

Hullcar Aquifer Inter-Ministry Working Group Update of Key Activities and Actions

The Ministry of Environment May 19, 2016 Nitrate sample from Steele Springs drinking water overflow was 11.7mg/L

Action Plan Activity 3: Review of *Environmental Management Act, Drinking Water Protection Act, Health Act* instruments to encourage collective action for improvement of water quality.

Pollution Abatement Orders/Pollution Prevention Orders

On May 12, 2016, the Ministry of Environment issued seven pollution abatement orders (with requirements specific to the particular operation) to agricultural operators across Hullcar Valley. Pollution abatement orders are a tool to take immediate action to manage risks to human health and the environment, and pollution prevention orders are a tool to prevent the introduction of waste into the environment. The purpose of these orders is to further abate agricultural waste from entering Hullcar Aquifer 103 as the usefulness of the groundwater from the aquifer is currently compromised due to level of nitrate in Steele Springs drinking water. Ministry staff will use pollution abatement orders where it is appropriate to ensure human health and the environment are protected.

Agricultural operations are a likely source of the nitrate problem but they may not be the only problem. This is why the inter-ministry working group, as part of the action plan, are also evaluating other potential sources such as septic systems and inorganic farm fertilizers. The integrated monitoring study (see below) will look at direction of flow and water quality within Hullcar Aquifer 103, and will assist in identifying the sources of nitrates. Government has committed to reverse the increasing trend of groundwater nitrate concentrations and this is an important step.

Area Based Management Plan

On May 13, 2016, Mark Zacharias, ADM Environmental Protection Division; Orlando Schmidt, Regional Manager, Ministry of Agriculture; and MLA Greg Kylo met individually with several agricultural operators; Brian Upper, Steele Springs Water District; members of the Township of Spallumcheen; and representatives from Save Hullcar Aquifer Team. The purpose of the meetings was to introduce the concept and receive feedback for developing an area based management plan for the Hullcar Valley. A draft ministerial order and terms of reference for development of the area based management plan will be circulated to the above parties in the next few weeks.

Open Letter from Western Water & Associates regarding Hullcar Aquifer 103 hydrogeological study

On May 16, 2016, representatives from the Hullcar Aquifer Inter-Ministry Working Group met with Dr. Brian Upper, co-Chair Steele Springs Water District and Douglas Geller, Senior Hydrogeologist/President, Western Water and Associates Ltd. (WWAL) to review WWAL data and technical information.

At the May 16th meeting, Mr. Geller advised information included in this study comprised of publicly available BC Government information, ongoing sampling of Steele Springs (SS) drinking water overflow, and WWAL groundwater wells samples, including the well at the Hullcar Hall. Mr. Geller distributed a five-page handout including a map (which he collected at the end of the meeting) showing locations of the wells/sampling points, and several pages of calculations. Results of WWAL sampling were dictated verbally. No other documentation was provided at the meeting. Mr. Geller advised a report was not produced for this study. Mr. Geller also stated that there is a need to better understand the aquifer on the west side.

At a regular Inter-Ministry Working Group meeting on Wednesday May 18th, the group discussed the information provided by Mr. Geller on May 16th and determined that, although the meeting was helpful, the study scope conducted by WWAL was too narrow to provide a holistic view of all possible contaminant sources for the Hullcar Valley. The study included a small amount of data that was spatially limited to the 'field of concern'. As well, the data and other technical information was not provided to the working group which would help to better understand the study findings as explained by Mr. Geller. The working group found there to be insufficient data presented to adequately evaluate WWAL's professional opinion.

Alternate Drinking Water Source for Steele Springs Water District

Following the May 16 meeting, Interior Health Authority has requested Steele Springs Water District to identify all options and costs for an alternative drinking water source. Subsequent meetings have occurred with SSWD and IHA to review and discuss alternative options.

Action Plan Activity 6: Develop an integrated cross ministry monitoring plan including identification of sampling points, by whom, schedule of samples, etc.

The Monitoring Sub-group has developed a terms of reference, obtained funding and is working on posting the request for quote (RFQ) to the [BC Bid](#) site (BC Government's procurement website). It is expected that the RFQ will be posted during the week of June 6, 2016; however, this is dependent on the BC Bid procurement staff workload.

The RFQ will be posted for 3-weeks, bids will be reviewed by the sub-group at the end of June and the contract will be awarded early July. Phase I report is expected at end of September 2016 and the Phase II report is expected at the end of February 2017.

The proposed monitoring study is to be conducted in two parts: first part is a desktop assessment to provide a robust understanding of Hullcar Aquifer 103. The second part is a field assessment to ground

truth the study findings from phase I; to determine a mass balance of nitrate loading into the aquifer; and undertake five deep soil tests.

Complementing this Integrated Monitoring Study will be a 'Post-harvest Nitrate soil study' across Hullcar Valley conducted by the Ministry of Agriculture in Fall 2016. The terms of reference for this study is currently being developed, budget request is being submitted along with the request to contract.

Action Plan Activity 9: Explore alternative nutrient management approaches including technology options, geographic distribution options, etc.

The Ministry of Agriculture is currently finalizing a report that identifies alternative nutrient management approaches. It is expected to be posted to the Ministry of Agriculture website at the end of June 2016, and will be provided to the Environmental Farm Plan Advisors and the industry associations for distribution to their members.