Upper Columbia River Project



An overview of the project and introduction of the technical team.

Introduction

The Upper Columbia River is a special place to many people with historical, cultural, economical, and recreational significance. When people care about a place, they have a stake in what goes on there.

In 2006, Teck Cominco entered into a voluntary agreement with the U.S. Environmental Protection Agency (EPA) to fund and conduct a remedial investigation and feasibility study of the Upper Columbia River, which consists of the section of river from the Grand Coulee Dam to the U.S./ Canadian border.

This study is carried out under the oversight of the EPA, with participation of the Canadian government, the U.S. Department of the Interior, the State of Washington, and the Spokane and Confederated Colville Tribes.

Introduction

Who is Teck Cominco and why are they involved?
Teck Cominco is a Canadian company whose predecessor began operation of a metals smelting facility in Trail, British Columbia, Canada in 1892. Granulated slag, a metal-containing by-product of smelting, was discharged into the Columbia River from the Trail facility beginning in the early 1930's until 1995, in compliance with Canadian law. Aware that the facility was still viewed by some as a source of air and water pollution, the company spent $1 billion retrofitting the facility and installing truly state-of-the-art pollution abatement equipment. The issue of legacy discharges remained and needed to be addressed.

Recent studies done by U.S. federal and state agencies showed elevated levels of metals in Upper Columbia River sediments. Due to questions about possible health and environmental impacts, Teck Cominco volunteered to conduct further studies to determine if any detrimental impact from its Trail operations may have occurred, and if so, to address areas with unacceptable risk for which it is responsible.

Teck Cominco reached an agreement with the EPA on June 2, 2006 to fund and conduct these comprehensive human health and ecological risk assessments. The human health risk assessment is being conducted by the EPA.

What is the purpose of these expanded studies?
The purpose is to:

- evaluate the nature and extent of contamination
- determine if unacceptable risk to human health and/or the environment exists as a result of the contamination
- determine if action is necessary to manage the risk
- determine which action is most appropriate

Where is the Upper Columbia River study site?
The Upper Columbia River study site extends from the Grand Coulee Dam in Washington State upstream to the U.S./Canadian border, a distance of about 150 river miles. The study will include not only the river and the reservoir but also adjacent lands that may have been adversely affected.

What has happened so far?
In 1999, the Colville Confederated Tribes petitioned the EPA to conduct an assessment of environmental contamination in the Upper Columbia River. This request was due to questions over possible risks to human health and the environment as a result of past industrial and municipal activities. These activities included mining, milling, smelting operations, and other industrial operations like pulp and paper facilities. Influences on the Upper Columbia River from municipal waste, agriculture, recreation and tributaries such as the Spokane River have also been identified.

Results of a 2001 preliminary EPA study showed that contamination was present in sediment above the Grand Coulee Dam. A detailed investigation was needed to evaluate possible risks to human health and the environment. The EPA began conducting expanded studies in 2004, and in 2006 Teck Cominco agreed to complete and fund the work with oversight from the EPA.

What has yet to be done?
As outlined in the agreement, a number of studies and analyses will be completed to determine the nature and extent of contamination, investigate potential risks to human health and the environment, and decide how to best manage any risk that is deemed unacceptable.

The expanded studies are intended to answer three basic questions:

- Can I eat the fish?
- Can I play on the beaches?
- Can I swim in the water?

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Project Consultants

Teck Cominco, with the oversight and approval of the EPA, has assembled an experienced team of environmental scientists and engineers who will conduct studies of the Upper Columbia River. These experts are responsible for completing the expanded studies. They will design and implement field sampling and analytical programs that will help them evaluate the nature and extent of contamination, determine the presence of unacceptable risks and decide what actions may be necessary to alleviate the risks. Combined, the technical team of experts and professionals has over 150 years of experience in these kinds of studies and assessing risks associated with potential contaminants to human health and the environment.

Some of the key individuals are introduced in the following pages, however they are part of a large team of qualified people dedicated to completing this project.

Integral Consulting Inc.

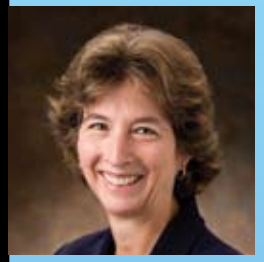
Dr. Lucinda Jacobs – President of Integral Consulting Inc. (Integral). Dr. Jacobs supervises and assists with the expanded studies, oversees technical aspects, and participates in planning and agency meetings. She is an environmental scientist who specializes in aquatic and sediment geochemistry. She has contributed to a variety of environmental studies, in marine, and river systems.

Dr. Rosalind A. Schoof – Principal at Integral and a board-certified toxicologist. Dr. Schoof supervises and assists in the coordination of the human health risk assessment. She directs evaluations of risk exposure levels, and assessments of exposure to chemicals in the environment.

Betsy Day – Vice President of Integral and a recognized leader of sediment cleanup investigations in river environments. She provides technical guidance and expertise in many aspects of the expanded studies and participates in planning and agency meetings.

Parametrix, Inc.

Dr. Rick Cardwell – Senior aquatic ecotoxicologist and risk assessor at Parametrix, Inc. (Parametrix). He oversees technical aspects of the expanded studies and participates in planning and agency meetings. Dr. Cardwell studies the effects of mine and smelter wastes on aquatic life, and assesses food chain risks.



Dr. Anne Fairbrother – Senior ecotoxicologist and veterinarian at Parametrix. Dr. Fairbrother provides expertise on metals risk assessment issues, Superfund requirements, and land ecotoxicology. She specializes in ecological risk assessment, contaminated site clean-up with an emphasis on metals and mining.

HydroQual, Inc.

Paul R. Paquin – Principal at HydroQual, Inc. (HydroQual) specializing in the use of computer models to describe the movement and distribution of chemicals in the water and sediments of rivers and lakes. He supervises and provides technical expertise on water quality modeling of the Upper Columbia River.

Dr. Mark Velleux – Senior Project Manager at HydroQual, specializing in model development and application. Dr. Velleux leads the hydraulic, sediment transport, and chemical transport modeling activities.

ENTRIX, Inc.

Dr. John P. Giesy – Senior consultant with ENTRIX, Inc. and is a Professor and Canada Research Chair in Environmental Toxicology within the Department of Biomedical Sciences at the University of Saskatchewan. He provides technical guidance on the ecological risk assessment component of the expanded studies. He is an expert in assessing the impacts of industrial and agricultural chemicals, and contaminated sediments.

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Next Steps

Teck Cominco and its technical team are committed to finding answers to the key questions.

· Can I eat the fish?
· Can I play on the beaches?
· Can I swim in the water?

The path for the expanded studies is grounded in good science. As part of this path, Teck Cominco and its technical team will prepare work plans and sampling and analysis plans. The plans will describe programs and studies designed to determine the nature and extent of contamination and assess possible risks to people and the environment.

The timeframe to complete the expanded studies will be determined by the nature of the work undertaken. Factors include seasonal and reservoir water management limitations, the complexity of the analyses, and decisions made based on the results of completed studies.

GOALS
· technically sound and cost effective studies
· science guides technical issues
· share information among participating parties

ACTIONS
· complete data gathering and analysis
· human health and ecological risk assessments
· remedial investigation report
· feasibility study
· record of decision

Assessing the health of the Upper Columbia River for residents, visitors and wildlife is the purpose of the Upper Columbia River Project. The scientists and engineers assembled for this project are tasked with acquiring and assessing environmental data and evaluating potential remedial alternatives to address impacts on the environment from past practices.

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