

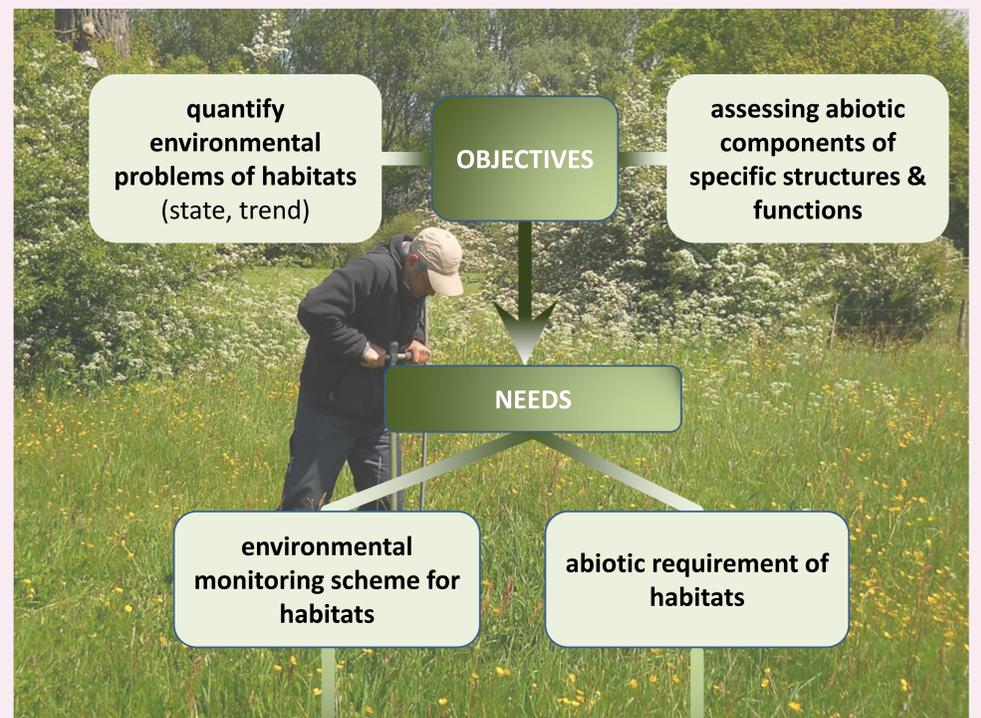
Monitoring conservation status of habitats: environmental aspects



Flanders
State of the Art

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- In **Flanders** (northern part of Belgium) **habitats** face important **environmental pressures and threats**. These make it difficult to obtain a favourable conservation status.
- Policy for the abiotic environment of habitats needs *planning, motivation, evaluation, and tuning* in each six-year Natura 2000 cycle. Therefore, the Research Institute for Nature and Forest (INBO) will:
 - design a **monitoring network of the in-situ abiotic environment**, in collaboration with the Agency for Nature and Forest (ANB);
 - generate quantitative knowledge of **abiotic requirements of habitats** in Flanders.
- State and trend information of the **abiotic environment of habitats** serves two purposes:
 - quantify and prioritize **environmental problems** of habitats
 - assess the environmental aspects of the '**specific structures and functions**' criterion in a solid and transparent way



MONITORING THE ABIOTIC ENVIRONMENT OF HABITATS

- In order to draw conclusions on the **regional** level (Flanders).
- Focus on the **most important environmental pressures and threats** of habitats, *e.g.: altering the groundwater table, eutrophication through atmospheric deposition*.
- Several environmental compartments will be important: **groundwater, surface water, soil, atmosphere**.
- For each pressure, at least one relevant environmental **variable** must be selected for monitoring, *e.g. mean highest groundwater level*. For each variable, the monitoring scheme will be **stratified** according to habitats with similar characteristics.



Figure: In order to make a monitoring scheme, we investigate its possible results through the use of existing data. Here, the overall 'mean highest' groundwater level has been modelled with the covariate 'effective precipitation' (precipitation minus evapotranspiration) and a smoother for 'year'.

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KNOWING A HABITAT'S ABIOTIC REQUIREMENTS

- Based on **extensive surveys** of vegetation, groundwater, surface water and soil, designed for each habitat type.
- Focus on the **most important landscape and environmental characteristics**, *e.g.: landscape profile, soil texture, mean highest groundwater level*.
- Developing a concept to quantify **ranges** for environmental variables needed to obtain a favourable conservation status.
- Important in order to assess environmental problems of habitats and to assess possibilities for restoration.

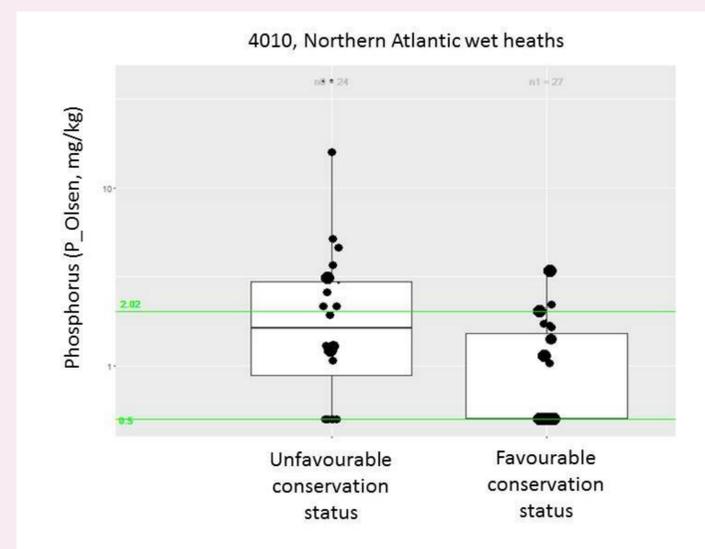


Figure: A range (10-90 percentiles) for phosphorus (P_{Olsen}) considering all plots with a favourable conservation status.

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