



**OKANAGAN WATER NEWS**

**BMID Updates** It has been an eventful year. With the challenges of the heat dome, the forest fire in our watershed, the recent high wind, the heavy rain and flooding to the west, and COVID still impacting on the region daily, BMID has managed to maintain and provide a stable water service to our community.

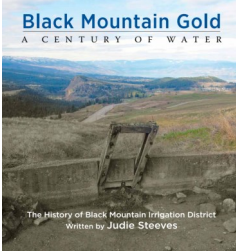
**Customer Survey** To better understand our customer's perceptions and expectations, BMID carried out a customer survey this spring. There were 534 persons that took the time to fill out the 20-question survey. BMID were pleased with the support and trust from the community and we recognize the areas of where we can improve. The results from the survey can be accessed on the home page of the BMID website at [www.bmid.ca](http://www.bmid.ca).

**2022 Domestic Rates** have been set. Rates will increase 5% for all toll categories. For a single-family residence the toll will be \$53.50/month or \$642/year.

**2022 Irrigation Rates** are projected to increase by \$6.00/acre per year to \$132.00/acre for Grade A land and \$105.60/acre for Grade C land.

**BMID History Book**

The BMID 100-year history book is available at the BMID Office front desk. It makes a great gift for persons interested in the local history. The price is \$25.00, cash or debit.



**2021 Water Usage**

This year's BMID monthly usage and 10-year-average monthly water usage is listed below. Units are in mega-liters (ML). 1 ML = 1,000 m<sup>3</sup>.

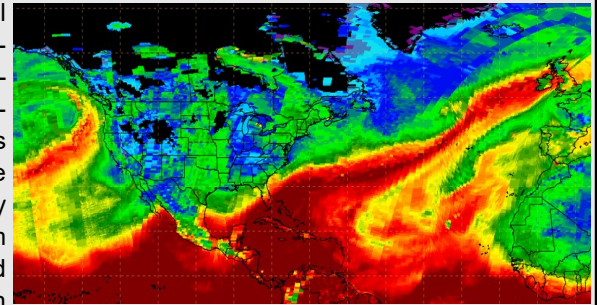
Month	Actual	Avg.	%
Jan-March	735	645	114 %
April	587	471	125 %
May	1,711	1,377	124 %
June	2,547	1,872	136 %
July	3,330	2,699	123 %
August	1,985	2,685	74 %
September	1,049	1,282	82 %
Oct-Dec.*est.	820	836	98 %
<b>Total</b>	<b>12,764</b>	<b>11,866</b>	<b>108 %</b>

BMID called for Stage 1 water restrictions in July which greatly assisted our community in having sufficient water to year-end.

**ATMOSPHERIC RIVERS AND EXTREME WEATHER**

**Atmospheric Rivers** - This month, British Columbia experienced a hydrological event that was more extreme than anything seen previously on record. On November 14 & 15, 2021, Hope, BC received 277 mm of rainfall. During the same event, 20 rainfall records were broken. There was extensive damage to the provincial highways, to the railway systems, many residents were displaced, and there is extensive flood damage. With warmer ocean and air temperatures, the storms hold more water.

An "atmospheric river" is a corridor of precipitation, usually several hundred kilometres long and with a narrower width. They are also referred to as tropical plumes, moisture plumes, water vapor surges, or most commonly, pineapple express storms. Typically 3 to 5 of these narrow plumes are present within a hemisphere at any given time. They are tied to extreme weather events and the lack of them has been linked to droughts. The lower level Class 1 and 2 storms are beneficial and critical in bringing precipitation to the Pacific Northwest, while the higher Class Level 3 to 5 storms, cause more damages than any benefit they may provide. The recent storm in the BC Lower Mainland and Fraser Valley would have been categorized as a Class 5 storm.



(NASA image - Dec.5,2015, red stream showing warm, moist air)

**What-ifs** The difficulty in preparing for extreme weather-related events is that there is insufficient data from which to base decisions on risks and consequences. The expenditures of public funds for a "What-If" potential is not exact science. When funding public works and protective measures, funding works that are a sure-benefit almost always take precedence over what-if potential events.

On Nov.14-15, 2021, the heaviest rainfall hit the Hope area, swelling the Coquihalla, Chehalis, Chilliwack, Coldwater (Merritt) and Nicola Rivers. The watershed area for these are of similar size to Mission Creek (900 km<sup>2</sup>). The highest recorded flow for Mission Creek is in the range of 120 m<sup>3</sup>/s. The Chehalis River, west of Harrison Lake, with a watershed area of only 383 km<sup>2</sup> produced a peak runoff of 781 m<sup>3</sup>/s.

**Local Impacts** This type of weather event, if funneled directly towards Kelowna, would not be as moisture laden as water would be precipitating along the way, but it would still have severe consequences. BMID has Stevens and Hadden Reservoirs and our Water Treatment Plant along Mission Creek. The facilities were designed with the capacity to withstand a flow of 125 m<sup>3</sup>/s or a 1:200 year flood. The flooding in 2017 and 2018 changed the probability numbers and in 2018, BMID spent over \$300,000 on rock rip-rap to fortify the creek banks to better protect our assets. BMID is utilizing terrain and hydraulic computer modeling to guide us in where to continue to fortify the banks of Mission Creek to convey larger flows.



*"Unlike other essential goods, like clothing, shelter, or food, we take cheap or even free water for granted. It often takes a crisis, such as a major drought or flood, to spur investment and policy reforms in improving water security."* Jose Angel Gurria



## BMID WATER NEWS

### BMID Boundary Extension

As part of the agriculture plan proposed for the lands above Highway 33 at Pyman Road, BMID has accepted the application to include an additional 1,884 acres into the District. The owners of 25 parcels of land petitioned BMID for inclusion. Additional landowners in the Goudie Road area also made requests to join, but were declined at this time due to the limitations of supply capability. Review is required from the Regional District, City of Kelowna and ultimate approval would be given by the Ministry of Municipal Affairs. If approved, the inclusion of these lands cannot have detrimental impacts, service-wise or cost-wise on existing BMID customers.

### Water Supply Association of BC

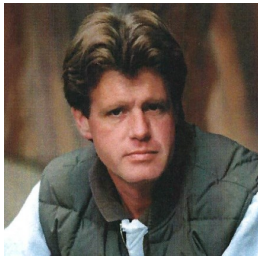
The WSABC, formerly the Association of BC Irrigation Districts, held their first AGM in 1923. Next year marks 100 years as an organization. It is the 27th year under the name of the Water Supply Association. On Oct. 28-29, 2021, the WSABC held the first live water conference in the BC Interior in 2 years in Salmon Arm. Attendance required proof of vaccination and it was attended with presentations from 4 Provincial Ministries, WFN, technical speakers, a Trade Show, a Banquet, and operators training session. BMID supports this organization. There were many people that were very happy to meet up with their peers over the 2-day event.

Website [www.wsabc.ca](http://www.wsabc.ca)

### Toby Pike

March 23, 1956 -  
July 16, 2021

Toby Pike passed away this summer from cancer. He worked for BMID for a short time, but for more than 23 years he was an ally to BMID,



as the Manager of South East Kelowna Irrigation District. Toby was an articulate speaker, and honest manager with integrity, who served the greater interests of his customers. He served as Chair of the WSABC. He sat as a Director on the Okanagan Basin Water Board for 12 years. Toby was an advocate for source protection, sufficient allocation of water to protect agriculture, and fair and equitable government policies. He was well-respected in the water industry and will be missed.

**OBSERVE, RECORD & REPORT**  
questionable watershed activities to  
BMID at (250) 765-5169

## MODERNIZING BC'S FORESTRY POLICY

On October 21, 2021, the Minister of Forests, Katrine Conroy, introduced Bill 23 to the BC Legislature, to amend the Forest and Range Practices Act, stating it would reshape forest management in BC. The specific objective was that the bill would align forestry legislation with B.C.'s "Declaration on the Rights of Indigenous Peoples Act" passed in 2019, and it would introduce new tools to establish resilient forests.

BMID has been communicating with Westbank First Nations and we have similar objectives of protecting source water. In September, BMID Trustees and staff met with WFN Chief Chris Derickson and WFN staff, for a day of touring the watershed, touring the WFN lands in Gallaghers Canyon, and visiting BMID water supply facilities. BMID is in a position to support WFN with domestic water, however the terms of how that may evolve are in the earliest stages. Chief Derickson is very well-spoken individual and BMID intends to work co-operatively with WFN to protect Mission Creek.

Regarding Bill 23, BMID agrees with the First Nations changes. Understanding and cooperation with First Nations is imperative. The new tools proposed by the Province for forest management remain to be seen. In 2019, BMID received funding from the Forest Enhancement Society of BC to carry out a Landscape Level Forest Protection plan with three other water utilities that are reliant on the east plateau watersheds between Mission Creek and Coldstream Creek. The landscape plan identified fuel management corridors where fuel reduction could occur to help reduce the size of major forest fires into defensible areas. It remains to be seen if the forest companies will adopt this plan as necessary and beneficial. Of concern is the issue of how the forests are logged and coniferous-only stands of Spruce-Pine-Fir are replanted. This mono-culture forest is more susceptible to large-scale fires. Current replanting is designed to maximize revenues rather than promote forest health. Healthy, bio-diversified riparian corridors are needed to maintain high quality source water.

An excellent explanation of how the forest industry in BC evolved to where it is today is provided by Liberal MLA Mike Morris from Prince George. Mr. Morris spoke to the BC Legislation on Oct. 26, 2021 in review of Bill 23. His 28 minute speech is well worth the time and can be found on YouTube by searching "Mike Morris Forests".

**Derickson Lake Fire** On June 29, 2021, during the intensive Heat Dome, there was a lightning strike on the Graystoke plateau near the headwaters of Mission Creek. The fire that broke out was the highest elevation fire in our watershed in recent history. Approximately 3,200 acres of timber burned and fortunately, the ground was still damp at that elevation. The fire slowed down as it headed north and down the south side of the Mission Creek canyon which may still have had some snow on the ground. The fire was below the catchment area of the 3 local BMID reservoirs.

BMID hosted a watershed tour on September 8<sup>th</sup> with senior BC Parks staff and senior drinking water staff from Interior Health to see the areas and upper watershed that will be part of the long-term drinking water sources for the region. The upper watershed, even with the fire damage, is one of the areas least impacted by human activity.



**Mission Creek Fish Management** Black Mountain has been responsible for the managing the majority of base-flow in Mission Creek, particularly with respect to maintaining minimum flows for fish habitat during the Aug-Oct low flow period each year. This year, the Water Survey of Canada installed two additional flow monitoring stations in the Mission Creek watershed on Pearson and on Belgo Creeks. BMID, in conjunction with the Province and the City (SEKID watershed) closely monitored the flows and releases to the lower creek. BMID provided additional water than what is required by the Province. As a result, despite the extreme heat, the Kokanee stream-spawning count was 13% higher than in 2020 with an estimated 43,000 fish in Mission Creek. This was 53% of all stream-spawning Kokanee in the Okanagan. BMID released water that is allocated to those customers that have irrigation water rights but were not currently using water. The data collected will be used to work with the Province to leverage the construction of additional reservoir storage in the high watershed. BMID ended the irrigation season with 20% left in our storage reservoirs.

*"What we are doing to the forests of the world is but a mirror reflection of what we are doing to ourselves and to one another."* Mahatma Gandhi (1869-1948)