

STAFF REPORT: ENGINEERING AND PUBLIC WORKS DEPARTMENT

REPORT TO: Infrastructure and Recreation
 Committee

MEETING DATE: October 8, 2013

REPORT NO.: EPW.13.076

SUBJECT: Water Section Operations
 Update – May to August 2013

PREPARED BY: Meg Boyd, Compliance & Efficiency
 Coordinator

A. Recommendations

THAT Council receive Staff Report EPW.13.076 entitled “Water Section Operations Update – May to August 2013” for their information.

B. Background

Ensuring the safety and quality of the Town’s drinking water system is not only the responsibility of the Water Operators who operate and maintain the system but also the Members of Municipal Council and Municipal Officials who exercise decision-making authority regarding the system.

Similar to previous Quarterly Reports, the purpose of Attachment # 1 – Water Operations Update is to provide up to date information with regards to the status and operation of the Town’s drinking water system and to report on water quality issues for the period of May to August 2013.

Topics such as an overview description of the Town’s drinking water system were provided in the initial report, and as such will only be included intermittently to remind Council of the drinking water system components.

This report addresses:

- Raw and Treated Water Quality Data
- Staff Training
- Distribution System Summary
- Summary of Plant Flows
- Watermain Break Summary
- Incidents of Adverse Water Quality
- Water Quality Concerns / Resident Complaints

The Thornbury WTP and associated distribution system continue to operate within Ministry of the Environment Guidelines and Provincial Legislation.

The attached report demonstrates that the Water Group continue to provide quality drinking water to its residents while ensuring long-term sustainability of the system through regular preventative maintenance programs.

C. The Blue Mountains' Strategic Plan

The acceptance of this Report by Council furthers the Town Strategic Plan Goal # 6 "Providing a Strong, Well-Managed Municipal Government."

D. Environmental Impacts

None

E. Financial Impact

None

F. In Consultation With

None

G. Attached

1. Water Section Operations Update – May to August 2013

Respectfully submitted,

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Reg Russwurm
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Water Section Operations Update

May to August 2013



Introduction

Ensuring the safety and quality of the Town's drinking water system is not only the responsibility of the Water Operators who operate and maintain the system but also the Members of Municipal Council and Municipal Officials who exercise decision-making authority regarding the system.

The purpose of this report is to provide Council with a brief overview of the Town's drinking water system and to report on water quality issues for the period of May to August 2013.

This report will address the following:

- Raw, Treated and Distribution Water Quality Data
- Staff Training
- Distribution System Summary
- Summary of Plant Flows
- Watermain Break Summary
- Incidents of Adverse Water Quality
- Water Quality Concerns / Resident Complaints

System Information

Drinking Water System Number:	220001762
Drinking Water System Name:	The Blue Mountains Drinking Water System
Drinking Water System Owner:	Town of The Blue Mountains
Drinking Water System Category:	Large Municipal Residential
Water Treatment Subsystem Class:	Class 2 Certificate No. 1758
Water Distribution Subsystem Class:	Class 3 Certificate No. 1759
Municipal Drinking Water Licence:	111-101
Municipal Drinking Water Permit:	111-201

Raw, Treated and Distribution Water Quality Data

Ontario Regulation 170/03 specifies guidelines for the number of samples to be taken, the frequency of sampling and the actions to be taken if any of the sample results indicate adverse water quality.

Schedule 10 of Ontario Regulation 170/03 requires weekly sampling and testing for E.Coli, Total Coliform and Heterotrophic plate count.

Weekly samples are collected for raw and treated water from the Thornbury WTP and analyzed by an accredited laboratory.

An overview of the raw water sampling data for the period of May to August 2013 is presented in Table 1:

Table 1 – Raw Water

Parameter	Result Range (Min – Max)
E.Coli	0 to 3
Total Coliform	0 to 84

An overview of the treated water sampling data for the period of May to August 2013 is presented in Table 2:

Table 2 – Treated Water

Parameter	Result Range (Min – Max)	Limit
E.Coli	0	0
Total Coliform	0	0
HPC¹	1	N/A

¹ Schedule 10 of Ontario Regulation 170/03 requires testing for general bacteria population expressed as colony counts on a heterotrophic plate count (HPC). There are no reporting or corrective action requirements specified in O. Reg 170/03 following HPC test results. HPC's are a good indicator of overall drinking water quality but not water safety.

Drinking water quality is further monitored throughout the distribution system by a comprehensive sampling and analysis program involving weekly sampling at designated sampling stations as well as reservoirs and booster stations.

An overview of the distribution sampling data for the period of May to August 2013 is presented in Table 3:

Table 3 – Distribution

Parameter	Number of Samples	Result Range (Min – Max)	Parameter Limit
E.Coli	217	0	0
Total Coliform	217	0	0
HPC¹	146	0 to 141	N/A

Staff Training

In accordance with Ontario Regulation 128/04, all Water Treatment and Distribution Operators possess operating licences appropriate to the class of facility where they are employed. As the Town's distribution system is a Class 3 subsystem, Operators are required to complete, at a minimum, 26 hours of on the job practical training and 14 hours of formal Continuing Education Units (CEU) training per year.

A summary of the courses attended from May to August 2013 by Operators is provided in Table 4:

Table 4 - Training Overview

Operator Name	Training Course Attended
Darren Shilvock	Standard First Aid, CPR, AED, Level C
Don McArthur	Standard First Aid, CPR, AED, Level C
Scott Marritt	Membranes for Drinking Water Treatment

Distribution System Summary

The following table provides a breakdown of the Water Meter Field Service calls for May to August 2013:

Table 5 - Water Meter Field Services Summary

Nature of Call	No. of Calls
Frozen meters	1
Replace/Repair jammed meter	6
Replace/Repair remote touchpads	5
Repair meter other (leaks, reversed, etc.)	19
Meter Inspections (re-inspections, renovations, new construction)	43
Billing verification, hand deliveries (notices, bills)	301
Install radio units	10
Backflow inspections	2
Thermal Expansion calls	0
Customer meetings (usage, complaints, etc.)	15
Closing readings	173
Commercial meter change outs	0

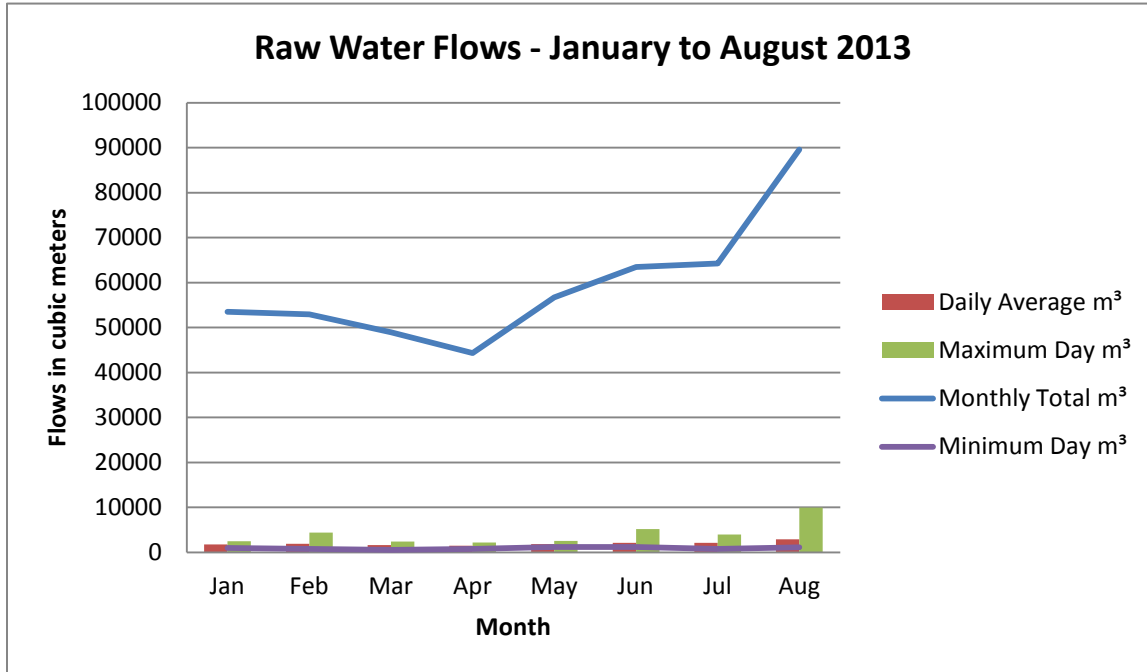
The following table provides a breakdown of the Water Distribution Work Orders completed for May to August 2013:

Table 6 – Distribution Work Orders

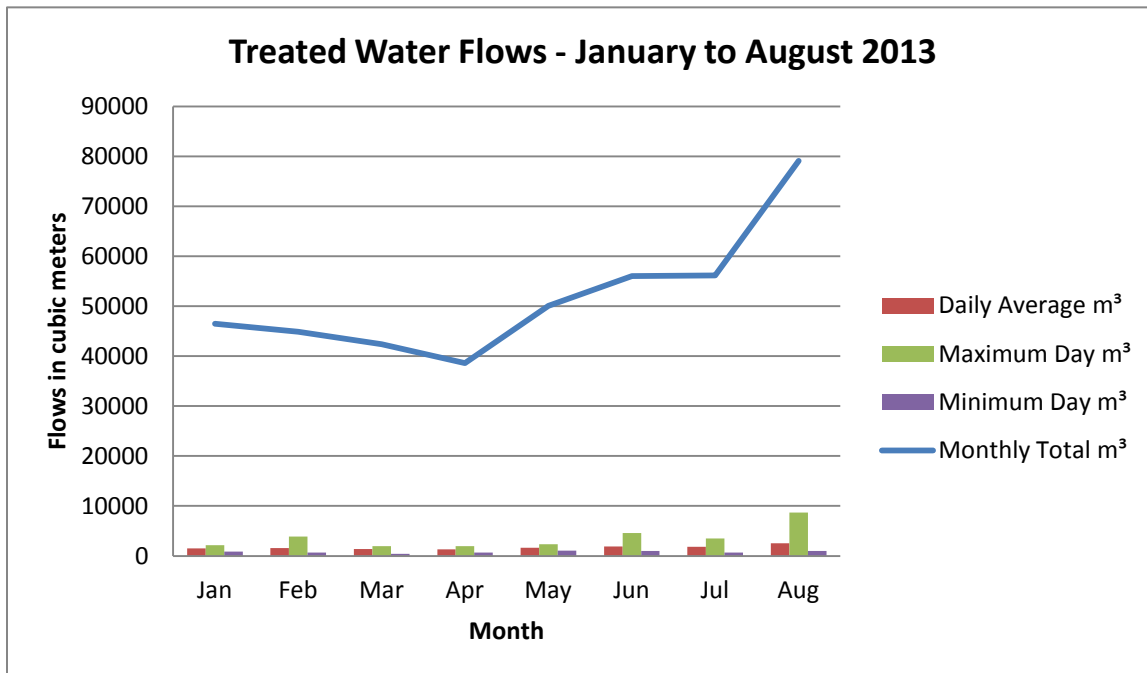
Work Order Description	No. Completed
Watermain Repairs	6
Valves Operated	142
Valves Replaced / New	1
Outstanding Deficiencies arising from fire hydrant inspections (including painting)	76
Service Connection Repairs Complete	17
Service Connection Repairs Outstanding	8
Service Connection Installations	1
Pressure Reducing Valve Inspections	27
Air Relief Valve Inspections	40
Spring and private hydrant flushing program	108
Dead End Flushing program (to maintain residuals in the distribution system)	340
Water and Sewer Locates	161
Automatic flushing stations – weekly check of chlorine residuals	247
GPS Fire Hydrants, Valves, Curb Stops	190
Wensley Drive Development – Pressure Test	2
Wensley Drive Development – Hydrant Installation	2
Wensley Drive Development – Valve Installation	3
Meter Installation at Parks	3
Paint Fire Hydrants	51

Summary of Plant Flows

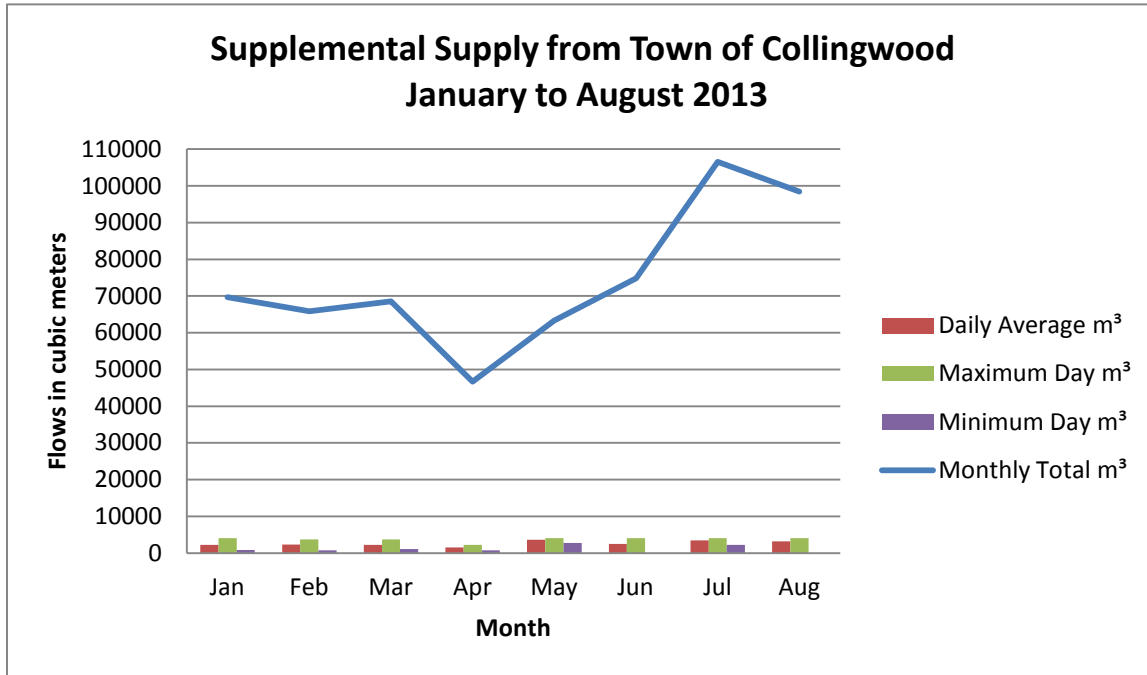
A summary of the WTP Raw Water Flows is presented below in Chart No. 1:



A summary of the WTP Treated Water Flows is presented below in Chart No. 2



A summary of the supplemental flows received from the Town of Collingwood is presented below in Chart No. 3

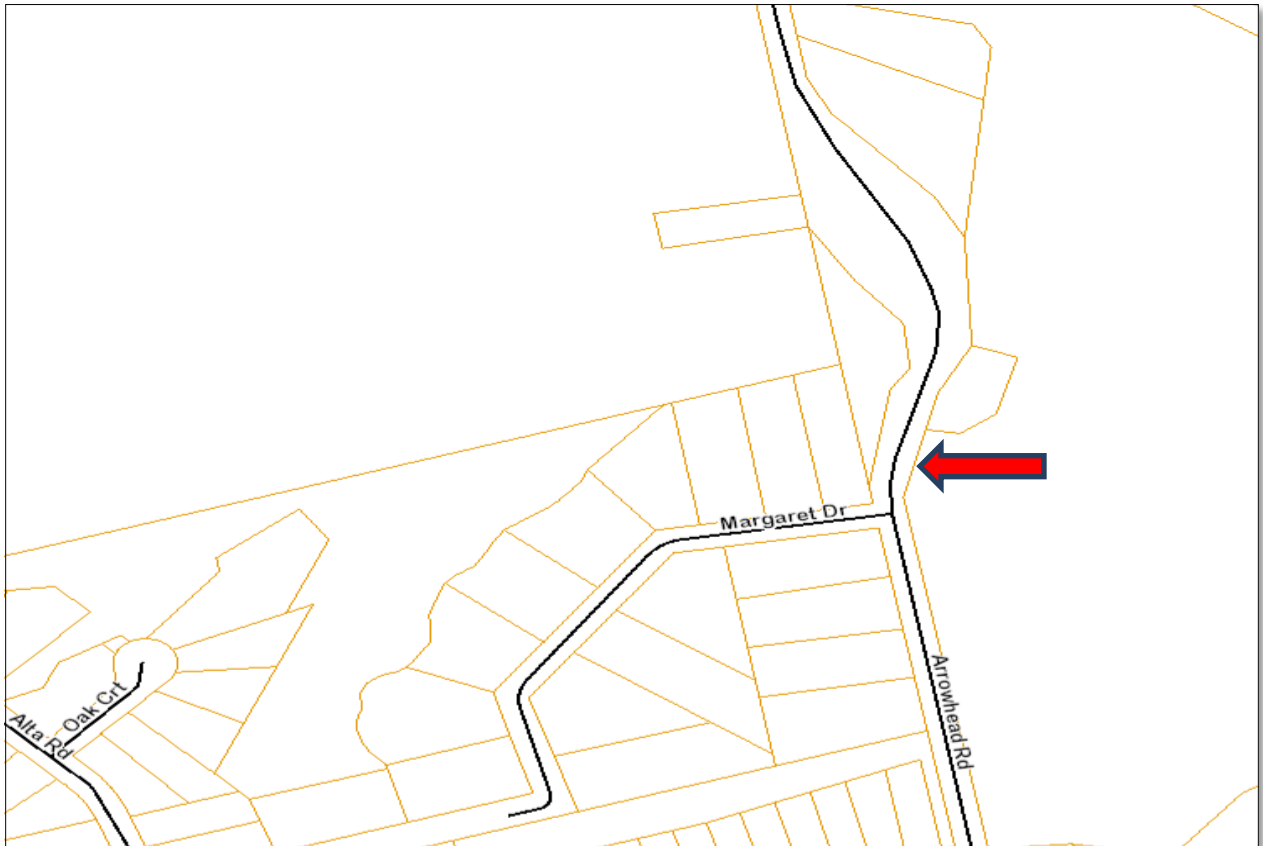


Watermain Break Summary

Watermain breaks are typically reported by the public, other Town Staff or discovered during visual inspections by Operators. In most instances, watermain breaks are repaired by Operators and at times, with the assistance of outside contractors or Staff from the Town's Roads and Drainage Division.

For the period of May 1 to August 31st, 2013, there was one watermain break as summarized below:

Figure 1



On June 10, 2013, Staff from the Roads and Drainage Division reported water bubbling from the edge of the road on Arrowhead Road, below Margaret Drive. Operators found a three inch hole in the watermain. Four feet of new watermain was installed by Town Staff.

Incidents of Adverse Water Quality

This section describes all Adverse Water Quality Incidents (AWQI). This term refers to any unusual test result from treated water that does not meet a provincial water quality standard or situation where disinfection of the water may be compromised. A single adverse water quality incident does not necessarily mean that drinking water from the system is unsafe – it indicates that, on at least one occasion, a water quality standard was not met.

The Town's drinking water system is operated in accordance with Ontario Regulation 170/03 and Operators follow the direction of this regulation when dealing with incidents of adverse drinking water.

There have been no incidents of adverse water quality during this reporting period.

Water Quality Concerns/ Resident Complaints

Staff record information relating to water quality issues on the Resident Water Quality Concern Form and then forward data to the GIS Coordinator for tracking. If required, Operators attend the location of concern to collect samples or access the nature of the concern.

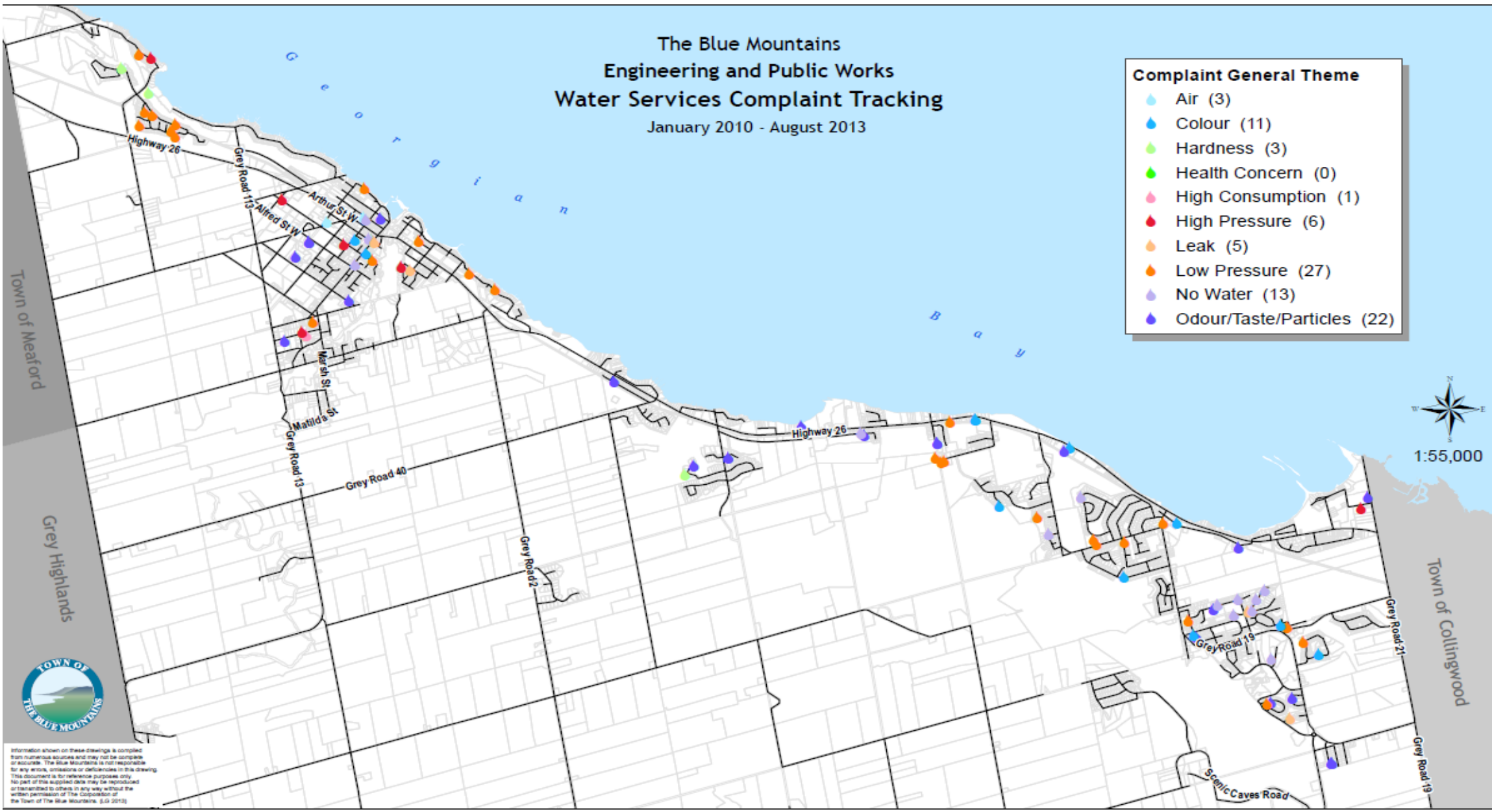
The ongoing analysis of the water quality data is useful in determining if the water quality is changing throughout the distribution system over time. As an example, taste and odour complaints may indicate that the watermain in a particular area is deteriorating.

A map detailing the water quality concerns received from January 2010 to August 31, 2013 is included on page 10.

The Blue Mountains
 Engineering and Public Works
 Water Services Complaint Tracking
 January 2010 - August 2013

Complaint General Theme

Light Blue Triangle	Air (3)
Blue Triangle	Colour (11)
Light Green Triangle	Hardness (3)
Green Triangle	Health Concern (0)
Pink Triangle	High Consumption (1)
Red Triangle	High Pressure (6)
Orange Triangle	Leak (5)
Dark Orange Triangle	Low Pressure (27)
Purple Triangle	No Water (13)
Dark Blue Triangle	Odour/Taste/Particles (22)



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