

Our Principal Areas of Research

- **Assessing Water Quality-**
developing frameworks for predicting the responses of our waters to land-use and environmental changes
- **Assessing Water Values-**
evaluating multiple demands for water, the values associated with ecosystem services and the economic costs and benefits of water use
- **Ecosystem Goods and Services-**
assessing how these human responses will affect the tradeoffs and synergies between ecosystem services, and in turn, how these may influence future human decisions
- **Best Management Practices-**
providing advice on how stakeholders can improve water quality through changing their behaviour
- **Catchment Management and Planning-**
assessing how catchments can be managed to satisfy multiple objectives, including how best to engage multiple stakeholders
- **Sustainable Flood Management -**
investigating the economic, environmental and social implications of flooding and flood risk management

For more information on our research activities, please visit:

macaulay.ac.uk/water

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Water

@ the Macaulay Land Use Research Institute



Nationally Important

The Macaulay Land Use Research Institute's Catchment Management programme is unique. We operate at the interface between natural and social sciences to support the protection of natural water resources.

We understand the need for collaborative and integrated management processes that include issues such as governance, stakeholder engagement and adaptive management.

Our research studies the ways that land use can affect water resources and their quality with the complexity of an integrated water resource management approach reflected in our understanding of the need for shared catchment management processes, including issues such as policy making, stakeholder engagement and management practices.

Consultancy

Our specialist consulting services cover all aspects of water and its management including:

- **water quality and quantity of surface and ground water**
- **ecology**
- **geomorphology**
- **socio-economic aspects at the local, catchment and national scale within the UK and abroad**

For more information visit: macaulay.ac.uk/mscl

Internationally Relevant

The Macaulay Land Use Research Institute is an international leader in integrated catchment science and we transfer our skills and expertise through collaborations with universities and research organisations across the globe.

Policy Instruments

In the Philippines, stream water pollution is related to the management of intensive swine production. Our expertise on the use of economical as well as environmental policy instruments helped to improve water quality, increase uptake of waste minimisation and treatment strategies and encourage productive, sustainable and equitable intensification practices in Laguna Province.

Public Health

In Vietnam, our research on drinking water is being used to link environmental sciences to public health. Working with small-scale metal recycling communities in the Red River Delta, we are investigating the contribution of water supplies to overall dietary exposure to metals and how this relates to the health of local people.

Biological Diversity

In many African countries the links between water resource management, the conservation of biological diversity and sustainable employment and working practices are poorly known. Our work on these complex issues in a trans-boundary setting within the Mara River, has helped to develop policy initiatives amongst existing water resource management programmes in Kenya and Tanzania.

Nutrient Delivery

In Brazil, future policy-making in the Pantanal has been enhanced by work focussing on the prediction of the extent and dynamics of the 'flood wave', the dynamics of the transport of nutrients to the water from urban and rural sources and by identifying ecological stress triggers through engagement with local landowners and stakeholders.

Institutional Design

In partnership with CSIRO, we have compared and contrasted Australian policy mechanisms and regulatory standards to the Water Framework Directive to help identify areas for improvement in both Australia and Europe.