

# AWQA

Alberta Water Quality Awareness Day



## 2007 Water Quality Snapshot

### Thousands of Albertans make a splash monitoring Alberta's waterways!

The third Alberta Water Quality Awareness (AWQA) Day was a huge success! 4847 Albertans got their feet wet exploring the water quality of local lakes, rivers and wetlands from May 15th to June 30th 2007. Together, individuals and groups of all ages sampled 1016 sites for four basic water quality parameters: temperature, dissolved oxygen, pH and turbidity. The findings

collected from across the province were pooled to create a snapshot of water quality.

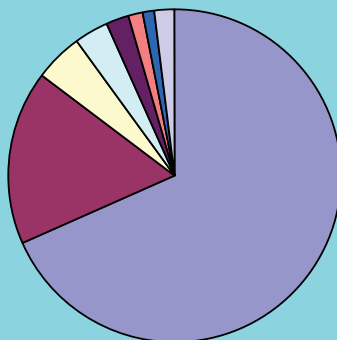
The greatest accomplishment, however, was the collective effort of thousands of Albertans to monitor the state of their local waterways and to discover more about the importance of water quality and healthy watersheds.



The goal of AWQA Day 2007 is to increase awareness and understanding of our water resources, while promoting stewardship and personal involvement in the protection of our waterways.

### Who took part?

- A total of 4847 people took part in AWQA Day 2007. This is over 2000 more participants than last year!
- Participants included school groups, individuals, families, watershed groups, youth groups, community groups, government and non-government organizations.
- Together volunteer AWQA Day samplers collected water quality results from 1016 sites.



- Individual or Family
- Youth/Community Group
- Non-government Organization
- Industry
- School
- Government Agency
- Watershed/Lake group
- Other

AWQA Day could not be a success without its invaluable participants. Our sincerest thanks to those who joined friends and family in an effort to preserve the health of local watersheds.



## 2007 AWQA Day Water Quality Sample Sites

Many different surface waterbodies, from ponds and dugouts to rivers and wetlands, were sampled for four basic indicators of water quality:

- Turbidity
- Dissolved Oxygen
- pH
- Water Temperature

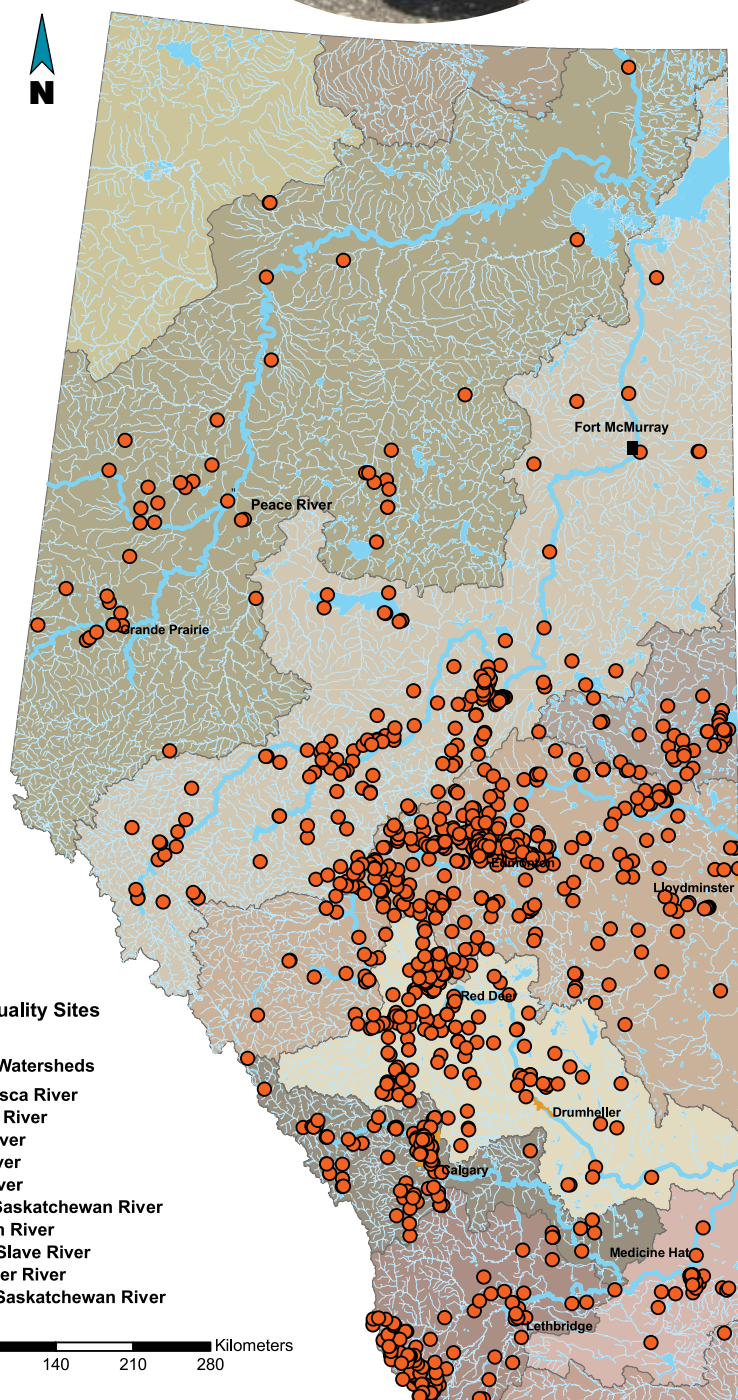
These water quality characteristics are easily measured in the field and are important components of healthy aquatic ecosystems.

Water samples were collected and tested in each of the nine major river basins in Alberta. The provincial map shows where the 1016 water quality sample sites were located.



## AWQA Day 2007 Snapshot Water Quality Sample Sites

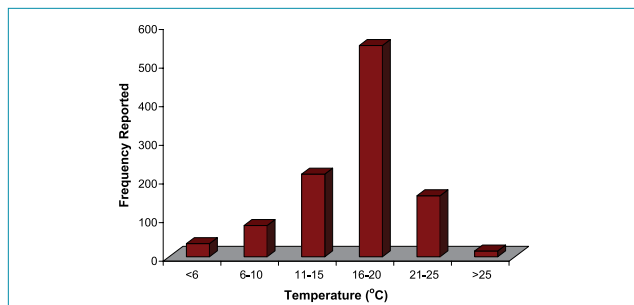
WATERSHEDS	PARTICIPANTS	SITES
Athabasca River	425	151
Bow River	1066	116
Hay River	0	0
Missouri River	4	1
North Saskatchewan River	1741	370
Oldman River	467	113
Peace River	337	47
Red Deer River	490	148
South Saskatchewan River	150	29
Beaver River	167	41
<b>TOTAL</b>	<b>4847</b>	<b>1016</b>



Additional AWQA Day maps can be found at [www.awqa.ca](http://www.awqa.ca) with water quality findings from major watersheds.

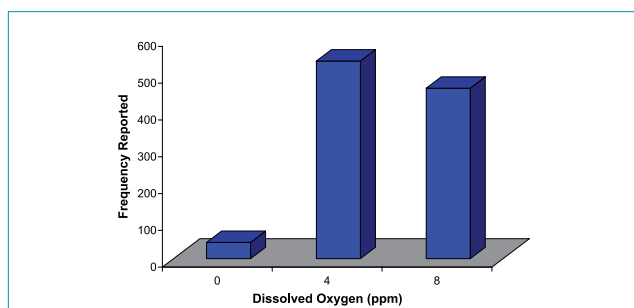
## 2007 AWQA Day Water Quality Results

**Water Temperature:** Temperature is a measure of how hot or cold the water is.



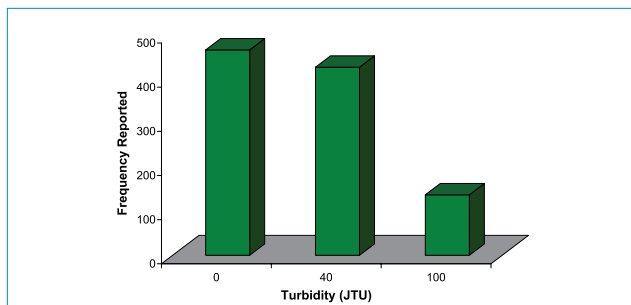
Water temperature is one of the most important parameters in natural surface water systems. Temperature controls the metabolism of aquatic plants and animals and is largely responsible for biochemical reactions and many other processes. Extreme variations in temperature can also have a negative effect on aquatic life. Water temperatures under 20°C can be considered cooler and more favourable for aquatic life, as colder water can hold more oxygen. Warmer water temperatures may occur during summer months, and in shallow, slow moving water. The results from the AWQA Day program indicate that the majority of water sampled was within this temperature range.

**Dissolved Oxygen (DO):** DO is a measure of the amount of oxygen dissolved in water.



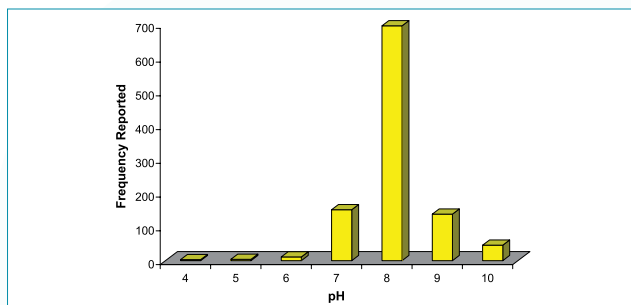
Dissolved oxygen is needed by aquatic organisms, such as fish and bugs, to survive. DO values greater than 5-6 ppm are generally required to support diverse and healthy aquatic life. The majority of water sampled for the AWQA Day program were above 4 ppm, meaning moderate to healthy DO concentrations were observed at the time of sampling.

**Turbidity:** Turbidity is a measure of water clarity and is a function of the amount of sediment in the water.



Turbidity can be caused by soil erosion, waste discharge, urban runoff, bottom feeders like carp that stir up sediments, household pets playing in the water, and algal growth. Water high in turbidity can negatively affect fish development and growth and interfere with drinking water disinfection. A turbidity of less than 1 NTU can be found in clear lakes and streams, to hundreds of NTU during runoff events or naturally turbid waters. Almost 90% of water sampled for the AWQA Day had low to moderate turbidity (0 - 40 JTU).

**pH:** pH is a measure of the relative acidity of water.



A pH of 7 is considered neutral with anything less being acidic and anything greater being basic. A pH level between 6.5 and 8.5 is considered ideal for sustaining a wide diversity of aquatic plants and animals. Water with extremely high or low pH is deadly. A pH below 3 or above 11 will kill most fish and is intolerable for most animals. 95% of the water sampled for the AWQA Day program was within the 7 - 9 pH range, which is ideal for sustaining healthy aquatic plants and animals.

While the data collected for AWQA Day creates a snapshot of water quality, it is not intended to provide rigorous scientific information. The true value of AWQA Day comes from the educational opportunities that arise during sampling and by bringing people together across Alberta's watersheds to demonstrate the impact that collective action can have.



## Thank you to everyone who participated in the third Alberta Water Quality Awareness Day!

If you would like to continue your involvement in your watershed and water quality activities, please consider:

- Joining a local watershed stewardship group. For more information visit [www.ab.stewardshipcanada.ca](http://www.ab.stewardshipcanada.ca).
- Volunteering with lake or stream sampling through Alberta Lake Management Society ([www.alms.ca](http://www.alms.ca)) or another non-profit group.
- Checking out [www.awqa.ca](http://www.awqa.ca) to learn more about what we can all do to protect water quality.

### Recycle your free water quality test kit!

Supplies from past years can be reused as each kit has the capability of testing over 50 samples!

## Are you interested in Alberta Water Quality Awareness Day 2008?

It's fun and easy to take part!

Online registration will begin in early 2008, at [www.awqa.ca](http://www.awqa.ca).

There are four key steps:

1. Register by April 30th for a free water quality test kit
2. Choose your sample location(s)
3. Collect and test your water samples between May 15th and June 30th
4. Share your results at [www.awqa.ca](http://www.awqa.ca) by July 15th to contribute to the province-wide snapshot of water quality!

## What did Albertans have to say about their AWQA Day experience?



"We did our water quality test at Pine Lake on June 2nd, 2007. It was a beautiful day and perfect conditions for a day on the water. Our beagle 'Queenie' loves to go fishing with us but can't swim very well, so she willingly wears her little life jacket. She took great interest in the water quality tests and the picture shows her waiting in anticipation for my wife Caroline to announce the results!"

— John Taylor



"My friends and I went out to Elk Island National Park on June 22nd, we had such a fun time testing water. We will definitely do this again next year. What a great combination of laughter and learning. Our dog grabbed our rubber glove at one point and ripped off the finger! Thanks a lot for this great program!"

— Marie Buoy

"There were some moments of real understanding regarding water care and how the quality affects so many aspects of our lives. The 'light came on' for some of these kids who simply turn on the tap and expect quality."

— 2007 Participant

"This was a terrific way to spend a morning with my son and an awesome educational experience. Next year I will offer to work it into his grade one curriculum by planning a field trip with his class. You're never too young to start thinking about the health of our water."

— Kristine Dalzell

"The best thing about the AWQA Day program is knowing that as individuals we can have a strong impact when we're part of a provincial team."

— 2007 Participant



Canada, Alberta Environment, Alberta Stewardship Network, Fisheries and Oceans Canada and Inside Education.

AWQA Day is a program of the Alberta Lake Management Society in partnership with: Alberta Agriculture and Food, Agriculture and Agri-Food

Sponsored by:



With special thanks to Mountain Equipment Co-op and McBain Camera.