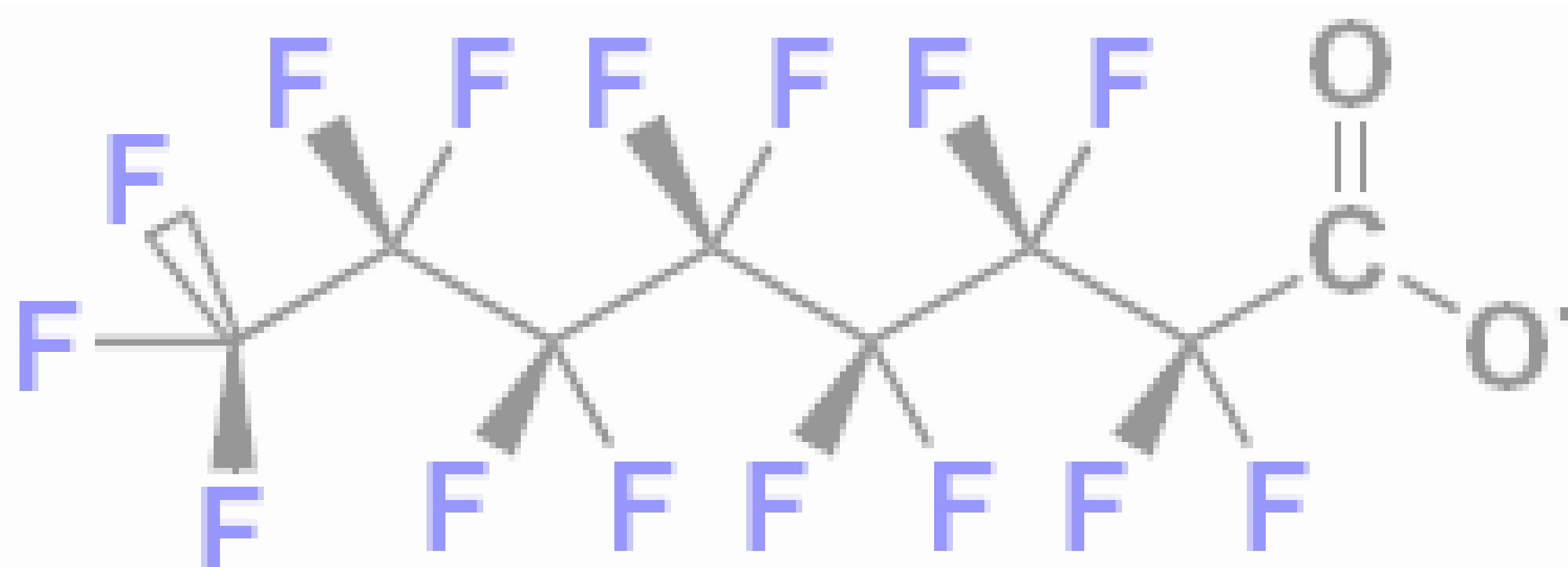


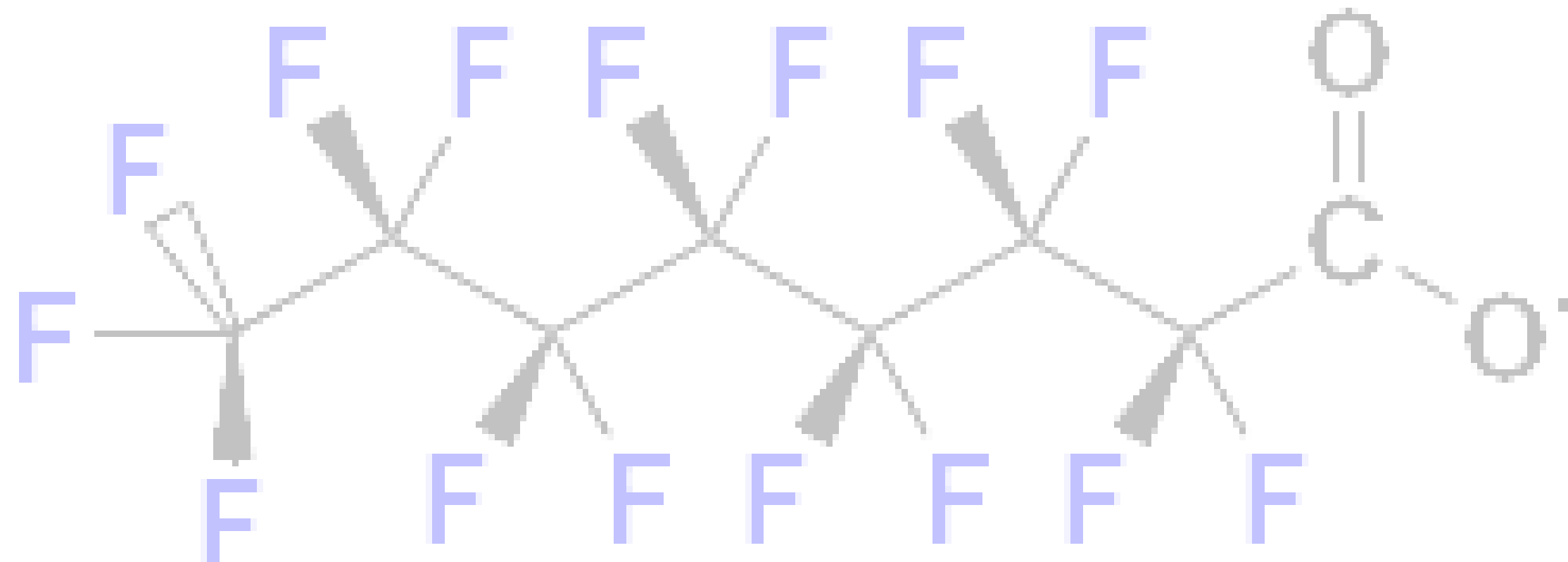


# PFOA - possible sources and regulatory needs

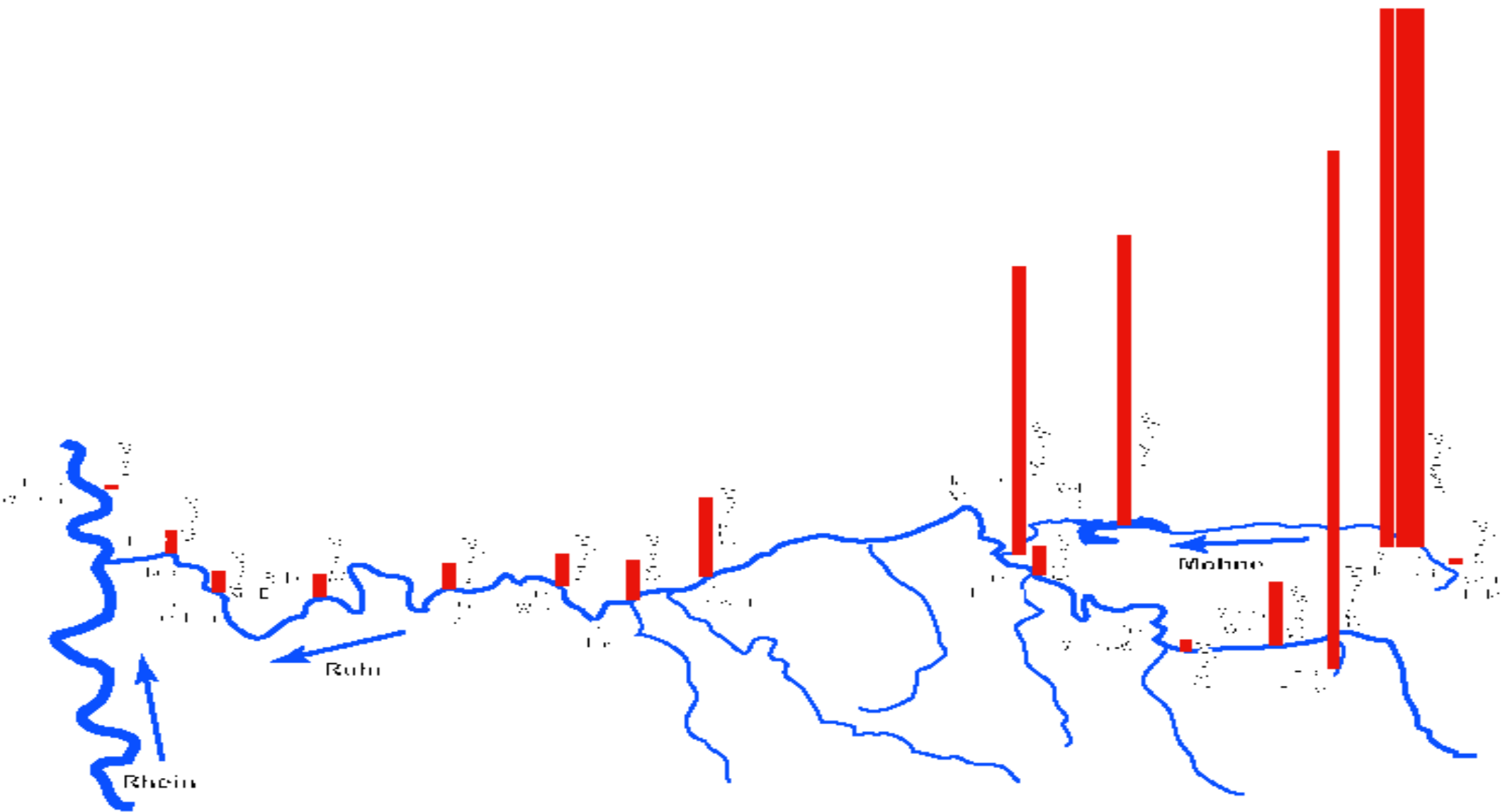
PFOA Workshop  
EU-Commission 04.05.2010



- No biological degradation
- High persistence in the environment
- Persistent in organisms, esp. men
- Wide distributed in the environment
- Polar molecule, good water-solubility, low lipophilicity
- Environmental target compartment is water
- Tendency to bioaccumulate, but no potential to accumulate as defined in REACH Annex XIII (bioaccumulation due to high lipophilicity)







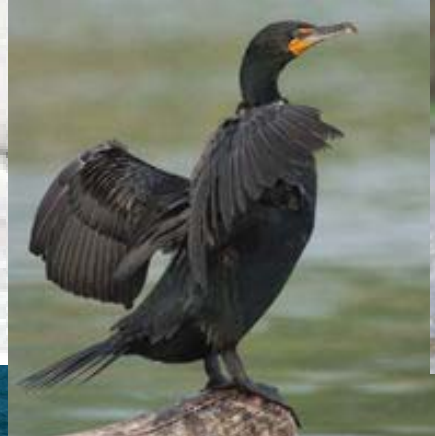
# Findings in surface water

Source	PFOS [ng/l]	PFOA [ng/l]
Northern Atlantic	0.01 – 0.05	0.04 – 0.1
Tokyo bay, Japan	13 – 25	15 – 192
Resolute bay, Arctic	49 – 90	12 – 16
Po, Italy	2 – 12	2 – 337
Steinbecke, Germany	3,160 – 5,900	16,800 – 33,900
Lake Moehne, Germany	17	654

# Ground- and drinking Water

Source	PFOA [ng/l]
Neval Air Station, Nevada, USA	6,570,000
Decatur, Alabama, USA	3,400,000
Little Hocking, Ohio, USA	1,500 – 7,200
Emmerting, Bavaria, Germany	166
Arnsberg, North Rhine Westfalia, Germany	500 - 640
Water works, North Rhine Westfalia, Germany	<2 – 56

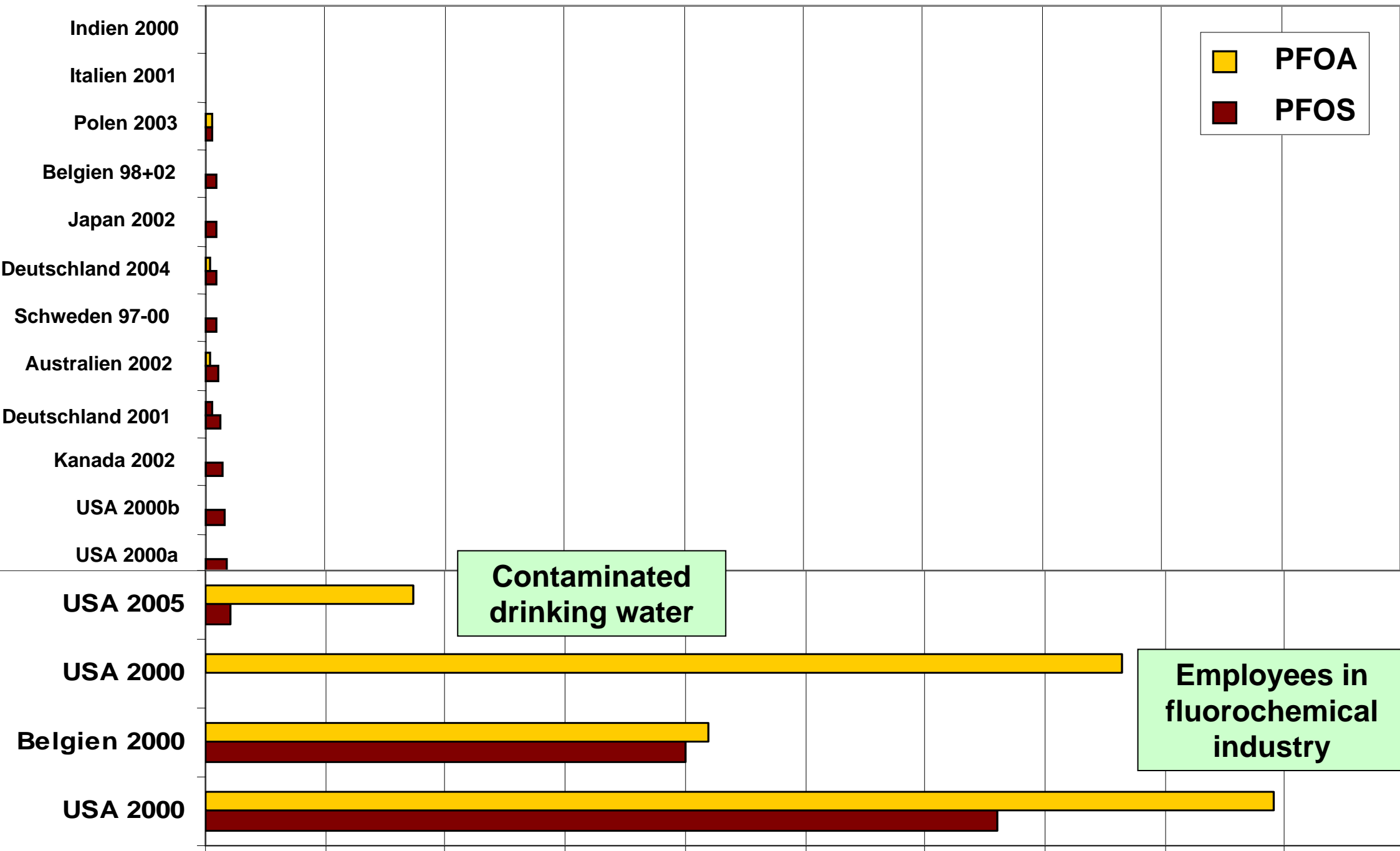




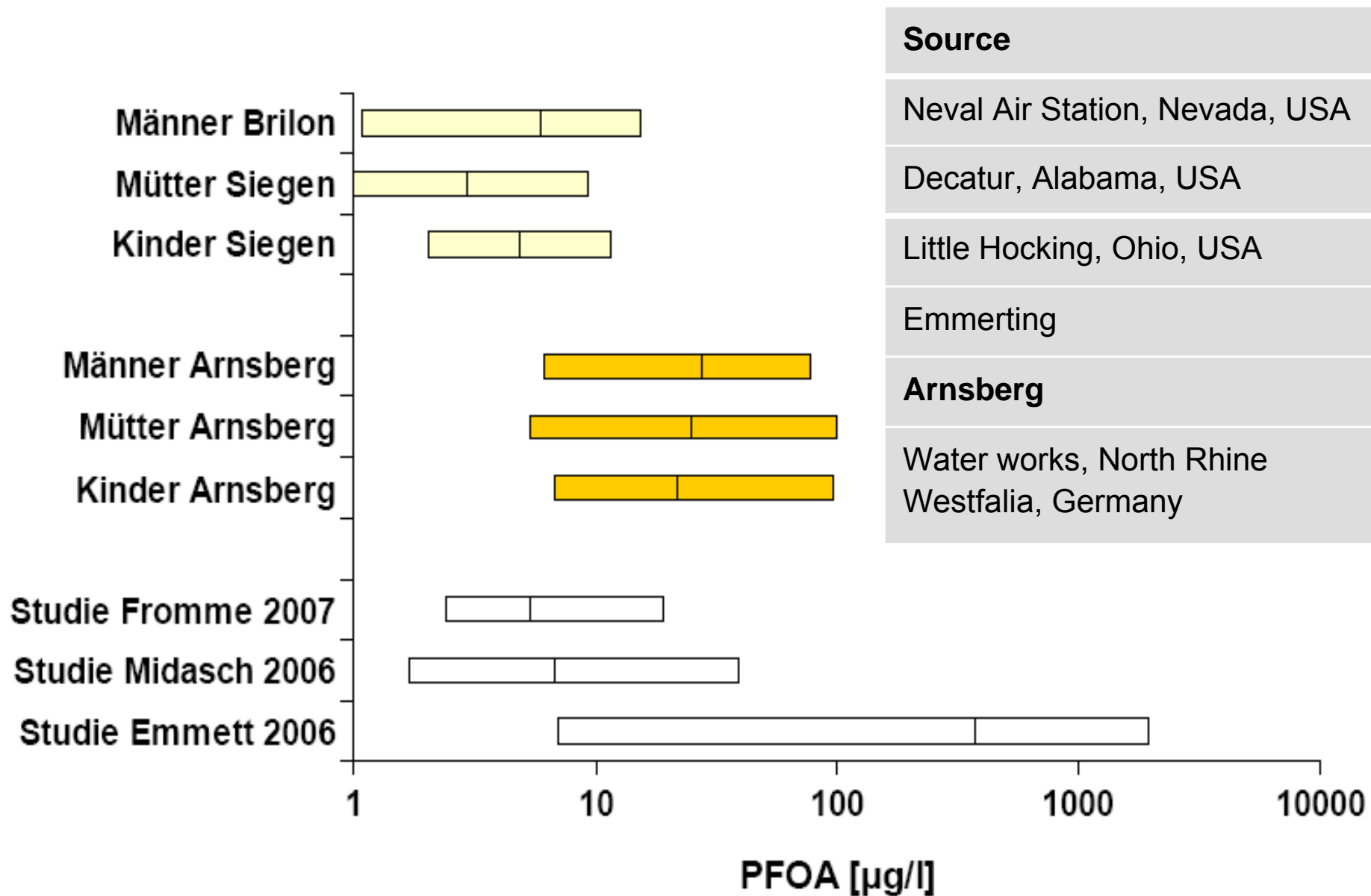
# Findings in biota

Organism	PFOS* [ng/kg]	PFOA* [ng/kg]
Polar bear Canadian Arctic (1990)	454 – 1,474	0.04 – 14
Polar bear Canadian Arctic (2006)	2,108 – 3,868	12 – 18
Seal Canadian Arctic (2005)	8.0 – 44	12 – 16
Eel, European rivers	≤ 498	≤ 23

\*in liver samples



# PFOA in blood samples



*Hölzer & Wilhelm (2007)*



## CLH Report

### PROPOSAL FOR HARMONISED CLASSIFICATION AND LABELLING

**Substance Name:** Perfluorooctanic acid (PFOA)

**EC Number:** 206-397-9

**CAS Number:** 335-67-1

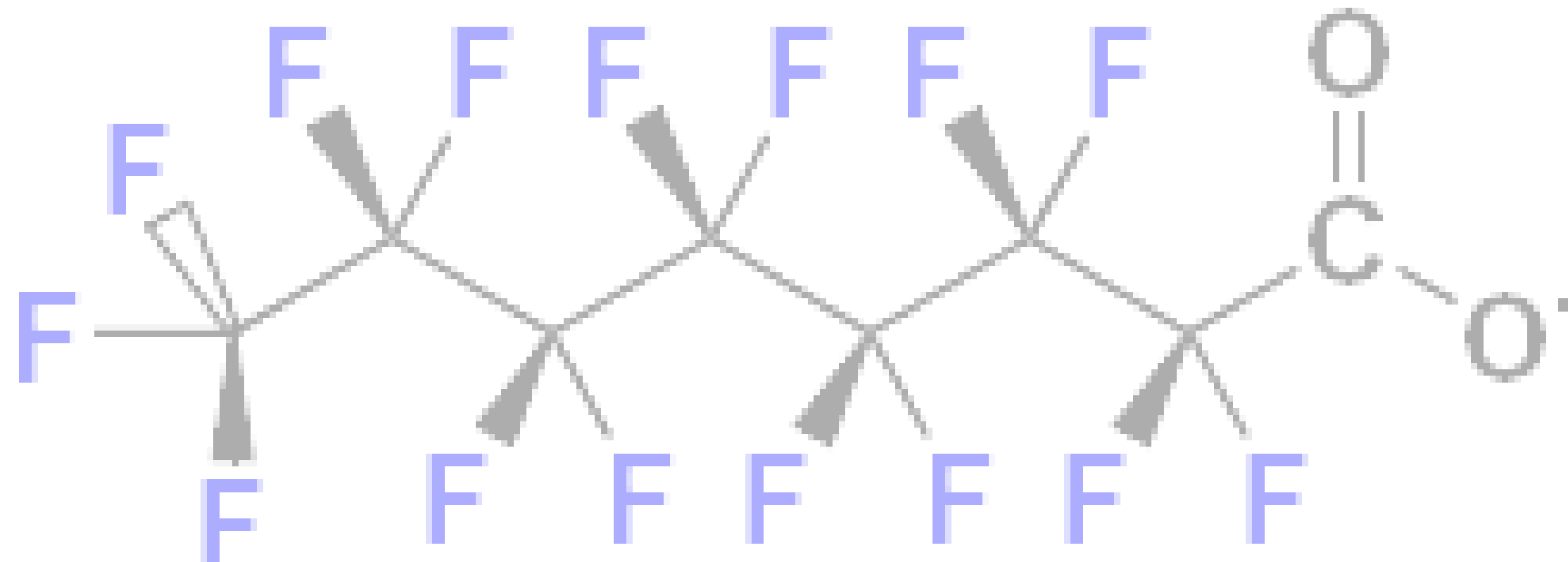
The classification of Perfluorooctanic acid (PFOA) was agreed in the former TC C&L group. The discussion and conclusions from the TC C&L group on the classification of PFOA is included in Annex I of this CLH dossier.

Annex I: Summary Record of PFOA and its salts from the TC C&L group meeting 21-24 March 2006 and 4-5 October 2006.

**Submitted by :** Climate and Pollution Agency (Norway)

**Version :** 9 March 2010

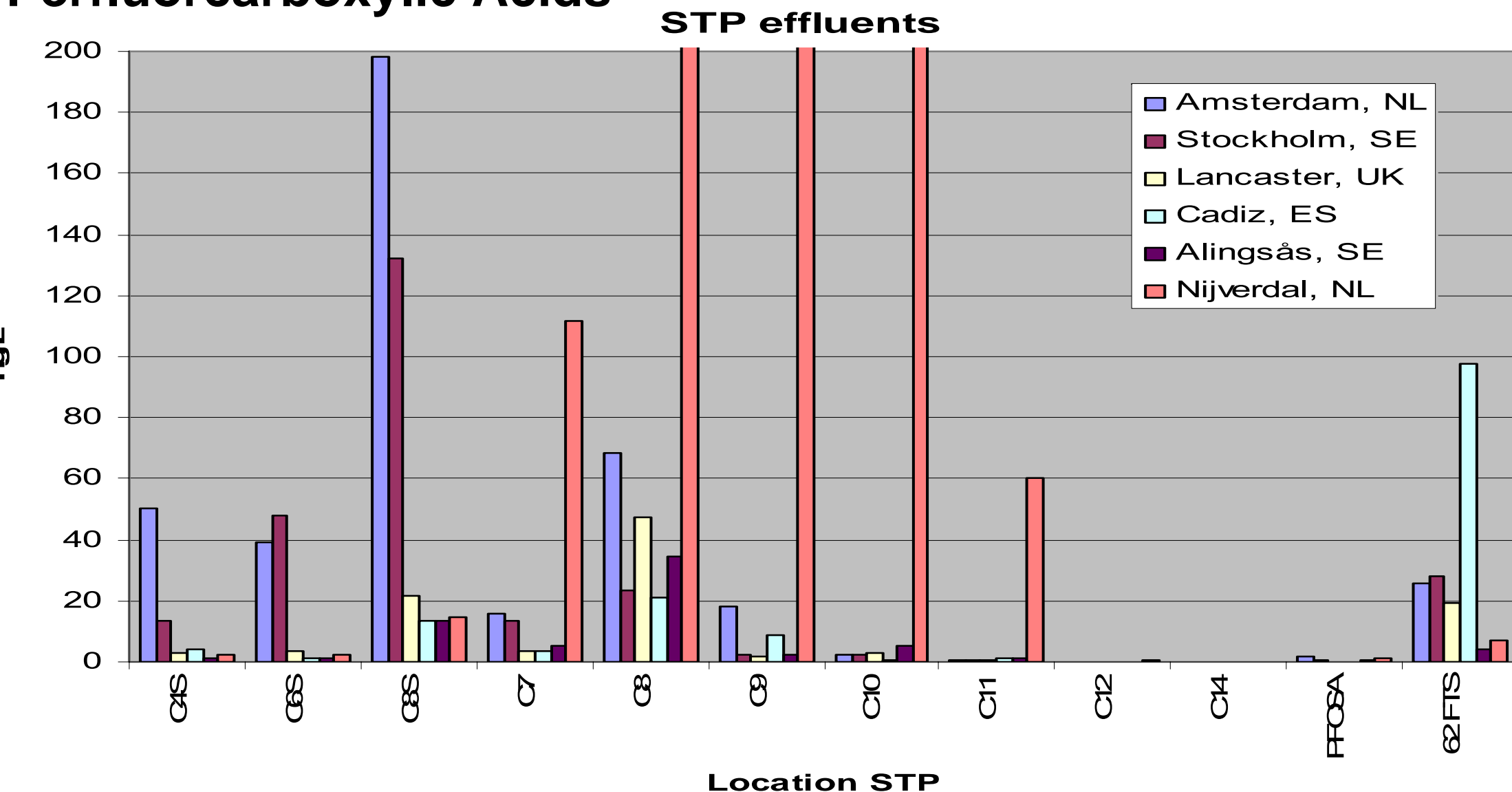
1. Environmental persistence
2. Findings and distribution in surface water
3. Findings and accumulation in food web and top predators
4. Long-range transport and findings in remote areas
5. PFOA in blood samples of the general population (& long elimination half live)
6. PFOA in food and in drinking water
7. Toxicological profile (Reprotoxic Cat. 2)
8. Disposal practices



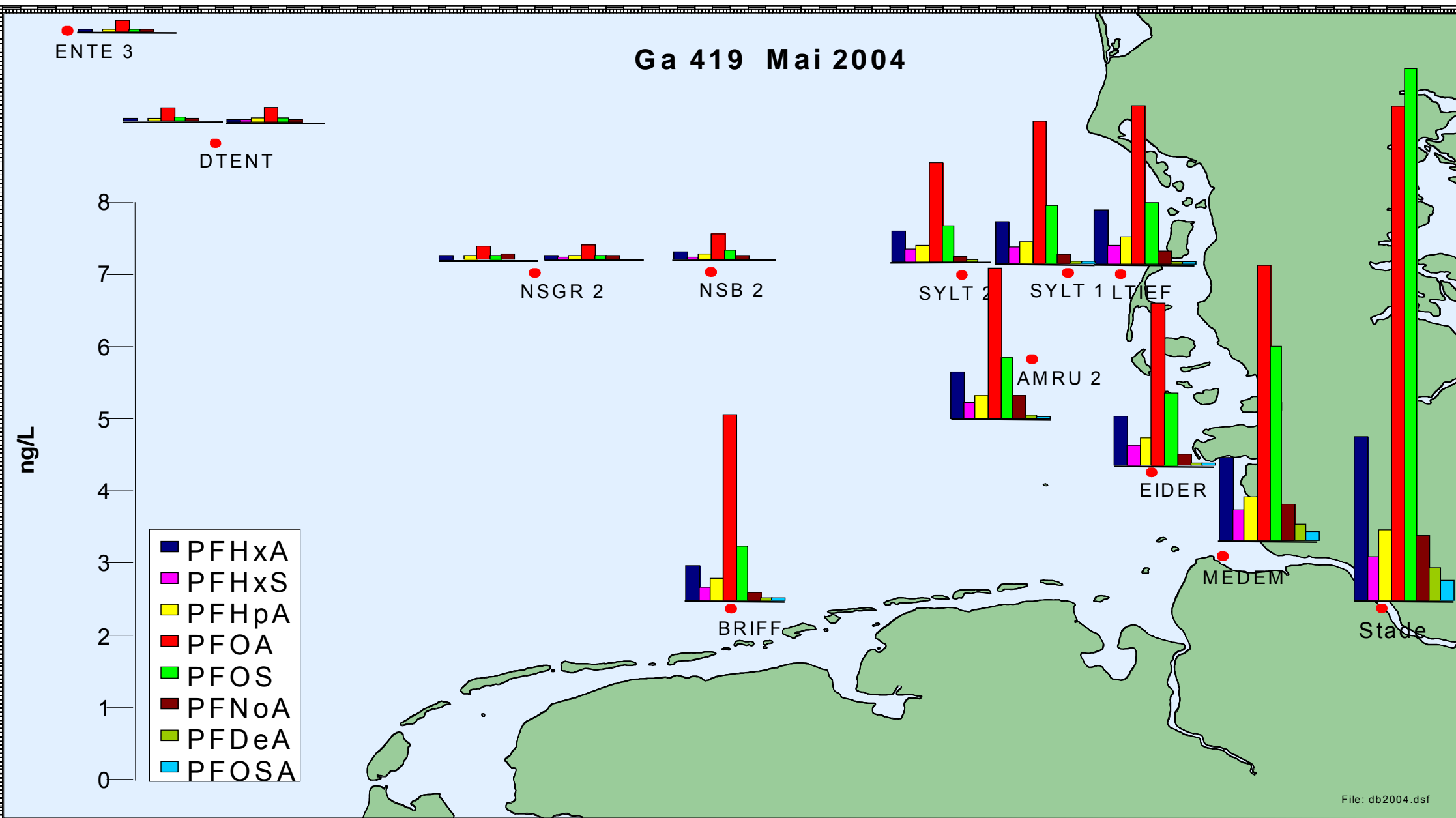




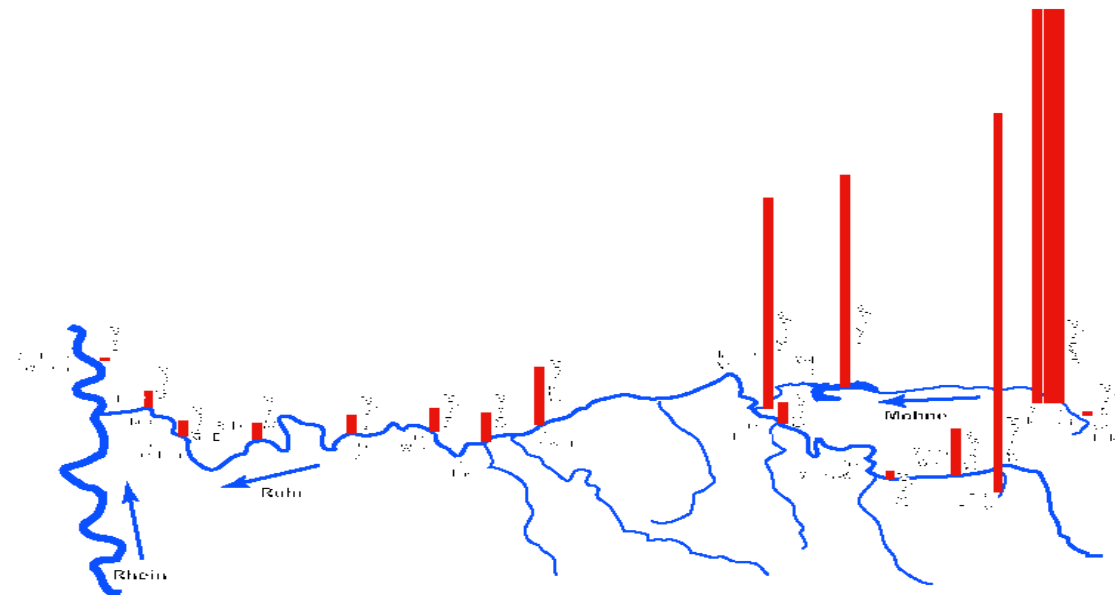
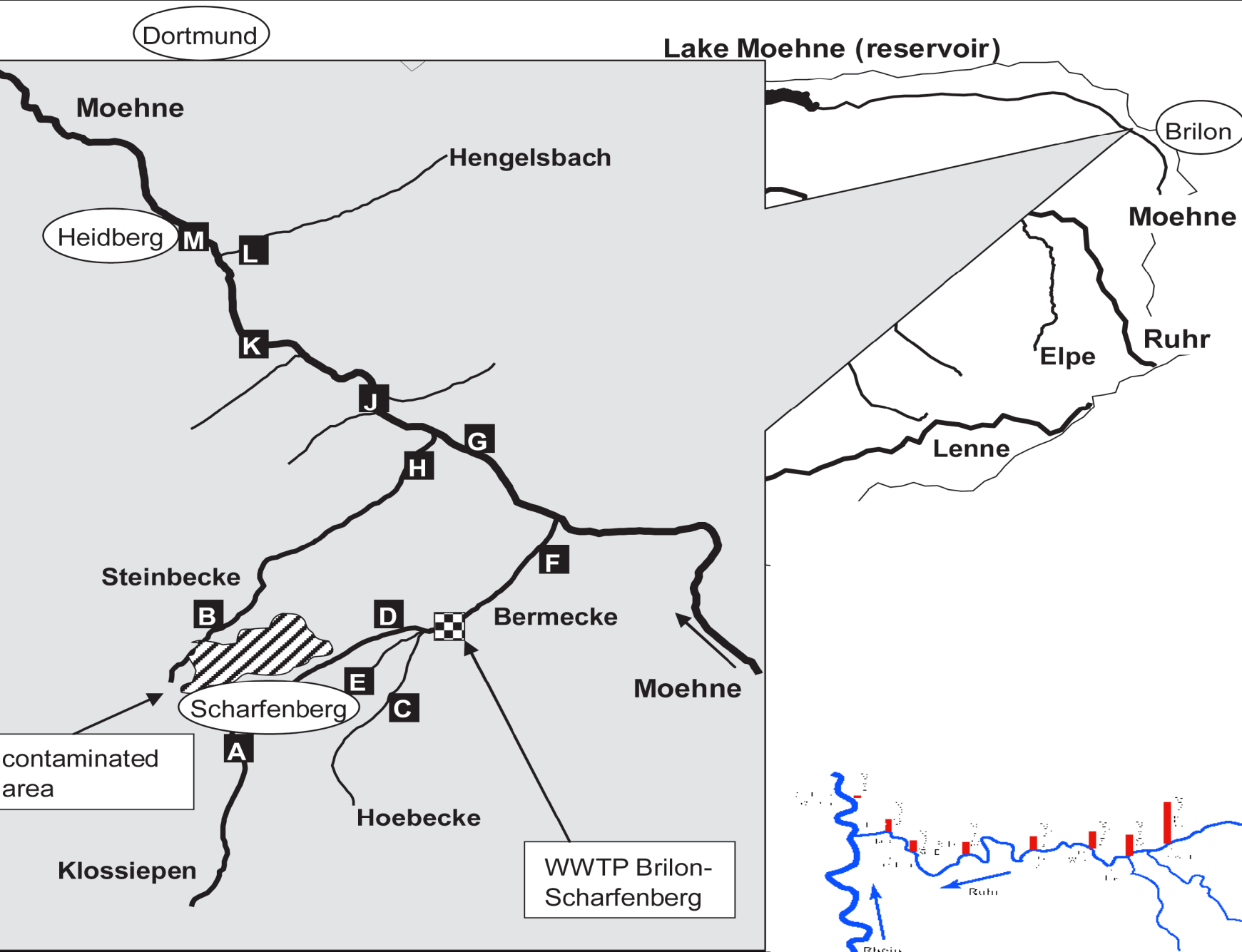
## Perfluorocarboxylic Acids



# Municipal STPs – rivers - sea



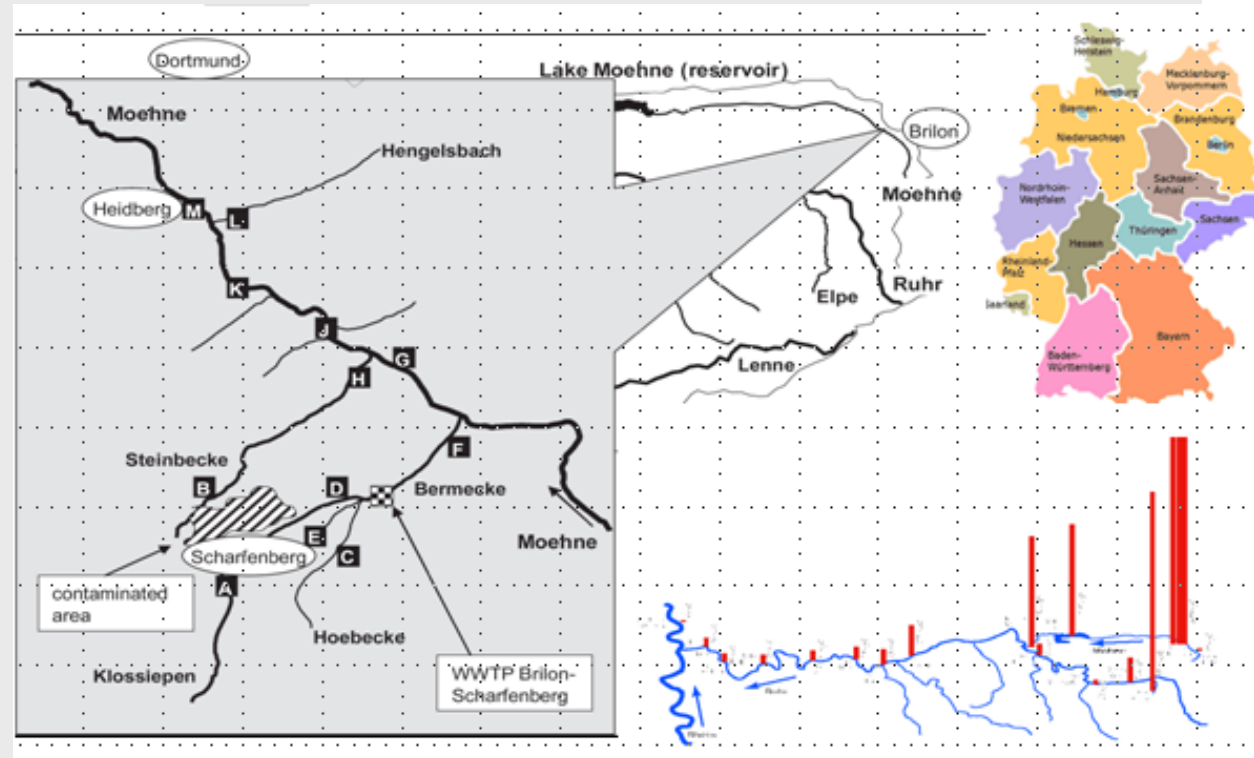
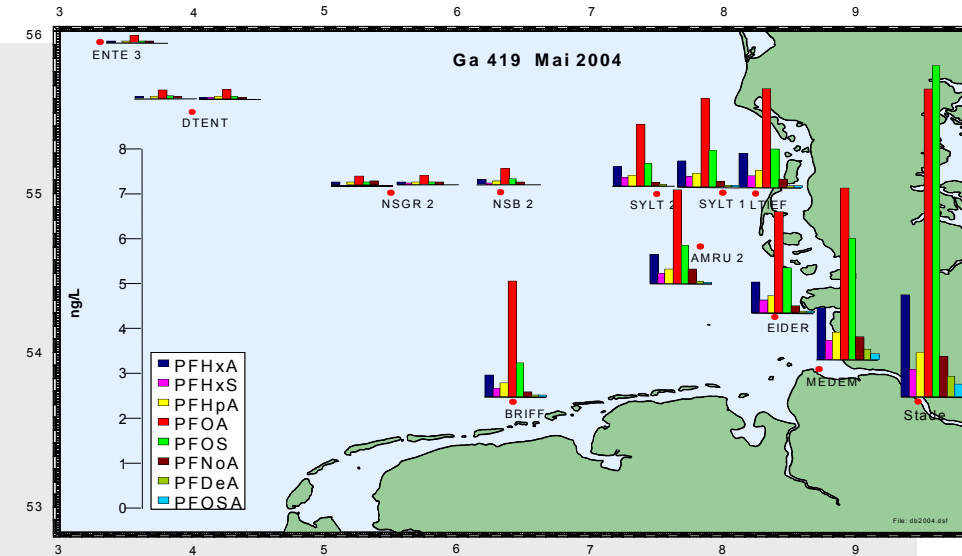
# Sludge disposal in agriculture

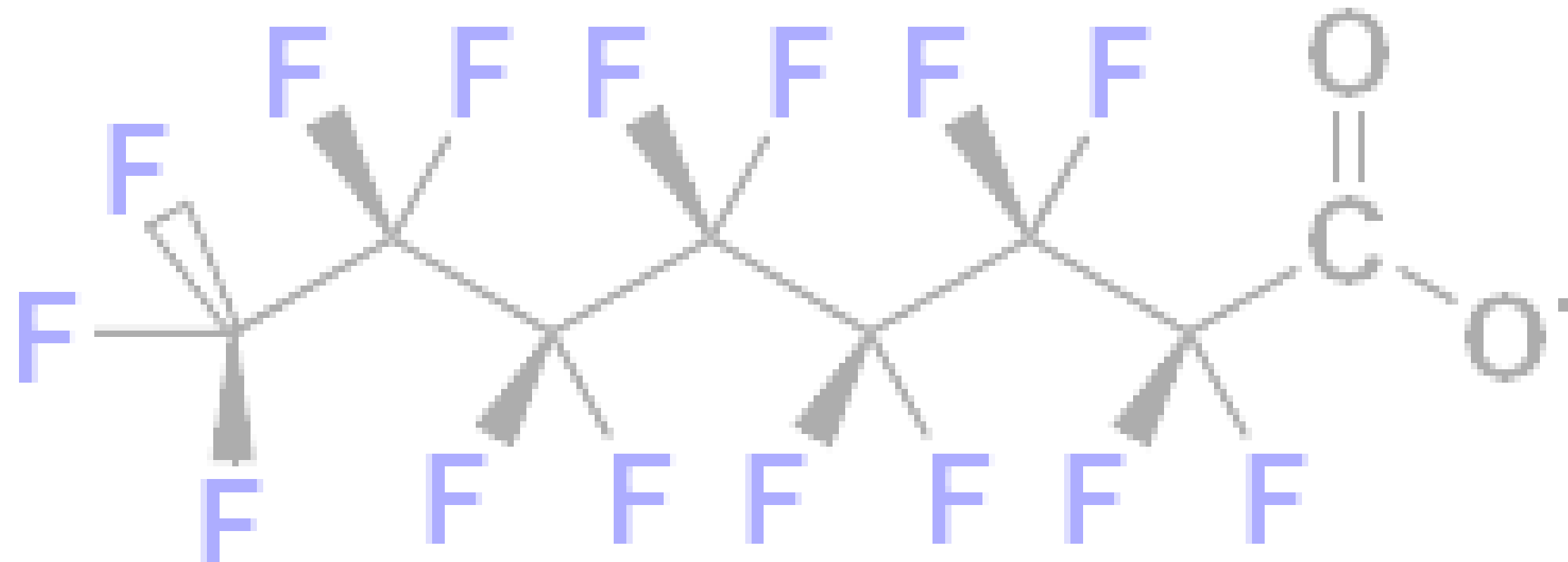


- PFOA-Production
- Production of Fluoropolymers
- residues from production and processing of fluorinated polymers
- production of other PFCs
- Downstream users  
(e.g. Textile Industry,  
Galvanik, Paper Industry)



- Residues in products
- Transformation of volatile precursors
- Degradation of fluorinated Polymers
- Sludge disposal in agriculture







**DIRECTIVE 2006/122/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
of 12 December 2006**

**amending for the 30th time Council Directive 76/769/EEC on the approximation of the laws,  
regulations and administrative provisions of the Member States relating to restrictions on the  
marketing and use of certain dangerous substances and preparations (perfluorooctane sulfonates)**

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE  
EUROPEAN UNION,

Having regard to the Treaty establishing the European Commu-  
nity, and in particular Article 95 thereof,

Having regard to the proposal from the Commission,

Having regard to the Opinion of the European Economic and  
Social Committee <sup>(1)</sup>,

Acting in accordance with the procedure laid down in Article 251  
of the Treaty <sup>(2)</sup>,

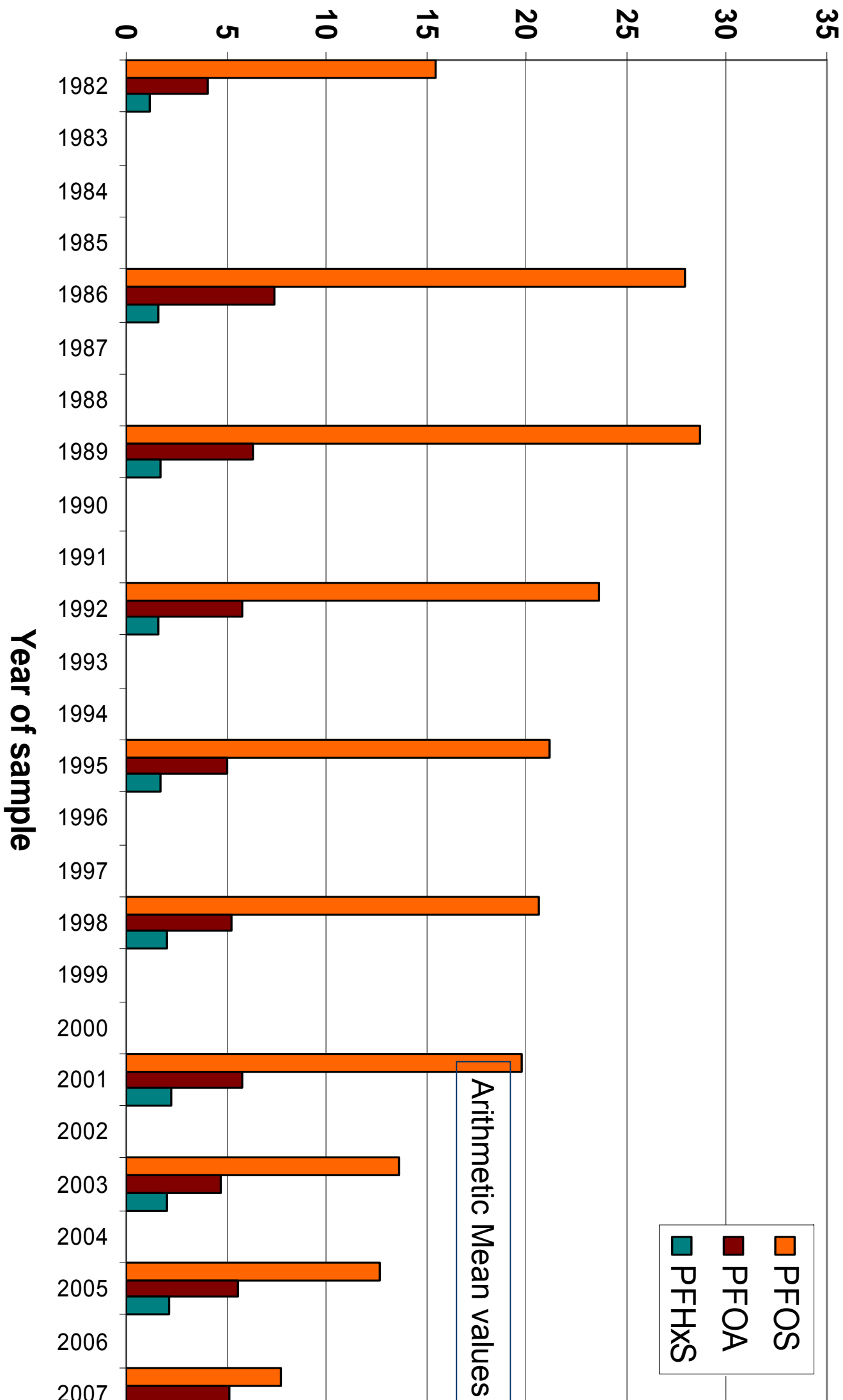
to the environment or human health, if releases into the  
environment and workplace exposure are minimised. With  
regard to fire-fighting foams, SCHER agrees that health and  
environmental risks of substitutes should be assessed before  
a final decision can be taken. SCHER also agrees with  
restricting the use of PFOS in the plating industry, if there  
are no other measures available that could be applied to  
reduce the emissions during metal plating to a significantly  
lower level.

- 2005: US-EPA Stewardship program: Reduce emissions of PFOA and precursors to 95% of the level of 2000 till 2010, phase out till 2015
- 2007: OECD Hazard Assessment prepared by US-EPA and UBA, supported by DuPont; result: candidate for further work
- 2009: Risk Assessment (Chemical Safety Report) according to REACH-TGD prepared by consortia of Miteni and DuPont, submitted by German Ministry of Environment to EU-Commission
- 2010: RPS-Study for EU-Commission



- Defining appropriate Environmental Quality Standards for soil and water including drinking water
- Nominating PFOA as Substance of Very High Concern according to REACH Articles 57c) and f)
- Submit a Risk Management Analysis
- Prepare a REACH-Restriction Dossier for PFOA considering residues in products and relevant precursors, including a Socio Economic Analysis

# PFOs and PFOA in blood samples





# Thank you

Questions:

**Dr. Christoph Schulte**

Federal Environment Agency -Umweltbundesamt

Chemicals Branch

Wörlitzer Platz 1

D - 06844 Dessau

Phone: +49 (0)340 2103-3162

Christoph.schulte@uba.de

**UBA Background paper**

**“Do without Per- and Polyfluorinated Chemicals  
and Prevent their Discharge into the Environment“:**

<http://www.umweltdaten.de/publikationen/fpdf-l/3818.pdf>