



Canadian Water Network

Connecting
Water
Resources ...

Bringing
Research
to Life



Canadian Water Network Administrative Centre

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Acknowledgements



Networks of Centres of Excellence
NCE Program Directorate
Jean-Claude Gavrel, Director
Jean Saint-Vil, Program Administrator



Host Institution
University of Waterloo
Dr. David Johnston, President
Dr. Paul Guild, Vice-President, University Research



Our Mission

“To ensure Canada’s leadership role in the management and sustainable use of water resources, in the protection of human and aquatic ecosystem health and in sustaining economic growth in the technology and services sector.”

Connecting Water Resources ... Bringing Research to Life!

Water is a precious resource and clean, safe water is a fundamental determinant of health and quality of life. The effective management and stewardship of this vital resource requires the integration of a wide variety of concerns, interests and expertise.

The Canadian Water Network-Réseau canadien de l’eau (CWN-Rce) is all about bringing together the considerable and varied expertise in water issues across Canada to fundamentally improve our ability to manage and protect both human and environmental health.



water, (*n.*)

the colourless, transparent liquid occurring on earth as rivers, lakes, oceans, etc., and falling from the clouds as rain: it is chemically a compound of hydrogen and oxygen.

The Canadian Water Network-Réseau canadien de l'eau (CWN-Rce) is a consortium of university researchers, and industry and government partners who share a vision of providing Canadians with the cleanest, safest water possible.

Why a Water Network?

Globally, threats to the availability and quality of water are rapidly becoming an issue of paramount concern. And while Canada has enjoyed a reputation as a leader in water research and management, recent events have also highlighted the potential for water-related crises to strike closer to home. Solutions to these problems are complex. Progress clearly requires better coordination of many resources from across the scientific and social spectrum. In Canada, these resources include excellence in water-related research and a wealth of experience and knowledge in industry and many levels of government. The CWN-Rce provides a mechanism to pull together these many resources to create a true network of water expertise. The resulting benefits are clear: an increased ability to address the knowledge and technology needs of both the private and public sectors and an increased capacity to put them into practice through training of skilled professionals.

What We Do

The CWN-Rce develops and supports diverse, multidisciplinary research projects addressing critical water issues. The research program is national in scope and not driven by political agenda. There is an emphasis on the importance of considering the socio-economic aspects of water management in conjunction with scientific research. Leading researchers from across the country are brought together with representatives from private industry, government and non-government organizations, all with a common interest in addressing important water issues.

In addition to supporting research projects, CWN-Rce encourages active networking among water professionals, both within and external to the network, to identify and articulate water concerns and seek solutions. The results of CWN-Rce initiatives are not only of interest to the research community, but will also have practical relevance to those involved in water-related occupations and to the general public.



As Chair of the Board of Directors of the Canadian Water Network-Réseau canadien de l'eau (CWN-Rce), I am pleased to present its 2001/2002 Annual Report.

This first full year of operation was marked by several tasks consistent with start-up. Agreements were signed between 30 participating universities and research organizations, 112 network investigators, the University of Waterloo as Host Institution and the Networks of Centres of Excellence (NCE) Directorate in Ottawa. Under the direction of the CWN-Rce Scientific Director, Dr. Robert W. Gillham, research on 28 projects in 7 Strategic Research Themes was initiated with first year funding of \$2.83 million being distributed from NCE funds. In addition, I am pleased to report that 69 private corporations, government agencies and other groups and organizations became partners in the CWN-Rce research program through the provision of cash and in-kind support for specific projects. Their participation is essential to the continued success of the network.

The inaugural meeting of the CWN-Rce Board of Directors was held in Toronto on November 1, 2001. As Chair, I am both grateful for and proud of the level of support provided by the Directors during this first year of operation.

The CWN-Rce was officially launched on November 2, 2001. Mr. Andrew Telegdi, MP for Kitchener-Waterloo spoke on behalf of the Honourable Brian Tobin, Minister of Industry

and Minister responsible for the NCE program. Professor David Johnston, President of the University of Waterloo described the CWN-Rce as "a superb entrepreneurial network" which will "directly benefit communities in our region, across Canada and around the world".

I look forward with much anticipation to the coming year as the CWN-Rce works to fulfill its mandate. The network will consolidate and critique its current research program and will re-evaluate its strategic plan as presented in its original proposal to the NCE Directorate. It will explore new water-related issues to investigate, new ways to fund investigations and new partners to participate in these new initiatives.

I wish to thank the NCE directorate, University of Waterloo (our host), and all those people both within and beyond the CWN-Rce who have assisted with this very successful inaugural year.

William Borland

William Borland
Chair, Board of Directors
J.D. Irving Ltd.
Saint John, NB

SCIENTIFIC DIRECTOR'S Message >



The Canadian Water Network-Réseau canadien de l'eau (CWN-Rce) was established through the Government of Canada's Networks of Centres of Excellence (NCE) Program to identify and address critical issues facing our nation in connection with the provision of clean water. The Network develops and supports diverse, multi-disciplinary teams of leading researchers from across the country to address these issues. These teams are brought together with representatives from private industry, government and public-sector organizations with a common interest in addressing important issues related to water resources.

For many years, Canada has enjoyed an international reputation as a land of pristine waters, and as a leader in water research and management. Events of the past few years have, however, put both the reputation and reality of our water-management record in jeopardy. Highly publicized occurrences of waterborne disease outbreaks and an increasing recognition of environmental damage to water bodies and aquifers have raised public awareness and heightened concern about the condition of Canada's water resources. Among the issues that have captured the attention of researchers and the public alike are: the presence of pathogens and chemical contaminants in our water and their effect on personal health and the environment; long-term impacts of our industrial, agricultural and municipal practices on the quality and sustainable use of water; problems associated with aging infrastructure; economic and technical challenges involved in providing safe drinking water, particularly for small communities; and the potential future impacts of climate change or bulk water exports.

In responding to these challenges, the principal role of the CWN-Rce is to foster an integrated, coherent and national vision for water management, and to provide the sound research foundation needed to contribute effectively and objectively to national policy deliberations and the development of regulations. The Network

will also benefit the Canadian economy through the training of highly qualified professionals involved in water-related industry, government and services, and through the support of innovation and development for water-related technologies. The CWN-Rce capitalizes on the considerable existing expertise of Canadian researchers in various aspects of water-related study. It also emphasizes the importance of considering the socio-economic aspects of water management in conjunction with scientific research. Leading researchers from various water-, economic-, and health-related fields have been brought together to form the multi-regional, multi-disciplinary collaborations needed to tackle the issues effectively. In addition to the financial support provided by the federal government's NCE Program, CWN-Rce receives funding and in-kind support from its partners in private industry, academia, non-governmental organizations, and many different government and public agencies at all levels from municipal to federal.

Research projects are grouped within seven strategic research themes. Because of their multi-disciplinary nature, many of the projects include elements and expertise that span several themes. The number of projects and researchers within the Network is expected to grow and the Network is expected to evolve over time to address new issues, or to provide greater emphasis on existing ones.

I wish to congratulate the many investigators presently active in the CWN-Rce on making an excellent beginning in the 28 research projects that have been initiated in this first year of operation.

A handwritten signature in cursive script that reads "Robert W. Gillham".

Robert W. Gillham
Scientific Director
NSERC Industrial Research Chair
in Groundwater Remediation
University of Waterloo

7

There are seven key themes on which the CWN's research focuses:

- [1] **Policy and Governance**
- [2] **Water Resource Management**
- [3] **Safe Drinking Water**
- [4] **Water and Public Health**
- [5] **Wastewater Management**
- [6] **Infrastructure**
- [7] **Groundwater and Sediment; Protection and Remediation**



1 Policy and Governance

Policy and governance has been set out as a separate research theme but research will be closely connected to initiatives in other themes. The objective is to stimulate the development of comprehensive and effective instruments for managing issues of water quality, quantity and allocation, sustainability in aquatic ecosystems, water-related health issues and commercialization of water resources.

On a broad scale, researchers will evaluate governance “instruments” at both provincial and federal levels and compare and contrast their effectiveness in providing sustainable management of water quality and quantity. Effective ways and means to have network activities influence policy formation will be evaluated.

2 Water Resources Management

Emphasis is placed on surface water quality monitoring and evaluation and the application of this information for effective management of water resources. Much of this work will be done on a watershed basis but in such a way that information, models and procedures developed will be used and compared across watersheds throughout Canada.

The cumulative effects and associated responses of watersheds to activities including hydroelectric, industrial, urban and agriculture activities will be evaluated in terms of assimilative capacity, water quantity and water quality, in particular, toxicity.

3 Safe Drinking Water

The research in this theme will address the provision of safe drinking water from two perspectives: assessing and protecting source water quality, and developing and evaluating improved treatment and distribution methods.

Many agencies have begun to look at source water protection as a cost-effective way of achieving improved water quality at the tap. Research will study source water quality by assessing the impact of watershed management with particular emphasis on municipal effluents and agricultural activities on the incidence of enteric disease.

4 Water and Public Health

Supplying clean drinking water to protect public health is a key research priority for Canadians. Research in this theme will focus on the links between the quality of water supplies, drinking water quality and public health.

Chlorination continues to be the most frequently used technology for controlling pathogens in Canadian drinking water. With this has come the concern for the health effects of halogenated disinfection by-products such as trihalomethanes. Research in this theme will develop novel methods for detecting these by-products and assessing their associated health risks.

5 Wastewater Management

Quantifying the linkages between water quality and wastewater discharges has remained an active research priority in Canada for many years due in part to increased and more complex industrial and agricultural activity together with improved detection and toxicity assessment methods. Research investigations in this theme will span a broad range of wastewater sources in several Canadian environments.



Funding is provided by the federal government under the
Networks of Centres of Excellence (NCE) program, a component of the
government's innovation strategy, to turn innovation into economic
and social benefits for all Canadians.

6 Infrastructure

In Canada, investments in water infrastructure including water treatment and distribution and wastewater treatment and disposal systems, constitute tens of billions of dollars with annual renewal/replacement costs estimated to be in the hundreds of millions of dollars. While it is well understood that significant new investment is essential to maintain these systems, there is a need for comprehensive studies to identify suitable technologies and to determine expenditure priorities.

The infiltration of drinking water distribution systems by pathogens has been identified as an important potential source of pathogen outbreaks in Canada. The role of different types of water distribution systems on pathogen outbreaks will be studied along with the conditions for pathogen survival in these systems.

7 Groundwater and Sediment; Protection and Remediation

Approximately one in four Canadians relies on groundwater as a source of potable water; yet few measures are in place to protect the quality of these groundwater sources. In North America, as in many other parts of the world, remediation of contaminated groundwater has become a major issue with cost estimates approaching one trillion dollars in the U.S. alone. Studies will be undertaken within this network to understand better the extent of contamination of Canadian aquifers, the processes by which they become contaminated and the ways in which prevention and remediation can be achieved.

Passive treatment using permeable reactive barriers is a promising method for removing various contaminants from groundwater at costs much less expensive than traditional pump and treat technologies. These barriers will be investigated in terms of effectiveness and applicability under various conditions. Their development has been largely a Canadian effort with strong potential for both environmental and economic benefit for Canadians.



1 Policy and Governance

THEME LEADER – **Graham Daborn**, Acadia University

Building Local Capacity to Provide Clean Water

Rob de Loë, University of Guelph; Reid Kreutzwiser,
University of Guelph; Graham Daborn, Acadia University

Multiple Objective and Multiple Stakeholder Decision Making in Water Resources Management

Keith Hipel, University of Waterloo

Governance and Policy Making for the Great Lakes Basin

Mark Sproule-Jones, McMaster University

Health and Social Benefits of Pathogen Reduction by Drinking Water Treatment

Diane Dupont, Brock University; Pierre Payment,
INRS-Institut Armand-Frappier

2 Water Resources Management

THEME LEADER – **James Byrne**, University of Lethbridge

Forecast Climate Change Impacts on Regional Hydrology and Water Supply in Canada

Jim Byrne, University of Lethbridge; Mohammed Dore,
Brock University

Understanding Potential Impacts of Development in Pristine Arctic Environments on Water Quality Using Nested Hydrological Studies

Mike English, Wilfrid Laurier University; Sherry Schiff,
University of Waterloo

Human Impacts on Water Quantity and Quality, the Implications for Ecological and Socio-Economic Processes, and Policy Development: From Glaciers to Oceans in the Saskatchewan River Basin

Leland Jackson, University of Calgary; Edward McCauley,
University of Calgary; JR Post, University of Calgary

Non-Point Sources of Pollution, Cumulative Effects and Mitigation in Urban/Rural Fringe Watersheds

Ken Hall, University of British Columbia; Hans Schreier,
University of British Columbia

The Influence of Agricultural and Industrial Emissions on Metal Toxicity in the Great Lakes and the Grand River Basin

David Lean, University of Ottawa; Chuni Chakrabarti,
Carleton University

Estimating the Assimilative Capacity of the Saint John River

Kelly Munkittrick, University of New Brunswick

3 Safe Drinking Water

THEME LEADER – **Peter Huck**, University of Waterloo

Agriculture, Ecology and Urban/Industrial Activities – Cause and Effect Associations in the Occurrence of Waterborne Pathogens

James Byrne, University of Lethbridge

Improving Disinfection Process Controls for Pathogen Inactivation Through the Use of Integrated Disinfection Design Framework and Standardized Bench-Scale Assays

Raymond Desjardins, École Polytechnique de Montréal

Pathogen Loadings at Drinking Water Intakes on a Heavily Impacted River: Assessing Urban and Agricultural Inputs

Peter Huck, University of Waterloo

Molecular-Based Detection of Waterborne Pathogens: Cryptosporidium parvum

Hung Lee, University of Guelph; Jack Trevors,
University of Guelph

Innovative Methods for the Detection of Pathogens and Evaluation of the Fecal Indexes of Microbial Pollution

Pierre Payment, INRS-Institut Armand-Frappier;
Roland Brousseau, NRC-Biotechnology Research
Institute

> 112 researchers

> 28 research projects in 7 inter-related themes

> 30 universities ranging from St. John's, NF to Victoria, BC

> 27 PhD students working on network research

> 45 Masters students working on network research

> 69 industry and government and other partners

4 Water and Public Health

THEME LEADER – **Steve Hrudehy**, University of Alberta

Novel Polar Disinfection Byproducts and Health Risk Tradeoffs for Drinking Water Disinfection

Ken Froese, University of Alberta

Watershed Events and Waterborne Transmission of Cryptosporidiosis

Judy Isaac-Renton, University of British Columbia

Speciation of Arsenic in Drinking Water and Health Effects from Arsenic Exposure

X. Chris Le, University of Alberta

5 Wastewater Management

THEME LEADER – **Eric Hall**, University of British Columbia

Surface and Groundwater Management in the Oil Sands Industry

George Dixon, University of Waterloo; James Barker, University of Waterloo

Small Scale Rural Wastewater Solutions Initiative

Robert Gordon, Nova Scotia Agricultural College; Graham Gagnon, Dalhousie University

Applications and Barriers to Innovation in Use of Advanced Oxidation Processes in Management of Wastewater

Cooper Langford, University of Calgary

Waterborne Pathogens: Occurrence in Wastewater, Removal by Treatment and Risk Assessment of Their Effect on Public Health

Pierre Payment, INRS-Institut Armand-Frappier

Impacts of Manure Management Practices on Regional Water Resources: Priority Areas, Alternative Management Approaches, Economic Implications

David Rudolph, University of Waterloo

6 Infrastructure

THEME LEADER – **Mohammed Dore**, Brock University

Water Infrastructure: Long-term Supply and Demand Management and Planning

Bryan Karney, University of Toronto; Mohammed Dore, Brock University

Impact of Infrastructure Management on the Contamination of Drinking Water with Pathogens

Michèle Prévost, École Polytechnique de Montréal

7 Groundwater and Sediment; Protection and Remediation

THEME LEADER – **Leslie Smith**, University of British Columbia

Coupling Between Rivers and Alluvial and Fractured Bedrock Groundwater Flow Systems

Tom Al, University of New Brunswick; Kerry MacQuarrie, University of New Brunswick

Permeable Reactive Barriers for Treatment of Dissolved Metals

David Blowes, University of Waterloo; Réjean Samson, École Polytechnique de Montréal

Contaminant Fate and Transport in Integrated Fractured Rock Subsurface and Surface Water Systems

JF Sykes, University of Waterloo; Edward Sudicky, University of Waterloo

Board of Directors

William Borland, Director of Environmental Affairs, JD Irving Ltd., Saint John, NB (Chair)

Robert Gillham, Scientific Director, Canadian Water Network, University of Waterloo, Waterloo, ON

John Carey, Executive Director, National Water Research Institute, Burlington, ON

Robert Dawson, Vice President, Environmental Process Engineering, Stantec Consulting Ltd., Victoria, BC

Gilles Fillion, President, John Meunier Inc., Saint Laurent, QC

Rick Findlay, Director National Water Program, Pollution Probe, Ottawa, ON

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Rod Raphael, Director, Health Canada, Ottawa, ON

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Maureen Reed, Associate Professor, University of Saskatchewan, Saskatoon, SK

Jean Saint-Vil, Program Administrator, Networks of Centres of Excellence, Ottawa, ON (Ex Officio)

Research Management Committee

Robert Gillham, Scientific Director, Canadian Water Network, University of Waterloo, Waterloo, ON

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Pat Chambers, Canada Centre for Inland Waters, Burlington, ON

Graham Daborn, Director, Acadia Centre for Estuarine Research, Acadia University, Wolfville, NS

Ralph Daley, UN University, International Network on Water, Environment and Health, McMaster University, Hamilton, ON

Mohammed Dore, Professor, Brock University, St. Catharines, ON

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Leslie Smith, Professor, University of British Columbia, Vancouver, BC

Allan Leslie Whitney, Canada Centre for Remote Sensing, NRCan, Ottawa, ON

Jean Saint-Vil, Program Administrator, Networks of Centres of Excellence, Ottawa, ON (Ex Officio)



“To assemble the necessary critical masses of intellectual resources
to solve important problems at the leading edge of science and technology,
and to put the new knowledge into practice.”

- THOMAS A. BRZUSTOWSKI, *Chair, NCE steering committee*

Researchers

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Cunjak, R.
Curry, A.
Haralampides, K.
MacLatchy, D.
MacQuarrie, K.
Munkittrick, K.
Ridler, N.

continued >>

University of Waterloo

Waterloo, ON

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Barker, J.

Blowes, D.

Bols, N.

Butler, B.

Dixon, G.

Eckel, L.

Greenberg, B.

Hipel, K.

Huck, P.

Power, M.

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Schiff, S.

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Wilfrid Laurier University

Waterloo, ON

English, M.

Lee, L.

Kilgour, M.

Partners

Agriculture and Agri-Food Canada

AHFMR

Alberta Environment, Fisheries Branch

Alberta Environment, Natural Resources
Service

Alberta Environment, Water Sciences
Branch

Alberta Environmental Protection

Alberta Health

Albian Sands Energy Inc.

Atlantic Coastal Action Program

BC Hydro

Bow River Basin Council

British Columbia Centre for Disease
Control

C-3 Environmental

Calgary Waterworks

Calgon Carbon Corp

Canadian Environmental Defence Fund

Canadian Network of Toxicology Centres

Chinook Health Region

City of Hamilton

City of Montreal

CRA Engineering Inc.

Crop Life Canada

Disaster Prevention Research Institute,
Kyoto University, Japan

Dunn Wildlife Fund

Environment Canada

Fisheries and Oceans Canada

Fraser Papers

GAP EnviroMicrobial Services

Golder Associates

Greater Vancouver Regional District

Hamilton Health Sciences Corporation

Health Canada

Indian and Northern Affairs Canada

Innu Nation, Labrador

International Joint Commission on
Great Lakes

Irving Pulp and Paper

Lethbridge Northern Irrigation District

Maine Department of Environmental
Protection

Manitoba Water Research Branch

National Hydrology Research Institute

Natural Resources Canada

New Brunswick Wildlife Trust Fund

New Brunswick Department of Natural
Resources

New Brunswick Science Mentorship
Program

New Brunswick Summer Career
Placement

Noranda

Nova Scotia Department of Agriculture
and Fisheries

Nova Scotia Environmental Farm Plan
Program

Nova Scotia Federation of Agriculture

Nova Scotia Soils Institute

Oldman River Water Quality Initiative

Ontario Ministry of Agriculture, Food and
Rural Affairs

Ontario Pork Growers

PERM Environmental

Pork Nova Scotia

Quebec Environment Ministry

Quebec Municipal Affairs Ministry

SSHRC

Suncor Energy Inc.

Syncrude Ltd.

The Canadian Institute for Environmental
Law and Policy

Tohoko University, Japan

Trojan Technologies Ltd.

Water and Earth Sciences Associates

To the Board of Directors of **Canadian Water Network**

We have audited the statement of financial position of the **Canadian Water Network** ["CWN"] as at March 31, 2002 and the statements of operations and net assets and cash flows for the year then ended. These financial statements are the responsibility of the CWN's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Canadian Water Network as at March 31, 2002 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Kitchener, Canada
August 22, 2002

Ernst + Young LLP
Chartered Accountants



Canadian Water Network

STATEMENT OF FINANCIAL POSITION

As at March 31	2002	2001
	\$	\$
ASSETS		
Current assets		
Funds held by the University of Waterloo	2,487,403	2,547,000
Accounts receivable	25,000	—
Total assets	2,512,403	2,547,000
LIABILITIES AND NET ASSETS		
Current liabilities		
Accounts payable	92,558	—
Due to the University of Waterloo	317,420	—
	409,978	—
Deferred contributions <i>[note 3]</i>	2,101,876	2,547,000
	2,511,854	2,547,000
Net assets		
Unrestricted	549	—
Total liabilities and net assets	2,512,403	2,547,000

See accompanying notes

Canadian Water Network

STATEMENT OF OPERATIONS AND NET ASSETS

As at March 31	2002	2001
	\$	\$
REVENUE		
Network Centres of Excellence grants	2,980,124	—
Other grants	25,000	—
	<u>3,005,124</u>	<u>—</u>
EXPENSES		
Research projects [note 4]	2,609,597	—
Salaries and benefits	100,763	—
Consultants	90,529	—
Office overhead	95,204	—
Communications/networking/meetings	85,258	—
Miscellaneous	23,224	—
	<u>3,004,575</u>	<u>—</u>
Net income	549	—
Net assets, beginning of year	—	—
Net assets, end of year	549	—

See accompanying notes

Canadian Water Network

STATEMENT OF CASH FLOWS

As at March 31	2002	2001
	\$	\$
OPERATING ACTIVITIES		
Excess of revenue over expenses	549	—
Changes in operating assets and liabilities		
(Increase) in accounts receivable	(25,000)	—
Increase in accounts payable	92,558	—
Increase in due to the University of Waterloo	317,420	—
(Decrease) increase in deferred contributions	(445,124)	2,547,000
Cash (applied to) provided by operating activities	(59,597)	2,547,000
Funds held by the University of Waterloo, beginning of year	2,547,000	—
Funds held by the University of Waterloo, end of year	2,487,403	2,547,000

See accompanying notes

1. DESCRIPTION

The Canadian Water Network ["CWN"] is one of 22 research networks funded by the Canadian Network Centres of Excellence ["NCE"] program. The CWN mission is to ensure Canada's leadership role in the management and sustainable use of water resources, in the protection of human and aquatic ecosystem health and in sustaining economic growth in the technology and services sector. The CWN fulfils its mission by developing, supporting and publicizing research initiatives on water-related issues important to Canada. The research is carried out by university investigators at numerous Canadian universities; financial support for the research is transferred from the Administrative Centre based at the University of Waterloo, to the investigators' universities. As allowed within the NCE guidelines, the CWN has not been incorporated as a separate legal entity, but functions as a unit within the University of Waterloo. The CWN does maintain separate reporting and management functions from the University of Waterloo.

The CWN develops and supports diverse, multidisciplinary research projects addressing critical water issues. Research undertaken by the CWN is grouped into seven theme areas: Policy and Governance, Water Resources Management, Safe Drinking Water, Water and Public Health, Wastewater Management, Infrastructure, and Groundwater and Sediment; Protection and Remediation. There is an emphasis on the importance of considering the socio-economic aspects of water management in conjunction with scientific research.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The following is a summary of the significant accounting policies followed in the preparation of the accompanying financial statements.

Funds held by the University of Waterloo

The CWN deposits its cash funds with the University of Waterloo. Funds are disbursed by the University of Waterloo on behalf of the CWN. Administrative expenses are paid originally by the University of Waterloo. These are repaid annually by CWN and are presented as a Due to the University of Waterloo in these financial statements.

Revenue recognition

The CWN follows the deferral method of accounting for contributions, which include donations and Network of Centres of Excellence Program grants. Unrestricted contributions are recognized as income in the year when received or receivable if the amount to be received has been committed in the year, can be reasonably estimated, and collection is assured. Restricted contributions are recognized as income in the year in which the related expenses are incurred.

Research grant expenses

Research grants are recorded as an expense in the year that the funds are disbursed to the various research institutions.

Use of estimates

The preparation of the financial statements, in conformity with Canadian generally accepted accounting principles, requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

3. DEFERRED CONTRIBUTIONS

	2002	2001
	\$	\$
Balance, beginning of year	2,547,000	—
Add amounts received in the year	2,535,000	2,547,000
Less amounts amortized to revenue in the year	(2,980,124)	—
Balance, end of year	2,101,876	2,547,000

4. RESEARCH PROJECTS

During the fiscal year ending March 31, 2002, the CWN distributed research funds in the amount of \$2,609,597 [2001 – \$NIL]. Funds were distributed in accordance with the Board of Director's approval and the Research Management Committee's review and approval of research projects.

5. RELATED PARTIES

[a] The University of Waterloo ["UW"] is party to the NCE funding agreement and functions as the Network Host for purposes of administration of the grant funding.

UW provides accounting and administrative support services as well as office space without charge to the CWN.

[b] The Entity paid a total of \$555,992 in research project grants to the University of Waterloo for approved research activities.

[c] As detailed in the Funding Agreement signed among the CWN, the University of Waterloo and the NCE, external funds received by the CWN are held in trust by the University of Waterloo.

6. INCOME TAXES

The CWN operates as a unit within the University of Waterloo. The University of Waterloo is a registered charity under Section 149 of the Income Tax Act and is, therefore, exempt from income taxes.