

# TRANSBOUNDARY WATERSHED CONSERVATION BRIEFING

# Kerr-Sulphurets-Mitchell Mine Proposal

Summer 2011

# **Project Basics**

Kerr-Sulphurets-Mitchell (KSM) is a giant proposed open-pit copper-gold-silver mine located in the rugged coastal mountains of northwestern British Columbia (B.C.), near the headwaters of the Unuk River. The site is approximately 65 km (40 miles) north of Stewart, B.C. and within 30 km (19 miles) of the B.C.-Alaska border. It is located on Sulphurets Creek, a tributary of the fish-bearing Unuk River, which flows into Misty Fiords National Monument in Alaska. Seabridge Gold holds a 100% interest in the KSM project.

If developed, the KSM project will be one of the world's largest gold-copper mines. The plan calls for up to four open pits in the high mountains, exploiting mineral deposits bounded to the north, east, and south by glaciers and ice fields. The proposed mine development would also include a camp, explosives factories and magazines, buildings, power lines, roads and other supporting infrastructure. It is expected to process between 120,000 to 180,000 tonnes of ore per day over a mine life of 52 years, generating 2.1 billion tons of waste rock.

The proposed development would include 23 km (14 mile) twin tunnels drilled under the glaciers to link the mine to a mill and tailings site in the Treaty and Teigen Creek drainages of the Bell-Irving River near Highway 37. One tunnel would transport crushed ore from the mine in a slurry pipeline and return water, diesel fuel and electrical power; the other would transport personnel and supplies. Power for the mine site will likely be provided from the recently approved Northwest Transmission Line to be built along Highway 37. A combined gold-copper-silver concentrate would be transported by truck to the deep-water seaport at Stewart, B.C. for shipment to a Pacific Rim smelter.

The footprint of the proposed project would encompass the headwaters of two watersheds, and would have impacts on both sides of the border throughout the southern transboundary region.



**One of the thousands of ocean inlets at Misty Fiords National Monument.** Photo courtesy of Zarxos at Wikimedia Commons.

### TRANSBOUNDARY WATERSHED CONSERVATION

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## **About Seabridge**

Seabridge Gold is a Toronto-based publically-traded junior gold exploration company. It was founded in 1999 when gold prices were low. Its corporate strategy is to evaluate, acquire, explore and develop gold deposits in a rising gold price market, then sell or partner on assets ready for production. Seabridge does not build or operate mines. The KSM project is the company's most important asset. Seabridge Gold plans to obtain certificates and permits for the proposed mine, then sell the KSM project to a bigger mining company.

### **Review Process Status**

The KSM project requires certification under both the British Columbia Environmental Assessment Act and Canadian Environmental Assessment Act processes. In addition, numerous federal and provincial licenses, permits, and approvals will be required to use, construct, and operate the project. In particular, the project will require an amendment to Schedule 2 of the federal Metal Mining Effluent Regulation in order to construct the Tailings Management Facility in an area occupied by fish.

The KSM project is in the pre-feasibility stage of the environmental assessment process. On January 31, 2011, B.C. approved the Application Information Requirements (AIR) for the KSM mine proposal. Seabridge Gold anticipates submitting a joint application in 2011 under the provincial and federal environmental review processes.

## **Time Frame**

The environmental assessment process is 180 days long, with an additional 45 days for a federal decision. If Seabridge meets its application goal, it's possible that KSM could receive an Environmental Assessment Certificate in 2012. Mine construction is anticipated to take 4 years at a cost of over \$4.6 billion.

Despite the size of the deposit – estimated reserves include 38.5 million ounces of gold, and 10 billion pounds of copper – there is uncertainty as to whether it will be developed. The proposed mine is located in mountainous terrain that poses technical and economic challenges which could easily derail the project if mineral prices recede from current historic highs. In addition, the project poses a significant risk of acid mine drainage into fish bearing waters. The project needs an amendment to a federal regulation to put a tailings impoundment near Teigen Creek, which supports some of the highest fish values in the Bell-Irving watershed. This could delay the project, as could consultation and negotiations with four First Nations in B.C., and information sharing with at least eight Alaska-based federally recognized tribes in the U.S. that have interests that may be affected by the KSM project.

## **Threats to Conservation**

The proposed KSM project is located in a remote, wild and pristine area. The proposed mine will pose a threat to water quality in two fish bearing river systems, fragment prime grizzly and mountain goat habitat, and greatly increase industrial truck and marine traffic in the southern transboundary region.

The proposed mine site drains into the Unuk and Bell-Irving River systems. At the mine site, the mineralized rock has high sulfur content with a high probability for acid generation. Acid-generating waste rock will be stored separately. The Unuk River drains the proposed mining area, provides spawning routes for Pacific salmon and steelhead trout, as well as habitat for cutthroat and rainbow trout, char, and whitefish, and flows into Misty Fiords National Monument in Alaska.



Unuk River. Photo by Rivers Without Borders.

The proposed process plant site and tailing management facility will be located between Teigen and Treaty Creeks, which support high fish values and drain into the Bell-Irving River, which provides spawning or other habitat for chinook, coho and sockeye salmon, steelhead, rainbow and bull trout, Dolly Varden char and mountain whitefish. Sulfide-rich tailings will be submerged within a proposed 9 km long tailings management facility.

Acid mine drainage will be a long term concern. Given that the region is extremely wet and steep with high seismic activity, the danger of a spill from a toxic tailings impoundment or a tailings dam failure is very real. Clean up could be difficult if not impossible. Environmental consequences could be catastrophic.

The proposed project will lead to the construction of new roads through prime grizzly bear and mountain goat habitat, including an access road extending from the Eskay Creek Road, and a bridge across the Unuk River. On Highway 37, about 40 trucks per day will transport concentrate from the mill to the deep-water port at Stewart, B.C.

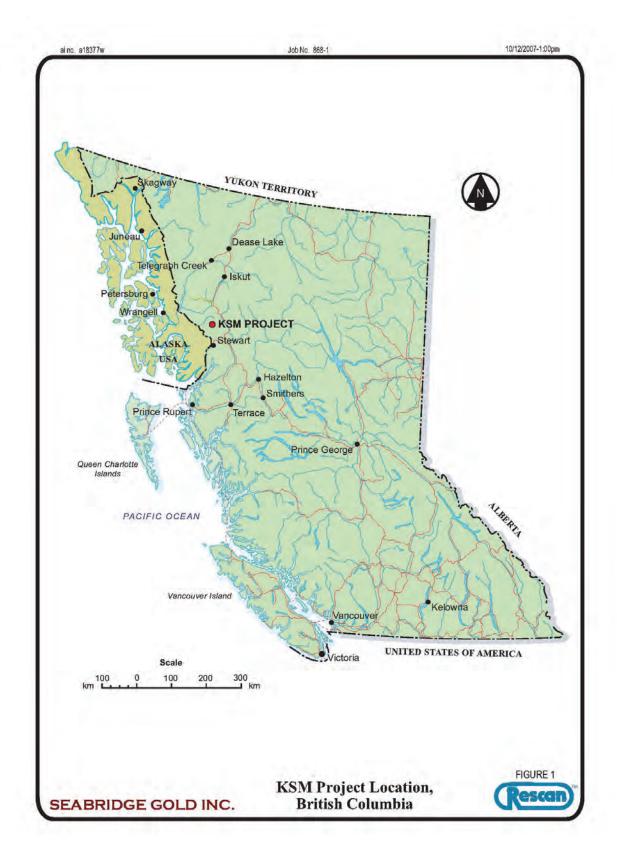
### **First Nations Positions**

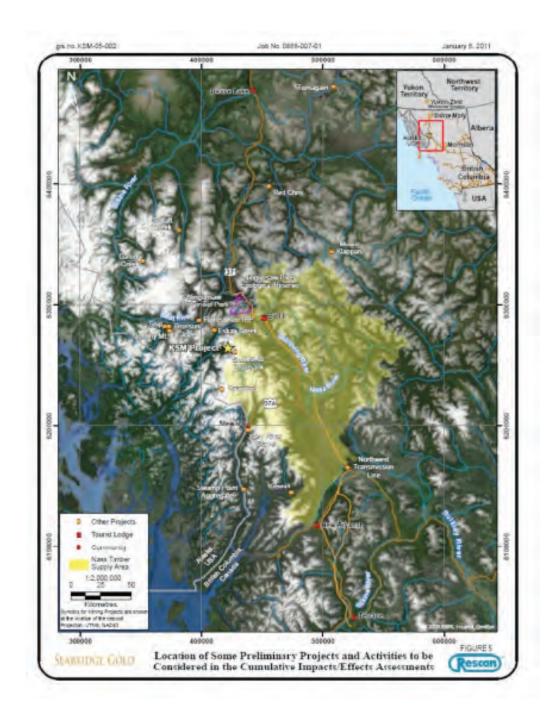
The proposed KSM project would impact multiple First Nations – both at the project site and downstream on both the Bell-Irving and Unuk Rivers. Part of the proposed project, excluding the mineral deposits and their immediately related infrastructure, lies within the boundaries of the Nass Area, as defined in the Nisga'a Final Agreement. This project triggers the Environmental Assessment and Protection chapter of that agreement. The Tahltan First Nation has an asserted claim over part of the area underlying the footprint of the proposed project. Additionally, the Gitanyow and Gitxsan Hereditary Chiefs have interests that may be affected by the project, particularly downstream of the proposed process plant and tailing management facility.

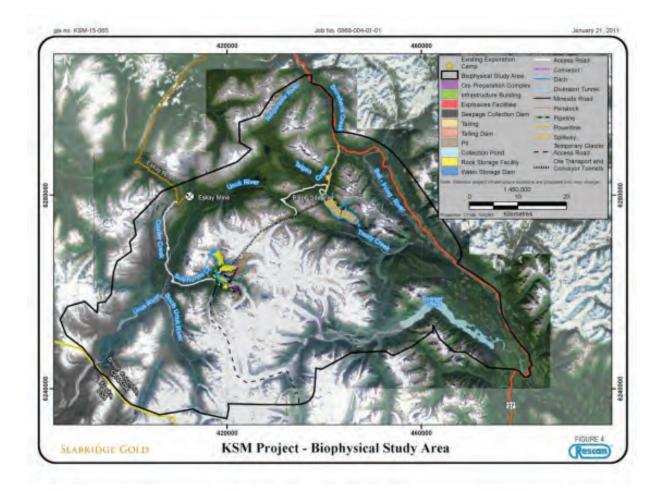
In expectation of an Environmental Assessment Application, the AIR directed Seabridge Gold to consult with the above First Nations and conform to the Nisga'a Final Agreement. With regard to cross border impacts: "The application will also describe information sharing and other discussions that have occurred with Alaska-based federally recognized tribes in the United States whose interests may be affected by the proposed Project. Some of these may include: Central Council of Tlingit and Haida Indian Tribes of Alaska, Craig Community Association, Hydaburg Cooperative Association, Ketchikan Indian Community, Klawock Cooperative Association, Metlakatla Indian Community, Organized Village of Kasaan, and Organized Village of Saxmon."

# Summary

Kerr-Sulphurets-Mitchell is a massive open-pit copper-gold-silver mine proposed by Seabridge Gold. It is located on salmon bearing waters in multiple First Nation territories. It is upstream of Misty Fiords National Monument in Alaska, close to the international border, and could affect downstream Alaskan native and fishing interests. It is currently in the preliminary stage of environmental assessment, and has substantial potential environmental impacts to the region's wildlife and fish populations.







## **Contacts**

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http://www.eao.gov.bc.ca/contactus.html

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### **Resources**

Seabridge Gold – http://www.seabridgegold.net/index.php

Seabridge Gold Kerr-Sulphurets-Mitchell project video – http://www.seabridgegold.net/readmore.php?newsid=294

Seabridge Gold Kerr-Sulphurets-Mitchell project information, including maps – http://www.seabridgegold.net/ksm.php

Kerr-Sulphurets-Mitchell Project – B.C. Environmental Assessment, Pre-Application - http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic\_project\_home\_322.html

Kerr-Sulphurets-Mitchell Project -

B.C. Environmental Assessment, Approved Application Information Requirements, January 31, 2011 – http://a100.gov.bc.ca/appsdata/epic/documents/p322/1296578509769\_d7fa1337284246d56a4a676038f9ab2bb02e968c15770604e5704813b1ee1f57.pdf

Nisga'a Lisims Government – http://www.nisgaalisims.ca/welcome

Nisga'a Final Agreement – http://www.nisgaalisims.ca/nisgaa-final-agreement