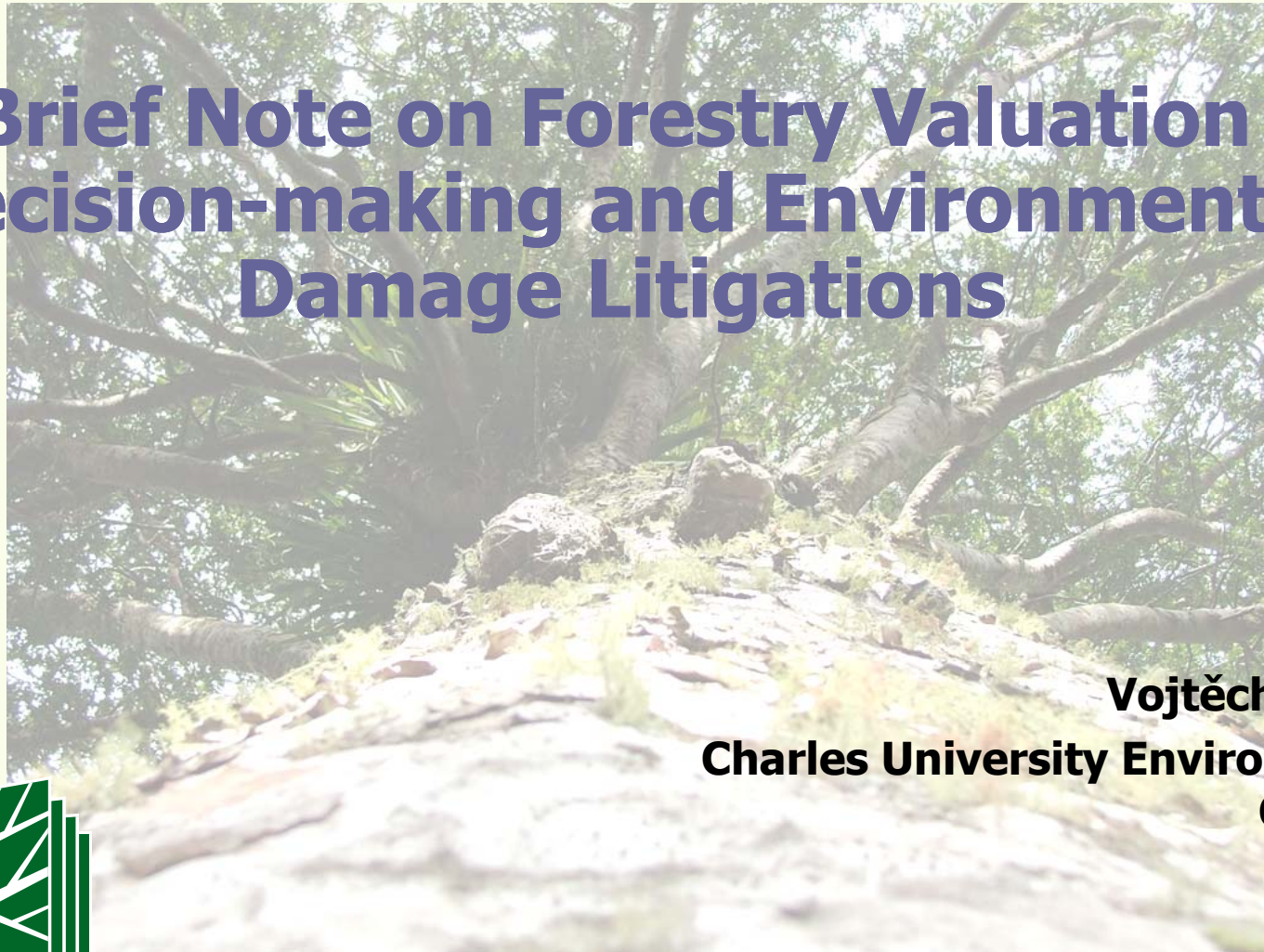


A Brief Note on Forestry Valuation in Decision-making and Environmental Damage Litigations



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Introduction

- interest in non-market valuation emerged in 1960s
 - aim to broaden the scope of application of economics to public spending decisions and/or government investment (e.g. cost-benefit analysis)
- US: long-standing interest in the evaluation of federal water projects
- 1980s – CERCLA **natural resources damages** (environmental liability)
 - Ohio vs. DOI (1989) – inclusion of non-use values
- Europe – growing attention to **ecosystem services** – e.g. UN/ECE Recommendations on payments for ecosystem services in Integrated Water Resources Management (2006), EU Water Framework Directive



Preconditions for practical application

- **need for reliable estimates**
 - SEPA (2006) An instrument for assessing the quality of environmental valuation studies:
 - 4 dimensions – user / natural scientific / economic / statistical
- **reliance on benefit transfer**
 - what is acceptable transfer error (e.g. in CBA)?
- Carson (2007) provides bibliography of >5000 valuation studies from >100 countries
- international & national databases (EVRI, EnValue, ValueBase^{SWE} etc.)
 - recent deliberations about European forest value database (COST action EUROFOREX→)



COST Action E45 EUROFOREX (2006-2010)

- Aims at improving quality standards in the valuation of forest externalities
- Objectives:
 - Prepare best-practice research guides for main valuation methods (HPM, TCM, CVM, CM)
 - Protocol for benefit transfer practices



Warsaw Resolution 2

- outcome of 5th Ministerial Conference on the Protection of Forest in Europe (Nov 2007)
- signatory states and EC commit themselves to:
 - assess the economic value of water-related forest services;
 - incorporate the economic valuation into relevant policies and strategies;
 - facilitate development and implementation of measures including payment for ecosystem services (PES)



Environmental Liability Directive (2004)

- partly inspired by Natural Resource Damage liability
- two regimes:
 - large industrial facilities: strict liability for damage to protected species and habitats, waters and soil
 - others: liability for intentional/negligent damage to protected species and habitats
- priority given to restoration
- additional redress based on resource-to-resource or service-to-service basis
 - priority of resource equivalency methods, if impossible other methods can be used (e.g. valuation)



Czech Republic: state-of-the-art

- **Forest Act of 1995**

- recognises non-production function of forests
- liability for damage to forest ecosystems – limited to damages for forest production functions

- **Criminal Code**

- until 2002 punishment for an offence „damaging of environment“ dependant on monetary valuation of damage caused
- in 2001 Supreme Court upheld

- **Environment Act of 1992**

- ecological damage – never put in praxis – now will be superseded through implementation of ELD



Draft State Forestry Program II (2007-2013)

Proposed actions

- continue in development of methods for assessment and valuation of non-market forest functions (with regard to different views on valuation methods and limitations of practical use)
- valuable improvements and marketing of forests' non-timber benefits and services
 - market application of certain recreational and environmental goods and services
 - refunding of management of forest services contributing to water quality to forest owners



Expert methods in CZ

- **„Ecocentric ecosystem approach“**
 - assessment of physical characteristics (real effect) compared to optimal status (real potential) in 6 functional groups (timber production, water and soil protection, recreational, hygienic)
 - weighted by social importance factor (=level of protection)
 - monetary valuation base on timber price
- **„Habitat-quality approach“**
 - quantitative assessment of „naturalness“ of a habitat in 8 criterions (species and structural diversity, naturalness, habitat and species rareness, vulnerability, ripeness, danger) on a scale 1 to 6 (most natural)
 - monetary value of 1 point is derived from previous restoration projects (=strong assumption about their effectiveness)



Expert methods in CZ (II)

- **„Socio-economic importance approach“**
 - market functions – timber production, game keeping
 - intermediated market functions – forest products (berries, mushrooms etc.), water retention (prevention costs), soil protection (restoration costs), carbon capture (EUA price)
 - non-market functions – hygienic and cultural-educative (based on equivalency to timber production function)
- results obtained using the first two methods are broadly comparable (Švihla, 2005), while the last method provides estimates 3-4 times lower



Conflicting issues

- ethical attitudes to the concept of economic value
 - „anthropocentric pragmatism“ vs. „ecocentric concern“
- currently strong reliance on expert knowledge
 - only experts are able to set weights and coefficients
 - relative high resistance to seeking for sound economic foundation
- lack on consensus on the way forward



Where to start?

- payments for ecosystem services
 - e.g. project AquaMoney (www.aquamoney.org)
 - EC considers common methodology for valuation of ecosystem services
- environmental liability
 - rather in mid to long-term

