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UK Water Industry Research



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Proficiency Testing for Priority Substances in Surface Water at the Analytical Limit

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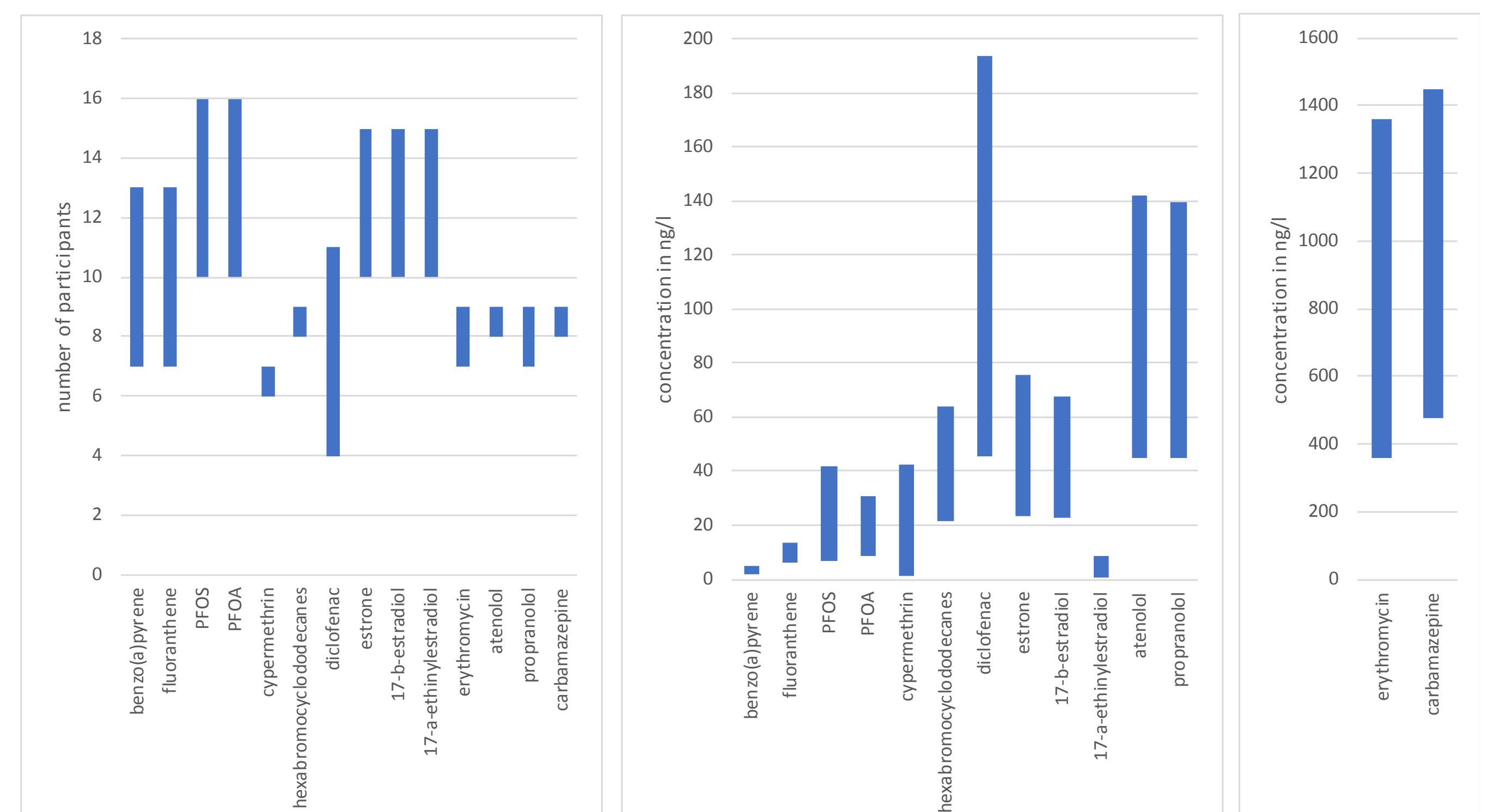
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Rationale of the PTs

- Analysis of priority substances for European Water Framework directive
- Organized by AQS Baden-Württemberg in co-operation with IWW Water Centre on behalf of UK Water Industry Research (UKWIR) through wca environment
- Mandatory participation for laboratories analysing samples for UKWIR Chemical Investigation Programme - Phase 2
- 2-4 PT rounds per year for each parameter
- Also open for all other interested European laboratories



PT design

Assigned value from formulation

- From the weighing of the gravimetric spikes in real surface water
- Matrix contents (where not negligible) from the median of participants matrix measurements or from a standard addition like procedure (see Rienitz et al. Accred Qual Assur (2007) 12: 615-622)

Standard deviation for proficiency assessment

- Set to 25 % according to the requirements of the EU directive on the "technical specifications for chemical analysis and monitoring of water status"

Challenges

- **Low number of participants**
 - Statistical calculations less reliable
 - Need to establish an alternative way to determine the assigned value
- **Low measurand concentration**
 - Environmental Quality Standards (EQS) prescribed by the EU close to current analytical sensitivity limits
 - Concentrations of measurands in the PT samples to be near to the limits of quantification

Results

- Taking into account the very low concentrations, the participants showed a very good performance for most of the determinands
- The analytical results in most, but not all, cases show a precision within the requirements of the EU directive

Precision and trueness

