AWQA

Alberta Water Quality Awareness Day

2008 Water Quality Snapshot

Thousands of Albertans get their feet wet monitoring Alberta's waterways!

Alberta Water Quality Awareness (AWQA) Day 2008 was a grand success! 3081 Albertans got out and explored the water quality of their local ponds, rivers and wetlands from May 15th to August 31st 2008. Together, Albertans of all ages sampled 645 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.

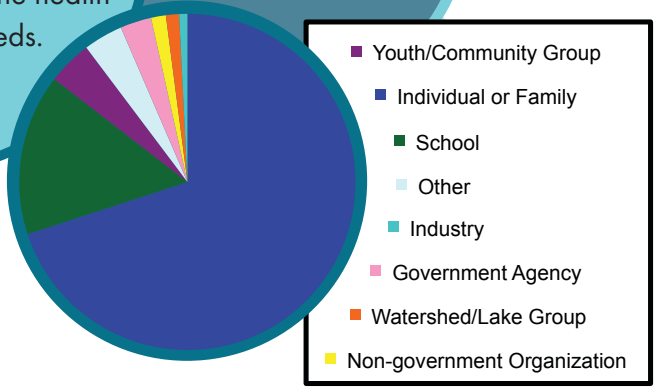
Who took part?

- A total of 3081 people took part in AWQA Day 2008.
- Together volunteer AWQA Day samplers collected water quality results from 645 sites throughout Alberta.

The goal of **AWQA Day**, June 5th, is to increase awareness and understanding of our water resources, while also promoting stewardship and personal involvement in the protection of our waterways.

AWQA Day could not be a success without its invaluable participants. Our sincerest thanks to those who took an interest in preserving the health of local watersheds.

A wide variety of groups participated in AWQA Day



www.awqa.ca

2008 AWQA Day Water Quality Sample Sites

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

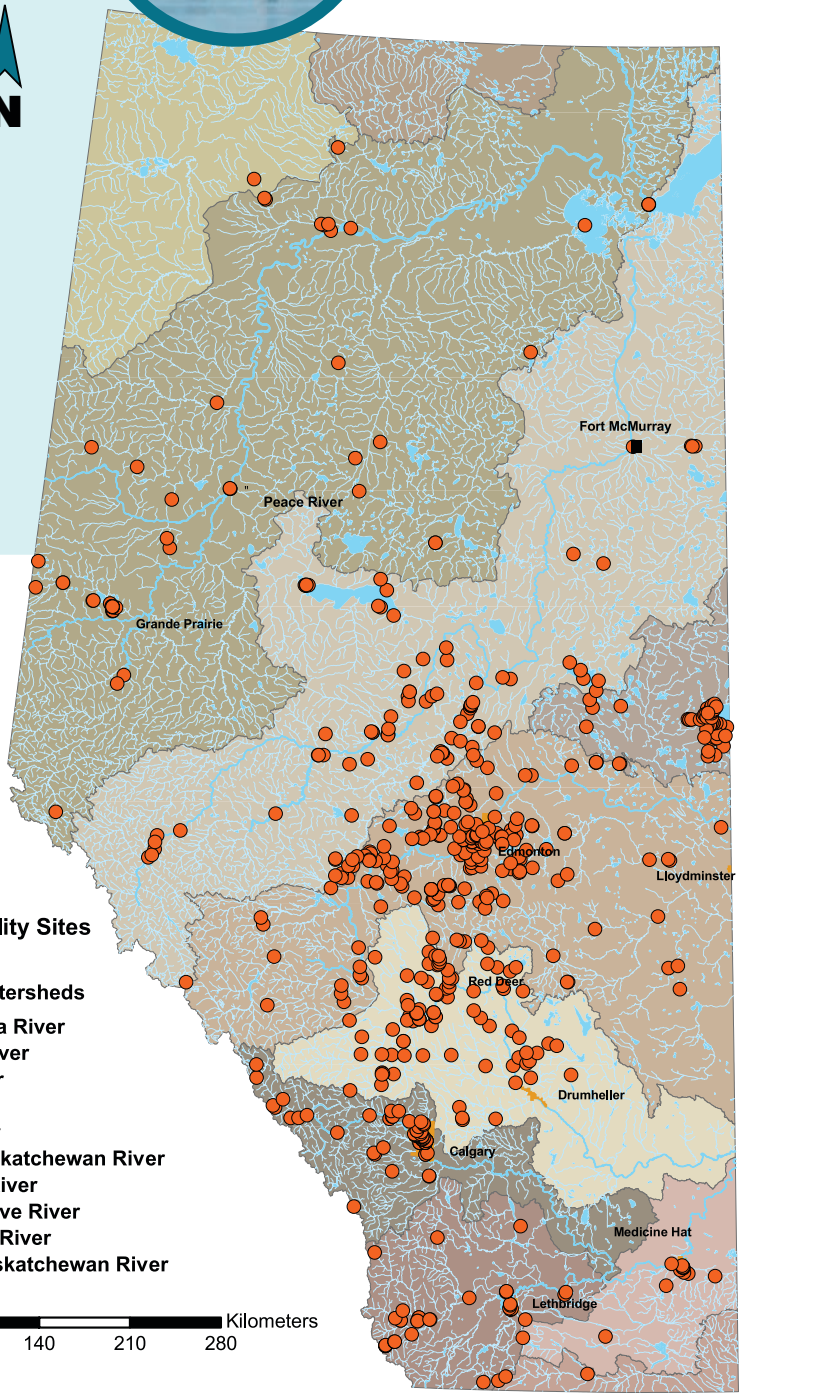
- **Turbidity**
- **Dissolved Oxygen**
- **pH**
- **Water Temperature**

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 645 water quality sample sites were located.

AWQA Day 2008 Snapshot Watershed Participation

BASIN	2008 % of Total Sites	2008 % of Total Participants
Athabasca River	15	14
Beaver River	9	5
Bow River	11	10
Hay River	<1	<1
Milk River	<1	<1
North Saskatchewan River	33	24
Oldman River	6	6
Peace/Slave River	8	16
Red Deer River	14	12
South Saskatchewan River	3	12

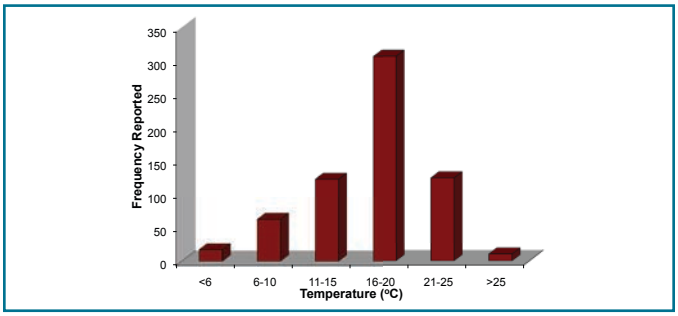


Additional AWQA Day maps can be found at www.awqa.ca with water quality findings from the major watersheds.

2008 AWQA Day Water Quality Results

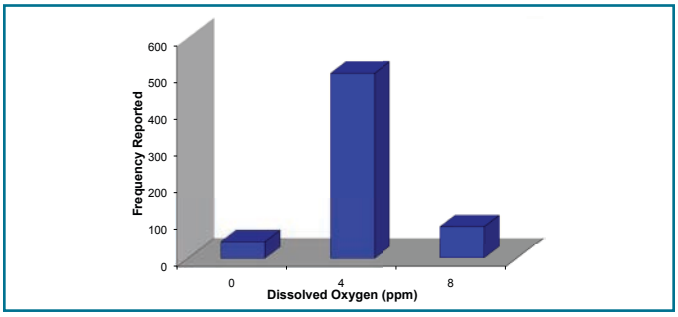
While the data collected for AWQA Day creates a snapshot of water quality, it is not intended to provide rigorous scientific information. The true value of AWQA Day comes from the educational opportunities that arise during sampling and by engaging people throughout Alberta's watersheds and demonstrating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

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



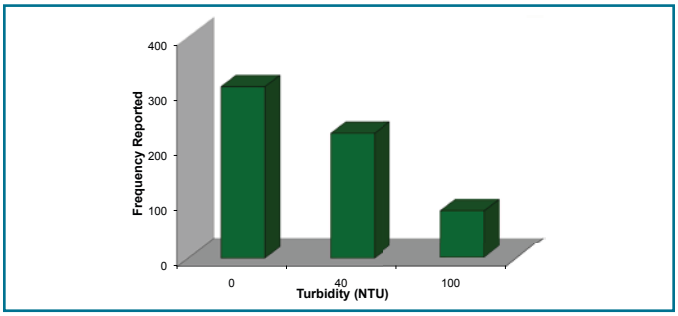
Water temperature is one of the most important parameters in natural surface water systems. Temperature controls the metabolism of aquatic plants and animals and is largely responsible for biochemical reactions and many other processes. Extreme variations in temperature can also have a negative effect 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 indicate that the majority of water sampled was within the desired cooler temperature range.

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



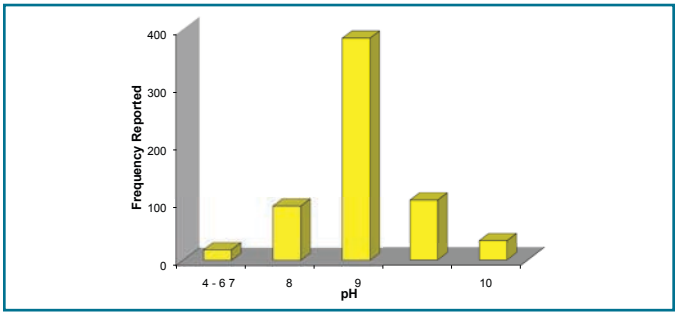
Dissolved oxygen is needed by aquatic organisms, such as fish and bugs, to survive. DO values grater than 5-6 ppm are generally required to support diverse and healthy aquatic life. The majority of water sampled for the AWQA Day results were around 4 ppm, meaning moderate to healthy DO concentrations 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 NTU).

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 is 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. The pH range of most natural surface waters is about 6.0 to 8.5. Over 90% of the water sampled for the AWQA Day was within the 7 to 9 pH range, which is ideal for sustaining healthy aquatic plants and animals.

Congratulations to everyone who participated Alberta Water Quality Awareness Day 2008!

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

- joining a local watershed stewardship group, visit www.ab.stewardshipcanada.com for more information.
- volunteering with lake or stream sampling through Alberta Lake Management Society (www.alms.ca) or another non-profit group.
- checking out www.awqa.ca and www.alms.ca to learn more about what we can all do to protect water quality.

Are you interested in Alberta Water Quality Awareness Day 2009?

It's fun and easy to take part!

Online registration will begin in March 2009, at www.awqa.ca.

There are four key steps:

1. Register by April 30th for a free water quality test kits
2. Choose your sample location(s)
3. Collect and test your water samples between May 15th and August 31st.
4. Be a part of the "Big Picture"! Share your results at www.awqa.ca by September 15th to contribute to the province-wide snapshot of water quality!

AWQA Day water quality test kits are provided free of charge!

Save your test kit. Supplies from past years can be reused. Each kit can test up to 10 samples.

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

My students found your kit very interesting, and the direct comparison with more technical sampling gear was very informative. I plan on continuing to use the kit in this lab in the future, as I feel it helps the College kids, who are training to become environmental technicians, a great opportunity to see how the general public can be involved in the monitoring of our aquatic resources.

- Vee Gotceitas

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.

- Past Participant

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.

- Past Participant

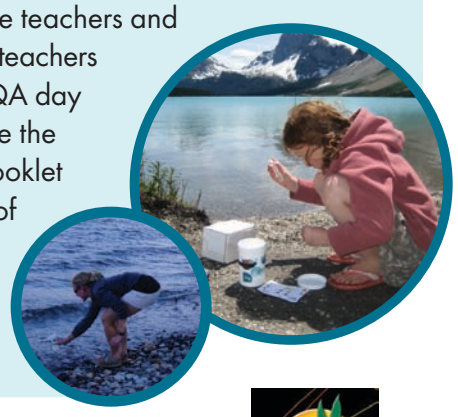
Hi AWQA Day Team!

Thank you for providing a handful of testing kits for us at the Parkland Conservation Farm. We not only tested our own waterbodies at the farm but were able to test over 10 other sites with our registered grade 5 classes during on farm and outreach Wetland Education Programs.

Having the test kits really added to our wetland/water education programs. The kids loved getting involved and learned tons, as did the teachers and parents. I told many, many teachers about the test kits and AWQA day program. I really appreciate the new and improved data booklet this year. Keep up with all of the amazing facts!

Great job!

- Pamela Gottselig



ALMS Alberta Lake Management Society

AWQA Day is a program of the Alberta Lake Management Society in partnership with: Alberta Agriculture and Food, Agriculture and Agri-Food Canada, Alberta Environment, Alberta Stewardship Network, Fisheries and Oceans Canada and Inside Education.

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