

Český národní projekt Labe

Das Tschechische Nationalprojekt Labe

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Výzkumný ústav vodohospodářský T.G. Masaryka
Forschungsinstitut für Wasserwirtschaft T.G. Masaryk



THE CZECH ELBE PROJECT – RESEARCH FOR THE WFD

S. BLAZKOVA for the CZECH ELBE Team
T.G. Masaryk Water Research Institute, Prague



▲ Implanting a transmitter into the body cavity of a pike. (Čouhák Štefka)



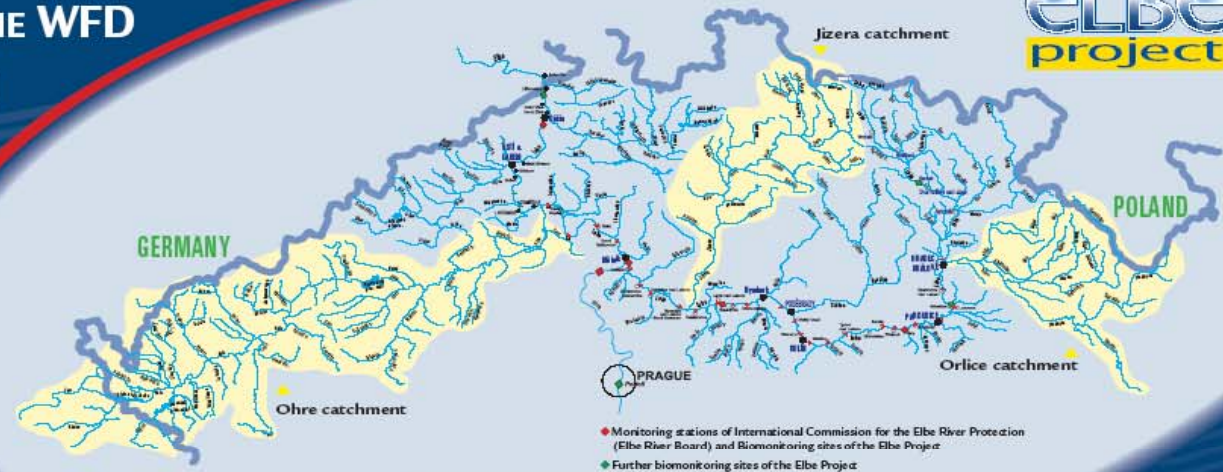
▲ Monitoring migration through the fish ladder at Štěpánov. At the right hand bottom corner: opening unit of scanner VASO which automatically records fish movement. (Čouhák Štefka)

The long term goal of the Czech Elbe Project (1991–2006, supported by the Ministry of Environment of the Czech Republic) is the development of an adaptive system of methodologies and mathematical models which makes it possible to incorporate knowledge and experience gained by monitoring and modelling, to face new risks and to suggest priorities in the water protection. It is a research project oriented to the problems connected with meeting the demands of national and European water legislation, particularly the Water Framework Directive (WFD). In the current phase the project deals with: (1) the Czech part of the Elbe River itself – the influence of industrial sources of pollution including pollution incidents, ecotoxicology, old industrial sites and their potential effect on groundwater, the dynamics of contaminated sediments in the channel and the floodplain, biomonitoring in 3-years time steps, chemical biomarkers, telemetering of fish migration; (2) three large tributaries of the Czech Elbe - evaluation of extreme hydrological events on the basis of continuous simulation using experimental data for constraining uncertainty, using isotopes ^{15}N a ^{18}O for studying runoff generation and origins of nitrate, space-time changes of phytoplankton as depending on hydrological and meteorological conditions, physical habitat of fish and characteristics of fish communities; (3) the whole Czech Elbe catchment - description of development on the basis of environmental indicators.

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▲ The Czech Elbe River (photo Libuše Ramesová) ▶



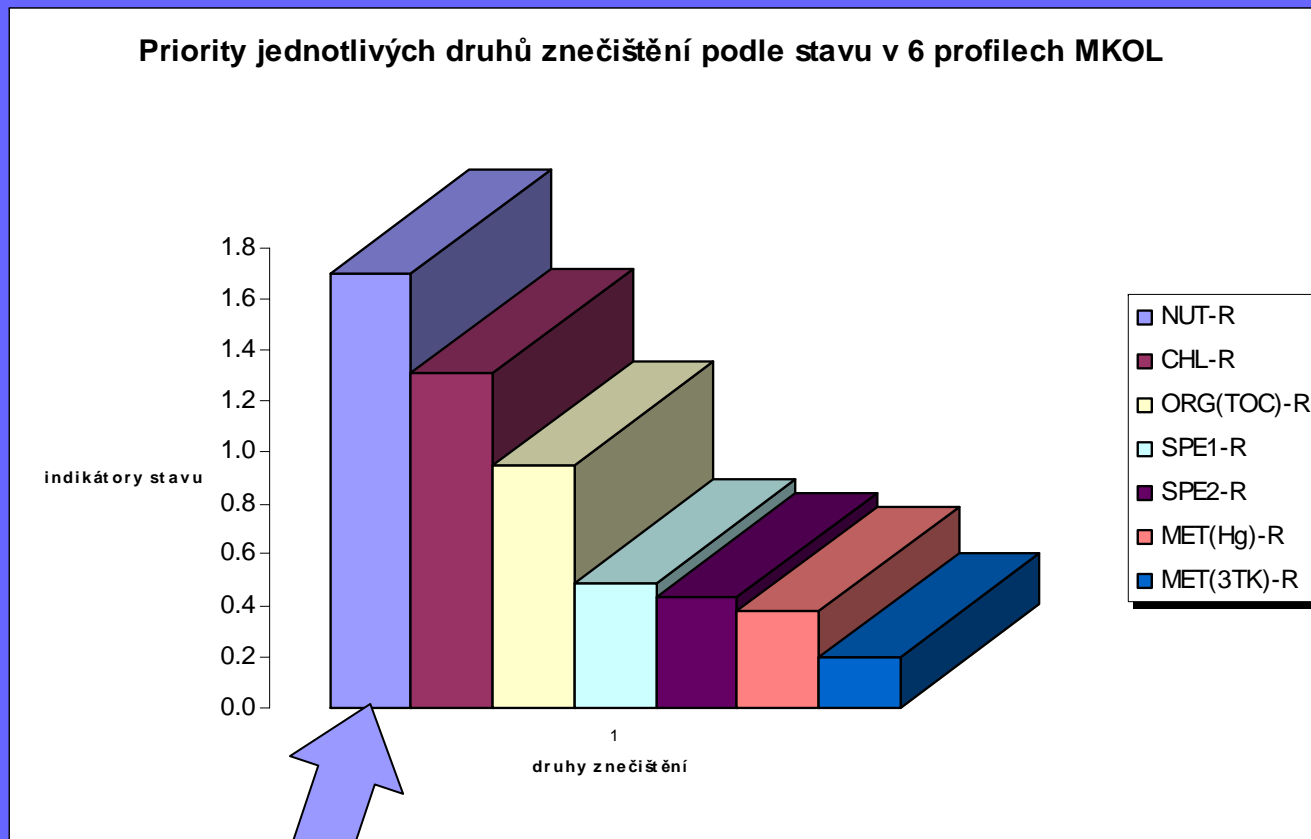
Acknowledgment: The Elbe Project is financially supported by the Ministry of Environment of the Czech Republic under the grant VAV/650/5/03.



Das Projekt Elbe IV wird von Mitteln des tschechischen Umweltministerium Nr. VaV 650/5/03 finanziell unterstützt.

Prioriten jednotlivch skupin zneien an 5 Tschechischen IKSE Profilen

Indikatoren

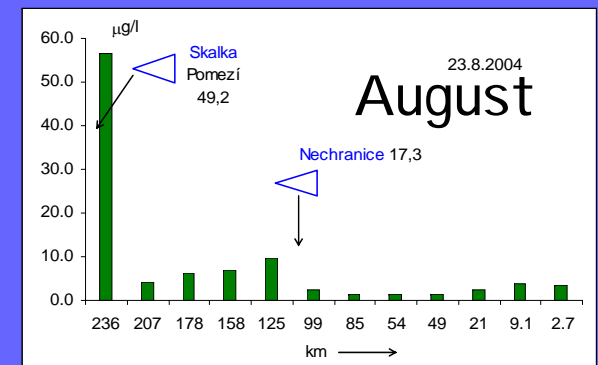
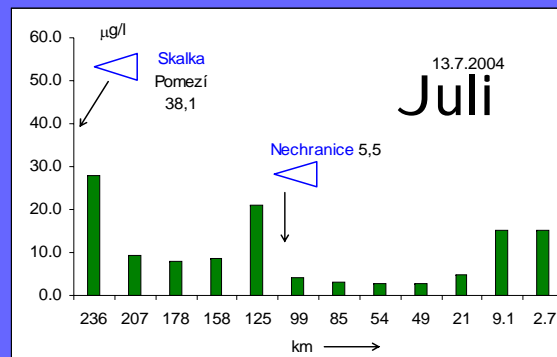
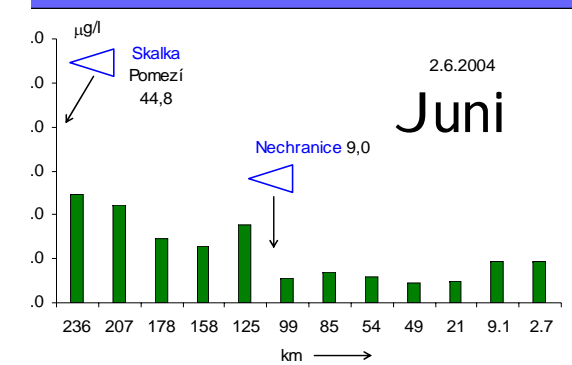
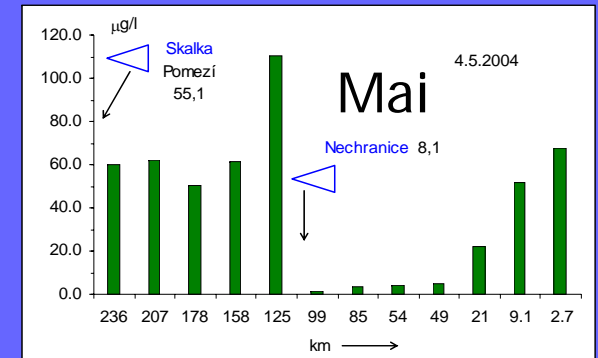
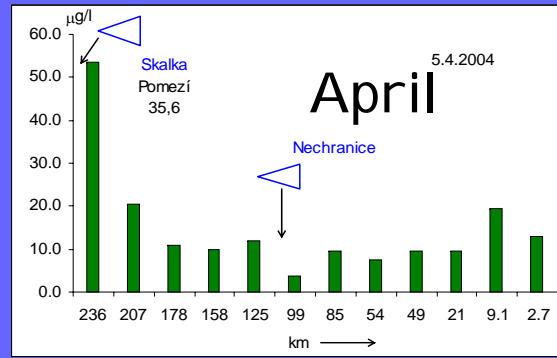
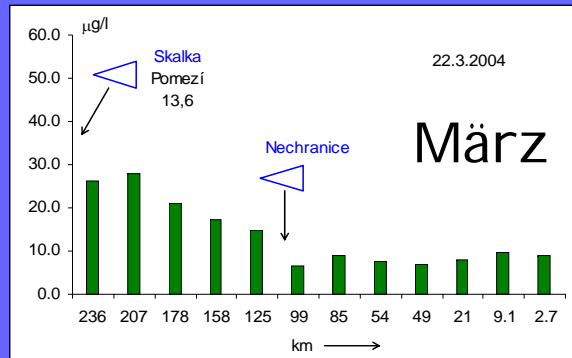


Schadstoffgruppen

Nhrstoffe

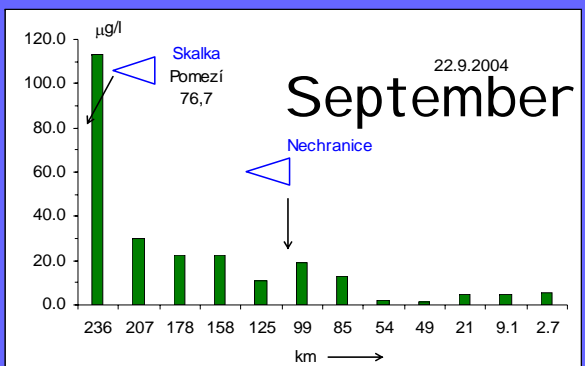


Chlorophyll- a



km →

km →

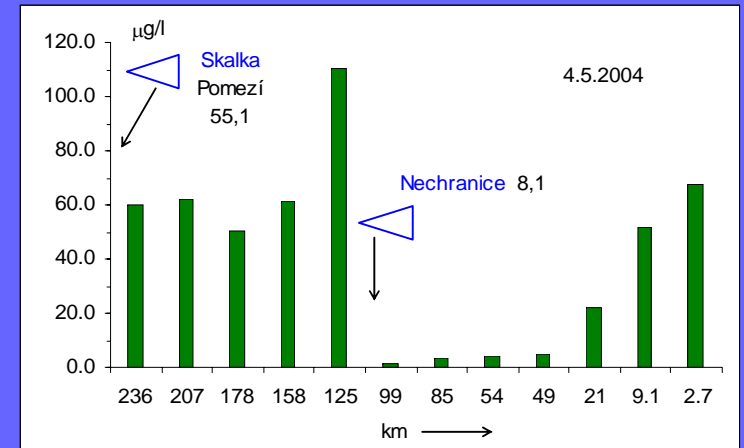
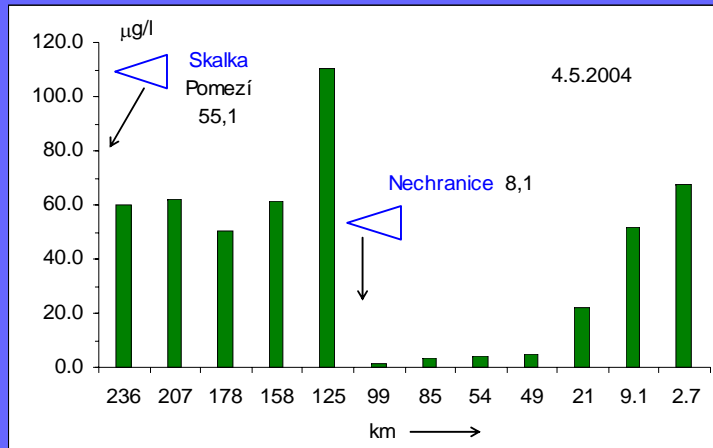


km →

Ohře - Eger

Mai

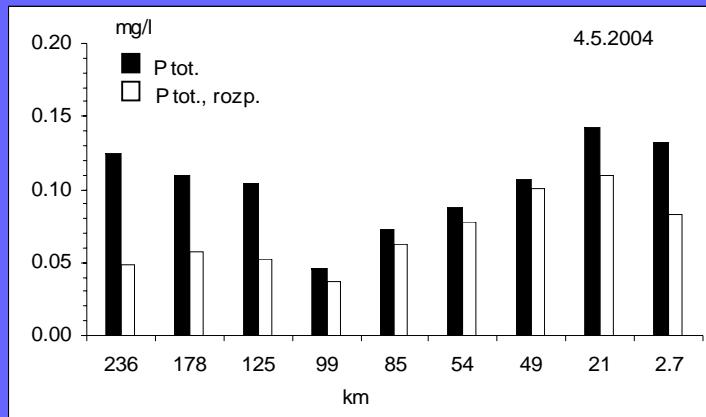
Chlorophyll-a



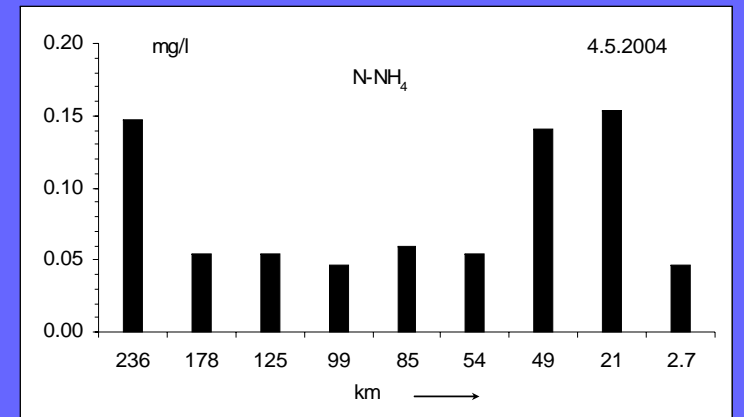
P-gesamt



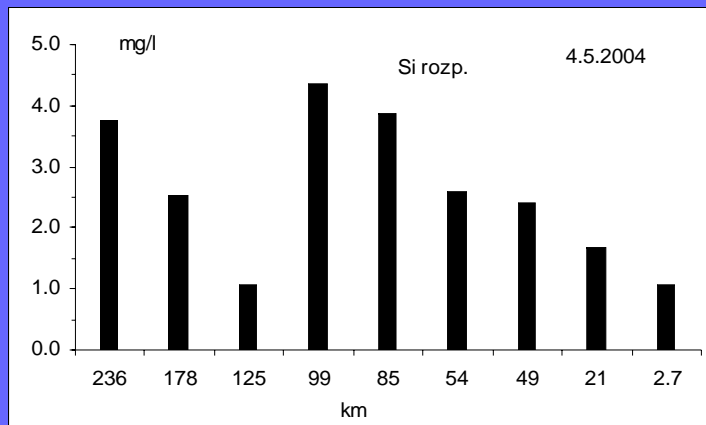
P-gesamt
gelöst



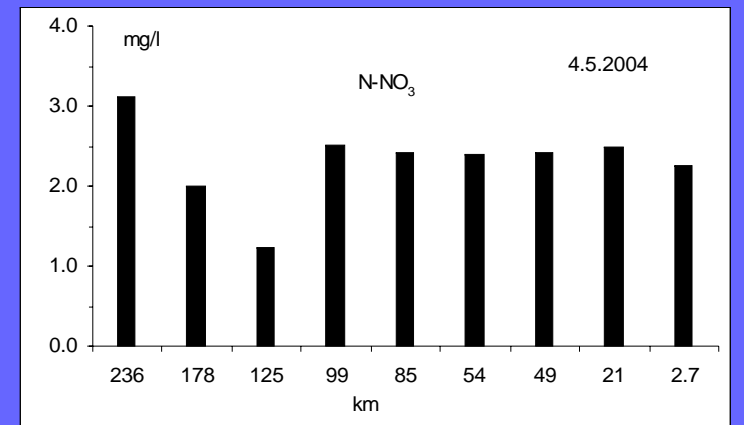
N-NH₄



Si
gelöst



N-NO₃



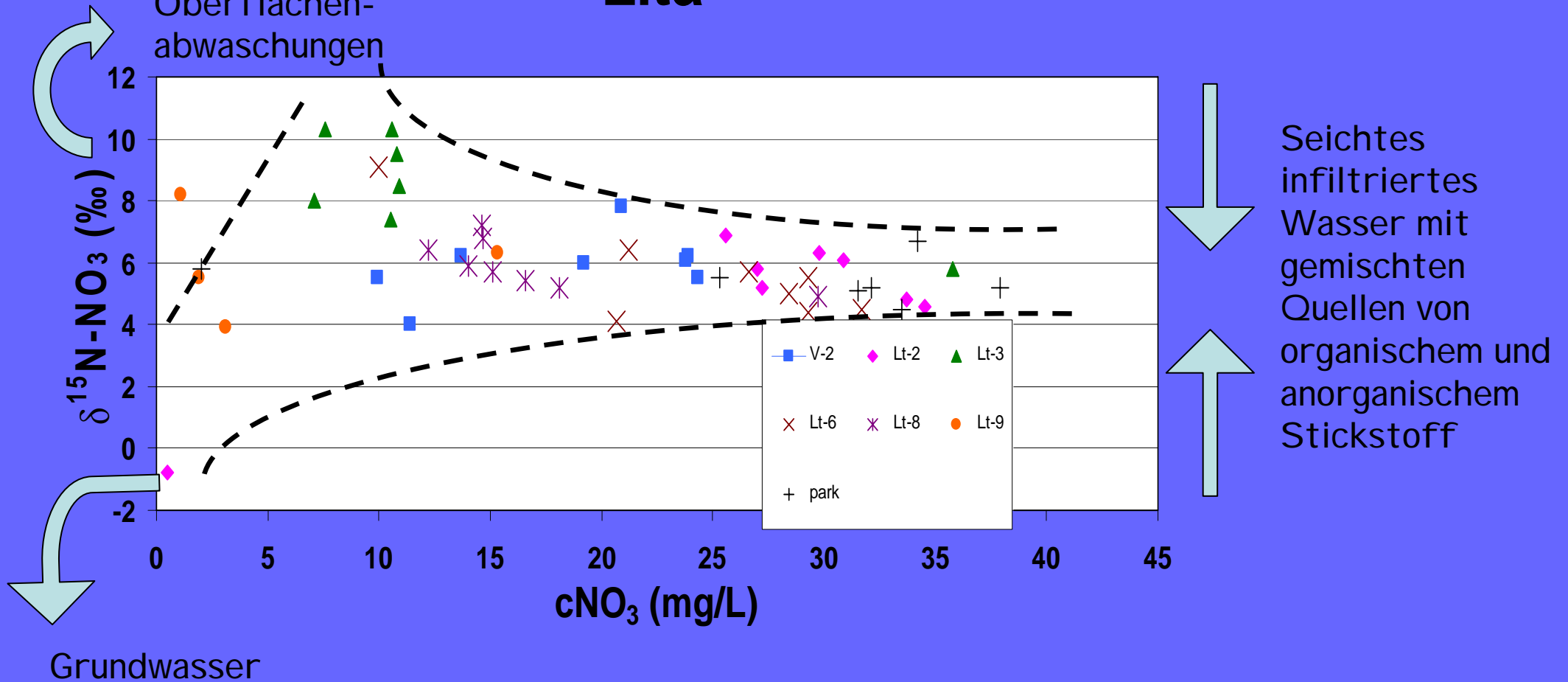
projekt
LaBe

Blanka Desortová

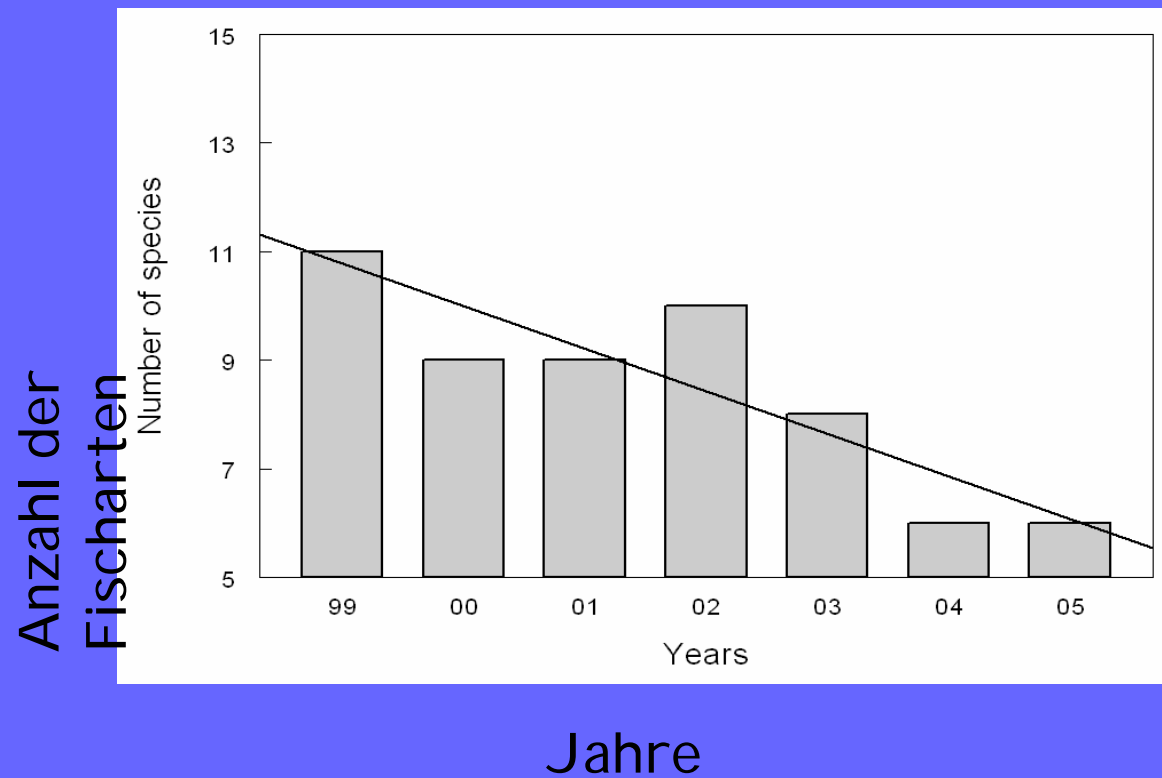
Herkunft der Nitrate (nach der Methode stabiler Isotope)

Lita

Oberflächen-
abwaschungen



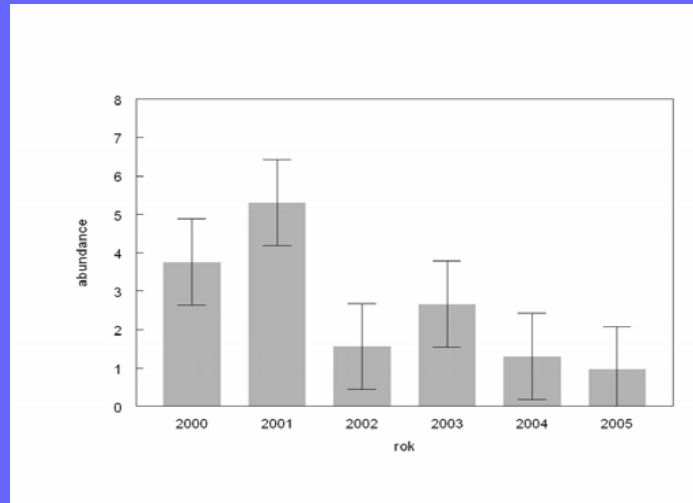
Ermittelte Fischarten (in juvenilen Stadien) im Elbeabschnitt Decin-Hrensko



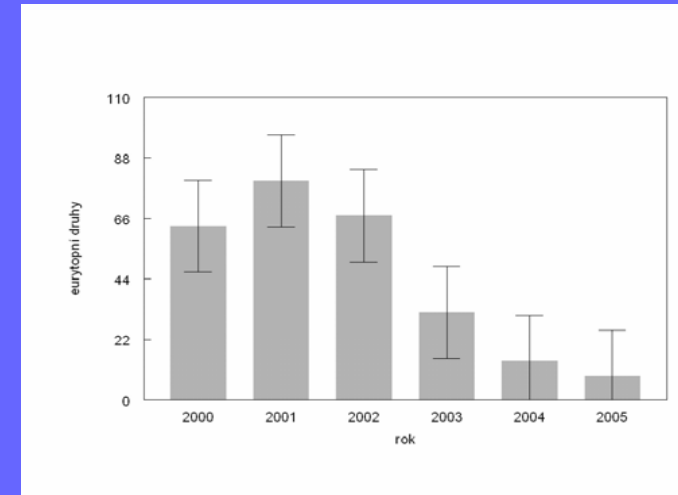
Das ganze Tschechische Einzugsgebiet der Elbe

(Vltava, Berounka, Sazava, Ohre, Otava)

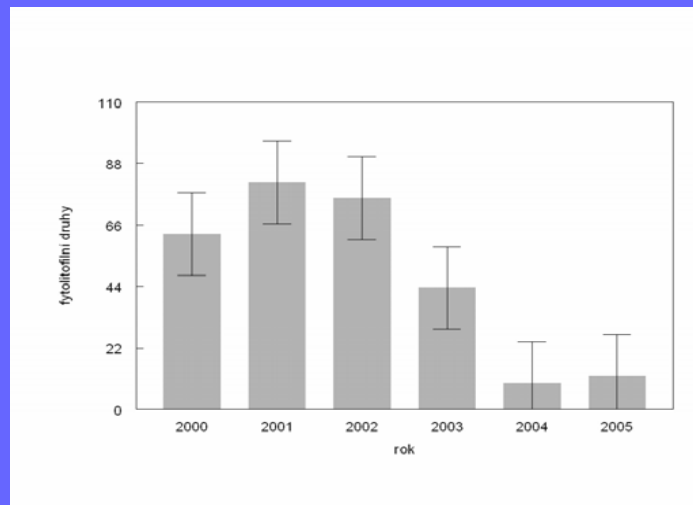
abundance



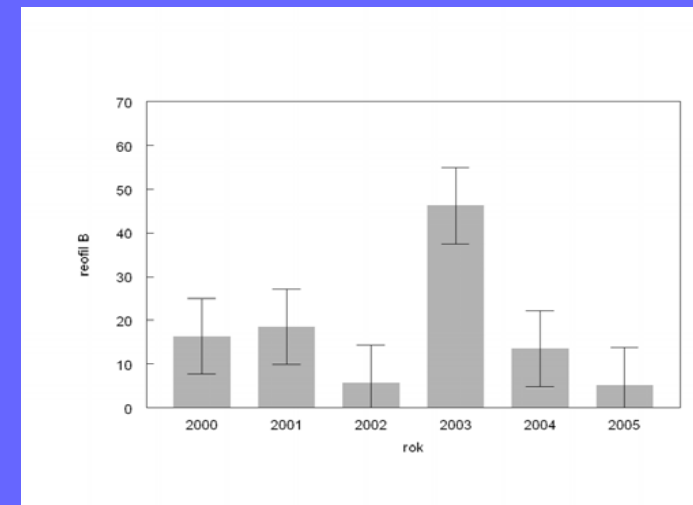
eury



fytofito



Reofil B

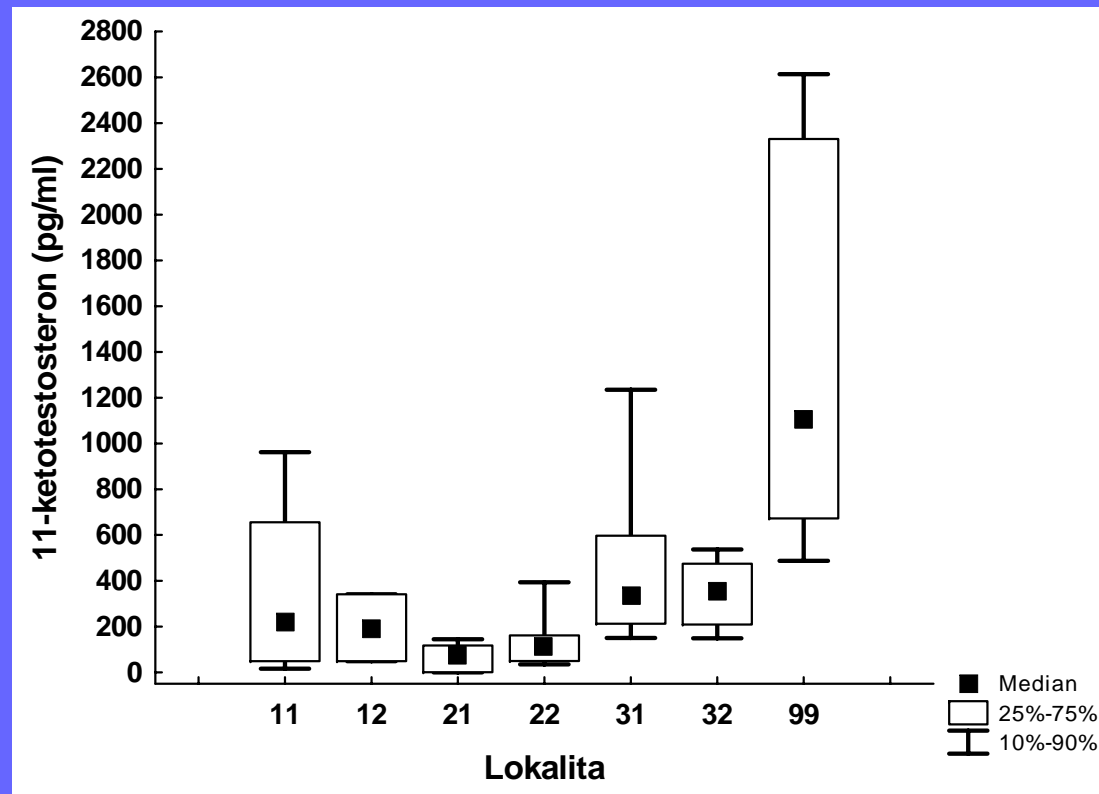


Jahr

Jahr

Leuciscus cephalus, Männchen

11-ketotestosteron



unterhalb

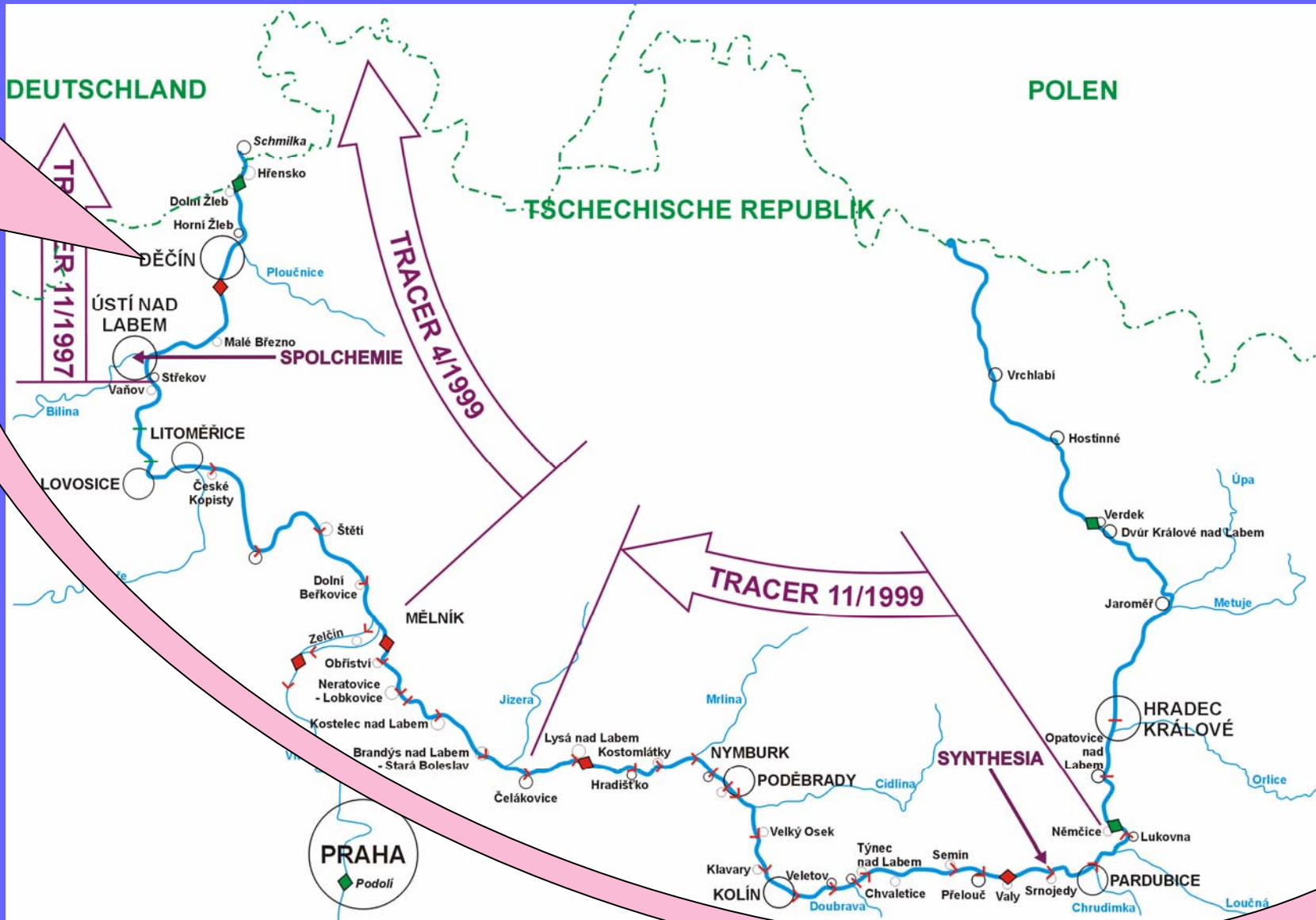
- 11 Labe Spolchemie
- 21 Labe Spolana
- 31 Labe Synthesia

oberhalb

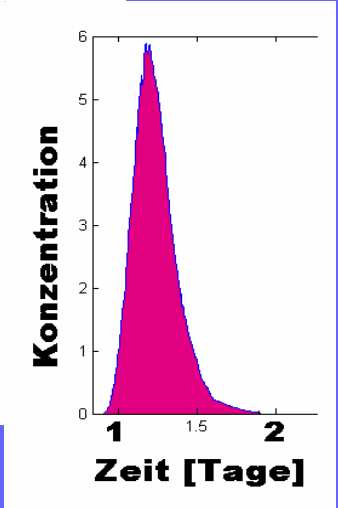
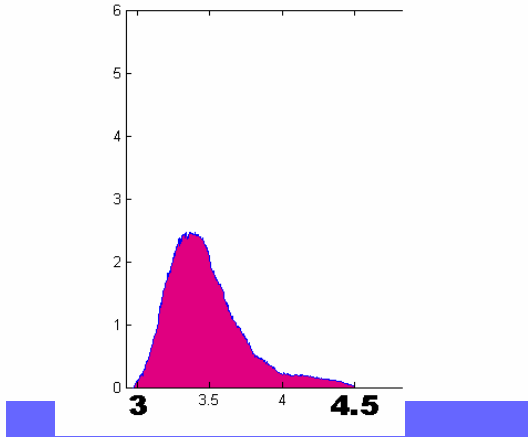
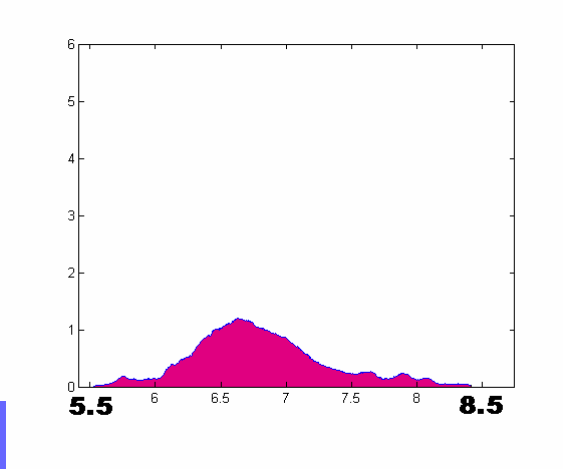
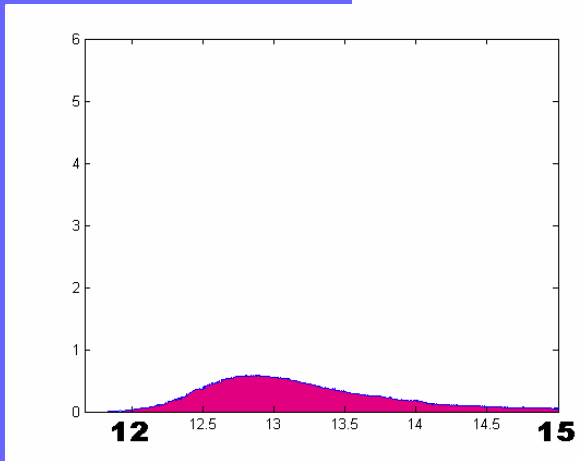
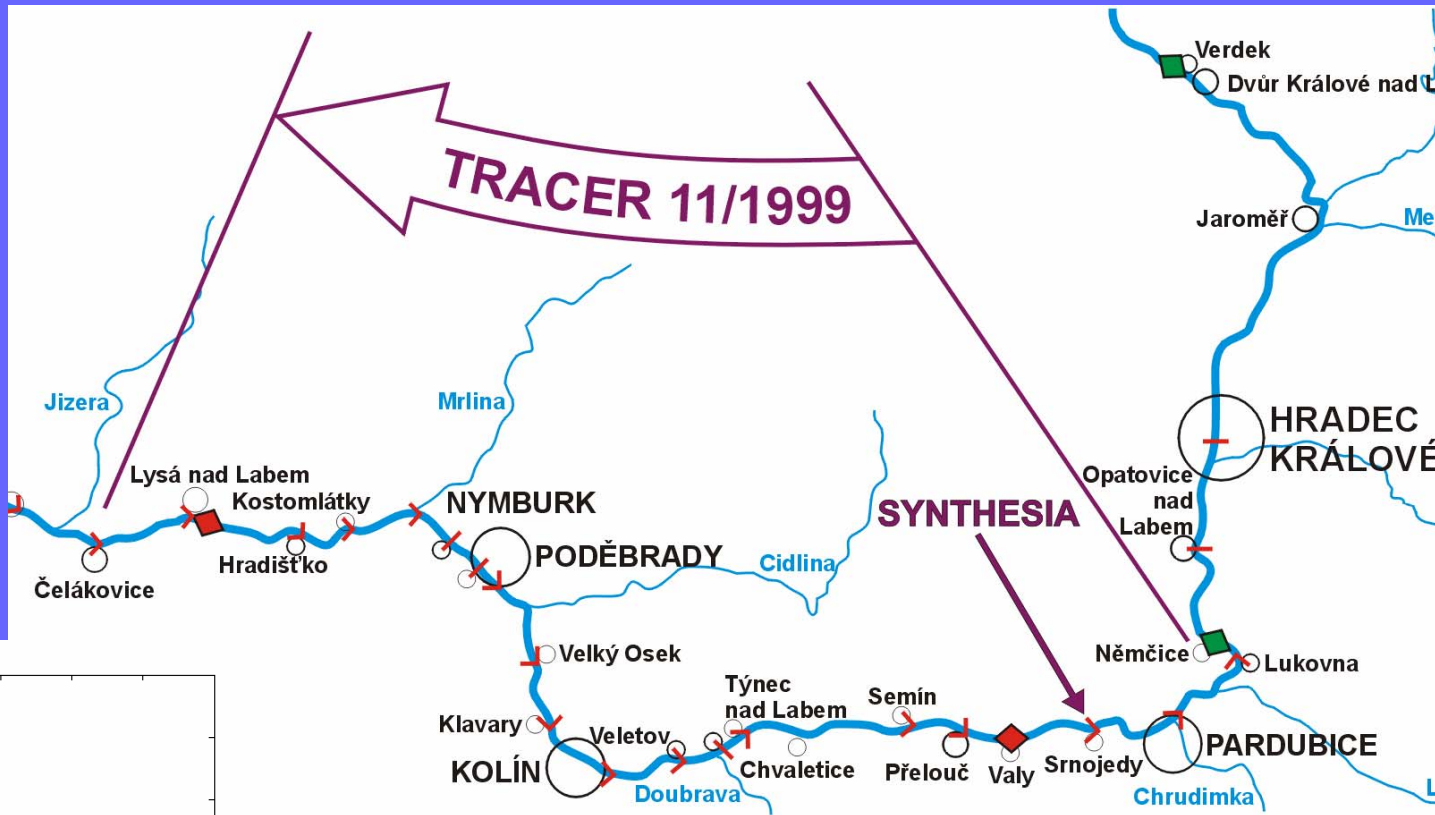
- 12 Bílina Spolchemie
- 22 Labe Spolana
- 32 Labe Synthesia

99 Vltava - unbelastete Lokalität





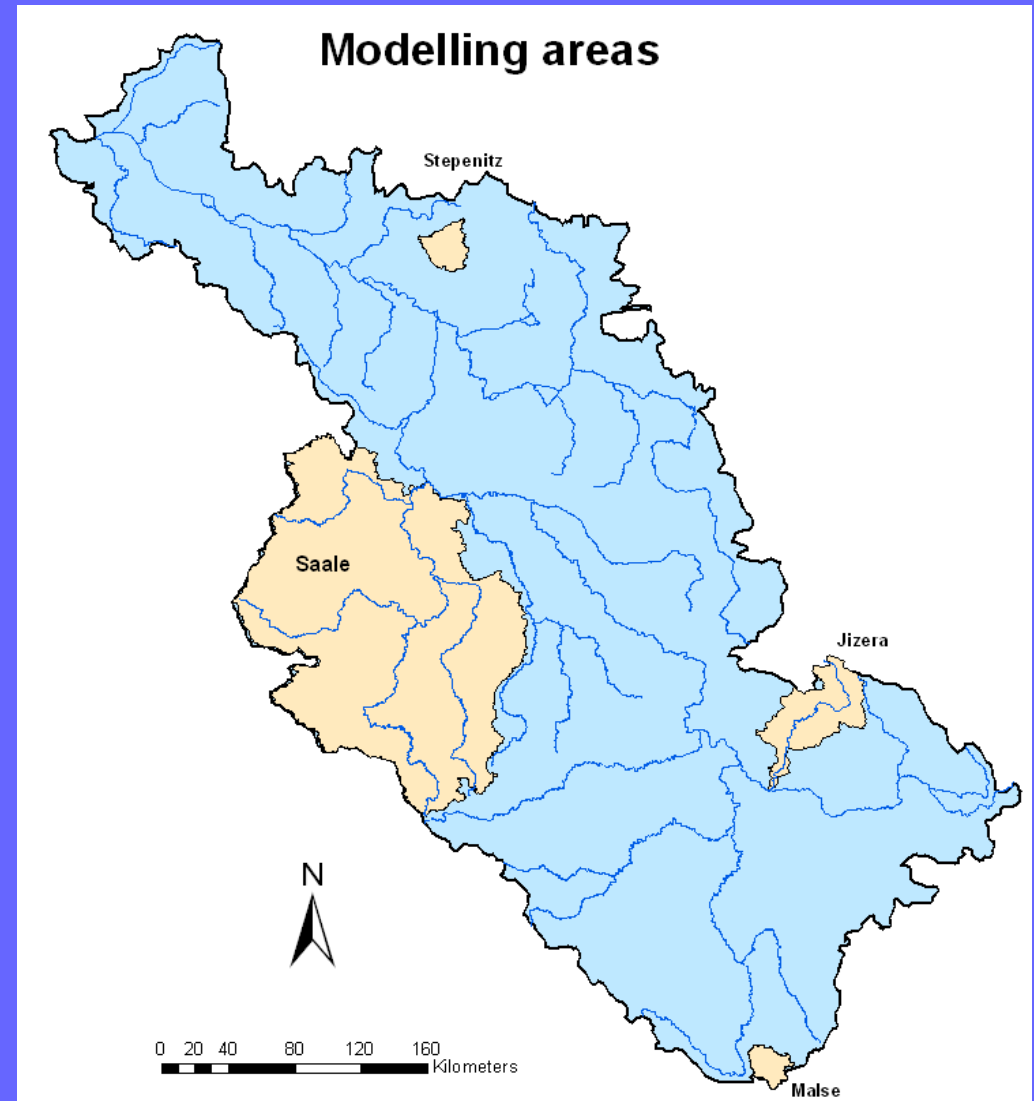
Neuer Tracerversuch Mai 2005



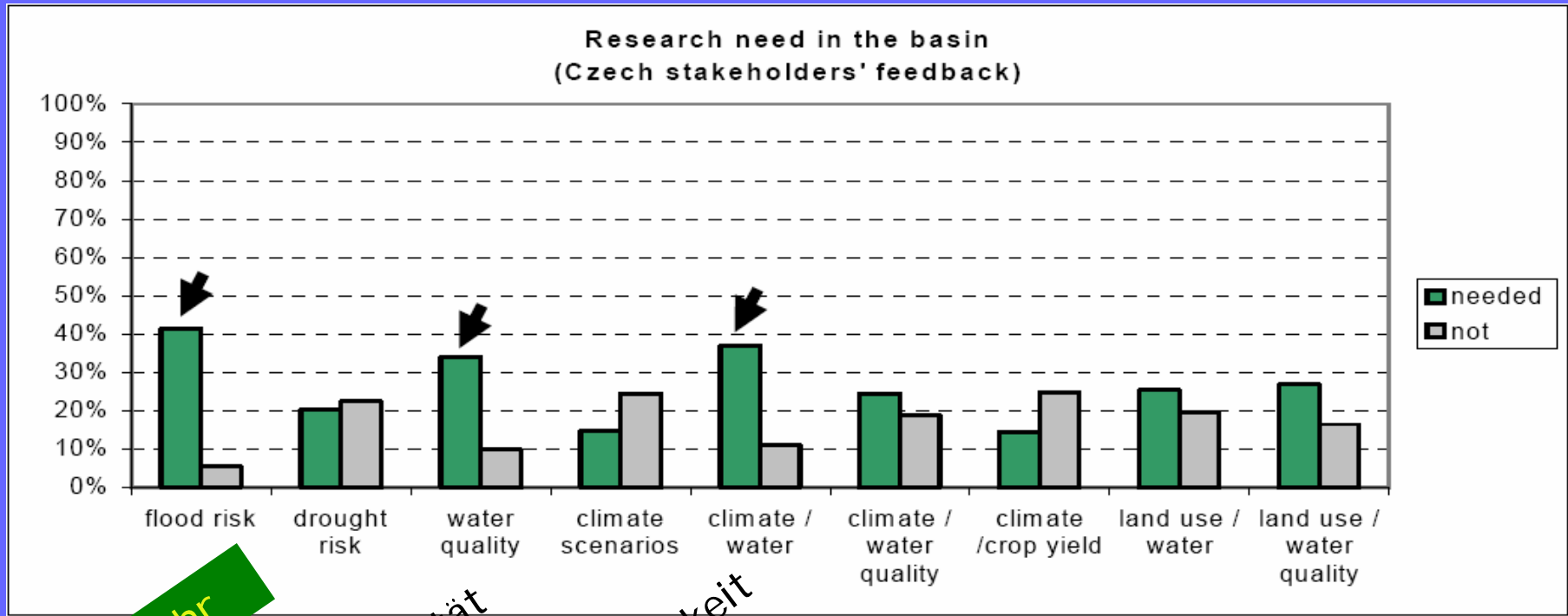


New Approaches to Adaptive Water Management under Uncertainty

1. Das ganze Elbe Einzugsgebiet (~ 150.000 km²)
2. Jizera (~ 2000 km²)
3. Malse (~ 490 km²)
4. Stepenitz (~ 550 km²)
5. Saale (~ 24.000 km²)



Wassermanagement im Elbeeinzugsgebiet (Fragebogen zu wichtigen Faktoren)



Überschwemmungsgefahr

Wasserqualität

Klima/Wasserverfügbarkeit



Valentina Krysanova



Sarka Blazkova



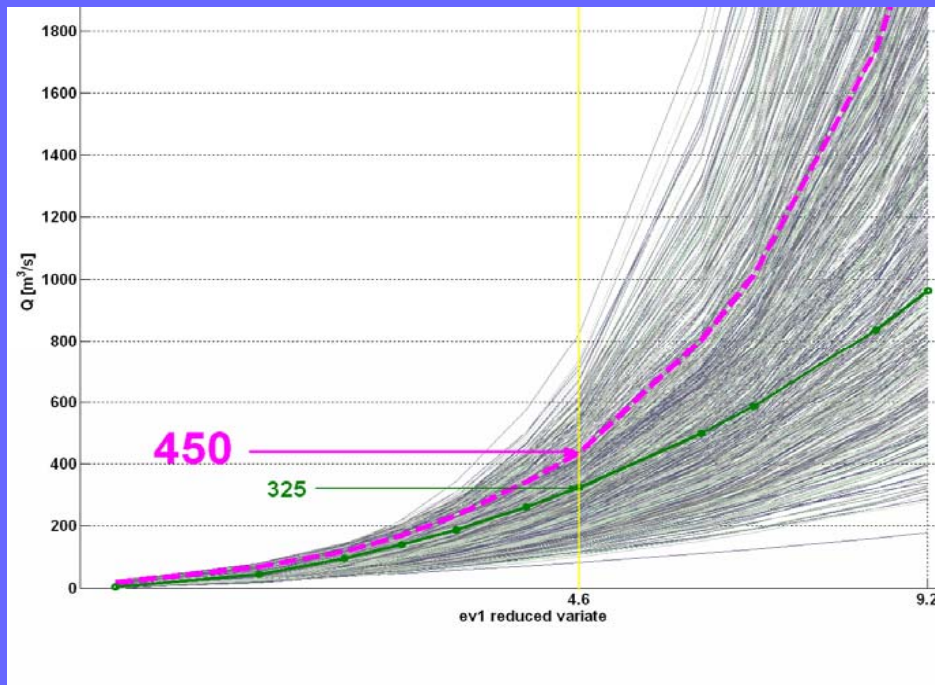
N: U: S: A: P

(Funtowicz & Ravetz)

Numeral: Unit: Spread: Assessment: Pedigree

450: m³/s: 10³sims /10⁴ yrs : %95: (2,2,3,2)

Hochwasserfrequenzkurve



Theoretical structures
Data input
Peer acceptance
Colleague consensus

T_S	D_I	P_A	C_C
4	4	4	4
3	3	3	3
2	2	2	2
1	1	1	1
0	0	0	0