

## Austrian Case Study Fact Sheet

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

### The Austrian Case Study

The main objective of the Austrian case study was to assess public perception and value of benefits associated with river restoration measures in terms of flood control and water quality improvements and to test the transferability of such benefits in an international context. A choice experiment (CE) was developed to assess the non-market value of the ecosystem services associated with river restoration. The design consists of two exclusive categories of benefits: the impact of river restoration on floodwater storage and a corresponding reduction in flood risk, and the river's nutrient retention capacity and hence water quality. In addition, a contingent valuation (CV) method was used to ask respondents about their willingness to pay for increasing the size of natural areas along the river – from the actual situation to an enlarged and ecologically enhanced situation.

The Austrian case study area (Danube National Park) is located east of Vienna and covers an area of 9,300 hectares. It is a green ribbon with a length of 35 km, linking Vienna and Bratislava and providing protection to a large floodplain area of the Danube. In some parts, it is still ecologically intact to a high degree displaying the characteristics of a large stream. Within and around the existing wetland, the main economic activities include agriculture, forestry and fishing. The water quality can be classified as "good" except for a few sites. The main pollution source is the waste water treatment system of the City of Vienna which has been improved constantly over the last years. At least some parts of the Danube River can be classified as heavily modified water bodies especially since the channelling of the river bed and the construction of the hydro power station of Freudenua further changed the free-flowing character of the river.

In the Austrian case study, the survey method was a web-based questionnaire. The main survey was carried out in November 2007 and 1,977 people were invited to participate. In order to capture the distance-decay the sample was segmented between people living in Vienna and Lower Austria. The pre-test and the main survey were carried out by a professional survey company.

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## Environmental situation

Recent studies show that the achievement of the water framework directive (WFD) aims along the Danube – in particular in Vienna – is rather uncertain. While point sources such as the waste water of the City of Vienna can be controlled efficiently, the situation regarding diffuse (non-point) discharges is less favourable. Concentrations are high where agricultural activities take place. In principle, the Austrian respondents are familiar with the current water quality in the Danube River, although water quality is perceived by respondents to be worse than the expert assessment. Austrian respondents have little experience with floods: Less than 16 percent have ever experienced a flood.

## Willingness-to-Pay (WTP)

A total of 506 individuals completed the final questionnaire, giving a response rate of 25.6%. The number of protest bids was only 2 percent of the sample. The results of the CE indicate that respondents are willing to pay around 0.2 euro on top of their water bill for a reduction of the flood frequency by one year. Furthermore, respondents are willing to pay 44.5 euro (75.3 euro) to improve water quality from moderate (status quo) to good (very good) water quality. The CV results show that a large number of respondents are willing to pay a substantial amount of money in order to restore a certain degree of the river bank. Respondents are willing to pay 27.39 euro per person on top of their yearly water bill over the next 5 years for the restoration of half of the modified river back into their original natural state.

## Sensitivity to scope

One very interesting finding of the CE was the lack of sensitivity to scope for different flood return periods. On the other hand, the results give a strong evidence for sensitivity to scope for water quality. A scope test was conducted for the CV using a split sample experiment. Half of the respondents were asked for their WTP for a program that would transform half of the modified river back into a natural state, while the other half

was asked for their WTP for a 90 percent transformation. Statistical tests did not exhibit a significant difference between respondents' WTP for the different scenarios.

## Distance decay

Respondents living closer to the river are expected to attach more value to the benefits of river restoration than respondents living further away. A significant distance-decay effect was only found if water quality is improved to a good status, but not for a very good status.

## Special Issues

Based on the CE results, a total economic value (TEV) for ecological river restoration measures was determined. The aggregation was carried out using a Geographical Information System (GIS). First an uncorrected TEV was calculated for two policy scenarios. After that the distance-decay and income effect were included in the aggregation. The results show a big difference between the unadjusted TEV and the adjusted TEV. Therefore a conservative TEV can be found by considering the distance-decay effect.

## Summary

In the survey we applied two different stated preference methods simultaneously to address several aspects of ecological river restoration. The study shows that people display strong preferences toward improving the water quality in the Danube from moderate to good or very good. Furthermore, respondents are willing to pay for a reduction of the flood return period. Moreover, distance-decay effects were found for water quality improvements and, as expected, higher income groups are more likely to contribute to ecological river restoration measures. Basically, the CV result shows a high public willingness to pay for ecological restoration.

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

[www.aquamoney.org](http://www.aquamoney.org)

