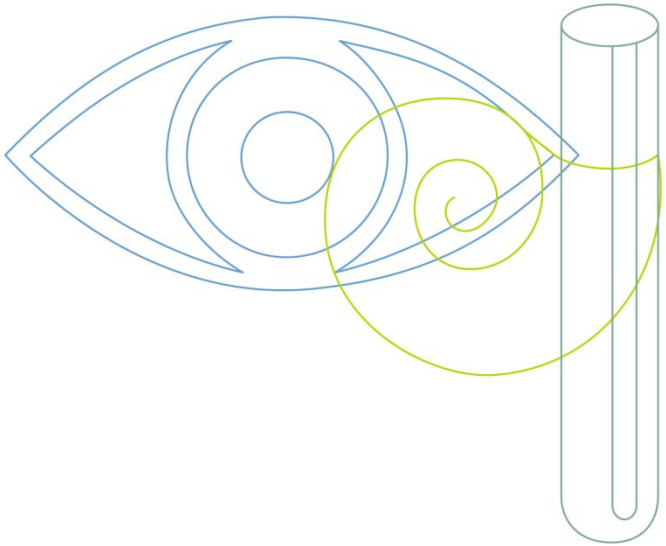


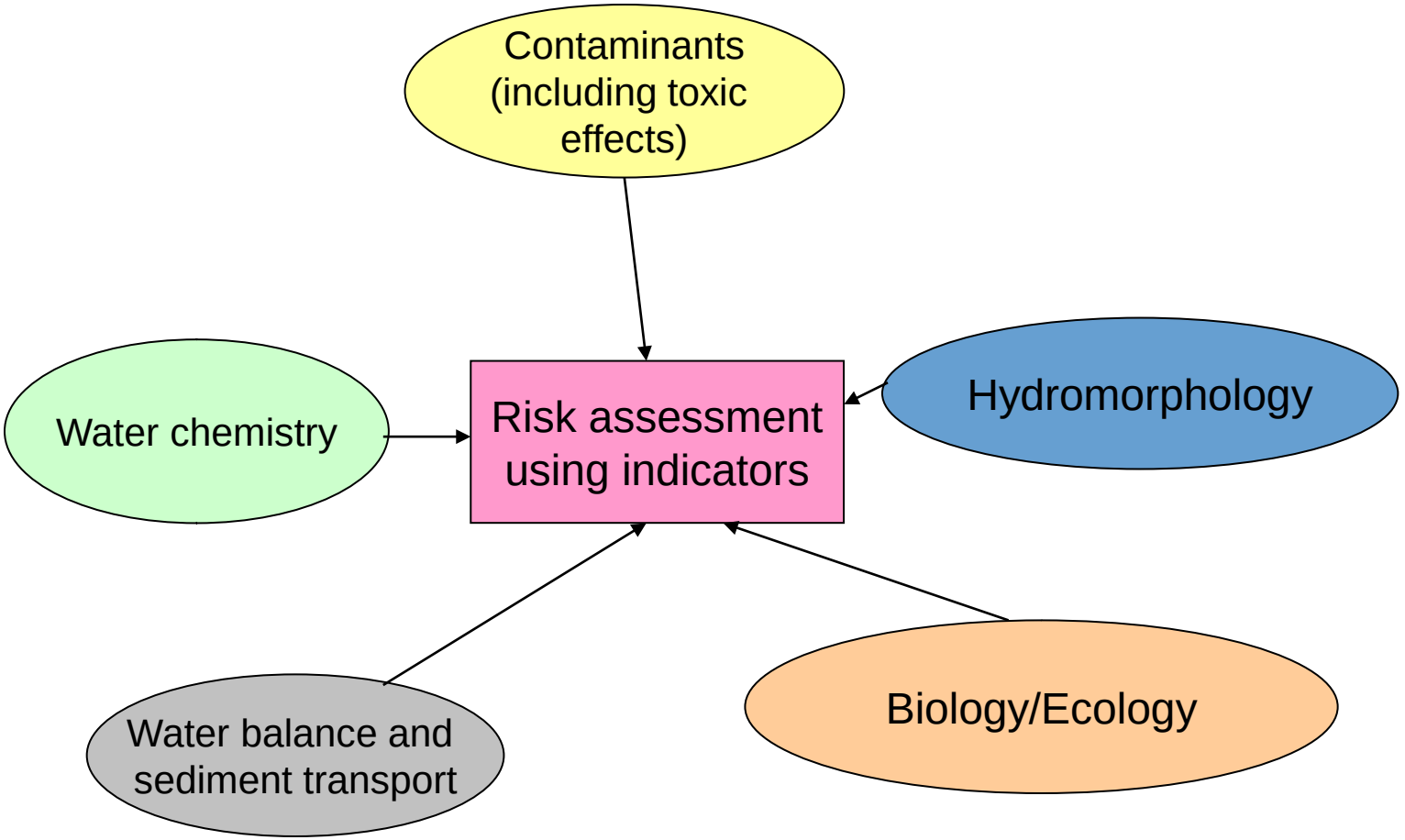
# SedNet – Special Session

## Dredged Material Assessment Nowadays and in the Future

A German Perspective (Federal Waterways)

Birgit Schubert, Federal Institute of Hydrology

# Effect categories for risk assessment of dredging and disposal operations



# Major deficits in the current approach

1. **Rigid regulations, e.g.:**
   - > a fixed set of action levels for the whole German North Sea region (including estuaries up to the freshwater limit)
   - > Contaminant concentrations in and ecotoxicological effects of dredged material are assessed separately
2. **Characteristics and understanding of the aquatic system are not taken into account sufficiently, e.g.:**
   - > dynamics of the water phase, sediment/suspended matter transport, chemical biochemical transformations

# Major deficits in the current approach

## 3. Insufficient consideration of the new European Framework Directives, e.g.

- > The assessment does not consider river basins and it differs for inland and coastal waterways
- > Criteria for biological/ecological (Flora-Fauna-Habitat) and hydromorphological impact assessments are not described sufficiently

# Planned improvements

## ➢ Problem-oriented assessment by

- **Better consideration of the understanding of the system**
  - Regional assessment criteria for contaminants, regular update
  - Consideration of the dynamics of the system
- **Risk based assessment of the environmental effects of dregded material disposal**
  - Tiered selection of contaminants;
  - Combination of chemical and ecotoxicological assessment;
  - In case of grounds for suspicion investigations towards cause-effect relation (additional specific ecotoxicological tests);
  - Establishment of criteria for biological/ecological and hydromorphological assessments
- **consideration of cumulative effects**

# Planned improvements

- **Problem-oriented assessment by**
  - Better consideration of the understanding of the system
  - Risk based assessment of the environmental effects of dregded material disposal
  - consideration of cumulative effects

- **Reasonableness of efforts compared to problems**
  - Routine measures with sufficient information require low efforts
  - Measures with suspected problems (e.g. large amounts of dredged material, high contamination level, sensitive areas) may require complex investigations
  - Complex investigations also may be necessary for other objectives, e.g. related to ecological improvements

# Future assessment of dredged material

Schematic, rigid assessments of contamination

No defined scheme for hydromorphologial and biological/ecological assessments

More problem-oriented assessments

Dredged Material Management as part of Sediment Management Concepts


TSHD at Cuxhaven