Identification of River Basin Specific Pollutants in Germany:
- General
- Example: Diclofenac

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Cause

Annex VIII (WFD):

Non exhaustive catalogue of the most important substances, River Basin Specific Pollutants (RBSP)

Annex V No. 1.1 and 1.2.6 WFD:

In principle examination of significance for all emitted substances and - if necessary - EQS deduction

Main focus of the German approach:

Only those substances are of concern which are measured in surface waters in significant concentrations and/ or which endangered the good ecological status and/ or which cut the usability (e.g. drinking water)

Process of Priorisation

Build-up substance pool (monitoring data, legal relevance, usage)

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First Substance Catalogue (230) → Priorisation by criteria as usage/relevance, knowledge PNEC or EQS → Second Substance catalogue (110) → Research Projects/ Federal Environmental Agency inclusive deduction of EQS-proposals (EQS-p)

a) Estimation of the environmental relevance and ecotoxicological „raw“ appraisal
b) Build up candidate list
c) Deduction of EQS-p, Testing EQS-p

↓

Nomination of 30 substances to legislative body (2009), expert hearing (2010)

Build-up Substance Pool

1. Indications from monitoring data

Data from monitoring programs from federal states, research projects, water works, …

2. Indications from legal regulations/ usage

- Law on Chemical Substances/ Federal Water Act/ Waste Water Ordinance
- Annex II of Directive 2006/11/EG
- Food Law
- PRTR
- REACH
- POP
- OSPAR/ HELCOM
- Usage as pesticide/ biocide/ fertiliser/ detergent/ medicine

➔ First list with 230 substances which are (regular) measured in surface waters, no EQS according to Annex V Nr. 1.2.6 WFD ➔ research projects (EQS-p deduction)

Example: First Identification of Diclofenac

1. Indications from monitoring data/ effluents …

a) Data regarding medicines from individual monitoring programs from federal states: surface waters/ effluents/ sewage sludge; water works, …

b) Investigations on 39 medicines in influent and effluent flow of sewage plants, surface waters, ground water, bank filtrate, landfill leachate – 700 samples, 250 monitoring stations (2000/2001, BLAC-report (2003))

➔ Integration of relevant medicines (e.g. Diclofenac) in regular monitoring programs

2. Indications from legal regulations/ usage

- Law: -
- Usage as medicine: 90 tons in Germany per year

  ➔ 63 tons in hydrologic cycle

Estimation of the Environmental Relevance/ Ecotoxicological „raw“ Appraisal

- Estimation of environmental relevance with the aid of a decision matrix (consideration of the required quantity, potential of release, substance characteristics and ecotoxicological raw appraisal)
- „Screening-Procedure“ regarding the water pollution for these substances which be possibly relevant (e.g. pilot studies, research projects)
- Approximate assessment regarding REACH criteria on ecotoxicological and human toxicological relevance through Federal Environmental Agency

Selection of Candidate Substances for EQS-p

- Concentrations in surface waters > 0,1 µg/ L
- Concentrations in surface water ≥ 0,5 bzw. 0,1 PNEC
- Water hazard class 2 or 3
- “R-Sätze”: carcinogenic or harmful to water organsims

Deduction of EQS-p according to Annex V Nr.1.2.6 in contact with draft TGD EQS and Lepper (2005)

➔ „Testing“ EQS-p

- Yearly average value > ½ EQS-p (monitoring data 05 – 08)
- SF < 100

➔ Nomination of 30 substances to legislative body

Example: Data for Diclofenac

- Findings in surface waters of following river basins (D): Rhine, Danube, Meuse, Ems, Weser, Elbe, Oder
- Concentrations in surface waters > 0,1 µg/ L ✓

Deduction of EQS-p according to Annex V Nr.1.2.6 in contact with draft TGD EQS and Lepper (2005)

- bioaccumulation only by low pH values
- ecotoxicological data: algae, fish, crustacean, rotifers
- lowest NOEC: 1 µg/ L (fish), SF 10, EQS-p: 0,1 µg/ L

➔ „Testing“ EQS-p

-Yearly average value > ½ EQS-p (monitoring data 05 – 08) ✓

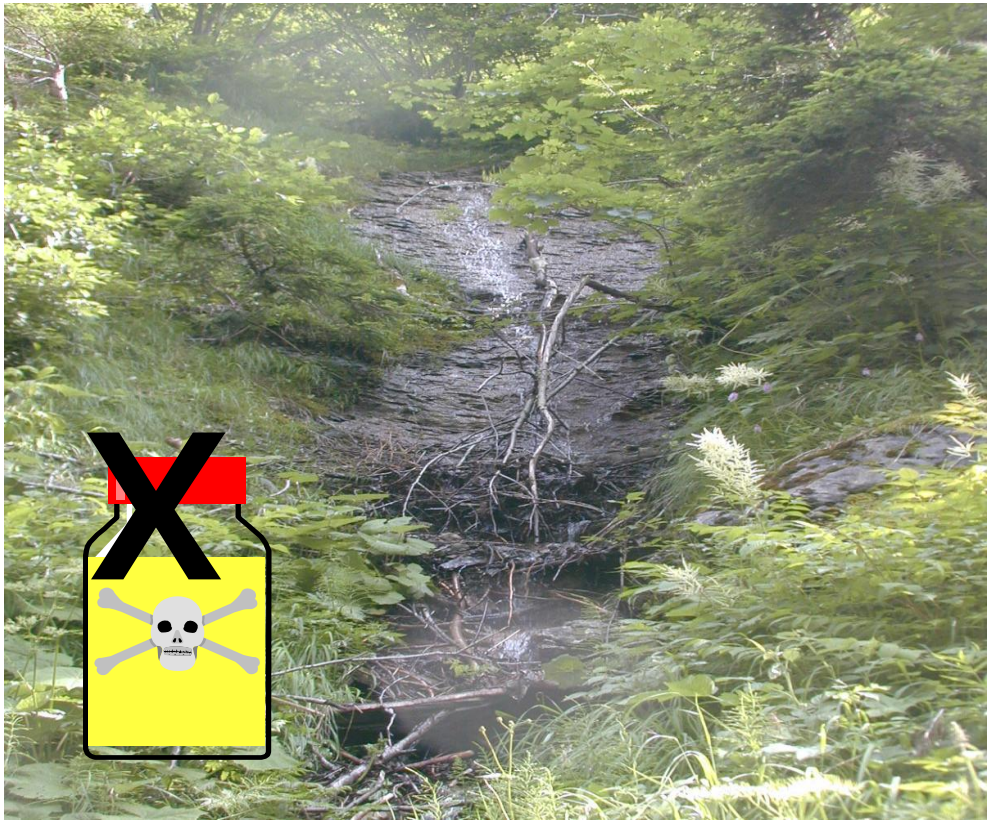
- NRW – nearly 50% of the monitoring stations mean value > 0,1 µg/ L

➔ Nomination to legislative body

Comparison of the German Approach with EU WFD Prioritisation process

- Similar approach (universe of chemicals – but smaller, derivation method (Lepper/ TGD), SF, ..)
- No extensive modelling approach
- At the moment 3 RBSP are also under examination for revision of Annex X (Diclofenac, Irgarol, Terbutryn)

Many thanks for your attention!!



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