



## Working group 1a: comparison & application of freshwater nutrient boundaries

- Recall the overall aim of the ECOSTAT nutrient work:
  - Establishment of consistent and comparable boundaries
- In this session we aim to discuss further and explain the findings in the report on rivers and lakes
- We are not here to re-write the report!

# Reminders from the report

- Different values for N & P used for boundary setting across Europe
  - Differences in water body types
  - Different methods used to establish boundary values
  - Different data
    - BQE used, summary metrics, sampling strategy, soluble and total nutrient, random effects from use of small data sets.
  - Different interpretation of similar methods
    - (more about this when we discuss pressure response models)
- Boundaries for lakes more similar than those for rivers
- Boundaries for P more similar than those for N
  - How similar might we expect values to be ?
- What are the most appropriate methods to establish boundary values

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What are the most important reasons for the differences in MS boundary values?

- Do the observed differences reflect real variation in nutrient/ biology relationships across MS or geographic regions?
- Are the differences a result of different approaches to monitoring, boundary setting and subsequent use for management?
- Is uncertainty in pressure/response relationships a significant factor?

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In addition to differences between MS, do we understand:

- Why river boundaries are more variable than those for lakes?
- Why nitrogen boundaries are more variable than phosphorus?

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## **Some factors to consider in the discussion:**

### **1. Are the comparisons valid?**

- are the measured parameters comparable?
- are the summary statistics an important factor?
- are IC or broad types appropriate?
- how should we compare type-specific with site-specific approaches?



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## Some factors to consider in the discussion:

### 2. Differences between MS

- the approach to interpretation of data/methods of deriving boundaries
  - e.g. What does “expert judgement” really mean? /Why have MS adopted different methods?
- views on high status in relation to G/M boundary
  - How are high status conditions established?
  - What happens where no undisturbed conditions occur?
  - How far can G/M deviate from high status?
- Is only part of the possible pressure gradient represented?

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**Some factors to consider in the discussion:**

## **2. Differences between MS**

- approach to use of boundary values, for both classification and management
- does this influence the boundary setting procedure?

## **3. Are multiple pressures contributing to uncertainty with nutrients?**

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## **Where do we go from here?**

Can we propose best practice approaches for all water categories, for all nutrients?

Can we eventually decide what differences will be acceptable for compliance with the WFD?

Will any difference be acceptable if best practice is followed?