



MILJØVERNDEPARTEMENTET



Valuation of ecosystem services in Norway

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What I will talk about

- Some background:
 - Valuation of ecosystem damage / loss of ecosystem services in Norway
 - Valuation of impacts from air pollution
- Main part: The Report of The Norwegian Expert Commission on Values of Ecosystem Services
 - The mandate
 - Relevant arguments and recommendations
- Some concluding remarks

The full circle

Humans

- carry out production, consumption
- causing pollution, land use changes
- impacting/damaging ecosystems
 - reducing ecosystem services
 - causing welfare loss to

Humans

- triggering policy changes.....?

Valuation in Norway

- There are some studies of valuation of degradation of environmental goods/loss of ecosystem services (a few linked to cross-boundary air pollution, cf. ICP Waters Report 115/213, chp. 4.3)
- We have some experience in valuation of impact from air pollution on human health
- Calculation prices in cost-benefit analysis are based on the latter
- "Shadow prices" (derived from marginal costs of meeting Gothenburg commitments) have been used in policy development

Official Norwegian Report NOU 2013: 10

Submitted to the
Minister of the
Environment on
29 August 2013.

Is now on a public
hearing, deadline:
1 January 2014.

English version of
the summary and
recommendations
chapter is available

Official Norwegian Report NOU 2013: 10 Summary

Natural benefits – on the values of
ecosystem services



The Norwegian Expert Commission on Values of Ecosystem Services



Mandate to assess:

- to what extent the *concepts and conclusions* from the TEEB project are relevant to Norway,
- the *state and development* of Norwegian ecosystems and ecosystem services,
- methods to *demonstrate the importance* of the ecosystems and ecosystem services,
- whether the *framework conditions (policy)* adequately convey the importance and scarcity of ecosystems and ecosystem services.

On terms and concepts

- Focus on ecosystem services can be a useful approach in nature management
 - But challenges and limitations are also described
- Can help clarify why it is important to humans to maintain ecosystems and nature
- A supplement to ecological, ethical and social science arguments
- An observation: Strong and partly opposing views in the Commission – a compromise.....

On values and monetary valuation

- Many ecosystem services, such as basic life processes (supporting services), should be described in qualitative / quantitative terms
- It is necessary to focus to a much greater extent on the contributions of ecosystem services to human welfare
- Economic values should be estimated for more ecosystem services than now, and be used in addition to qualitative/ quantitative information
- We should look closely into new valuation methods involving increased use of collective reflection

On valuation in cost-benefit analysis

- Monetary valuation most relevant in cost-benefit analyses (concerning decisions with moderate impacts)
- Decisions with long-term, potentially serious environmental consequences should be based on safe ecological limits and the precautionary principle
- Important to highlight uncertainty and potential irreversible consequences
- One should test whether monetary value estimates can help improve ecosystem-based management

Valuation: Summing up and a particular recommendation

- Summing up: Some more monetary valuation – but caution!
- Regardless of whether monetary values have been calculated for an ecosystem service, a cost-benefit analysis must shed light on factors that will influence its future value
- Where calculated prices are based on surveys of willingness to pay, these estimates should be adjusted on the basis of the expected growth in GDP per capita.
- NB: Carbon price trajectories...?

The state of Norwegian ecosystems

- The state of Norwegian ecosystems is relatively good, but biodiversity and ecosystems are under pressure.
- Land use and land use change are probably the most important factors.
- Climate change and ocean acidification, pollution, environmental toxins and invasive species also influencing factors.
- Freshwater acidification still above critical levels for 10 per cent of land area.
- Hazardous substances still a significant challenge in Arctic areas.
- There are major gaps in our knowledge!

State and trends in ecosystem services

- A general description of services, not linked to impacts from specific factors...
- The main message: A need to improve our knowledge on biodiversity and ecosystem services in Norway
- Propose a research programme dedicated to biodiversity, ecosystem functions and services, and linkages between them.
- An overview of valuation studies in Norway, for the whole range of services
- Including CBA analyses of liming (indirectly relevant for acid rain control)
- And valuations of improved air quality

Summing up – some observations

- The "ecosystem service" approach has gone from 0 to 100 in a very short time
- The Expert Commission focused on the use of this concept for awareness raising
- Most reports on ecosystem service valuation are rich on concepts, and on qualitative descriptions – and rather poor on actual monetary values
- Can be helpful for framing valuation studies – but the basic methodological challenges remain the same



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Thank you for your attention!

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