

PROFILE FOR
COMMUNITY
ACTION
SERIES



Troubled Waters: A Profile for Community Action

A Companion to Harmony Foundation of Canada's
Community Action Workshop Manual



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Extract from: Troubled Waters: A Profile for Community Action

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Introduction

Congratulations on taking an important step towards protecting water. Knowledge is power, and by understanding the vital importance of ensuring a safe and sufficient water supply, you can decide how your community can best add its efforts to the initiatives taking place across Canada and around the world.

You'll find this Profile offers what you need to know about water in clear, accessible language. The **Overview** explains issues of quality and availability of fresh water, why they are important, what's causing problems in Canada and around the world, and what can be done to improve the situation. At the back of the Profile, the **Water Fast Facts** provides a handy three-page summary.

You'll also find inspiration in the pages that follow. The **Success Stories** provide a wealth of ideas on how communities can take action to protect water. Read about what groups across Canada and internationally have done to conserve water, monitor, protect and rehabilitate bodies of fresh water, and manage resources in a sustainable manner. You'll also discover lots of resources for further information in each of these areas.

The **Personal Action Checklist** at the back of this publication has some excellent suggestions on changes you can make in your own life to protect fresh water on this planet.

If this Profile motivates you to action, you may want to consider some of the other publications and programs that Harmony Foundation offers. *Troubled Waters: A Profile for Community Action* is only the tip of the iceberg – there are an array of tools available to you through Harmony's Building Sustainable Societies program, outlined below.

The Program

As the diagram on page 3 illustrates, Building Sustainable Societies is a three-tiered program composed of training sessions, community action workshops, and local initiatives. The goal of the program is to provide community groups with the necessary knowledge and project planning skills to launch local biodiversity projects.

The Training Session

In our Training Sessions, we prepare community group representatives to run Community Action Workshops, by familiarizing you with the activities and facilitation techniques in our *Community Action Workshop Manual*. Contact us to find out if we'll be offering one in your region in the near future.

The Community Action Workshop

The Workshop provides your group with an opportunity to work together to learn more about a selected environmental issue, identify community assets and needs, articulate a vision to solve a particular problem of your choice, and develop an action strategy. Above all, it is an opportunity for your group to work as a team. You'll find a more detailed description and agenda for the Workshop on page 4.

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The Community Action Workshop Manual

This *Manual* is an ideal companion to the Profile you are now holding. While the Profile provides you with a clear understanding of fresh water issues, the *Community Action Workshop Manual* shows you how to take effective local action through a simple and tested project planning framework. Together, the *Community Action Workshop Manual* and *Troubled Waters: A Profile for Community Action* provide you with everything you need to tackle the threats to fresh water.

We hope you'll find a wealth of ideas and information in *Troubled Waters: A Profile for Community Action* and that you are inspired to act on the knowledge you will gain. Good luck in all your present and future endeavours, and remember that education is the starting point for global change.

As Margaret Mead famously remarked, never doubt that a small group of committed people can change the world – in fact it's the only thing that ever has.

Guiding Principles

Harmony Foundation's leadership training and educational materials are based on the following principles:

Values-Based

An examination of values provides the foundation required to effectively understand one's own and other's world views. From this understanding participants can consciously and conscientiously benefit from various perspectives and actions to generate innovative solutions.

Experiential

Experience is at the base of learning. The experiential learning cycle involves concrete experience, reflection on the experience, concept building and application, and it challenges people to rise beyond their current level of thinking and acting.

Holistic and Multi-disciplinary

Holistic education involves the whole person. It appeals to all dimensions of an individual (i.e., emotional, spiritual, intellectual, physical). A multi-disciplinary approach promotes learning through the integration of subjects. Effective social change education programs examine the interrelationships amongst many fields of study and amongst the various elements of societies.

Systemic

Understanding the systemic relationships between individuals, societies and the environment contributes to an integrated approach to problem solving. Everything we do affects something or someone else.

Cooperative

Cooperative learning is interdependent; we learn with each other and from each other. Both the facilitator and the participants contribute to the educational process.

Based on Critical Thinking

Critical thinking is a process, not a result. Critical thinkers aim to identify and challenge their own assumptions and knowledge about a particular topic or issue, along with information presented to them. They are open to forming new ways of viewing an issue and generating innovative solutions.

Situated within a Global Context

Community-based initiatives are central to effective environmental and social action, yet they must be understood within regional, national and global contexts in order to effectively bring about long-term change. Societal change must happen at all levels in order for initiatives to be truly supported by and integrated into societies.

An Overview of Water

Purpose

This overview is a call to action. Water, essential to all life, is threatened by overuse and contamination. Issues of scarcity, conservation, trade, pollution and protection require urgent attention.

Introduction

When we turn on the tap we take for granted not only that there will be water but that it will be clean and safe to drink. Yet we've put our fresh water under tremendous pressure, and not simply our drinking water, our lakes, streams, and groundwater are all showing signs of stress.

Water pollution has reached even the most remote areas of the globe. Airborne contaminants have been found in waters of northern Canadian, the Rocky Mountains and Antarctica (Kidd et al., 1995; Blais et al., 1998; Environment Canada 2001e). Sewage and agricultural runoff have choked rivers and lakes with plants that thrive on the extra nutrients and acid rain has led to further decline of water quality.

In Canada we use water in our homes and industries as if the supply was inexhaustible, but even in Canada water supplies in many areas can't keep up. And, lack of water continues to plague much of the world's population. About one fifth of the world's people don't have clean water to drink (Leslie, 2000). Almost one half don't have access to sanitation, living without underground sewage or latrines (Leslie, 2000). Lack of access to safe drinking water has taken a terrible human toll. Over 250 million cases of water-related diseases occur each year and lead to the deaths of 5-10 million people (Gleick, 2001a).

Growing demand for water is another major concern. Over-consumption of water has destroyed the Aral Sea, reduced the flow of many great rivers, including the Nile, Colorado and Yellow, and removed so much underground water in some areas that the ground itself is sinking (Leslie, 2000).

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The remainder of the Overview (pp. 9-25) covers the following topics:

Down the drain? Water uses in Canada

Agriculture, irrigation and the need for efficiency

Water war or peace

Privately-owned corporations and privately-owned water

Dilution is no solution to pollution

Are we meeting the standards?
.....

Community Success Stories

Purpose

This section offers a collection of stories about successful water initiatives from across Canada and around the world. The stories are organized into seven categories: education, conservation, pollution prevention, industry, agriculture, rehabilitation and improving access.

We hope that these stories will inform and inspire you and provide the practical information you need to get started on your own water initiatives.

Introduction

The following success stories cover a wide range of water projects making a difference thanks to the efforts of dedicated people like you.

Each story overviews who is involved, funding sources and challenges the organizers have faced. We've also included lists of resources to allow you to learn more about the issues and how to find help to start your own water saving initiatives. General references are provided at the end of our Community Success Stories.

The success stories cover a wide variety of topics and range from small-scale pilot projects to more ambitious undertakings from well-established programs. What all of these profiles have in common is that they have helped ensure that water is used in a sustainable manner, and that it is accessible for all.

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Pages 29-61 provide 16 Canadian and International Success Stories in the following categories:

- Education*
- Conservation*
- Pollution Prevention*
- Industry*
- Agriculture*
- Rehabilitation*
- Improving Access*

Samples from three Success Stories follow.

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Eco Education BC

Eco Education BC, Vancouver

Goal of Project:

To educate students about water, how it supports life and how humans use and impact water, and in doing so to inspire students to participate in water stewardship activities

Number of People-hours Involved:

Three full time staff for the water program

Length of the Project:

Water program has been running for 4 years

Budget:

\$650,000 per year for all programs (Water, Environmental Protection, Waste Reduction, Grizzly Education and Life Cycles)

Partnerships Involved:

Environment Canada, British Columbia Ministry of Water, Land and Air Protection, British Columbia Conservation Foundation

Major Funders:

British Columbia Ministry of Water, Land and Air Protection, National Science and Engineering Research Council of Canada and some additional funding from other agencies.

“For many students, water is something that comes out of the tap. It’s something they don’t think about in the larger picture or in the ecosystem” says Josha MacNab of Eco Education BC. But she adds, “water is the main component of all of our ecosystems and the foundation of all life. We work towards having students [understand this].”

Water education is one of the newer components of the Eco Education package that also addresses air, habitat, species and sustainability. The Eco Education program has been running for more than ten years. In the past, the group used mall displays and delivered the programs in gymnasiums to entire schools. Reaching young British Columbians class by class is their new approach. “We reach fewer students, but in a more effective way” said MacNab.

The group travels to classrooms across the province to teach students about the plentitude of water on earth, but the relative scarcity of freshwater. And the students learn about how we use freshwater. They discover that they use water not only for bathing and drinking, but also by using power, eating bread and reading books.

The water team focuses on teaching students about how to protect and conserve water. Students are shown simple ways to protect the environment, like using environmentally safe cleaners. The students are asked to tally the hazardous products in their homes and their classmates homes, and consider what would happen if these wastes were disposed of improperly. The

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students can add food colouring to a groundwater model to track the flow of these contaminants from soil waters and into lakes and streams.

Students are also taught how to put a bottle in a toilet tank to reduce the amount of water they flush, and they calculate how much water they can save, and their whole class can save with this simple change.

Feedback from teachers is remarkable. One hundred percent felt that their students were engaged and involved for the entire day, and 100% would recommend the program to colleagues. The program continues to evolve. The group is trying to maintain better connections with the classes and teachers once the day is over. In the past, says MacNab “we’d go to the schools, and the kids were really excited and have all these great ideas, but we really didn’t know what happened once we left.” With a greater effort to stay in touch MacNab has been pleased with the results. “We’ve found out that a lot of teachers have initiated follow-up programs in the classroom,” said MacNab.

The program is making a difference to children’s education and the British Columbia environment. “If you don’t have information, you can’t make choices,” says MacNab. “Students really need this information so they can make sustainable choices for the rest of their lives” says MacNab. So far Eco Education BC has given the information to make sustainable choices about water to almost 10,500 students at 400 schools.

Contact Information

Joshua MacNab
Programs Supervisor
Eco Education British Columbia
Suite 1101 – 207 West Hastings St
Vancouver BC V6B 1H7
Phone: (604) 683–0127
Fax: (604) 683–0190
Email: info@ecoeducation.bc.ca

Lake Ontario Keeper

Energy Probe Research Federation, Toronto

Goal of Project:

To serve as a pollution watchdog for Lake Ontario, protecting water quality while promoting the enforcement of environmental laws.

Number of People-hours Involved:

Estimated at 7,000 hours of staff and volunteer time. There are three full-time staff members, and numerous volunteers.

Length of the Project:

Started in 2001

Budget:

Budget for 2002 is \$150,000

Partnerships Involved:

Environment Hamilton, the Waterkeeper Alliance and others. The Lake Ontario Keeper works with local environmental groups around the lake.

Major Funders:

Grants from the Great Lakes Aquatic Habitat Network and Fund, Margaret Laurence Fund, Phelan Foundation, Percy Gardiner Foundation and individual donors.

Lake Ontario may be in better shape today than at any time in the past 50 years. If Mark Mattson can do anything about it, it's only going to get better. Mark Mattson is Lake Ontario's first lakekeeper. He's one of a group of environmental watchdogs watching out for water bodies across North America. Although the health of the lake is improving, Mark still has lots of work to do. Lake Ontario is probably the most contaminated of the five Great Lakes, and as Mark and his colleagues have discovered the lake still has many pollutants along its shores.

The idea for the Lake Ontario Keeper flowed from the Hudson River, New York, in the 1980s. The Hudson was being used as an open sewer. It changed colour, and even caught fire. Dead animals floating down river regularly punctuated its flow. A group of fishermen wanted the pollution to stop. The fishermen adapted a British idea, the riverkeeper, to the American problem. In England, a riverkeeper is a game warden who protects a private river from salmon poachers. In the United States, a riverkeeper has become a person who protects waters from pollution. There are now more than 70 riverkeepers in the United States.

Mattson is new to the job of lakekeeper. The Lake Ontario keeper program has only been running since 2001, but it is already making a tangible difference. Through the work of Mattson and his colleagues pollutants in the lake are getting caught and awareness is growing.

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The crew aboard the Angus Bruce, the lakekeeper's boat, has documented raw sewage flowing into the lake, and exposed contaminant-laden globules of coal tar, PCBs, ammonia and other toxic slurries. They have found leaks of radioactive materials, and most importantly, they have caused change.

Their approach is to name and shame. When the Angus Bruce and her crew cruise across contamination, they write a report. They send it to Environment Canada, but they also call the media, and local community and environmental groups. And, they've seen good results. Although the project has only been running for a year, the work of the lakekeeper has led to several government investigations.

The waterkeepers aren't afraid of legal challenges. The Hudson River group has won over 150 legal actions against polluters. The Lake Ontario keeper's group has stayed out of the courtroom so far. This group prefers using public pressure along with the threat of legal action to deter polluters, but will enter the courtroom if that's what is necessary to protect the lake.

The other job of the lakekeeper is education. Mattson and his group hope to get others to protect Lake Ontario's waters by teaching community groups about environmental investigation; instructing them on the basics, from water sampling to how to approach the courtroom. That way, the 'aquatic neighbourhood watch' won't just be based from the boat, but will involve people all along the shorelines of Lake Ontario, and the streams and rivers that flow into it. "Our role is not just to cheerlead, but to share techniques and methods, and ensure that the people using the water have the resources they need to protect it," said Krystyn Tully, Programs Director for the Lake Ontario Keeper.

In 2003 with the help of Environment Hamilton, they plan to add a second boat to patrol a pollution hotspot, Hamilton Harbour. They also plan to start patrolling the American side of the border.

The group's primary challenge has been finding the money to make the project run. But, through a number of grants and individual donors, they are keeping themselves on the water and on the lookout.

Contact Information:

Krystyn Tully, Programs Director

225 Brunswick Ave.

Toronto ON M5S 2M6

E-mail: Keeper@e-p-r-f.org

KrystynTully@nextcity.com

Web page: www.lakeontariokeeper.org

Water Supply for Maharashtra , India

BAIF, University of Windsor Earth Sciences, Windsor

Goal of Project:

Develop a year round drinking water supply

Number of People-hours Involved:

Seven full-time staff and numerous part-time contributors

Length of the Project:

1992-1997

Budget:

\$497,000

Partnerships Involved:

Tribal and rural people of Akole Taluka, Ahmednagar District, Maharashtra State, India

Major Funders:

International Development Research Centre (IDRC)

Half a million dollars is not a high price for hope. And that is what this project provides through water.

Life in the villages of Ambevangan, Manhere, and Titvi in rural India had always been difficult due to the scarcity of water. The communities depended on monsoon waters that flowed in abundance from June to September. Then, in the months that followed the waters dwindled, and often disappeared from local water supplies. Women and children had to walk further and further in search of water to meet their basic household needs.

The shortage of water contributed to health problems among the local people. Gastrointestinal illness and skin disorders were common. Food was also scarce. Without adequate moisture in the soil, crop yields were low and nutrition was poor. And according to Frank Simpson, a professor at the University of Windsor who was involved in the project, "young people left the villages as soon as they were able."

Although life is still difficult in Ambevangan, Manhere and Titvi, people have hope, along with water and food to sustain them.

From the outset of this project Simpson and his colleagues were committed to involving local people. Public meetings respected community residents and traditional practices. They worked hard to integrate local religious beliefs, traditional knowledge and local land management practices into the project. They recognized that for the project to be sustainable it would have to have the support of the local people, and would need to build upon existing knowledge

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within the communities. Simpson notes that gaining the trust of the local people was instrumental, and the BAIF field staff were invaluable in this regard.

Once Simpson and his colleagues understood the hydrology and geology of the area they identified suitable water conservation technologies. Then they went to the local people and asked them to help select technologies that were compatible with local knowledge and land-use practices.

With the assistance of local people, the groups built ridges, trenches and terraces that trap and divert monsoon waters underground. Dams and springs improved water access. Existing wells were deepened or repaired to tap the increased groundwater supply, and create a year-round supply for local use. Increases in soil moisture as a result of these changes led to increases in crop yields and local people were able to increase the area of cropland under cultivation.

The health and economic well being of the entire community has benefited from the project. People were taught to use latrines, wash their hands, and boil drinking water. These simple measures have contributed to the disappearance of many water-related diseases. Financially, not only do people now have sufficient and healthier foods, but they often have produce to sell at local markets.

Social changes also have resulted. Freeing women from the onerous task of water gathering, the project has allowed them to adopt new roles in the community. One group of women “has installed and now operates a flour mill, to replace the stone grinders that took so much of their energy and time. Another group manages the sale of grain and is active in the operation of a nursery. Freed from the drudgery of traditional water-related hardships, women are able to work for longer periods in the fields and are seen as full partners by the men,” says Simpson.

Young people are starting to stay in the villages. Simpson says young people “no longer automatically migrate to towns”, because they “regard staying home in their villages as a worthwhile option.”

People have not only embraced the new technologies, but have taken responsibility for maintaining them. This means that the people of Ambevangan, Manhere, and Titvi will have food and water to sustain them well into the future. “Empowerment through knowledge” – a dictum of the International Development Research Centre was illustrated in this project that built hope by improving the lives and skills of local residents.

Contact Information:

Frank Simpson, Professor of Geology
Earth Sciences, University of Windsor
Windsor ON N9B 3P4
Email: franks@uwindsor.ca

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*The final two sections of the **Profile** contain Fast Facts on Water and a Personal Action Checklist which provide practical actions each of us can take to protect water.*
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