



Science
Societies

***Journal of Environmental Quality* –50 Years In and Still a Great Place to Publish**

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Some of the most highly cited papers in the Journal of Environmental Quality have revolved around nitrogen or phosphorus losses to surface or groundwater and the resulting outcomes. Photo courtesy of Tyler Groh.

The *Journal of Environmental Quality* (JEQ) is indeed a great place to publish! I say this not only as the Editor but also as an author who has regularly published in JEQ over the last 20 years.

When I was a graduate student studying nutrient losses from animal manures, the journal I turned to most to find relevant papers was JEQ. In fact, three of the six papers I published out of my Ph.D. work were in JEQ. Today, as a scientist studying the environmental footprint of agricultural management, I still regularly read and publish in the journal. One of the reasons I continue to publish in the journal is because it has a broad reach that will ensure my research is found by other researchers and will have an impact within the broader scientific community. In fact, of the 10 most cited papers I have authored or coauthored, 5 are JEQ articles.

Almost a dozen papers in JEQ have more than 1,000 citations each. One of these papers (Heckrath et al., 1995) is original research from the Broadbalk Experiment plots at Rothamsted, UK. Another is an environmental issues paper (Sharpley et al., 1994) exploring the issues around agricultural phosphorus losses and water quality as well as options for management to reduce the negative effects. The remaining papers are reviews.

Pesticides, Potentially Toxic Elements, and Nutrient Fate and Transport

These papers group into a few general disciplines. The oldest (Wauchope, 1978) is a review on pesticides and water quality, which was a hot topic in the first issues of JEQ. In fact, the majority of articles in the first issue of JEQ (<https://bit.ly/3cybeb1>) focused on pesticides, and articles on pesticides and crop–pest relations appeared in each issue in the journal’s early days. While this is certainly still an important topic today, it may be that tighter regulation in the United States and abroad has reduced

the focus on pesticides and environmental quality to a point that we do not see as many of these types of papers today.

Three highly cited papers focus on important aspects of potentially toxic elements in the environment, including plant uptake (Lasat, 2002) and land application of coal combustion residues (Adriano et al., 1980) as well as the unique use of radioactive fallout (Cs-137) to estimate soil erosion and sedimentation (Ritchie & McHenry, 1990). We still see a number of papers each year on potentially toxic elements in the environment in JEQ, as this is still a highly relevant and timely topic.

The remaining most highly cited papers revolve around nitrogen or phosphorus losses to surface or groundwater and the resulting outcomes. Eutrophication and hypoxia are some of the most common environmental problems found globally and were discussed by Correll (1998) and Diaz (2001). Sharpley et al. (1994) explored potential mitigation strategies for agricultural phosphorus losses to water.

Interesting reviews on nutrient fate and transport processes have also been highly cited in JEQ. Nitrates leaching into groundwater (Spalding & Exner, 1993) are a widely recognized environmental concern, especially in regions where groundwater is used as a source of drinking water. Transformation of nitrate to nitrogen gas is an important topic, covered by Hill (1996). While this process has been widely studied in more pristine, natural systems, recently there has been greater focus on using this process to remove nitrates from shallow groundwater (less than 2–3 m) moving into streams in agricultural landscapes (e.g., Jaynes & Isenhardt, 2014).

The two remaining highly cited works highlight the process of phosphorus moving vertically into tile drains (Heckrath et al., 1995; Sims et al., 1998). Both of these works contradict the misconception that phosphorus only moves off the landscape as a

function of erosion. Interestingly, the only original research article in this group of 1,000-plus citations, the article by Heckrath and colleagues, is a product of contradicting conventional knowledge and was produced from truly long-term research.

Looking back through these highly cited papers, one can easily spot the hot topics in environmental science and how they have evolved with time. No doubt new hot topics will emerge over the next 50 years, such as nanoparticles and engineered materials in the environment, gas emissions and methods to sequester carbon, precision management to balance multiple outcomes, combating antimicrobial resistance in the environment, and mitigation strategies to combat eutrophication.

Reviews, Environmental Issues Papers Encouraged in Addition to Original Research

Depending on an author's institution, a review paper may not be given as much "weight" as an original technical report on a specific experiment. However, given that the majority of JEQ's most highly cited papers are categorized as "review and analysis," a timely submission of this type can certainly benefit authors through increased recognition as measured by citations. We encourage submissions of both review and analysis and environmental issues manuscripts on anthropogenic activities that affect environmental quality.

In addition to reviews and environmental issues, JEQ is a great home for your original research since the Societies' partnership with Wiley has made JEQ more visible to a wider audience. Well-cited original research can be used during the promotion-and-tenure reviews (or in the case of USDA-ARS scientists during the research position evaluation system) as one metric to indicate relevance and use of your science.

Peer Review and Promotion

Before an article is published, it first goes through peer review. The peer-review process JEQ uses is vital to ensuring that the research appearing in each issue is sound. While we use expert reviewers in this process, we also recognize that new reviewers can be unsure if their thoughts on a manuscript are too harsh or too soft. When a manuscript is returned to the author, a copy of the comments to the author is also sent to the reviewer (blinded to the authors and other reviewers, of course). We believe this helps the novice reviewer better understand how their colleagues react to the science they have seen, and we have received positive feedback to this effect.

Another way JEQ serves authors is through its science communication program whereby members of the editorial board select certain papers to be promoted to broader audiences. The headquarters staff then turn these papers into a magazine article, press release, web story, social media post, and/or a podcast, reaching various intended targets such as fellow researchers, Certified Crop Advisers, the general public, news media, and others.

As the JEQ Editor, I strongly encourage you to consider our journal as an outlet for your research. The partnership with Wiley and the efforts of the headquarters staff are two great reasons to consider this. We truly believe that the science presented in JEQ not only has helped identify what and how anthropogenic activities affect environmental quality but has also been key in finding the practices and technologies to solve those very issues. We need your help to continue this tradition of being a part of the solution through your submission of original research, environmental issues, and review and analysis papers.

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