



Program on Water Issues

# Underground Intelligence:

## The need to map, monitor, and manage Canada's groundwater resources in an era of drought and climate change

### Panel Member Biographies



#### Ed Struzik

Ed Struzik is a writer and journalist and a fellow at the Institute for Energy and Environmental Policy at Queen's University in Canada. A regular contributor to Yale Environment 360 and several national and international magazines, he has been the recipient of the Atkinson Fellowship in Public Policy, the Michener Deacon Fellowship in Public Policy, the Knight Science Fellowship at MIT in Cambridge and the Sir Sandford Fleming Medal, which is award annually by the Royal Canadian Institute, the country's oldest scientific organization.



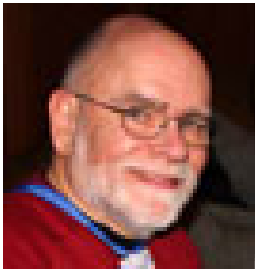
#### Dr. W.L. (Vic) Adamowicz University of Alberta, Canada

Vic Adamowicz is a Distinguished University Professor in the Department of Resource Economics and Environmental Sociology, Faculty of Agricultural, Life & Environmental Sciences, University of Alberta. He obtained his B.Sc. and M.Sc. from the University of Alberta (1981, 1983) and his Ph.D. from the University of Minnesota in 1988. His research has focused on the valuation of environmental amenities and ecosystem services and the incorporation of environmental values into economic analysis – with applications to forestry, water quality, air quality, endangered species and agriculture. His research also involves the analysis of choice behavior with applications to food demand, recreation, and environmental quality. Adamowicz is the research director of the Alberta Land Institute. He was the Scientific Director of the Sustainable Forest Management Network of Centres of Excellence, from 1998 to 2004. He was a Canada Research Chair (Tier I) from 2001 to 2008 and was an Associate Dean (Research) from 2007 to 2009. He was elected to be a Fellow of the Royal Society of Canada, Academy II – Social Sciences, in 2007. He became a Fellow of the Canadian Agricultural Economics Society in 2011. He was awarded the Canadian Institute of Forestry's Canadian Forestry Scientific Achievement Award in October, 2004. In 2001-2002, Adamowicz was a Gilbert White Visiting Fellow at Resources for the Future in Washington DC, and in 2011 he was an Erik Malmstem Visiting Professor at the University of Gothenburg.



**James P. (Jim) Bruce, M.A.**

Jim Bruce has long experience with Environment Canada, from research scientist through to Assistant Deputy Minister of Environmental Management (water, wildlife, forests) and of Atmospheric Environment Service (weather, climate, ice, air quality). In these positions he gained much experience in translating scientific findings into public policies on Great Lakes water quality, acid rain, climate change and other water issues. After leaving Environment Canada he served as a senior officer of the World Meteorological Organization, Geneva where he assisted in formation of the Intergovernmental Panel on Climate Change and in promotion in many countries of WMO's programs in water, climate, weather and disaster preparedness. He has subsequently worked in Canada on adaptation to climate change in three provinces and in the North, advised the International Joint Commission on Great Lakes-St. Lawrence River issues and chaired the Council of Canadian Academies' panel on Sustainable Groundwater Management. He is an Officer of the Order of Canada, a fellow of the Royal Society of Canada and has received honorary doctorates from Waterloo and McMaster University.



**Michael E. Campana, Ph.D.**

**Professor of Hydrogeology and Water Resources, Oregon State University**

Michael Campana is a former president of the American Water Resources Association and Professor of Hydrogeology and Water Resources Management at Oregon State University, and former Director of its Institute for Water and Watersheds. He formerly directed the Water Resources Program at the University of New Mexico, where he is now Emeritus Professor, and was a research hydrologist at the Desert Research Institute and professor at the University of Nevada-Reno. His expertise and interests include hydrogeology, hydrophilanthropy, water resources policy and management, WaSH (water, sanitation, and hygiene) in developing regions, and education. He founded and heads the nonprofit Ann Campana Judge Foundation (<http://www.acjfoundation.org>), which funds and undertakes WaSH projects in Central America. He is on the Board of Directors of the Calgary-based nonprofit Hydrogeologists Without Borders (<http://www.hwbwater.org>). At WaterWired, he blogs (<http://www.waterwired.org>) and tweets (<http://twitter.com/waterwired>) on water and related issues. He has a BS (geology) from the College of William and Mary and MS (hydrology) and PhD (hydrology; mathematics minor) degrees from the University of Arizona.



**William Fraser Donahue, B.Sc., Ph.D., LLB**

**Director of Science and Policy, Water Matters**

Dr. Bill Donahue is an environmental scientist, ecologist, and lawyer. His undergraduate degree was in physics and biology, and in 1990 he obtained a B.Sc. Specialization Certificate in zoology. After a few years as an officer in the Canadian Armed Forces (Medical Associate Officer), he returned to the University of Alberta and worked under Dr. David Schindler, Killam Memorial Professor of Ecology, obtaining his doctorate in environmental biology and ecology in 2000. Bill's first post-doctoral work was to help establish a research program on the dynamics of mercury in freshwaters and landscapes at the University of Alberta. He became a consultant in 2002, focusing on environmental and ecological studies. Bill has written or contributed to more than 30 scientific reports and papers, one of the best known being a paper he co-authored with Dr. David Schindler entitled "An Impending Water Crisis in Canada's Western Prairie Provinces," which appeared in the Proceedings of the National Academy of

Science in 2006. This paper reflects Bill's personal research interest in climate and human-induced changes in water supply in the western Canadian provinces. In 2008, Bill obtained a law degree at the University of Alberta and was called to the Alberta Bar in September 2009. In addition to consulting, Bill has frequently given his time to non-profit organizations, providing data analysis, reviews, or presentations for community and environmental groups on water supply or point-source contamination problems. He has also provided data analysis and interpretation to experts for presentation at public hearings, public talks, and professional meetings.



**Jay Famiglietti, Ph.D.**

**UC Center for Hydrologic Modeling, University of California, Irvine**

Jay Famiglietti is a professor at the University of California, Irvine, where he teaches in the Earth System Science and Civil Engineering departments. As Founding Director of the UC Center for Hydrologic Modeling, he and his research team use satellites to track water availability and groundwater depletion on land, and have been working for many years towards improving hydrological prediction in climate models like those used in the IPCC. Before joining UCI in 2001, Famiglietti was a faculty member in Geological Sciences at the University of Texas at Austin, where he helped launch the UT Environmental Science Institute. He is the past Chair of the Board of the Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI), the past Editor-in-Chief of Geophysical Research Letters, and he has been a Visiting Professor at Stanford University. Famiglietti, a Fellow of the American Geophysical Union, has briefed U. S. and world leaders on global water issues, and he appears as a featured expert in the 2012 water documentary 'Last Call at the Oasis'. He and his research group have published numerous papers and reports, and their work has been featured in several major international newspapers and magazines.



**Dr. Stephen Grasby, Ph.D.**

**Geological Survey of Canada (Calgary)**

Since completion of his Ph.D. at the University of Calgary in 1997, Dr. Grasby has worked at the Geological Survey of Canada on groundwater issues across western and northern Canada. He has led and participated on several regional groundwater projects, including projects in southern Manitoba, Alberta, the Okanagan Valley, and currently the Nanaimo Lowlands. In addition, he has conducted extensive research on the biogeochemistry of thermal and mineral springs across Canada, including several of the northernmost known springs in Canada's High Arctic. He was awarded the Queen Elizabeth II Diamond Jubilee Medal in recognition of his research in 2012.



**Steve Holysh, M.Sc.**

**The Oak Ridges Moraine Groundwater Management Program**

Steve graduated with an M.Sc. degree in hydrogeology from the University of Alberta. Upon graduation, consulting was the way to go and Steve spent five years with Gartner Lee Ltd. in their Markham, Ontario office before moving to the Regional Municipality of Halton just outside of Toronto. At the Region, Steve developed the Region's Aquifer Management Plan, a comprehensive regional plan to understand and manage the groundwater resource across Halton. In 2001 Steve moved to the Conservation Authorities Moraine Coalition, a group of nine Conservation Authorities with jurisdiction on the Oak Ridges Moraine. In this position, Steve is

primarily focused on the York Peel Durham Toronto groundwater program, a program to more fully understand and manage the groundwater resource across a broad area centred on the Oak Ridges Moraine. Steve has also served as the former president of the Canadian Chapter of the International Association of Hydrogeologists, on the Technical Experts Committee to establish the direction for the Ontario's source water protection program, and on the Council of Canadian Academies' panel to prepare the paper "The Sustainable Management of Groundwater in Canada" for the Federal Government.



**Bob Hyra, P. Ag.**

**Field Manager, Manitoba McCain Foods (Canada)**

Raised on a mixed grain and beef farm in Grandview Manitoba, Bob Hyra is a University of Manitoba grad. Since beginning his career in 1992, he has worked in the agriculture and food industry in a range of roles with Simplot Canada Ltd., Nestlé Canada Inc., and now McCain Foods (Canada). Bob joined the McCain team in 2005 and added the role of Environmental Coordinator on a major environmental project to his agricultural duties at the Carberry, Manitoba processing facility. Bob worked closely with all levels of government and the community while working on the project until its completion in 2010. While no longer having direct environmental responsibilities on a specific environmental project, Bob continues to promote sustainable agriculture and environmental initiatives through McCain's close relationship with their contract growers. Bob also serves on several government/industry cooperative boards including the Canada Manitoba Crop Diversification Centre and Assiniboine Delta Aquifer Advisory Board. Bob, his wife Sherrill-Lee and their two children, live in Brandon, Manitoba.



**Dave Newman, ACSt**

**Director of Engineering, Town of Gibsons**

Dave Newman is the Director of Engineering at the municipality of the Town of Gibsons on the British Columbia west coast. Included in his responsibilities is overseeing the management of the Town's assets, including the sustainable use of the Gibsons Aquifer. He first became exposed to groundwater issues when overseeing well drilling for irrigation at the City of Langford. In 2006 he and his family moved to Gibsons for a life-style change where he became heavily involved in ensuring the healthy future of the Town's untreated groundwater domestic water supply.



**Bruce Peachey, FCIC, P. Eng.**

**President, New Paradigm Engineering Ltd.**

Bruce is president of New Paradigm Engineering Ltd, in Edmonton, and has over 35 years experience in the upstream oil and gas industry, mainly on projects related to energy efficiency, water conservation and sustainable recovery of hydrocarbons. He spent 16 years with Imperial Oil with 12 of those years in oilsands related positions for Cold Lake and mineable oilsands, and the rest in conventional upstream oil and gas facilities and operational roles. Over the last 20 years he has worked through New Paradigm to address chronic sustainability problems in the oil and gas industry related to oil recovery, water management, methane vent reduction, energy efficiency and long-term R&D needs studies. He was a founding member of the Petroleum Technology Alliance Canada (PTAC) and is a sessional lecturer for "Oil and Gas Property Evaluation" 4<sup>th</sup> year Petroleum Engineering students, and "Environmental Stewardship – Energy, Carbon and Water" for the Environmental Resource Management program, Faculty of Extension, at the University of Alberta.





**David Sharpe, Ph.D.**

**Geologist, Geological Survey of Canada**

David Sharpe has mapped glacial sediments across Canada for the last 40 years. He is part of an inter-disciplinary team of specialists in remote sensing, geophysics, terrain analysis, sedimentology, hydrogeology, and GIS databases. This basin-analysis expertise has been applied to the regional hydrogeology of areas across Canada such as the Oak Ridges Moraine and Prairie buried valleys, and, presented to a range of scientific, public and legal audiences.



**Richard Thomsen, M.Sc.**

**Chief Consult, GEUS (Geological Survey of Denmark and Greenland)**

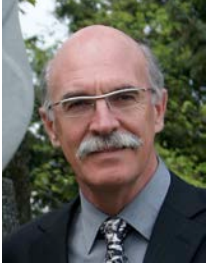
Richard Thomsen graduated with an M.Sc. in Hydrogeology and Geophysics, from Aarhus University, Geological Institute, in 1974. From 1974 to 1985, he served as the Hydrogeologist- Geophysicist for Aarhus County, where he was the project manager for all aspects of groundwater mapping and protection, and was responsible for organizing of the groundwater sections work development and collaboration with the County Council, the public, companies, and universities. From 1986 to 2006, he served as the Head of the Department of Groundwater in Aarhus County. During this time, Richard initiated The Danish National Groundwater Mapping and Protection Program in 1998, and acted as the technical adviser for the Environmental Appeal Board, High Court, from 1990. He became the Head of Department, Department of Groundwater and Quaternary geology mapping at the GEUS in 2007, a role that he held until 2013 when he became Chief Consult for the GEUS. In 1992, he was granted the initiative prize by the Danish Waterworks Association for pioneering contribution for computer use in geological research and presentation; and he was also the first candidate to receive G. O. Andrup's Groundwater prestige full prize in 2007.



**Scott Vaughan**

**President and CEO, International Institute for Sustainable Development**

Scott Vaughan assumed the duties of President and CEO in April, 2013. He had been Canada's Commissioner of the Environment and Sustainable Development since 2008. During that period, Mr. Vaughan tabled a number of audits and studies to Canada's Parliament, on topics such as climate change adaptation and mitigation, the cumulative impacts of oil sands development, inspections of oil and gas pipelines, freshwater management and sustainable development strategies of the federal government. Previously, he was the Director of the Department of Sustainable Development of the Organization of American States (OAS) in Washington, D.C., a Visiting Scholar at the Carnegie Endowment for International Peace, the Head of Economics and Environment at the NAFTA Environment Commission, and Counsellor at the World Trade Organization (WTO) in Geneva. He also held various positions with the United Nations Environment Program (UNEP), including initiating the UNEP Financial Initiative, Deputy Chief of the UNEP environmental economics division, and policy advisor to the UNEP Executive Director. In the late 1980s, he worked in the Economic and Corporate Affairs department of the Head Office of the Royal Bank. Mr. Vaughan has post-graduate degrees from the London School of Economics, the University of Edinburgh and Dalhousie University, as well as an undergraduate degree from Mount Allison University.



**Gilles Wendling, Ph.D., P.Eng.**

**Consultant, Fort Nelson First Nation, British Columbia**

Gilles Wendling grew up in France and graduated from the University of Grenoble. Gilles has completed a study of both the water demand and the water supply for over 100 villages in southern Mauritania after which he desired to become an expert on water wells. He then completed a Ph.D. on the design of water wells, where he researched how to improve both the groundwater flow to wells and well efficiency through development (Ecole Polytechnique University of Montreal, 1991). Since, Dr. Wendling has designed hundreds of wells. Dr. Wendling has been involved in over 1,000 projects as a consultant, half of them dealing with contaminated groundwater and the other half dealing with drinking water. Therefore, he is very knowledgeable about the various aspects of water source identification and protection, water vulnerability, migration and remediation of groundwater contaminants, and aquifer and watershed management. Dr. Gilles Wendling has over 25 years of experience in consulting and he started GW Solutions Inc. in 2005. Dr. Wendling has given numerous presentations on groundwater, aquifer sustainability, and watershed management at conferences and workshops, to schools and universities, and presented a series on groundwater on Radio Canada. Dr. Gilles Wendling is a co-author of the book "Groundwater Resources in Canada", to be produced by NRCan (Rivera et al.) in 2013. He has also started a foundation/charity (Global Aquifer Development Foundation) to create partnerships with developing countries and assist them in implementing groundwater management and protection systems. GADF has merged with Hydrogeologists Without Borders.



**David Zetland, Ph.D.**

**Senior Water Economist, Wageningen University**

David Zetland is a senior water economist in the Department of Environmental Economics and Natural Resources at Wageningen University in the Netherlands where he is working on an EU-funded project, "Evaluating Economic Policy Instruments for Sustainable Water Management in Europe." David received his Ph.D. in Agricultural and Resource Economics from UC Davis in 2008. He was a S.v. Ciriacy-Wantrup Postdoctoral Fellow in Natural Resource Economics and Political Economy at UC Berkeley from 2008 to 2010. He blogs on water, economics and politics at [aguonomics.com](http://aguonomics.com) and is the author of *The End of Abundance: economic solutions to water scarcity* (2011).