



# **Water Efficiency Program Development – Region of Waterloo**

---

**Municipal Engineers Association Conference**

**November 19, 2014**

Steve Gombos

Manager, Water Efficiency

DOCs # 1743885





# Outline

---

- Current water efficiency program
- Water Efficiency Master Plan Update
- W.E.T. Challenge

# The Region's Water Supply

## ➤ Population

- 2011: 553,000 people
- 2031: 729,000 people

## ➤ Wholesaler Through Integrated Urban System

- 16 Rural Systems
- 75% Groundwater
- 25% Surface Water



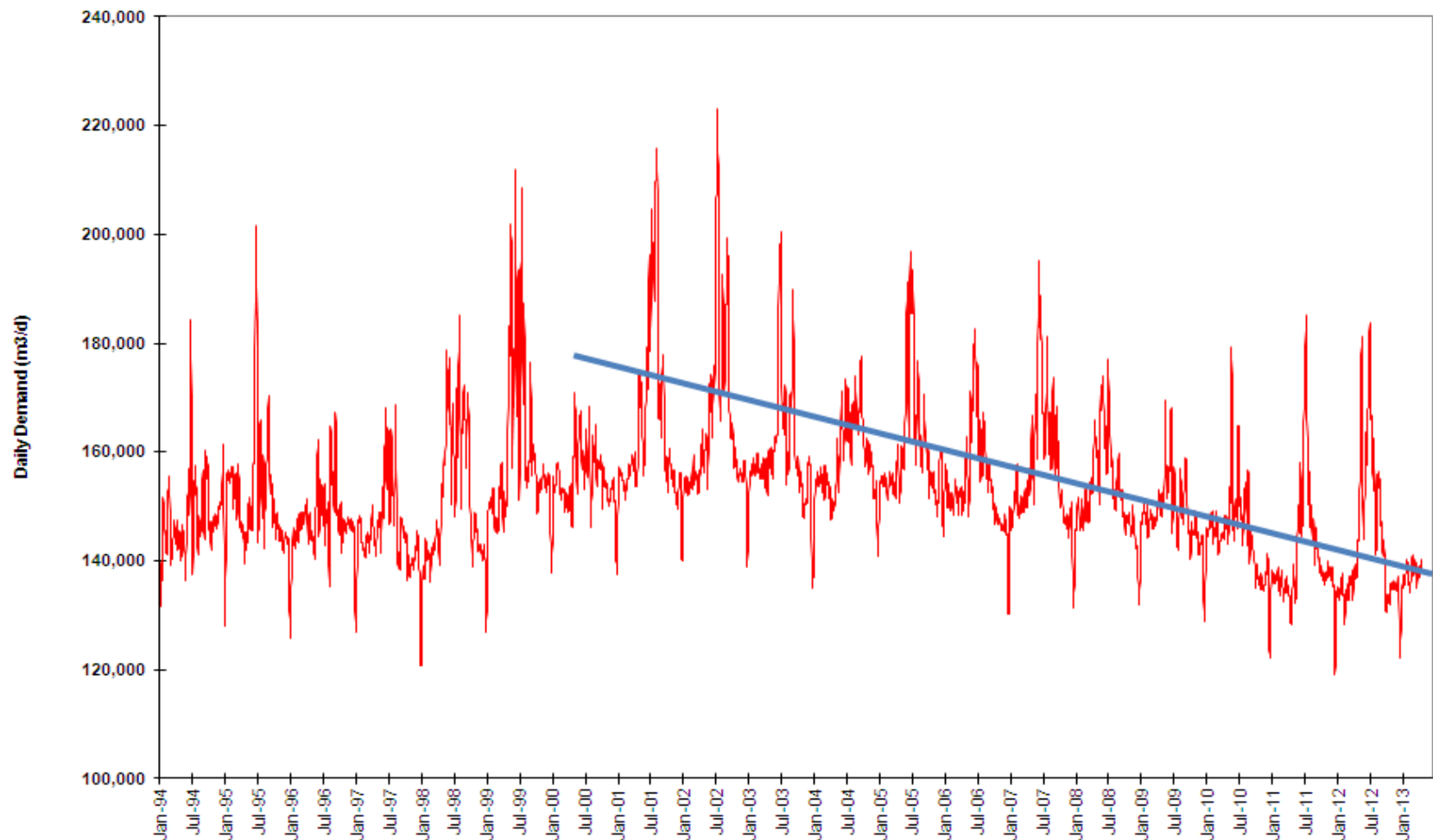


Region of Waterloo

# The Shift in Water Demands

## Long Term Trend

Total Tri-City Water Demand - 1994 to 2013  
7 Day Moving Average



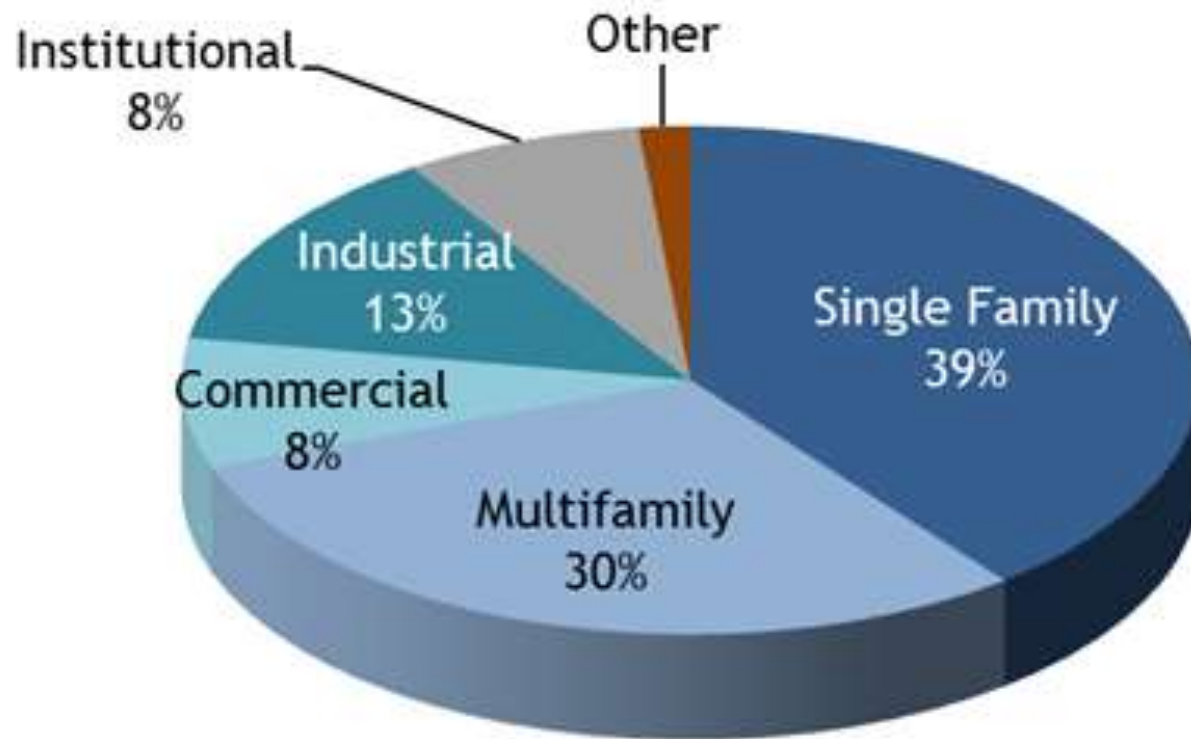
# Why The Drop in Demands?

---

- Industrial closures, changing economy
- CII efficiency practices
- More efficient appliances & fixtures
- Water efficiency programs
- Water Conservation By-Law (max day)
- More water-conscious public

# Water Demand by Sector

---



# We Believe in Water Efficiency

---

- 1974 - Delivered first conservation programs
- 1998 – First Water Efficiency Master Plan
- 2007 – 2015 Second Master Plan
- 2015 – 2025 Third Master Plan Approved
- Now preparing to launch 2015 programs

# Far Exceeded Previous Targets

---

Program	Target m <sup>3</sup> /day	Actual
General Public Ed.	2,610	2,558
Toilet Replacement	3,492	5,501
CII	791	846
Leak Reduction	<u>173</u>	<u>619</u>
Total m <sup>3</sup> /day	7,067	9,524

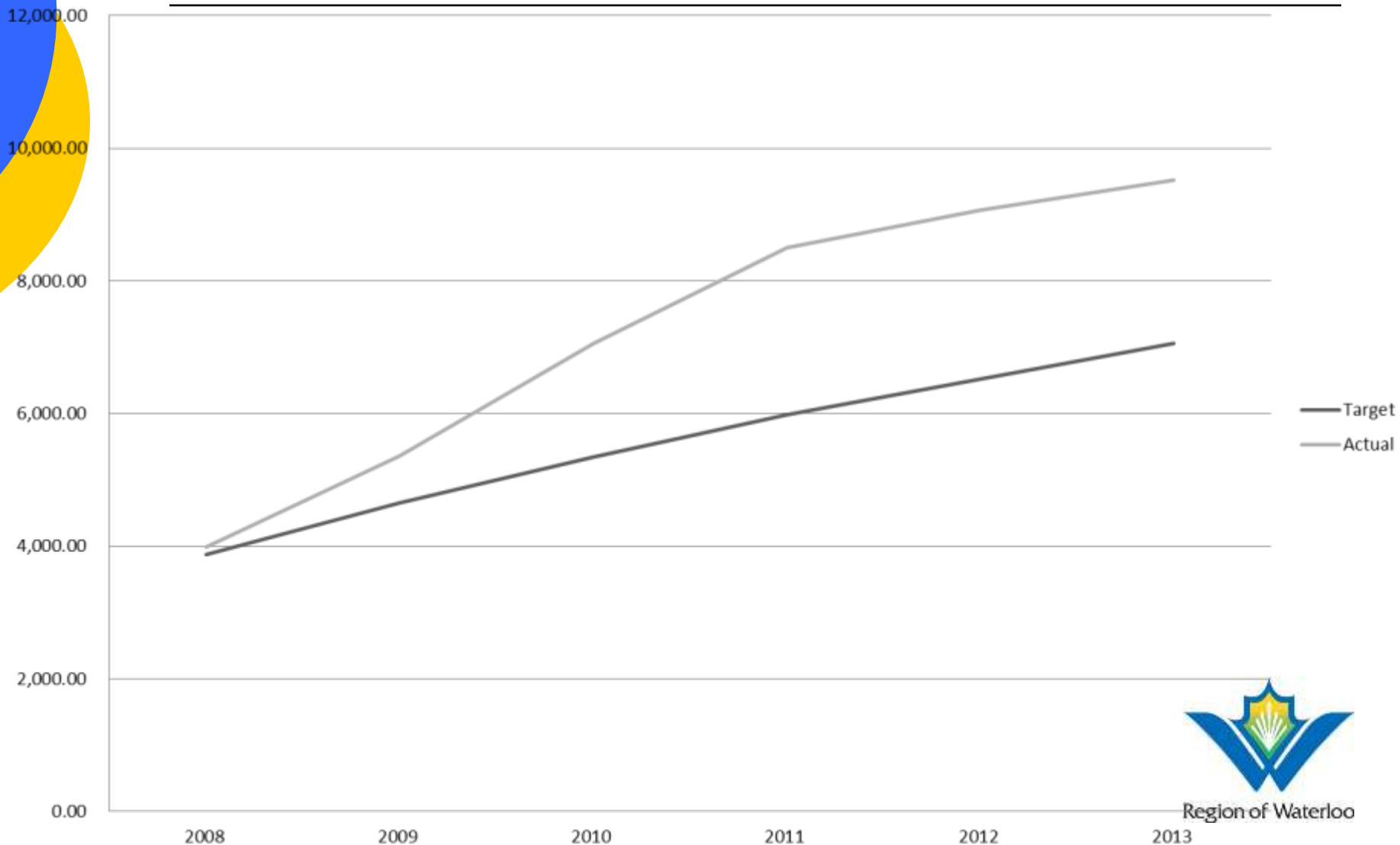
2015 WEMP Target (exceeded by 30%!) 8,146

Water saved enough to supply 13,500 households

- Add 8-10% peak reduction from by-law



# WEMP Target/Actual m3/day 2007 - 2013



Region of Waterloo

# Long Term Water Supply Strategy

---

- Shift from growing to sustaining
- Optimize existing water distrib. System
- Water Efficiency
- Defer/eliminate Great Lakes pipeline

# WEMP 2015 – 2025 Targets

---

- Defer/avoid GL pipeline
- ↓ Total DW by 1,370 ML/Year
- ↓ Greenhouse gas by 7,700 Tonnes
- ↓ *Detached & Semi-detached residential consumption from 202 to 165 LCD*

# Financial Benefits

---

- Prog. Cost of \$1.81 per litres/day
- Minimum cost for new infrastructure is \$2.00 per litre/day
- Already deferred \$100 mill in capital
- \$1 million avoided water operating
- \$1.5 million avoided wastewater op
- Defer/avoid \$1+ billion pipeline

# Objectives & Targets

OBJECTIVES	2011 STATUS	2025 TARGET
<ul style="list-style-type: none"> <li>To further reduce indoor and outdoor water demand in the residential sector.</li> </ul>	202 Litres per capita per day (Lcd) (Tri-City average, single family residential).	165 Litres per capita per day (Lcd), in line with the documented assumptions in the Water Supply Master Plan Forecast
<ul style="list-style-type: none"> <li>To further reduce total system per capita demand.</li> </ul>	285 Litres per capita per day (Lcd).	235 Litres per capita per day (Lcd).
<ul style="list-style-type: none"> <li>To keep summer peak demands at or below existing levels.</li> </ul>	Peaking factor (ratio of maximum day demand to average day demand) averaged 1.28 from 2006 to 2010.	Peaking factor remains same or less than 1.28.
<ul style="list-style-type: none"> <li>To maintain Water Efficiency Program budget and staff at current levels.</li> </ul>	\$1.3 million per year total budget for programming.	\$1.3 million* per year total budget for programming. * 2012 dollars

# WEMP 2015 – 2025 Program Offerings

Sector	Keep Doing	New/Enhanced
Residential	General Education	Targeted Residential Toilet Flapper RW Harvesting
CII	W.E.T. Program	Newsletter Restaurant Prog. Cooling Systems
Partner Professions	Trades Training	New Home Incentives Plumber Training
Community Wide	Conservation By-Law Municipal Leakage ↓	
R & D	Water Softeners	Hot Water Recirc. Sub Metering Topsoil Depth

# Pilot New Residential Program

---

- W.E.T. = "Water Efficient Technology"
- Adopting model from successful CII W.E.T. Program
- Branding as "W.E.T. Challenge"

# Pilot Residential W.E.T. Challenge

---

- Primary Target = high users
- Secondary Target = other homeowners wanting to conserve
- Challenge = 165 LCD by 2025



# What's in it for them?

---

- Stop wasting money
- Save the environment
- Rewards and recognition

# What's in it for us & partners?

---

- Achieve WEMP targets
- Defer pipeline
- Reduce variable operating costs
- *Good customer relations*

# This is a Pilot Program

---

- Try a new approach
- Measure response/participation
- Measure water savings
- Assess logistics
- Track costs
- Report results
- Make changes
- Move forward

# Work With Local Utilities

---

- Analyze water bills
- Select 5,000 high users
- Balanced Region distribution
- Mail letters in waves of 1,000
- Local utility letterhead with Region logo included (initially)

# Call to Action

---

- Your water use high compared to others in city & Region
- Is it high occupancy?
- Could it be leakage, inefficient appliances, fixtures, waste?
- Do a self audit to see
- Make changes
- Answer the WET Challenge

# Registration

---

- Homeowner registers online or by telephone
- Grant permission for ongoing billing analysis
- Ensure protection of privacy
- Permission to communicate

# Self Audit – Water Calculator

---



- Created by the N.A. Alliance for Water Efficiency
- Customized for the Region
- Seamless link through our web site
- Recommends how to save water

# Anyone Can Participate

---



- General advertising will encourage all residents to register and do the self audit





# In-Home Consultation

---

- Confirmed high per capita water users will qualify for a home consultation (300+ LCD?)
- No charge
- Goal is 350 audits per year
- Primarily use Region staff
- Contractor support if necessary

# In-Home Consultation

---

- Inspect fixtures, appliances
- Ask questions
- Look for leaks
- Brief report with recommendations
- Educate
- Provide "W.E.T. Challenge Kit" with literature, promo items, low cost hardware

# Participant Recognition

---

- People reporting steps taken to conserve will receive a sticker or tree ribbon to recognize effort
- Names included in an annual draw for one of several free rain barrels



# Behind the Scene

---

- Staff Monitor actual water use
- email Progress reports/updates

# WET Challenge Award

---

- Top 10 water savers each year will receive recognition plaque
- Addresses listed in Environews (with permission), other promotion
- Offer WTP tour, invite to VIP day, WWCGF
- Publicize testimonials & case studies



# Next Steps

---

- Analyze 2014 billing data
- Develop target mailing list
- Finalize online registration, audit and administration tools
- Finalize Communications Strategy
- Confirm all performance measures



# Milestone Timing

---

- Launch spring 2015
- Begin consultations summer 2015
- First WET awards mid 2016



# Questions?

---

