



# **Trans-Disciplinary Conversations on Transitions to Sustainability**

September 2013

**Towards an Understanding of Ecological  
“Integrity” under EU Nature  
Conservation Law: Complementary  
Legal and Ecological Perspectives**

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# Intro. to Habitats Directive

- Art. 4 – Designation of SACs (Natura 2000 Sites)
- Art. 6 – Protection of Natura 2000 Sites
  - Article 6(3) - **appropriate assessment**  
“the competent national authorities shall agree to the plan or project **only after having ascertained** that it will **not adversely affect the integrity of the site** concerned ...”
  - Central / Core Protective Measure
- Art. 12 *et seq.* – Protection of Species



# Appropriate Assessment

- Assessment of adverse effects on site integrity hrt conservation objectives (EU Guidance)
  - Integrity of Site Checklist (Ecological Factors)
    - Delays / interrupts progress re conservation objectives
    - Disrupts key factors re favourable conditions
    - Interferes with population, balance, distribution, density of key species
    - Vital aspects of structure and functioning of site
    - Area of key habitats
    - Diversity of the site
    - Habitat fragmentation
    - Loss / reduction of key ecological features



# Appropriate Assessment - Substance

- *Sweetman v An Bord Pleanala* HC [2009]
  - A ‘localised severe impact’ doesn’t preclude decision that integrity of site not affected
  - Focus on the integrity of the specific site, not general status of habitat types or species
  - Not an absolutist position, proportionality
  - “integrity”: whole or complete, resilience and ability to evolve, capacity for self-repair and renewal, minimum external support needed
- Academic studies – uncertainty re integrity, mitigation (Therivel; Finland – 20% inadequate)
- SC referral of ‘integrity’ question to CJEU



# ‘Integrity’: CJEU Reasoning

- Linguistic Reasoning
  - ‘essential unity’, ‘continued wholeness, soundness of constitutive characteristics of site’ [AG & CJEU]
  - Permanent destruction of part of habitat → adverse effect, Cons Objs fundamentally compromised [AG]
- Policy / Precedential Reasoning
  - Art. 6(3) not to be interpreted in isolation, must consider wider context of Habitats Directive [AG]
  - Rigorous regard to the “precautionary principle”, integrated into Art. 6(3) [AG & CJEU]
  - Permanent damage → ‘death by a thousand cuts’, cumulative habitat loss [AG]



# 'Integrity': Ecological Reasoning

- **Ecological systems and habitats have**
- Structure (spatial/ vertical)
- Composition (species and populations)
- Function (ecosystem services)
  
- Each of these are inter-dependent, i.e. can't have ecosystem function without composition or structure and *vice versa*



# Integrity': Ecological Reasoning

- To maintain ecosystem integrity for *e.g.* a species - you need structure and function
- For ecosystem functioning, (*e.g.* photosynthesis, decomposition) you need spp
- For spp you need niches- therefore you need structure to partition resources.



# Integrity': Ecological Reasoning

Property of ecosystem that it has resistance to some change (most natural ones) or has the capacity to recover (from natural disturbances); however the question arises as to what might be the impact of human-induced change?

- This can be indirect via flooding etc- usually systems are resilient
- Direct – land claim or habitat loss- generally not recoverable-





# Integrity': Ecological Reasoning

- Ecological integrity is “the ability of an ecological system to support and maintain a community of organisms that has a species composition, diversity, and functional organization comparable to those of natural habitats within a region”.  
{Parrish et al 2003}



# Not an new idea- but adapting an old one!

- The first step that was made in identifying the interdependence in ecosystems was by Hynes in an essay written in 1970s entitled the streams and its valleys- essentially that rivers (water and ecology and function c/f from ecological system definition above) are influenced by what happens in the catchment- in effect this is the basis of the EU Water Frame work Directive...thus we can extended this to all ecosystems