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Developing regulatory frameworks for green infrastructure (GI): issues to be addressed

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GI policy development within EU

- EU level
  - References to GI in numerous documents including:
    - The blueprint to Safeguard Europe's Water resources (COM(2012)673
    - Our life insurance, our natural capital: EU biodiversity strategy to 2020 (COM(2011) 244)
    - Roadmap to a Resource Efficient Europe (COM(2011) 571)
  - Green Infrastructure Strategy (COM(2013) 249)
    - Focus on technical guidance and information sharing
    - No legislative acts to be expected in near future
- Member state level: few examples of comprehensive national level policies such as Trame verte et bleue (TVB) in France, mostly local and regional initiatives
- In Finland no national level policies: on-going assessment of regulation

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Framework for assessment: Infrastructure theory

- Frischmann (2013):

”Natural environment plays similar functional role as traditional infrastructure in society: it functions instrumentally as an essential input for wide range of goods and services including agricultural output, human health and more amorphous goods such as quality of life, as well as purification of water and air, regulation of climate and maintenance of biodiversity.”

- Key findings of the infrastructure theory:
  - Infrastructure resources generate value as inputs into variety of productive processes,
  - these processes often generate positive externalities to the benefit of the society as a whole, and that
  - managing such recourses as commons is often socially desirable because doing so supports those processes

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- Key difference between environmental infrastructure and other infrastructure recourses:
  - Human beings rather inherit than produce GI
  - Ecosystem uses partially (non)rival

-> Congestion and degradation problems, pure open access is not feasible

- GI management should aim at supporting open access to the extent feasible by regulating those activities that drive rivalry
- Instruments that lean on property regimes, such as PES, do not necessarily support open access
- Many of the traditional conservation measures are too heavy and limited tools from the vantage point of infrastructure theory -> environment should be protected everywhere

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Things to concider beyond infrastructure theory: GI as complex socio-ecological system

- Challenges in managing rivalry:
  - Numerous ecosystem uses and users (including current and future generations and non-humans)
  - Parameters that drive rivalry often unknown
  - Changes in GI often small but they are numerous and nonlinear -> difficult to identify the tipping point
  - Uncertainties due to constant changes in ecosystems, climate change etc.
  - Green infrastructure cannot to be treated as separate assets: activities in one place have consequences elsewhere

-> Management of GI requires an adaptive management regime

-> Adaptive management needs to be supported through laws and regulations

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Framework for assessment: Resilience theory

- Criteria derived from resilience theory to assess governance structures:
  - multiple overlapping levels of control, with one level of control or strong coordination at the relevant socio ecological scale,
  - information flow horizontally and vertically,
  - meaningful public participation,
  - authority to respond to changed circumstances,
  - robust monitoring, and
  - system feedback

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Legal challenges for developing regulation

- How to solve the tension between
  - flexibility and adaptability and the key function of legal system to provide stability and security of expectations?
  - flexibility and adaptability and principles of administrative law such as equal treatment?
  - Flexibility and enforceability?
  - Protecting nature “everywhere” and precision of regulation?
  - polycentric, multi-level-multi party governance and rule of law?

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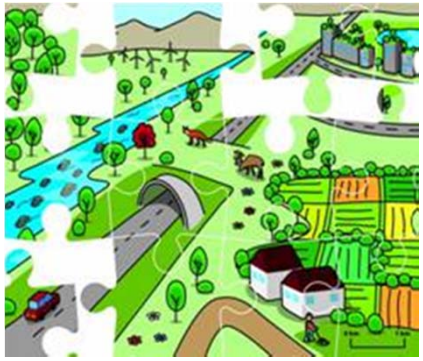
THANK YOU!



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