

# *City of Greater Sudbury*

---

## Unbilled Potable Water Update

Council Meeting  
March 10, 2005

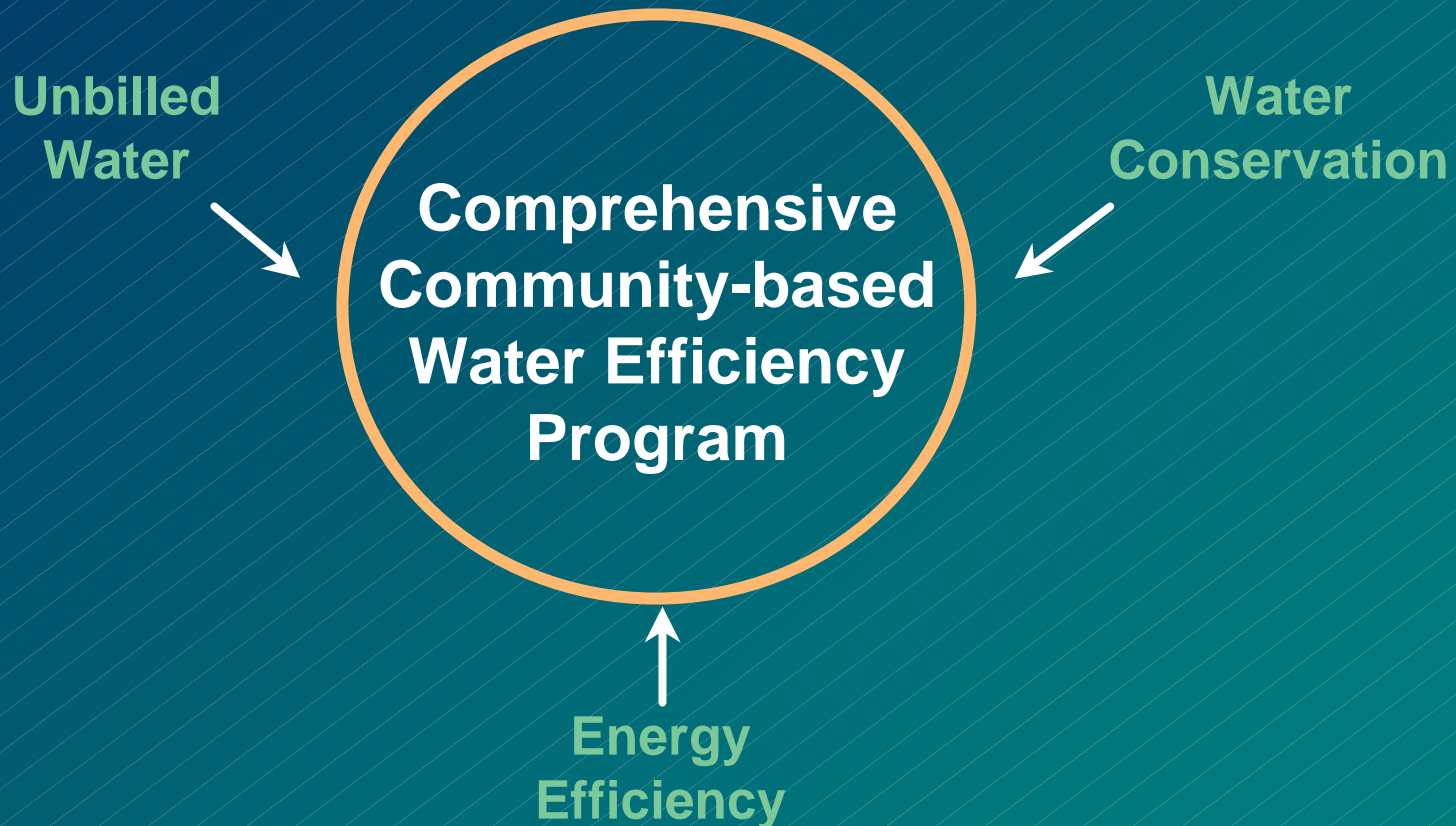
*Presented by* **Paul Graham, P. Eng.**  
**Manager of Environmental Innovation  
& Energy Initiatives**



# *Becoming a Sustainable Community*



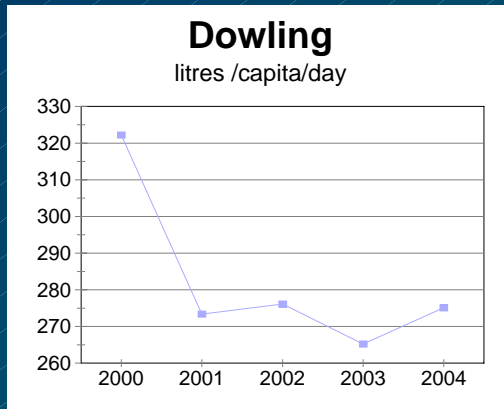
# *EarthCare Sudbury Action Plan*



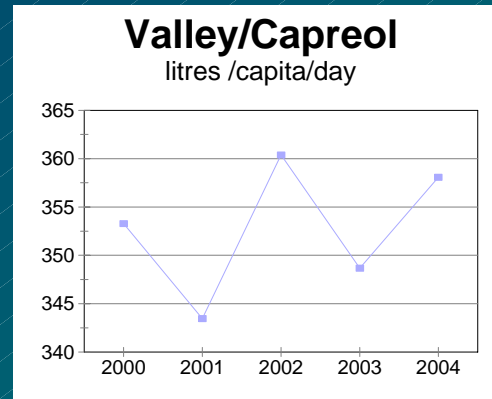
## *2003 Water Supply Facts*

Groundwater Supply	-	22%
Surface Water Supply	-	78%
Total Water Production	-	27,760,598 m <sup>3</sup>
Total Billed Water	-	16,420,976 m <sup>3</sup> (59%)
Total Unbilled Water	-	11,339,622 m <sup>3</sup> (41%)

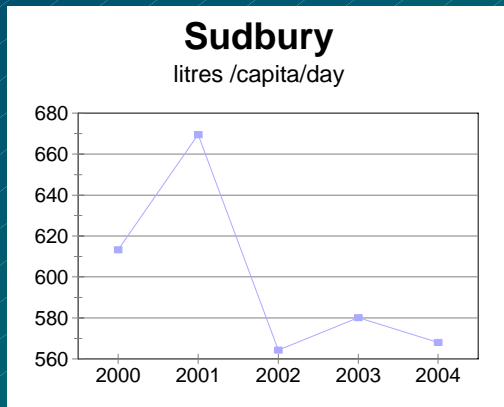
# Typical Water Consumption Profiles



Unbilled – 8.3%



Unbilled – 31.4%



Unbilled – 47.4%

**Sudbury's Water Consumption Rates confirm that early action is required.**

# *Components of Unbilled Water*

---

- Frozen water services
- Watermain breaks & leaks
- Water Quality Management in Distribution System
- Watermain cleaning & swabbing
- Sanitary/Storm Sewer Maintenance Programs
- Potable water use in Waste Water Treatment Plants & Lift Stations
- Contractor uses
- Fire Flows – fighting and practices
- Free flowing stand pipes

# *Frozen Water Services*

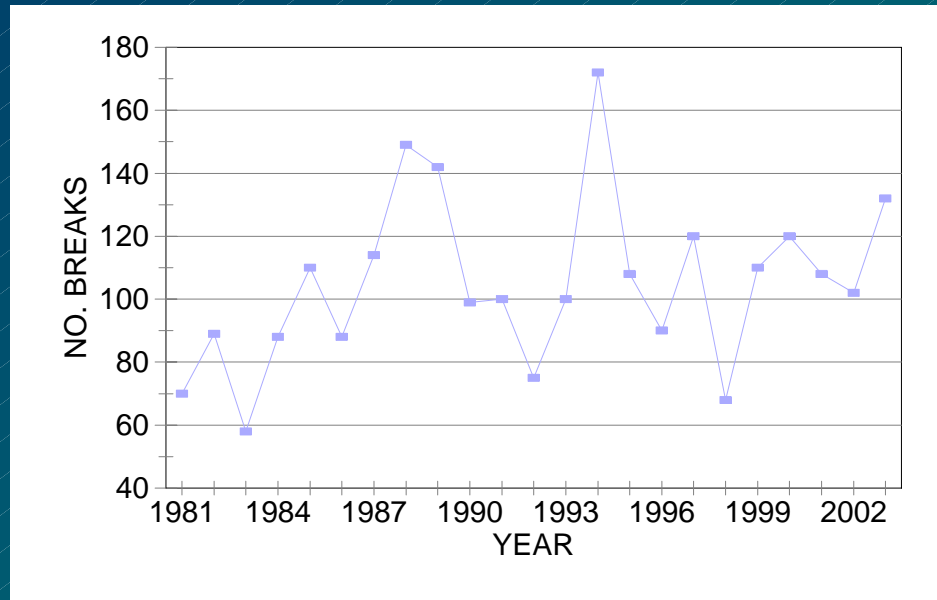
Frozen on Private Property	230
Frozen on Municipal Property	510
TOTAL	<hr/> 740

Last Fall 510 property owners were requested to let water run from the second Monday in December to the last Monday in April and were charged a flat rate.

## **ACTION**

- Accelerate the program to lower/insulate water services
- Review the decision-making process on running water
- Meter, record and report on total water consumed each winter from this procedure

# Watermain Break History



## ACTION

- Continue the search for an economically feasible “leak detection program”
- Water Plant Control Room staff to advise of increased flows



# *Water Quality Management in Distribution Systems*

---

Flushing water to manage localized quality issues

- Red water complaints
- Black water complaints
- Low chlorine residuals

## **ACTION**

- Meter, record and report on total flushing water used annually
- Institute a tracking system aimed at reducing flushing water

# *Watermain Cleaning & Swabbing*

- Removal of sediments and products of corrosion
- Significant increase of cleaning & swabbing required
- Introduction of corrosion inhibitors facilitate this cleaning work



## **ACTION**

- Meter, record and report on total annual water usage during cleaning programs

# *Sanitary / Storm Sewer Maintenance*

---

- Routine cleaning/flushing of sewers and catchbasins
- Emergency response to sluggish flowing sewers or blockages
- Little opportunity to save water; more activity is required in this area

## **ACTION**

- Track/estimate total annual water consumption

# Waste Water Treatment Plants & Lift Stations

---

## 10 Waste Water Treatment Plants

- Most process water is final plant effluent
- Potable water usage restricted to area required by legislation/health & safety

## 75 Sewage Lift Stations

- Flushing/cleaning water is potable

## ACTION

- Meter, record and report on annual potable water usage at each facility
- Continue with a comprehensive backflow prevention maintenance/replacement program

# *Contractor Uses & Fire Flows*

- Currently contractors draw water from designated hydrants as do fire fighters during their practice sessions
- In neither case is the water usage metered or billed
- Obviously emergency fire fighting events are random and can require large quantities of water

## **ACTION**

- Firstly, meter, record and report on annual water usage by contractors and fire fighters
- After the usage is quantified, consider the appropriateness of a user fee

# *Free Flowing Stand Pipes*



Long Lake Rd.



Bancroft Dr.



Spruce St.

Water consumed annually – 55,000 m<sup>3</sup> valued at \$43,505

## **ACTION:**

Develop a plan to eliminate these Free Flow Stand Pipes while continuing to provide water to the public but on a “User Fee Basis”.

# *General Observations*

What you do not measure you cannot manage.

First step is more metering.

A good Tracking System – Water Use Inventory System will reduce waste and facilitate reporting as part of a future Eco Budget Program

Funding is available in both the Water and Waste Water Capital Budgets to begin this work.

# *Benefits of Comprehensive Water Use Inventory Program*

---

- Effective Decision-making Tool
- Benchmarking and Performance Evaluation
- Operating Cost Avoidance
- Capital Expansion Cost Deferral



# *Develop Master Water Plan*

---

- Source Protection
- Future Growth – New Supplies
- Water Use Inventory System
- Integrating Existing System
- Water Conservation

**THANK YOU**

*Discussion  
Period*