

Curriculum Vitae - Roy Brouwer

1. WEBSITES

Department website: <https://uwaterloo.ca/economics/profiles/roy-brouwer>

Water Economics Research Group: <https://uwaterloo.ca/water-economics-research-group/>

Value of Water Webinars: <https://www.youtube.com/playlist?list=PLyAbFdS0A6Ucyzt7MOvklde9KiMTeVQGX>

Google Scholar: <https://scholar.google.nl/citations?user=JFSDxH0AAAAJ&hl=en>

2. ACADEMIC TRAINING

2001 PhD Environmental Economics, University of East Anglia, United Kingdom

1993 MSc Agricultural Economics, Wageningen Agricultural University, the Netherlands

3. EMPLOYMENT HISTORY

2016-present	Professor, Department of Economics, University of Waterloo
2016-present	Adjunct Professor, Institute for Environmental Studies, Vrije Universiteit Amsterdam, Netherlands
2016-2026	Executive Director, Water Institute, University of Waterloo
2018-2025	University Research Chair Water Resource Economics, Department of Economics, University of Waterloo
2009-2015	Chair, Dept Env Economics, Institute for Env Studies, Faculty of Science, Vrije Universiteit Amsterdam
2011-2019	Visiting Professor, Swiss Federal Institute of Aquatic Science and Technology (Eawag), Zürich, Switzerland
2009	Visiting Professor, School of Resources and Env Management, Simon Fraser University, Vancouver, Canada
2008	Visiting Professor, Commonwealth Scientific and Industrial Research Organization (CSIRO), Canberra, Australia
2005-2009	Associate Professor, Dept Env Economics, Institute for Env Studies, Faculty of Science, Vrije Universiteit
1999-2004	Institute for Water Mgt and Wastewater Treatment (RIZA), Ministry of Water, Netherlands
1996-1999	Center for Social and Economic Research on the Global Environment (CSERGE), University of East Anglia, UK
1994-1996	Department of Environmental Statistics, Statistics Netherlands
1993-1994	Department of Agricultural Economics and Policy, Wageningen Agricultural University, Netherlands

4. HONOURS AND AWARDS

2024	International Water Association Best Scientific Book Prize (with coauthors)
2021	University of Waterloo, Faculty of Arts Award for Excellence in Research
2014	Nominated for the Heineken Prize for Environmental Sciences (by Faculty of Science, Vrije Universiteit Amsterdam)
2011	Fellowship Award Swiss Federal Institute of Aquatic Science and Technology (Eawag)
2008	Commonwealth Scientific and Industrial Research Organization (CSIRO) Fellowship Award 'Water for a Healthy Country'

5. PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- International Joint Commission's Scientific Advisory Board for the Great Lakes (2025-present)
- International Scientific Advisory Committee, Chinese Research Academy of Environmental Sciences (CRAES) (2018-present)
- Founding Editor-in-Chief, Journal of Water Economics (2026-present)
- Fellow of the Balsillie School of International Affairs (2019-present)
- Member of the editorial board of the Journal of Environmental Economics and Policy (2012-present)
- Founding Editor-in-Chief Elsevier journal Water Resources and Economics (2013-2025)
- EAERE representative in the Socio-Economic Assessment Committee (SEAC) of the European Chemicals Agency (2016-2025)

6. TEACHING

University of Waterloo (2016-present)

- Climate Change Economics (undergraduate and graduate level)
- Water Resource Economics (undergraduate and graduate level)
- Integrated Water Management (graduate level)

Vrije Universiteit Amsterdam (2009-2015)

- Ecosystem Services Valuation and Governance (graduate level)
- Sustainable Energy (graduate level)
- Capita Selecta Earth Sciences and Economics (undergraduate level)

7. MASTER STUDENT SUPERVISION (University of Waterloo)

- Danial Ahmed, Department of Economics (2026). Title Master Research Paper: From policy to practice: An analysis of wetland conservation in Ontario.
- Isaac Kofi Bekoe, Department of Economics (2026). Title Master Research Paper: Does financial development drive environmental quality in Ghana?
- Ibrahim Ahmed, Department of Economics (2025). Title Master Research Paper: An ARDL modelling approach to show the effects of temperature-rainfall variability on GDP in Bangladesh.
- Favour Ozordi, Department of Economics (2025). Title Master Research Paper: A case study on flooding in the Yukon: The role of hydrometric data and Indigenous collaboration.
- Wen Yuan, Department of Economics (2025). Title Master Research Paper: Unveiling the hidden value of peatlands: A global meta-analysis of non-market benefits.
- Xinyu Zhai, Department of Economics (2025). Title Master Research Paper: From drainage to restoration: Exploring the determinants of wetland management among Ontario farmers.
- Diana Cecilia Peña, Department of Economics (2024). Title Research Paper: Systematic literature review and analysis of the economic values of the ecosystem services provided by wetlands in Canada.
- Caroline Hill Smith, Department of Geography and Environmental Management (2023). Title Research Paper: Investigating the economic, environmental, and public health and safety implications of de-icing activities on University of Waterloo campus.
- Trang Vu Quynh Le, School of Environment, Resources and Sustainability (2022). Title thesis: Plastic pollution in the Canadian Great Lakes: Drivers, barriers and policy recommendations.
- Xingtong Ji, School of Environment, Resources and Sustainability (2022). Title thesis: Economic analysis of best management practices on agricultural land to improve water quality.

Research assistants:

- Carmen Then, Department of Economics (2026)
- Golshid Jarili, Department of Economics (2026)
- Samuel Attoh, Department of Economics (2025)
- Theodore van Cappellen, Department of Economics (2024)
- Huanyi Chen, Department of Electrical and Computer Engineering (2023/24)
- Kendra Shields, Department of Economics (2024)
- Narasimman Lakshminarasimman, Department of Civil and Environmental Engineering (2023/24)
- Avani Kapoor, Department of Economics (2023)
- Nick Xie, Department of Economics (2023)
- Jared Sandler, Department of Economics (2022)
- Xiaoxi Jin, Department of Economics (2020)
- Zhongxiao Leng, Department of Economics (2017)

8. PHD STUDENT SUPERVISION (COMPLETED)

Note: principal supervisor unless stated otherwise: * co-supervisor at other university.

- Khusro Mir (2025). Department of Economics, University of Waterloo. A theoretical and empirical investigation into Payments for Watershed Ecosystem Services.
- Jullian Sone* (2024). Department of Hydraulics and Sanitation, University of São Paulo, Brazil. Integrated water resources modelling in urban watersheds.
- Dilruba Sharmin (2023). School of Environment, Resources and Sustainability, University of Waterloo. Examining the relationship between climate change and migration and its socioeconomic implications in Dhaka, Bangladesh.
- Alireza Daneshi* (2022). Gorgan Univ Agri Sciences and Natural Resources, Iran. Modelling the impacts of climate and land use change on water security in forested watersheds.
- Zehua Pan (2021). Department of Economics, University of Waterloo. A theoretical and empirical investigation into the economic relationship between forested watersheds and water treatment costs.
- Leila Eaman* (2021). School of Environment and Sustainability, University of Saskatchewan, Canada. An integrated water resources management framework for robust decision-making in a transboundary river basin.
- Anders Dugstad* (2021). School of Economics and Business, Norwegian University of Life Sciences, Norway. Applying stated preference methods to value ecosystem services - Methodological challenges and validity tests.
- Markus Glatt (2023). Institute for Environmental Studies, Vrije Universiteit Amsterdam. Integrating discrete choice experiments into agent-based modelling of flood control measures.
- Hanna Dijkstra (2023). Institute for Environmental Studies, Vrije Universiteit Amsterdam. How sustainable business models and entrepreneurs are propelling the transition towards a sustainable plastic system.
- Solomon Tarfasa (2019). Institute for Environmental Studies, Vrije Universiteit Amsterdam. Using discrete choice experiments to inform environmental policy in a developing country context: case studies from Ethiopia.
- Mehmet Kutluay (2019). Institute for Environmental Studies, Vrije Universiteit Amsterdam. The value of (avoiding) malaria.
- Hilary Ndambiri (2018). Institute for Environmental Studies, Vrije Universiteit Amsterdam. Non-market valuation of motorized emission reductions and air quality improvements in Nairobi, Kenya.
- Tewodros Kahsay (2017). Institute for Environmental Studies, Vrije Universiteit Amsterdam. Towards sustainable water resources management in the Nile River Basin: A computable general equilibrium analysis.
- Matteo Mattmann (2017). Institute for Environmental Studies, Vrije Universiteit Amsterdam. Testing choice theory using discrete choice experiments in Swiss energy policy.
- Thu Ha Dang Phan (2016). Institute for Environmental Studies, Vrije Universiteit Amsterdam. Payments for Forest Ecosystem Services: Global and local assessments of costs and benefits .
- Bianca van der Kroon (2016). Institute for Environmental Studies, Vrije Universiteit Amsterdam. Climbing the African energy ladder: Internal and external factors influencing household demand for improved cookstoves and modern fuels in Sub-Saharan Africa.
- Tehmina Mangan* (2014). Department of Agricultural Economics, Sindh Agriculture University, Pakistan. Economic valuation of wetland: A case study of Keenjhar Lake in Sindh Province of Pakistan.
- Abonesh Tesfaye Tulu (2013). Institute for Environmental Studies, Vrije Universiteit Amsterdam. Institutional-economic incentives for sustainable watershed management in the Blue Nile River Basin.
- Thijs Dekker (2012). Institute for Environmental Studies, Vrije Universiteit Amsterdam. Preference uncertainty in stated choice experiments.
- Alireza Nikouei* (2012). Integrated economic-hydrologic modeling of water allocation and use in Zayandeh Rud River Basin with emphasis on evaluation of environmental and drought policies Shiraz University, Iran

Marije Schaafsma (2011) . Institute for Environmental Studies, Vrije Universiteit Amsterdam. Spatial effects in stated preference studies for environmental valuation.

Julia Martin Ortega* (2008). Department of Agricultural Economics, Finance and Accounting, University of Cordoba, Spain. Non-market environmental benefits of the Water Framework Directive: a spatial approach to the Guadalquivir river basin.

Aylin Tumay Bederli* (2008). Department of Environmental Engineering, Istanbul Technical University, Turkey. Benefit analysis approach as a tool for sustainable management - A case study in the Koycegiz-Dalyan watershed.

9. SELECTED RECENT PUBLICATIONS

Brouwer has published more than 180 journal articles that received approximately 22 thousand citations. Below are examples of recent publications.

1. Grafton, R.Q., Borgomeo, E.,, **Brouwer**, R. et al. (2026). Heterodox thinking on water economics, values, and governance. *Annual Review of Environment and Resources*, 51: in press. <https://doi.org/10.1146/annurev-environ-112624-021419>.
2. Ortuzar, I., Serrano, A., Xabadia, A., **Brouwer**, R. (2025). Balancing efficiency and inequality in a non-linear multi-regional water allocation optimization model. *Environmental and Resource Economics*, 88: 761–794.
3. **Brouwer**, R. et al. (2025). The role of probability information and choice complexity in demand for crop insurance under climate change. *Economics of Disasters and Climate Change*, 9: 519–546.
4. Sone, J.S., **Brouwer**, R., Oliveira, P.T.S., and Wendland, E. (2025). Downstream willingness to pay for upstream nature-based solutions to improve water security in a thirsty Brazilian megacity. *Water Resources Research*, 61(10): e2024WR039424.
5. Mir, K. and **Brouwer**, R. (2025). Testing the effect of ecosystem service and land classification on global values of forested watershed ecosystem services. *Forest Policy and Economics*, 181: 103667.
6. Suni, J., Konu, H., **Brouwer**, R., Komppula, R., Kortet, R. (2025). The economic value of fishing competitions in Finland – Insights from an online survey. *Leisure Studies*, 1–16.
7. Grafton, R.Q., Fanaian, S., Horne, J. , **Brouwer**, R. et al. (2025). Rethinking responses to the world’s water crises. *Nature Sustainability*, 8: 11-21.
8. van Grinsven, H.J.M., Gu, B., Rodríguez, A., Jones, L., **Brouwer**, R. et al. (2025). Valuing damages and benefits of the altered global nitrogen cycle; lessons for national to global policy support. *Environmental Research Letters*, 9(20): 094014.
9. Dugstad, A., **Brouwer**, R., Grimsrud, K., Kipperberg, G., Lindhjem, H., Navrud, S. (2024). Nature is Ours! – Psychological Ownership and Preferences for Wind Energy. *Energy Economics*, 129: 107239.
10. Rufo, E., **Brouwer**, R., van Beukering, P. (2024). The social costs of pesticides: a meta-analysis of the experimental and stated preference literature. *Scientific Reports*, 14: 31905.
11. **Brouwer**, R. (2023). Reconciling theory and practice in higher education water economics courses. *Applied Economics Teaching Resources*, 5(2): 1-16.
12. Liu, H. and **Brouwer**, R. (2023). What is the future of water quality trading? *Contemporary Economic Policy*, 41(1): 194-217.
13. **Brouwer**, R. et al. (2023). Costs and benefits of improving water and sanitation in slums and non-slum neighborhoods in Dhaka, a fast-growing mega-city. *Ecological Economics*, 207: 107763.
14. **Brouwer**, R. et al. (2023). Assessing the performance of marine plastics cleanup technologies in Europe and North America. *Ocean and Coastal Management*, 238: 106555.
15. Eamen, L., **Brouwer**, R. and Razavi, S. (2023). Testing the predictive power of hydro-economic supply-side Input-Output models under different water availability and economic conditions over time in a transboundary river basin. *Water Economics and Policy*, 09(01): 2340004.

16. Mitra, A., Balasubramanya, S., **Brouwer**, R. (2023). Can cash incentives modify groundwater pumping behaviors? Evidence from an experiment in Punjab. *American Journal of Agricultural Economics*, 105(3): 861-887.
17. Khedr, S., Rehdanz, K., **Brouwer**, R., Van Beukering, P., Dijkstra, H., Duijndam, S., Okoli, I.C. (2023). Public preferences for marine plastic litter management across Europe. *Ecological Economics*, 204(A): 107609.
18. Martín-Hernández, E.R., Garcia Hernandez, J.A., Gangapersad, S., Zhao, S., Omelon, S., **Brouwer**, R., Vaneekhaute, C. (2023). Multi-sectorial assessment of phosphorus in Ontario, Canada: Mapping flows and analysis of the potential for recovery and reuse. *Resources, Conservation and Recycling*, 197: 107108.
19. **Brouwer**, R. et al. (2023). Spatial optimization of nutrient reduction measures on agricultural land to improve water quality: A coupled modeling approach. *Canadian Journal of Agricultural Economics*, 71(3-4): 329-353.
20. Pan, Z., **Brouwer**, R., Emelko, M. (2022). Correlating forested green infrastructure to water rates and adverse water quality incidents: A spatial instrumental variable regression model. *Forest Policy and Economics*, 140: 102756.
21. **Brouwer**, R. et al. (2022). The Economic Value of the Brazilian Amazon Rainforest Ecosystem Services: A Meta-Analysis of the Brazilian Literature. *PLoS ONE* 17(5): e0268425.
22. Robinson, P.J., van Beukering, P., Brander, L., **Brouwer**, R. et al. (2022). Understanding the determinants of biodiversity non-use values in the context of climate change: Stated preferences for the Hawaiian coral reefs. *Ecosystem Services*, 53: 101393.
23. Liu, H. and **Brouwer**, R. (2022). Incentivizing the future adoption of best management practices on agricultural land to protect water resources: The role of past participation and experiences. *Ecological Economics*, 196: 107389.
24. Nguyen, L. and **Brouwer**, R. (2022). Fishing for Litter: Creating an economic market for plastic litter in a sustainable fisheries model. *Frontiers in Marine Science*, 9: 722815.
25. Eamen, L., **Brouwer**, R., Razavi, S. (2022). Comparing the applicability of hydro-economic modelling approaches in large-scale decision-making for multi-sectoral and multi-regional river basins. *Environmental Modelling & Software*, 152: 105385.
26. Garcia, J., **Brouwer**, R., Pinto, R. (2022). Estimating the total economic costs of nutrient emission reduction policies to halt eutrophication in the Great Lakes. *Water Resources Research*, 58(4): e2021WR030772.
27. Dijkstra, H., Beukering, P., **Brouwer**, R. (2022). Marine plastic entrepreneurship; Exploring drivers, barriers and value creation in the blue economy. *Sustainable Technology and Entrepreneurship*, 1(3): 100018.
28. Basu, N.B., Van Meter, K.J., Byrnes, D.K., Van Cappellen, P., **Brouwer**, R. et al. (2022). Managing nitrogen legacies to accelerate water quality improvement. *Nature Geoscience*, 15: 97–105.
29. Garcia-Hernandez, J.A. and **Brouwer**, R. (2021). A multiregional input-output optimization model to assess the economic impacts of water supply disruptions in the Great Lakes Basin. *Economic Systems Research*, 33(4): 509-535.
30. **Brouwer**, R. and Pinto, R. (2021). How much are Canadians willing to pay for clean surface and ground water? A meta-analysis of the Canadian non-market valuation literature. *Canadian Water Resources Journal*, 46(4): 207-228.
31. Dai, D., **Brouwer**, R. and Kun, L. (2021). Measuring the economic value of urban river restoration in China. *Ecological Economics*, 190: 107186.
32. Daneshi, A., **Brouwer**, R. et al. (2021). Modelling the impacts of climate and land use change on water security in a semi-arid forested watershed using InVEST. *Journal of Hydrology*, 593: 125621.
33. Dijkstra, H., van Beukering, P. and **Brouwer**, R. (2021). In the business of dirty oceans: Overview of startups and entrepreneurs managing marine plastic. *Marine Pollution Bulletin*, 162: 111880.
34. Pan, Z. and Brouwer, R. (2021). A theoretical modeling framework to support investment decisions in green and grey infrastructure under risk and uncertainty. *Journal of Forest Economics*, 36(4): 407-440.
35. Zeng, Q., **Brouwer**, R. et al. (2021). Measuring the incremental impact of Payments for Watershed Services on water quality in a transboundary river basin in China. *Ecosystem Services*, 51: 101355.

36. Eamen, L., **Brouwer**, R., Razavi, S. (2021). Integrated modelling to assess the impacts of water stress in a transboundary river basin: Bridging local-scale water resource operations to a river basin economy. *Science of the Total Environment*, 800: 149543.
37. Christensen, A., Tsiaras, K., Murawski, J., Hatzonikolakis, Y., She, J., St. John, M., Lips, U., **Brouwer**, R. (2021). A cross-disciplinary framework for cost-benefit optimization of marine litter cleanup at regional scale. *Frontiers in Marine Science*, 8: 1607.
38. Zhang, Q. and **Brouwer**, R. (2020). Is China affected by the resource curse? A critical review of the Chinese literature. *Journal of Policy Modeling*, 42(1): 133-152.
39. **Brouwer**, R. and Neverre, N. (2020). A global meta-analysis of groundwater quality valuation studies. *European Review of Agricultural Economics*, 47(3): 893-932.
40. Eamen, L., **Brouwer**, R. and Razavi, S. (2020). The economic impacts of water supply restrictions due to climate and policy change: a transboundary river basin supply-side input-output analysis. *Ecological Economics*, 172: 106532.
41. **Brouwer**, R. and Tarfasa, S. (2020). Testing hypothetical bias in a framed field experiment. *Canadian Journal of Agricultural Economics*, 68(3): 259-373.
42. Logar, I., **Brouwer**, R. and Campbell, D. (2020). Does attribute order influence attribute information processing in discrete choice experiments? *Resource and Energy Economics*, 60: 101164.
43. Schaafsma, M. and **Brouwer**, R. (2020). Substitution effects in spatially explicit discrete choice experiments. *Environmental and Resource Economics*, 75(2): 323-349.
44. Nobel, A., Lizin, S., **Brouwer**, R., Bruns, S., Stern, D., Malina, R. (2020). Are biodiversity losses valued differently when they are caused by human activities? A meta-analysis of the non-use valuation literature. *Environmental Research Letters*, 15: 073003.
45. Dijkstra, H., Beukering, P., **Brouwer**, R. (2020). Business models and sustainable plastic management: A systematic review of the literature. *Journal of Cleaner Production*, 258: 120967.