BLACK MOUNTAIN IRRIGATION DISTRICT
285 Gray Road
Kelowna, B.C.
V1X 1W8

www.bmid.ca

water matters

August 2012

A newsletter from the
Black Mountain Irrigation District
No. 43

BMID Water News

BMID Board

The BMID Board of Trustees for 2012-13 are:
Gord Ivans (Chair)
Al Horning
Alfred Kempf
Al Kirschner
Gerry Zimmermann

Gord Ivans and Alfred Kempf were re-elected by acclamation this spring for a 3-year term. The trustees positions rotate on a 3-year basis with two positions up for election each year except for every third year when one position is available.

Odd-Even Sprinkling Continues

For all residential customers, BMID continues to follow the Kelowna Joint Water Committee regional water regulations. Rate payers with odd-numbered addresses may irrigate their yards on the odd-numbered days of the calendar. Even numbered address yards may receive irrigation on the even numbered days. The question always arises of why agriculture is permitted to irrigate during the day. If this were not permitted, the water system size would triple. In order to convey sufficient water for the 4,200 acres of agriculture in production within BMID, irrigation taxpayers are allowed an irrigation rate of 5 USgpm / acre for 24 hrs. / day. Agriculture has limitations on the total volume they can use of 27 inches of water over their taxed acreage.

2012 Water Usage - Year-to-Date

Total BMID water consumption for 2012 is significantly lower than in previous years due to cooler, wetter weather. The actual and average of megaliters used per month by the entire district are listed below

Month	*Average*	*Actual*	*%*
April, 2012	489	440	90.0%
May, 2012	1,547	1,240	80.0%
June, 2012	1,970	542	27.5%
July, 2012	2,898	2,234	77.0%

Prior to 2012, the lowest recorded June water use was 1221 ML in 1993. (cont'd)

"Mission Creek is the jewel of Okanagan watersheds both in terms of water quantity and quality"
Heinz Koetz (BMID Trustee 1973 - 2010)

Mission Creek Watershed Challenges

The Okanagan region is fortunate to have high elevation watersheds surrounding Okanagan Lake. The majority of runoff in the basin is generated at higher elevations. As air passes over the local mountains, a convective effect occurs as warmer moisture laden air cools and returns to earth in the form of rain or snowfall.

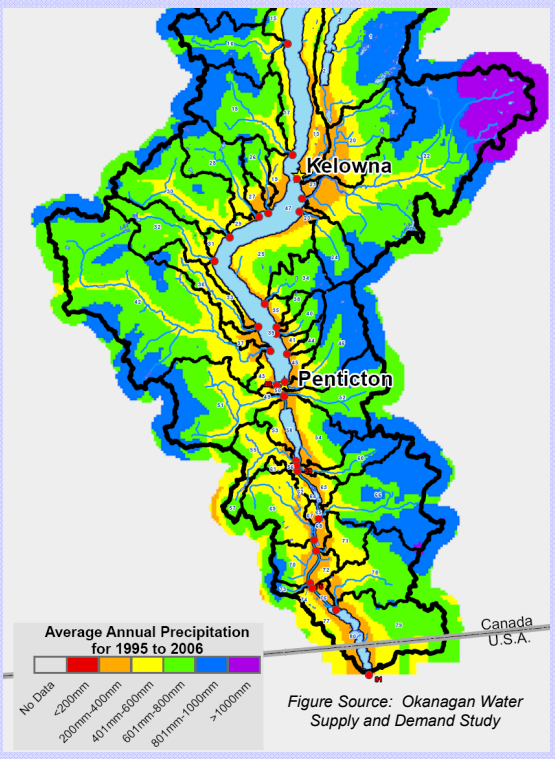

Figure Source: Okanagan Water Supply and Demand Study

The adjacent figure shows average annual precipitation in Okanagan Basin. There is only 300mm of precipitation annually in the valley bottom with precipitation increasing at higher elevations. There is only one area within the Okanagan with more than a metre of precipitation per year and it is within the upper watershed of Mission Creek .

BMID is fortunate to have Mission Creek as our primary source. It is the largest creek in the Okanagan with a catchment area of 845 square kilometers or about 15% of the area of the Okanagan Lake basin, yet it produces more than 30% of the inflow. The highest watershed areas are a sub-alpine climate with its runoff having a lower organic content and higher quality source water. Mission Creek is the jewel of Okanagan watersheds both in terms of water quantity and quality. BMID uses less than 10% of the volume of water that runs by our intake in an average year. Mission Creek and Okanagan Lake are the two primary long term drinking water sources for Kelowna.

2012 Challenges Being reliant on the largest watershed in the region has its benefits, but does not come without challenges. The snowpack readings for the spring of 2012 were approximately 15% higher than average, which appeared to be manageable, however the wet spring and significant rainfall at higher elevations in June pushed Mission Creek flows to unprecedented levels. In the past 20 years the highest recorded flow at the Ziprick Road hydrometric station was 98 m^3/second . Mission Creek exceeded 100m^3/s on four different days in June. This required close monitoring by the emergency services staff in the region and emergency repairs were necessary in early June on a lower Mission Creek dike between Lakeshore Rd. and Gordon Drive.

Dikes along BMID Reservoirs held firm, however repairs and reinforcement are needed before another event like the spring of 2012 occurs. Overall, our community was very fortunate that the diking system through the City withstood the forces created by Mission Creek. Other places in the province were not as fortunate as Kelowna with substantial flooding damage nearby in Sicamous, Ashton Creek and Duteau Ck. near Lumby. (continued over)

BMID WATER NEWS

Black Mountain Reservoir Project

Work is progressing on several fronts on the reservoir project. Bennett Contracting just completed the installation of 1000 metres of transmission main from Highway 33 along Joe Rich Road to the reservoir site. Another 800 metres is to be installed this fall with pipeline across the reservoir site to follow.

BMID is working with the City of Kelowna to rezone the reservoir site to P-4, public utility. BMID is also going through an Official Community Plan amendment and are working with the ALR for permission to install the disinfection facilities.

UV disinfection building design will be carried out this spring with construction planned for 2013. More details will be provided over the winter of 2012-13.

BMID Operations and Maintenance

Statutory right-of-way at Scotty Creek intake was secured for the facilities providing BMID with legal access to exist on this site. The disinfection building roof was replaced at Scotty Creek.

A new Guard-All fabric building was completed above our process equipment at the Water Treatment Plant site in March.

Pressure Reducing Valve Stations No.1 and 2 are being rebuilt this fall with new 100 hp pumps, 600 volt electrical service and new building construction at the sites.

BMID and the City of Kelowna have come to agreement on lot and boundary adjustments for our Works Yard property at Belgo and Springfield Road. The lot adjustments allow BMID to plant vegetation along Springfield Road to provide a visual barrier between our yard and Springfield.

Kelowna Integrated Water Supply Plan

Work continues slowly on the KIWSP. The plan was well received by the approving agencies and is being finalized. The plan objective is to implement water improvements so that all of the 5 large existing utilities in Kelowna offer the water customers the same benefits that could be offered if there were a single integrated utility. This includes interconnection capacity for moving water between utility service areas in the event of emergencies. An implementation strategy is being developed to carry out the details of the plan. The report is the platform from which to obtain funding support for the Kelowna region for water supply upgrades.

OBSERVE, RECORD & REPORT questionable watershed activities to BMID at 765-5169

MISSION CREEK CHALLENGES (CONTINUED)

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There was also substantial damage to property in the Joe Rich area near Highway 33. (see photo).

Higher creek flows result in more scouring and pressures on the creek banks. This results in more silt and sediment in the water and higher turbidity levels.

Mission Creek was over 1000 NTU turbidity units several times during June. BMID was able to either wait for the turbidity levels to subside and treat the levels once they got to below 100 NTUs. BMID was unable to keep the turbidity levels below 1.0 NTUs and between June 28 and July 12 was on a Water Quality Advisory meaning there was some additional risk due to elevated turbidity levels. A maximum level of 2.30 NTU was reached in early July. This level is not visible to the eye and the microbiological contamination prior to treatment was very low.

2012 has been different from previous years due to the large flows and changes in the creek channel in June. In mid July every year, BMID releases water from the high elevation reservoirs to Mission Creek. Graystoke, Fishhawk and Loch Long Reservoirs all have water with turbidity levels that are below 0.50 NTU. This high quality water travels down the creek and is collected at the BMID intake. The water does not require chemical treatment and the chemical addition process is turned off. Unfortunately with the damage to creek banks, there is a much higher level of sand and silt being transported down the creek. Turbidities at our intake are at a level of 1.80 NTU. The treatment plant is still running and BMID is expending more than $100,000 in additional water treatment plant chemicals to keep our turbidities below 1.0 NTU. The disinfection process is stable and the plant is also running very stable with the reservoir releases.

An aerial survey of the creek was carried out on August 21 and photos and documentation of the mainstem channel of Mission Creek were collected. There are more than a dozen slides and many new re-routed channels on the main stem of Mission Creek. The power of the creek cleared 20 metre swaths in some areas. It will take years for the channel to stabilize. Water will eventually drive the heavier rocks to the channel base and the slopes will re-vegetate in this natural process. As this occurs, BMID will be relying more heavily on our water treatment plant.

"It is our responsibilities, not ourselves, that we should take seriously."
Peter Ustinov, British actor and writer