

## Upstream Fish Passage Review Umeå, Sweden



**Client: Vattenfall Service Nord AB and  
Umeå Energi AB, Sweden**

**Date: 2007 – ongoing**

**Project highlights:**

- **Development of preliminary fish passage options**
- **Development of hydraulic data collection program**
- **Provision of advice on feasibility of fish diversion and bypass systems**

### **Project Description:**

#### **Umeå, Sweden – Downstream Fish Passage**

The Stornorrfor power generating station, Umeå, Sweden, attracts downstream migrants (Atlantic salmon smolt and kelt) into the power canal of a hydroelectric generating facility resulting in significant fish mortality. Mr. Goosney has provided advice on the review of the feasibility of a downstream fish diversion system and bypass, development of a data collection program for input into hydraulic computer modeling program and develop preliminary fish passage options as part of an ongoing initiative to increase the salmon population on the River Umeälven.

## Upstream Fish Passage Solutions Umeå, Sweden



**Client: Stornorrfor's Fish Passage Working Group (includes representatives of the hydro industry, Swedish regulatory agencies, municipalities, land owners, and other stakeholders)**

**Date: 2007 – ongoing**

**Project highlights:**

- Provision of Bio-engineering solutions for fish passage
- Development of conceptual options
- Acceptance by Client
- Provision of detailed design criteria
- field investigations
- International Collaboration

**Project Description:**

**Umeå, Sweden – Upstream Fish Passage**

**Project: Fish Passage Solutions for Upstream Migrating Anadromous Salmonids**

**Client:**

Sikumiut is providing expert advice on bio-engineering issues related to improving fish passage for anadromous Atlantic salmon and brown trout on the regulated Umealaven River in Northern Sweden. Upstream passage is hindered by a series of falls and rapids between a hydroelectric dam and a power plant tailrace in the natural river channel and this is further complicated through flow regulation. Advice was initially solicited from an international expert group (IEG) of Canadian, American, Norwegian, and Swedish scientists and engineers. An initial site visit and series of meetings of this group identified a number of potential solutions to improve fish passage. Swedish authorities have decided to pursue the 'Canadian solution' which is to modify a set of rapids by creating a series of pools that would provide effective fish passage. Sikumiut's bio-engineering team was retained to conduct a detailed field assessment of this option over a variety of flow scenarios and has been requested to provide detailed design criteria for implementation of this fish passage solution. It is anticipated Sikumiut's bio-engineering team will play a similar role in resolving additional fish passage impediments at other upstream locations and well as assisting in the design of, and possible participation in, follow-up biological monitoring of fish passage success.

**Regional Impact Document  
ITK National Position on  
Canada-Wide Strategy for Management of Municipal Wastewater  
Effluent**



**Client:** ITK

**Date:** 2008

**Project highlights:**

- **Stakeholder consultation**
- **Policy Review**
- **Opinion Survey**
- **Technical Review**

**Project Description**

The North Coast communities comprising Nunatsiavut would be affected by a national strategy for regulation of municipal wastewater. Consultations were held with each municipality to develop an understanding of existing sewage handling systems and plans for improvement. This was placed in the context of individual community priorities and funding challenges.

The Canada-Wide Strategy was reviewed to assess the implications for the communities of Rigolet, Makkovik, Postville, Hopedale and Nain. A position paper was developed to describe the existing situation in each community, the effect of current waste management practices, and the effect of the proposed strategy on each community.

**Plan Forward  
Former Radar Site  
Hopedale**



**Client: Department of  
Environment and  
Conservation, GNL**

**Date: 2007**

**Project highlights:**

- Literature Review
- Recommendations on delineation and remediation of contaminated sites.

**Project Description:**

There have been many investigations of the former Radar Site at Hopedale, Labrador. Some of the affected areas lie within the existing municipality and in areas where development (building structures) are now located. Much of the land is due to be turned over to the Nunatsiavut Government as a condition of the Land Claim Settlement. As a pre-condition to any transfer in ownership, the Government of Newfoundland and Labrador required a review of the evidence of contamination and the record of past remediation actions.

The study team reviewed all past work and provided a work plan to complete necessary contaminant delineation, planning for remediation and return of the property to a condition acceptable for ownership transfer.

A report on the work was prepared and formed the basis for a remediation Action Plan.

## Environmental Investigations Nain Administration Building



**Client: Natsik Services Inc**

**Date: 2006**

**Project highlights:**

- **Determination of contaminants on site**
- **Preparation of Phase I/II -Environmental site assessment**
- **Removal of former underground storage tanks**

### **Project Description:**

Sikumit was retained by Natsik Services Inc, project managers for the new administration building for the Nunatsiavut Government in Nain to undertake work to determine environmental conditions at the proposed site of the building.

The proposed site formally housed an administration building which was destroyed by fire in 1995. Preliminary indications were that there was some contamination on the site caused by hydrocarbon leaks and that there were underground storage tanks still on site.

The investigation found two storage tanks. The tanks were removed and the surrounding soils sampled and tested for hydrocarbon contamination. One site showed evidence of contamination and a remediation plan was developed for capture of groundwater and recovery of contaminated soils.

## **Fisheries Liaison Observers Seismic Survey Operations Offshore Labrador**



**Clients:** Various

**Date:** 2002 - Ongoing

**Project highlights:**

- **Fisheries liaison**
- **Marine mammal and seabird observations**
- **Monitoring for regulatory compliance**

### **Project Description:**

*Sikumiut* provided qualified personnel to accompany offshore seismic survey programs conducted in waters under the jurisdiction of the Canada – Newfoundland and Labrador Offshore Petroleum Board. In Northern waters, the personnel are to be Labrador Inuit. These Observers are required to possess safety certification (Marine Emergency Duties - MED training) and to be capable of completing surveys for the presence of marine mammals and seabirds. *Sikumiut* recruited personnel, and made logistical arrangements for them to join the survey vessels prior to entering the northern zone.

*Sikumiut* now maintains an inventory of trained and experienced observers, available on short notice to support offshore hydrocarbon exploration surveys.