

Ecosystem services

Aspects of long-term development

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Ecosystem services (provided by EHS)

■ Classical methodology in (S)CBA

- Determine present costs and benefits: key figures or otherwise
- Determine future costs and benefits: assume constant
- Calculate Discounted Present Values using fixed interest rate
- Calculate costs-benefit balance

■ Assumptions

- Present key figures are representative
- Present amounts are representative for the future
- No changes or substitutions in supply
- Unchanged preferences
-

Literature: incorporating preference changes?

reference

remark

Milieubeleid in een veranderende context (WRR, 2003)

Attitudes may change;
no consequences

Risicowaardering aanvulling Leidraad OEI (VenW/EZ, 2004)

No mention of changes in
demand

Energy policies and risks on energy markets (CPB, 2004)

Uncertainties mentioned,
unforeseen developments not
incorporated

Wees Wijs met Regels (Barendrecht & Van Damme, 2005)

Mention of changing
preferences

Leidraad MKBA in het milieubeleid (CE, 2007)

Mentioned, not elaborated

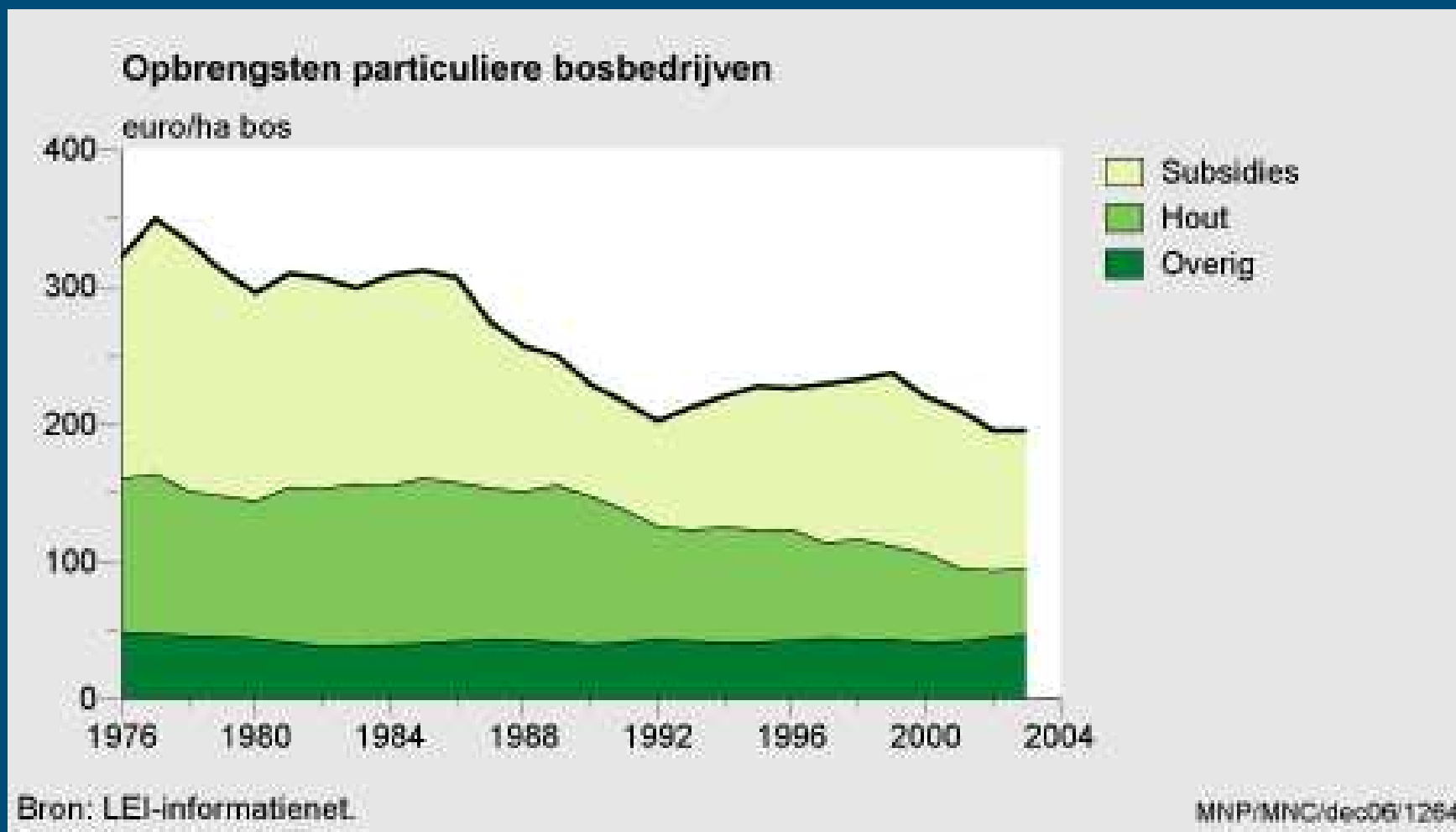
Ecosystem services

- EHS characteristics
 - Large investments, over long period
 - Long-term benefits
- -> Changing preferences could lead to
 - suboptimal ecosystems provided
 - misleading (S)CBA results
 - Present amounts are representative for the future
- Case wise analysis

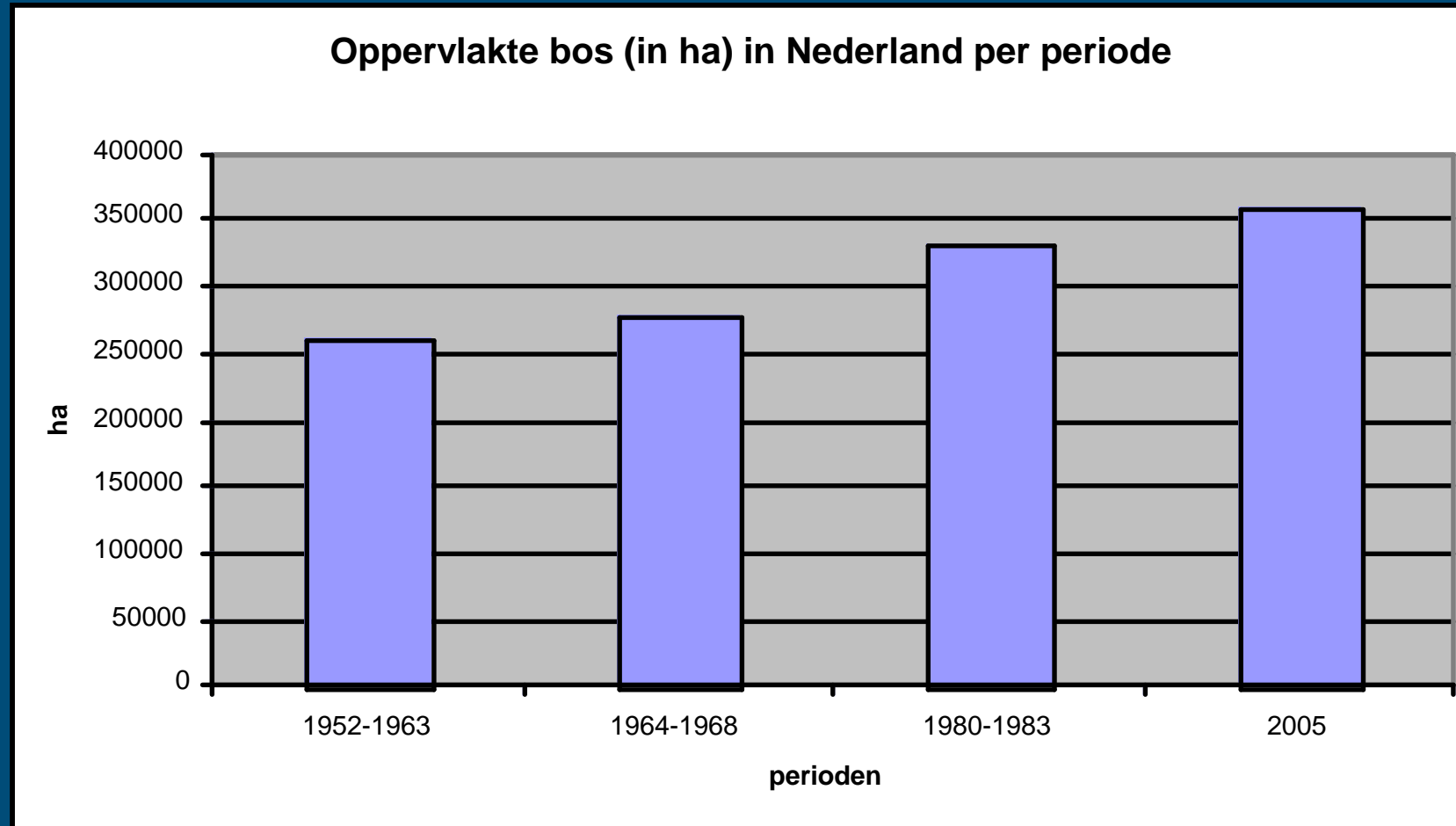
Ecosystem services case 1/4 slide 1

- Forest: from wood production to recreation
- SBB:
 - First half of 20th century: production
 - Decreasing demand of wood for construction and mining industry
 - Increasing international supply
 - Leisure market, increasing recreation demand
- Trends:
 - Decreasing revenues from wood production
 - Increasing recreation market

Ecosystem services case 1/4 slide 2



Ecosystem services case 1/4 slide 3



Ecosystem services case 2/4

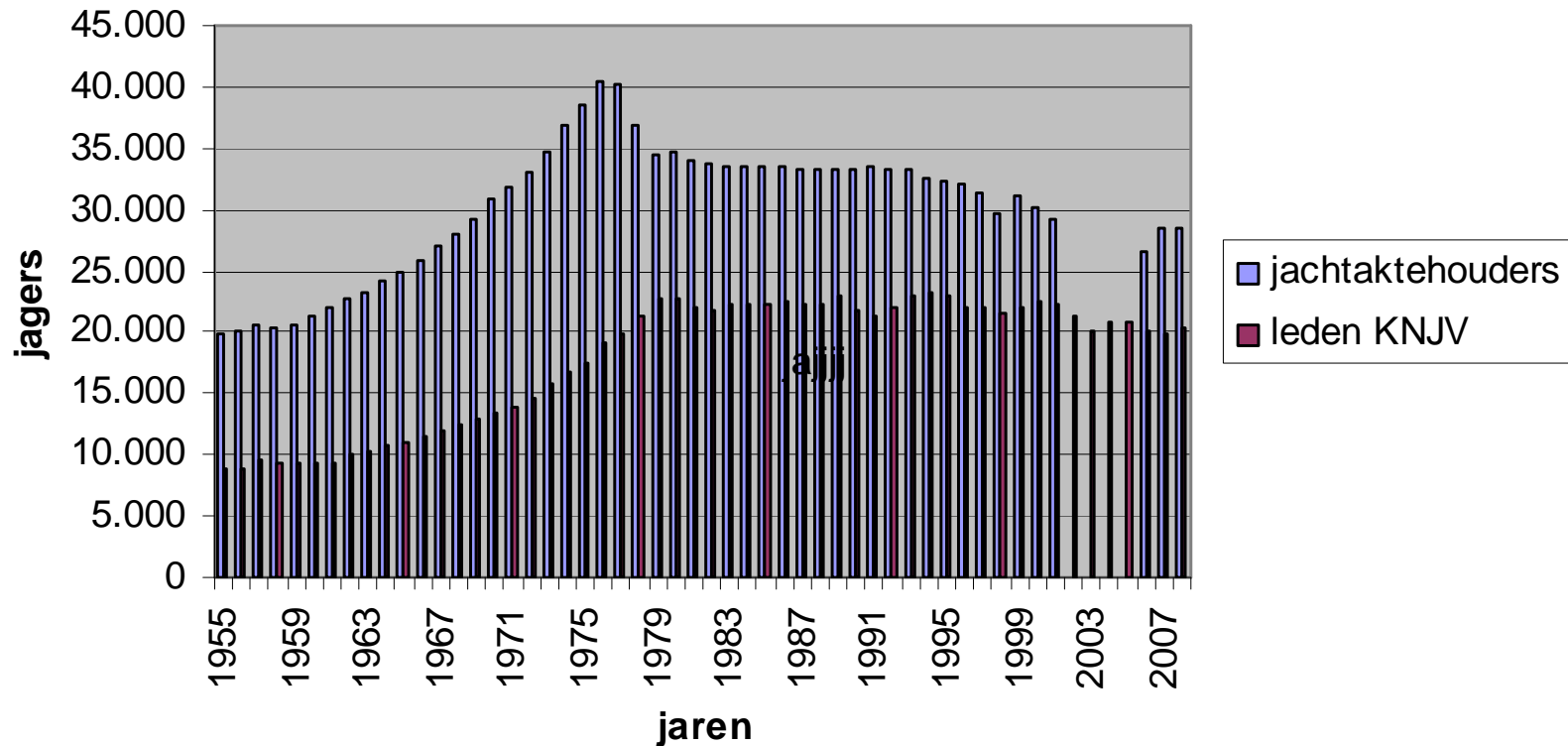
- Fisheries: divergent developments
- consumption: increasing social perception
 - From food for the poor to healthy nutrition
- production: decreasing social perception
 - Overfishing and exhaustion

Ecosystem services case 3/4 slide 1

- Hunting: social rise and decline
 - Historical: food supply
 - Recreation for nobility, happy few, special interest groups
 - Nature management

Ecosystem services case 3/4 slide 2

Jagers bestand in Nederland (bron: data KNJV)



Ecosystem services case 4/4

Period	CO ₂ valuation
Until 1956	No attention
1957 -1960	First scientific notions: Revelle en Suess (1957) en Revelle en Keeling (1960)
1970, 1988	International initiatives: World Earth Day in Stockholm in 1970 UN official Strong. Foundation of United Nation's Intergovernmental Panel on Climate Change in 1988 .
1970's and 1980's	Scientific research and increasing evidence for greenhouse effects
1992-2009	<p><u>International conventions.</u></p> <p>1992: United Nations Conference on Environment and Development (UNCED) Framework Convention on Climate Change, FCCC (Klimaatverdrag), on stabilizing greenhouse gas concentration. Intentional, no strict agreements.</p> <p>1997: Kyoto convention (UN); quantitative agreements for CO₂ reduction during the period 2008-2012 (as compard to 1990). Mention of emissions trading.</p> <p>2005: Kyoto-protocol comes into force.</p> <p>december 2009: Copenhagen Conference on emission reductions beyond 2012</p>
2003	<p>Initiatives for valuation.</p> <p>2003 (13 October) EU Guideline on emission trading</p>
2005	2005 (1 January) Start of the EU Emission Trading Scheme. Pricing at €6/1000kg

Parallels ?

- Infrastructure
 - Large investments, over long period
 - Long-term benefits
- Preferences change, but magnitude unknown
- Effects visible

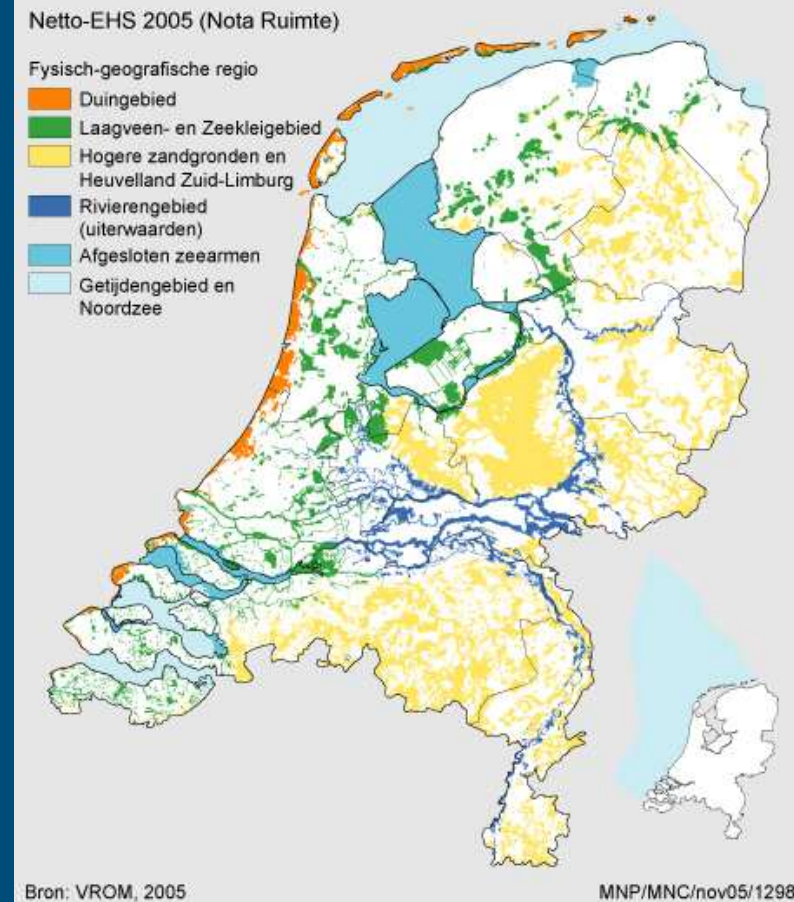
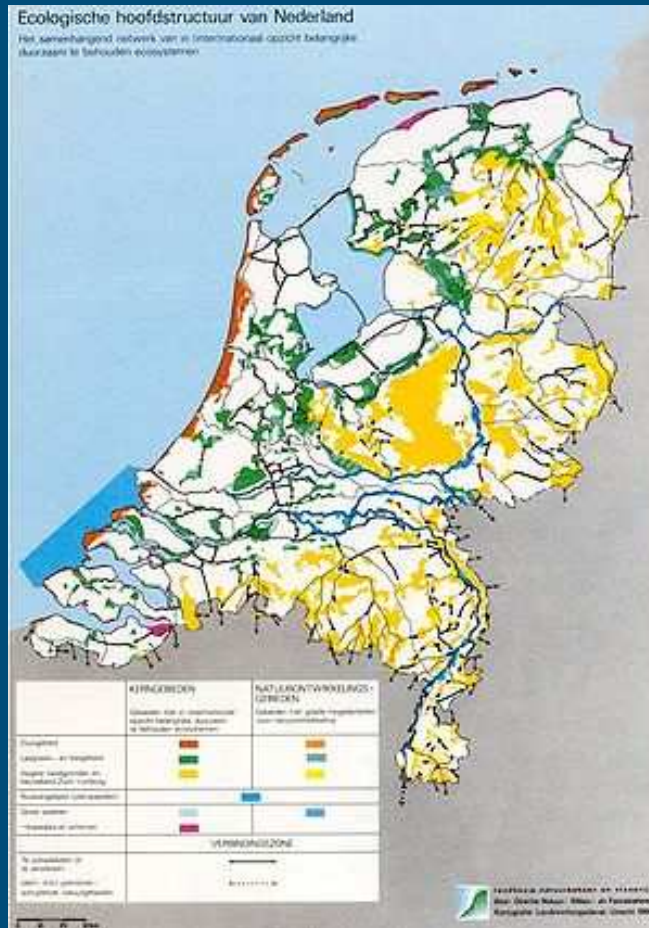
AHS 1956

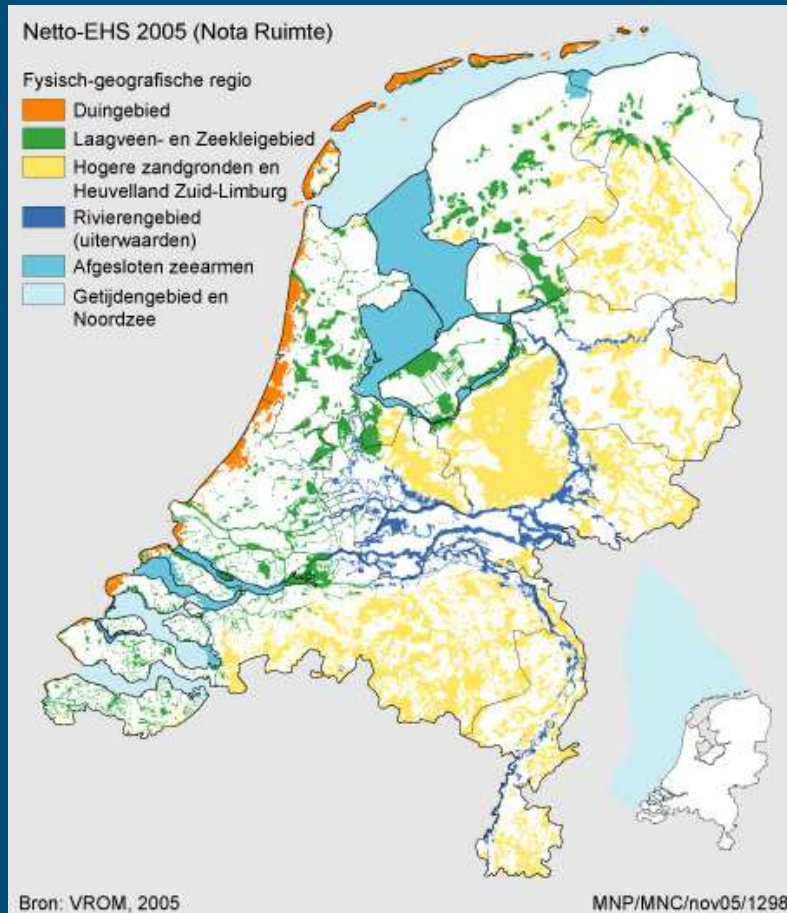
present



EHS 1990

2005





?

Conclusion

Significant changes in preferences for ecosystem services are real phenomena and new ecosystem services have developed

Changing preferences are hardly mentioned if at all in literature; not even in e.g. the well developed domain of road infrastructure

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Guidelines for dealing with changing preferences are not available

