

22nd Meeting of the London Group on Environmental Accounting

Oslo, 28-30 September

**CULTURAL SERVICE VALUATION IN THE UK:
PROGRESS AND ISSUES RELATING TO RECREATION**

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Introduction

Most ecosystem services and assets are inherently difficult to measure and value. Provisioning services are tangible and usually a market price can be used to indicate value. For cultural, regulatory and supporting services this is not usually the case. This issues paper focuses on cultural services, specifically the recreation valuation methodology and deciding whether the time spent in nature should be included in the value.

The ONS published its first UK aggregate natural capital accounts in 2014. Within this publication the asset values for recreation (based on 3.5% social discount rate and a 25 year asset life) were estimated to be around £1.3trillion. The method used travel costs, entrance fees and the amount of time visitors spent in places of nature to estimate the values. The value of time was 93% of the total recreation value.

The method and data source are discussed in more detail below, but the high value of recreation and the inclusion of time has led to a review of the method of valuation to be undertaken. In this review, refinements to the method of calculating travel costs have been made to provide a more accurate estimate, although largely it has been agreed that the amount spent on travelling to a place in nature is a good proxy for the value someone places on nature. Refinements have also been made to the way time is valued, although there is far less agreement around whether to include the value of time visitors spend in nature. The data, method and the strength and weakness of our method are summarised below.

Data

Data are taken from [Monitoring Engagement with the Natural Environment \(MENE\) survey](#). This survey is conducted by Natural England¹ on an annual basis. Data is only available from 2009, so 2007 and 2008 values are estimated as average values for 2009 to 2011. The data relates to England only and there is no comparable data set between England, Scotland, Wales and Northern Ireland, so estimates are scaled up to the UK level using population.

Method

The recreational benefits of natural areas cannot be enjoyed without travelling to the site, so a lower bound price for outdoor recreation can be imputed through travel cost. Travel costs methods are often used to value ecosystem services associated with recreational sites and are based on the understanding that to enjoy the recreational site one has to pay the travel costs of getting to that site and the opportunity cost of one's time.

¹ Natural England are an executive non-departmental public body, sponsored by the Department for Environment, Food & Rural Affairs and are the UK government's adviser for the natural environment in England. For more information see [link](#).

The initial method used in the ONS UK aggregate account was formed of three components – private transport fuel costs, entrance fees and visit time. Due to data limitations, other costs, such as parking, public transport expenditure and time spent travelling to the site are not included.

The value of visit time is calculated is multiplied by 75% of the average hourly wage rate for the particular year. The 75% reflects the imperfect relationship between choosing leisure over work (Fezzi et al, 2014). It was recognised the selected ratio overestimates the value because some of the visitors might be non-working, such as retirees, and work has now been undertaken to adjust the wage based on the visitor's employment status. Data for the average wage rate are taken from [ONS Annual Survey of Hours and Earnings](#).

Travel cost and the value of visiting time are added together as the yearly flow of benefits from the outdoor recreation provided by natural capital. Due to lack of data on capital inputs, gross benefits are calculated and therefore no resource rent ratio is applied. However, it is recognised that there are a number of costs related to outdoor recreation that should be deducted, for instance the roads and car parks which allow visits to take place. Actual and projected flows are used over 25 years and discounted using the [HM Treasury Green Book Social Discount Rate \(3.5%\)](#).

It has since been recognised that the asset life for renewable services should be longer than 25 years and revised estimates have a 50 year asset life.

Strengths of this method

The main strength of this estimate is it captures a value for visitors who have not paid any travel costs. In the UK the majority of visits to the natural environment are by those walking with a dog (48% in 2015)², who generally make short trips often to nearby places of nature with no travel costs. Without the value of time included, no value would be captured for those not paying to travel to or enter the site.

The value of time could be argued to be SEEA consistent as the SEEA principles state: when there are no observable prices because on the market in the recent past, an attempt has to be made to estimate what the prices would be if a regular market existed and the assets were to be traded on the date to which the estimate of the asset relates.

Weakness of this method

The SEEA Framework is not clear, and including the value of time could also strongly be argued to be inconsistent with the SEEA and SNA approach. Whilst travel costs and entrance fees are

² MENE Quarterly Report December 2015 to February 2016

Link:https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/521334/mene-report-december-2015-february-2016.pdf

generally considered to be consistent with the SNA, time is not views as consistent as there are no time values in the SNA currently.

Additionally, including entrance fees could capture a lot of produced capital as well as natural capital. Generally, if paying for admission to a park or natural area basic facilities would be expected, such as toilets, pathways and signage. The cost of maintaining and building these facilities are not removed from the estimate at present.

Other methods

SEEA-EEA suggest other methods for valuing cultural services including, willingness to pay surveys and hedonic pricing.

A select number of willingness to pay surveys regarding nature have been carried out in the UK, but none on a regular basis. Additionally, as SEEA briefly mentions, the questions need to be worded extremely carefully and the habitat specific values won't aggregate to the total UK value. Given the lack of data, willingness to pay expertise needed to design a survey and the high cost of to carry out a national survey, this is not an option considered for UK estimates.

Hedonic pricing is an option the ONS and Defra will continue to explore. It has a strong possibility to provide exchange values for recreation, although will likely to also capture many of the other cultural values, such as inspiration and aesthetic value. Disentangling the services will be extremely difficult. The method is also far less transparent than the travel cost method, which detracts from the accounts usability and ability to be replicated.

Other cultural services

Valuations of recreational services have been our priority, although the issue of including time extends to educational services also. Valuing the educational service nature provides, for example through school trips to places in nature, faces very similar issues. Once a recreation valuation method is finalised, it will likely we easily applied to educational services.