



# ESRI Research Bulletin

## *Water quality and recreational angling demand in Ireland*

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This Bulletin summarises the findings from:

Curtis, J. and Stanley, B. (2016). Water quality and recreational angling demand in Ireland. *Journal of Outdoor Recreation and Tourism*, 14:27–34

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# Water quality and recreational angling demand in Ireland<sup>1</sup>

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About 8% of the adult population in Ireland consider themselves to be recreational anglers. Including tourist anglers from Northern Ireland, Great Britain and elsewhere, approximately 400,000 people per annum fish in Ireland's rivers, lakes and coastal waters. The economic contribution of recreational anglers to the local economy, in terms of expenditure on equipment and services plus food and accommodation exceeds €800 million per annum and supports 11,000 jobs, primarily in rural and peripheral communities.<sup>5</sup>

This research investigates how water quality affects the demand for angling, both in terms of the length of time anglers spend fishing and how much they value good water quality. The research is based on survey data collected from anglers at more than 50 locations around the country and combined with Environmental Protection Agency (EPA) water quality data for the same locations. The analysis focuses specifically on game (e.g. trout, salmon) and coarse (e.g. pike, roach, bream) species. The methodology relies on the assumption that although access to angling sites may have no explicit price, individual's costs, including transportation, accommodation, equipment, etc., can be used to approximate an implicit price for fishing at that site. We assume that demand for angling (i.e. how much time anglers spend fishing) will depend on those costs, their own personal circumstances (e.g. age, income), and also on the water quality at the angling site.

Controlling for cost and other angler characteristics we find strong evidence that game anglers favour fishing in waters with high quality status. On average anglers spend one-third of a day longer per trip at high water quality sites compared lower status waters. The difference in willingness to pay of anglers targeting game species, such as trout and salmon, to fish in waters with high versus low ecological status is €122/day. This reflects the fact that game species require high quality habitat and hence are likely to be more plentiful at high

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water quality sites. Total willingness to pay for a day's fishing in high status waters is € 407. As high water quality status is associated with more sustainable conditions for game species it is reasonable to conclude that improvements in water quality will increase game angling demand, especially if improvements in fish stocks are associated with water quality improvements.

Coarse species are more tolerant than game species of poor water quality and can thrive in more eutrophic waters. For coarse anglers we find that angling demand is lower in waters with high ecological status. On average, coarse anglers spend roughly 0.7 days less per trip fishing in waters with high versus low ecological status. They are willing to pay €93/day less to fish in waters with high versus low ecological status.

While one of the objectives of the Water Framework Directive (WFD) is to attain and retain good status in water bodies, the diversity in angler preferences means that not all anglers may be affected similarly by efforts that seek to improve water quality. Achieving good water status closely aligns with the interests of game anglers. However, we find that coarse angling demand is higher at sites with poor or bad ecological status. Therefore, what might be considered an improvement in water quality from a WFD perspective may be considered otherwise by coarse anglers, though, further research is required to rule out coincidental correlation between water quality and site specific characteristics important to coarse anglers, as well as understand how coarse angling demand would evolve with improved water quality.

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<sup>5</sup> IFI (2015), National Strategy for Angling Development, Inland Fisheries Ireland (IFI), Available online: <http://www.fisheriesireland.ie/607-nationalstrategyforanglingdevelopment/file>