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# Annual Report

2006-2007

**PROGRAM ON WATER GOVERNANCE**

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Master's Student Suzanne Moccia conducting interviews in low-income peri-urban areas in Buenos Aires, Argentina  
Photographer: Walter Santucho

## MISSION

The mission of the Programme on Water Governance (PoWG) at the University of British Columbia is to conduct basic research on water management, to engage the wider community in outreach and education on water issues, and facilitate dialogue on water governance between universities, communities, government, NGOs and the private sector. The PoWG is co-hosted by the Department of Geography and the Institute of Resources, Environment and Sustainability at UBC.



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- At the local level, a boil-water advisory affected more than a million residents of Greater Vancouver in November 2006, and the rainforest tourist destination community of Tofino almost shut down due to a lack of water.
- Bottled water lost out to tap water in board rooms and council chambers across the country.
- Debates raged about water privatization, groundwater depletion, the oil industry's use of water, and whether water trade is yet again on the agenda in Canada-US trade talks.
- Globally, the fourth assessment Report of the United Nations Intergovernmental Panel on Climate Change highlighted the enormous impact climate change will have on water resources.

As we continue our research and outreach activities we invite you to visit our website for regular updates throughout the year ([www.wateregovernance.ca](http://www.wateregovernance.ca)). Additional contact information is included at the end of this report.



## ONGOING RESEARCH- FOCAL AREAS

The programme was launched in 2006, and focuses on these areas:

### 1) Innovations in Canadian water governance

Weak governance is at the heart of Canada's water problems, and the Programme seeks solutions for more sustainable water management. Governance of Canada's water resources is evolving rapidly, with an increased emphasis on collaborative, integrated and local level management. Researchers at PoWG are currently examining the feasibility of alternative governance models for groundwater protection and source protection (such as watershed councils).

### 2) Transboundary water governance

Canada and the US have many arrangements governing transboundary water. Researchers at PoWG have compiled a detailed database on transboundary water governance, presented in tabular and map format on our website ([www.water-governance.ca](http://www.water-governance.ca)). This research demonstrates the wide variety of transboundary water agreements in existence at the national and local level. Research completed this year indicates that the number of local transboundary cooperation agreements has increased significantly over the past decade, suggesting a dramatic change in the way transboundary waters are governed. Current research is focusing on comparative groundwater governance in BC and Washington State.

### 3) Municipal water governance

Through Infrastructure Canada (INFC) funding, PoWG research is examining the effect of changing governance structures on the uptake of water conservation in municipal water supply infrastructure in Canada. The first phase of the project focuses on the province of Ontario, and analyzes the effects of de-regulation

of the electricity sector, Ontario's new water legislation, and the restructuring of provincial-municipal relations and funding on water management. The second phase, which will be completed in 2008, will conduct a pan-Canadian analysis of water conservation and governance.

### 4) Water and Development

Lack of access to clean water supply is a major cause of morbidity and mortality in developing countries, and is an increasingly acute problem for residents of rapidly growing, large cities. Research at PoWG on this pressing global issue is currently focused on changing patterns of water governance in the city of Jakarta, Indonesia.



Woman and child collecting water from community water tap in Cuartel V, Argentina  
Photographer: Natasha Sacouman



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**Dr. Karen Bakker**, an Associate Professor in the Department of Geography and an Associate of UBC's Institute for Resources, Environment, and Sustainability, is the Director of

the Program. Her most recent book is an edited collection addressing critical Canadian water governance issues (Eau Canada, UBC Press, 2007).



**Alice Cohen** is a doctoral student in the department of resource management and environmental studies. Her research focuses on transboundary groundwater and the role of regulation in

on-the-ground decision-making.



**Kathryn Furlong** is a doctoral student in the department of geography. Her research focuses on sustainability under neoliberalism, with a focus on relationships between demand

management and governance reform in Ontario's municipal water supply sector.



**Michelle Kooy** is a doctoral student in the department of geography. Her research focuses on the politics of water supply and issues around equity of access in developing countries.

Her recent research was undertaken in Jakarta, Indonesia.



**Suzanne Moccia** is a master's student in the department of geography. Her research focuses on urban water governance in South America, with a particular emphasis on Buenos Aires.



**Emma Norman** is a doctoral student in the department of geography. Her research focuses on transboundary water governance across the Canada-US border and examines how governance

mechanisms change with time and how bioregions are socially constructed.



**Linda Nowlan** is an environmental lawyer and a Faculty Research Associate at the Institute of Resources, Environment and Sustainability at UBC. Her work focuses on water governance

and groundwater protection. She is a member of the Canadian Council of Academies' Expert Panel on Groundwater, and the Gordon Water Group.

## WORKSHOPS

The Programme organized and hosted five workshops over the past eighteen months, on topics ranging from source protection to utility restructuring. More detailed information and reports from all the workshops listed below are available at [www.watergovernance.ca](http://www.watergovernance.ca).

**April 14th, 2006 - Transboundary Water Governance.** This workshop brought together 35 water management professionals and representatives from municipal, provincial, state, federal and tribal/First Nations governments to debate barriers and drivers for transboundary water governance in the BC-Washington region.

**November 24th and 25th, 2006 - Watersheds and Source Protection: Governance, Science, and Health.** This Exploratory Workshop of approximately 20 Canadian and international water experts sought to address questions such as: Should we adopt a risk-based watershed management approach to public health aspects of source protection? What governance mechanisms, at which scales, are required for implementation?

**April 13, 2007 - Water Governance in Transition: Utility Restructuring and Demand Management in Ontario.** This workshop of 30 experts analyzed the significant changes in municipal supply governance in Ontario over the last decade, including the impact of the Walkerton Inquiry, the pressures of aging infrastructure, and heightened awareness of the links between poor water quality

and public and environmental health.

**May 14, 2007 - Groundwater Extraction and Ecosystem Protection.** Provincial groundwater permitting systems in Canada vary considerably. This workshop was a continuation of work that began in 2005, and concentrated on how to account for ecosystem needs and environmental protection in groundwater permitting systems. Attended by over 50 experts from federal, provincial and local governments, as well as academic researchers, practitioners and conservation group representatives, the workshop identified current issues and best practices.

**May 15, 2007 - Groundwater Governance in the Gulf and San Juan Islands.** This workshop was based on case study research and offered an opportunity for a policy comparison in nearly identical physical environments, as well as an opportunity for islands on each side of the international boundary to exchange information that may lead to more effective and pragmatic water governance.



Poor water governance poses health risks in many peri-urban areas in the global South. POWG researchers are working in Jakarta and Buenos Aires (pictured here) to document the links between lack of access to public services, poverty, and health. Photographer: Natasha Sacouman

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Dr. Bakker was commissioned by the United Nations Development Programme to prepare a background paper in support of the 2006 Human Development Report, which focuses on the links between water and development.

- Graduate student Alice Cohen and Karen Bakker assessed the efficacy of groundwater governance in BC's Gulf Islands, and compared the state of groundwater governance on the Canadian side of the border to American practices. These research results were published in a report to British Columbia's Ministry of the Environment, which is in the process of updating and expanding groundwater regulations in the province.

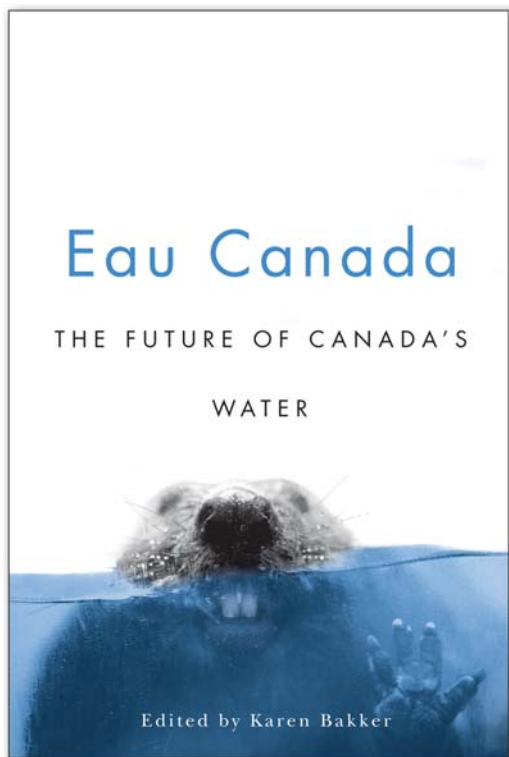
- A multi-university research team led by Karen Bakker prepared a comprehensive report advising Natural Resources Canada on the key water management challenges facing Canada, and potential policy responses.

- Dr Bakker and Kathryn Furlong completed the first of two policy reports for Infrastructure Canada on the relationship between governance, water utility restructuring, and water conservation. Based on extensive fieldwork, a national survey, and an expert workshop, the first report focuses on the case of Ontario. The second report, due out in 2008, will be national in scope.

- Dr. Bakker collaborated with an international team at the United Nations Educational, Scientific and Cultural Organization (UNESCO) on an ongoing initiative on water conflicts. The publication was highlighted by UNESCO at the 2006 World Urban Forum.

- Linda Nowlan assisted a coalition of conservation groups and water experts, led by the Sierra Club of Canada and the Polis Project on Ecological Governance, and brought together by the Walter and Duncan Gordon Foundation, with the writing and release of “Changing the Flow: Federal Action to a National Water Strategy”, a call for greater federal leadership on water.

- Morris, T.J, D.R. Boyd, O.M. Brandes, J.P Bruce, B. Lucas, T. Maas, L. Nowlan, R. Pentland, M. Phare, and M. Hudon, Changing the Flow: A Blueprint for Federal Action on Freshwater (2007) The Gordon Water Group of Concerned Scientists and Citizens.



## **NEW BOOK - EAU CANADA: THE FUTURE OF CANADA'S WATER**

An edited book, Eau Canada, was published by UBC Press in the fall of 2006. This book brings together 28 of Canada's top water experts to debate Canada's most critical water issues, and to map out solutions. The book was launched by UBC Press in November 2006. Dr. Bakker (the editor), has spoken about Eau Canada at numerous events across the country (including a Royal Society of Canada conference in Ottawa, and events in Victoria, Vancouver, and Toronto).

## **ACADEMIC CONFERENCE PRESENTATIONS**

As part of the key function of the PoWG as an academic program, faculty and students participated in numerous scholarly conferences and events over the past year. A selected list of conference presentations is set out below.

A. Cohen and K. Bakker (2007) "Effective Groundwater Management in the Gulf Islands (BC) and the San Juan Islands (Washington). Canadian Water Resources Association Annual Conference. June.

Bakker, K. (2007) 'The commons versus the commodity: 'Alter'-globalization, privatization, and water in the global South' Annual Meeting of the Association of American Geographers, San Francisco. April.

E. Norman and K. Bakker (2007) Transgressing Scales: Water Governance across the Canada-US Borderland. Session: More Than a Line on a Map: Border Geographies across the Globe. Annual Meeting of the Association of American Geographers, San Francisco. April.

C. Hill, Furlong, K., Bakker, K., and Cohen, A. (2006) Emerging Issues in Water Governance and Legislation in the Canadian Provinces and Territories. Paper presented at the Canadian Water Resources Association annual conference. Toronto, June 4.

E. Norman and K. Bakker (2006) 'Transboundary water governance across the Canada-US borderlands'. Paper presentation at the Annual Association of American Geographers meeting (Chicago, March .

K. Furlong and K. Bakker (2006) Poster presentation. Annual Meeting of the Canadian Water Network, Montreal, November.





A. Cohen and K. Bakker (2006) Transboundary water management in the Gulf and San Juan islands. Poster presentation, Annual Meeting of the Canadian Water Network, Montreal, November.

## PUBLIC SPEAKING ENGAGEMENTS

PoWG faculty spoke at seven public events in order to disseminate research results and engage the public in ongoing dialogue about water governance issues.

- Commercialization, Corporatization, and Private Sector Participation: The water governance challenge. National Water Sustainable Strategy Workshop. Pollution Probe. Winnipeg, February 6th/7th, 2006. (Bakker)
- Water in the City Conference, Victoria, BC September 17-20, 2006 (Bakker and Nowlan)
- Vancouver Public Library's Speak Up series: Water Privatization: Is the Glass Half Full or Half Empty? October 3 and 11, 2006 (Bakker)
- Royal Society of Canada Symposium on Water, Ottawa. November 16, 2006 (Bakker)
- Panel Discussion on Groundwater and Groundwater Legislation in BC, Simon Fraser University, Halpern Centre, Burnaby BC. March 6, 2007 (Nowlan)
- Presentation at DFAIT workshop on 'Canada-United States Transboundary Water Relations'. Ottawa March 9, 2007 (Bakker)
- World Water Day event, SFU Harbour Centre, Vancouver March 21, 2007 (Bakker)

## ACADEMIC PUBLICATIONS

As part of their ongoing academic work, researchers at the PoWG have published the following academic articles over the past year.

Bakker, K. (2007) 'The commons versus the commodity: 'Alter'-globalization, privatization,

and the human right to water in the global South' *Antipode* 39(3), 430 - 455.

Bakker, K. (2007) 'Trickle down? Private sector participation and the pro-poor water supply debate in Jakarta, Indonesia' *Geoforum*. 38(5), 855 - 868.

Bakker, K. (2007) Conflicts over water supply in Jakarta, Indonesia. Barraque, B. (ed) *Urban Water Conflicts*. Taylor and Francis.

Bakker, K. (2007) 'Neoliberalising Nature?' in Heynen, N., Robbins, P., Prudham, S., and McCarthy, C. (eds) *Unnatural Consequences: The False Promise of Neoliberal Environments*. Routledge.

Bakker, K. and G. Bridge (2007) 'Regulating resources' chapter in Robinson, J., Cox, K., and Low, M. *Handbook of Political Geography*. Wiley.

Bakker, K. and G. Bridge (2006) 'Material Worlds: Materiality and the 'matter of nature' Progress in Human Geography. (contribution: 60%) (first author; contribution 60%), 30(1), 1 - 23.

Bakker, K., Babiano, L., and Giansante, C. (2007) 'La mercantilización del agua' Spronk, S., and Crespo, C. (eds) *Después de las Guerras del Agua Bolivia*: Plural Press, 25 - 70.

Kooy, M. and K. Bakker (2006) Zersplitterte Netzwerke? Wasser, Macht und Wissen in Jakarta 1870-1945 (Splintered Networks? Water, Power, and Knowledge in Jakarta: 1870 - 1945) in Gandy, M. (ed.) *Hydropolis* Frankfurt: Campus Verlag, 265 - 293.

Bakker, K. 'Water is Life' (2006) in Laxer, G. (ed.) *Not for Sale* Toronto: Broadview Press, 141 - 156.





## ONGOING ADVISORY ROLES

### LINDA NOWLAN

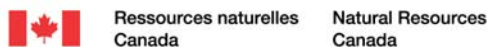
- Was appointed to the Council of Canadian Academies' Groundwater Science Expert Panel.
- Participates in the Water Management Expert Group for the development of the Township of Langley's water management plan.
- Participates on the Fraser River Conservation Leaders committee.
- Was a member of the province of BC's Integrated Community Sustainability Planning Advisory Committee.
- Sits on the Vancouver Foundation's Environment Advisory Committee.

### KAREN BAKKER

- Was commissioned to write one of a select group of background papers for the United Nations Development Programme's annual Human Development Report, which focused on water issues in 2006.
- Is a member of the Walter and Duncan Gordon Foundation's Fresh Water Resources Programme Advisory Committee.
- Writes regular briefs on North American water issues for Oxford Analytica, the global strategic analysis consulting firm.

In addition, the Province of British Columbia has commissioned Dr. Bakker and Ms. Nowlan to prepare a report on water governance models in support of their ongoing process of water governance reform. The advisory paper (a public document) will be released in the Fall of 2007, and posted on the programme's website.

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## PROGRAM ON WATER GOVERNANCE



# www.watergovernance.ca

## **The Program on Water Governance at UBC**

conducts basic research on water management, engages the wider community in outreach and education on water issues, and facilitates dialogue on water governance between universities, communities, government, NGOs and the private sector.

### **Contact**

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