

# Northeast BC Water Education Program

**SEPTEMBER 27-29, 2012  
FORT ST. JOHN, BC**



## SUMMARY REPORT

**Inside Education brought together teachers from across northeast BC to explore current water topics and provide them with tools to engage their students.**

The 2012 *Northeast BC Water Education Program* marks the third professional development experience for teachers in the northeast BC. Building upon the successes of previous programs, Inside Education was excited to offer a comprehensive look at water in the region, including discussions about the Site C hydroelectric development and groundwater as it relates to hydraulic fracturing.

**18 teachers from Baldonnel, Dawson Creek, Hudson's Hope, Fort St. John, and Fort Nelson** came together for 2.5 days of sessions, workshops and tours that provided a unique opportunity for them to expand their understanding of crucial topics related to natural resource development and the local watershed.

**This dynamic and balanced professional development program** brought experts in government,

industry, environment and education together to advance our understanding of the current and future of water and energy in the region.



# Program Themes

## A Watershed Approach

The Peace River watershed is a vast network of water bodies that define the region. Participants discovered how they could use a watershed approach (including surface and groundwater) to help frame discussions about natural resource development. By considering effects on both water quality and quantity, we began to explore cumulative effects of development.

## Energy and Water

The demand for power and petroleum is a growing concern in NEBC. Through sessions with BC Power, the BC Oil and Gas Commission and Encana we examined how local energy resources are developed. This expanded our understanding of the management of both water and energy.

## Watershed Stewardship

Stewardship is an essential topic for both individuals and industry. These sessions allowed participants to think about the planning, protection and personal action that contributes to a healthy watershed. We had the chance to perform water quality tests, hear from local stewards, highlight industry best practices and use this theme to connect to students in the classroom.

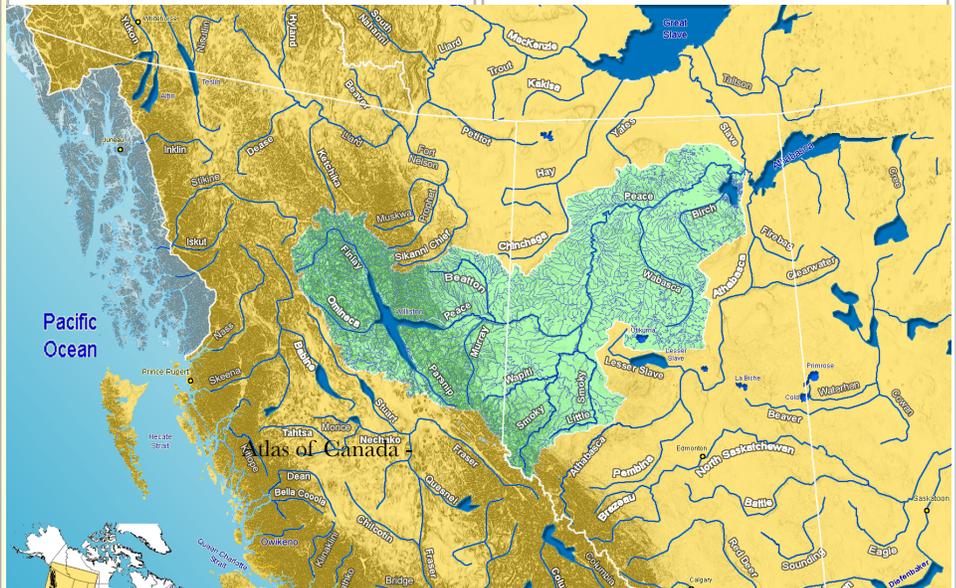
# The Program & Participants

## Program Design

**The program introduced current, local water topics** such as hydraulic fracturing and hydroelectricity from the viewpoints of multiple water stakeholders. This opportunity to engage with experts allowed participants to appreciate the diversity of economic, social and environmental values that influence water in the region. *Detailed program attached.*

## The Participants

**18 enthusiastic teachers** joined Inside Education for this professional development program based out of Fort St. John. They represent a group of educators committed to education and dedicated to professional growth that will ultimately benefit the hundreds of students they work with throughout their careers.



*A map of the Peace River Watershed located in NEBC and Alberta. The watershed overlaps with areas of high industrial and agricultural activity.*

**Joseph Umanetz**, Peace River North Secondary School, Charlie Lake

**Angela Connelly**, Dawson Creek Secondary School, Dawson Creek

**Thera de Greef**, Ecole Frank Ross School, Dawson Creek

**Lillian Perland**, Christian Life School, Fort St. John

**Sarah Stringer**, Baldonnel Elementary School, Baldonnel

**Kimberley Asai**, School District 60, Fort St. John

**Judy McCharles**, C.M. Finch School, Fort St. John

**Bonnie Ma**, North Peace Secondary School, Fort St. John

**Brittany Puttick**, Dr. Kearney Middle School, Fort St. John

**Sean Thomas**, Peace River North Secondary School, Fort St. John

**Chris Mock**, Dr. Kearney Middle School, Fort St. John

**Rob Young**, Bert Bowers Middle School, Charlie Lake

**Brad Booker**, Peace River South Secondary School, Dawson Creek

**Dixie Kotylak**, Dawson Creek Secondary School, Dawson Creek

**Joanne Dueck**, Rolla Traditional School, Dawson Creek

**Patti Burt**, Fort Nelson Secondary School, Fort Nelson

**Bryce Ross**, Chalo School, Fort Nelson

**Michael Nicols**, Hudson's Hope Elementary, Hudson's Hope

# Partnership and Support

**Inside Education is proud to recognize the following partner organizations:**

**Encana Corporation**

**Canadian Natural Resources Ltd.**

**Devon Energy**

Participants were made aware of partners throughout the program, notably in the participant package and through verbal recognition during introduction and closing discussions.

In addition to the financial support from the organizations above Inside Education recognizes the in-kind

support of the presenters and tour hosts that joined us throughout the program.

**Thank you:**

*Kate O'Neil, BC Hydro*

*Robert Dunn, BC Oil & Gas Commission (BCOGC)*

*Bailey Helicopters*

*Reg Whiten, Watershed Steward*

*RiverWatch Alberta*

*James Armstrong, Encana*

*Brian Lieverse, Encana*

*Karen Mason-Bennett, Northern Environmental Action Team (NEAT)*



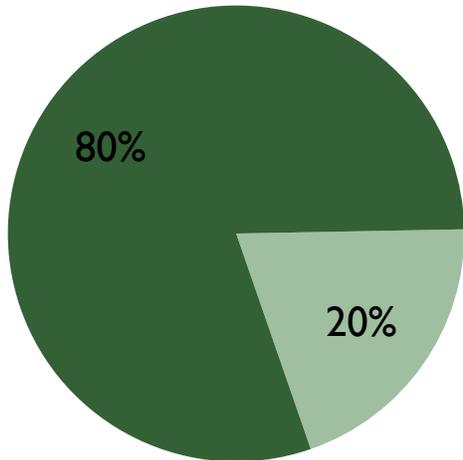
## Program Evaluation



**Inside Education strives to continually improve our education programming.** With this, we conducted a formal survey following the program to assess how our programs have impacted participant understanding of the topic as well as the attitudes and actions that they will carry with them to the classroom. These results, along with the anecdotal feedback we receive are evidence of the lasting value of this and future professional development programs.

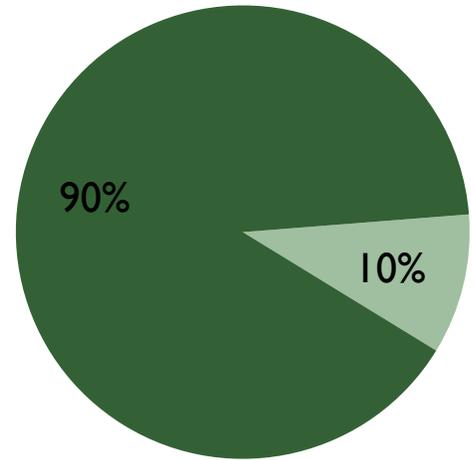
**The following figures and participant comments demonstrate success in achieving program goals and strong participant satisfaction with Inside Education programs.**

This education program increased my understanding of water as it relates to natural resource development in NEBC

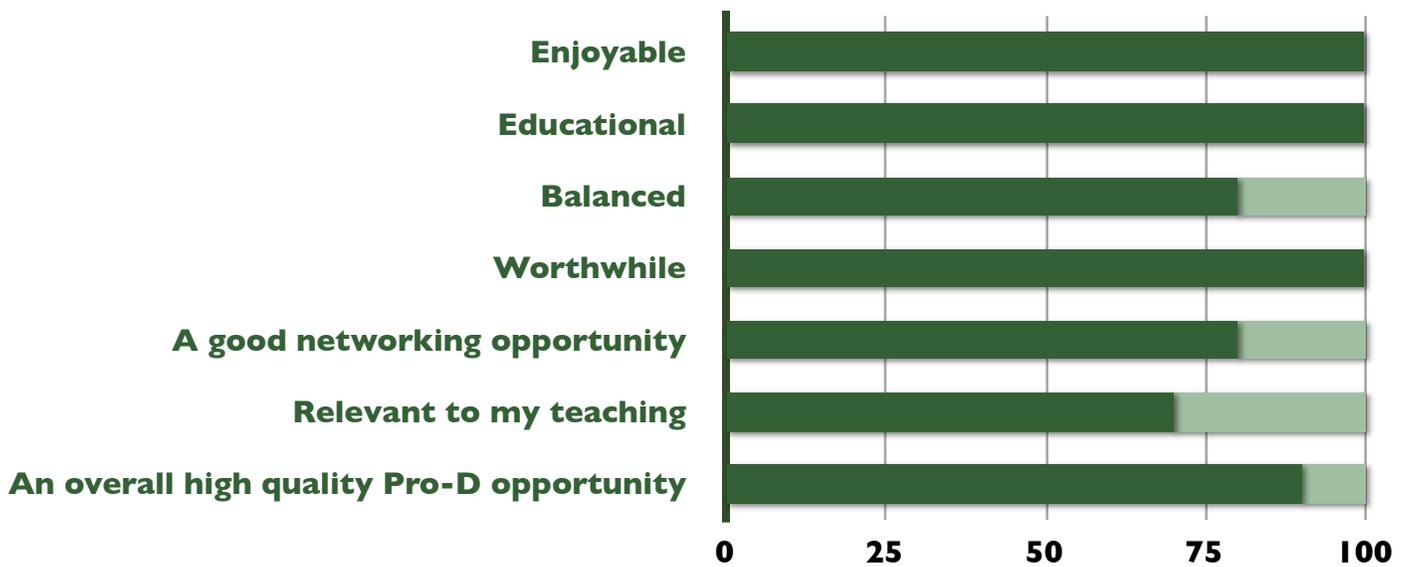


- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

This education program enhanced my teaching and will help me to provide informative, accurate and high quality learning experiences for my students



In my opinion the 2012 Northeast BC Water Education Program was:



*100% stated that they would recommend Inside Education Pro-D to their colleagues*

*Program participants indicated they will each share the knowledge gained from the program with an average of 60 students within the next year, suggesting a **total reach of over 1000 students this school year!***



‘Thank you for everything, especially your **ongoing commitment to connect with us here in NEBC**’ - *Joanne Dueck, Dawson Creek*

‘**My students and their families will benefit greatly from what I will pass onto them.** I am excited to continue my water project now that I have gained so many ideas and insights. - *Thera de Greef, Dawson Creek*

‘The **opportunity to hear from Encana, BCOGC, NEAT and others** allows a balance of information seldom available from a single source. Great info, great ideas and great company! Thank you. *Sean Thomas, Fort St. John*

‘The workshop promoted **critical thinking and inquiry, open-mindedness** was constantly being promoted - what a great opportunity. - *Lillian Periard, Fort St. John*

‘The presentations were rich with information and now I have the responsibility to continue this dialogue that we all need to be involved in. **Helping students to become part of the conversation will ensure that their world is a good place to be.** - *Sarah Stringer, Baldonnel*

‘**I can’t wait to take these ideas back to my classroom** and create a cross-curricular water project that will help my students become responsible, successful and pro-active people. Many thanks, Chi-Meegwetch! *Brittany Puttick, Fort St. John*

# Summary and Next Steps

## **Inside Education is proud of the many successes of the 2012 NEBC Water Education Program.**

The exemplary feedback and survey results indicate that the program offered unique learning experience that will ultimately benefit hundreds of students.

Once again, many thanks to the partners, session presenters, hosts and most notably the teacher participants who dedicated their personal time and energy towards advancing water and energy education.

### **Next Steps**

Inside Education has made a commitment to visit Northeast BC on a regular basis through

our classroom programming and Pro-D education programs. We already have plans to visit schools in the Dawson Creek areas in November 2012 and have initiated discussions to host another Pro-D program in spring 2013. In addition, Inside Education ensures that our full suite of classroom resources is available to local teachers. It is evident that this type of current, locally relevant, curriculum relevant support is a growing need in northeast BC. Inside Education along with the help of our partners will continue to build relationships with students, teachers and schools in the region.



For further information about this and other Inside Education programs and resources please contact:

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**NEBC Water Education Program Outline**  
**September 27-29, 2012**  
**Fort St. John, BC**

***Thursday September 27***

***Program Welcome & Introductions***

This interactive session will introduce you to Inside Education, the program participants and the program itself.

Presenter: **Inside Education**

***Watershed 101***

The Peace River watershed is a vast water system that defines both the place and the people that rely upon its vital resource - water. Learn how thinking about the watershed as a whole - from glacial headwater through the northeast flow to the Slave River, above and below ground - can help frame discussions about development and allow us to consider cumulative effects on water quality and quantity.

Presenter: **Inside Education**

*Lunch*

***Hydroelectricity and Site C***

So you've heard about Site C but *what is it, where exactly will the dam & reservoir be built, what are the potential impacts and what has been done to reduce those impacts?* Learn more about how the project will help British Columbia meet its energy needs and how the province will mitigate the public concerns related to the protection of habitat and water resources.

Presenter: **Kate O'Neil, Site C - BC Hydro**

***Energy and the Peace River***

The BC Oil and Gas Commission is an independent regulatory body that oversees all phases of petroleum development in the province. This comprehensive session will explore oil and gas in the region and how energy development is connected to the watershed. We will explore hot topics like hydraulic fracturing, and shale gas and how these developments use and conserve water.

Presenter: **Robert Dunn, BC Oil and Gas Commission**

***The Watershed: A birds-eye view***

There is no better way to gain an appreciation for expansive network of tributaries, wetlands and riparian areas that define the Peace River than from above. Get a one-of-a kind view of the regional developments and a sense of the change that future development will bring as we soar over the river that shapes the region.

Host: **Bailey Helicopters**

***Friday September 28***

*8:00am – Quality Inn Northern Grand Hotel, Main Banquet Room*

**Watershed Stewardship – Planning and Protection** Watershed management is a complex science that requires careful consideration for who uses water, how it's used and how much we use to ensure we minimize any negative impacts we might have on both the quality and quantity of water that sustains us and our ecosystems. Hear about the draft water management plans that are in place to balance these demands while protecting our watershed.

Presenter: **Reg Whiten, City of Dawson Creek Watershed Steward**



### ***Meet a Stream***

Take a short walk to get up close and personal with H<sub>2</sub>O. We will walk you through some great outdoor activities that you can do with your students. We will get out the gear to test pH, turbidity, aquatic indicator species and more!  
Facilitated by: Inside Education

### ***Water and local First Nations***

First nations have a deep relationship with water; their connection to the natural world and the Peace River have a strong influence on their culture. Hear their perspective on development and the opportunities and challenges that they will face as stakeholders in a rapidly changing watershed.

Presenter: **TBA**

*Lunch*

### ***Natural Gas and Water***

Is groundwater affected by hydraulic fracturing? How does the industry ensure protection of aquifers? How much water is used in the process? We will have a chance to talk with the experts and answer these important questions.

Presenter: **James Armstrong, Water Resource Group, Encana**

### ***Hydraulic Fracturing Site Tour***

See industry in action as we get to watch a hydraulic fracturing crew at work in the field. This unique experience will give you an exciting first-hand look at the process of extracting natural gas resources from tight shale deposits.

Tour Host: **Brian Lieverse, Encana**

*Dinner*

## ***Saturday September 29***

*Breakfast*

### ***Local action – classroom connections***

Meet NEAT, a team of committed individuals that want to help you make conservation and personal action a priority in your communities and classrooms. This 1-hour workshop will introduce you to excellent local resources and activities that you can take back and share with your students.

Presenter: **Karen Mason-Bennet, Northern Environmental Action Team (NEAT)**

### ***Education Resource Workshop***

So we had a great time, learned a ton, and experienced the watershed like never before but now what? Ultimately we need to translate this experience into meaningful lessons for our students. This interactive session will guide you through developing a plan for your classroom and provide a tool-kit of ideas and resources that you can use on Monday.

*Lunch and Farewell*



