



◆ The Cost Of Water ◆

Understanding your water supply from its beginning in nature to where it reaches your consumer !

◆ Water ◆ *a shared responsibility*

In Alberta, *Water* is not only a resource, it is a life source. Municipalities are licensed to access water in a sustainable manner, with rate payers expecting the delivery of potable water at a socially and economically acceptable cost.

◆ Water ◆ *a shared responsibility*

Water utility administrators, utility operators and the end users of municipal water “*share the responsibility*” that their allocated water consumptions remain sustainable. Methods to prevent wasting our water resource should be encouraged.

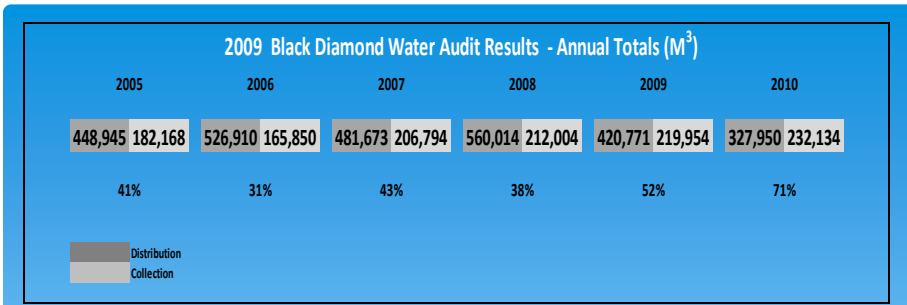
 Water  *a shared responsibility*

Water distribution systems should include:

- A continuous monitoring for leaks
- Outdoor watering conservation program
- End users encouraged to upgrade their household facilities to low flow systems.

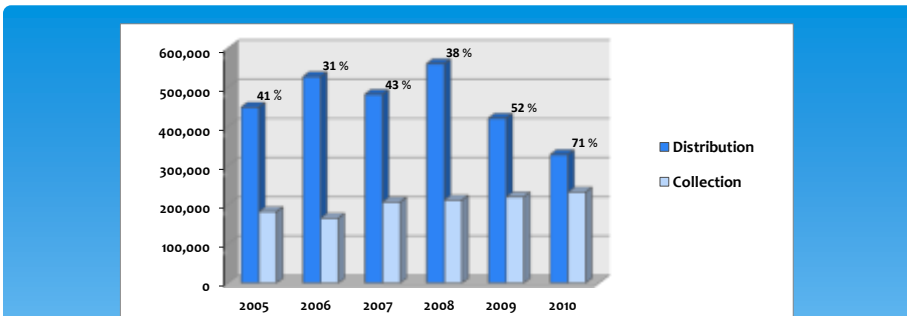
Annual “*water audits*” should be initiated on your potable water distribution system, in order to understand how it is performing.

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The above chart illustrates by year the volume of potable water produced and distributed through the piping systems to our customers, and the corresponding volumes collected through billing

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The above graph shows that from 2005 - 2008 the billing/collection volumes and their corresponding revenues were approximately 1/3 of the distribution volumes. This resulted in general taxes being used to offset the shortfall in billing revenues to balance the cost of producing and distributing potable water.

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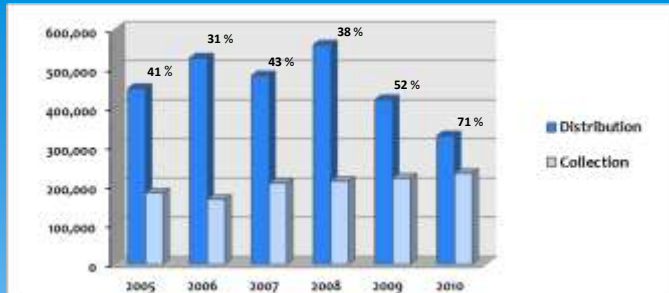
Where was all the treated water going ?

“The percentage of all municipal drinking water lost to leaks has been determined to be up to 20 %.”

Source: Federation of Canadian Municipalities

Fortunately for Black Diamond this was not the case. Investigations revealed that the water volume imbalance could be contributed mostly to very old distribution and collection meters.

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Aggressive leak detection and water conservation programs were initiated in 2009. Alberta – Canada – Municipal (ISF) funding was utilized to replace all residential water meters in the Town Of Black Diamond.

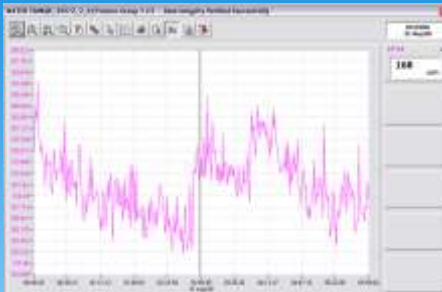
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THE OLD



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THE NEW

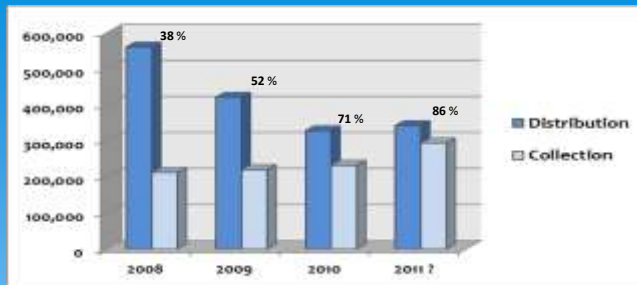


For less than \$ 10,000 a new distribution meter and software allows a facility manager & operator to track flows every minute, every 24 hours !

| WATER DATA Group 1 | | |
|--------------------|----------|-------|
| Date | Time | gal/m |
| 20-Aug-08 | 13:00:00 | 246 |
| 20-Aug-08 | 13:01:00 | 241 |
| 20-Aug-08 | 13:02:00 | 251 |
| 20-Aug-08 | 13:03:00 | 241 |
| 20-Aug-08 | 13:04:00 | 242 |
| 20-Aug-08 | 13:05:00 | 233 |
| 20-Aug-08 | 13:06:00 | 235 |
| 20-Aug-08 | 13:07:00 | 239 |
| 20-Aug-08 | 13:08:00 | 287 |
| 20-Aug-08 | 13:09:00 | 233 |
| 20-Aug-08 | 13:10:00 | 235 |
| 20-Aug-08 | 13:11:00 | 233 |
| 20-Aug-08 | 13:12:00 | 243 |
| 20-Aug-08 | 13:13:00 | 224 |
| 20-Aug-08 | 13:14:00 | 252 |
| 20-Aug-08 | 13:15:00 | 252 |
| 20-Aug-08 | 13:16:00 | 235 |
| 20-Aug-08 | 13:17:00 | 227 |
| 20-Aug-08 | 13:18:00 | 223 |
| 20-Aug-08 | 13:19:00 | 237 |
| 20-Aug-08 | 13:20:00 | 245 |
| 20-Aug-08 | 13:21:00 | 237 |



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A “Potable Water System Audit” will identify your water balance. Study all the parameters that contribute to this water balance. Put in place the policies and procedures required to operate and monitor a public water system in a manner that will show due diligence.

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Due diligence means taking all the reasonable steps to ensure that the your system is working as leak free as possible. The Town of Black Diamond now offers fair and equitable water utility rates to it’s customers, while at the same time allocating sufficient funds for system and facility upgrades.

Bottom Line: Potable Water Utility Rates should pay for themselves.

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Due to the challenges facing small water systems, it is particularly important that they explore all options for providing safe drinking water:

- Managerial
- Operational
- Technological

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This can also involve various forms of regional cooperation and sharing of resources:

- Physical connections
- Administrative structures
- Utility operators.

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Questions?

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