

GLENMORE ELLISON IMPROVEMENT DISTRICT (\$22,000)

PROJECT TITLE: MILL CREEK SOURCE WATER PROTECTION PLAN

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The Glenmore and Ellison Irrigation Districts were amalgamated on April 5, 1990 to form the Glenmore-Elison Improvement District (GEID). The GEID collects and stores water in Postill, Bulman, South, and McKinley reservoirs and also operates five groundwater wells that augment the District's water supply.

The GEID services the Glenmore area including the Kelowna Golf & Country Club, from Glenmore Highlands to Hwy 97 including Quail Ridge. The District also services the Ellison area north from Anderson Road as well as the McKinley Landing area. The District has 5,212 service connections (approx. 12,000 people) and services approximately 3,645 ha (9.007 acres).

The *Mill Creek Source Protection Plan* project for the Glenmore-Elison Improvement District addresses Modules 1, 2, 7 and 8 of the *Comprehensive Drinking Water Source to Tap Assessment* (<http://www.health.gov.bc.ca/protect/source.html>). The intent of this project is to gain a greater understanding of the risk factors to the Mill Creek water source that may exist as a result of the variety of land uses in the watershed upstream of the GEID intake with consideration of 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 GEID Operating Permit that requires a Source Protection Plan for its source areas. (This plan focuses on the upland source areas only.)

Module 1 involves the delineation and characterization 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 (sensitive areas, 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 activity, 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 - Characterise 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 – Recommend 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.

Present achievements include, Module 1 which was completed late August 2008 and identified 83 stream road crossings as well as road sections adjacent to streams. Module 2 was completed in early September, and of the 83 crossings (and any others identified in the field) 59 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.

Modules 1 and 2 are complete, with Modules 7 and 8 in progress. 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.