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The social and economic benefits of protected areas: European overview and intro to assessing the benefits

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Protected Landscapes - Delivering social and economic benefits

Webinar by EUROPARC Atlantic Isles

www.ieep.eu

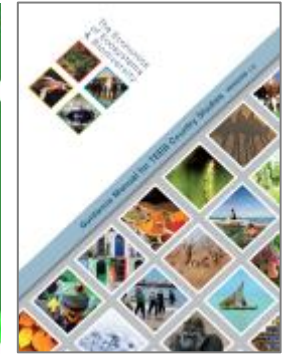
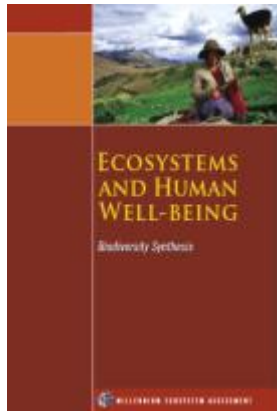
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Questions explored

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- **Context:**
 - Why all this focus on protected areas (PAs) benefits?
- **Knowledge:**
 - Benefits of PAs in Europe – what do we know?
- **Practice:**
 - Why to assess PA benefits?
 - How to assess PA benefits?

Context: global policy focus on biodiversity benefits & value



MA (2005) – TEEB (2007 onwards) – national ecosystem service / TEEB assessments (2005 onwards)



Target 2

By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

Integration into policy - from ecosystem approach (2000) to biodiversity benefits & values (2010)

Context: EU policy focus on benefits and values

Our life insurance, our natural capital: an EU biodiversity strategy to 2020

"The services that nature provides us with, like clean water, clean air, fertile soil, food, are not only crucial for the well-being of human kind, they also represent an astronomical economic value. According to economists, each year we lose 3% of GDP due to the loss of biodiversity. That costs the EU €450 billion year after year. Compared to these figures, investing €5.8 billion per year in Natura 2000 is a bargain!" said rapporteur Gerben-Jan Gerbrandy (ALDE, NL).

Action 2: Ensure adequate financing of Natura 2000 sites

- 2) The Commission and Member States will provide the necessary funds and incentives for Natura 2000, including through EU funding instruments, under the next multiannual financial framework. The Commission will set out its views in 2011 on how Natura 2000 will be financed under the next multi-annual financial framework.



Knowledge: (all!) types of benefits

Picture © SYKE kuvapankki P. Ferin

Supporting Services

(i.e. services necessary for the production of all other ecosystem services)

Ecosystem process maintenance, lifecycle maintenance, biodiversity maintenance and protection

Provisioning Services

(i.e. ecosystems' ability to provide resources)

- Food provisioning
- Water provisioning
- Provisioning of raw material (timber, wood, fuel, fibre)
- Provisioning of medicinal resources / biochemicals (natural medicines, cosmetics pharmaceuticals etc.)
- Provisioning of ornamental resources
- Provisioning of genetic resources

Regulating Services (i.e. ecosystems' beneficial regulatory processes)

- Climate regulation
- Natural hazards regulation
- Purification and detoxification of water, air and soil
- Water / water flow regulation
- Erosion and soil fertility regulation
- Pollination
- Pest and disease regulation
- Noise regulation

Cultural Services (i.e. ecosystems' non-material benefits)

- Opportunities for recreation and tourism
- Aesthetic values
- Inspiration for arts, science and technology
- Information for education and research
- Spiritual and religious experience
- Cultural identify and heritage
- Mental and physical wellbeing supported by cultural services



Knowledge: state-of-play in Europe

Picture © SYKE kuvapankki P. Ferin

Information exists:

- EU level (Natura 2000 network cost and benefit assessments)
- Examples of site level benefits and values
- Cultural benefits (tourism, recreation, visitor spending, health benefits)
- Qualitative information

Information lacking:

- Multiple site / networks of sites (national and regional level)
- Regulating services (water, pollination, carbon, air ...)
- MPAs
- Quantitative and monetary information

What is needed?

- Filling key gaps (carbon, water, pollination etc.) → enables making stronger arguments at European level
- Targeted, systematic use of benefit information in PA planning and management → good examples to inspire others !

Knowledge: Natura 2000 / EU level

Picture © SYKE kuvapankki P. Ferin



Natura 2000 network

- Estimated total benefits: EUR 200 – 300 bil / year
- Estimated costs: EUR 5.8 bil / year
- Estimated jobs created: 12 mil (FTE) / year (2006-2008)

Knowledge: Natura 2000 / EU level

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N2000 carbon storage ([IEEP et al. 2011](#))

- 6.9 bil tonnes CO₂
- Estimated value EUR 600 – 1 130 bil / year

N2000 recreation and tourism ([Bio et al. 2011](#))

- 1.2 – 2.2 bil visitor days / year (minimum)
- EUR 50 – 90 bil visitor expenditure / year (2006)
- EUR 50 – 85 bil secondary income to economy / year
- 4.5 – 8 million FTE jobs / year (direct and indirect)

Jobs related to activities on N2000 sites ([Bio et al. 2011](#))

- Recreation: 3.2 mil FTE
- Agriculture: 1.3 mil FTE
- Fisheries: 200 000 FTE
- Forestry: 70 000 FTE

Knowledge: individual sites / national level

Picture © SYKE kuvapankki P. Ferin

Germany

- Economic impact of tourism around three German NPs: EUR 7 - 500 million / year (Mayer et al. 2010)

Switzerland

- 17% forests protected and managed to maintain their protective function against avalanches
- Benefits US\$ 2-3.5 billion / year (avoided costs) (ISDR 2004)

Spain

- Quantification of benefits of MPA to lobster fishing (Diaz et al. 2011)
- Female fecundity in MPA increased by 41% over 10 years
- After 20 years of protection, MPA vs. near by areas:
 - Fecundity 20 x higher
 - Female 20 x more abundant
 - Egg production 30 x higher

Knowledge: individual sites / national level

Picture © SYKE kuvapankki P. Ferin

Examples: benefits and value of water purification by urban PAs (for refs [see IEEP et al. 2011](#))

City	Method of protection	Total area protected (hectares)	Land use	Amount of water supplied	Approximate number of people served	Benefits	Estimated annual value of water filtration based on m ³ produced	Estimated annual value of water provision based on m ³ produced
Munich	Protected areas and conversion to organic agriculture	6,000	1/3 agriculture, 2/3 forest	301,000 m ³ per day	1 million (80% of the city)	Decreased pesticide and chemical residues No treatment required	€8,624,915	€12,635,211 - €47,168,232
Vienna	Strict protection, Vienna Water Charter	Over 60,000	All protected forest	400,000 m ³ per day	1.7 million (entire city)	No water treatment required	€11,461,681	€16,790,978 - €62,721,903
Berlin	Groundwater protection zones	23,000 (1/3 of the city of Berlin)	Urban landscape, 40% 'green areas'	585,000 m ³ per day	3.5 million (entire city)	Less contamination	€16,762,709	€24,556,805 - €91,730,783
Oslo	Landscape protection area	25,200	All protected forest and lakes	250,000 m ³ per day	455,000 (85% of the city)	Minimal treatment required	€7,163,551	€10,494,361 - €39,201,189

Practice: advocacy

Picture © M Kettunen

Advocacy:

Highlighting socio-economic benefits can improve policy / stakeholder support to PAs

Example:

- Regional revenue streams generated by visits to Finnish national parks assessed ([Metsähallitus 2011 onwards](#))
- 1 EUR investment results in 10 EUR return
- Assessment of benefits played an important role in preventing budget cuts at national level (See for example [Kajala 2012](#))

England's parks and open spaces have lost £75m in cuts since 2010

Spending reductions more than twice as great in the north and the Midlands than in the south, thinktank report shows

Damian Carrington

[theguardian.com](#), Tuesday 19 November 2013 07.00 GMT



Practice: PA management

Picture © M Kettunen

Management:

Understanding of benefits can advice designation, zoning, setting conservation goals, updating management methods etc.

Example:

- 80% of drinking water in Quito (Ecuador) is provides by surrounding PAs
- Information on PAs' role in water retention and purification have been used to establish specific objectives, zones and tools for water management within PAs (Canales and Jouravlev 2012 in [Kettunen and ten Brink 2013](#))



Picture source (c) Huffington post

Practice: equity

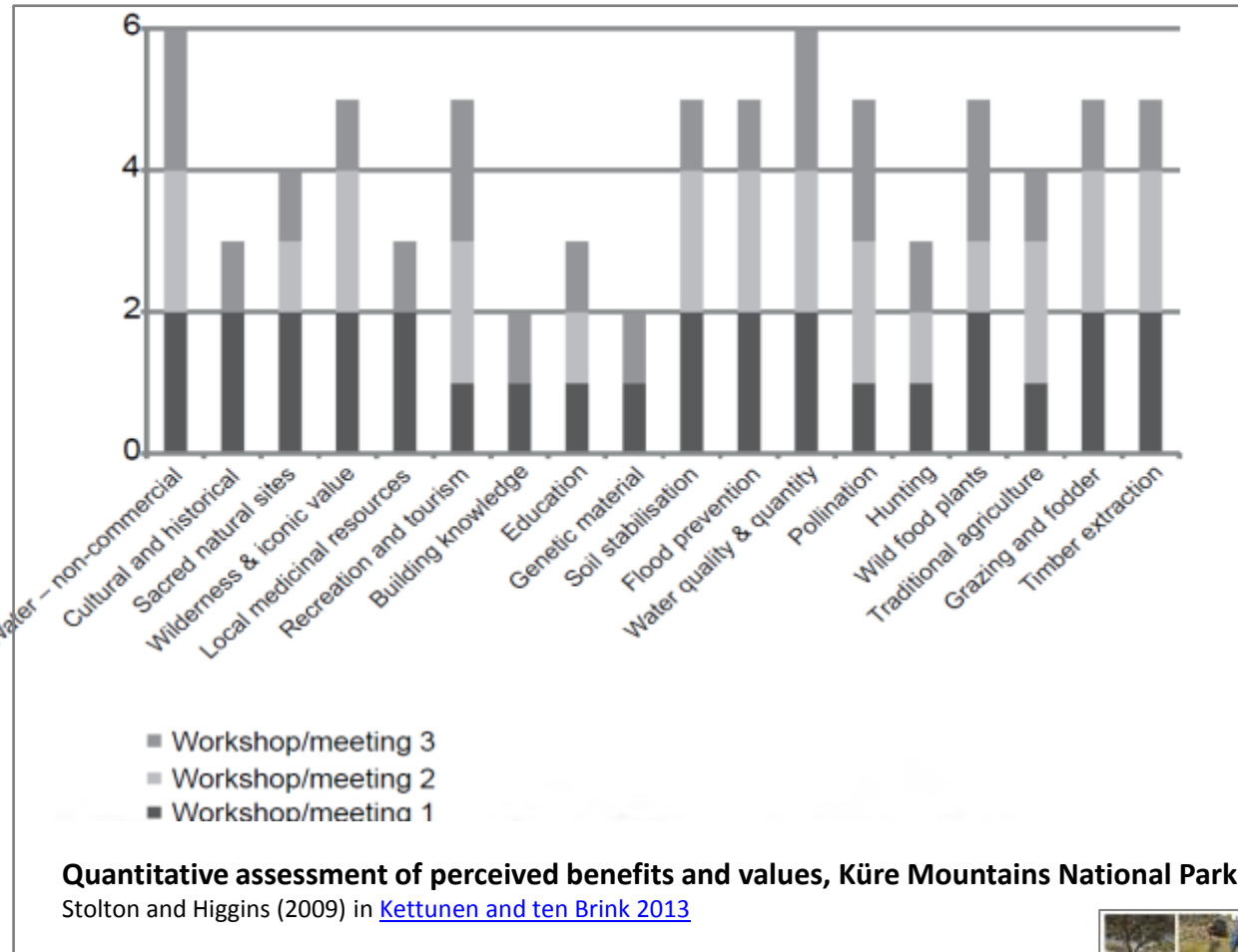
Picture © M Kettunen

Equity:

Assessment of benefits helps identify and address all beneficiaries (inc. where there is no market value)

Example:

- Assessment in Küre Mountains NP (Turkey) showed how different stakeholders perceive benefits / values differently
- Used as background information for management planning and basis for park's business plan



Practice: funding for PAs

Picture © M Kettunen

Financing:

Understanding of benefits can help attracting funding

- Public funding via increased support
- New types of funding (PES, business partnerships etc.)

Example:

- Public benefits by Burren NP (Ireland) much higher than associated costs
- 235% min rate of return on government investment ([van Rensburgh et al. 2009](#))
- Assessment played role in securing funding (eg EU agri-env. funding)
- Several PES schemes on PAs exist globally (eg in Quito, see earlier example)



Picture © M Kettunen

Practice: How to assess benefits?

Picture © SYKE kuvapankki SYKEkuva

- **Start with a question:**
 - What is the motive for / purpose of assessment ?
 - This helps to determine scope, methods, communication etc.
- **Approach the assessment in stages:**
 - Scoping assessment
 - Detailed assessment (of certain key benefits)
 - Use and communication

Scoping

vs.

Detail

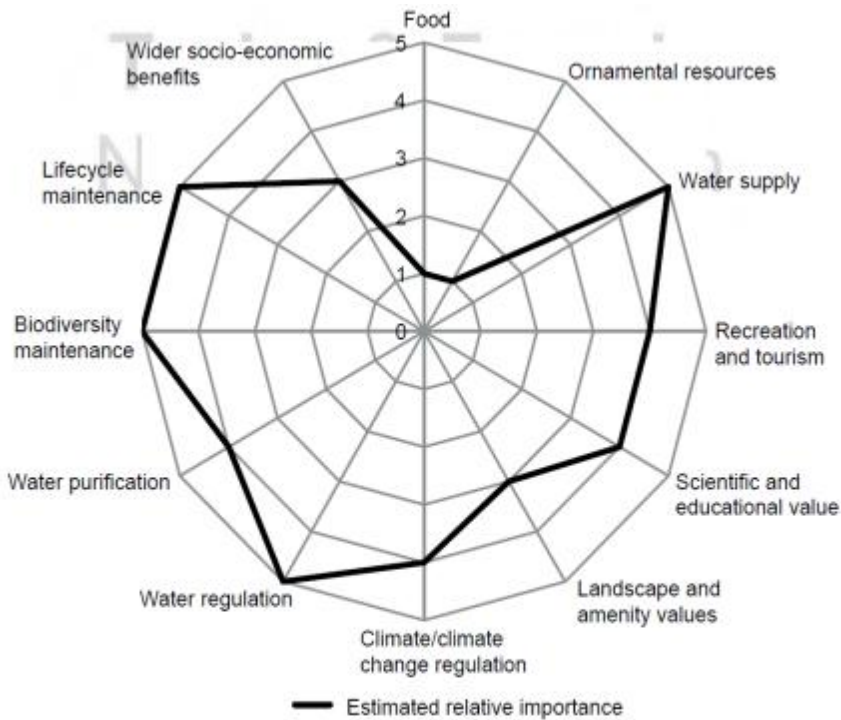


FIGURE A1.1 Socio-economic benefits provided by PA of Pico da Vara/Ribeira do Guilherme, ranked according to their perceived importance on a scale of 1-5 (1 = low importance, 5 = high importance, see Chapter 4).

Identified benefit	Scale	Estimated value
Landscape/amenity value and existence value of endemic species	Local/global	€500 to €800 per person for a total of €3,000,000 for the Povoação region alone
Carbon storage	Global	465,364 tC/year (vegetation) 223,667 tC/year (peat)
Water regulation (flood and landslides prevention)	Local	Costs of damage €20,000,000 in 1997
Water purification	Local	€46.5 family/year for a total of €110,556 /year



Practice: How to assess benefits?

Picture © SYKE kuvapankki SYKEkuva

- **Start with a question:**
 - What is the motive for / purpose of assessment ?
 - This helps to determine scope, methods, communication etc.
- **Approach the assessment in stages:**
 - Scoping assessment
 - Detailed assessment (of certain key benefits)
 - Use and communication
- **Understand the basics of valuation e.g.:**
 - Different indicators of value
 - Different valuation methods
 - “Geography of benefits”: who benefits and where, who maintains
 - Benefits come with costs → net benefits ?

Different indicators of value

Tip of the iceberg only!

Monetary

Monetary: market price of products from PAs, value of carbon storage, avoided costs of water purification etc.

Quantitative

Quantitative: amount of people enjoying products from PA, volume of stored carbon, volume of purified water etc.

Qualitative

Qualitative: range of various benefits provided by PA, dependency of people on these benefits etc.

Full range of benefits underpinned by biodiversity
(e.g. yet unknown benefits)



Conclusion

Picture © IEEP Web

The true value of nature is not a number with a pound sign in front



George Monbiot

guardian.co.uk, Monday 6 June 2011 20.00 BST

[Article history](#)

Putting a price on nature can't be worse than giving it all away for free

The natural world gives us clean air and water, fertile soils and immense wellbeing. Putting a price tag on it might just stop us mistaking free for worthless

DAMIANCARRINGTON'S ENVIRONMENTBLOG

Posted by
Damian Carrington
Thursday 2 June 2011
10.02 BST
guardian.co.uk



My conclusion:

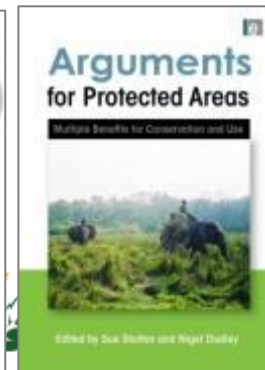
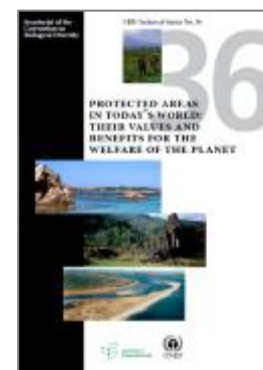
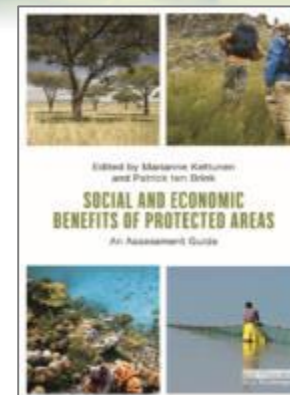
- “Yes” to both arguments
- When wisely used, assessing, valuing and communicating socio-economic benefits can be a valuable support to PAs!

Your conclusion?

Further information

Picture © IEEP Web

- Kettunen & ten Brink (2013) [Social and Economic Benefits of Protected Areas - An Assessment Guide](#)
- [EU level assessments on benefits and costs of Natura 2000 network](#) (2009 onwards), including several assessments by [IEEP](#)
- Examples and information at global level e.g. by [CBD](#), [IUCN WCPA](#), [Dudley and Stolton](#)





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Thank you !

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