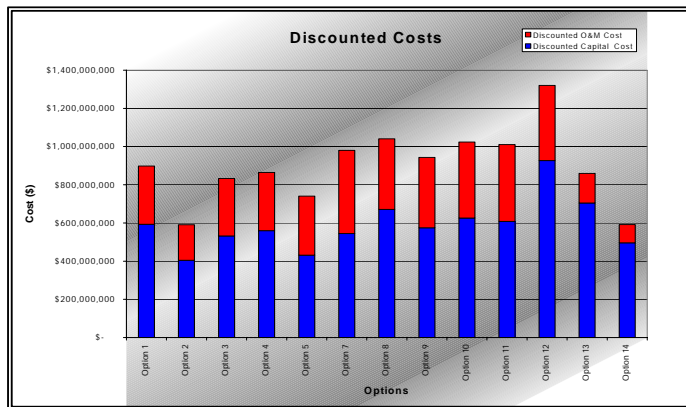


## Future Water Supply Sources Study



This study was commissioned by the Greater Vancouver Water District (GVWD) to identify and evaluate water supply sources that may be available within the study boundary, which included the area within the Greater Vancouver Regional District boundaries to the City of Hope in the east, the North end of Harrison Lake and the International Border in the south. The objective of the study was to refine and apply evaluation criteria to analyze each potential source on the list in terms of technical and economic evaluation criteria.

Earth Tech conducted an extensive literature review of all related studies that had been done by the GVRD and the Fraser Valley Water District. From the literature review and additional investigation and consultation with the GVWD, a total of 14 water source options were identified that were subsequently investigated in greater detail. After much consultation with stakeholders, six technical and six economic decision criteria were developed for the evaluation of the 14 options.

The necessary information was generated or modeled to support all of the twelve decision criteria. For example, the economic feasibility of each option was based on a 50-year life cycle cost, consisting of the capital cost and annual operation and maintenance cost. We also compiled requests for proposals for the GVWD to obtain consultants to conduct a social and an environmental impact assessment of each of the source options. The results of the study were presented at an Earth Tech-facilitated ranking workshop attended by a broad group of stakeholder's from the GVWD and its member municipalities, and the recommendations incorporated into the Region's Drinking Water Management Plan.

### PROJECT DETAILS

**CLIENT:** Greater Vancouver Regional District  
**LOCATION:** British Columbia, Canada

### REFERENCE INFORMATION

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### PROBLEM

Identify possible future water sources inside and outside Greater Vancouver Regional District boundaries. Conduct technical and financial feasibility analysis of options. Facilitate stakeholder workshops to rank and rate the options in terms of the evaluation criteria developed during the study.

### CHALLENGES

Ensuring like-for-like comparison of the 14 options that were identified, especially in terms of integrating each source option into the GVWD system. To quantify the effect of possible energy price fluctuations on the economic feasibility of the options.

### SOLUTION

The study determined the most viable water source options in terms of technical feasibility, environmental and social impacts, 50-year life cycle cost and stakeholder preference.

### BENEFITS

Assisting the GVWD in determining the most viable water source options to offset the predicted future water deficit facing the District.