

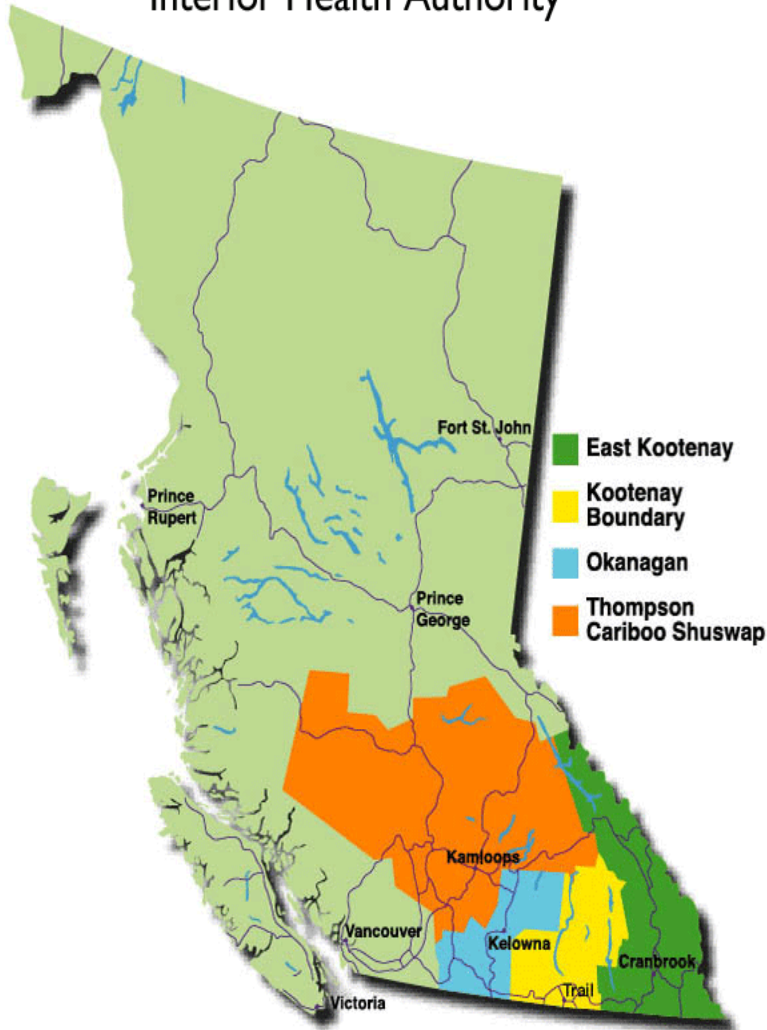


IHA – HP Water Program

Presentation to BCGWA

November 2015

Interior Health Authority



~ 850km across

~ 742,000 full-time residents

IH Health Protection

- ~ 110 staff, 6 managers
- ~ 1,930 permitted water supplies
- ~ 1,200 rec water facilities
- ~ 850 personal service establishments
- ~ 975 community care facilities
- ~ 6,175 food facilities
- Incident & emergency response



Water Program: Inventory and Resources

Criteria	Small Water Systems	Large Water Systems
# of systems	1,600	123
IH population served	<20%	>80%
# on Boil Water Notice	~350	~3
IH-HP service model	6 EHO, 1 supervisor	5 specialist EHO, 1 supervisor
Owners	<ul style="list-style-type: none"> • Local governments • Federal/Provincial government • Improvement Districts • Private Utilities • School Districts • Shared Interest • Strata Corporations • Water Users Communities • Private businesses • Societies • “Good neighbours” 	<ul style="list-style-type: none"> • Local governments • Federal/Provincial government • Improvement Districts • Private Utilities



Drinking Water – Issues Summary

■ Health Protection

- 90% of the water systems don't meet all the best practices identified in the MBA.
- Most small water systems are financially unsustainable.
- Most water suppliers don't meet SWTO and won't meet the new GWTO.
- Many small water suppliers have no training.



Drinking Water Program – Issues for Sources

- Surface –
 - natural erosion leading to sedimentation
 - Climate change – water shortage and over abundance.
 - Increased recreation
 - Increased resource extraction.



Drinking Water Program – Issues for Sources

- Ground Water:
 - Natural: Uranium, selenium, Arsenic, Fluoride...
 - Anthropogenic – increased urbanization, increase agricultural activity (N), increased well interference.

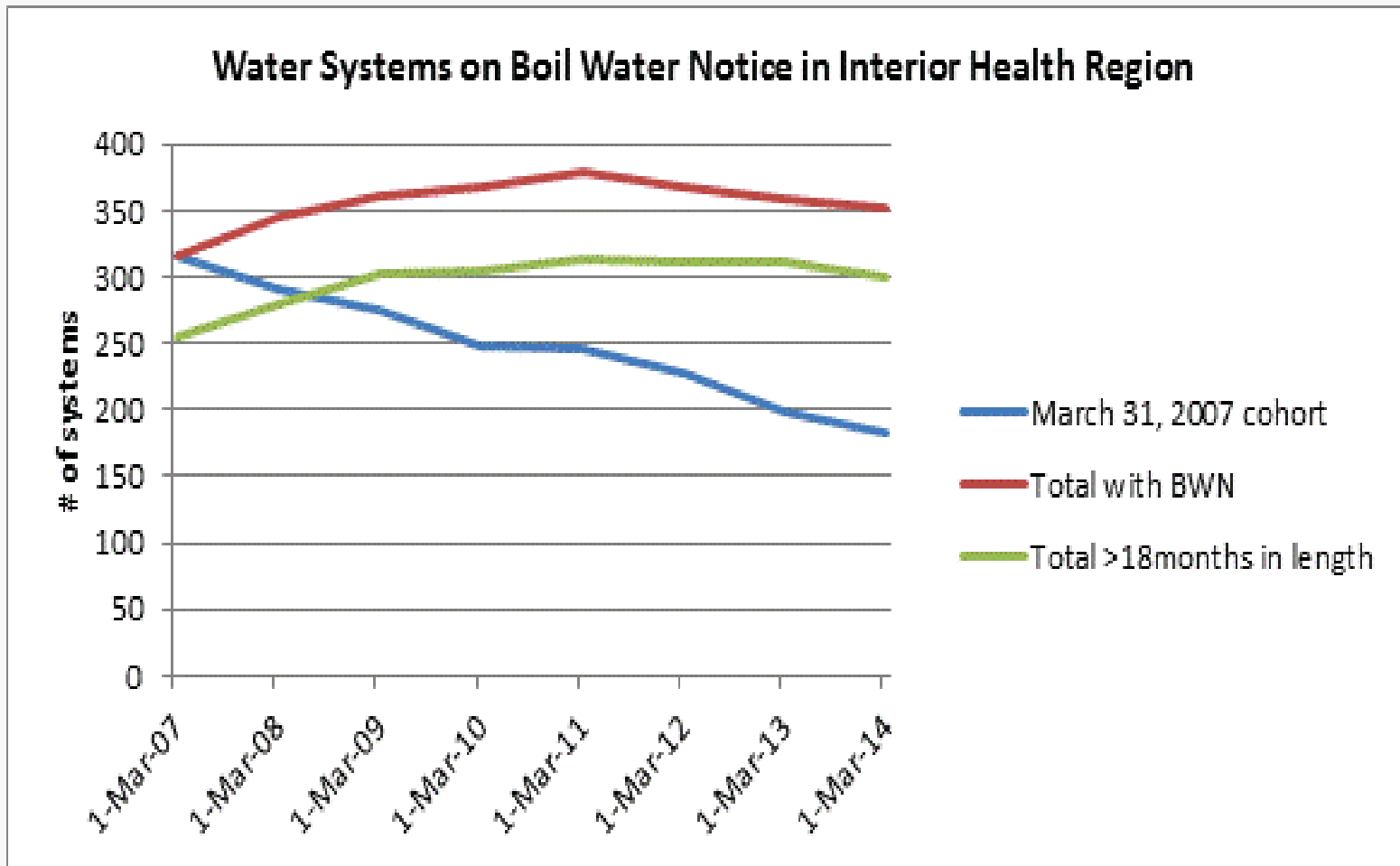


Table 1: Waterborne Disease Outbreaks in British Columbia (1980-2000)

Year	Location	Local Health Authority	Organism	Laboratory Cases	Clinical Cases	Epidemiological Estimate	Suspected Source
1980	Naksup	East Kootenay	Campylobacter	12		800	Wildlife
1981	100 Mile House	Cariboo	Giardia	69			Beaver
1982	Kimberley	East Kootenay	Giardia				Wildlife
1984	Chilliwack	Upper Fraser	Salmonella	82			Broken Watermain
1985	Creston	East Kootenay	Giardia	72			Beaver
1986	Penticton	Okanagan-Similkameen	Giardia	362	497	3,125	Beaver
1986	Penticton	Okanagan-Similkameen	Giardia	109			Beaver
1987	Black Mountain (Kelowna)	Okanagan-Similkameen	Giardia	60			Wildlife/Cattle
1987	Kamloops	Thompson	Campylobacter				Wildlife
1988	Near Lytton	Thompson	Salmonella				Wildlife
1990	Kitimat	Terrace	Giardia	28			Beaver
1990	Creston	East Kootenay	Giardia	130			Wildlife
1990	Fernie	East Kootenay	Giardia	50			Wildlife
1990	West Trail/Rossland	Kootenay Boundary	Giardia	>40			Wildlife
1990	Matsqui	Upper Fraser	Unidentified				
1991	Barriere	Thompson	Giardia	25			Wildlife
1991	Granisle**		Unidentified				
1991	Fort Fraser**	Northern Interior	Unidentified				
1992	Kaslo	East Kootenay	Campylobacter	10			Wildlife
1993	Fernie	East Kootenay	Campylobacter	35			Cattle
1995	Victoria	Capital Health	Toxoplasmosis	110		3,000	Cats/Cougar
1995	Revelstoke	North Okanagan	Giardia, Campylobacter, Yersinia, Cryptosporidium	62; 71; 9; 4			Beaver/Wildlife
1996	Cranbrook	East Kootenay	Cryptosporidium	29	107	2,097	Calves
1996	Kelowna	Okanagan-Similkameen	Cryptosporidium	177		10,000	Human
1996	Valemount	Northern Interior	Giardia	10			Wildlife
1997	Princeton	Okanagan-Similkameen	Unidentified viral	146 ₁			Sewage Break
1998	Chilliwack	Upper Fraser	Cryptosporidium	19 ₁			Cattle
1998	Camp Malibu	Coast Garibaldi	Campylobacter	26 ₁			
2000	Kamloops	Thompson	Cryptosporidium	24 ₂			

1. Source BCCDC Outbreak Co-ordination
 2. The Cryptosporidiosis outbreak in Kamloops in 2000 may be the result of human-animal contact and, therefore, may not be not a waterborne outbreak.

Problem:



Solutions:

We used to say “dilution is the solution to pollution”.

Now we take a business approach.



Logic Model Approach

- Identify:
 - Program components
 - Target populations
 - Activities
 - Set objectives



Logic Model Goals:

- Proactive component:
 - Increase general knowledge of hazards/vulnerabilities common to water systems.
 - Increase awareness of BMP's and treatment objectives.
 - Increase awareness of the MBA.



Logic Model Goals:

- Proactive regulatory:
 - Increase knowledge of the Multi Barrier approach.
 - Increase sustainable and robust safe guards in line with the MBA.
 - Decrease social cost of non compliance



Logic Model Goals:

- Reactive Regulatory:
 - Increase awareness of drinking water health hazards.
 - Decrease # of repeat contraventions
 - Timely completion of enforcement activities.



Rubber Hits the Road:

- Engaging water suppliers and qualified professionals.
- Development of courses for water supply owners and operators.
- Engage local governments.
- Engage universities
- Engage NGO's and watershed based governance bodies



What's Next:

- EOCP certified courses.
 - ERP's
 - Annual Reporting
 - CT Calculations
- Small Water Source Assessment/Protection Planning
- Active engagement with water suppliers.



Questions: