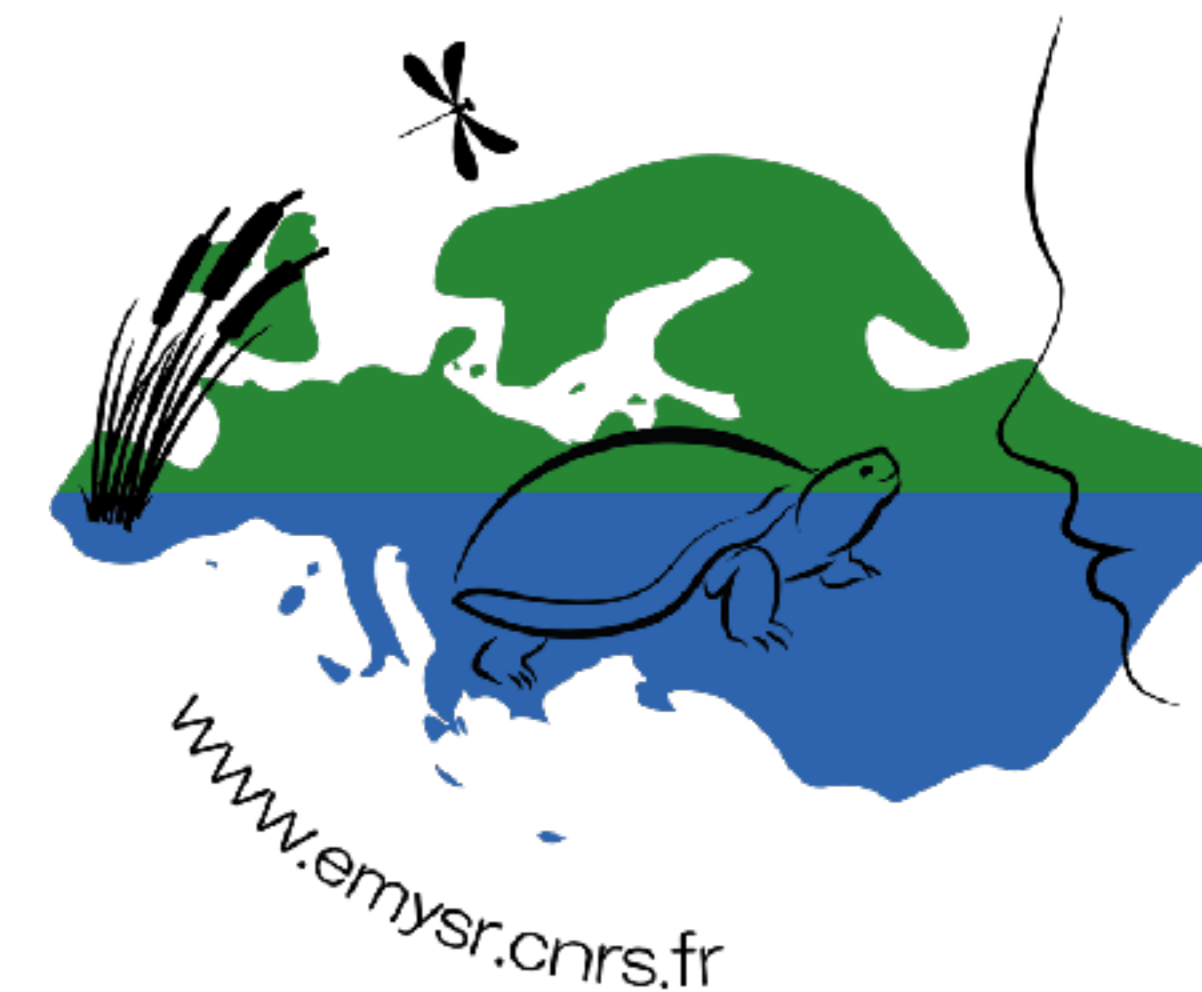




Visit our website!

# Involving non-human stakeholders in wetland management: hurdles and perspectives

Y Meinard<sup>1</sup>, JY Georges<sup>2</sup>, P Romaniuk<sup>3</sup>

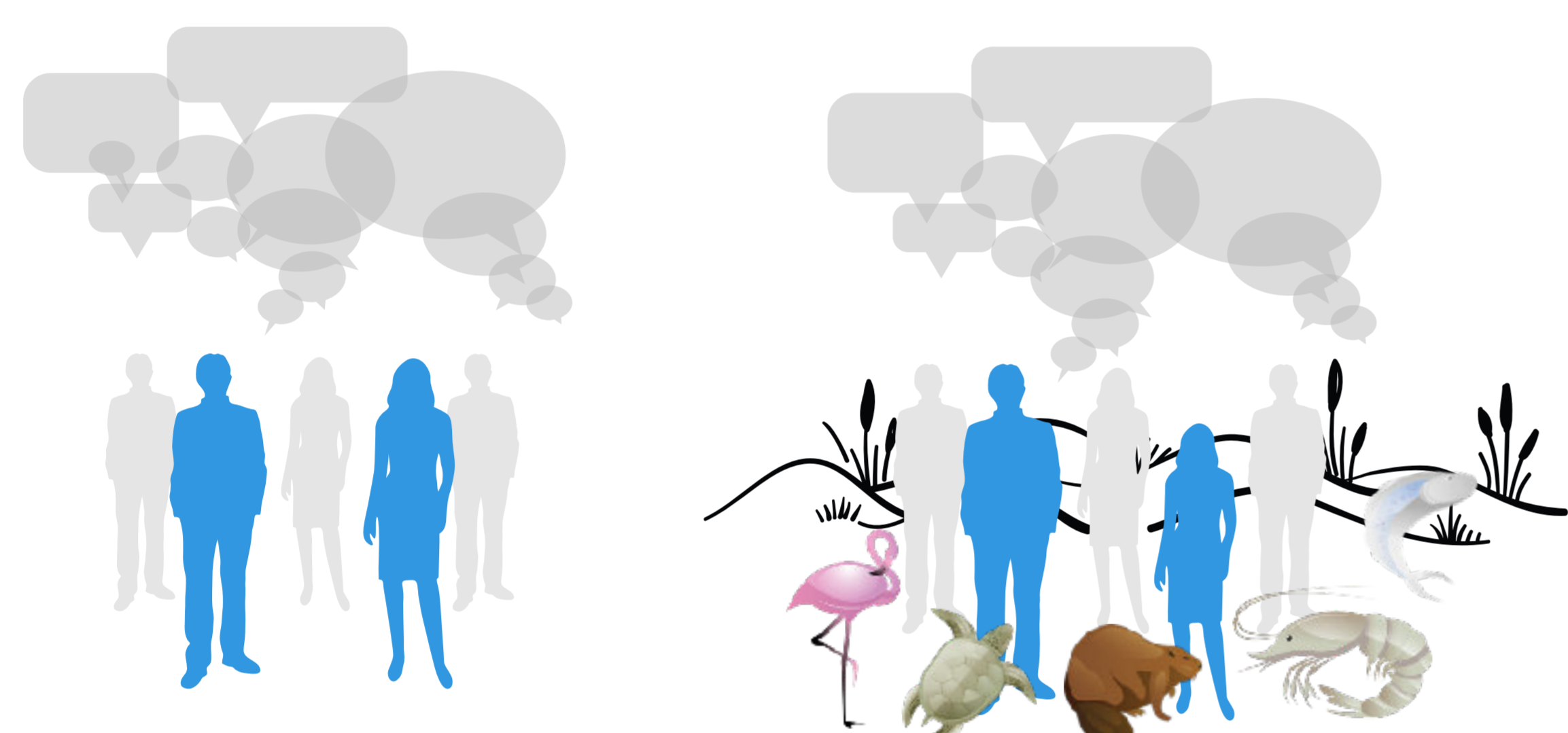


<sup>1</sup>Centre Gilles Gaston Granger (UMR7304), Aix-En-Provence, France; <sup>2</sup>University of Strasbourg, CNRS, IPHC UMR 7178, Strasbourg, France; <sup>3</sup>Institute of Philosophy and Sociology, Polish Academy of Sciences, Warsaw, Poland, National School of Water and Environmental Engineering, University of Strasbourg, France

contact: yves.meinard@cnrs.fr

In recent years, changes in environmental management practices have resulted in the increasing involvement of stakeholders in decision-making. However, this increased inclusion has left aside a whole category of stakeholders whose wellbeing, and even very existence, is at stake in environmental decisions: individuals and populations of non-human species. The main reason underlying this exclusion is that, as opposed to humans, non-humans can neither speak nor vote in collective deliberations and discussions. Here, we explore options to overcome this difficulty and include non-humans in environmental decision-making, with the specific case of wetland management.

Emys-R is a 3-yr transdisciplinary action-oriented research project for defining the most efficient, socially-supported, ecological methods to restore wetlands in favour of Emys reintroduction and associated biodiversity in Europe, based on literature review of former EU-funded conservation initiatives and long term monitoring on 3 study sites in FR, DE and LV.



**The standard participatory model**

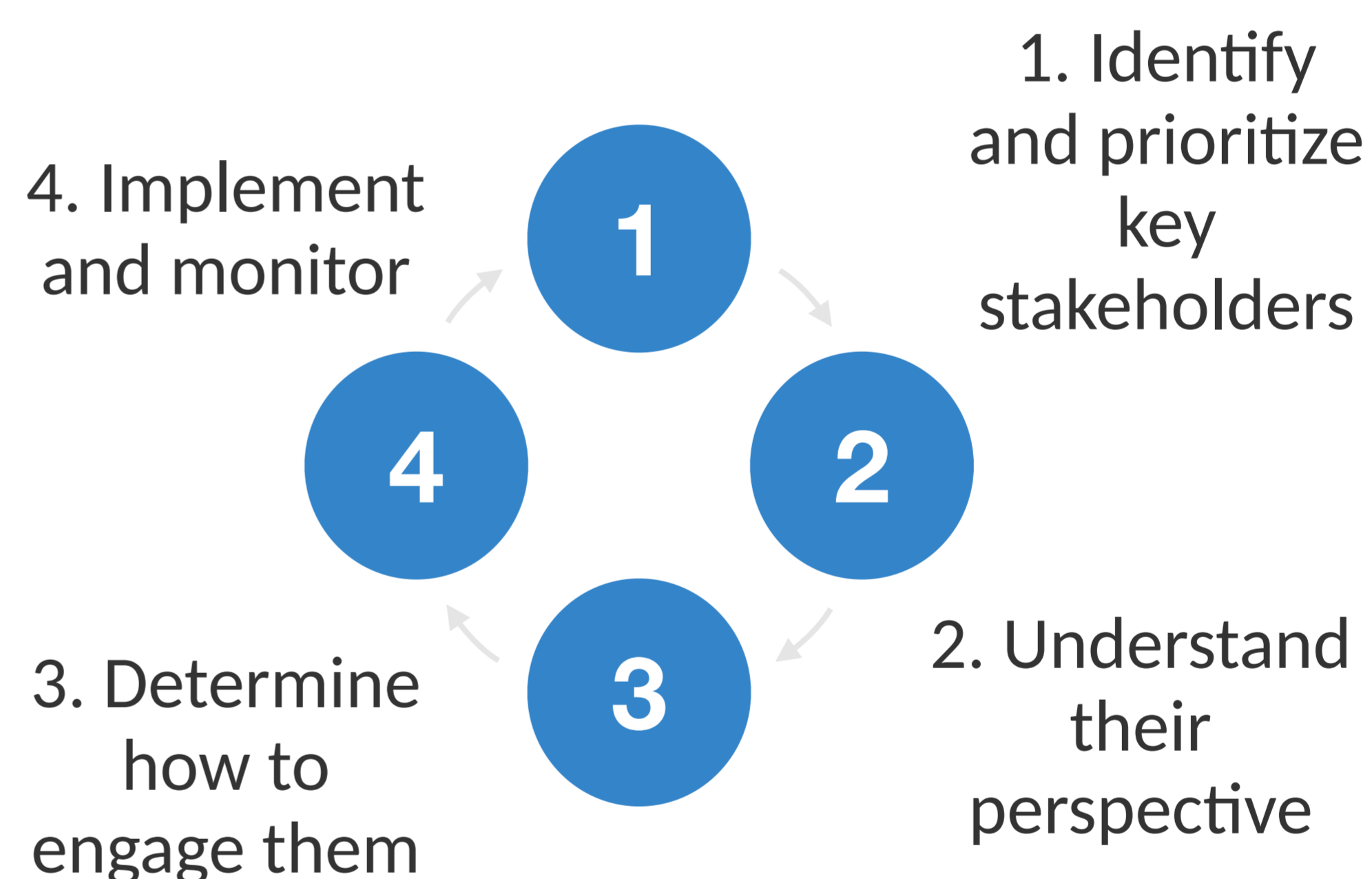
The various *human* stakeholders are represented...

**Our proposed generalized model**

Representation should also involve *non-human* stakeholders...

... in discussions leading to collective decision-making.

## 4-step process of stakeholder engagement - each with its own challenges when including non-human stakeholders



### CHOSEN EXAMPLES

Hurdle	Avenues to overcome the hurdle	Application in a wetland context
<b>IDENTIFY &amp; PRIORITIZE STAKEHOLDERS</b>		
How to guarantee correct representation of non-humans?	Various human actors should compete to be selected as representant.	Several NGOs, local experts and scientists are candidates to represent wetland ecosystems on the basis of merit (skills, knowledge, etc.)
Non-human stakeholders are infinitely numerous and diverse	Several non-human stakeholders can be represented by a single representant if their stakes are sufficiently similar.	Different species playing similar roles in trophic chains and/or status in a given wetland can be represented by a single representative.
<b>UNDERSTAND STAKEHOLDERS' PERSPECTIVE</b>		
Different non-human stakeholders have different, and sometimes competing, interests, e.g. preys and predators, native versus invasive alien species (IAS). How can both be represented?	Diversity and divergence among interests are tackled through discussions among representants, as in standard participation design.	Trade-offs and compromises between representatives of prey and predators in a wetland socio-ecosystem can be found to promote durable interactions.

Key questions for further research: Can non-humans be engaged as stakeholders without human representation? How does human representation of non-human stakeholders add value compared to the current participation of, e.g., environmental NGOs in decision-making?

Hutchison, 2014; Egenhoefer, 2018; Kujala, 2019; Griffin, 2020; Koprniņa & Haydn, 2020; Finlayson et al., 2021; Davies et al., 2020; Beck, 2023; Blount & Conklin, 2023; Franklin, 2023; Hernandez-Santin et al., 2023; Kortetmäki et al., 2023.

Emys-R (<https://emysr.cnrs.fr/>) was funded through the 2020-2021 Biodiversa+ and Water JPI joint call for research projects, under the BiodivRestore ERA-NET Cofund (GA N°101003777), with the EU and the funding organisations Agence Nationale de la Recherche (ANR, France, grant ANR-21-BIRE-0005), Bundesministerium für Bildung und Forschung (BMBF, Germany, grant BMBF project number 16LW015), State Education Development Agency (VIAA, Latvia, grant ES RTD/2022/2), and National Science Center (NSC, Poland, grant 2021/03/Y/NZ8/00101).

