



**RiverWatch Institute of Alberta**  
2010 ANNUAL REPORT

**RiverWatch**  
SCIENCE BEYOND BOOKS

# RiverWatch Charter

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## Mission Statement

RIVERWATCH SEEKS TO ADVANCE EDUCATION by organizing and delivering programs, projects, science curriculum supplements, field trips and other tours that assist teachers, students and others in the study of the environment.

## Core Business

RiverWatch uses raft float trips to provide experiential and curriculum-based science field studies that help students understand environmental monitoring in aquatic ecosystems.

## Goals

RiverWatch delivers experiential science education as an effective vehicle to:

- provide a safe and affordable field study for Alberta students
- maintain or improve student results on provincial achievement tests
- allow Alberta students to compare favourably in international assessments
- direct young people along career pathways in environmental science
- demonstrate the techniques of environmental monitoring
- increase awareness and understanding of river ecology and environmental issues
- showcase engineering projects that reduce environmental impact
- convey the importance of water to Alberta's economy and quality of life
- promote public and youth engagement in environmental stewardship



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RIVERWATCH WAS FOUNDED IN 1995 by three Alberta teachers who believed in hands-on, experiential education outside of the school classroom. How could young people be expected to care for the environment if they knew little about what was happening right in their own backyards?

In the mid-1990s, a new Alberta science curriculum was being implemented with a focus on “Environmental Issues”. Additionally, there was concern at the time that environmental and outdoor education might not survive long-term as a distinct junior high option course. It seemed best to link outdoor experiences with the solid foundation of the science curriculum. From this, RiverWatch was born.

Sixteen years later and with the support of numerous funders and partners, RiverWatch has grown by leaps and bounds to become the most widely-used and in-depth environmental field study available to Alberta secondary science students. Its reputation is well-established and the program is well-respected.

Far from becoming old news, though, RiverWatch is now on the threshold of making a quantum leap to double its programming capacity. We trust you will enjoy this tour through an award-winning education program that engages the hearts and minds of so many students each year.

***“Through your dedication and skill, you have opened doors for these young people to exciting studies and careers, and in turn are doing your country a great service. You are an inspiration to fellow educators and all those involved with Canadian youth. Please accept my warmest congratulations and best wishes for continued success.”***

***The Right Honourable Jean Chretien,  
Prime Minister of Canada***

*On the occasion of presenting RiverWatch  
with the 1997 Prime Minister's  
National Award for Teaching Excellence*

## On Behalf of the Board of Directors



Howard Heffler.

I HAD TO LOOK BACK at my records to recall that it was January 2006 when I joined the Board of RiverWatch. And each year has been better than the last! I don't know how Executive Director Cal Kullman, Rob Vickers (Calgary Program Coordinator), Lena Bunzenmeyer (Edmonton Program Coordinator) and Bev Donahue (Business Manager) can continue to exceed the previous year's records — but they do.

Each of our four formal Board meetings in 2010 was a pleasure. The other Directors; Craig, Stephanie, Joanne, Terry, and Stacie have so much to contribute: both during the meetings and by e-mail or telephone between meetings. This is Stacie's first year on the RiverWatch Board and her background with other not-for-profits and in fund development with Bow Valley College has already made a big contribution. I am thrilled to be part of such a talented and committed group.

Over the past two years RiverWatch reviewed and enhanced the formal Emergency Response Plan and refreshed safety practices. This included updating the written procedures, training for both staff and Board members, and setting aside part of each Board meeting to talk about safe practices. Our challenge is to preserve the educational component, make it stimulating for students and never relax on safety. We are all pleased to report that there has been no serious incident in the history of RiverWatch.

RiverWatch obtained formal charity status in 2010. We anticipate this will add one more reason why RiverWatch appeals to donors targeting education and the environment. The list of funders grows each year and they are mentioned throughout the report, but I want to especially acknowledge Suncor Energy Foundation, Shell Canada, BP Canada Energy and Imperial Oil Foundation.

In 2010 we hired, trained and coached a total of 34 seasonal guides. By offering a fun and safe learning environment, these guides and staff are the front-line face of RiverWatch for students and teachers. We have many, many tales, of both RiverWatch guides and students going on to a career in environmental science and education. What better testimony could we hope for?

So: thank you everyone.

**Howard Heffler**

Chair,

RiverWatch Institute of Alberta

## Message from the Executive Director

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THE WEATHER IS A WELL-BEATEN TOPIC but never so much as for people working in the outdoors. Calgary Program Coordinator Rob Vickers noted that despite cold, wet weather in May and early September that put our guides into survival-mode, we persevered with excellent support from our host staff at Calgary's Bonnybrook Wastewater Treatment Plant. The staff provided shelters, gravel pads, on-site tap water, golf carts for disabled students, bus hitch repair and safety planning.

Edmonton Program Coordinator Lena Bunzenmeyer completed her first year with RiverWatch and after a steep learning curve in the spring season, she confidently assembled and mentored a cohesive, well-organized guide team for the fall season. Our Edmonton operations are hosted at the Gold Bar Wastewater Treatment Plant and our partner relationship continues to evolve under the new management of EPCOR.

Business Manager Bev Donahue kept deposits, payables and payroll under control during the busiest year and largest seasonal staff complement that we've ever had. Realizing and often lamenting that our seasonal river guides bring their energies to RiverWatch and then leave for travels, careers or more education, Director Craig Ikeda helped preserve our teaching history through videos posted to YouTube at "riverwatchchannel". The talent, positive attitudes and humour possessed by our staff is immediately obvious and a pleasure to watch.

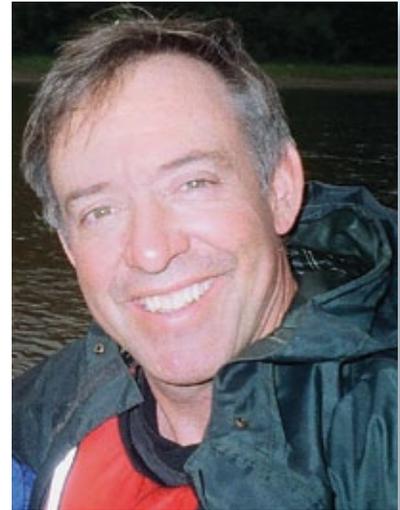
In the sixty-day field season between April 27<sup>th</sup> and October 21<sup>st</sup>, RiverWatch worked with a record 8671 students, 907 adults and 34 seasonal raft guides. These participants from Calgary north to Ft. McMurray received a once-in-a lifetime experience determining water quality from the vantage point of a rafting adventure.

RiverWatch is made possible by so many supporters that fund programs, host our operations, provide advice and generally smooth our way with such positive contributions. Thank you to everyone — teachers, students, staff, board members, partners and funders — who have made another great year of RiverWatch possible. RiverWatch is science that matters to a large network of like-minded people whose support allows us to engage the hearts and minds of young people toward sustainable communities.

Science education doesn't get any better than this.

### **Cal Kullman**

Executive Director,  
RiverWatch Institute of Alberta



*Cal Kullman.*

# What is RiverWatch?

*“It was so well organized... never a dull moment and the guides were super. It was truly overwhelming, all the things we learned as the day rolled along. Most of our kids have never been on a raft, and I would like to make it into an annual grade 9 spring event at our school. Thanks for an amazing experience for our kids!”*

*Crossing Park School, Calgary*

## RiverWatch — The Best Way to Study a River!

WHAT’S THE BEST WAY to study a river? We think it’s by taking science classes on a float trip aboard large inflated rafts fully-equipped as floating laboratories!

RiverWatch is a province-wide and imaginative program connecting young people with the science relevant to their local rivers. Side-by-side with RiverWatch staff, students work in a team environment to research and answer the question “How healthy is our river?” At the same time, accompanying teachers are provided with an experience and resources that contribute to their ongoing professional development and classroom work.

RiverWatch is now the most widely-used and in-depth environmental science program available to Alberta secondary schools. Through interactive and hands-on learning experiences, approximately 10,000 young scientists each year are actively engaged in learning the knowledge and skills related to river ecology, environmental monitoring, field work, data collection, wastewater treatment technology and environmental stewardship.

Since 1995, the award-winning RiverWatch Science Program has worked with Alberta junior and senior high school students to promote an understanding and interest in science and the environment. RiverWatch has been recognized with the **Prime Minister’s National Award for Teaching Excellence**, the **Calgary Mayor’s Award for Environmental Achievement** and the **Calgary Board of Education Lighthouse Award for Education Leadership**.

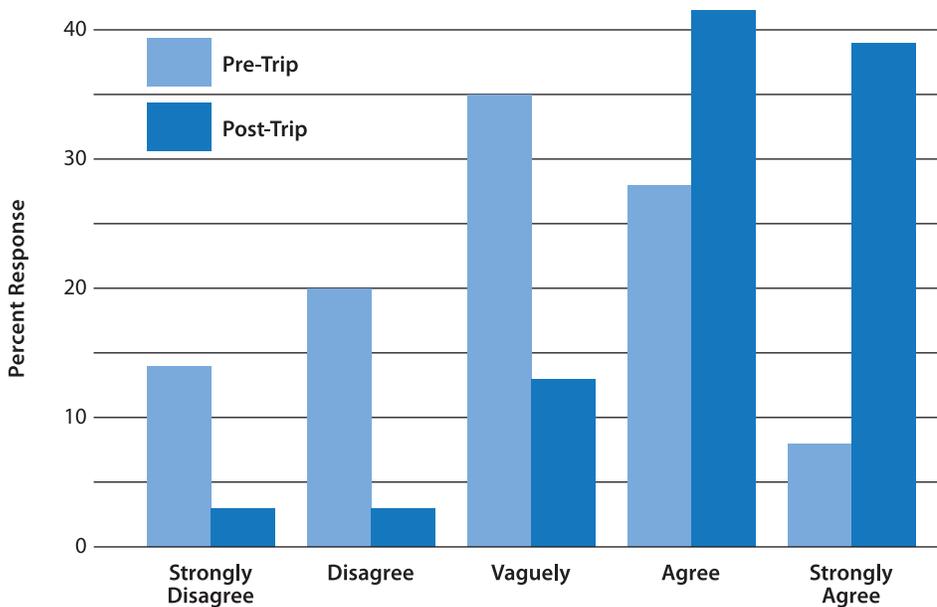


# Supporting Youth & Water Education

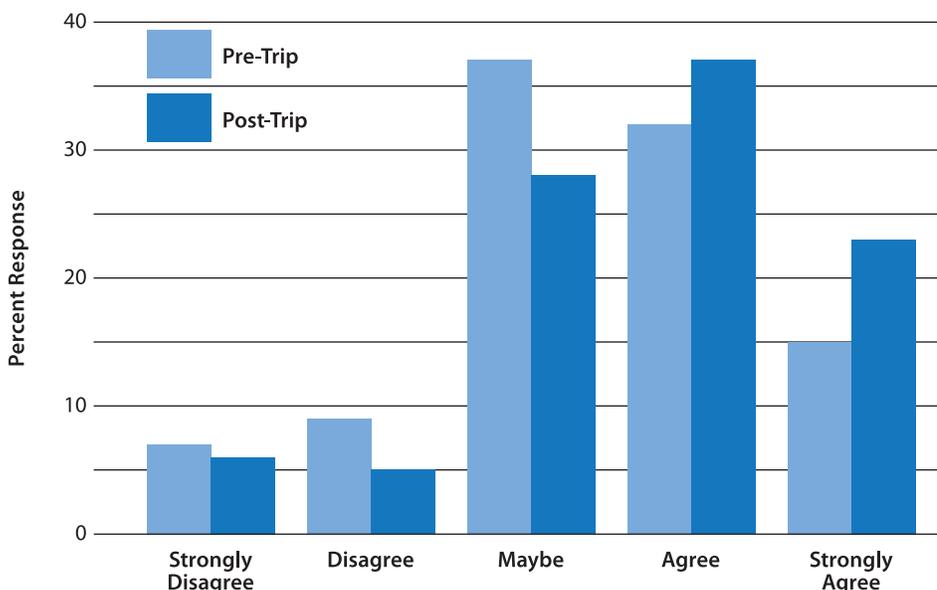
## Most young people have little idea how their actions impact the water quality of our rivers!

WATER QUANTITY AND QUALITY continue to be critical issues in the 21<sup>st</sup> century. Climate change, industrial expansion and growing municipalities impact Alberta's water resources. A hands-on experience like a RiverWatch field study is an effective means to convey the importance of water in Alberta and encourage environmental stewardship amongst today's youth. Surveying thousands of students before and after their RiverWatch trip clearly shows these outcomes.

### "I can rate the environmental health of my river"



### "I'm interested in learning ways to reduce my impact on my river"



"Students impressed me with what they talked about in the wrap-up. Some students mentioned that they like learning about the aerobic and anaerobic bacteria used in the wastewater treatment plant and another realized for the first time that her water came from the river and that she should care about its health."

**Miguel,**  
RW Guide

"Students comprehend much more in one day with RiverWatch than they would have been able to in the classroom. It's so much more than a fun day for them; it's an amazing learning opportunity. They're also learning their part in this great city of ours and why our continued stewardship of the Bow is so important."

**Lisa,**  
RW Guide



# Operations and Outreach

## RiverWatch is Alberta-Wide

RIVERWATCH IS PRESENTLY BASED out of Edmonton and Calgary with outreach programs to the surrounding communities of Ft. McMurray, Drayton Valley and Red Deer. Additional program locations are contemplated as funding and equipment become available.



## A parent's note of thanks

May 2nd, 2010

Dear RiverWatch;

*I am a parent helper who had the opportunity to go on RiverWatch. I just wanted to say thank you for all the efforts you have put into this program... it was so excellent.*

*But aside from the beauty of floating magically down the Bow, I was so impressed with the organized way they (your staff) handled so many kids and the boats. The staff was all so friendly and courteous and well-rehearsed in all their duties.*

*Our leaders? We had a couple and they were knowledgeable and articulate and if they didn't know something had no problem with directing us to the person who would know.*

*The students seems so spell bound and their attention was held for the entire day... a feat for junior high. Everyone was touched and changed by what they saw and learned and this is the age group that will change this world.*

*Thank you for developing this program and for the efforts that you put into it. It's working and it's appreciated and I just wanted to write so you knew that.*

*I'm sure you get tons of letters but one more person telling you you're wonderful can't hurt.*

*Thank you.*

*Appreciatively,  
Lynn W.  
Boat Number 7*



# Nitty-Gritty Statistics

***RiverWatch will grow program capacity to accommodate 20,000 students annually at \$20 fees by the year 2020.***

*Vision 20/20*

RIVERWATCH CONTINUED TO BE the most widely-used and in-depth field study available to Alberta secondary science students. The 2010 year was especially busy as attested by a statistical summary of the year:

- **Calgary student participation** (5007) increased 7%
- **Edmonton student participation** (3664) increased 18%
- **Total student participation** (8671) increased 12%
- **Grade participation** was primarily Science 9 (52%), Biology 20 (26%) and Science 8 (12%)
- **First Nations students** (158) decreased 38% with a new driving distance limit
- **Participating schools** (132) remained constant
- **Raft trips** (669) increased 11%
- **Custom-designed programs** (10) delivered for Ft. McMurray Environment Week, Fisheries and Oceans Canada, EPCOR Gold Bar Wastewater Treatment Plant, Inside Education Teacher Institute, Edmonton Geological Society, Suncor Edmonton Refinery, Calgary River Forum Society, Calgary Natural Areas, and Friends and Family Appreciation Floats in Calgary and Edmonton
- **Ride-alongs** (4) were conducted during school programs with Calgary Board of Education Risk Management, City of Calgary Parks, BP Canada Community Investment and Trout Unlimited Yellow Fish Road Program
- **New program coordinator** (Lena Bunzenmeyer) hired full-time in Edmonton
- **Seasonal guides** (34) trained and employed with 14 choosing to return for a second season
- **Directors** (7) increased by one (Stacie Lundberg) with all six others returning
- **Grant funding** continued with Suncor, Shell, BP Canada Energy, Imperial Oil, City of Calgary, Canada Summer Jobs, Summer Temporary Employment Program and LTG Consulting. New funding was donated by Cenovus, NOVA Chemicals, Alberta Irrigation Projects Association, Syncrude, RBC Blue Water Project, TERA Environmental, Salmo Consulting, Gibsons, EPCOR and two individuals. In-kind support continued through EPCOR's Gold Bar and Calgary's Bonnybrook Wastewater Treatment Plants
- **Charity status** was granted and the organization name was changed to "RiverWatch Institute of Alberta"
- **Years of operation** (16)
- **Total student participation** (68,500) for all years since 1995

## Buy-a Bus Campaign

RIVERWATCH HAS EMBARKED ON a multi-year campaign to purchase four new equipment buses that will keep RiverWatch traveling to rivers for years to come. The buses are key to expanding program capacity from 10,000 students annually to a goal of 20,000 students annually. At present, there is a waiting list of thousands of students in Edmonton and Calgary that cannot be accommodated without additional buses.

We're pleased to announce that Syncrude and Cenovus Energy have stepped forward to fully fund the first new RiverWatch bus. This level of support will allow RiverWatch to initiate

a vehicle search, make a purchase, address custom design, metal fabrication and painting that will target implementation and program growth for the fall season of 2011. Watch for a new presence and a new look coming soon to a neighbourhood near you!

RiverWatch uses two modified school buses to support operations out of Edmonton and Calgary. The modified school buses are 1984/1985 vintage, have just four bench seats for guide seating and are metal fabricated inside to store PFDs, rubber boots, science kits, rain coats, rafting equipment and student gear. Each bus tows a 20' trailer to transport seven giant rafts. These two fully-loaded units are quite the sight on our roads and highways!

On each of sixty study days annually, the RiverWatch buses park beside a river so that one-hundred eager students can file aboard and obtain the rubber boots, PFDs, paddles and water-analysis kits required for a science adventure. Rafts are unloaded from the trailer towed behind the bus, carried to the river boat launch and students are then ready to research "How healthy is our river?"



***"Would I be interested in working for RiverWatch next season? Yes, as of today I am available for the spring session. Barring getting some unbelievable job in the next month or so, or winning the lottery I could be available to come back. If I win the lottery I'll buy RiverWatch a new bus."***

***Ryan, RW Guide***

**Syncrude**

**cenovus**  
ENERGY

## What Calgary teachers had to say



***“It was a great experience (as per usual). The three teachers I had with me this year were all new to the program and they all loved the day.”***

***Rideau Park School***

*“Thank you so much for our wonderful RiverWatch trip. We were so impressed by the amazing work of your staff in keeping the kids organized and on task, providing them (and us!) with a huge amount of information and keeping things safe, fun and interesting! Our kids, teachers and parent volunteers all really enjoyed the day — thanks to all of you! Thank you also for being so organized from the moment we began corresponding about the trip.”*

**Elboya School, Calgary**

*“Just wanted to thank-you and your staff again for the wonderful experience. All the kids wanted to do today in class was talk about yesterday and look through photos. It was truly a memorable experience for them — they had a great time. I have only positive things to say. The experience was tremendous and the staff was friendly, knowledgeable and really passionate about what they were doing. My students learned a lot and LOVED the whole experience. They are still talking about it. I feel really fortunate to have had the opportunity to participate in such a wonderful learning experience”*

**Calgary Academy**

*“I was really impressed with the trip. The raft guides knowledge was exceptional and they really tried to ensure that the students were engaged with what they were looking at. The curriculum objectives that the field trip covers are extremely close to the Environmental Chemistry unit, so it will be great to have the students reflect on their trip while working on this unit. The raft guides did an excellent job of explaining the concepts to the students. The students have talked about how they found the field trip very informative and interesting, they really enjoyed being outside and actively involved with collecting data. Thanks for everything, I thought it was terrific.”*

**Robert Warren Jr. High**

*“The students had an excellent time. We are very grateful for the opportunity to experience the river rafting, the biology lesson and tour of Bonnybrook. When we went under the Calf Robe bridge it was mentioned that some of Calf Robes descendants were in the other raft. The Calf Robe family have always participated within an educational setting from what I am told. Thanks again.”*

**Siksika School**

*“Overall, great experience. All the parents said it was the best field trip they’ve ever been on. One of the parents actually supervised for her son’s trip last year. You are doing such fabulous work, the kids are really taking their experiences home and spreading the word. One of my more reluctant students said he thought he would just forget all the things he learned on the trip, but as we were headed back to the school he said he was surprised at how much information he was retaining. That young man is a hard to please, so whatever was going on in his raft was really working for him. Overall, excellent as usual.*

**Bishop Grandin High**

## What Edmonton teachers had to say

*"Thank-you very much for providing our students with the experience of RiverWatch. I have to commend your staff on accommodating all of our students — this was our biggest group, so we used all of the seven rafts. Your staff was well versed in the history of the river valley and were efficient in organizing our students and directing their activities. They spoke at a level that students understood and were able to answer a variety of questions. Their enthusiasm generated a positive, fun experience for our students. Sponsorship definitely makes the trip affordable for our students. I am hoping that you can continue to provide this experience for our students."*

**Ross Sheppard High School, Edmonton**



*"We had two great guides that really related well to the students. Thanks again for offering this program — it's a great way to give the kids some practical experience testing as well as getting them out of the classroom for the day to learn more about our river."*

**D.S. McKenzie Jr. High, Edmonton**

*"The students had a great time. They enjoyed every minute of it. All my students got the opportunity to try multiple testing. They were easy to do and students enjoyed the hands on aspect of the trip. Joel was awesome. The students enjoyed his knowledge of the river and his leadership too. Myself and all students included were very happy with the trip. I look forward to bringing new students to this experience next year. The four staff members were all very pleased with the trip. We had a great time. It is nice to be able to compare our results with other schools, it made our trip more meaningful because we can compare it with others. Thanks for a wonderful day. The whole day went well. I could not have asked for a better experience as a first year teacher."*

**Lilian Schick School, Bon Accord**

*"On behalf of the students and staff who attended RiverWatch this year... THANK YOU. Another wonderful experience with your very professional and classy organization. The staff was fantastic as always and my students really enjoyed the day doing real science!"*

**J. Percy Page High School, Edmonton**

*"We were very pleased with the day and heard a lot of positive comments from the students. Keep up the good work! The guides were good at eliciting responses from the students."*

**Edmonton Christian High School**

## What Calgary guides had to say



Amber Lafontaine, RW Guide.

*“One of the female students on my boat asked me not only if working for RiverWatch was a job, but also what to study to become qualified to have such a job.”*

**Amber**

*“RiverWatch has given me more experience with youth and understanding the high standards of running a ‘tight’ ship. I believe that I am more aware of my impacts on the environment. Our future is these students.”*

**Kris**

*“I’ve been thinking about becoming a teacher for a while now, and RiverWatch has given me the opportunity to interact with a variety of students and teachers — which really helps me consider what subjects I would like to teach and what age group. Personally I have enjoyed learning about Calgary’s waste water treatment process and that has helped me to be more conscientious and aware of my water use and how our society deals with our waste.”*

**Jon**

*“I believed I was a part of an important message — communicating environmental and natural history knowledge to future decision makers (a.k.a. the students).”*

**Holly Ann**

*“I feel that I have become a more educated, involved member of our city in regards to human impact on the river. Not only are we educating the students, but we’re educating ourselves, and I’ve been bringing this knowledge into my life outside of RiverWatch. I feel that, at least for the foreseeable future, experiential education programs are what I want to be doing, and RiverWatch provided me with more experience in this area. I am going to pursue experiential educational programs, as well as put more of an emphasis on interpretation in my guided tour work.”*

**Lisa**

*“I have learned a lot, mostly to do with the science and waste water treatment side of things which will be very valuable to me in the future. I want to be teaching outdoor education and environmental education to high school students. Global environmental issues are really important and I want to continually learn more about it. I liked being able to explain to the kids why they were so privileged to have a waste water treatment plant and talk about water use around the world — I felt like this often gave them something to think about that they had not considered before.”*

**Leela**



Kris King, RW Guide.



Jon Wynder, RW Guide.

## What Edmonton guides had to say

*"Being able to work outdoors with youth and educated students about the environment is truly rewarding. After three seasons with the organization, environmentalism has become a lifestyle for me. It has also helped me to form well informed opinions about human interaction with the natural world, rather than perhaps the bandwagon ideals that I held before the position. Professionally, I hope the knowledge I have taken about waste water treatment will come in handy in the future in the international development field I wish to be a part of. The students take away everything from facts, to science, to stories after a day with RiverWatch. The day does truly impact many of them, and it is so fantastic that the program is made accessible to any science department willing to participate. RiverWatch only enforces my future aspirations to work in the international development sector."*

**Bree**

*"I applied to RiverWatch because I liked the idea of influencing youth, exposing them to our society's environmental impact and teaching conservation. Training was very thorough. Every day you learn and practise new techniques for teaching and new strategies to deal with challenging behaviour."*

**Laura**

*"I think the areas I improved in the most are science and thinking on-the-spot. I know a lot more about the science results and water now that I am able to relay to the groups. Thinking on-the-spot has been something I realized had to be done more often and learning how to do it without stressing out or becoming frustrated is something I learned to do this season. Professionally, it has shown me what makes a good leader. Personally it has shown me that it isn't the job itself that makes it or breaks it. It is the people you work with. I would like to use the knowledge I have gained at RiverWatch; both in terms of the information I learned to convey, and how to manage groups of people in an incredibly flexible program, and put this knowledge to use in future careers. RiverWatch has also added a focus to finding a future career that involves some environmental science and waste management or at the very least, environmental stewardship."*

**Gabe**

*"In many situations I do things on the fly and procrastinate but this job leaves no room to do that. Since you have to be 'on' every day, you don't have the luxury of being unprepared and when 15 students are sitting in a raft looking to you for information you have to be organized and prepared to deliver every day. Although it's not a classroom setting, the ability to relay information to these kids to keep them engaged is something that I will be able to take to my career as a teacher. Working with RiverWatch has reaffirmed my enjoyment of being an educator, which gives me confidence in my choice of becoming a teacher. It's something I think I'm good at, and RiverWatch gave me an opportunity to explore that."*

**Ryan**



*Bree Kullman, RW Guide.*

# RiverWatch Calgary

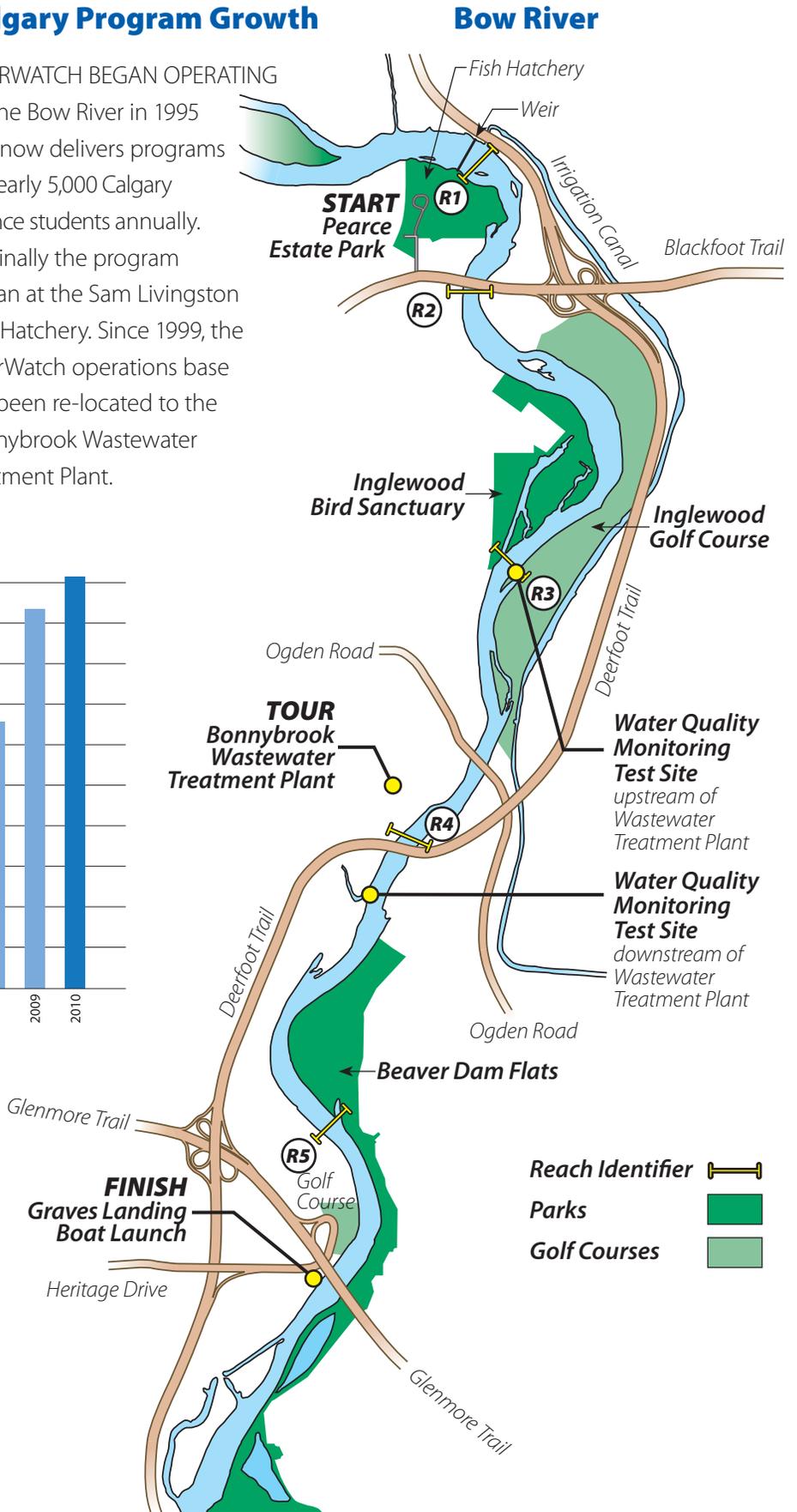
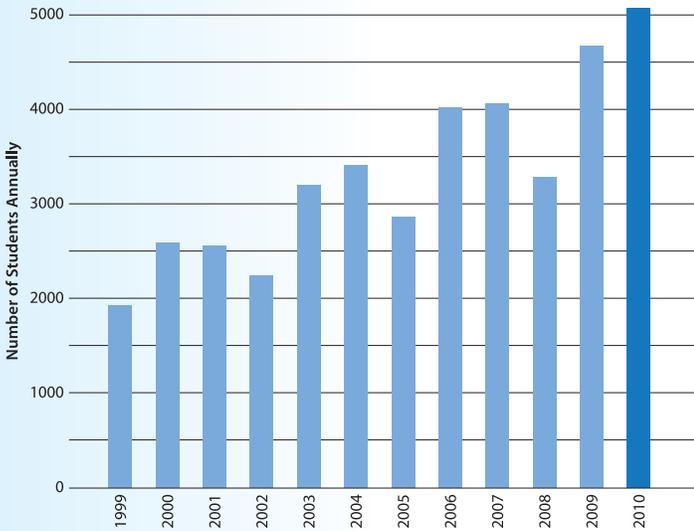


Rob Vickers,  
Calgary  
Program Coordinator

## Calgary Program Growth

RIVERWATCH BEGAN OPERATING on the Bow River in 1995 and now delivers programs to nearly 5,000 Calgary science students annually. Originally the program began at the Sam Livingston Fish Hatchery. Since 1999, the RiverWatch operations base has been re-located to the Bonnybrook Wastewater Treatment Plant.

## Calgary Participation



## Edmonton Program Growth

RIVERWATCH BEGAN OPERATING on the North Saskatchewan River in 1997 and now delivers programs to nearly 4,000 Edmonton and area science students annually. Originally working from the EPCOR Rossdale Water Treatment Plant, the RiverWatch operations base is now at the EPCOR Gold Bar Wastewater Treatment Plant. A steady increase in student participation began in 2007 with Suncor subsidizing all program fees across Alberta. Participation growth continued onward from 2008 with Shell Canada, Petro-Canada, EPCOR and LTG Consulting further subsidizing program fees for target schools in and around Ft. McMurray, Edmonton and Ft. Saskatchewan.

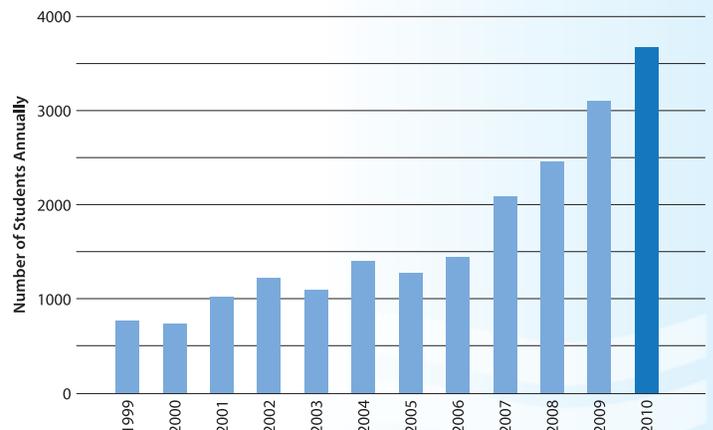


Lena Bunzenmeyer,  
Edmonton  
Program Coordinator

## Lower North Saskatchewan River



## Edmonton Participation



# Special Projects



## Bow River Bank Reclamation Project

RIVERWATCH STAFF VOLUNTEERED on a June Saturday to plant 100 native willow, dogwood, rose, gooseberry and chokecherry bushes as part of the Bow River "Bank Reclamation Project". The planting site was located within the Inglewood Bird Sanctuary on what was formerly an oil refinery property. City of Calgary Natural Areas and Adopt-A-Park representative Sonia Gonsalves provided supervision, tools, workgloves, site surveys, planting stock and watering. RiverWatch staff was able to showcase this project to students each weekday that school trips floated past the planting site.



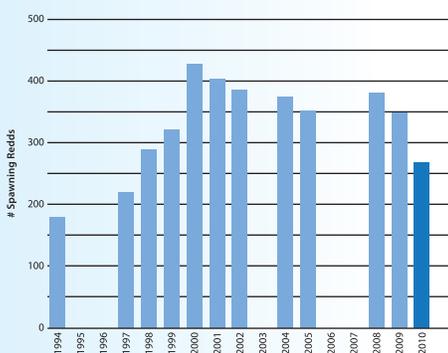
## Lower Elbow River Trout Spawning Survey

THE NOV. 10<sup>TH</sup> 2010 "BROWN TROUT SPAWNING SURVEY" of Calgary's lower Elbow River was funded through an RBC Blue Water Community Action Grant and was administered by the Calgary River Valleys Executive Director Mac Hickley. RiverWatch provided the raft expertise and logistics to support a group of volunteers and university students under the supervision of Golder Associates fisheries biologist Chris Bjornson. Brown trout spawning beds called *redds* were counted along the 15 km section of river between the Glenmore Dam and the confluence with the Bow River at Fort Calgary. The trend in redd numbers is used as a measurement tool for trout populations and general aquatic health.

Specific goals of the program were to:

- engage students in a hands-on, water-based, stewardship activity under expert guidance
- determine the health of the brown trout fishery via spawning activity over a 4-year period
- provide students with the opportunity to analyze current and historical data
- ascertain if recent flooding (2005 & 2008), water quality, urban development and/or heavy recreational use of the river during summer months is impacting the fishery
- offer recommendations to conserve, maintain or enhance the health of the brown trout fishery
- disseminate results of the survey including historical data to local watershed groups providing students with report writing and possibly presentation experience

## Spawning Activity



There were definitely fewer redds in 2010 than in recent years. Most of the key spawning areas had fewer redds and some areas that typically had a few redds in the past had none in 2010. Warm fall weather may have delayed spawning activity this year and additional surveys conducted later in the year might show that the arrival of colder, late-season water temperatures produced additional activity.

# Ft. McMurray RiverWatch

## Lower Clearwater River

RIVERWATCH DELIVERS BIOLOGY 20 PROGRAMMING to all three Ft. McMurray high schools each June during Environment Week and again each September. Programs are conducted on the Clearwater River flowing through the town and just before the confluence with the Athabasca River.

*"My students really enjoyed the day they spent on the river with RiverWatch. The day was beautiful and the information and learning opportunities were great. The instructors used every moment whether rafting on the water, sitting on shore, lunch break or water testing to talk about biology, history, the environment or river health. The testing the students get to do gives them hands-on experience doing labs and seeing the results. The students almost always see the brown colouring of the Clearwater River and think it is polluted water. At the end of the day they walk away from the experience understanding the colour does not mean dirty and that the Clearwater River is a fairly healthy river. The collecting and identifying of aquatic invertebrates to indicate oxygen levels is always a popular activity. Students in Fort McMurray are unable to take advantage of some learning opportunities that students in Edmonton or Calgary take for granted and so really enjoy these special opportunities. The bacterial cultures we grew at the school upon our return were very interesting and helped them recall the sites that we tested. The instructors were very knowledgeable about the area, were friendly and worked great with the students. Instructors that are young, well-educated and have done interesting jobs related to biology and the outdoors pass their enthusiasm on to students. RiverWatch allows my students to gain all sorts of knowledge."*

### **Ft. McMurray Composite High School**

*"First off, let me congratulate you on having such a wonderful, well-informed, professional team of employees. The RiverWatch guides treated the students with respect and maturity and did a phenomenal job at "tricking" the students into learning. The best impression I'm left with from the RiverWatch trip is the fact that it is so closely aligned with our curricular outcomes. Students were able to see a major chunk of the science we learned this semester with their own eyes and this is appreciated by both myself and my students. Not only were they able to reinforce their knowledge base of the curriculum, but they were able to clearly connect it to their everyday surroundings, something we as educators strive to do for our students on a daily basis. Overall, the RiverWatch trip enhanced our curriculum, heightened our students' environmental stewardship, and provided a basis for real, hands-on learning in an outdoor environment. I have nothing but good things to say about this program and I look forward to participating again next year."*

### **Father Mercredi Community High School**



***"I get a lot of great feedback from many people; they were really happy with the experience. We get quite a lot of new to Ft McMurray people and many families who are somewhat recent immigrants to Canada, so they really cherish the experience. There aren't many opportunities for boating in Ft McMurray (unless you have your own boat) so people want to do this sort of thing."***

**Martin O'Brien-Kelly,  
Suncor Energy**



# Drayton Valley RiverWatch

Thanks to a donation from RBC one Grade 9 class will be getting the experience of a lifetime. The RiverWatch program is a not-for-profit organization that helps students get a more hands on approach to science by helping them learn more about water.

Todd Sommerfeld, the Grade 9 science teacher at H.W. Pickup, said this trip is one that stays in the memories of students for quite some time. "Students today, I find, more even than 10 years ago, love hands on," said Sommerfeld.

The \$5,000 donation will ensure the program stays in Drayton Valley for another year. On hand to help Sommerfeld receive the check was Cal Kullman, the executive director of the RiverWatch Institute of Alberta.

Kullman said the program grew out of the Alberta Grade 9 science curriculum and looks at environmental chemistry. Large rafts full of students float down the river and take samples of water from before and after waste water treatment plants, allowing them to see the effect they and those in the community are having on their water.

"It's a medical check-up. How healthy is our river?" said Kullman. RiverWatch provides all of the tools and the expertise to help the students in their projects.

Since 2007 RBC has donated \$21 million to more than 200 organizations that help with the preservation and understanding of water through their Blue Water Project.

**Amanda Jeffery**

*The Western Review, Oct. 4, 2010*



## Upper North Saskatchewan River

A GRANT FROM RBC BLUE WATER PROJECT enabled RiverWatch to provide October programming in Drayton Valley for H.W. Pickup School, Holy Trinity School and the O'Chiese First Nation.

"During one of our program days in Drayton Valley I had a large group of junior high boys on my raft and immediately thought to myself, 'Today is going to be challenging' but was surprised to find a extremely well behaved group of kids, and while explaining at one of the test sites that they had found a caddisfly larva without his home as I held it up on my finger for them to get a closer look, I saw six smiling faces of boys 'ooohing' and 'ahhing' with delight, asking tons of questions and genuinely getting excited about their find. My expectations for the day were completely wrong and I honestly felt like I had passed along some information to them that they would always remember."

**Heather, RW Guide**



# Red Deer RiverWatch

## Red Deer River

RIVERWATCH PROGRAMS HAVE BEEN AVAILABLE in Red Deer off and on over the years and most recently with the associated travel costs funded by NOVA Chemicals. With the river route and logistics now well established, the plan is to make the Red Deer program available to more local schools in the future.

About 60 Hunting Hills High School science students, wearing black rubber boots and life-jackets, took to the Red Deer River in May as part of a science field trip to learn more about the water quality of the river.

Groups of Grade 9 Advanced Science students at Hunting Hills took part in the day-long trip guided by RiverWatch, starting out from McKenzie Trails in the morning, pushing off in five large rubber boats from there, then paddling to the Red Deer Wastewater Treatment Plant and finally along the river to the River Bend Golf Course.

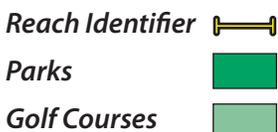
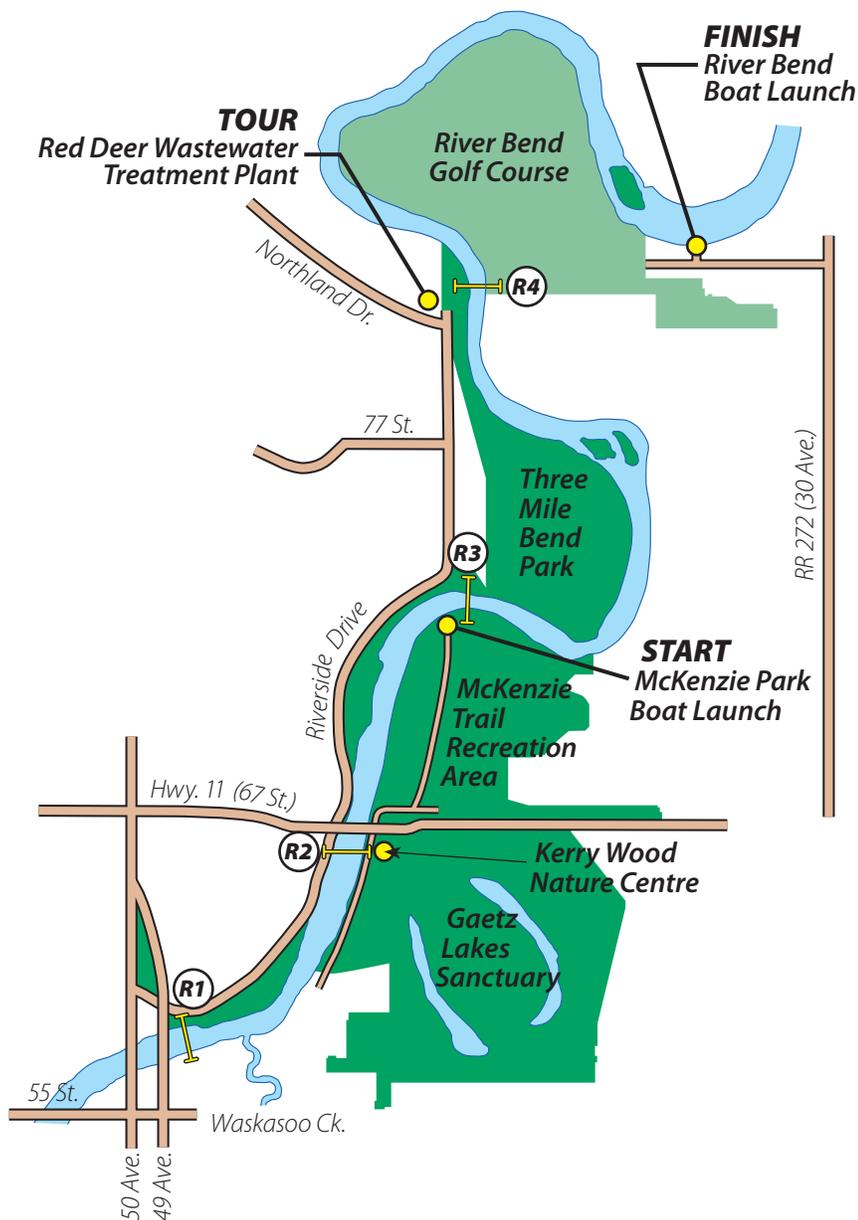
The six-hour trip involved students doing water testing above and below the treatment plant and sampling to see what types of larvae and organisms exist in the river. Students tested for dissolved oxygen in the water, as well as testing the pH and for phosphates and ammonia, to determine water quality above and below the treatment plant. Students also tested for temperature and turbidity, which measures sediments in the water.

"While they are floating along the river they discuss things such as the geology and geography of the river valley, a little bit of the history, a lot of ecology and do wildlife spotting," said Lena Bunzenmeyer, the Edmonton program co-coordinator of RiverWatch. "We generally find a lot of students don't get a chance to spend a lot of time in the river valley so it can be a hugely eye-opening experience for them."

At the end of the trip, guides talked to the students about the environment, what they are already doing to make more environmentally friendly choices and what is one small act they could do from now on to help improve the environment.

Krystina Clark, a science teacher at Hunting Hills, said the trip shows students how they can use the tests they do in the classroom in the real world in the environment. She said the trip also gives students a greater understanding of the Red Deer Wastewater Treatment Plant, how it works and what they shouldn't flush down the toilet.

**Stacy O'Brien**  
Red Deer Advocate, May 12, 2010



# Treasurer's Report



Terry Antoniuk in the Grand Canyon.

IN 2010, RIVERWATCH INSTITUTE OF ALBERTA continued to improve its financial position and management systems while maintaining program quality and safety.

Revenues from program fees increased as a reflection of increased participation rate in Edmonton and regional centres (Fort McMurray, Red Deer, and Drayton Valley). This allowed the hiring of a full-time Edmonton coordinator and additional seasonal staff to manage this growth. Increased personnel costs were offset by increased program revenues and better management of both fixed and variable operation and program expenses (reduced by 15%).

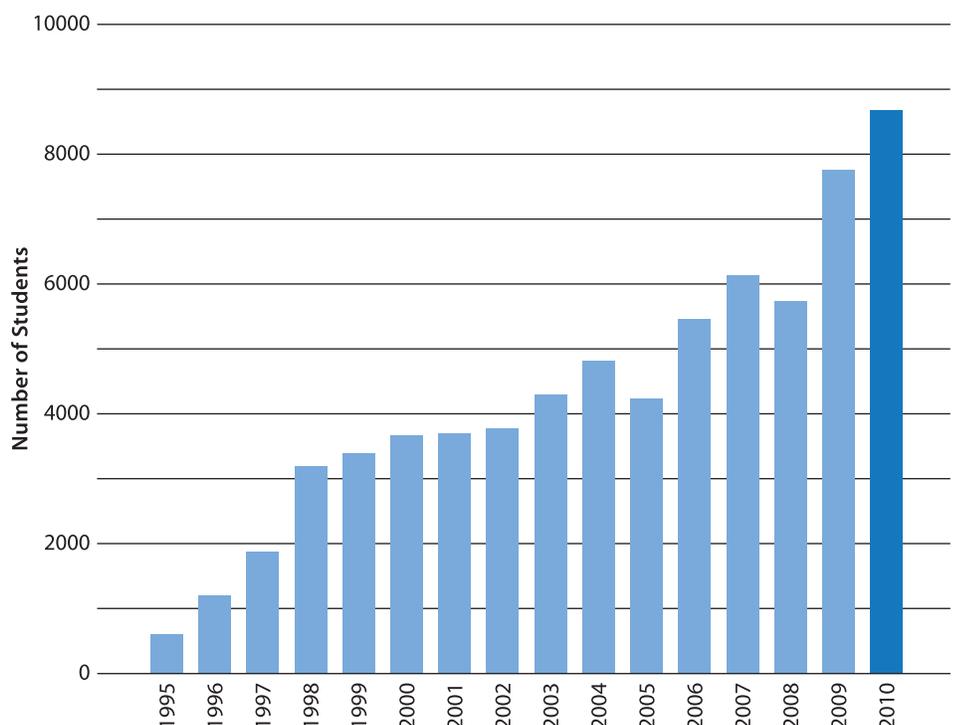
This year, the value of grants increased by over 10% from 2009, even though many companies faced challenging economic conditions. In addition, the RiverWatch Institute of Alberta became a registered charity in 2010. This enabled us to accept charitable donations from individuals and smaller companies who might otherwise not have been in a position to support our programs. We hope to grow this revenue stream.

Thanks to the generous support of continuing and new donors, RiverWatch Institute of Alberta was able to expand its program delivery while paying off past debt.

## Terry Antoniuk

Treasurer,  
RiverWatch Institute of Alberta

## RiverWatch participation (Calgary & Edmonton programs combined)



# Statement of Operations

## RiverWatch Institute of Alberta

for the year ended December 31, 2010 (unaudited)

	2010	2009	% change
<b>REVENUES</b>			
Program Fees	\$ 295,634	\$ 278,744	6%
Grants	346,970	307,769	13%
Donations	6000	0	
TOTAL REVENUES	<u>\$ 648,605</u>	<u>\$ 586,513</u>	<u>11%</u>
<b>EXPENSES</b>			
Seasonal and Full-Time Salaries	\$ 472,586	\$ 367,681	29%
Operations and Special Programs	139,123	161,815	-14%
TOTAL EXPENSES	<u>\$ 611,709</u>	<u>\$ 529,496</u>	<u>16%</u>
NET INCOME	\$ 36,896	\$ 57,017	
BALANCE			
CARRIED FORWARD			
AT END OF YEAR	\$ (19,007)	\$ (55,903)	

Full financial statements are available by contacting the RiverWatch office.

# Our Partners & Funders

*“I come from an outdoor based education and background... I can tell you firsthand how important experiential education has been for me. RiverWatch is a fantastic program... any supporters and sponsors should feel proud to be giving Alberta’s kids such a positive and impacting experience.”*

*Shannon, RW Guide*

RIVERWATCH CONTINUES TO WIN THE HEARTS and minds of thousands of students each year with an engaging program of water quality monitoring combined with river travel. Students are guided through a day of exploration along a 10 km section of their local river aboard large, inflatable rafts fully equipped as mobile water quality laboratories. Their investigations help answer the question, “How healthy is our river?”

Taking so many young people into the river environment to monitor environmental health is an accomplishment only possible with our supporters who believe that water education is aligned with a brighter future.

While program fees contribute nearly 50% of RiverWatch revenues, our group of supporters make it possible to keep student fees at affordable levels.

EPCOR and the City of Calgary continue to provide RiverWatch with invaluable in-kind secure storage, job trailers, tour access and staff support at their wastewater treatment plants.

Sincere thanks and appreciation are extended to:



SUNCOR  
ENERGY  
FOUNDATION



Imperial Oil  
Foundation



THE CITY OF  
CALGARY



RBC  
Blue Water  
Project™



Alberta Irrigation  
PROJECTS ASSOCIATION



LTG CONSULTING





*“RiverWatch is an amazing experience for every student and teacher who comes on our trips. Because of the funding you give us, we are able to get the best equipment, the best training and the best guides to deliver a one-of-a-kind program. Every kid comes off the rafts at the end of the day with a smile on their face and is more enthusiastic about the environment, and it’s because of our sponsors that we are able to do that... we are very thankful and your continued support means the world, because without you, RiverWatch couldn’t exist.”*

**Ryan, RW Guide**

*“As a direct participant witnessing your funds put to work every day, I would like to thank you for your contributions to making the RiverWatch program a possibility for so many of Alberta’s students. It is an absolute pleasure for me to confess to everyone I know that I am an employee of RiverWatch and that it is my job to make sure kids get hands-on science experience and learn why our environment is resource worth protecting, all because of your generosity.”*

**Heather, RW Guide**

*“On behalf of the staff at RiverWatch, thank you for making this program possible for yet another year... This contribution shows great concern for the environment and commitment to the community on your behalf. Without you, RiverWatch would not be possible. Along with teachers and students from across Alberta, the RiverWatch staff genuinely appreciate your help.”*

**Val, RW Guide**

***“Thank you for all your support and for giving back to the community”***

**Miguel, RW Guide**

## Board, Advisor and Staff



*Advisor Chris Brown and Directors Joanne Steinmann, Cal Kullman, Terry Antoniuk, Craig Ikeda and Howard Heffler (seated). Not present: Stephanie Neufeld and Stacie Lundberg.*

RIVERWATCH HAS PROVIDED a one-of-a-kind science field study involving more than 68,000 students across Alberta since 1995. Students explore their local river using rafts fully equipped as floating laboratories for collecting information on dissolved oxygen, phosphates, nitrates, pH, turbidity, temperature, bacteria and invertebrates. Participating students finish their field study day with a better understanding of river water quality and what they can do to protect the health of rivers.

RiverWatch began as a non-profit organization in 1995 and operates with a volunteer board of directors, four full-time staff and thirty-four seasonal river guides providing programming for approximately 10,000 students annually on a province-wide basis.

### **Board of Directors 2010**

Howard Heffler, Chair

Craig Ikeda, Vice President

Terry Antoniuk, Treasurer

Joanne Steinmann, Secretary

Stacie Lundberg, Director

Stephanie Neufeld, Director

Cal Kullman, Director

### **Incorporation Advisor**

Chris Brown, Spectrum Law LLP

### **Staff**

Cal Kullman, Executive Director

Bev Donahue, Business Manager

Lena Bunzenmeyer,  
Edmonton Program Coordinator

Rob Vickers, Calgary Program Coordinator

*"There was a lot of useful info before and after trip. Everyone was very welcoming and fun and didn't cram a lot of info. Very fun experience — first time on our river. Very fun tests — love being able to be hands-on. Invertebrate collecting was sooooo cool and fun! Very cool seeing them in real life. Our raft guides Ryan and Bree were very kind, encouraging, knew what they're doing and overall very fun. Overall, a very cool experience seeing it in person."*

**Science 9 Student,  
Jean Forest All Girl's Leadership Academy  
April 27, 2010**

*"It was a good experience for us kids to get a chance to see our river. I loved the rafting. Fun stuff. I liked the trip a lot, thank you! It was a really fun field trip and I would recommend it. Loved it! I want to do it again except the smelly waste management plant. Thanks for the awesome experience not only to the kids but also the teachers. I had fun and I learned lots about the river. Thank you."*

**Science 8 Student,  
Ester Starkman School  
September 14, 2010**

*"Students had a fabulous time. Your guides were terrific with them and their information was very useful. For my students, the really useful information was:*

- *pH of water being slightly basic due to the sedimentary rock... we focus a lot on Alberta's natural buffer to acid deposition*
- *dissolved oxygen test... we flip it around for the BOD*
- *getting to see how the dissolved oxygen changed after the sewage treatment plant and getting to see the algal growth... awesome because we talk about the consequences of sewage and fertilizers*
- *other chemical tests were really useful because they often give the kids a data chart with results from those tests on the diploma exam and they have to be able to recognize the significance of the numbers*
- *invertebrate count was so much fun and again, shows up on the diploma exam as a way to analyze water health*

*Thank you for scheduling us in!"*

**Forest Lawn High School, Calgary**



***"Our future is these students."***

***Kris, RW Guide***





***“The kids take a lot from this program, it’s not just an educational program like a day of school where they go home and forget about it, this is a very memorable day for a lot of the children and they remember this trip for years to come. I feel it opens their eyes and makes them more aware and environmentally friendly.”***

*Crystal, RW Guide*

## **RiverWatch**

**Institute of Alberta**

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Edmonton, Alberta Canada T5T 1L6

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