

UNEP Closed Meeting

**Nutrients: Food Production versus Pollution –
the dilemma**



10th Meeting of the GWSP SSC

IIASA, Laxenburg, Austria 1-3 October 2012

***Developing (Draft) International Water
Quality Guidelines for Aquatic
Ecosystems:
Start of the Scientific Consultation***

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Ecologically based Environmental Values vis-a-vis Human Use: two sides of the same coin



invertebrates



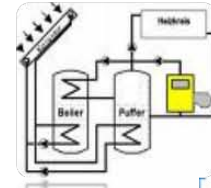
vertebrates



algae, plants, prokaryots



technical & industrial applications



individuals
↕
populations / habitats



communities / biotops



ecologically based
user related - *ex situ*
user related - *in situ*



water supply



drinking water



fishery & aquaculture



washing



swimming



indoor bathing



recreation

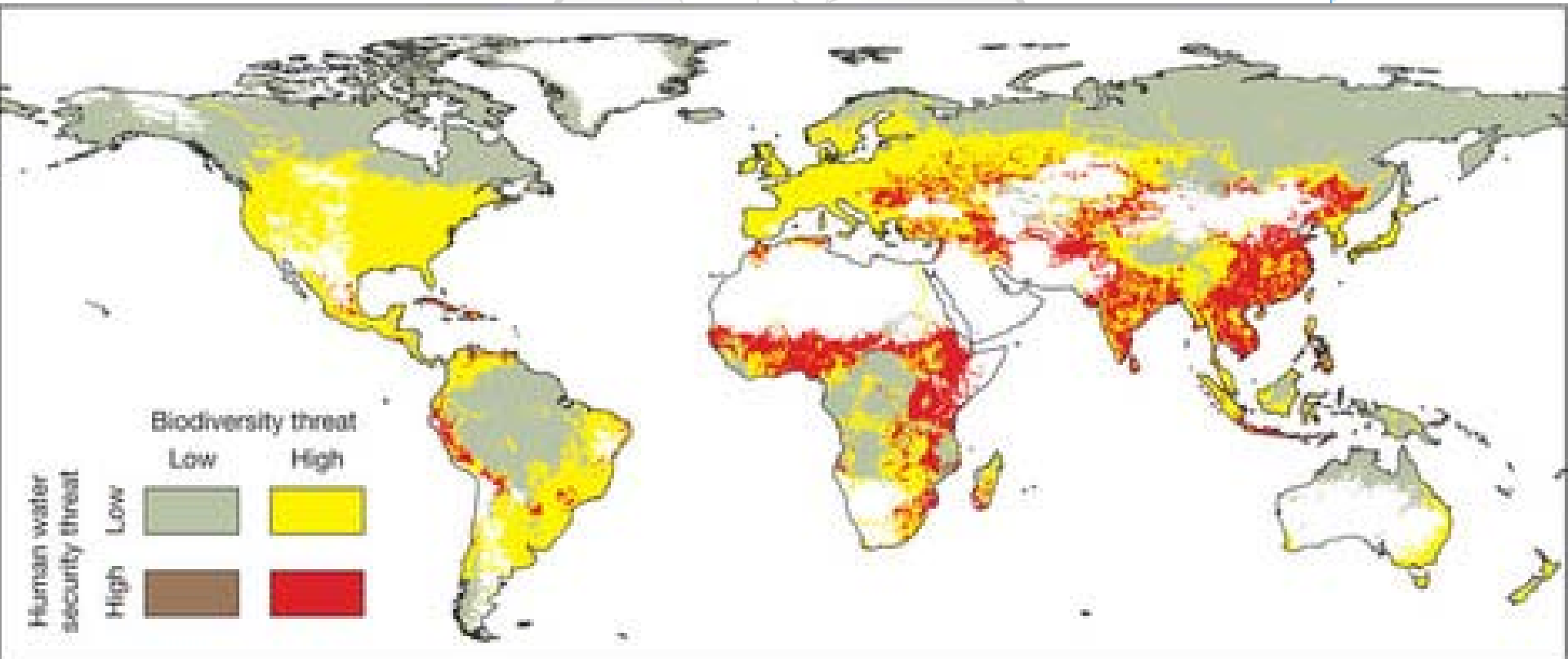


irrigation

Global View of the Relationship between HWS & AB

GWSP

Distribution of the (modified) threat of human water security and that of aquatic biodiversity

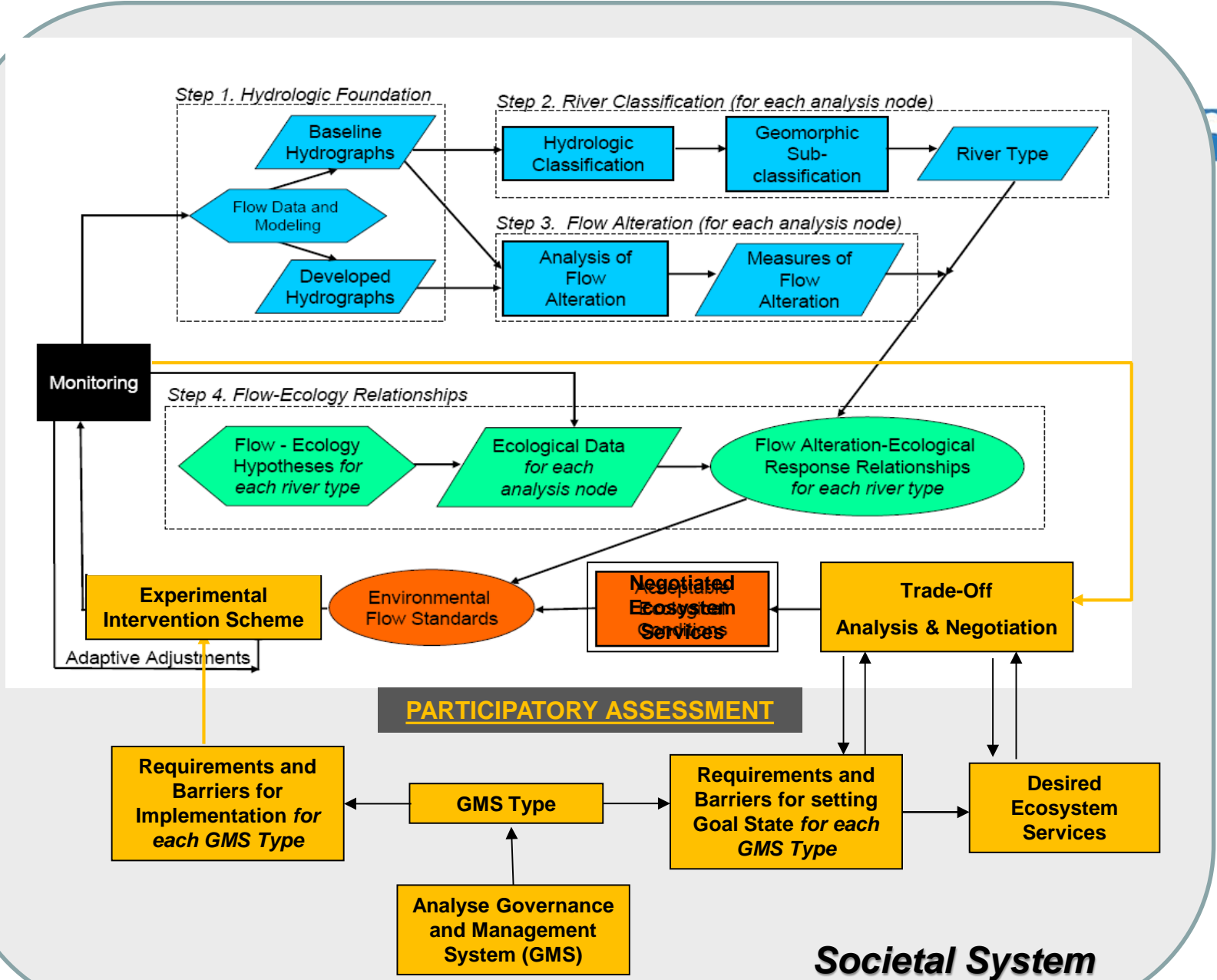



Some (critical) comments on the state-of-the-art

 GWSP

- **Separation of water quality and quantity (EFR) considerations and concern**
- **Case studies rather than transferable general results (vague cause-effect relationships)**
- **The dilemma of the utilitarian/ecological classification**
- **Ecosystem functions vs. Aquatic biodiversity**
- **Lack of generally accepted classification schemes**
- **Separation of the socio-economic and the eco-hydro-climatic systems**
- **Data, monitoring, affordability, feasibility**
- **Historical development of standards (use-oriented-chemical, then ecosystem oriented-biological)**

SUMHA (extended ELOHA) Model





Concept of the „Draft Guidelines“ of Scientists

- **Project Concept (Description)**
- **UNEP Governing Council decision**
- **Development of the „Draft International Guidelines“ (DIG) to start the iteration**
- **International and Regional consultations of DIG with legitimate stakeholders**
- **Endorsement of DIG as IG**
- **Dissemination, Implementation and regular updates of IG**

The need for a „Vision“



- **Based on sound scientific evidence, aiming a global scope**
- **Water quality and quantity considerations**
- **Guidelines are not Standards**
- **Value judgement (a vision of legitimate stakeholders aiming a „function“ for a water body) has to be „modelled“ at DIG development level**
- **An attempt to avoid the „utilitarian“ vs. „ecocentric“ pitfalls**

The starting point of deliberations (1)



1. Freshwater bodies

- Running waters (ephemeral and perennial)
- Standing water bodies
- Wetlands

2. Climatic conditions (temperature)

- Cold
- Temperate
- Sub-tropical
- Tropical

The starting point of deliberations (2)



3. Climatic conditions (hydrology/rainfall)

- **Dry**
- **Semi-Arid**
- **Sub-humid**
- **Wet**

4. Morphological features

- **Uplands/mountains**
- **Mid-reach/Mid-level**
- **Low lands (delta/estuary)**





The framework for „model visions“

- **Quasi pristine state (ideal ecosystem functions, „reference state“ by the EU WFD)**
- **Good quality state (allowing direct human contact without harm)**
- **Intermediate state (only indirect human use)**
- **Inacceptable state (urgent need of remedial action)**

***144 classes of aq. Ecosystems / 3 targettable
„vision classes“***

The logo for GWSP (Global Water Science and Policy) is located in the top left corner. It features a blue circular emblem with a white wave-like pattern and the letters 'GWSP' in white. A blue horizontal line with a white scalloped pattern runs across the top of the slide, partially overlapping the logo.

Classification of proposed thresholds for indicators

- **Already proposed and tested thresholds**
- **Scientific consensus recommendations**
- **Indicative values, to be observed and potentially modified**
- **No agreed value(s). Further research recommended**

Project Organisation



- **UNEP & UNESCO on behalf of UN Water TPA „Water Quality“, UNU-EHS assists GWSP administratively plus scientific input**
- **GWSP manages two committees:
International Drafting Committee (8 members)
International Review Committee (16 members)
UN Water TPA „WQ“ ex officio invited**