

## WESTBANK IRRIGATION DISTRICT (\$27,000)

PROJECT TITLE: POWERS CREEK SOURCE PROTECTION PLAN

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The Westbank Irrigation District (WID) is an Improvement District incorporated under the Water Act by Letters Patent first issued on June 14, 1922. It is authorized to acquire, maintain and operate water works for domestic and irrigation purposes, acquire land for such purposes. The Westbank Irrigation District aims to build on its strength of providing safe water to the community of Westbank, striving to be among the best of the Okanagan water purveyors. In 2007 the WID served 385 ha of farmland and had over 5,000 residential connections serving approximately 13,000 residents. The total annual water demand is approximately 4,300 acre-feet or 5,300 ML.



The Powers Creek Source Protection Plan project for the Westbank Irrigation District addresses Modules 1, 2, 7 and 8 of the Comprehensive Drinking Water Source to Tap Assessment. The intent of this project is to gain a greater understanding of the risk factors to the Powers Creek water source that may exist as a result of the variety of land uses in the watershed with consideration of the potential risks associated with the effects of the Mountain Pine Beetle. The final plan is also intended to address the Interior Health Authority condition on the WID Operating Permit that requires a Source Protection Plan for its source area.

**Module 1** involves the delineation and characterisation of the drinking water source(s) and is primarily an office-based exercise. Previous watershed reports and GIS data are compiled and summarized to confirm the water source area. In some cases fieldwork is required to confirm watershed boundaries and diversions that may exist.

**Module 2** is the contaminant source inventory. The information summarized in Module 1 is used to identify locations in the watershed that may be affected by contaminants (stream crossings, roads adjacent to streams, recreational areas, active industrial areas, intensive range use areas etc). Ground based assessments of these locations are completed to rate the degree of contamination or potential contamination to the surface water. The primary contaminant is typically soil/sediment from industrial roads, recreation and range use and wildlife. Fecal material from cattle and wildlife may also be introduced to the streams and illegal disposal of refuse may also introduce contaminants to the source water.

**Module 7** characterizes risks from source to tap. This Module evaluates the drinking water protection barriers and assesses the risks identified in Modules 1 and 2. This will identify and prioritize problem/potential problem locations.

**Module 8** recommends actions to improve drinking water protection. This module summarizes the risks identified in Module 7 and suggests actions that will reduce the risks to drinking water quality.

Module 1 was completed early September 2008 and identified 144 stream road crossings as well as road sections adjacent to streams.

Module 2 was completed in late September, and of the 144 crossings (and any others identified in the field) 101 were assessed in detail. Some locations identified in Module 1 were not assessed due to access/time constraints but these were typically limited to small drainages distal from reservoirs/intakes and in many cases are non-classified drainages (mapped as streams but are actually dry draws/gullies). Recreational and industrial areas were also assessed, as was the majority of the road system travelled between stream crossing locations.

It is anticipated that Modules 7 and 8 will be complete by the end of 2008 and the final report summarizing the four modules will be complete by the end of March 2009.

To date, no significant obstacles have been encountered; however some roads were inactive and overgrown limiting access to some field sites.

