

# MATTHEW McCANDLESS

## Executive Director, IISD Experimental Lakes Area

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As the founding chief executive of IISD Experimental Lakes Area, Matt’s primary responsibilities are with the administration and operation of the world’s only whole-ecosystem freshwater research facility. This involves oversight of research and field station operations, administration, human resources, and fundraising.

Matt’s research interests are primarily in the areas of hydrology, water quality, biofuels and bioproducts ecosystem goods and services, and climate change adaptation—often combining both policy and technical research. Since joining IISD in 2006, Matt has been involved in dozens of projects on water and agriculture in Canada, Africa (East, West, and Central), Asia (India and Bangladesh) and Latin America.

Prior to joining IISD, Matt worked as a consulting engineer and managed projects on hydrology, water quality, drainage, environmental assessment, wastewater treatment systems, municipal water and wastewater distribution and collection, and prepared related regulatory applications. Working with several First Nations in northern Manitoba, Matt investigated the hydrologic and environmental impacts of large-scale hydroelectric development. During his graduate research, Matt studied rural electrification with small-scale hydroelectric projects in Indo-Tibetan tribal villages in the state of Uttarakhand, India. He is registered as a professional engineer in the province of Manitoba.

## Employment

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2014-present	IISD Experimental Lakes Area Executive Director (founding)
2006–2014	International Institute for Sustainable Development, Winnipeg, Canada Bioeconomy Team Leader (2012-2014), Project Manager (2008-2012), Project Officer (2006-2008)
2003–2006	GENIVAR/Cochrane Engineering Ltd., Winnipeg, Canada Junior Project Engineer
2000–2002	Junior Project Engineer Duncan Associates Ltd., Winnipeg, Canada

## Education

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Doctor of Philosophy – Biosystems Engineering (in progress)	University of Manitoba	
Master of Natural Resources Management	University of Manitoba	2007
Bachelor of Engineering – Biological/Environmental Engineering	Dalhousie University	2001

## Languages

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English and French (fluent)

## Selected Publications

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Murphy, D., **McCandless, M.** and Drexhage, J. (2010). Expanding Agriculture's Role in the International Climate Change Regime: Capturing the opportunities. Winnipeg: IISD

Murphy, D., **McCandless, M.** and Drexhage, J. (2010). The Emerging International Climate Change Regime: Opportunities and challenges for the Canadian agricultural sector. Winnipeg: IISD

Voora, V., **McCandless, M.**, Roy, D., Osborne, B. and Venema, H. D. (2010). Water Quality Trading in the Lake Winnipeg Basin: A multi-level trading system architecture. Winnipeg: IISD

**McCandless, M.**, Venema, H. D., Barg, S. and Osborne, B. (2008). Full Cost Accounting for Agriculture (Final Report) – Valuing public benefits accruing from agricultural beneficial management practices: An impact pathway analysis for Tobacco Creek, Manitoba. Winnipeg: IISD

**McCandless, M.** and Venema, H. D. (2007). Environmental Farm Planning and National Farm Stewardship Programs: Beneficial Management Practices and Greenhouse Gases Mitigation and Sequestration, Final Report. Winnipeg: IISD

**McCandless, M.** and Venema, H. D. (2007). Portraying Agricultural Greenhouse Gas and Carbon Sequestration in Environmental Farm Planning Workbooks. And, Emitting the Message: Greenhouse Gas and Carbon Sequestration Awareness through Environmental Farm Planning Workbook. Winnipeg: IISD

**McCandless, M.** and Venema, H. D. (2007). GHG BMP Funding Gaps and Other Funding Sources. Winnipeg: IISD

**McCandless, M.** and Venema, H. D. (2007). GHG Emerging On-Farm BMPs. Winnipeg: IISD

**McCandless, M.** and Venema, H. D. (2007). Integrated Watershed Management and Water Budgeting in Manitoba: Technical Memorandum. Winnipeg: IISD

Thrift, C., **McCandless, M.** and Venema, H. D. (2008). Bioproducts and Climate Change in Manitoba. Task 1-C: Assessing Climate Change Impacts on Agricultural Production, Task 2-B: Development of Life Cycle Analysis for Bioproducts. Winnipeg: IISD

Thrift, C., **McCandless, M.** and Venema, H. D. (2008). Managing Bioproducts and Climate Change in Manitoba: Final Report. Winnipeg: IISD

Thrift, C., **McCandless, M.** and Venema, H. D. (2008). Bioproducts and Climate Change in Manitoba. Task 1-B: Climate Change Impacts on Manitoba Agriculture, Task 2-B: Review of Life Cycle Analysis. Winnipeg: IISD

Thrift, C., **McCandless, M.** and Venema, H. D. (2008). Bioproducts and Climate Change in Manitoba. Task 1-A: Characterization of Feedstocks, Task 2-A: Identification of Product Cycles of Interest. IISD

Écoressources (Nolet, Sauvé, Brunelle, Olar), IISD (**McCandless, Venema**) and IRDA (Gagné, Tamini). (2007). Analyse des coûts et des avantages relatifs aux options possibles en vue d'une politique de biens et services environnementaux (BSE). Deuxième rapport d'étape : Évaluation des coûts associés à deux des politiques étudiées : les paiements uniques et les paiements annuels

Écoressources (Nolet, Sauvé, Brunelle, Olar), IISD (**McCandless, Venema**) and IRDA (Gagné, Tamini). (2007). Analyse des coûts et des avantages relatifs aux options possibles en vue d'une politique de biens et services environnementaux (BSE). Premier rapport d'étape : Cadre analytique et définition des scénarios: choix des BSE prioritaires, des niveaux visés de chaque BSE, des PGB associés et des politiques reconnues comme efficaces pour l'adoption des PGB choisis

## Conference Papers and Presentations

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**McCandless, M.** and Voora, V. (2011). The Lake Winnipeg Basin Summit. Red River Basin Commission Conference, Fargo, North Dakota, January 19, 2011.

**McCandless, M.** (2010). Ecosystem Services in the Bioeconomy: Balancing Sustainable Development Priorities. Green Crop Network Workshop, Saskatoon, Saskatchewan, June 23, 2010.

**McCandless, M.** (2010). The Demand for Biofuels and Landscape Impacts. Prairie Conservation and Endangered Species Conference. Winnipeg, Manitoba, 26 February 2010.

**McCandless, M.** and Venema, H. D. (2010). Ecological Goods and Services around the world: Threats and opportunities. Manitoba Conservation Districts EGS Workshop, Portage la Prairie, Manitoba, March 24, 2010.

**McCandless, M.** and Drexhage, J. (2009). International Carbon Market Mechanisms and Agriculture: Is there Any Role for (Organic) Farming? Avalon Conference on Organic Agriculture and Climate Change, Sofia, Bulgaria, September 29, 2009.

**McCandless, M.** and Venema, H. D. (2009). Climate Change – Impacts, Adaptation and Vulnerability. Manitoba Habitat Heritage Corporation Annual Meeting. Winnipeg, Manitoba, 4 March 2009.

**McCandless, M.** and Venema, H. D. (2008). Land Management and Water Policy: Making the Link. Manitoba Conservation Districts Association Convention. Brandon, Manitoba, 2 December 2008.

**McCandless, M.** and Venema, H. D. (2008). Ecosystem Services and Agriculture: IISD's Experience on Agri-Environmental Policy Research. Canadian Agricultural Economics Society Workshop: What Makes Agricultural Economics Research Relevant for Policy Advice. Ottawa, Ontario, 25 October 2008.

**McCandless, M.** and Venema, H. D. (2007). Applying the Water Soft Path Concept for Agro-ecosystem Adaptation in Prairie Canada. International Conference on Adaptive and Integrated Water Management. Basel, Switzerland, 14 November 2007.

**McCandless, M.** and Venema, H. D. (2007). Towards the Water Soft Paths Approach for Manitoba. Current Perspectives 07: 5<sup>th</sup> Canadian River Heritage Conference. Winnipeg, Manitoba, 11 June 2007.

**McCandless, M.,** Sinclair, J. and Diduck, A. (2005). Development and Sustainability with Small Hydroelectric Plants in Remote Villages in the Indian Himalayas: Successes and Challenges. Environmental Studies Association of Canada 12<sup>th</sup> Annual Conference. London, Ontario, 3 June 2005.

**McCandless, M.,** Sinclair, J. and Diduck, A. (2004). Public Participation Initiatives for Small Hydro in the Chamoli District of Uttaranchal, India. Shastri Indo-Canadian Institute SHARP Program Project Update. Joshimath, Uttaranchal, India. 16 October 2004.

## Affiliations

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Canadian Society for Bioengineering

American Society for Agricultural and Biological Engineers

Soil and Water Conservation Association Society

Canadian Water Resources Association

Association of Professional Engineers and Geoscientists of Manitoba