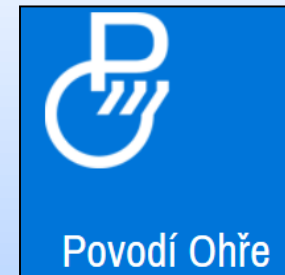


**Česko-německý workshop
k realizaci Koncepce MKOL
pro nakládání se sedimenty**
**Tschechisch-deutscher Workshop
zur Umsetzung
des Sedimentmanagementkonzepts
der IKSE**



13.04.2021



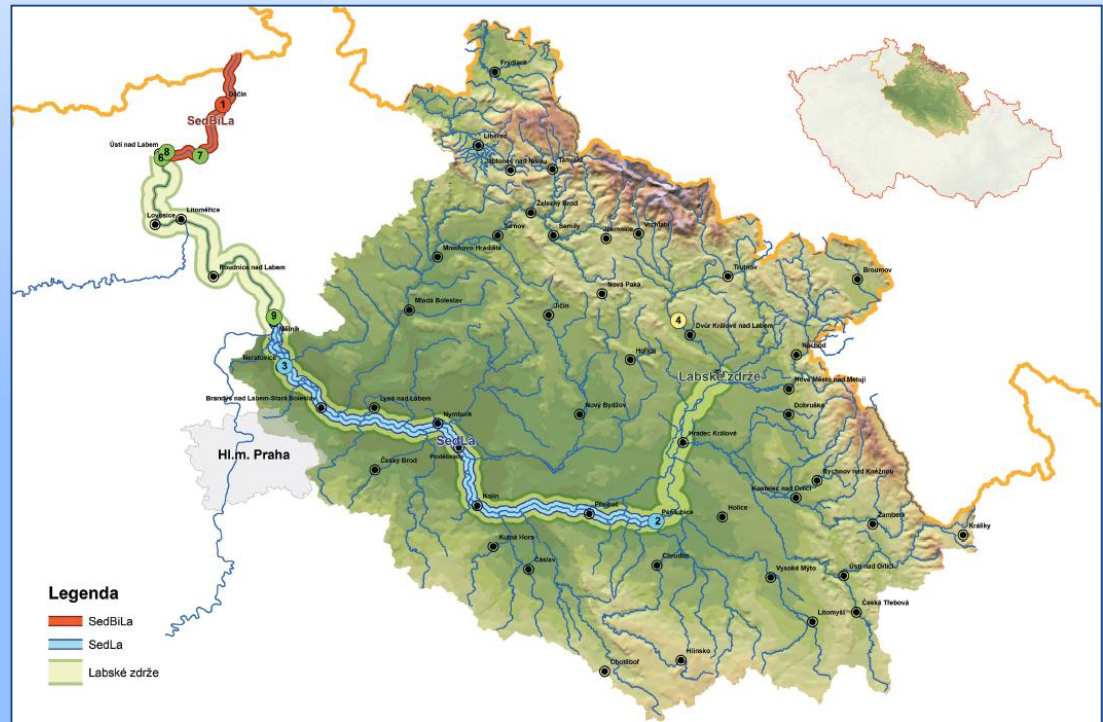
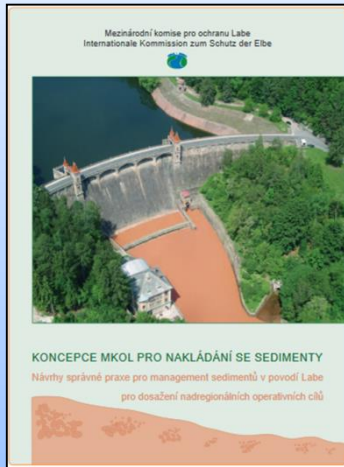
ICPER concept for sediment management and its implementation in the Czech Republic

Jiří MEDEK a kol.
Povodí Labe, state enterprise Hradec Králové

E-mail : medekj@pla.cz

International Elbe Forum Dresden

9-10 April 2019



Legend:

- 1 Ústí n.L. – CZ/DE border
- 2 Pardubice – Winter port
Paramo
- 3 Neratovice - Libiř
- 4 Dam reservoir Les Království
- 5 Sediments in Elbe weir pools
- 6 Ústí n.L. – Central port
- 7 Děčín – port Rozbělesy
- 8 Ústí n.L. – West port
- 9 Mělník - port

**Important locations for sediment management
on the Czech Elbe river**

Pilot project SedBiLa (2014) – follow-up work



Section of the Elbe River
between Ústí n.L. and
CZ/DE border
Pilot project SedBiLa
(2014)

Feasibility study
of remediation of
contaminated Elbe
sediments of selected
localities on the lower
Czech Elbe (2017)

Implementation project
Labe - Malé Březno +
Povrly
(see paper of
Mr.Martínek)

Pilot project SedBiLa (2014) – follow-up work

Following the „SedBiLa“ project, three projects for remediation of contaminated sites (sediment extraction) realized since 2014: :

- Bílina - Ústí nad Labem – Part 1
- Bílina – Ústí nad Labem – Part 2
- Bouřlivec – Hostomice - above the confluence with the Bílina River

(see paper of Mr. Zahrádka)

**Bílina River
2018**



Other projects



- Mapping the quality and quantity of sediments in the weir reservoirs of the Czech Elbe („MaSEL“)

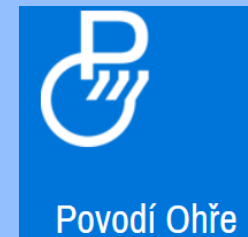
- employer: Free and Hanseatic City of Hamburg
- contractor: Povodí Labe, state enterprise
- subcontractor: Charles University Faculty of Science (see paper of Mr. Medek)



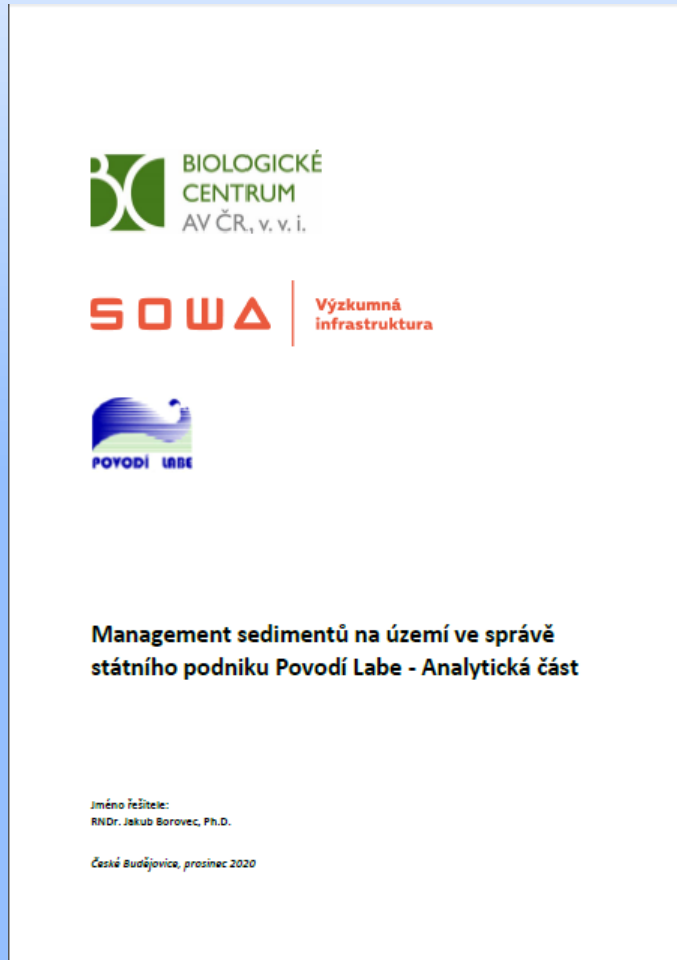
- Czech-Bavarian project „Mercury contamination of the Skalka reservoirs“:

- Risk analysis
- Feasibility study – treatment of contaminated watercourses Kössein and Röslau

(see paper of Mr.Zahrádka)



Sediment management in the territory managed by the Povodí Labe, state enterprise I.



Analytical part

December 2020, 74 pages

Povodí Labe, state enterprise
Biological Center of the Academy
of Sciences of the Czech Republic

1. Objectives of the analytical part
2. Characteristics of the issue
3. Sediment management in the river network in the territory managed by the Povodí Labe, state enterprise
4. Evaluation of available information
5. Setting targets for sediment management
6. Literature
7. Appendices
8. List of documents

Sediment management in the territory managed by the Povodí Labe, state enterprise II.



2021: follow-up part - preparation of the Strategy for the period 2022 – 2024

Tasks and goals:

- **Legislative framework for sediment management, impacts of new legislation (amendment to the Waste Act Nr. 541/2020 Sb.)**
- **Recommendations resulting from the analytical part:**
 - **Inventory of sediment quality monitoring in small reservoirs**
 - **Inventory of sediment quality monitoring in dam reservoirs**
 - **Update of the assessment report Sediments on dam reservoirs**
 - **Update of the assessment report Sediments on the Elbe waterway**
 - **Systematic implementation of sediment monitoring on the other less significant flows**
- **Sediment management in relation to current legislation**



Remediation of sediments in river ports



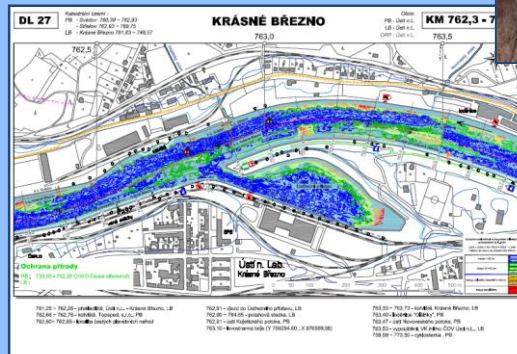
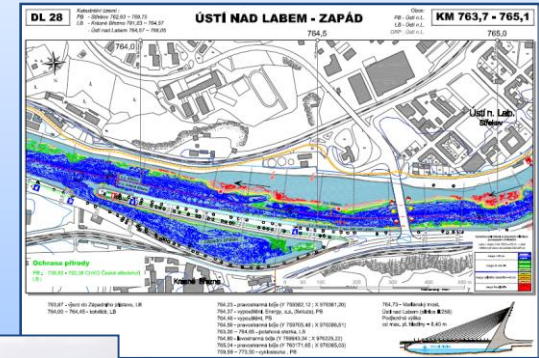
Ports on the Elbe River

Ústí n.L. – Central port
10.628 m³

Ústí n.L. – West port
3.166 m³

Děčín – Port Rozbělesy
9.972 m³

Mělník - Port
8.327 m³



Remediation of sediments in river ports



Vltava River – Praha, Port Smíchov

- the port was built between 1899 and 1903
- restoration of navigable depth (1,8 – 2,1m)
- realization Februar – December 2019
- pump dredger + bags on the boat
- claw + extraction in the boat tub
- 62.281 m³ (waste dump)



Operational maintenance - sediment extraction – Elbe River

Horní Počáply

March – April 2020

undewater dozer Komat'su

3.200 m³

assumption: 20.000 m³



Kly

April – June 2020

undewater dozer

about 6.000 m³

waste dump

Čelákovice - Brandýs n.L.

2018: about 22.000 m³

2019: about 10.000 m³

sale to the sandpit

Operational maintenance - sediment extraction – urban areas



Chrudimka River – Hlinsko
about 2.000 m³
(in preparation)

Stěnava River – Broumov
about 1.500 m³
(realized)



Restoration and opening the old arm of the river



Orlice River – Jordán

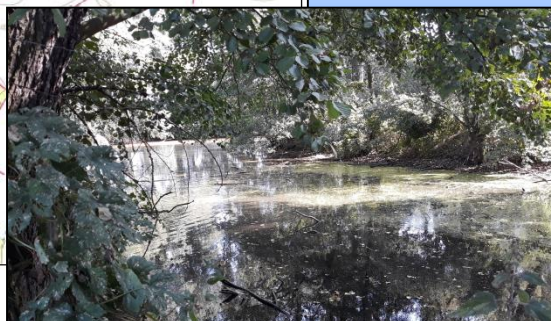
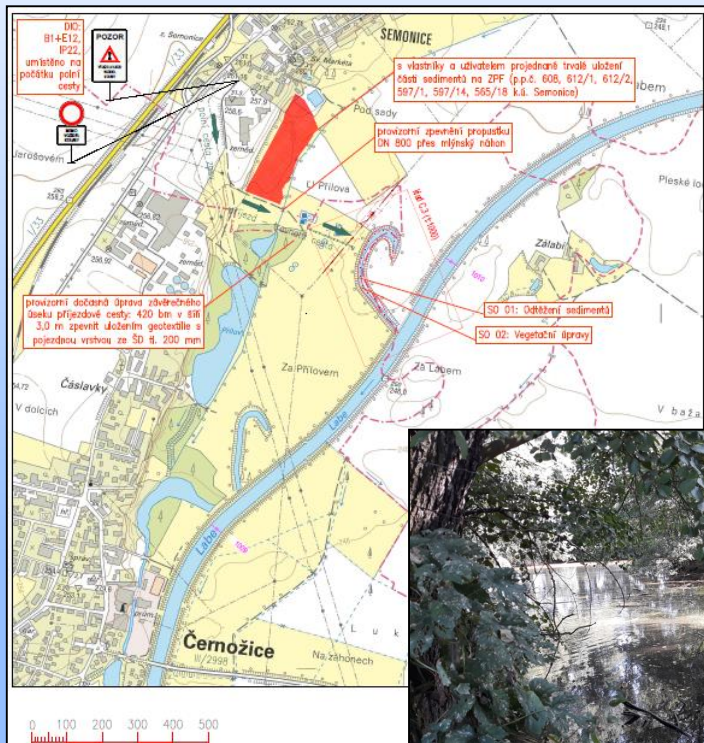
(in realization,
ending to September 2021)

presumption:
disposal of 1.500m³ sediments

realization: utilization in the locality



Revitalization of the Elbe dead arms



Ved. odd. proj.: Ing. Petr VÁVRA		Autor. ing.: Ing. Petr KUNC		
Zodp. proj.: Ing. Petr KUNC		Kreslil: Ing. Petr KUNC		
Kraj: Královéhradecký Obec: Čemožice, Jaroměř		K.Ú.: Čemožice n.L., Semonice		Datum: duben 2020 Stupeň: DSJ Pořadové číslo: 3803 Číslo stavby: 219200005 Č. přílohy: C.2 Měřítko: 1 : 10 000
Investor: Povodí Labe, státní podnik - OIČ, Hradec Králové				
Název akce: Labe, Semonice, revitalizace ramene v ř.km 1009,75				
Příloha: Situace širších vztahů				

Semonice
(in preparation)

		Datum: duben 2020 Stupeň: DSJ Pořadové číslo: 3587 Číslo stavby: 239190009 Číslo paré:	
		Měřítko:	
Ved. odd. proj.: Ing. Petr VÁVRA		Autor. Ing.: Ing. Petr Kunc	
Zodp. proj.: Ing. Petr Kunc		Vypracoval: Ing. Petr Kunc	
Kraj: Pardubický Obec: Hrobice, Dřiteč		K.Ú.: Hrobice, Dřiteč	
Investor: Povodí Labe, státní podnik - OIČ, Hradec Králové			
Název akce: Labe, revitalizace odstaveného ramene Tůň u Hrobic			
Příloha: Dokumentace pro stavební povolení a provádění stavby			

Tůň u Hrobic
(in preparation)

Restoration of riverbed and reservoir capacity



Ležák River – Zaječice
(in preparation)



Vrchlice River – “Hamerský rybník” reservoir (in preparation)
about 61.000 m³ (1/3 waste dump, 2/3 agricultural fund)

Restoration of reservoir capacity



Trnávka reservoir

realized: September 2019 – March 2020

lowering the level in the reservoir

about 149.000 m³

favorable sediment quality - agricultural fund



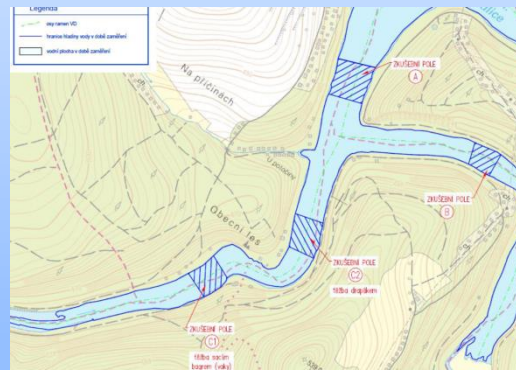
Verification of sediment removal method



Sedlice reservoir
construction 1921 – 1927
about 490,000 m³
(22% of reservoirs volume)



pump dredger + centrifuge



claw + extraction in the boat tub



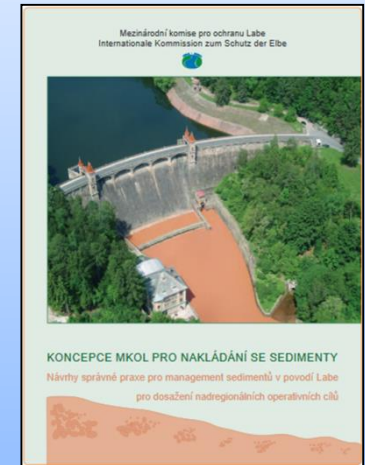
pump dredger + bags

Dam reservoir „ Les Království “

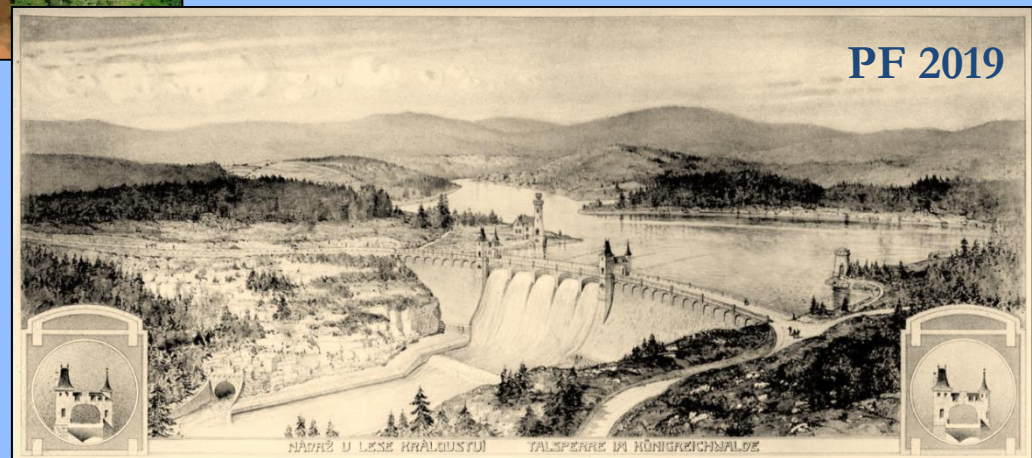


1919 – 2019

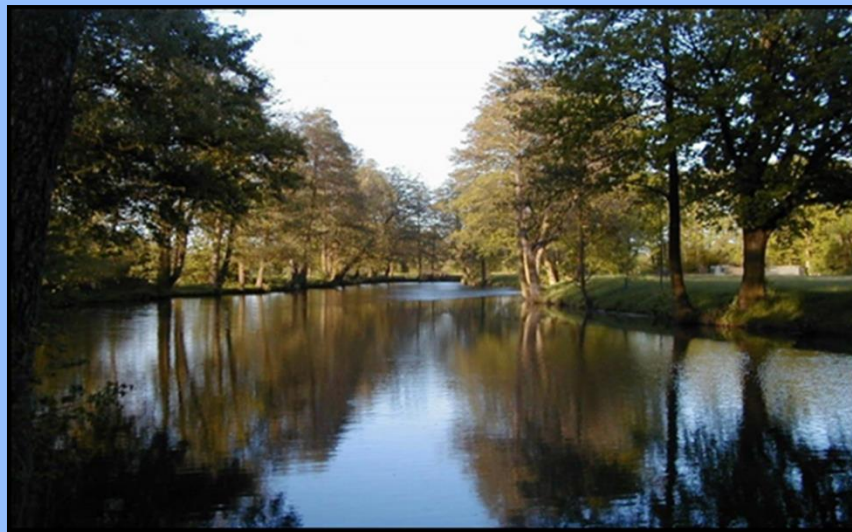
amount of
sediments
(estimate):
 $1.500.000 \text{ m}^3$



collecting information and
preparing groundwork for
sediment remediation



Thank you for your attention



Jiří Medek