

New Environmental 'default' values of nature- and environmental values – possibilities and limitations

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Environmental 'default' look-up values¹ of environmental costs and benefits are used in socio-economic appraisals of environmental impacts of public or private investments and plans. They are typically used when the costs associated with primary valuation or detailed value transfer analysis would be disproportionate to the scale of impacts being appraised. The environmental look-up values have been developed to ensure that negative as well as positive environmental impacts of projects and initiatives that are not captured by market prices, are incorporated in such appraisals.

We present a literature overview of valuation studies with regard to recreation and tourism in relation to nature in general and the coastal zone specifically; health effects of staying and recreating in nature; improved biodiversity; and improved water quality, including freshwater, coastal waters, open marine areas and groundwater.

Based on the literature review, we assess if there are sufficient and relevant studies that can be used as the basis for new environmental default values or improvements of existing values. We also identify where new valuation studies could be particularly relevant.

We find that existing default environmental values would benefit from an update based on existing studies. Also, new default environmental values on the quality of freshwater and marine water could be developed based on existing studies. On the other hand, the development of new environmental look-up values on the value of coasts for tourism and recreation; the connection between access to green space and health; and values related to ground water, would require that new studies are conducted. Finally, we conclude that it is not yet recommended to develop default environmental values on biodiversity.

The study is based on the findings of a recent project for the Danish EPA².

¹ The terms (default) Environmental Look Up Values (EVL)' is used by Defra, UK (Eftec, 2015). In Denmark, these were first coined 'enhedspriser' and later 'Nøgletal'.

² Zandersen, M., Lundhede, T., Martinsen, L., Hasler, B., Termansen, M. 2018. Nye nøgletal på natur- og miljøområdet – et litteraturstudie over muligheder og begrænsninger. Videnskabelig rapport fra DCE - Nationalt Center for Miljø og Energi (SR276) ISBN 978-87-7156-334-4.

RECREATION & TOURISM	
	The recreative value of nature. Existing default environmental look-up values can be improved.
	Welfare economic values of the Danish coasts for tourists. Lack of studies.
	Welfare economic importance of water and coast qualities for recreation. Lack of studies.
NATURE & HEALTH EFFECTS	
	Environmental default look-up values cannot be developed based on existing studies. Lack of knowledge of the causality between access to green areas and physical activities and health of the population.
	In the medium run possibility to approximate health effects of nature through new Danish studies on the relationship between access and physical activity.
BIODIVERSITY	
	Lack of knowledge of the underlying biophysical relationships.
GROUND WATER	
	Nitrate in drinking water: Existing environmental unit value can be further developed based on new knowledge on health effects and adjusted with new value of statistical life.
	The environmental unit value can be supplemented with values of non-health related values of high quality ground water for drinking water, ground water formation and its importance for surface water and nature, in addition to side effects of ground water effects (e.g. afforestation). This would require new primary valuation studies.
	
SURFACE WATER	
	Open marine waters: A number of Danish and international studies exists that potentially can be applied in the development of new default environmental look-up values or a value interval.
	Coastal waters: The existing environmental value comprises only a subset of total economic values. It is recommended to supplement the existing environmental value with ones that reflect other use and non-use values. This would be possible to develop based on existing studies.
	Shadow prices for nitrogen loading currently exist for a few catchments and these are regularly applied in socio-economic appraisals. It is recommended to estimate shadow prices for each catchment in Denmark and to include these in the Environmental Default Look-Up Value Catalogue, based on the results of an on-going project.
	Quality of fresh waters: Numerous studies exist that can potentially be used for developing default environmental values or value intervals, e.g. through the application of meta-analyses.