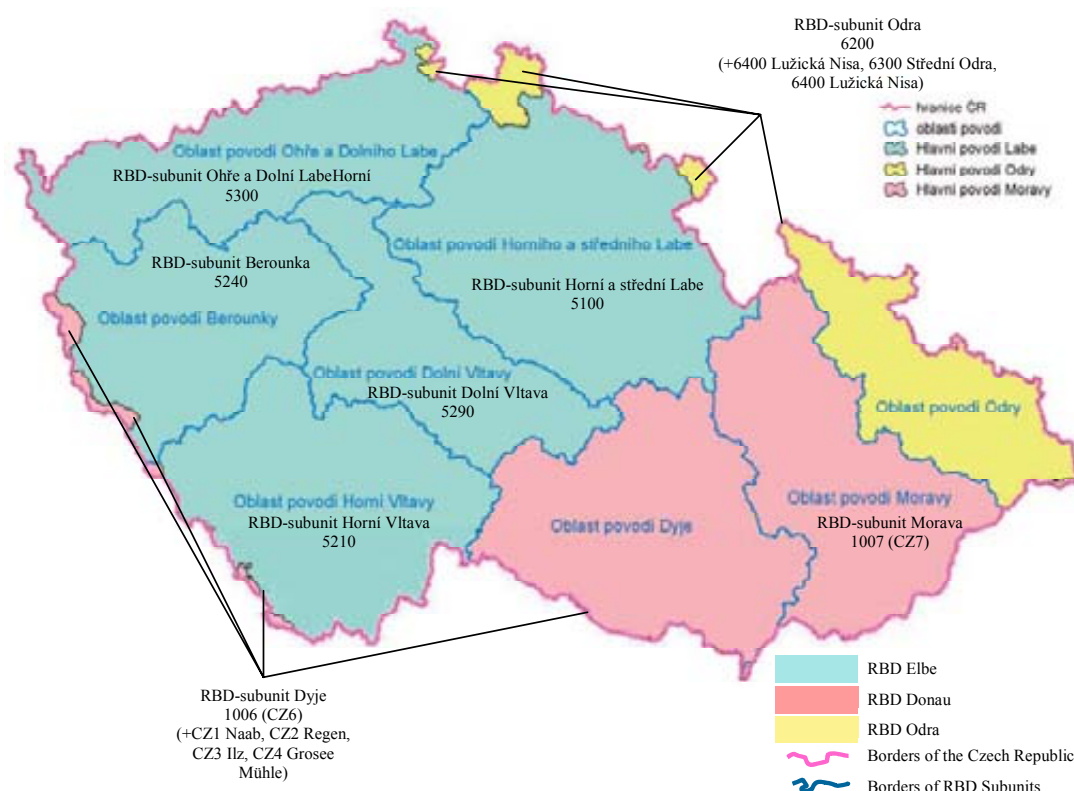
Republic into three RBDs: Labe, Odra and Morava, which are reaching into the international RBDs Labe (Elbe), Odra (Oder) and Dunaj (Danube).

The important watercourses of the Czech Republic mainly spring and flow up to the borders exclusively on the territory of the Czech Republic. The exceptions are Ohře with a part of its river basin in Germany, parts of the rivers Lužnice and Dyje in Austria, Olše in Poland and other marginal river basins of smaller rivers around the state borders. These are marginal water basins of Dunaj along the state border to Germany and Austria, marginal water basin of Labe along the border to Germany, marginal water basin of Odra along the border to Poland and marginal water basin of Vah along the border to Slovakia.

Splitting of the Czech Republic into the RBD, RBD-subunits

Splitting of the Czech Republic into RBDs is given by a Decree No. 292/2002 Coll. of the Ministry of Agriculture, in accordance with the Act No. 254/2001 Coll. This regulation is defining 8 RBD-subunits in the Czech Republic, which are being administrated by 5 river basin administrators. Further this decree describes relations between particular RBD-subunits and their relation to regional competencies of river basin administrators, the relation to the main RBDs of the Czech Republic and the international RBDs (Labe, Odra, Dunaj).

Picture: Relation of the RBDs to the RBD-subunits



RBD Elbe – subunits -5300 - Ohře and Lower Labe, 5100 - Upper and Central Labe, 5290 - Lower Vltava, 5210 - Upper Vltava, 5240 - Berounka

RBD Odra – subunit 6200 - Odra

RBD Donau – subunits 1007 – Morava, 1006 - Dyje

Data resources, databases used

In contrast to the regular JQ questionnaire it is not possible for this project to use statistical research results via the VH8a-01 – the annual questionnaire on watercourses and surface water supply and VH8b-01 – the annual questionnaire on public water supply and sewerage systems. The questionnaire VH8-b01 is based on questioning the water supply and sewerage systems operators, who provide the data collectively for the whole enterprise. But many operators are working in more regions. They provide the same number of statistical compilations, as is the number of regions in which they are operating. Like this it is possible to keep at least the regional structure. The questionnaire VH8a-01 – is based on questioning 5 enterprises of River Basin Administrators and the data are providing collectively too. That means, that the statistical survey data are missing an identification, which would help to sort out data by RBDs or RBD-subunits.

The project research team found another sources of data in the close cooperation with the Ministry of Agriculture (MoA), The Czech Hydrometeorological Institute (CHMI) and Rive Basin Administrators. Data produced by Rive Basin Administrators are accessible via Public Administration Information System (ISVS).

Table: Using sources and databases for particular tables of JQ

Table No.	Source
Table 1	Czech Hydrometeorological Institute (CHMI) database
Table 1a_IF	CHMI database
Table 1a_OF	CHMI database
Table 2.1	Public Administration Information System - ISVS
Table 3.1	
Part Self supply	Public Administration Information System - ISVS
Part Public water supply	Operating Registration of Public Water Supply Systems (MoA) Mean populations in municipalities and in MEP Designation of municipalities and MEP to RBD-subunits (MoA)
Table 3.2	Public Administration Information System - ISVS
Table 4	Mean populations in municipalities and in MEP Property and Operating Registration of WWTPs (MoA) Property and Operating Registration of Sewerage Systems (MoA)
Table 5	Property and Operating Registration of WWTPs (MoA)
Table 6	Property and Operating Registration of WWTPs (MoA)
Table 7	Public Administration Information System - ISVS Property and Operating Registration of Sewerage Systems (MoA) Operating Registration WWTPs (MoA)

Identification of RBDs for the project needs

Databases mentioned above could be sorted by the hydrologic sequence number (HSN) or by the internal code, which could be connected with HSN. The hydrologic sequence number (or hydrologic number) is an identification of particular watercourses according to their sea basins classifications. The HSN has its fixed structure and according to the hydrological numbering system of RBDs is uniquely designating the enlistment of particular areas of river basins in the Czech Republic. Its form consists of eight digits 4 groups:

X-YY-ZZ-KKK where:

- X - the first one-digit number is designating a RBD of the I. rank (RBD)
- YY - two-digit number designating a river basin of the II.rank (RBD subunit)
- ZZ - two-digit number designating a river basin of the III.rank

KKK - three-digit number designating a river basin of IV.rank

Concerning the whole project assignment the priority is to classify the particular records in the databases used to particular RBD and RBD-subunits. HSN is the key information for designation of databases into the particular RBDs and RBD-subunits. Databases and tables processed according to the HSN identification are precisely determining the classification of a given water abstraction/ discharging point to a RBD and RBD-subunit.

Conclusion

Sources of primary data for completing the JQ - Inland Waters according to RBDs and RBD-subunits were successfully found and the JQ- Inland Waters was completed in the required division. The RQ - Inland Waters 2010 required data broken down by regions NUTS2 and by RBDs and RBD-subunits. We processed tables in both of these divisions.

ABSTRACT

The Czech Statistical Office, as a responsible body for sending data sets on water statistics to Eurostat, has good and long-lasting experience with data compilations on the national level. An additional demand for data compilation on river basin level was highlighted on the EU level in 2008 in order to complement the EU Water Framework Directive with respective water statistics. The Czech Statistical Office decided to launch a project to be able to meet this new demand. The Czech Republic is divided into 3 River Basin Districts (RBD) and into 8 River Basin District Subunits (RBDS); we found out that existing methods of data compilation were not suitable for these lower levels. The work of an expert team was focused on administrative data sources and established the contact with relevant bodies in our country, such as the Ministry of the Environment and the Ministry of Agriculture. The Water Management Information Portal, which had been established as the result of good cooperation between these two Ministries, proved to be a good source of data for this purpose. More than 20 databases and data sets were gained. They were primarily established for other than statistical purpose and MS Access and MS Excel were used as the tools for adaptation of data. The project resulted in successfully completing the standard tables of the Eurostat Regional Environment Questionnaire. We filled tables in RBD and RBDS structure with data relating to (i) water abstraction by source, (ii) water use, (iii) population connected to wastewater treatment, (iv) treatment capacity of wastewater treatment plants and (v) generation and discharge of wastewater. Data by fresh water resources could be reported on RBD level only.