

Source Water Hydrometric Monitoring within the Duteau Creek Watershed: An Update

Greater Vernon Water (GVW) received a Water Conservation and Quality Improvement Grant (WCQI) for the installation of three hydrometric stations within the Duteau Creek Watershed. Hydrometric stations automatically monitor the water level and flow of a stream in remote locations. Duteau Creek is a major water supply for Greater Vernon population and provides the majority of the agricultural irrigation water.

Duteau Creek is fed by three storage reservoirs on the Aberdeen Plateau south of Lavington. Presently, these reservoirs are managed using historical experience and some snow pack data. GVW would like to further incorporate good science into the development of standard operating procedures (SOP) for efficient reservoir use and further see the potential to raise one of the reservoirs earthen dams. With projections of up to 50% equivalent clear-cut area (ECA) in the Duteau Watershed due to the Mountain Pine Beetle, looming climate change and increased demands from a growing population, GVW believes that the future of our upland water sources is not certain. Therefore a valuable part of GVW's local water management plan, is to collect as much information as possible to responsibly operate our major water sources.

Early this summer, Dobson Engineering was contracted to install three hydrometric stations on Upper Duteau creek, Curtis creek and Heart creek. As of October, the three stations have been installed, GPS'd and



mapped. The instrumentation has been purchased and will be installed before the 2008 freshet. Following this, a flow depth relationship (stage discharge curve) must be developed for each station which will include a minimum five stream flow measurements for each site.

The project was anticipated to be complete by the end of summer of 2007. Due to a late start date and the need to capture stage discharge readings during high flow, the project completion date

has been pushed to late spring 2008. An early start time before freshet is important to capture various flow measurements.

Greater Vernon Water has always supported the continuation and growth of British Columbia's hydrometric network. It is an important aspect of this project to contribute to a public database of information and provide any advice or assistance to other utilities in the Okanagan Valley wishing to undertake a similar project.

The initial stage of this project involved discussions with the Ministry of Environment and members of Water Survey Canada for information pertaining to developing the stations to meet government standards.

As a part of GVW's desire to inform our customers of projects, an advertisement on SunFM radio has been developed and outlines what the project is and the Okanagan Basin Water Board's involvement. Greater Vernon Water strongly believes that the use of science is important to operating our water system. As with all hydrologic information the hydrometric station project is long term and will be in use as long as the reservoirs are utilized.