

Battle River Watershed

watershed the area of land that catches precipitation and drains into a larger body of water such as a marsh, stream, river or lake.
[syn: basin]

Vol 1, Issue 3, May 2005: Municipalities, Industry & Health



HOW MUCH WATER DO WE USE?

MUNICIPAL & INDUSTRIAL WATER USE

Events

June 8th (Wed)
BRWAG Forum IV: Water Licensing; Managing Supply & Demand
9:30am-12:30pm
Elks Club, Hardisty

June 14th (Tues)
Solar Pumps in Action & 1st Annual Vermillion River Watershed BBQ
Tour: 1:00-6:00pm
Bus leaves Jackfish Lake Regional Park for tour of water pumping systems at MTC Cattle Co. and Ranach Grazing Reserve. Register by June 10.
BarBQ: 6:00-9:00pm
Jackfish Lake Reg. Park. Register by June 13

Cost: \$10/person
Contact: Mona Lee Kirkland (780) 853-8104 or Maureen Rue (780) 853-6838.

June-September Water Quality Sampling on the Battle River
An open invitation to see water quality sampling in action and ask questions about Battle River water quality. A number of locations along the Battle River are being sampled monthly until September.
Contact: Chris Teichreb at Alberta Environment (403-341-8613)

Municipalities and industry are licensed to withdraw approximately 25,000 decameters³ of water from the Battle River every year. However these sectors often only use a portion of the water they've been allocated, or they return much of the water they use back to the river. For example water used in households in towns and cities is mostly returned to the river via sewage treatment systems.

Thus *actual* water use by these sectors is 11,000 decameters³ per year, with the oil and gas industry only using a fraction of the water they are licensed to

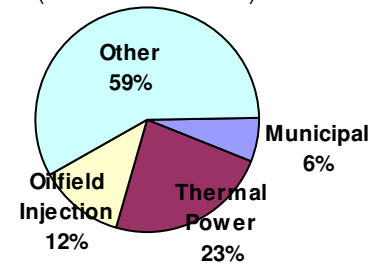
use. Municipalities use about half of their licensed water volume.

Did You Know...
Getting water from the river to your tap is expensive! For example, City of Camrose spent \$900,000 last year on water treatment alone.

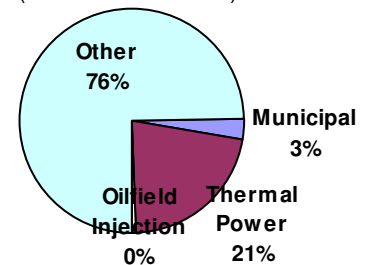
Water use by other sectors in the Battle Watershed (e.g. agriculture) will be explored in upcoming Water Forums and newsletters.

Annual Natural Flow in the Battle R. = 285,000 (decametres³/year)

Licensed Water Use from Battle R.
60,000 decameters³/year
(21% of natural flow)



Actual Water Use from Battle R.
45,000 decameters³/year
(16% of natural flow)



NEW WATER CONSERVATION MASCOT FOR CITY

The City of Camrose has recently introduced a new tool for encouraging water conservation.

Wayne Drop will be the water conservation mascot for the City of Camrose. Wayne Drop is a superhero who will be fighting off the water waster villains in our community. The mascot was created by Vicki Cole, the Educational Promotions Coordinator for Kids Camrose. This educational program targets students with nu-

merous environmental programs.

Wayne Drop will be making appearances during water conservation school programs water treatment plant open house, Alberta's Water Quality Awareness Day, the Yellow Fish Road, Water Watch Dog programs, trade shows, parades and more.

The City is hoping that Wayne Drop will add to the City's current water conservation programs.



Wayne Drop

Did You Know...

Residents of the Battle River Watershed use about 423 L of water each per day. This is for household use only! Can we do better?

Water Forums

The Battle River Watershed Advisory Group (BRWAG) is attending seven water management forums held monthly from March to September 2005.

The presentations given at the water management forums will be posted on our website (under construction) and summarized in our monthly newsletters.

Although the Forum Series was designed for BRWAG members. There may be space for additional observers.

Contact Rhonda King at: (403) 340-7195 or rhonda.king@gov.ab.ca.

Forum Schedule

Note date changes in red.

- Watershed Function & Climate Variability (Mar 19, Killam)
- Aquatic Environment: River Health and Fisheries (Apr 13, Ponoka)
- Municipalities, Public Health & Industry: Water Needs & Impacts (May 11, Castor)
- Water Licensing; Water Supply & Demand (Jun 8, Hardisty)
- Agriculture: Water Needs and Impacts (Jul 13, Wetaskiwin)
- Economics & Alternative Water Supply Options (Aug 10, Wainwright)
- Dams, Weirs, Recreation & Biodiversity (Sep 14, TBA)

MAY 11TH WATER FORUM, CASTOR

Municipal & industrial water use were the topics of the Battle River Watershed Advisory Group's (BRWAG) third water management forum. The forum was held on May 11th, at Castor's Golden Circle Club.

John Thompson, with Watrecon Consulting, presented data on how much water municipalities, power generation, and oil and gas industries were really using, versus the amount they are licensed to use. All three sectors use less water than allowed under their licenses.

Alvin Beier, an approvals technologist with Alberta Environment, presented

information about sewage treatment and stormwater systems used by towns and cities in the Battle watershed.

Ted Gillespie, City Engineer for City of Camrose, shared information about Camrose's water and waste treatment systems.

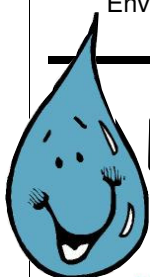
He was followed by Dr. Gerhard Benade, with the East Central Regional Health Authority. Dr. Benade spoke on the importance of using a watershed approach to help protect water quality and prevent water-borne disease.

Phil Taylor presented for ATCO Power, describing the Forestberg power plant and its water needs.

Leo Touchette with the Alberta Energy and Utilities Board (EUB) was also on hand to talk about the role of the EUB in regulating oil and gas developments in the watershed.

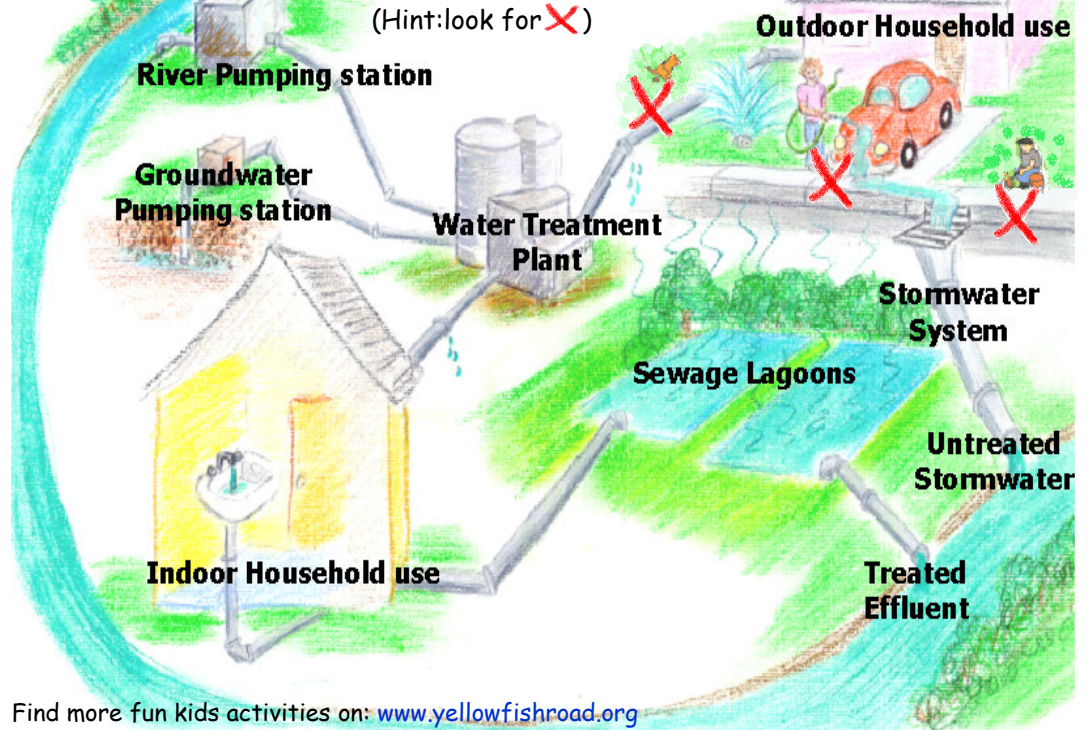
The session was finished by Tim Belec from the Battle Lake Watershed Enhancement Society. Tim spoke on the cumulative effects of oil and gas activity in the Battle Lake area.

The speakers' presentations are summarized in the notes opposite.



KIDS' STUFF Know where it goes
...Sewage & Stormwater

What sorts of activities affect water quality in our river?
 (Hint: look for X)



Find more fun kids activities on: www.yellowfishroad.org
www.ecokids.ca/pub/eco_info/topics/water/water/index.cfm#

FORUM II: APRIL 2005

BATTLE RIVER WATER MANAGEMENT PLANNING

Forum Notes: Municipalities, Public Health & Industry: Water use & impacts

Municipalities: Water Use

- Municipalities & rural homes need water for households, watering, businesses and manufacturing. But by using this water, municipalities also affect water quantity and quality for downstream water users and the river ecosystem.
- Rural residents are entitled to a limited amount of water without a license for household use.
- Towns and cities require water licenses to draw water from the Battle watershed. Of the 38 cities, towns and villages in the basin, only nine rely on surface water; the remainder use groundwater.
- It is expensive to supply water to towns and cities. For example, the Camrose spent \$900,000 last year to treat water to meet drinking water quality standards.
- Municipalities return most of the water they use to the river as sewage/wastewater. Some water is lost because of evaporation from sewage lagoons, leaks in the water system, and lawn and garden watering. Water that is not returned to the river is referred to *actual* water use.
- Water used by cities, towns and rural households accounts for less than 5% (or 4,000 decametres³/year) of the total *actual* water use (ground and surface) in the Battle River watershed. Of this 4 million m³/year, 65% is licensed water (ground and surface) used by towns and cities. 30% is unlicensed water (drawn mostly from wells) used in rural households. The remaining 5% is imported from the Red Deer and N. Saskatchewan rivers for Stettler and Viking.
- 111,000 people live in our watershed: 65% in the upper (western) part of the watershed and where the population is growing rapidly; 23% in the middle part of the watershed and declining; 12% in the lower (eastern) part of the watershed and growing.
- Population growth projections indicate that most communities in the Battle watershed will be able to support their population growth with their existing water license allocations. Camrose, Wetaskiwin and some of the smaller communities in the upper basin may need new water allocations within 15-30 years.
- These projections assume water management practices will remain the same. However, greater water efficiency and conservation may

reduce future municipal water demands.

Municipalities: Impacts

- Although ~77% of water withdrawn by towns and cities is returned to the river, it is held in sewage lagoons for 6-12 months before release. This may affect on the river's hydrology and water availability for downstream users. Presently, these releases occur in October and April but municipalities may be able to time the release of water from their sewage lagoons to improve the health of the Battle River (e.g. by releasing together in the spring to help create flushing flows). Urban residents can lessen their impact by practicing water conservation, particularly in their yards.
- Wastewater discharged into the river from sewage lagoons contains nutrients, bacteria and chemicals picked up from households. Sewage lagoons remove most bacteria and nutrients from wastewater; however they do not treat many soluble chemicals and pharmaceuticals. Hundreds of new chemicals from pharmaceuticals, shampoos, soaps, anti-bacterial cleaners, etc. enter our water systems every year. Use of biodegradable detergents, & non-toxic cleaners and toiletries, and proper disposal of chemicals and pharmaceuticals by residents can improve the quality of municipal wastewater.
- Rain and melt-water run-off from urban areas picks up pollutants from our lawns, roads and driveways (e.g fertilizers, herbicides, oil, grease, gasoline, dog droppings, etc.) before running into storm sewers. Some storm sewers drain directly into the Battle River. Other sewers empty into settling ponds or artificial wetlands before discharging into the river. Treating the storm water before discharging it into the river (e.g. using artificial wetlands) reduces pollutants entering the river. By reducing their use of garden chemicals, fixing leaking engines, and properly disposing of chemicals, paints, etc., residents can reduce pollution in the river.
- Municipalities also affect the Battle River through their land-use decisions. For example, land uses that damage wetlands or riparian areas will affect the river's water quality.
- Maintaining water quality in the Battle River is important for public health. Water quality varies in the Battle River, and treating it to a safe drinking standard is expensive. Water-borne dis-

eases are a health risk, and a variety of different approaches are needed to help protect water quality. The Regional Health Authority, under the guidance of the Public Health Act, is responsible for dealing with disease outbreaks.

Thermal Power : Water Use & Impacts:

- ATCO's Battle River power generating station has been operating since 1956. It generates 675 Megawatts of electricity.
- Although ATCO's water license allows it to divert 690,000 million decametres³/year of water per year, the amount of water it *actually* uses (water lost to evaporation and not returned to the river) accounts for only 10,000 decametres³/year, or 21% of the total surface water use in the Battle River watershed. As with municipal water use, ATCO's water use affects the river's hydrology and water availability for downstream use. Discharges from ATCO's operations increase the temperature of the river.

Oilfield Injection: Water Use & Impacts:

- Last year, water used for oilfield injection accounted for 0.3% (or 153 decametres³/year) of all surface water actually used in the Battle River watershed and currently has a minimal impact on the Battle River's hydrology and water availability for downstream users.
- Use of water in oilfield in the Battle River watershed has dropped by 54% since 1999, and further declines of 2.5% per year are predicted as oil reservoirs are depleted.
- Cumulative effects of land clearing for oil and gas installations and other developments are affecting some areas of the Battle watershed.
- The Energy and Utilities Board (EUB) is an independent body responsible for ensuring fair and responsible development of oil and gas resources. The board is responsible for processing oil and gas development applications.

Additional Resources

City of Camrose Water System: <http://www.camrose.com/engineer/water/wtp1.htm>

Water Conservation Tips: <http://www3.gov.ab.ca/env/water/Conservation/residential.cfm>

Water use & oilfield injection: <http://www.waterforlife.gov.ab.ca/html/removed.html#report>

Your Local Agriculture & Watershed Specialists

Beaver County

Aimee Cook
Municipal Conservation Technician
(780) 663-3730, (780) 895-2585
aesa@beaver.ab.ca

Camrose & Stettler Counties

David Trautman
Asst Ag Fieldman, Farm Prog Spec
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Dtrautman@county.camrose.ab.ca

Flagstaff & Paintearth Counties

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Rural Conservation Technician
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Wainwright, M.D. of

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Agricultural Fieldman
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Battle River Research Group

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brg.fl@telus.net

Parkland Conservation Farm

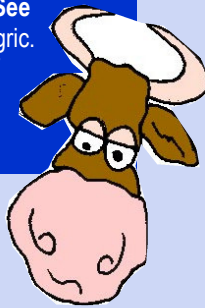
Kelly Montgomery
Farm Extension Coordinator
(780) 632-2244,
paripcf@parklandconservationfarm.com



Thinking about
water conserva-
tion at home?
Check out
some tips on:

www3.gov.ab.ca/env/water/conservation/residential.cfm

Interested in sustainable
soil & water management
on the farm? See
how on: www.agric.gov.ab.ca/app21/rtw/selcat.jsp



Take Action!

Ready to help the Battle Watershed? Want to find out how? Contact these groups:

Local Agriculture & Watershed Extension Specialists

Sustainable farming, land management & water use
See contacts opposite

Iron Creek Watershed Improvement Society

Promoting sustainable land and water use in the Iron Creek Watershed
(780) 384-4118

Parkland Stewardship Program & Farm Waterwatch

Farm conservation planning & surface water quality monitoring
(780) 437-2342

Cows and Fish

Partnering with communities on riparian management
(403) 340-7607

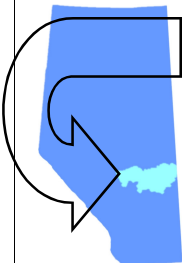
Ducks Unlimited Canada

Restoring & managing wetlands for habitat & wildlife
(780) 672-6786, ext 5

Alberta Conservation Association

Conserving & enhancing wildlife, fisheries, & habitat
1-877-969-9091

BATTLE RIVER WATER MANAGEMENT PLAN



Battle River Watershed

The Battle River is a modest prairie-fed river, and an important water supply for communities, agriculture and

industry throughout the river's watershed.

With increasing pressure on the Battle River's water supply, demand for water will soon exceed the river's natural supply, creating social, ecological and economic issues.

The Battle River Watershed Management Planning Process

In an effort to resolve water supply and demand issues, Alberta Environment has recently started working with local stakeholders on a water management plan for the Battle River.

These stakeholders include members from local rural and urban municipalities, agriculture, industry, academia, recreation and conservation.

They have formed the Battle River Watershed Advisory Group (BRWAG).

Learn more, have your say

In Fall 2005, watershed residents will be invited to comment on draft water management options for the Battle River.

Did You Know...

toilets typically use about 20 litres per flush? On average, each person in the household will flush a toilet five times per day. Learn about low flow toilets at: www.terrylove.com/crtoilet.htm

In the meantime, read our newsletters or go to our website (under construction) to learn more.

Did You Know... that Canadians use in excess of 340 litres of household water a day? Germans use about 130 litres per day while Africans use just 10. Only the USA uses more water than Canada.

Want more information?

Contact:
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Central Region
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