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Ecosystem services: Initiatives in Norway

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Nature of Norway

Sparsely populated (15 per km^2), long and narrow, cold and wet

Mountains, forests (sink for 50 per cent of GHG), lots of freshwater (0,5 per cent of runoff) and hydro-electricity (50 per cent renewable energy)

Long coast, fjords and islands, fisheries, aquaculture and of course offshore petroleum

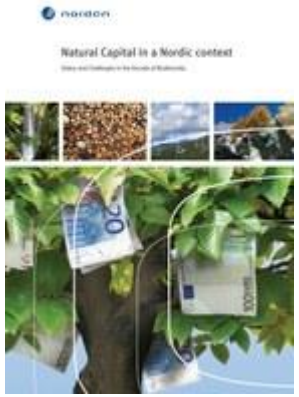
Rich and resource intensive economy, high consumption, but also downstream country: Acid rain, North Sea and Baltic pollution, Arctic and Svalbard global ”sink” for toxic pollution

Managing nature in Norway

Threats to reindeer and wild salmon
Large predators vs sheep and reindeer breeding
Marine, coastal and freshwater most changed
Kelp forests north and south decimated
Negative trends seabirds, coastal fisheries
Protected areas (16 %) in mountains, less in forests (2 %) and other lowland areas
Nature Diversity Act (2009), marine management plans, marine protected areas, WFD follow-up

Nature Diversity Act (2009)

A comprensive act on conservation and sustainable use, for habitats, species and genetic resources, replacing several earlier acts, in combination with new land-use policies and new economic instruments (including forms of payments for ecosystem services).



Ecosystem Management

Marine management plans: the Barents Sea (2006, 2011), the Norwegian Sea (2009), the North Sea and Skagerrak (2013)

River basin management: WFD follow-up
Earlier: Master Plan for Water Resources (1985)

Nordic Council reports on PES, Ecosystem services from watersheds, Natural Capital and more..

Valuing ecosystem services

Official Norwegian Report NOU 2013:10:

”Natural benefits – on the values of ecosystem services” – submitted on August 29, 2013

Public hearing – until January 1, 2014

Summary and recommendations available in English – on the web and in print

Report and comments to feed into Norwegian Action Plan for Biodiversity 2020 (Nagoya)

Expert commission mandate

To what extent are concepts and conclusions from TEEB relevant to Norway

State and trends in Norwegian ecosystems and ecosystem services

Methods to demonstrate importance of ecosystems and their services

Whether present policy framework adequately convey 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 and to existing approaches

Broad-based, diverse Commission - strong and partly opposing views – balanced conclusions

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

Ecosystem services: Status and trends

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

Some ecosystem services

Forest, wetlands, kelp forests: Carbon sinks

Coastal ecosystems: Fish production

Rivers and wetlands: Water quality, flood protection

Fishing, hunting, recreation

Genetic resources: Marine bioprospecting

Pollination

On values and monetary valuation

It is necessary to focus to a much greater extent on the contributions of ecosystem services to human welfare

Many ecosystem services, including basic life processes, should be described in qualitative and quantitave terms (such as the Nature Index)

Economic values should be estimated for more ecosystem services than at present, and be used in addition to qualititative/quantitative information

We should look closely into new valuation methods involving increased use of collective reflection

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

Summing up on valuation

Increased use of valuation – but with 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…?

Some conclusions

The ”Ecosystem service” approach is new and popular, but still ***needs to be tested and applied***

The Expert Commission focussed on the use of this concept ***for awareness raising***

The approach ***must be seen in a broader context*** of Norwegian management traditions and policy instruments

More ***economic instruments could be used as a supplement*** to current instruments, independent of whether ecosystems are valued in monetary terms or in some other way

Most reports on ecosystem service valuation are rich on concepts, and on qualititative descriptions – and rather ***poor on actual monetary values***

Can be helpful for framing valuation studies – but the ***basic methodological challenges remain*** the same

Official Norwegian Report NOU 2013: 10 Summary

Natural benefits – on the values of ecosystem services