

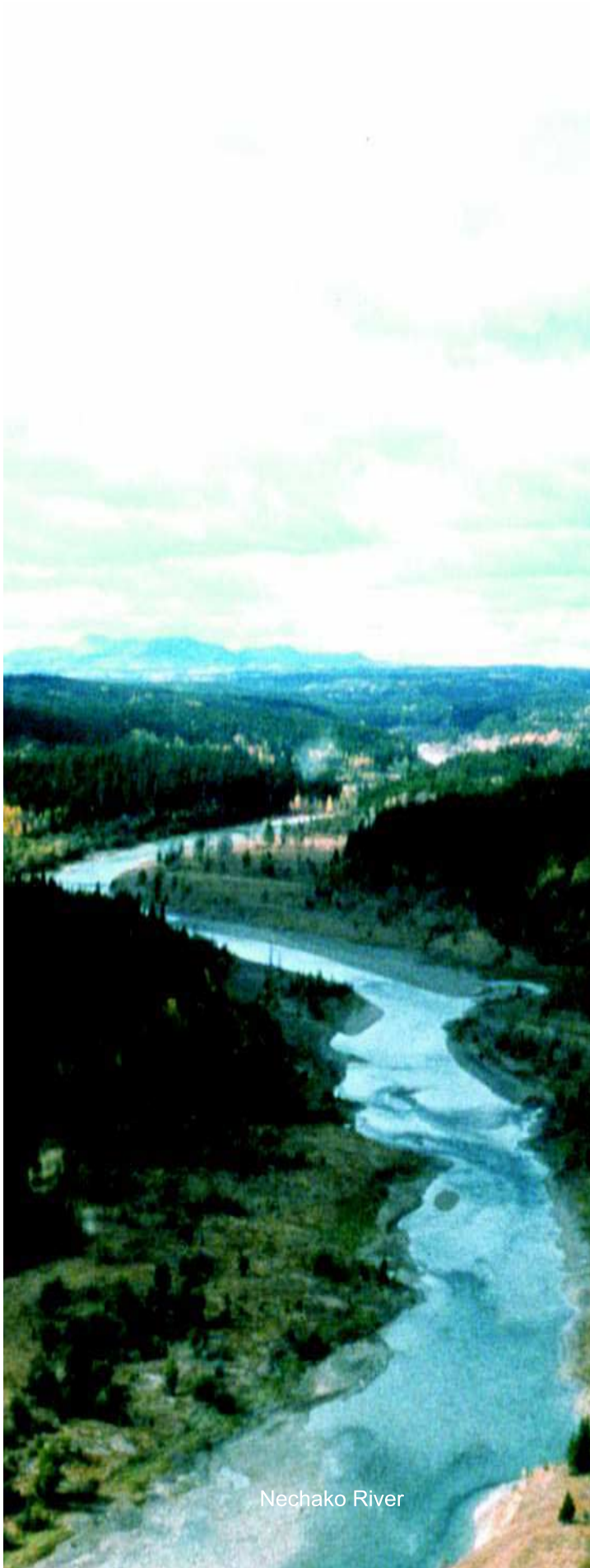


*Nechako Environmental  
Enhancement Fund*

# Moving Ahead

Summary Report of the  
Nechako Environmental  
Enhancement Fund  
Management Committee

*June 7, 2001*



Nechako River

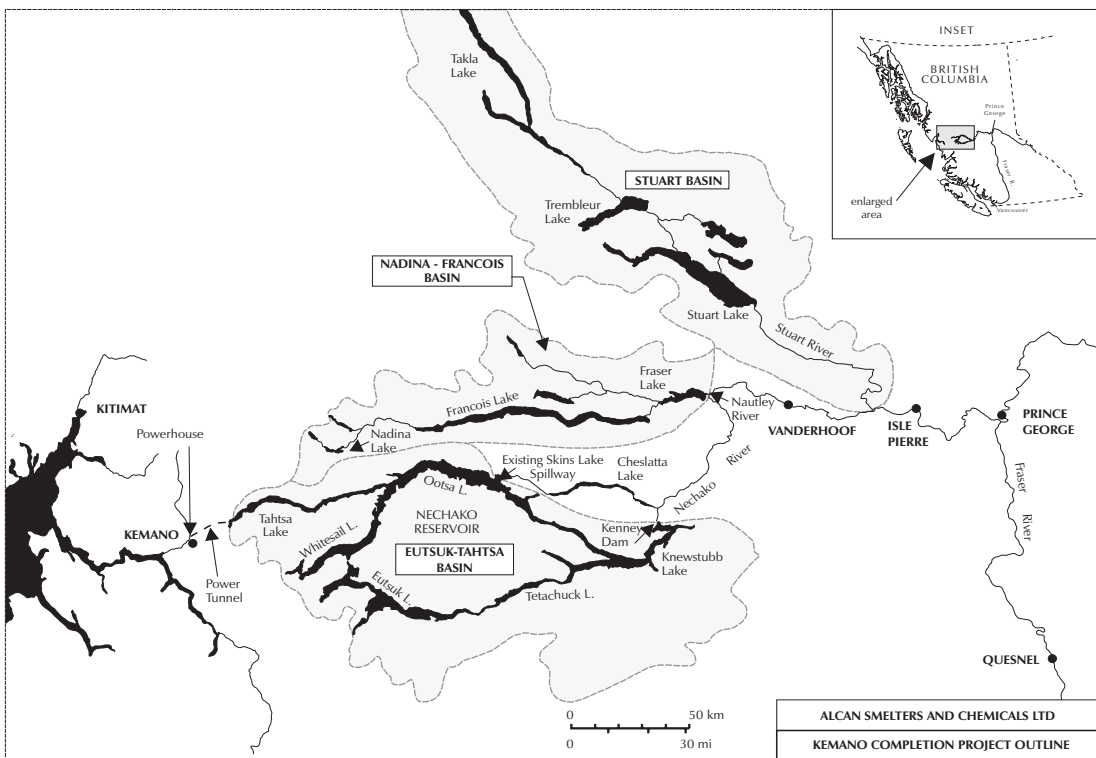
# Moving Ahead

This summary outlines the contents of the Report of the Nechako Environmental Enhancement Fund Management Committee (NEEF MC). It describes the background to the Fund (page 4); the Management Committee's decisions and recommendations (pages 6-9); and the terms of reference and process it followed (page 4). The Committee's full report is available from the Fraser Basin Council.

## ***A Solution for the Nechako Watershed and the Future of Northern BC***

We are confident that the decisions and recommendations set out in this report, if implemented, will create the conditions for the downstream enhancement of the Nechako River, establish the conditions for an ecologically healthy Cheslatta River and Murray-Cheslatta Lake system (Murray-Cheslatta system), and help to overcome a legacy of social and economic dislocation in the Nechako watershed. Although the outcomes may not please the more extreme interests that have developed in the half-century of conflict over the Nechako River, we believe that they reflect an emerging consensus.

Today, we have a choice. We can either continue the controversies and battles of the past or we can take the actions necessary to establish the conditions for a healthy Nechako watershed well into the future. Notwithstanding the financial costs of these proposed actions, we consider that the future health and well being of the Nechako watershed, not to mention the prospect of "peace in the valley" after 50 years of conflict, to be well worth the price. After all, we are investing in our environment, and our people and in the future of northern British Columbia.



## ***The Nechako Watershed***

- Area: 69,330 km<sup>2</sup>. By comparison, Nova Scotia is 55,284 km<sup>2</sup> and Vancouver Island is 31,285 km<sup>2</sup>.
- The Nechako watershed is located in north central and northwestern BC and drains the Coast Mountains and Interior Plateau.
- The Nechako River comprises three major drainage basins: Eutsuk-Tahtsa, impounded by the Kenney Dam; Nadina-Francois; and Stuart.
- The Nechako River runs 288 km from Cheslatta Falls to Prince George, where it joins the Fraser River.
- The Nechako River has some 100 tributaries, including the Cheslatta, Nautley and Stuart rivers.
- Population: approximately 100,000.
- Major centres: Vanderhoof, Burns Lake, Prince George.
- Major economic activities: forestry, agriculture, ranching, salmon fishery, eco-tourism.

# The Nechako, Alcan and Kemano

(for more detail, see Historical Context in Report)

***“The Kemano project ... helped to open northwestern British Columbia to industrial development and economic growth ... But in the Nechako watershed, and in the Murray-Cheslatta system through which Nechako reservoir waters were redirected by the Skins Lake spillway, there have been major social and environmental costs...”***

***- NEEF MC***

Just over half a century ago, in 1950, the Province of British Columbia and the Aluminium Company of Canada (Alcan) signed an historic agreement. The agreement gave Alcan the right to harness the hydroelectric potential of the Nechako River by diverting a portion of its headwaters from east to west, from high mountain lakes impounded by the Kenney Dam, through Mount DuBois and the Kemano power plant, into the Kemano River below. The Kemano project was one of the most impressive engineering feats of its time. It helped to open northwestern British Columbia to industrial development and economic growth. But in the Nechako watershed, and in the Murray-Cheslatta system through which Nechako reservoir waters were redirected by the Skins Lake spillway, there have been major social and environmental costs, thereby creating the conditions for 50 years of often bitter controversy.

## ***Kemano's Environmental and Social Impacts***

The Kemano project has had significant downstream social and environmental impacts, including:

- relocation of the Cheslatta Carrier Nation from its traditional homeland and the flooding of Cheslatta Carrier Nation villages and grave sites
- de-watering of the Nechako Canyon resulting from the construction of the Kenney Dam
- reduced water flows in the Nechako River resulting from the diversion of water to Kemano
- damage to the Murray-Cheslatta watershed as the result of the redirection of upper Nechako flows through the Skins Lake spillway following the 1987 decision to put large volumes of water through the system as cooling flows for the sockeye salmon runs



*The Kenney Dam, part of the Kemano project, was one of the most impressive engineering feats of its time. Alcan harnessed the hydroelectric potential of the Nechako River by diverting a portion of its headwaters from east to west, from high mountain lakes impounded by the Kenney Dam, through Mount DuBois and the Kemano power plant, into the Kemano River below.*

# From Controversy to Cooperation

*"... the time has come to bring peace to the valley".*  
- NEEF MC

The controversy over the Nechako came to a head after 1979 following Alcan's announcement of its intention to proceed with the Kemano Completion Project (KCP) a project that would have taken more water from the Nechako watershed by increasing the hydroelectric generating capacity of the Kemano power plant. In the 20 years since that announcement there have been numerous lawsuits, public enquiries, and disputed government actions over the Nechako. These battles have pitted environmentalists and local First Nations against pro-business interests, governments and Alcan; have set Alcan against both the Provincial and Federal Governments; and have divided community against community in northern British Columbia.

There is a growing conviction, however, that the time has come to move beyond the disputes of the past toward a new consensus based upon the shared interests of the future. There is a degree of optimism that the time has come to bring "peace to the valley" by reconciling industrial development with responsible environmental stewardship and social justice.

## **The Nechako Watershed Council**

This conviction and optimism are based on developments since the Province of British Columbia rejected the Kemano Completion Project in January 1995. Following that decision, the former Fraser Basin Management Board (now the Fraser Basin Council) convened an unprecedented workshop in June, 1996 that brought the divergent interests of the Nechako watershed together. A consequence of that workshop has been the formation of the Nechako Watershed Council (NWC) as a forum in which hitherto irreconcilable interests can seek common cause. Over time, the NWC has gradually expanded its membership and its scope of activities. Other interested parties, such as the Cheslatta Carrier Nation and the Nechako River Alliance (NRA) have also actively participated in the NEEF process as they work towards environmental enhancement of the Nechako.



# The 1997 Agreement

Equally important in moving away from the conflicts of the past toward a future based on broad consensus was the 1997 Agreement between the Province of British Columbia and Alcan that suspended Alcan's legal suit against the Province with respect to its rejection of the Kemano Completion Project. By granting Alcan a final water licence for the water it needed from the Nechako Reservoir to operate its smelter at Kemano, and by giving the company access to alternate power supplies, the 1997 Agreement gave Alcan the security the company required to continue, and possibly to expand, its operations in British Columbia. By the terms of the Agreement the parties also directed their money toward more beneficial ends than the enormous financial costs and risks they would both have incurred through continuing litigation.

To this end the Agreement provided for a Northern Development Fund of \$15 million to promote community-based economic development in northern BC. More importantly for the purposes of this report, the Agreement created the Nechako Environmental Enhancement Fund to finance “options” for the “downstream enhancement of the Nechako watershed area”. Alcan is committed to providing up to \$50 million in a matching contribution to this Fund.

## **NEEF Management Committee**

The Nechako Environmental Enhancement Fund Management Committee was constituted in the fall of 1997 in accordance with Schedule 4 of the 1997 Agreement between the Government of British Columbia and Alcan. The NEEF MC consists of Jim Mattison, representing the Government of British Columbia, Eric Sykes representing Alcan, and Dr. Charles Jago, President of the University of Northern British Columbia, as the impartial third member. In 1999, Jim Wild and Jason Hwang, representing Fisheries and Oceans Canada, joined the NEEF MC as observers.

## **Management Committee Mandate**

The NEEF MC is mandated “to review, assess and report on options that may be available for the downstream enhancement of the Nechako watershed area”. As the Committee's terms of reference specify: “these options may include, but are not limited to, the development of a water release facility at or near the Kenney Dam...”. Schedule 4 requires the MC to “complete and deliver a report to the Province, Alcan and such other parties as appropriate”. The report is to include “its decision on the appropriate options...”, “a plan for the implementation of each of the selected options...”, “an independent report for each of the selected options...”, and “a program for the use of the funding...to meet the costs of each of the selected options...”.

As the members of the NEEF MC, we are filing this report in compliance with our terms of reference. We have held more than 40 committee meetings, conducted public workshops, commissioned 10 independent studies, and held meetings with interested parties and organizations over the past three years in the process of developing this report. In accordance with Section 11 of Schedule 4, we have consulted with the Nechako Watershed Council and other key stakeholders throughout this process.



NEEF MC  
*(left to right)*  
Dr. Charles Jago  
Eric Sykes and  
Jim Mattison.

# Consultation



(for more detail, see Multi-interest Involvement Process in Report)

***“... we have also witnessed the keen desire of all parties to move beyond the quarrels of the past in order to secure the future health of the Nechako and the Murray-Cheslatta watersheds and to maximize environmental, social and economic benefits that these watersheds can provide to the peoples of the valley and to those who depend on their flows.”***

***- NEEF MC***

Since the beginning of the consultative process in 1998, NEEF MC members, entrusted with determining the preferred options for the expenditure of the fund, have experienced first-hand the desire of the residents of the Nechako Valley to improve their watershed for future generations rather than to continue to re-fight the Nechako wars of the past.

We have met with the members of the Nechako Watershed Council and the Nechako River Alliance individually and through public workshops. We have spent time with individual environmental leaders passionate for the health of the river. We have met with the elected Chief of the Cheslatta Carrier Nation, the First Nation most directly impacted by the creation of the Nechako reservoir and the diversion of the upper Nechako flows through the Murray-Cheslatta watershed. We have met with provincial and federal Ministers responsible for the Nechako file and with the senior executives of Alcan. And we have met with the members of the Nechako Fisheries Conservation Program (NFCP), those responsible for monitoring the management of the Nechako River in accordance with the flow regime dictated by the 1987 Agreement between Alcan, British Columbia, and Canada.

In all of these meetings we have been made abundantly aware of the acute grievances, suspicions and paranoia that are the legacy of more than a half-century of conflict. However, we have also witnessed the keen desire of all parties to move beyond the quarrels of the past to secure the future health of the Nechako and the Murray-Cheslatta watersheds and to maximize the environmental, social and economic benefits that these watersheds can provide to the peoples of the valley and to those who depend on their flows.

This report, respectfully filed by the members of the NEEF MC in accordance with the terms of Schedule 4 of the 1997 BC/Alcan Agreement, seeks to build upon this foundation of goodwill and hope. Our aim throughout has been to listen, to learn, and to help shape an emerging consensus - and to attempt to resolve long-standing grievances and disputes while respecting existing legal agreements and river management protocols.

It is our hope that the decisions and recommendations set out in this report will enhance the Nechako watershed to the benefit of both the species that depend on its waters and the peoples who live upon its shores.

# Water Release Facility

*“... downstream enhancement of the Nechako River can only occur with the establishment of a more natural water flow regime in the river.”*  
- NEEF MC

From 1993 to 1994, the British Columbia Utility Commission reviewed and assessed the potential effects of the Kemano Completion Project. While neither approving nor disapproving the KCP, in its report (page vi-3) the Commission did state that, "For these several reasons the Commission recommends that the Kenney Dam Release Facility should be used for water releases regardless of the future of the KCP". The Commission viewed the benefits of the release facility as "so significant that it recommends that the Facility should be built whether or not the KCP proceeds". (page xxiii-5).

A long and thorough consultative process clearly demonstrated a continuing preference for a Water Release Facility (WRF) at the Kenney Dam as the best means to secure the widest range of enhancement benefits for the Nechako watershed. Many participants acknowledged that downstream enhancement of the Nechako River can only occur with the establishment of a more natural water flow regime in the river. A Water Release Facility (WRF) is the only way to achieve this objective.

As a consequence, we focused much of our attention on the design of a WRF and on river management issues that would result from the construction of a WRF. Supporting material referenced in our full report includes detailed reports on the modelling of river summer temperatures and water flows, on the design options for a WRF, on options for flowing water through the Cheslatta Fan (an area of sedimentation below the Nechako Canyon), on maintaining adequate flows through the Murray-Cheslatta system, and on cost estimates. All of these reports helped to shape our thinking as we formulated the decisions and recommendations contained in this report.

Cost containment was a prime concern throughout. In reviewing the various options for a Water Release Facility, we began by scrutinizing the least expensive option capable of securing the outcomes that we considered essential. Included among these outcomes is the ability to create a more natural year-round flow by redistributing the current high summer flows required to maintain cool water temperatures for the major sockeye salmon run; to reduce the flows in the Murray-Cheslatta system in order to create the conditions for the environmental rehabilitation of that system; and to manage flood flows. Only when the least expensive options were considered to be unworkable did we shift our attention to more expensive options. Through this process we have arrived at the decision to select a Cold Water Release Facility (CWRF) to be constructed at Kenney Dam for downstream enhancement of the Nechako watershed.



*Chinook Salmon Fry in the Nechako River, 2001*

# The Cost and Benefits of the Cold Water Release Facility

The total estimated cost in 2001 dollars of the decisions and recommendations made in this report is \$99,697,000, of which the major component is an estimated \$95,947,000 for CWRP construction. While the costs are great, we would argue that the benefits are greater.

- We are confident that the CWRP will enable reconciliation of long-standing disputes, which in turn will create the conditions for a more favourable environment for investment in the region.
- We believe that investing in a solution on the ground rather than spending millions in litigation, which would serve only to generate further controversy, is money well spent.
- We also believe that the construction of a CWRP will enable the adaptive management of the Nechako River needed to meet present and future environmental and societal challenges. Under current conditions, the ability to manage the Nechako River is not only severely limited, but also is the source of negative environmental effects, particularly in the Murray-Cheslatta system.
- In the face of climate change, the current regime is unlikely to constitute an effective means to manage the Nechako, especially for migrating salmon or for resident fish populations, particularly the endangered white sturgeon. By comparison, the existence of a CWRP will provide a far greater range of options for managing river flows and temperatures in the Nechako River whatever climatic conditions might arise.
- The CWRP will also enable the rehabilitation of the Murray-Cheslatta system after 50 years of adverse environmental and social impacts. It also provides a basis for a healthy, more natural ecosystem for the future. Equally important, it will allow the Cheslatta Carrier Nation to create, under favourable conditions, more productive lives in keeping with their expressed interests.



*A traditional annual gathering of the Cheslatta Carrier Nation. The Cold Water Release Facility option will allow the Cheslatta Carrier Nation to create, under favourable conditions, more productive lives in keeping with their expressed interests.*

CWRP Construction	\$ 95,947,000
Meandering Pilot Channel	\$ 600,000
Nechako Watershed Council Trust Fund	\$ 3,000,000
Independent Scientific Panel	\$ 150,000
<b>Total Estimated Costs</b>	<b>\$ 99,697,000</b>

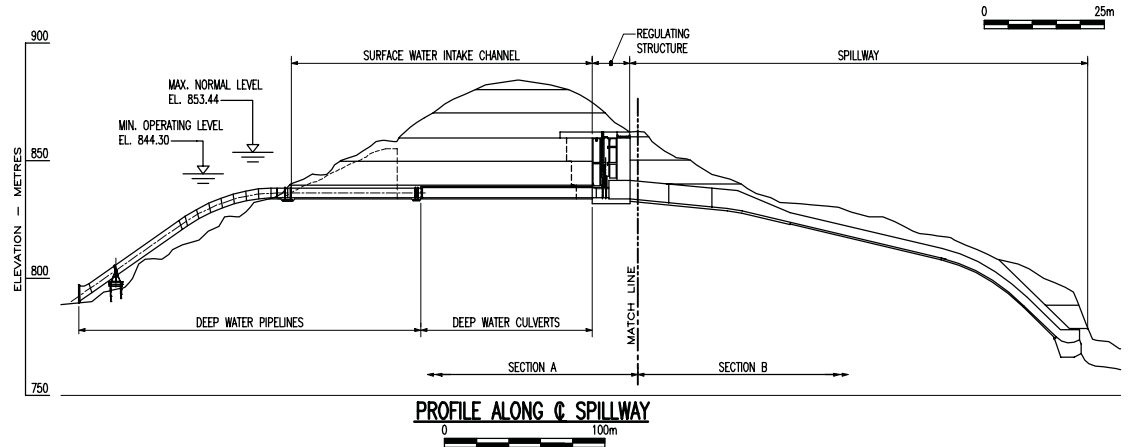


# The Cold Water Release Facility

## (CWRF): Features and Construction Schedule

The Cold Water Release Facility option selected has a number of notable features, including:

- a low-level intake that is capable of drawing cold water, at approximately 10 degrees centigrade, from the depths of the Nechako Reservoir at Kenney Dam
- a near surface intake that allows warmer water to be drawn from the surface of the reservoir
- a low-level outlet that allows the facility to operate year-round, re-watering the Nechako Canyon and creating the potential for hydroelectric power generation at the Kenney Dam
- a flip bucket spillway that is capable of releasing 450 cubic meters of water per second, the amount estimated for the 200-year flood
- a schedule, which estimates that from the award of contract it will take approximately 28 months to complete construction of the CWRF



*Profile of the Cold Water Release Facility*

### **River Flow Decisions and Recommendations**

(for more detail, see River Management in Report)

Another decision in our report addresses flowing water across the Cheslatta Fan without jeopardizing downstream fish habitat.

We also recommend the continuation of some flows from the Skins Lake spillway through the Murray-Cheslatta system to enable the rehabilitation of that watershed.

In the case of the Cheslatta Fan, we have decided that a meandering pilot channel is the most cost-effective long-term solution that will return the river to a natural ecosystem. In both cases we are conscious that following the completion of the CWRF there will have to be an interval of some years of controlled and synchronized water flows at the Kenney Dam and through the Skins Lake spillway before a stable Nechako River flow regime can be achieved and before rehabilitation of the Murray-Cheslatta system can begin.

### ***River Management Recommendations***

Throughout our deliberations we have considered the Nechako River, now and in the future, to be a managed river. Effective river management must be based on sound scientific knowledge and on principles relating both to environmental health and local community interests. We therefore propose that the Federal and Provincial Governments and Alcan expand the mandate of the Nechako Fisheries Conservation Program (NFCP). We recommend that the NFCP jointly explore with the Nechako Watershed Council (NWC) ways to improve the management of the Nechako watershed that are more broadly based, more transparent, more open to public input, and more clearly tied to sound principles of environmental health and sustainability.

In this latter respect, we recommend that the Nechako Fisheries Conservation Program commission an objective scientific panel, preferably an Expert Panel of the Royal Society of Canada, to propose an optimal flow regime that will result in a healthy, more natural Nechako River. The work of the scientific panel is to take into account the following conditions:

- i) managed state of the Nechako River
- ii) the recent work of the Nechako Watershed Council on Nechako River flow regimes
- iii) the conditions necessary for the rehabilitation of the Murray-Cheslatta system
- iv) existing water licences and legal agreements

### ***CWRF Ownership and Operation Recommendations***

The construction of a Cold Water Release Facility will be a major project requiring strong and responsible management and financial control. To this end we recommend the creation of a joint venture arrangement among funders to ensure that the facility is built in an efficient, cost-effective and expeditious manner. We also recommend that the agreement be structured so that a public-private consortium designs, builds and owns the facility, leaving Alcan with the responsibility to operate the CWRF.

### ***Reporting***

Part of our mandate included consultation with many interests. Until an expanded management structure for the Nechako watershed is established, we believe that it is imperative for Alcan and the Government of BC to ensure that all interested parties are fully aware of actions that may take place following the release of our report. Therefore, we recommend that Alcan Inc., the Government of BC and possibly the Government of Canada designate the officials who will be responsible for coordinating the work associated with the implementation of the decisions and recommendations in our report including jointly publishing an annual progress report on the status of our decisions and recommendations. To ensure that administrative tasks required following the release of our report are carried out we have contracted the Fraser Basin Council for the term up to March 31, 2002.