

Scheldt Case Study Fact Sheet

AquaMoney Policy Brief No. 4-7

August 2009

The heart of AquaMoney ([see Policy Brief No. 1](#)) are 11 case studies from different European countries. Based on these case studies, AquaMoney developed guidelines for benefit transfer. This policy brief will present the main results of the Scheldt Case study. The idea is to give policy makers an overview of the range of values that can appear and how the perception of environmental problems in the different countries differs.

The Dutch-Belgian Case Study

The Scheldt river basin district extends from North West France, via the western half of Belgium to the Netherlands. The total area of the district of the Scheldt is 36 416 km²: it is one of the smaller international River basin districts in Europe. The Water Framework Directive's objective of improving surface water to 'good ecological status' in the Scheldt will require considerable additional investments. In the light of water quality improvements, one of the main issues is the (economic) value that households attach to good water quality for recreational use and non-uses. As the area is highly urbanised and the waterway network is very dense, substitution possibilities are large. So far, it is unclear to what extent recreation behaviour and nature appreciation will change when quality improvements occur under the implementation of the WFD and how that will affect households' willingness to pay (WTP). Distance decay in WTP values is considered to be important to calculate the total welfare change of the population, and is therefore one of the main foci of this study.



Two case studies were carried out: one in the Dutch part of the Scheldt RBD and one in the Flemish part. In both countries, a choice experiment (CE) with a labelled design was developed, in which the site names served as labels. Both case studies followed a similar design and analysis. A stated preference method is employed enabling us to estimate non-use values. For the Dutch CE study, three sites in the lower Scheldt subbasin were chosen: the beaches near Breskens, Braakman-creek, and the nature area "Verdronken Land van Saeftinghe". The Flemish study selected three sites at the river Dender, which differ in context: a site in an urban/industrial environment, Aalst, in a rural area, Liedekerke, and a nature reserve, Kapellemeersen.

Aquamoney is a research project funded under the 6th EU Framework Programme.





Responses

After checking for missing values, the final analysis of the Belgian and Dutch CE was based on 690 respectively 780 questionnaires. In both countries, a large majority of respondents (92-94%) visit open water. Both samples were considered to be sufficiently representative for the relevant population. The average household income of the Dutch respondents was €2117 per month, which is close to the provincial income statistics (CBS, 2007). The average net household income of the Flemish sample was € 2611 per month, which is close to the Flemish average.

Willingness-to-Pay

The results show that a large number of respondents is willing to pay for improvements under the WFD. The protest rate is respectively 8% and 6% in the Dutch and Flemish case. In the Dutch case, the mean WTP for achieving good ecological status in comparison with the status quo (bad level) ranged from €121 for Saefthinghe up to € 188 per household per year for Braakman; €185 per household per year for the Flemish case. The value can differ over the different sites due to site-specific values.

NL			BE		
Breskens: all attributes moderate	€43		Aalst: all attributes moderate	€103	
Braakman: all attributes moderate	€74		Liedekerke: all attributes moderate	€68	
Saefthinghe: all attributes moderate	€43		Kapellemeersen: all attributes mod.	€82	
Breskens: all attributes good	€131		Aalst: all attributes good	€184	
Braakman: all attributes good	€188		Liedekerke: all attributes good	€184	
Saefthinghe: all attributes good	€121		Kapellemeersen: all attributes good	€184	

Willingness-to-Pay (€ per household per year) for different policy scenarios

Sensitivity to scope

People are willing to pay more for achieving good ecological quality, compared to a moderate quality. That is, our WTP estimates are sensitive to the scope of the improvement, which supports the validity of our findings. The implicit prices of both studies show that people attach on average higher values to biodiversity and nature than to recreation, especially when improvements are only moderate.

Distance decay

In both cases, general socio-demographic characteristics influence respondents' WTP: income, number of visits to the study sites, and distance from the respondents' residences to the sites. The WTP decreases when the distance increases. This distance decay is very important for aggregating values over a larger scale. Using a value function that controls for distance-decay gives very different aggregate values than simply multiplying the mean WTP value with the number of inhabitants. A distance decay function improves the validity of the valuation exercise.

Special Issues

An important finding is the site-dependency of WTP values for some of the quality changes. In the Dutch case, for example, improving nature quality to good levels at Saefthinghe generates more social welfare than at Braakman or Breskens. In the Belgian case, moderate changes in the urban area are valued higher than in rural or nature area. The site-specific values may limit the possibilities for unadjusted benefit transfer across sites. While values for good walking quality in the Dutch case are generic, i.e. do not differ across sites, WTP for improvement from bad to good bathing water and nature quality are dependent on where they take place. Our main recommendation in the light of benefit transfer is, therefore, to test if sites are perceived as similar by the respondents or control for perceived differences. Transferring without testing if sites are perceived as generic may significantly bias transfer results.

Further information can be found in the Case Study Reports and in further Policy Briefs on:

www.aquamoney.org

