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Groundwater dependent terrestrial Ecosystems

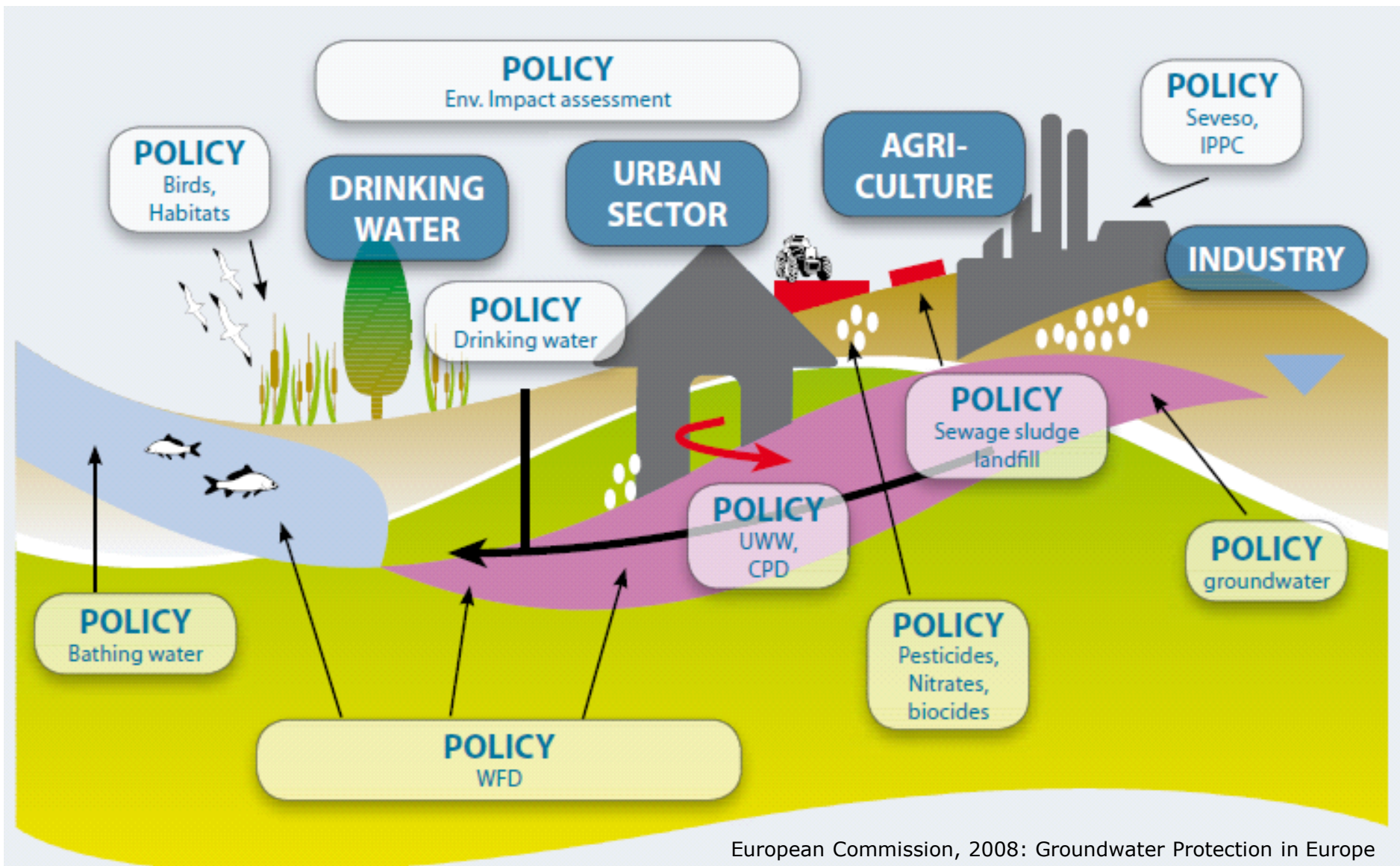
within the European Groundwater Policy Framework

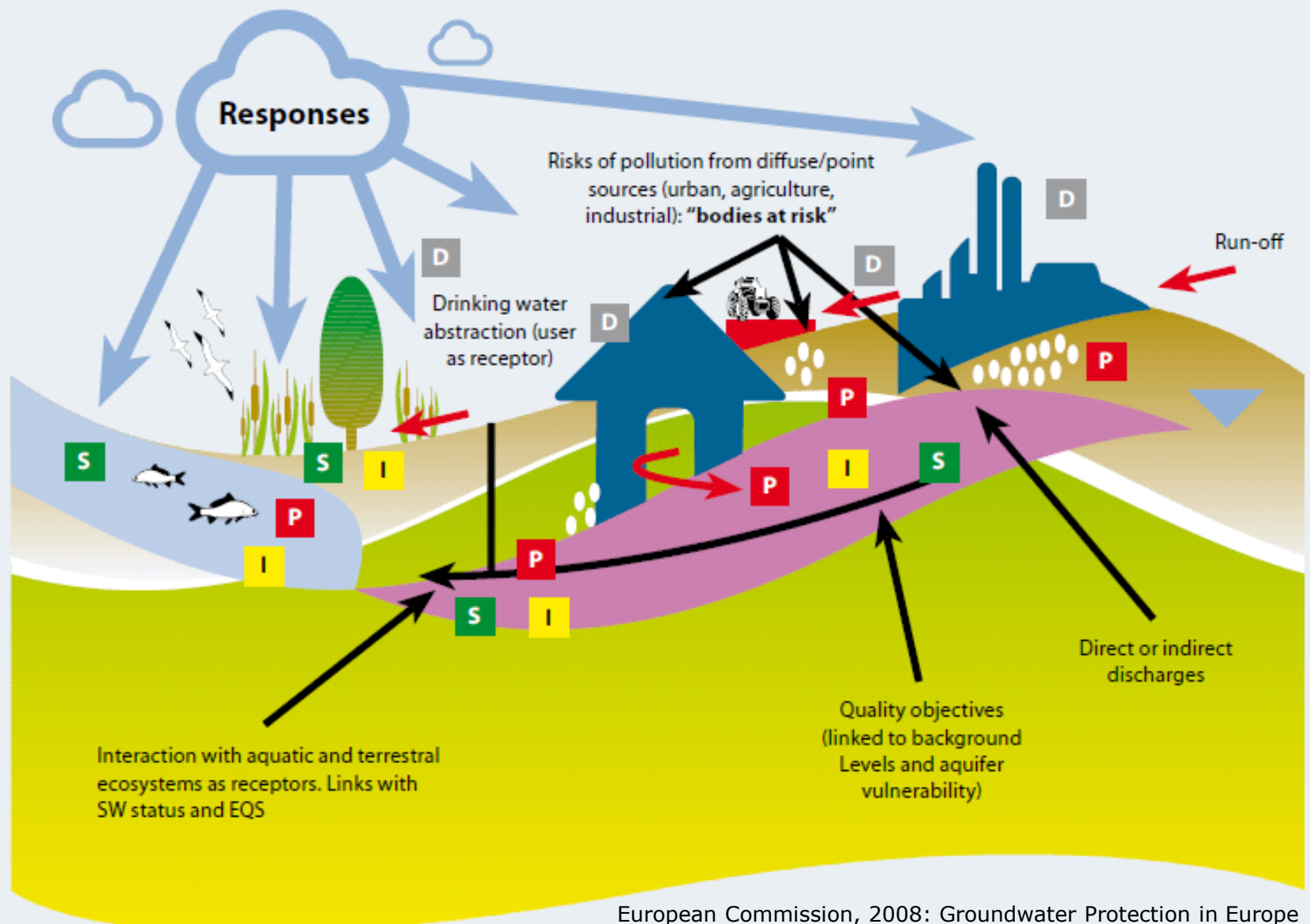
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European Groundwater Policy Framework

- European Water Framework Directive WFD (2000/60/EC)
- Daughter Directive: Groundwater Directive GWD (2006/118/EC)
- Complemented by sectoral Directives
- General objective: to achieve good status (chemical and quantitative)



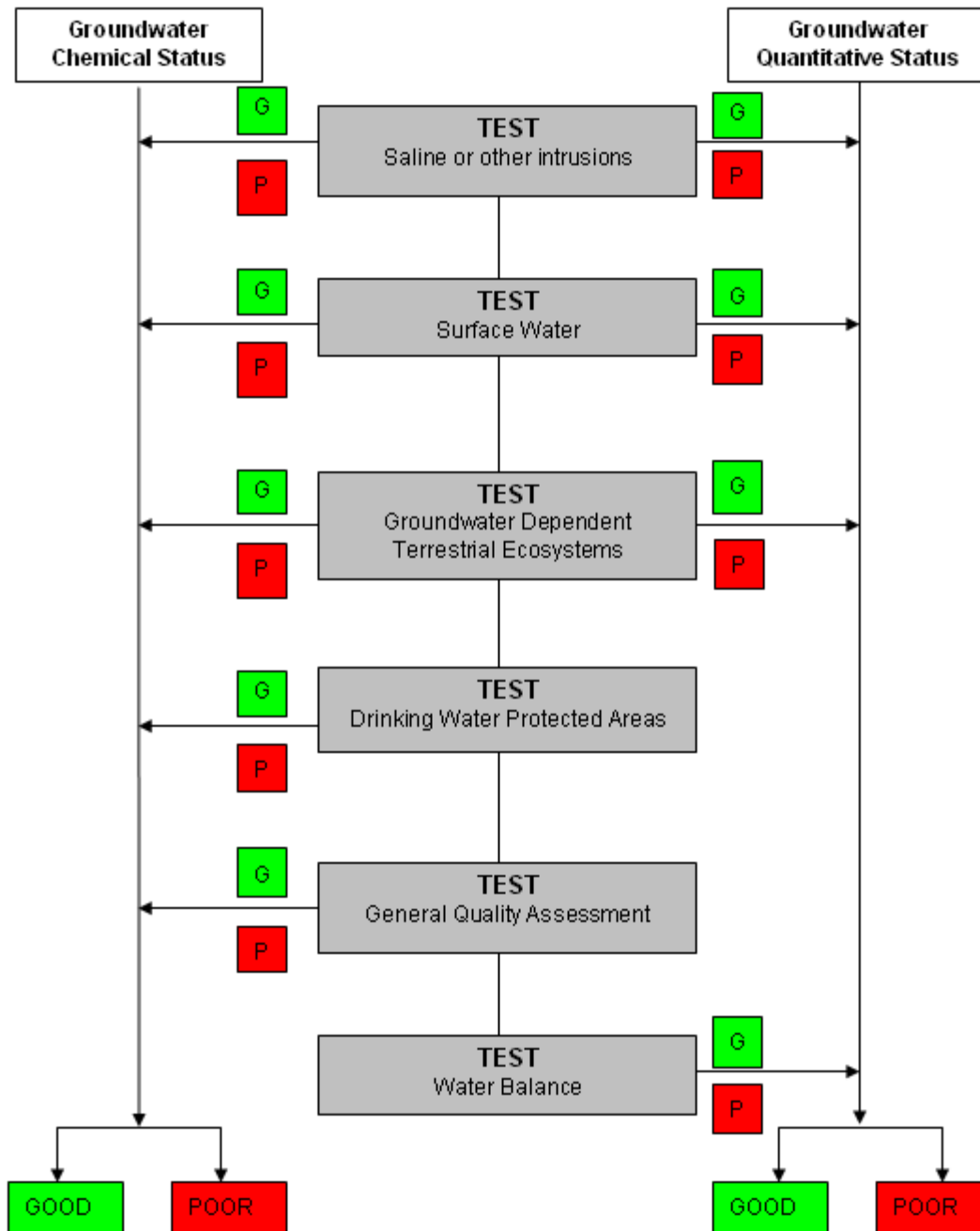


Good chemical status is achieved when

- The chemical composition of the groundwater body is such that the concentrations of pollutants:
 - are not such as would result in failure to achieve the environmental objectives specified under Article 4 for associated surface waters nor any **significant diminution** of the ecological or chemical quality of such bodies nor in any **significant damage** to terrestrial ecosystems which depend directly on the groundwater body.....

Good groundwater quantitative status is achieved when

- the level of groundwater is not subject to anthropogenic alterations such as would result in:
 - *failure to achieve the environmental objectives specified under Article 4 for associated surface waters;*
 - any **significant diminution** in the status of such waters; and
 - any **significant damage** to terrestrial ecosystems which depend directly on the groundwater body.....



Receptor based approach

Common Implementation Strategy (CIS) Working Group C Groundwater

- Objectives:
 - To ensure the coherent and harmonious implementation of the Directive through the clarification of a number of methodological questions enabling a common understanding
- Composition of WG C Groundwater:
 - MS Experts as well as from Norway, Switzerland, Candidate Countries representing administrative bodies, research agencies etc. stakeholder and NGOs
- Under the current mandate: Exchange of Best Practice based on experience from 1st RBMP-period

Groundwater dependent terrestrial ecosystems

Relevant CIS Guidance documents:

- CIS Guidance No. 7 'Monitoring under the Water Framework Directive'
- CIS Guidance No.12 'Horizontal Guidance on the Role of Wetlands in the Water Framework Directive'
- CIS Guidance No. 18 'Guidance on Groundwater Status and Trend assessment'
- CIS Guidance No. 26 'Guidance on Risk Assessment and the Use of Conceptual Models for Groundwater'

Groundwater dependent terrestrial ecosystems

- Summary of difficulties (WG C Groundwater)
 - Definitions in WFD
 - Prioritising sites/ areas
 - Specific monitoring data
 - Status assessment not readily applicable
 - Guidance document is too general on this subject
 - Requirements of ecosystems (interaction with ecologists needed)
 - Environmental Flow Need (quantity)
 - Effect of substances (chemical quality)
 - Derivation of threshold values (AF/DF)
 - Up-scaling from local to GW body level
 - Keep the costs reasonable

Groundwater dependent terrestrial ecosystems

Questions, challenges and approaches?

- Which sites are to be taken into account?
- Definitions: „directly dependent“ and „significant damage“?
- Requirements of ecosystems
 - Interaction with ecologists, Natura 2000 people, surface water people needed, to define requirements and needs of ecosystems in terms of water management (quantity and quality issues)
- Derivation of Threshold values
 - Trigger values based on GWDTE needs – consideration of dilution and attenuation?

Groundwater dependent terrestrial ecosystems – draft Technical Report

- Key concepts
 - Groundwater dependent terrestrial ecosystems (GWDTE)
 - Significant damage to GWDTEs
- Characterisation & Risk Assessment
- How to determine the water quantity and quality needs of GWDTE's?
- Monitoring and Investigation
- Derivation of trigger and threshold values
- Status assessment

Outlook

- WG C Groundwater finalisation of the Technical report GWDTE
- Interdisciplinary work is needed
 - Cooperation between Groundwater Experts and Ecologists
 - Identification of needs
 - Development of common understanding /common language
 -
- Pragmatic approaches welcome
- Indicators?

Dragonflies as wetland indicators

- colonize all wetland types:
 - permanent and intermittent
- good knowledge on ecological requirements of dragonflies
- quick reaction on habitat changes
- assessment methods
- habitat specialists
- experts

Aeshna cyanea



Sympetrum flaveolum



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HydroEco 2011
Vienna ■ 4th May 2011