

Water matters

A newsletter from
the Black Mountain
Irrigation District

Issue Number 6
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Water quality improvements on the drawing board

If you suspected water quality was worse this spring than in past years, you were right. What has been called a "one-in-one-hundred-year run-off" caused landslides and river bank erosion that played havoc with water supplies throughout the valley.

In response, BMID is working with Reid Crowther and Partners to develop a long-term strategy that will prevent water quality problems like those experienced this spring. Proposed additions to the district's current treatment facilities and processes would reduce turbidity and decrease the amount of chlorine required for disinfection.



Photos taken from a Malcolm Tomlinson video.



An above-average snow pack and heavy spring rains increased water volumes and velocities in tributaries like Mission Creek to destructive levels. Along Mission Creek above BMID's intake, much-higher-than-normal water levels caused landslides (photo on left), log jams (photo on right), and gravel bars that diverted the creek and caused massive erosion. Exposed clay seams in the creek caused flour-like particles to be mixed in the water that were almost impossible to settle out. While none of the damage above BMID's intake has been repaired, the District has rehabilitated Mission Creek from its intake through to the lower settling pond. Gravel bars were removed and banks were resloped with gravel to prevent further erosion.

"Because we cannot control Mission Creek," says BMID operations supervisor Malcolm Tomlinson, "we have to play the hand we're dealt — and what we got this spring was a very 'dirty' hand. What we can do though, is improve the part of the

system we have control over. In our case, that's from our initial intake through to where our last on-line customer receives water."

If approved by BMID's board of _____
(See 'Improvements' page 4)

Wally and Wanda say...

Season's Greetings!

If you spend time in the watershed, please protect drinking water quality by following these simple rules.

- Take out whatever you take in,
- Avoid driving in or near streams and lakes,
- Go to the bathroom well away from water sources, and
- Refuel your gas motor away from the water, as one litre of gas can contaminate two million litres of drinking water.



You told us...

A big "thank-you" to the 481 of you who took the time to complete the questionnaire in our last issue of *Water Matters*. Here are the results of that survey.

1. Overall, how would you rate BMID water quality?

Excellent	9%
Good	49%
Average	31%
Poor	11%

2. Do you buy bottled water for drinking or cooking?

Year-round	19%
During spring run-off	32%
Never	49%

3. Do you have an in-home treatment system to improve water quality?

Yes	32%
No	68%

If yes, do you have a Point-of-entry system that treats all water coming into the house,

16%

or a Point-of-use system that treats water at your kitchen sink?

84%

Have you followed maintenance directions carefully to prevent bacterial growth?

Yes	82%
No	18%

4. Did you boil water for drinking and cooking during BMID's giardia incident in 1987?

Yes	30%
No	22%
Not applicable	48%

5. Have you ever experienced gastrointestinal distress you feel was caused by waterborne disease?

Yes	21%
No	68%
Not sure	11%

If yes, was this confirmed by your doctor?

Yes	38%
No	62%

6. Are you prepared to pay higher water rates for improved water quality?

Yes	42%
No	41%
No opinion	17%

If yes, what would you consider a reasonable increase?

5-10%	81%
10-25%	19%

7. Overall, how would you rate your water pressure?

Excellent	31%
Good	51%
Average	15%
Poor	3%

8. Do you have water-saving devices such as low-flow toilets or faucet aerators?

Yes	72%
No	28%

9. Are you aware that contaminants from improperly connected appliances can 'backflow' into BMID's water system?

Yes	45%
No	55%

If yes, do you know how to prevent 'backflow'?

Yes	45%
No	55%

10. Do you recreate in the Graystokes watershed that supplies BMID water?

Yes	19%
No	81%

If yes, what form of recreation do you participate in?

Hiking	21%
Fishing	42%
Hunting	18%
Off-roading	6%
Snowmobiling	13%

11. Overall, how would you rate the service you receive from BMID staff?

Excellent	41%
Good	43%
Average	11%
Poor	1%
No opinion	4%

12. Have you received adequate advance notice before service interruptions, rate increases, or policy changes?

Always	63%
Sometimes	30%
Never	7%

13. This is BMID's fifth issue of *Water Matters*. Do you think it's a good forum for sharing information with you about BMID and water-related matters?

Yes	99%
No	1%

How else would you like to receive this information?

Newspaper	24%
Radio	19%
Bill stuffer	38%
No opinion	19%

Congratulations to Frank Gould (left) of Toovey Road who won the year's free supply of water from BMID. Seven-year-old Kaitie Hoffman was the lucky winner of the Super Soaker.



What is turbidity?

'Turbidity' is a water quality term that refers to the cloudy appearance of water. It is caused by suspended particles of clay, silt, organic and inorganic matter, plankton, and other microscopic organisms that water picks up as it travels through streams and rivers.

Turbidity is a critical parameter in drinking water because bacteria, viruses, and parasites can attach themselves to the suspended particles. In addition, particles in turbid water interfere with disinfection because they shield contaminants from the disinfectant.

While turbid water is seldom harmful, many people remove it through the use of in-home treatment devices. If you're considering buying one of these units, we recommend you explore options (and products) carefully before deciding what best suits your needs. But whatever system you choose, follow installation and maintenance directions carefully. Poorly-maintained units can actually pose serious health risks. ■

Turbidity Level	Water Quality Characteristics
< 1 NTU	Turbidity measurements are reported as nephelometric turbidity units (NTU). While Canada's Drinking Water Quality Guidelines set an aesthetic objective of 5 NTU, BMID aims for a maximum of 1 NTU.
1-5 NTU	This is the most frequently encountered range of turbidity in BMID-supplied water. Newborns (to six months) and immunocompromised (people with HIV or undergoing chemotherapy) are advised to boil water before drinking.
5-25 NTU	Water is visibly cloudy. As turbidity increases through the range, disinfection with chlorine becomes more difficult. Increased turbidity also increases the potential for giardia and cryptosporidium to be active in the water. Public health officials may issue a boil water advisory. BMID water was in this range for 80 days in 1997.
> 25 NTU	Water is murky. This condition usually occurs two to four times a year either during spring run-off or after an extreme weather event. Risk of illness is increased; domestic users wishing added protection should boil their water or use an alternate supply. Public health officials will issue a boil water advisory. BMID water exceeded 25 NTU for 16 days in 1997.

Meet the Staff

Malcolm Tomlinson has been involved in the water industry for 28 years, the last seven with BMID. As operations supervisor, Malcolm is responsible for the day-to-day operation of the "physical system", including collection, treatment, and distribution facilities. His duties also include quality control, safety, data gathering, plan checking for new development, infrastructure planning and development, and responding to public inquiries.

While he's always very busy, Malcolm says his job is made easier and more enjoyable by his "wonderful crew, who is so dedicated to the system." ■



Westbank First Nations Treaty Negotiations

As treaty negotiations between the Westbank First Nation and the federal and provincial governments continue, Black Mountain Irrigation District is working with various groups to ensure the district's interests pertaining to water supply and quality are identified and documented. Although BMID isn't directly involved at the negotiation table, its interests are being represented by local governments and the Water Supply Association of B.C., of which the district has been a long-standing member. BMID administrator, Phil Ruskowsky, is a director of that association.

These important issues have been presented and documented at the negotiating table:

- The long-standing principle of provincial ownership and jurisdiction of the water resource must continue to apply.
- Existing water rights, licenses, and access to watersheds must be protected.
- Consultation on development where it may affect water quality and supply must be included as a feature of the final treaty.
- Future requirements of improvement districts such as BMID must be identified and taken into account in the treaty process.
- Laws of general application pertaining to the use, management, and conservation of water resources should apply on Treaty Settlement lands.

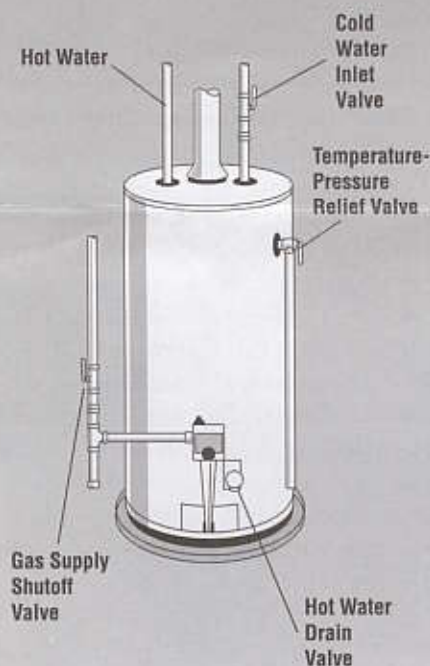
A very complex water management system exists in this valley, particularly within the municipal boundaries of Kelowna. Most BMID water is diverted from Mission Creek, with limited storage capacity. Availability is variable and affected by climatic and other conditions. The potential loss of access to the water supply in the land claim process should not be underestimated. The impact on residents and the agricultural industry could be significant.

More information about the treaty process can be obtained at the BMID office. ■

Tech Talk

To ensure maximum performance and a long life, your hot water tank should be drained of sediment once yearly. Here's how —

- ① If you have a gas hot water heater, turn the gas control knob to the 'OFF' position. If you have an electric heater, turn off the power.
- ② Close the cold water inlet valve to the water heater.
- ③ Attach a hose to the hot water drain valve and place the free end over your floor drain.
- ④ Turn on a nearby hot water tap (perhaps in the kitchen).
- ⑤ Open the water heater's drain valve. (If the heater is going to be shut down and drained for an extended period, the drain valve should be left open.) Draining is complete when water stops running through.
- ⑥ Open inlet valve to help stir up sediment.
- ⑦ Allow inlet T drain valve to run until water is clear.
- ⑧ Close drain valve allowing tank to refill while kitchen tap releases air.
- ⑨ Close kitchen tap.
- ⑩ Restart gas or turn on power.



This information was kindly provided by Bob Mathews of Andrew Sheret Ltd.

BYLAW BULLETIN!

Water users will be pleased to hear that domestic water rates will remain the same as last year — \$16.50 per month for single-family residences. Commercial, industrial, and agricultural rates will also remain unchanged. Residential customers can benefit by paying for a full year before March 31st. The discount for this up-front annual payment is still \$12.

BMID is in the process of finalizing its Capital Works Plan for the next ten years. Projects have been identified and classified into three major categories:

- Works to be carried out by BMID that benefit existing users only;
- Works that benefit existing users and

new development; and

- Works that benefit new development only. These would be funded completely by the developer. It is expected that capital charge rates on new development will be increased substantially in the new year to bring them more in line with other water supply agencies.

Billing Information

Water bills can be paid by cheque, money order, or cash (if paid in person) at 285 Gray Road. Customers who deal with the Scotia and Royal Banks can pay by phone. For more information please contact your branch or BMID office. ■

System Improvements *(Continued from page 1)*

trustees, the infrastructure upgrade would kick off with a pilot monitoring project to gather background information during next spring's run-off. The data would then be analyzed and extrapolated before facility design specifics were finalized.

BMID's current treatment facilities include a 38-million gallon settling reservoir named in memory of long-time trustee Fred A. Stevens, another 11-million gallon settling reservoir, and a screening and chlorination facility. Reid Crowthers' plan proposes the addition of three new settling ponds at the front end of the system; one for settling out heavy silts and sands, one for flocculation^o, and one for settling out the flocculated material. The upgrade would be funded by existing BMID reserves.

"We're very impressed with the proposal," says Malcolm. "We see it as an

affordable way to improve water quality significantly for our 6,300 residential connections.

"It will not provide us with 'polished' water," he adds, "for that we'd have to implement filtration, which is extremely expensive. But this upgrade will serve us well by removing turbidity and colour at a price we can afford." ■

^o adding a chemical (like alum) which causes suspended particles to bond together and settle out.

Grower Alert!!

Anyone fertigating or chemigating MUST inform BMID, and MUST have an approved backflow preventor installed and tested by the district. For more information call 765-5169.



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Please Recycle