

The Elbe International Forum 2019

Dresden 9.–10. 4. 2019

The state of implementation of the Directive 2000/60/EC in the international Elbe River Basin Area



Povodí Ohře

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water balance

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Chomutov
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The state of implementation of the Directive 2000/60/EC in the international Elbe River Basin Area

Application of exemptions to groundwater bodies in the Czech River Basin Management Plan (Elbe) for the second planning cycle.

The Directive 2000/60/EC (WFD)



The main objective – Good status of all water bodies



implementation

The Water Act (254/2001 Sb.) § 23a



Objectives of water protection as a component of the environment



the main tool

The National River Basin Management Plan - Elbe



Framework objectives - for all WB
particular objectives - local conditions

II. Water planning cycle :

- monitoring
- inventory of significant pressures
- Groundwater **status** assessment (2015)
- Identification of pressures causing the failure to achieve good status of the groundwater bodies in 2015,
- Programme of measures



Assessment of good **quantitative** status of groundwater bodies 2015

Sub – basin	Number of groundwater bodies	Poor status 2015	Good 2015	Unknown 2015*
Upper Vltava	12	1	8	3
Lower Vltava	5	0	5	0
Berounka	15	2	10	3
Upper and middle Elbe	41	2	29	10
Ohře and lower Elbe	27	7	18	2
Total	100	12	70	18

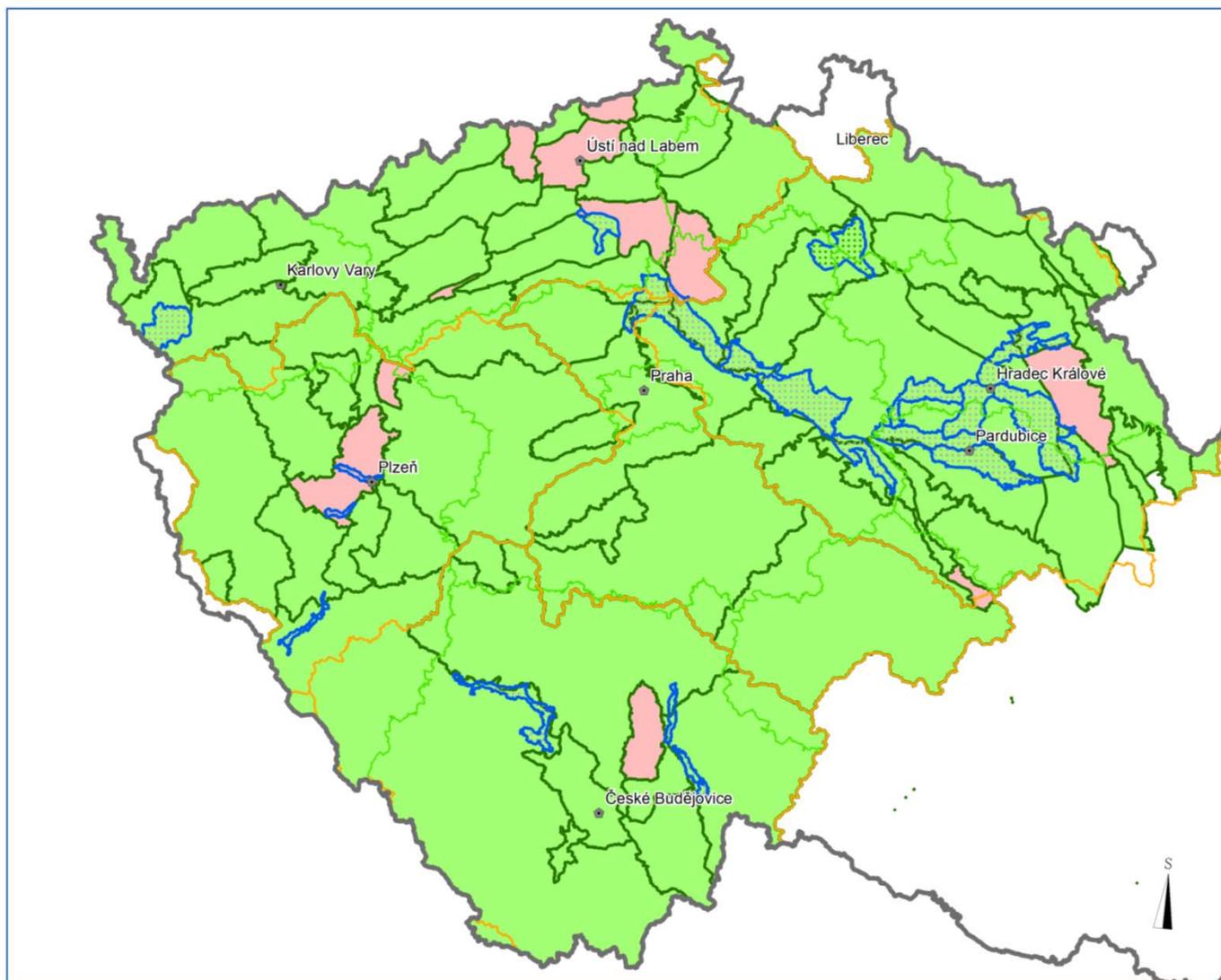
* In 2021 it will be known whether the body is in good or poor status

Most of groundwater bodies are in good quantitative status

The most significant **pressures** causing not reaching good status:

- Large groundwater abstraction - overexploitation
- Geothermal boreholes

quantitative status 2015



Mapa IV.1.2a

Environmentální cíle pro útvary podzemních vod – kvantitativní stav prognóza dosažení

- ☐ hranice ČR
- ☐ dílčí povodí
- ☐ kraje
- krajská města

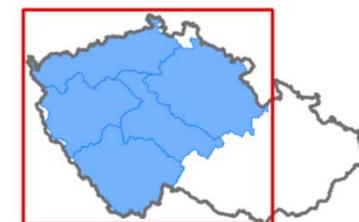
tematické vrstvy - prognóza k 2021

útvary podzemních vod - svrchní

- ☐ dobrý kvantitativní stav (2021)
- ☐ kvantitativní stav nezhodnocen (2021)

útvary podzemních vod - základní

- ☐ nevyhovující kvantitativní stav (2021)
- ☐ dobrý kvantitativní stav (2021)



0 5 10 20 30 40 km



1: 1 200 000

Národní plán povodí Labe

Zdroj dat
Základní geografická data
- DIBAVOD - Digitální báze vodohospodářských dat 1: 10 000
VÚV TGM v.v.i.
- ZABAGED - Základní báze geografických dat 1: 10 000
- Arc ČR 500v 3.1
Arcdata Praha
Popisné údaje:
Plány dílčích povodí, zpracované podle §25 zákona
č. 254/2001 Sb., v platném znění (vodní zákon)



MINISTERSTVO ZEMĚDĚLSTVÍ

Zpracoval Vodohospodářský rozvoj a výstavba a.s.,
v červenci 2015

quantitative status

measures

- **Water authorisations** for withdrawing (new or for increasing existing abstractions)
 - application of the minimum groundwater level
 - requirement of hydrogeological study
- revision of **existing** water permits - examining reserves in the permitted amount related to the actually abstracted volume
- finding possibilities of **artificial infiltration** into groundwater
- **limiting** present groundwater abstraction - not yet applied
- **refining** the value of natural resources
 - e.g. project Rebalance of groundwater reserves ČR – ČGS (<http://www.geology.cz/rebilance>)
 - refining the calculation of groundwater sources in all groundwater hydrogeological zones for more accurate water balance (data resource - ČHMÚ) (<http://portal.chmi.cz>)

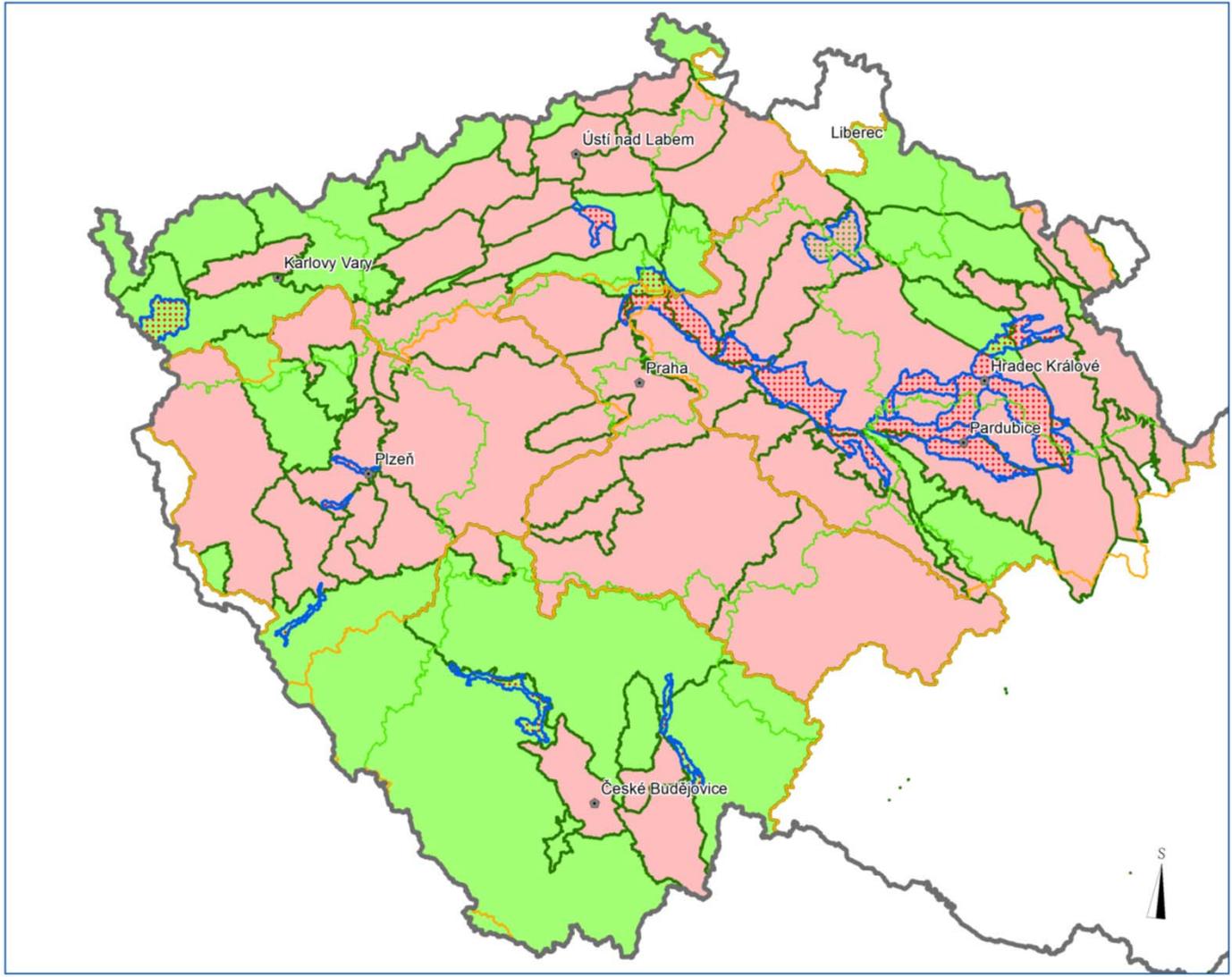
Assessment of good **chemical** status of groundwater bodies 2015

Sub - basin	Number of groundwater bodies	Poor status 2015	Good 2015
Upper Vltava	12	8	4
Lower Vltava	5	5	0
Berounka	15	12	3
Upper and middle Elbe	41	35	6
Ohře and lower Elbe	27	16	11
Total	100	76	24

The most significant **pressures** causing not reaching good **chemical** status:

- **agriculture** - use of manure, fertiliser and pesticides (impact: nitrates, pesticides and their metabolites)
- **old contaminated sites** – impact: metals, polyaromatic hydrocarbons and chlorinated hydrocarbons
- **atmospheric deposition** – impact: metals and polyaromatic hydrocarbon contamination
- Unknown pressures – chlorides, sulphates, ammonium, aluminium

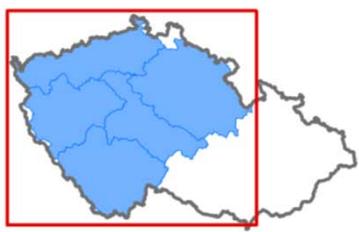
chemical status 2015



Mapa IV.1.2b
Environmentální cíle pro útvary podzemních vod – chemický stav prognóza dosažení

- hranice ČR
- dílčí povodí
- kraje
- krajská města

- tematické vrstvy - prognóza k 2021**
- útvary podzemních vod - svrchní**
- nevyhovující chemický stav (2021)
 - vyhovující chemický stav (2021)
- útvary podzemních vod - základní**
- nevyhovující chemický stav (2021)
 - vyhovující chemický stav (2021)



0 10 20 30 40 km
1: 1 200 000

Národní plán povodí Labe
 Zdroj dat:
 - Základní geografická data
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 v červenci 2015

chemical status

measures

The programme of measures was prepared according to the expected **efficiency** and the availability of **financial** resources.

- **Nitrate pollution** from agriculture - Action Programs in vulnerable zones:
 - the use and storage of industrial and livestock fertiliser
 - crop rotation
 - implementation of erosion control measures (part of the Nitrates Directive).
 - grassing of unsuitable land, the transition to ecological agriculture in safeguard zones of water resources
- **Pesticides** and their metabolites
 - prohibition or limitation of selected pesticides in safeguard zones
 - the transition to ecological agriculture in safeguard zones

However, this effect is expected **after 2021** in the case of groundwater
- **Old contaminated sites** - System of evidence of contaminated sites – **SEKM** - www.SEKM.cz.
 - redevelopment pumping (remedial wells)
 - in situ technologies (chemical, bio remediation methods)

Due to the available financial resources and relatively long groundwater response, no improvement is expected for these units in 2021.
- **Atmospheric deposition** - metal and polyaromatic hydrocarbon contamination
 - reducing the impact of industrial pollution sources on air pollution levels
 - reducing the impact of pollution sources operating in business activities and in households
 - reducing the impact of transport
 - research task - finding out the relationship between air pollution and the aquatic environment

WFD allows 4 types of **exemptions**:

- | | |
|---|---------------|
| 1. EXTENSION OF THE DEADLINE | Art. 4(4) WFD |
| 2. LESS STRINGEND ENVIRONMENTAL OBJECTIVES | Art 4(5) WFD |
| 3. TEMPORARY DETERIORATION IN THE STATUS | Art 4(6) WFD |
| 4. NEW MODIFICATIONS TO THE PHYSICAL CHARACTERISTICS WB
AND NEW HUMAN DEVELOPMENT ACTIVITIES | Art 4(7) WFD |

(The last two types of exceptions have not yet been set in CR)

Justification of exemptions:

- technical feasibility
- disproportionate costs
- natural conditions

For **groundwater**, these principles were respected when designing **exemptions** :

- **Exemptions** have to be applied for all water bodies that have not reached good status by 2015
- the **extension of deadlines** can only be applied to those water bodies, which, on the basis of the proposed measures, can be expected to achieve good status **by 2027** at the latest
- the extension of the 2027 deadlines due to **natural conditions** can currently only be estimated with a large amount of uncertainty and will only be updated during the third planning cycle
- for other bodies of groundwater, the **less stringent environmental objective** exemptions were applied

quantitative status

exemptions

extension of deadlines

All groundwater bodies with poor quantitative status in 2015 are designated as exceptions to the **extension of deadlines** and as justification for **technical non-feasibility**.

Analysis of justification for extension of deadlines for groundwater bodies - quantitative status

Sub – basin	Number of GWB	GWB with the extension of deadlines	
		Number	Share on total area (%)
Upper Vltava	12	1	2
Lower Vltava	5	0	0
Berounka	15	2	6
Upper and middle Elbe	41	2	3
Ohře and lower Elbe	27	6	11
Total	100	11	5

less stringent environmental objectives

For the GWB **47200 Basal Cretaceous Collector from Hamr to the Elbe**, due to the impact of deep uranium mining, a **less stringent EO** is applied, with **technical non-feasibility** justification, since good status is unlikely to be achieved by 2027.

chemical status

exemptions

extension of deadlines

Water bodies that are in poor status in 2015 have the exemption of the extension of deadlines used, generally justifying the **technical feasibility**, for deeper bodies also the **natural conditions**, because it can be assumed that the environmental response is longer for these bodies.

Analysis of justification for **extension of deadlines** for groundwater bodies - chemical status

Sub – basin	Number of GWB	GWB with the extension of deadlines		Justification of extension of deadlines			
				Technical feasibility		Natural conditions	
		Number	Share on total area (%)	Number	Area share (%)	Number	Area share (%)
Upper Vltava	12	8	15	8	15	2	7
Lower Vltava	5	5	100	5	100	0	0
Berounka	15	12	88	12	88	0	0
Upper and middle Elbe	41	35	84	35	84	11	36
Ohře and lower Elbe	27	16	56	16	56	3	6
Total	100	76	66	76	66	16	14

chemical status

exemptions

less stringent environmental objectives

All water bodies included in less stringent EO have justification for **technical feasibility**.

Analysis of justification for the less stringent environmental objectives exception - **chemical status**

Sub - basin	Number of GWB	GW bodies with the less stringent EO	
		Number	Share on total area (%)
Upper Vltava	12	4	5
Lower Vltava	5	4	96
Berounka	15	7	79
Upper and middle Elbe	41	14	44
Ohře and lower Elbe	27	9	40
Total	100	38	47

During the third planning cycle, the forecasts of the effects of the measures will be updated and some GWB with **less stringent EO** may be expected to be reclassified as an exemption to the **extension of deadlines**. On the basis of new data, the types of exemptions will be examined and their number can be expected to **decrease**.

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Thanks

for your attention

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