

**Project number:** 6266  
**Funding source:** EPA Strive Programme

**Date:** July, 2014  
**Project dates:** May 2012–March 2013

## Willingness to pay for good status across Irish rivers.



### Key external stakeholders:

Department of Environment and Local Government  
Local Authorities  
Environmental Protection Agency  
Department of Agriculture, Food and the Marine  
Farm Organisations  
Community Groups

### Practical implications for stakeholders:

Results from this study can assist policymakers in resource allocation decisions in the area of water quality improvement.

### Main results:

- Findings from this study indicate that the general population highly rank water quality related environmental issues. Of the nine environmental issues explored, tackling poor drinking water quality and pollution of rivers and lakes were the top ranked priority issues across the sample. Damage from flooding was jointly ranked third and water pollution at beaches was ranked seventh.
- A total of 41% of the total sample indicated using a river for recreational purposes in the previous year.
- Results indicated that over 50% of the sample indicated a €0 willingness to pay (WTP) for achieving 100% good status across Irish rivers from the existing position where 68.9% of river channel is at good status.
- Average WTP across the sample for achieving 100% good status across rivers in the Republic of Ireland was estimated at €19 per respondent per annum. Aggregating this up across the general population indicates a total WTP for achieving good status across rivers in the Republic of Ireland of €65.35 million.

### Opportunity / Benefit:

Results provide a clear indication of the importance placed by the general public on water quality related issues and could be informative for policymakers in terms of resource allocation decisions for tackling environmental issues.

### Collaborating Institutions:

University of York  
University of Sterling

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### 1. Project background:

The Water Framework Directive (WFD) mandates member states to achieve good status across all surface waters by 2015. In all, 31.5% of river channels in the Republic of Ireland are failing to achieve good status. Of this total, 21% of river channel is classified as of moderate status, 10 % is classified as being of poor status and 0.5% is of bad status. Derogations from this target of good status have to be proven based on infeasibility or disproportionate cost. Hence, quantification of benefits is an important element in the assessment of the proportionality of costs in the implementation of the WFD. Assessing whether the achievement of good status is disproportionately expensive requires a comparison of the costs of putting measures in place to achieve good status versus the benefits that might come about as a result of the water body achieving good status. Very few studies have looked at the benefit side of this equation in the Republic of Ireland and this research aimed to address this research gap by undertaking a survey of the general population using non-market contingent valuation methodology to explore WTP of the general population to achieve good status across all rivers in the Republic of Ireland.

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### 2. Questions addressed by the project:

The main issues addressed in this research include:

- To examine public attitudes towards water quality. This included an examination of the importance the general public places on water quality related objectives compared to other environmental objectives.
- To estimate the general public's willingness to pay for achieving good status across all rivers in the Republic of Ireland.
- To examine the impact of socio-demographic characteristics and environmental values towards achieving good status across rivers in the Republic of Ireland.

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### 3. The experimental studies:

A questionnaire instrument was designed to examine the general public preferences regarding water quality objectives and willingness to pay for measures aimed at achieving good status across all rivers in the Republic of Ireland. Following a pilot phase a total of 615 face-to-face interviews were conducted. The target group for the surveys was the general public, i.e. adults aged 18 years or over. Stratified quota sampling was used to ensure a nationally representative sample of the population.

In the questionnaire respondents were presented with the scenario that described how under the EU Water Framework Directive all rivers in the EU are mandated to achieve good status by 2015 and informed that failure to comply with this standard where possible will lead to reoccurring fines from EU enforcement institutions. A show card was developed to take account of the various attributes (including water clarity and composition, fish, plant and insects life as well as bankside condition) associated with good status. Once respondents had examined the show card they were asked how much in increased annual taxation they would be WTP to get all rivers in Ireland to a point where they would be classified as being of good status.

A series of questions were also included in the questionnaire to capture relevant socio-demographic characteristics of the respondents such as age, education, income and recreational use of rivers. Additionally, a series of statements were constructed to establish respondents' environmental values based on scales from the literature.

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#### **4. Main results:**

Findings from this study indicate that the general population place a high ranking on water quality related environmental issues. Respondents were asked to consider some potential environmental problems that 'exist in Ireland today' and to indicate on a scale of 1 to 5 (1 = very unimportant, 5 = very important) how important these issues are to them personally. Poor drinking water quality received the highest importance score of all the environment related issues presented, with an average score of 4.44. Pollution of rivers and lakes was the next highest ranked issue with an average score of 4.32. Damage from floods was jointly ranked third with damage to the countryside and air pollution, with an average score of 4.24. Water pollution at beaches received a slightly lower score of 4.20 and was ranked 7th in the environment related issues and was lowest ranked of the water related issues (destruction of wildlife was ranked sixth, climate change eighth and growth of genetically modified crops ninth).

Forty one per cent of the total sample indicated they used a river for recreational purposes in the previous year. Walking was by far the most popular activity with 36% of the total sample undertaking this activity along rivers. Between 3-4% of total sample engaged in either nature or bird watching, swimming, fishing or water sports relating to boats.

Results indicated that over 50% of the sample indicated a €0 willingness to pay for achieving 100% good status across Irish rivers from the existing position where 68.9% of river channel is at good status. Results from the WTP regression analysis indicate that socio-demographic factors including actual income and subjective perceptions relating to household financial status as well as education were found to have a positive impact on the general public's WTP for achieving good status across Irish rivers. Recreational use values were also found to have an effect in that average number of trips taken to the river for recreational purposes and average distance travelled for access were both positively and significantly associated with WTP for achieving good status across Irish rivers. Environmental values were also found to be significantly associated with overall WTP for achieving good status across Irish rivers. Willingness to pay values were found to be higher among respondents living in river basin districts where rivers were generally of lower surface water quality status.

Mean WTP for achieving full good status across rivers in the Republic of Ireland was estimated at €19 per respondent per annum. Aggregating this up across the general population indicates a total WTP for achieving good status across rivers in the Republic of Ireland of €65.35 million.

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#### **5. Opportunity/Benefit:**

This research can aid policy development in the area of Water Framework Directive Policy. Results provide a clear indication of the importance placed by the general public on water quality related issues and can inform policymakers in terms of resource allocation for tackling environmental issues.

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#### **6. Dissemination:**

The main publication from to-date this work is an EPA Strive Report.

##### **Main publications:**

Buckley, C., Howley, P., O' Donoghue, C., Kilgarriff, P., Lennon, L., McIntyre, B., and Campbell, D., 2014. Willingness to Pay for Achieving Good Status Across Rivers in the Republic of Ireland. EPA Strive Report, 2011-W-DS-7.

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#### **7. Compiled by:** Dr. Cathal Buckley