

Water Innovations Education Program

November 13-14, 2013



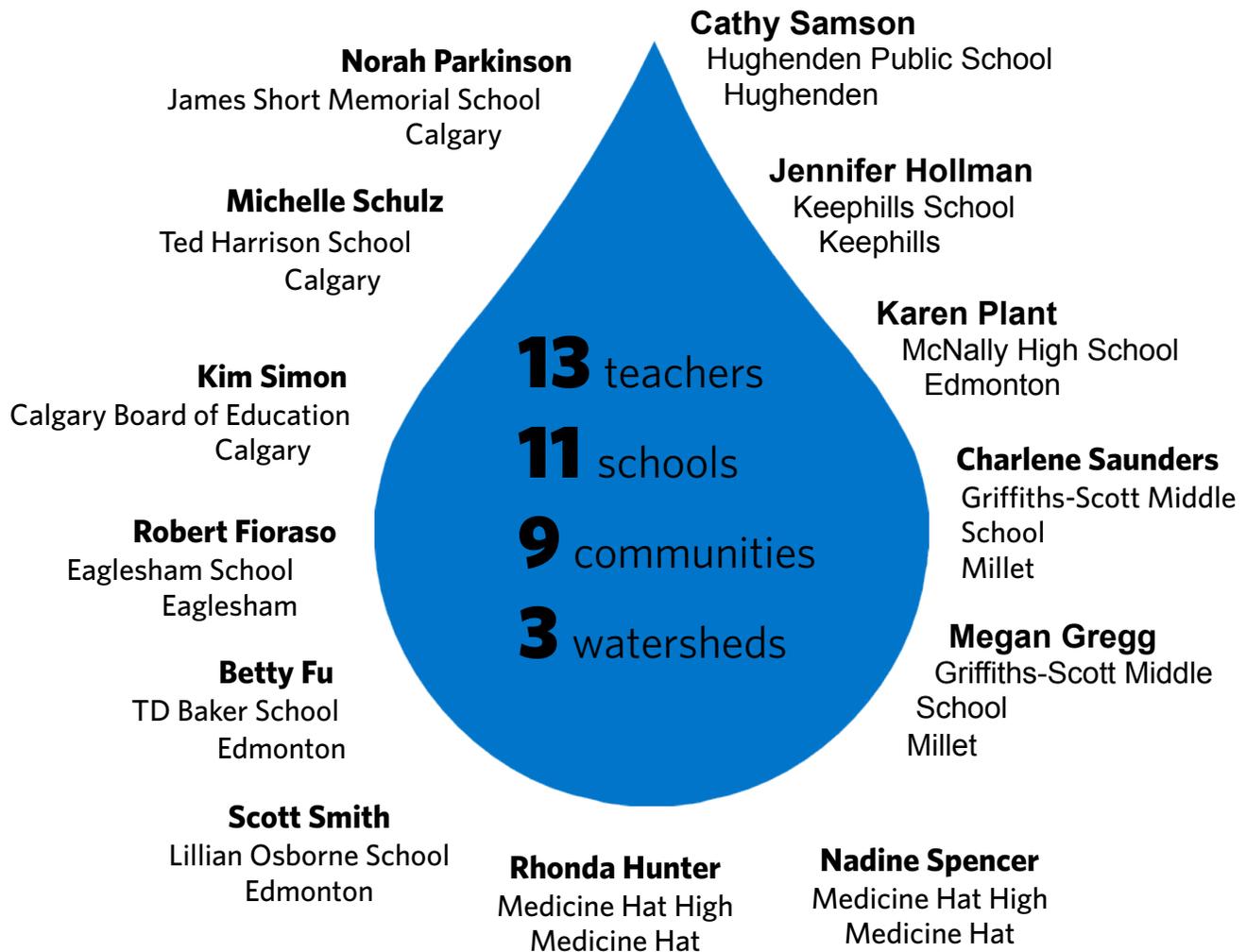
Offered in conjunction with the ATA Science Council Conference, the 2013 Water Innovations Program teacher professional development opportunity treated science teachers from across the province to a *whirlpool* of a tour with a variety of presentations and hands-on activities. Pulling from the conference's theme of "No Limits" the program was designed to highlight inspiring innovations in water research and management in Alberta. For one and a half days, teacher

Inside
education

participants were immersed in local, regional, and international water innovations ranging from unique community engagement processes to new technologies, all while staying within Edmonton. The tour started and ended at the ATA Science Council Conference host hotel, acting as a pre-conference intensive and fostering strong networking connections between teachers before they dove into the rest of the conference programming!

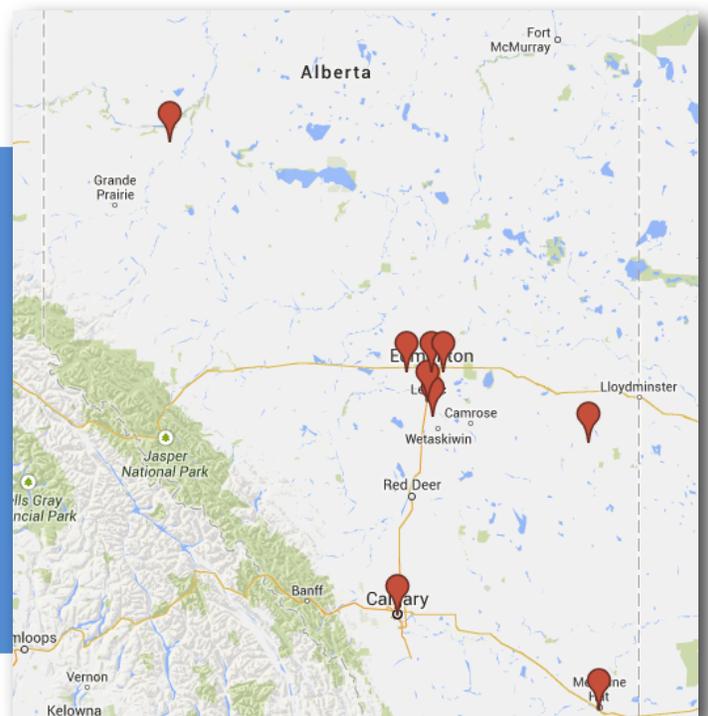


Our Participants



THESE TEACHERS:

- represent urban and rural schools
- teach a wide variety of grade levels
- represent a diversity in years' experience teaching



Our Program

Wednesday , November 13

Welcome and Introduction

Annette Cake & Milena McWatt

Around the Water Cooler featuring McNally High Navigate 2012 team

Pamela Learmond

Responsible Development in Alberta : Innovations in Water Management

Andy Ridge, *Director, Water Policy, Alberta
Environment and Sustainable Development, Government of Alberta*



Thursday, November 14

Technology and Citizen Engagement

Glenn Isaac, [North Saskatchewan Riverkeeper](#)



UNIVERSITY OF ALBERTA
WATER INITIATIVE

Nanomaterials for Water Remediation -

Dr. Greg Goss, *Department of Biological Sciences*

Water collaboration between the Netherlands and Alberta - Tim Donkers, *Wageningen University*

The University of Alberta's Water Initiative presented four speakers of over 100 multidisciplinary researchers whose work spans ecosystem biology, energy and the environment, water policy, resource economics, water treatment, toxicology and microbiology, northern and cold weather research, and nanotechnology and sensors.

Engage North - Janelle Morin & Keita Hill, *Faculty of Engineering, [Engage North](#)*

Athabasca River: Challenges and Opportunities - William Shotyk, *Department of Renewable Resources,*

[SWAMP](#) (Soil, Water, Air, Manure, Plant) Laboratory Tour

[Gold Bar Wastewater Treatment Plant Tour](#)

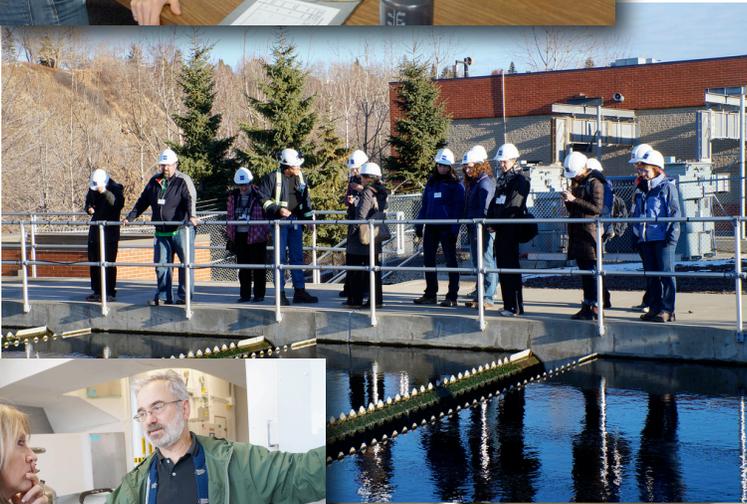
Water Quality Lab - Lena Bunzenmeyer - [RiverWatch](#)

Integrated Watershed Management - David Trew - [North Saskatchewan Watershed Alliance](#)

Our Partners

Inside Education deeply appreciates our partners who came together to make this teacher program an overwhelming success! The outpouring of time and support allowed us to offer a truly valuable professional development opportunity for science teachers across Alberta.

Thank you to all of the organizations that provided expert speakers, site tours, and classroom activities and resources for the *2013 Water Innovations Education Program*. A special thank you to the partners who provided the financial support that made this program possible:

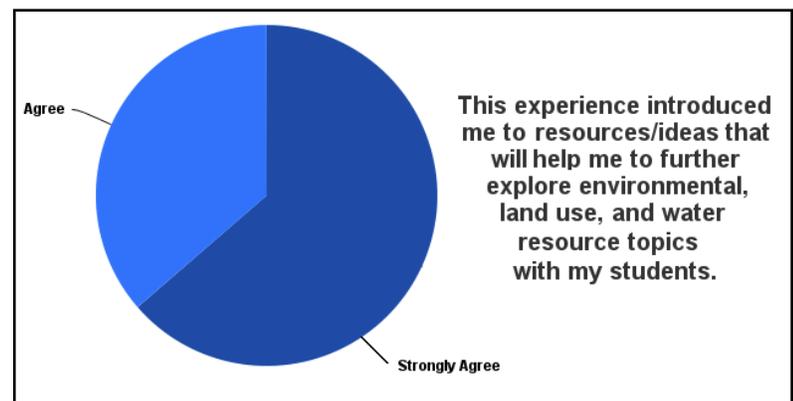
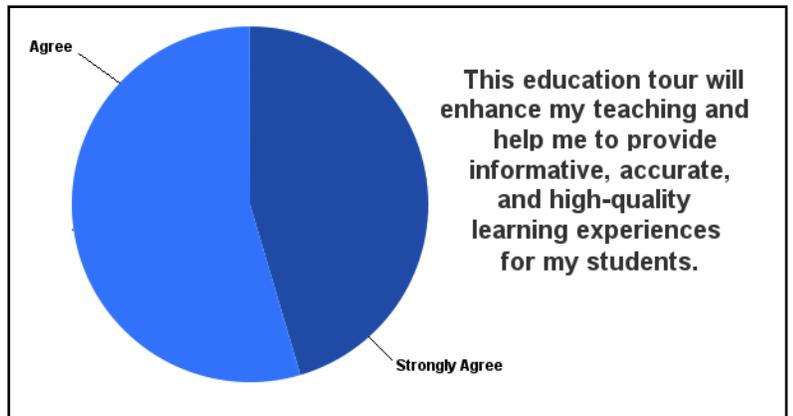
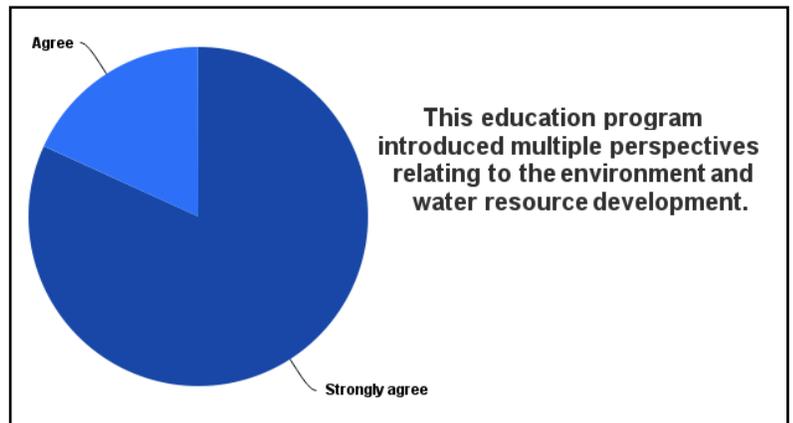
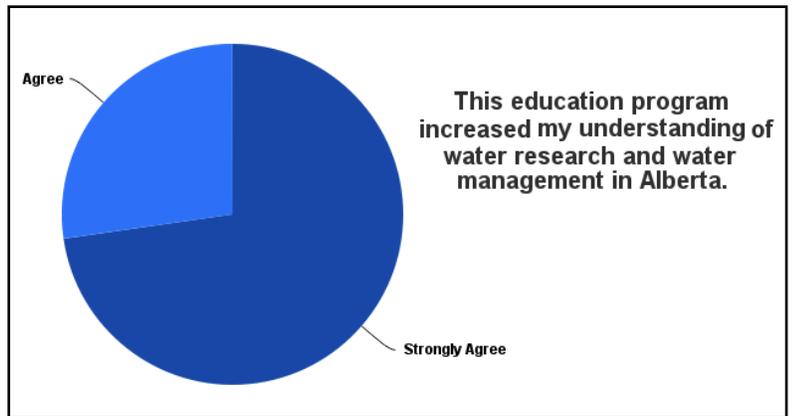
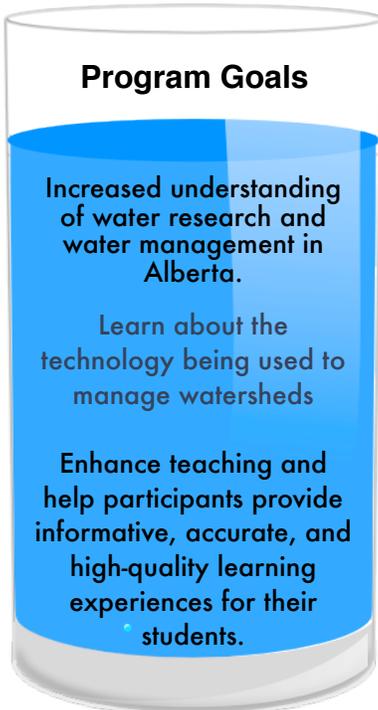


Our Evaluation

Inside Education’s continued partnership with the ATA Science Council has once again resulted in a resounding success! We are confident that we have equipped participants with the resources, knowledge and confidence to engage their students in meaningful water education, all while adding a splash to their science lessons!

Participants increased their understanding of why and how innovation is a critical part of Alberta’s water management story. The emphasis on academic research introduced leading-edge hard and soft science that may change the way our water resources are managed. Our hands-on tour helped put the academic research into an applied perspective, and the complex relationships between energy, environment, economy and society were made clearer by the multiple perspectives presented.

Reflecting on the flood of positive feedback from participants, we are confident that our program goals were reached. Using both a formalized online questionnaire and letters and notes to collect feedback from participants, we were able to consider both big-picture and details-oriented feedback on the program.



Watershed Moments

With a response rate of 85%, participants were eager to share their impressions of the Water Innovations Tour through our post-program survey. We'll let them speak for themselves.



Touring the waste water treatment plant was definitely a highlight. I really had no idea the magnitude of it all!

- Kim Simon, CBE

All of the speakers were very knowledgeable in their fields and added a unique perspective into water education. I found a useful resource in the River Keepers website and students were quite interested to hear and see pictures of the water treatment plant. - Norah Parkinson, Calgary

I had a great time! :) - Scott Smith, Edmonton

The clean lab and the Athabasca River studies were particularly fascinating and an excellent resource for me as I try to present source documents and materials, and I am teaching my students to read critically and judge the materials being presented on their backgrounds. Getting invaluable documents like the North Saskatchewan watershed atlas was great.

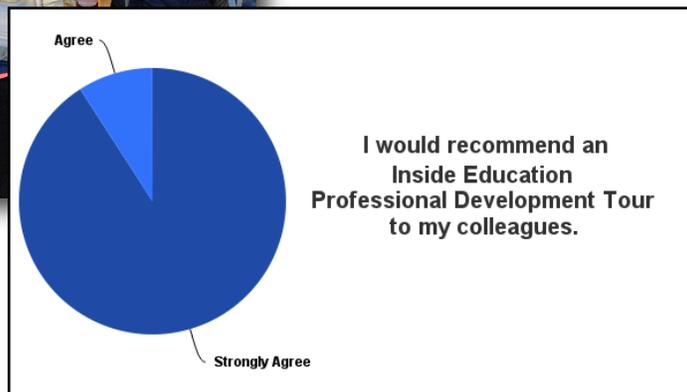
There was not a weak speaker or presentation in the day.

- Robert Fioraso, Eaglesham

Keita Hill was a great speaker and his information about the north and infrastructure in northern communities was fantastic. Also really liked Glenn Isaac - great speaker and great information that we can use every day! - Megan Gregg, Millet



Inside Education always provides the most authentic PD for teachers. I always walk away feeling like I have learned a lot and have a deeper appreciation for our natural resources. - Jennifer Hollman, Duffield



Appendix: Detailed Program

Water Innovations Tour November 13-14, 2013 Program Outline

Wednesday, November 13th

5:30 pm - Welcome Supper and Registration
Edmond's Room, Radisson Hotel Edmonton South

Introductions

Dive in and get ready for a fun introduction to Inside Education, the program, and each other! We hope to wet your appetite for the program and provide the information and context you need to make the most of our short, but *splashy* PD tour.

Facilitator: **Inside Education**

Around the Water Cooler featuring McNally High Navigate 2012 team
Host: **Pamela Learmond**, *Inside Education*

Responsible Development in Alberta : Innovations in Water Management
Andy Ridge, *Director, Water Policy, Alberta Environment and Sustainable Development, Government of Alberta*

Thursday, November 14th

Departing hotel at 8:00am

Technology and Citizen Engagement: There's an App for that!

The Riverkeeper organization is known worldwide for their strong focus on community stewardship. Now, Glenn shows us how an easy-to-use cell phone app is tapping into Albertans' love for the beach. Focusing on swimmable, fishable, drinkable water, Glenn will demonstrate how easy it is for you to contribute to water quality information with just a few easy clicks.

Glenn Isaac, *North Saskatchewan Riverkeeper*

Introduction to the Water University of Alberta's Water Initiative

The Water Initiative brings together the interdisciplinary capacity of more than 100 researchers whose work spans resource economics, water treatment, toxicology and microbiology, northern and cold weather research, ecosystem biology, energy and the environment, water policy, nanotechnology and sensors.

Host: **Dr. Greg Goss**, *University of Alberta*

Nanomaterials for Water Remediation

Zoom in on how new technologies are changing how we view the world, and how even the tiniest act can have huge implications.

Dr. Greg Goss, *Department of Biological Sciences*

Water collaboration between the Netherlands and Alberta - Find out why Tim is spending time in Alberta, and how is research might benefit two different countries.

Tim Donkers, *Wageningen University*

Engage North - Learn how a group of engineers are using their skills to bring water management and knowledge of infrastructure to northern Canadian communities.

Host: **Janelle Morin**, *Director, Engage North*

Presenter: **Keita Hill**, *Faculty of Engineering, Engage North*

Athabasca River: Challenges and Opportunities - The waters in the Athabasca river are under intense scrutiny, with decision-makers at all levels relying on sound science. A simply curiosity launched William Shotyk's research into how the containers we use to sample water might be contributing to contamination.

William Shotyk, *Bocock Chair in Agriculture and Environment, Department of Renewable Resources*

SWAMP (Soil, Water, Air, Manure, Plant) Laboratory Tour - We get a behind-the-scenes sneak peak of a newly created ultra clean laboratory and mass spectrometry facility whose focus is developing novel analytical approaches for the chemical analysis of trace metals in soil, water, air, manure and plants. The long term goal of the facility is the continuous development and validation of new measurement protocols to foster robust scientific methods.

Boxed lunches on bus as we travel to Gold Bar Wastewater Treatment Plant

Gold Bar Wastewater Treatment Plant

An opportunity to tour one of Canada's largest and North America's most innovative wastewater treatment operations! Dress warm - some of the tour will be outside.

Allan Mumby, Epcor

Water Quality Lab

Time to test it for ourselves! We will experiment with various water quality activities you can do with your students, in your classroom. Hands- AND minds-on fun!

Lena Bunzenmeyer, River Watch



Welcome to the Watershed (now come explore!)

The Water For Life Framework creates a way for citizens to be involved in the management of their watershed. Learn how academic research and new ways of engaging citizens are being used to create Integrated Watershed Management Plans (IWMPs) to ensure the health of our water ecosystems. Find out how you can bring it into your classroom for your students to explore real-world watershed management challenges

Presenter: **David Trew**, North Saskatchewan Watershed Alliance (NWSA)

Education Workshop & Wrap-up

An opportunity to reflect on what we've learned over the program, and how we can bring this new learning back to classrooms and students. This session will also include resource showcases, action planning, and program evaluation.

Presenter: **Inside Education**

Travel back to Radisson Hotel Edmonton South

Program finished ~4:30pm

