

Report of the Nechako Environmental Enhancement Fund Management Committee

September 2012

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In accordance with Schedule 4 of the 1997 Alcan/BC Agreement we are pleased to submit our report on the downstream enhancement of the Nechako watershed area.

Pieter Bekker, Chair

Justus Benckhuysen, Member

Byren NUA

Byron Nutton, Member

Nechako Environmental Enhancement Fund Management Committee

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Executive Summary

A legal agreement between the Province of British Columbia and (Rio Tinto) Alcan ("the Parties") in 1997 established a Nechako Environmental Enhancement Fund and a Management Committee (NEEF MC) to review, assess and report on options that may be available for the downstream enhancement of the Nechako watershed area.

Between 1999 and 2001 the NEEF MC consulted and completed a number of technical studies at the conclusion of which they decided in part that a Cold Water Release Facility (CWRF) be constructed at Kenney Dam.

In November 2011, following completion of many technical investigations related to a CWRF, the Parties appointed new NEEF MC members and asked them to reconsider previous decisions and review all options for environmental enhancement including a surface water release facility at Kenney Dam.

As members of the NEEF MC we identified and communicated four objectives for the NEEF specific to flow changes, fish populations and habitat rehabilitation, water stewardship and improving future decisions, and developed and implemented a broad yet efficient consultation process designed to identify options for environmental enhancement. Overall we convened four public meetings and eleven meetings with stakeholder groups and held a further four meetings with scientists and subject matter experts. Information bulletins were distributed to over five thousand mailboxes on five occasions and were also inserted into local newspapers.

Between December 2011 and May 2012, we reviewed and assessed a total of six potential options for downstream enhancement of the Nechako watershed. The six options met most or all of the four environmental enhancement objectives.

Based on the consultation input and our subsequent assessments, on a matching fund basis, we decided on

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the following:

- For a period of five years from the date of this Report, subject to a number of conditions, up to 80% of the total potential NEEF be available for construction of a Water Release Facility (WRF) at Kenney Dam.
- In accordance with our implementation plan and by way of an annual allocation over a period of five years:
 - a. a total of \$1M be available to facilitate preparation and completion of an Environmental Assessment of the WRF Option;
- In accordance with our implementation plan and by way of an annual allocation over a period of ten years:
 - a. a total of \$2M of the NEEF be available in support of tributary watershed restoration and water steward-ship;
 - b. a total of \$1M of the NEEF be available in support of Cheslatta Watershed Restoration;
 - c. a total of \$1M of the NEEF be available in support of integrated watershed research; and
 - d. a total of \$4M of the NEEF be available for operation of a Nechako White Sturgeon Conservation Hatchery as directed by the Nechako White Sturgeon Recovery Initiative.
- Should any of the conditions attached to funds allocated for the construction of a Water Release Facility at Kenney Dam not be met, and upon a Legacy Fund and management procedures having been established by the Parties, the remaining NEEF will, subject to conditions, be contributed to a Legacy Fund managed by the Parties and available for environmental enhancement options.

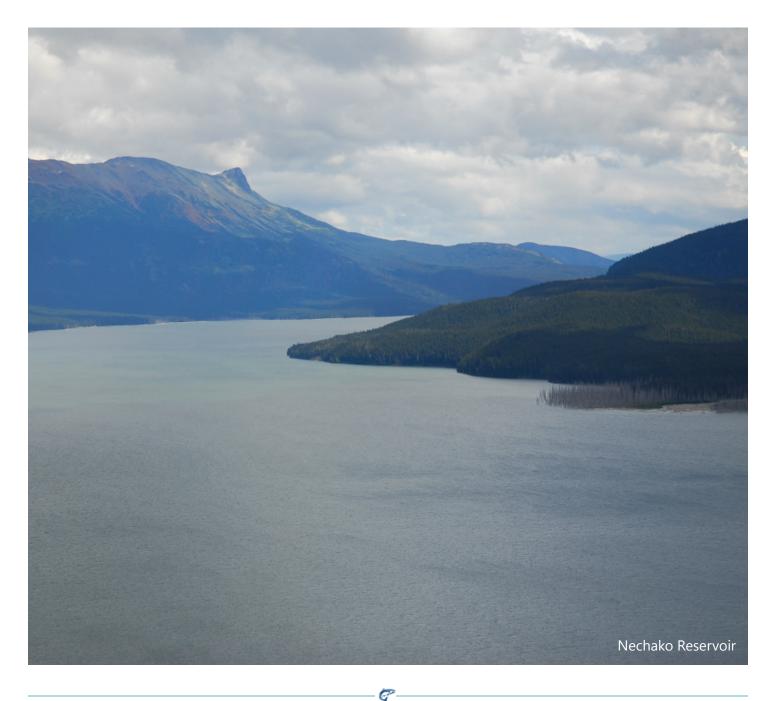
Executive Summary, continued

If the conditions are not met and if after five additional years a Legacy Fund has not been established due to a lack of matching funds, the Parties will determine the scope of options eligible to receive the remaining uncommitted NEEF.

• For as long as funds remain within the NEEF, The NEEF MC must continue to function and be accountable.

We also made the following recommendations:

- If in-kind contributions are included in enhancement option proposals, that the Parties consider them acceptable on a case by case basis; and
- The <u>www.neef.ca</u> website be maintained and that the NEEF MC be assisted by an independent technical manager.



Introduction

In November 2011, the Parties to the BC/Alcan 1997 Agreement asked NEEF MC to reconsider previous decisions for use of the Nechako Environmental Enhancement Fund. We were instructed that revisiting those decisions was to encompass consideration of all options for environmental enhancement including a surface water release facility at Kenney Dam. To complete this task Pieter Bekker was appointed to the NEEF MC by the Province, Justus Benckhuysen was appointed by Rio Tinto Alcan and Byron Nutton was appointed by the Department of Fisheries and Oceans. The NEEF MC asked Pieter Bekker to chair. This report begins with a brief background then provides an overview of the principles we followed in carrying out our mandate and the process we used to inform, consult and engage people representing a broad range of interests. A description of each of the Options for downstream enhancement is provided followed by the results of our evaluation, conclusions and decisions. The report concludes with a discussion outlining considerations related to implementation of our decisions and recommendations.



Context

BACKGROUND

As part of an Agreement between the Province of British Columbia and Alcan (BC/Alcan 1997 Agreement) Alcan agreed to establish and to contribute, on a matching dollar basis, up to \$50M to the Nechako Environmental Enhancement Fund (NEEF).

In accordance with Schedule 4 to the BC/Alcan 1997 Agreement (see Appendix A), in 1997 the Province of British Columbia and (Rio Tinto) Alcan ("the Parties") established a Nechako Environmental Enhancement Fund Management Committee (NEEF MC) to review, assess and report on options that may be available for the downstream enhancement of the Nechako watershed area. As detailed in Schedule 4 any decisions of the NEEF MC are binding on the Parties.

For the purpose of identification and examination of options for the use of the fund, between 1999 and 2001 the NEEF MC undertook a lengthy process of consultation and completed a number of technical studies. At the conclusion of their consultations and studies, the NEEF MC decided amongst other things that a Cold Water Release Facility (CWRF) be constructed at Kenney Dam to enable downstream enhancement of the Nechako watershed (Report of the Nechako Environmental Enhancement Fund Management Committee, June 2001, <u>www.neef.ca/2001neefreport.html</u>).

Between 2001 and 2011 the NEEF MC continued to function while the Nechako Watershed Council (NWC) assisted by the Nechako Enhancement Society (NES), undertook technical investigations needed to develop the criteria necessary to design, construct, commission and operate a CWRF. The results of that work are summarized in two reports, the April 2008 Kenney Dam Cold Water Release Facility, 2003-2007 Interim Report (www.neef.ca/Content/Reference-Library/NES/NES-Interim-Report-April-08.pdf) and the September 2009 Addendum to the Interim Report (www.neef.ca/Content/Reference-Library/ NES/NES-Interim-Report-Addendum-Sept-09.pdf).

Since 1997, by agreement, the Parties have each contributed a total of \$1.2M to cover the costs of the first NEEF MC process and the work of the Nechako Watershed Council. A further

\$100,000 has been contributed by Rio Tinto Alcan to cover the costs of the present NEEF MC process. Accordingly at this time, the total remaining Rio Tinto Alcan obligation amounts to \$48.7M. This amount may be further reduced by up to a total of \$10M for any studies or work (Rio Tinto) Alcan conducted before 1997 as part of the Kemano Completion Project if such studies or work are used to reduce the cost of implementation of environmental enhancement options chosen by the NEEF MC. Putting aside for the moment the question of who will contribute matching dollars, the total potential value of the NEEF is therefore between \$77.4M and \$97.4M.

PRINCIPLES

We conducted the consultation process respecting time constraints and took every effort to facilitate participation of a broad range of people and groups mindful of the importance of the task at hand, and conducted ourselves in keeping with the following operating principles.

Openness and Transparency: The Management Committee seeks public input into the identification, assessment and review of options to enhance the Nechako watershed area. The public process will be carried out in an open and transparent manner.

Inclusiveness: The Management Committee will provide opportunities for input from all interested parties in order to provide an opportunity for diversity of viewpoints.

Decision-Making: Members of the Management Committee will seek to make decisions by consensus. Decisions of the Management Committee will be binding on the parties.

Geographic Scope: The NEEF MC will address matters related to the Nechako watershed area with a focus on the downstream area. This encompasses all tributaries to the Nechako, the reservoir and the river to its confluence with the Fraser River at Prince George.

Timeliness: The Management Committee will complete its work in a timely manner which does not compromise the thoroughness of the public process.

Context, continued

Cost-Effectiveness: The Management Committee will consult in a cost-effective manner in order to minimise costs where possible, without compromising effectiveness. The Committee will build on existing information.

Financial Accountability: The Management Committee will observe sound business practices in the way the fund is managed.

NEEF OBJECTIVES

Since the 1997 Agreement is primarily concerned with water we concluded that the intent of the NEEF should be on environmental enhancement related to water. As such we identified four objectives for the NEEF, all of which are consistent with the considerations articulated by the original NEEF MC in 2001. The four objectives are:

- Options that are related to changes in flow in the Cheslatta River and Nechako River. This includes changes related to Skins Lake Spillway discharges and changes in flow achieved through other enhancement initiatives;
- 2. Options that seek to rehabilitate fish habitat and fish populations in the Cheslatta River and Nechako River;
- 3. Options that promote education and stewardship of water in the Nechako and Cheslatta watersheds; and
- 4. Options related to improving how water flow regulation decisions are made in consideration of all environmental aspects.



Consultation Process

SCHEDULE

At the outset of our mandate, after holding preliminary discussions and consultations with key stakeholders, we established a proposed schedule for our activities as detailed in Figure 1 below. We followed the schedule very closely for Phases 1-3 holding the three rounds of meetings as planned. Phase 4 including the preparation of this Report took slightly longer than originally planned but was completed by the end of August. In total the NEEF MC met more than twenty-four times in person and via conference calls. We convened four public meetings and eleven meetings with individual stakeholders and a further four meetings with scientists and subject matter experts (Nechako Fisheries Conservation Program (NFCP), Nechako White Sturgeon Recovery Initiative (NWSRI), consultants and scientists). Information bulletins were distributed to over five thousand mailboxes on five occasions and these bulletins were also inserted into local newspapers in both Burns Lake and Vanderhoof areas.

Figure 1 – NEEF Consultation Process and Schedule

| Task | 2011 | . 2012 | | | | | | | |
|------------------------------|------|--------|-----|-----|-----|-----|-----|-----|-----|
| Task | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug |
| NEEF MC 2011-2012 Schedule | | | | | | | | | |
| THEFT THE 2011-2012 Schedule | | | | | | | | | |
| PHASE 1 - INFORMATION | | | | | | | | | |
| | | | | | | | | | |
| Public Meetings | | | | | | | | | |
| | | | | | | | | | |
| PHASE 2 - CONSULTATION | | | | | | | | | |
| | | | | | | | | | |
| Public Meetings | | | | | | | | | |
| | | | | | | | | | |
| PHASE 3 - CONFIRMATION | | | | | | | | | |
| | | | | | | | | | |
| Public Meetings | | | | | | | | | |
| | | | | | | | | | |
| PHASE 4 - REPORTING | | | | | | | | | |
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Phase 1 – INFORMATION: At the commencement of our consultation process, we shared background information regarding the 1997 Agreement, the 2001 NEEF Management Committee Report, and costs, benefits and technical issues related to a water release facility at Kenney Dam. During this phase we engaged a broad range of interests by undertaking the following initiatives:

a. Website – A website (<u>www.neef.ca</u>), containing extensive background information was established at the outset of our process. As the process unfolded, copies of all incoming and outgoing correspondence, notices of meetings, copies of presentations received and Information Bulletins and summaries of meetings and workshops were posted to the website in a timely manner.

Consultation Process, continued

- b. Introductory Letters Introductory letters to twenty-nine First Nations, local government and stakeholders were prepared and sent inviting recipients to meet with the NEEF MC to share information, discuss plans for moving forward and to seek input on the process to be followed in considering enhancement options.
- c. Information Bulletins #1 & #2 – Two bulletins containing background information and details of upcoming events were prepared and distributed by Canada Post mail-drop to approximately 5,600 households in the watershed area.
- d. Information Meetings Upon request, during the week of January 23rd to 27th 2012, meetings were held with the Cheslatta Carrier Nation, the District of Vanderhoof and the Nechako Watershed Council and with representatives of the Ootsa Lake Residents Association. An Open House and Public Meeting was held on January 25th in Vanderhoof.



Phase 2 – CONSULTATION: During this phase we met with many people in the Nechako watershed to discuss our work

and to receive ideas and comments regarding options for the use of the NEEF. Specific initiatives undertaken during this phase included the following:

Consultation Process, continued

- e. Consultation Meetings Individual meetings were held with representatives from the Freshwater Fisheries Society of British Columbia (FFSBC), the Nechako White Sturgeon Recovery Initiative (NWS-RI), the Nechako Fisheries Conservation Program (NFCP), the Nechako Environment and Water Stewardship Society (NEWSS) and the Nechako Watershed Council (NWC). A meeting was also held with a representative of Rio Tinto Alcan. Input received from each of these meetings was subsequently posted on the <u>www.neef.ca</u> website.
- f. Open House/Workshop We advertised and invited members of the public to attend a public meeting and workshop held March 29th in Vanderhoof. The objectives of the workshop were to provide an opportunity for everyone to engage in a discussion regarding environmental enhancement, to raise any concerns and express interests related to the health of the Nechako watershed and to identify options for environmental enhancement. We developed a short questionnaire and posted it on the website to assist participants to prepare for the workshop. Both the questionnaire and a summary of the input received during the workshop were posted on the <u>www.neef.ca</u> website.
- g. Information Bulletins #3 & #4 Two bulletins were prepared and distributed by Canada Post throughout the watershed area. One contained clarification of details about the NEEF and the context in which we as a committee were proceeding and the other contained a summary of information provided by the NFCP and the NWSRI and our preliminary responses to key questions and comments received through our first round of meetings. Both bulletins were also placed as inserts in the Lakes District News and Omineca Express newspapers.

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Phase 3 – CONFIRMATION: Before proceeding to reach conclusions and make decisions, we undertook to confirm our understanding of what we heard and to consult once more by engaging in the following initiatives:

- h. Confirmation Meetings We met again with representatives of the Cheslatta Carrier Nation (twice), the Nechako Watershed Council, the Nechako White Sturgeon Recovery Initiative and the Nechako Environment and Watershed Stewardship Society (NEWSS) to present a summary of what we heard about the priority uses of the NEEF, to provide an opportunity for representatives to clarify or add input to what we had already received and to share our preliminary thoughts on uses of the NEEF.
- i. Information Bulletin #5 A final Information bulletin containing a summary of proposed NEEF Options and an indication of preliminary NEEF MC direction was prepared, distributed throughout the watershed by Canada Post and placed as an insert in both the Lakes District News and the Omineca Express newspapers.
- j. Technical Meetings We met on two occasions with scientists and subject matter experts familiar with the Nechako River watershed. The meetings provided us with an opportunity in an informal manner to examine and discuss their perspectives on the health of the river, the identification of any critical data gaps and their views on possible environmental enhancement options.

Phase 4 – REPORTING – In accordance with Section 10 of Schedule 4 to the BC/Alcan 1997 Agreement, following completion of consultations as outlined above with First Nations, the Nechako Watershed Council and other stakeholders , the NEEF MC prepared this report for delivery to the Province, Rio Tinto Alcan, DFO and others as considered appropriate.

Consultation Input and Analysis

During the course of a six month period between December 2011 and May 2012, we consulted extensively and reviewed and assessed a total of six potential options for downstream enhancement of the Nechako watershed. During this period, in addition to the previously identified Water Release Facility, two new options, a White Sturgeon Conservation Fish Culture Program and a Tributary Watershed Restoration and Stewardship proposal were identified by stakeholders and based upon input received throughout our consultations, we as a Management Committee identified a further three options; Cheslatta Watershed Restoration, Integrated Watershed Research, and a Legacy Fund option.

The first step in our analysis was to assess how each of the six options generally align with the four objectives established at the outset of our consultation. Without attempting to weight or rank the various options, the results are shown in Table 1 below. It should be noted that our assessment considered that restoration of tributaries including those in the Cheslatta watershed may affect tributary flows in positive ways, and that such changes cumulatively may affect flows somewhat in the Nechako mainstem.

| Table 1 – | Proposed | Enhancement | Options | and | their | Benefits |
|-----------|----------|-------------|---------|-----|-------|----------|
|-----------|----------|-------------|---------|-----|-------|----------|

| | Flow Changes | Fish and Fish Habitat | Education and Stewardship | Water Flow Decisions |
|---|-----------------|--------------------------|------------------------------|-------------------------|
| Water Release Facility | \checkmark | \checkmark | | \checkmark |
| Sturgeon Fish Culture | | \checkmark | \checkmark | \checkmark |
| Tributary Restoration and Stewardship | \checkmark | \checkmark | \checkmark | \checkmark |
| Cheslatta Watershed Restoration | \checkmark | \checkmark | \checkmark | \checkmark |
| Integrated Watershed Research | | \checkmark | \checkmark | \checkmark |
| Legacy Fund | | \checkmark | \checkmark | \checkmark |
| | | • | • | |

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In summary, the Water Release Option would contribute directly to all but the education and stewardship objective; the White Sturgeon Conservation Fish Culture, Integrated Watershed Research and Legacy Fund Options would each contribute directly to all but the flow change objective; and the Tributary Restoration and Stewardship and Cheslatta Watershed Restoration Options each has the potential to contribute directly to all four objectives.

Each of the six options is described and our analysis, conducted in the context of our previously established NEEF objectives, is presented below. NEEF MC decisions and recommen-

dations flow out of our analysis.

OPTION 1: WATER RELEASE FACILITY AT KENNEY DAM

Description

We heard support from a variety of people and organisations for building a Water Release Facility (WRF) at Kenney Dam. The Nechako Watershed Council (NWC) continues to believe that construction of a WRF at Kenney Dam would create downstream enhancement benefits in the Nechako watershed area, including benefits in the Cheslatta watershed which cannot be achieved by any other means.

The Cheslatta Carrier Nation (CCN) outlined a proposed project (May 31, 2012 Cheslatta Carrier Nation Nechako River Legacy Project, <u>www.neef.ca/consultation.html</u> process/ information) which described how the building of a facility at Kenney Dam would stop the flooding of Cheslatta graves, stimulate environmental restoration of the upper Nechako watershed and begin a revitalization process for the Cheslatta people. Together with their industry partner Surespan, the CCN propose to design, permit, construct and operate a Kenney Dam Release Facility which would include a hydro-electric generating station interconnected to the BC Hydro grid. It was further proposed that revenue from the sale of electricity would not only help fund the construction costs of the facility but also assist in establishing a legacy fund to create additional environmental, economic and social benefits.

Specific requests for funds ranging from \$35 million upwards, including \$0.75M for downstream enhancement on the Cheslatta Fan were received from the CCN.

Evaluation

This option would remove the majority but not all high flows currently being routed through the Murray-Cheslatta system thereby reducing erosion and potentially increasing productivity over time. It would re-water the 9km long Nechako Canyon and may enable greater accuracy in flow releases to meet downstream temperature targets. This option does not contribute directly to education and stewardship but does include a commitment to create a legacy fund (approximately \$0.450M/year) tied to power sales.

This option is considered to be technically feasible but at this time there remain a number of outstanding issues that will need to be addressed before it can proceed. For this option to proceed, funding will need to be in place, a Project Description prepared and an Environmental Impact Assessment would need to be completed. Technical issues identified in the Kenney Dam Cold Water Release Facility, 2003-2007 Interim Report, and the Kenney Dam Cold Water Release Facility, Addendum to April 2008 Interim Report (2008 – 2009) will need to be addressed. Of particular importance are the risks associated with sediment being carried downstream of the Cheslatta Fan and the uncertainty regarding the amount of flow required to rehabilitate the Cheslatta watershed.

Overall it was concluded that this option is the only way to facilitate large scale rehabilitation of the Murray-Cheslatta system, notwithstanding that the continuance of some high flows through the Murray Cheslatta system may hamper rehabilitation efforts in that watershed.

OPTION 2: WHITE STURGEON CONSERVATION FISH CULTURE PROGRAM

Description

The Freshwater Fisheries Society of BC (FFSBC) and the Nechako White Sturgeon Recovery Initiative (NWSRI) presented us with their views on various aspects of the current status of the population and the urgent need for a conservation fish culture program (March 28th presentation, FFSBC, <u>www.neef.ca/consultation.html#info</u>).

Since 2000, when people first became aware of declining white sturgeon population numbers, the adult sturgeon population has declined a further 50%. The species is now listed as endangered under the federal Species at Risk Act and recovery work is required immediately to avoid extinction of this genetically unique fish population in the Nechako watershed.

The Nechako White Sturgeon Recovery Initiative itself embraces a three pronged approach consisting of (1) A Conservation Fish Culture Program; (2) Habitat Recruitment and

Restoration Activities; and (3) Stewardship Outreach and Education all working towards achieving a long-term goal of a self-sustaining population of Nechako White Sturgeon.

Activities either underway or planned to achieve both the habitat recruitment and restoration and the stewardship outreach and education areas were described and discussed briefly, while the major focus of discussion was on the immediate priority of construction and operation of a Nechako White Sturgeon Hatchery and Conservation Centre, required now to provide an underpinning for all other recovery work and to prevent the extinction and ongoing genetic loss of the population.

To-date, the District of Vanderhoof has committed to provide in the form of an estimated \$1M contribution-in-kind, 1 acre of land adjacent to the Nechako River, and to subdivide, clear, fill and prepare it for construction. They have agreed to transfer ownership of the land to the FFSBC. The FFSBC has secured the estimated \$3.2M capital cost of construction, completed the building design and detailed engineering, refined production goals with the Technical Working Group, established various technical and design requirements and consulted with key partners.

It is understood that the Hatchery and Conservation Centre cannot be operated on the basis of year to year funding proposals as both the District of Vanderhoof Council and the FFSBC Board of Directors have indicated that a minimum of 10 years of operating funding is required before construction of the Centre can begin.

The FFSBC estimated operational costs as detailed in Table 2 below:

| Activity | Costs (\$/Year) |
|------------------------------------|--------------------------------|
| Fish culture operations | \$500,000 |
| Brood capture, juvenile assessment | \$100,000 |
| Habitat research and assessment | \$150,000 |
| Stewardship | \$50,000 |
| TOTAL | \$800,000/year for 10 years |
| | |

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Table 2 - Hatchery and Conservation Centre Estimated Operational Costs

The FFSBC suggested several possible ways for the project to receive funding: 1) lump sum payments directly to FFSBC to cover the total ten year operating costs (\$4.0-8.0M); and

2) payments on an annual basis to cover the annual operating costs, for a period of ten years. They also outlined a third funding option involving the creation and operation of a sin-

gle, interest earning fund.

Evaluation

This option would preserve and propagate a distinct fish population while conducting research on causes of and remedies for the sturgeon decline. While this option does not improve conditions related to changes in flows, proposed habitat research may help determine if flow or other changes would assist in achieving a naturally sustaining population in the future. This option provides ample opportunity to work with First Nations, inform and educate the public about the recovery program through information distribution, and to integrate research from UNBC, UBC, and others.

A successful pilot program has been conducted, validating the technical feasibility of this proposal and the FFSBC proposal includes various monitoring and assessment elements that will help to further develop strategies to preserve and sustain this endangered population of fish. What is less

OPTION 3: TRIBUTARY WATERSHED RESTORATION AND STEWARDSHIP

Description

Based upon the successes achieved in the Murray Creek watershed, the Nechako Environment and Water Stewardship Society (NEWSS) described an option for restoring tributary streams flowing into the main-stem Nechako River (March 29th Presentation by NEWSS and the March 29th Written Submission, NEWSS Proposal and Supporting Documentation, <u>www.neef.ca/consultation.html#info</u>).

Scaling up from successes achieved in the Murray Creek watershed the proposed initial focus area for NEWSS is made up of 30 small to medium sized watersheds in the Nechako Plateau (Figure 2). These watersheds include a combination of both crown and privately owned land.

certain and an important consideration for the future is the question of whether or not Nechako River habitat will be able to support a naturally selfsustaining population over the long term.

Overall it was concluded that this option presents the best and only available way to avoid the imminent extinction of this genetically unique fish population. There is a very real urgency and need for immediate action if this population is to become naturally self-sustaining once again.

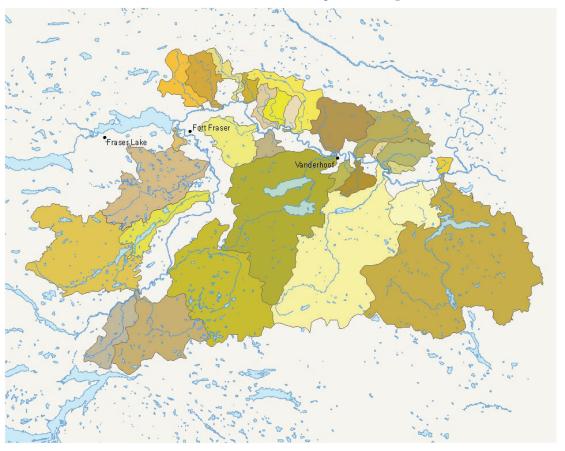


Figure 2 – Proposed NEWSS Focus Areas

NEWSS envisions adopting a collaborative approach that draws upon their existing partnerships with various government departments including Ministry of Forests, Lands and Natural Resource Operations (MFLNRO) and Fisheries and Oceans Canada (DFO) and with the Freshwater Fisheries Society of BC, the Regional District of Bulkley-Nechako, the area ranchers and farm owners, and the Universities and Schools within the region. NEWSS will seek to develop a common vision for land and water stewardship throughout the Nechako watershed. Cooperatively they propose to establish priorities and implement projects that build towards achieving the following primary objectives:

- Facilitating the rehabilitation of streams that flow through the Nechako Agricultural belt;
- Facilitating watershed planning that provides a framework to protect, maintain and restore a healthy natural watershed;
- Collaborating to improve the mapping of aquifers that lie beneath the Nechako Plateau and foster an improved understanding of the role healthy streams and riparian areas play in the dynamic interaction of surface and groundwater;
- Assisting government to meet its stated vision for a cleaner and healthier environment;
- Facilitating and participating in environmental stewardship and education opportunities for schools, universities and the community at large, including stream rehabilitation, water quality, Nechako White sturgeon and salmonids; and
- Developing a program to administrate a "Gold Label" certification standard for agricultural products produced in the Nechako Valley by identifying opportunities to recognize agriculture producers that have Farm Stewardship Plans in place and apply Best Management Practices on the land and streams with stewardship as an objective and to ensure the legacy of these values.

NEWSS proposes to support a small core of staff (one manager and two biologists) that will work with the various agencies and communities and they requested that a twenty million dollar (\$20M) legacy fund be set aside and to use the interest generated to support their plan over the next decades.

Evaluation

As demonstrated in the Murray Creek watershed, this option provides considerable opportunities to work in partnership with landowners, schools, universities and the communities to educate and raise awareness of water stewardship and Best Management Practices throughout the Nechako watershed. Improved riparian zone and land use practices on flood plains can lead to higher water quality, reduced water temperature, more accessible fish and wildlife habitat in the tributaries, reductions in tributary peak flows, higher base flows and reduced fine sediment loading into the main-stem of the Nechako River.

Successfully scaling up the approach employed in Murray Creek to up to 30 small to medium sized tributaries within the Nechako watershed will be dependent upon the ability to hire and retain staff and volunteers, and sustaining a critical mass of interest and activity within each priority watershed and the degree to which landowners are willing to participate and carry out projects.

Overall it was concluded that this option provides opportunity to realize feasible watershed improvements including improved water quality, resilient stream ecosystems and an enhanced capacity of the region as a whole to understand and manage water security in the face of climate change and other factors.

OPTION 4: CHESLATTA WATERSHED RESTORATION

Description

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In the June 2001 Report of the Nechako Environmental Enhancement Fund Management Committee, it was concluded that rehabilitation of the Cheslatta River and Lake system was one of the most important benefits of a proposed facility at Kenney Dam. The issues involved with rehabilitation of the

Cheslatta River and Lake system have since been examined in a number of reports, with particular focus on documenting the history of the system, the decreased productivity of Murray and Cheslatta Lakes since diversion of flows from Skins Lake Spillway through the system, and on proposed rehabilitation strategies. Important questions such as the optimal flow regime remain.

We recognize that the Cheslatta River and Lake system con-

tinues to be affected by Skins Lake Spillway discharge and it is one of the largest tributaries to the Nechako River upstream of the Stuart River. It is impacted by present reservoir operations in a unique way and even if a Water Release Facility at Kenney Dam is built this area will continue to be affected.



types of projects.

We concluded that work needs to be done to better understand potential actions that could be taken regardless of whether or not a WRF is built, as we believe opportunities for rehabilitation in advance of a WRF are possible.

Evaluation

Based upon the recent work undertaken by the Nechako Enhancement Society and others it is recognized that there are many opportunities for fish and fish habitat enhancement in the Murray-Cheslatta Watershed regardless of whether or not a WRF is built. Undertaking restoration work in the watershed could lead to a better understanding of the consequences of flow changes related to a WRF or a change in reservoir operations. This Option could also lead to a better understanding of the impacts of flow on the environment and could help

OPTION 5: INTEGRATED WATERSHED RESEARCH

to build capacity in the local communities to carry out these

Overall it was concluded that this option could be instrumen-

tal in guiding specific issues related to a WRF or reservoir op-

eration. It does not preclude any other options and will assist

with the WRF Option and any works related to reservoir operation. The Cheslatta Carrier Nation and stakeholders in the

Cheslatta River and Lake system area would benefit.

Description

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We recognize that changes to the main-stem Nechako River flow, sediment recruitment, movement and deposition resulting from the construction of Kenney Dam and operation of the Skins Lake Spillway continue to occur. Land use changes resulting from agricultural land clearing, settlement, transportation and logging, and natural forces such as fire and mountain pine beetle infestations also continue to affect hydrology and sediment distribution and transport in both the tributaries and main-stem Nechako River. These changes are expected to continue for many years before the Nechako River and its tributaries settle into a less dynamic state.

Although we did not receive any proposals addressing the effects of these main-stem flow and sediment budget changes we strongly believe that through an integrated program of research and evaluation the exact nature and extent of these changes can be better understood and subsequently addressed if necessary. During our discussions with various technical experts, we heard a number of key messages on the subject of a need for further research and study. They stressed the need to gather baseline information against which potential benefits of enhancement options can be evaluated and to monitor those changes as NEEF options are implemented. Such an approach would provide the necessary feedback to determine whether objectives were being achieved and to guide future decisions. They mentioned that there are measurable indicators of river health including water quality, biodiversity, aquatic species population health, habitat complexity, bed-load mobility and riparian vegetation such as cottonwood.

The NEEF MC recognizes that there exists a need to better integrate and utilize the extensive database of information already gathered related to the Nechako River and there continues to be a need to gather more baseline information, to better understand the changes occurring within the Nechako watershed and as more work is undertaken within the watershed, to ensure that specific initiatives are not counter-productive. NEEF MC believes that at the college and university level, fully integrated and co-ordinated research in these areas can most effectively be conducted. Such research would need to be broad in scope and meet criteria ensuring that it serves the interests of the people and environment of the Nechako watershed. It could include but not necessarily be limited to topics such as understanding the physical and biological dynamics of the Nechako River, water management and humanenvironment health interactions.

Evaluation

Well-integrated and co-ordinated watershed research will help decision makers and others understand impacts and benefits related to flow changes, guide fish and fish habitat initiatives directed at improving habitat and directly enhance education opportunities especially at the post- secondary level. Overall it was concluded that this option provides a unique opportunity to gain a more thorough understanding of the watershed and the dynamics within. Research is fundamental to and the only way to gain an objective and technically defensible understanding of the environment and even a modest allocation of NEEF can sponsor a significant body of research. Such an option would not preclude any other options and has significant potential for synergies with other options. The entire watershed will benefit, environmentally, economically and socially.

OPTION 6: LEGACY FUND

Description

The idea of establishing a legacy fund was proposed by a number of groups. The interest earnings derived from the legacy fund would be available over the long term for a variety of environmental enhancement options and would provide flexibility to address both currently known issues as well as issues that may surface in the future. The scope of a legacy fund would be for environmental enhancement, stewardship and education in the Nechako watershed. For every \$10 million invested at 4% return for example, \$0.4 million would be available annually. Only projects that could be afforded within the annuity generated by interest returns could apply to the fund.

A governance structure would be needed to oversee the legacy fund, develop criteria for its use, invite and review fund applications, and monitor funded projects to ensure project and long-term objectives were being achieved. The governance structure would be developed by the Parties and would include participation by the Parties in the ensuing oversight and administration of the Fund as per the 1997 Agreement.

Evaluation

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This option was considered to be technically feasible as there are several examples of similar funds that demonstrate that this option has benefits and can be managed. Before a Legacy Fund could be established, a source of matching funds would need to be obtained and procedures for the management of such a fund would need to be established by the Parties.

Decisions for Use of the Fund

Following completion of our consultations and analysis of potential enhancement options for downstream enhancement of the Nechako watershed the NEEF MC has made the following decisions for use of the Nechako Environmental Enhancement Fund:

DECISION 1 – OPTIONS FOR USE OF NEEF

"We have decided that NEEF will be used for a Water Release Facility (WRF) at Kenney Dam as well as additional environmental enhancement options."

Previously the NEEF MC decided that a Cold Water Release Facility (CWRF) at Kenney Dam was the only option for downstream enhancement. Following that decision, 10 years of additional information and investigation led the NWC to recommend that a surface Water Release Facility (WRF) be built instead. We examined the original 2001 NEEF MC decision and all the information now available to us regarding still years off. While a WRF option remains a high priority there is clearly an increasing urgency to be doing something now towards other environmental enhancement options in the Nechako watershed.

DECISION 2 – WATER RELEASE FACILITY AT KENNEY DAM

"We have decided that for a period of five years from the date of this Report, up to 80% of the total potential NEEF be available on a matching fund basis for construction of a Water Release Facility (WRF) at Kenney Dam subject to the following conditions:

- 1. That the following milestones be met:
 - By the end of Year 1 A proponent is identified and an acceptable Project Description is prepared and submitted to regulatory agencies;

construction of a WRF at Kenney Dam. It is clear to us that a WRF is the only way to fully rehabilitate the Cheslatta watershed, it would also create fish habitat between Kenney Dam and Cheslatta Falls. However, we now know the cost is far in excess of what was envisioned for the (NEEF) fund and perhaps more importantly, no party has been identified to invest the more than \$250 million required for this project.

It is clear that more work on feasibility is required and implementation of this option is



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Decisions for Use of the Fund, continued

- b. By the end of Year 2 An Environmental Assessment has commenced; and,
- c. By the end of Year 5 The Environmental Assessment process is complete and construction has commenced.
- 2. Drawdown of NEEF funds would not begin until after construction has commenced and would continue throughout the construction and commissioning period in accordance with a drawdown plan developed by the Parties; and
- 3. If after the five year period, support for the remaining necessary funds has not been confirmed, the remaining NEEF will be contributed to a Legacy Fund managed by the Parties and be available for other environmental enhancement options on a matching fund basis."

DECISION 3 – TOWARDS A WATER RELEASE FACILITY AT KENNEY DAM

"We have decided that a total of \$1M of the NEEF be available by way of an annual allocation over a period of five years, on a matching fund basis and in accordance with the procedures outlined in our Implementation Plan, to facilitate the preparation and completion of an Environmental Assessment of the WRF Option."

DECISION 4 – CHESLATTA WATERSHED RESTORATION

"We have decided that a total of \$1M of the NEEF be available by way of an annual allocation over a period of ten years, on a matching fund basis and in accordance with our Implementation Plan, in support of Cheslatta Watershed Restoration."



"We have decided that for as long as funds remain within the NEEF, the NEEF MC must continue to function and be accountable for implementation of enhancement options (approve work plans, manage dollars, audit fund use, etc.)"

Decisions for Use of the Fund, continued

DECISION 5 – WHITE STURGEON CONSERVATION FISH CULTURE PROGRAM

"We have decided that a total of \$4M of the NEEF be available by way of an annual allocation over a period of 10 Years, on a matching fund basis and in accordance with our Implementation Plan, for operation of a Nechako White Sturgeon Conservation Hatchery as directed by the Nechako White Sturgeon Recovery Initiative."

DECISION 6 – TRIBUTARY WATERSHED RESTORATION AND STEWARDSHIP

"We have decided that a total of \$2M of the NEEF be available by way of an annual allocation over a period of ten years, on a matching fund basis and in accordance with our Implementation Plan, in support of tributary watershed restoration and water stewardship."

DECISION 7 – INTEGRATED WATERSHED RESEARCH

"We have decided that a total of \$1M of the NEEF be available by way of an annual allocation over a period of ten years, on a matching fund basis and in accordance with our Implementation Plan, in support of integrated watershed research."

DECISION 8 – LEGACY FUND

"We have decided that in the event any of the conditions attached to funds allocated for the construction of a Water Release Facility at Kenney Dam (Decision 2) are not met, and upon a Legacy Fund and management procedures having been established by the Parties to the 1997 Agreement, the remaining NEEF will be contributed to a Legacy Fund managed by the Parties and available for environmental enhancement options on a matching fund basis and in accordance with the following condition:

By year five, within the context of the four stated NEEF Objectives and consistent with established management procedures, the Parties will determine

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the scope of enhancement options eligible to receive interest from the legacy fund."

DECISION 9 – UNCOMMITTED NEEF

DECISION 10 – ACCOUNTABILITY FOR

IMPLEMENTATION OF THE NEEF

"We have decided that if conditions of Decision 2 are not met and if after five additional years a Legacy Fund has not been established due to a lack of matching funds, the Parties to the 1997 Agreement will determine the scope of options eligible to receive the remaining uncommitted NEEF."



Recommendations

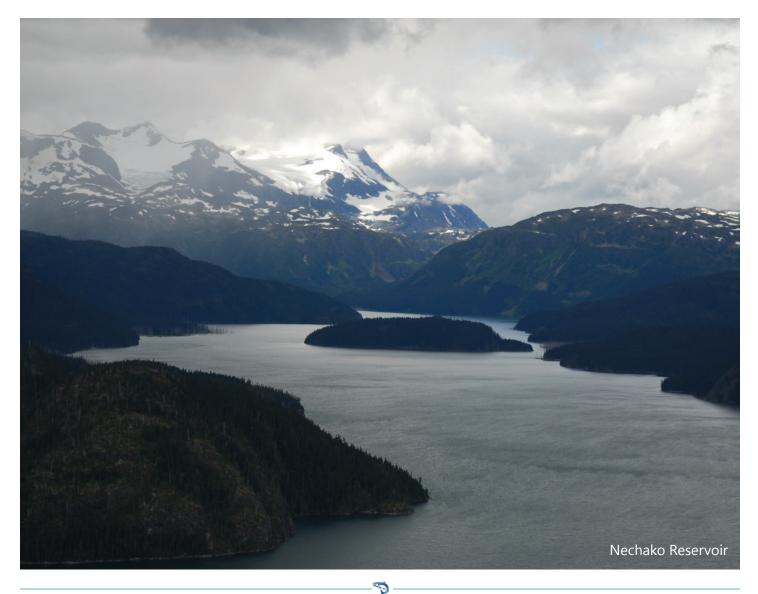
RECOMMENDATION 1 – IN-KIND CONTRIBUTIONS

The BC/Alcan 1997 Agreement contemplates that matching contributions by "another person" will be made in cash. While the question of who will make a matching contribution remains unanswered, there was considerable discussion during our consultations on the need to explore the question of whether or not in-kind contributions offered as a component of a selected option can be considered and be matched by the NEEF.

"The NEEF MC recommends, if in-kind contributions are included in enhancement option proposals, that the Parties consider them acceptable on a case by case basis."

RECOMMENDATION 2 – ADMINISTRATION

"The NEEF MC recommends that the <u>www.neef.ca</u> website be maintained and that the NEEF MC be assisted by an independent technical manager. Costs associated with maintaining the website, functioning of the Independent technical manager and other related administrative costs (e.g. auditors, third party costs) approved by the NEEF MC will be borne by the NEEF."



Implementation Plan

Throughout our deliberations we received input on the subject of fund governance. Stakeholder expectations of the NEEF are high and there is a need for clear accountability on how the fund is expended. It is recognized that the fund must remain adaptable as priorities change over time and new information is brought forward.

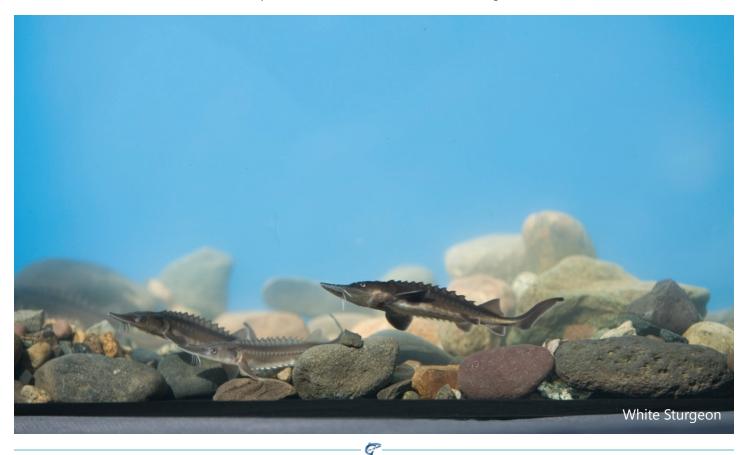
As reflected in Decision 10, the NEEF MC has decided that on an ongoing basis the NEEF MC will assume responsibilities associated with implementation of the NEEF MC decisions. Implementation will take into consideration the following:

- Decision 2 concerning the allocation of funds to a Water Release Facility recognizes that the Parties and a project proponent need to develop a drawdown plan for the allocated funds. The funds are to be drawn down over the life of the Project construction and commissioning activities;
- For Decision 5, it is recognized that as the NWSRI is not a registered society and thus is not able to receive funds, the funds are to be "earmarked" for use by the Fresh Water

Fisheries Society of BC for operation of a Conservation Centre as directed by the NWSRI. Fund distribution by NEEF MC will be dependent on annual operating plans and summary of yearly accomplishments being submitted to the NEEF MC over the 10 year funding period;

- For Decisions 3, 4, 6 and 7 the NEEF MC will require annual proposals for funds and annual reconciliation of funds spent and accomplishments in the previous year for options that continue for more than one year; and
- For Decision 8 concerning the Legacy Fund, other enhancement options as determined by the Parties, in addition to those considered thus far, will be considered.

The NEEF MC will continue to conduct itself in keeping with the principles adopted during this consultation process, and will task itself with ensuring the NEEF is expended towards meeting the four stated objectives for the fund. In order to promote synergy between initiatives the NEEF MC will organize a workshop annually involving all parties to the Options to co-ordinate, integrate and share results.



Appendix A: Schedule 4 to the 1997 Alcan/BC Agreement

SCHEDULE 4

[Reference Section 4]

ESTABLISHMENT AND ADMINISTRATION OF

THE NECHAKO ENVIRONMENTAL ENHANCEMENT FUND

1.

Establishment of the Nechako Environmental Enhancement Fund.

The parties will establish and administer a Nechako environmental enhancement fund (the "Nechako Environmental Enhancement Fund") in accordance with this Schedule.

2. <u>Establishment of Environmental Fund Management Committee.</u>

The parties will establish a management committee (the "Management Committee") in accordance with this Schedule.

3. <u>Structure of Management Committee.</u>

Subject to sections 4 and 6, the Management Committee will be comprised of three persons: one appointed by Alcan, one appointed by the Minister of Environment, Lands and Parks (the "Environment Minister") and one appointed by the Federal Government.

4. **Participation of the Federal Government**.

The parties will jointly request the Federal Government to participate in the Management Committee. The request will remain open if the Federal Government does not elect to participate initially. If the Federal Government chooses to participate initially by so electing within 60 days of the joint request, it will be asked to select and appoint an appropriate Federal official to the Management Committee who will be invited to chair but may elect to sit only as a member. If the Federal Government elects to participate at a later date, it may then appoint such member and the number of members of the Management Committee will be increased from three to four persons.

5. Appointment within 90 days.

The parties will each appoint their representatives within 90 days of the execution of this Agreement. If a party fails to appoint its representative within this time period, that party will be deemed to have declined to appoint a representative, and the Management Committee will proceed with the remaining members.

6. <u>Selection of the Third Member if no Initial Federal Participation</u>.

If the Federal Government does not choose to participate in the Management Committee within 60 days of the joint request, then a third member will be appointed as follows:

(a) the parties will first attempt to select the third member by consensus;

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Appendix A: Schedule 4 to the 1997 Alcan/BC Agreement, continued

- (b) if the parties are unable to agree on a mutually acceptable third member within 60 days, then the parties will immediately thereafter request the Chair of the Fraser Basin Council to appoint an appropriate third member;
- (c) the Chair of the Fraser Basin Council will be requested to appoint, within 30 days, a neutral individual with no affiliation to either party, who has appropriate experience with environmental issues and with consensus-based decision-making, who will be asked to chair the Management Committee;
- (d) in order to assist the Chair of the Fraser Basin Council in making the selection, each party will provide to the Chair of the Fraser Basin Council a list of six potential members who meet the requirements of sub-section 6(c) and who are willing and able to sit as a member; and
- (e) if the selected person subsequently becomes unable to serve, then the parties will request the Chair of the Fraser Basin Council to select a replacement member using the process set out in this section 6.

7. <u>Appointment/Replacement of Chair.</u>

If no member accepts the Chair on appointment or if the Chair resigns that position, the initial or replacement Chair will be selected by majority vote of the members.

8. Management Committee Working Procedures.

The Management Committee will develop and implement its internal working procedures and the terms under which the Nechako Environmental Enhancement Fund will be established and administered, subject to the following basic requirements:

- (a) all meetings will be called by the Chair or any two members and all members must be given reasonable notice of all meetings;
- (b) a quorum of the Management Committee will be two members, unless the management Committee consists of only one member, in which case quorum will be one; and
- (c) the Management Committee will seek to reach decisions by consensus but if the majority concludes that, despite reasonable efforts, consensus cannot be reached, then decisions will be made by majority vote.

9. <u>Costs of the Management Committee.</u>

Each party will be responsible for the costs of the participation of its representative on the Management Committee and will share equally:

- (a) the costs of operation of the Management Committee; and
- (b) the costs of preparing the report referred to in section 12;

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up to an aggregate amount of \$500,000, or such greater amount as may be agreed to in writing by the parties, provided that if any payment by the Province is delayed due to a need for statutory appropriation, Alcan's obligation to make a payment hereunder, and the Federal Government's obligation should it choose to participate, will be delayed for the corresponding period. If it chooses to participate, the Federal Government will also be responsible for the costs of the participation of its representative and a proportionate share of the costs under (a) and (b) above. However, if the third member must be selected under the provisions of section 6, then the parties will share equally the reasonable costs of the participation of the third member.

10. Purposes of the Management Committee.

The purpose of the Management Committee is to review, assess and report on options that may be available for the downstream enhancement of the Nechako watershed area. These options may include, but are not limited to, the development of a water release facility at or near the Kenney Dam, or the use of the Nechako Environmental Enhancement Fund for other downstream enhancement purposes.

11. <u>Consultation Process.</u>

The Management Committee will consult with the Nechako Watershed Council, if formed, and any other stakeholders that the Management Committee considers appropriate. The Management Committee may approve funding for consultation purposes up to an amount of \$100,000 a year. Alcan and the Province will share equally the cost of such approved funding unless the Federal Government chooses to participate in the Management Committee, in which case the Federal Government will be responsible for a proportionate share of the cost of approved funding.

12. <u>Management Committee Reports.</u>

As soon as practicable after carrying out the consultation pursuant to section 11, the Management Committee will complete and deliver a report to the Province, Alcan and such other parties as appropriate, which report will include:

- (a) its decision on the appropriate options for downstream enhancement of the Nechako watershed area;
- (b) a plan for the implementation of each of the selected options, including the identification of the appropriate party or parties to implement the options;
- (c) an independent report for each selected option providing a detailed estimate of the costs for implementation of the option, including any ongoing costs associated with the option;
- (d) a program for the use of the funding described in section 15 below to meet the costs of each of the selected options and to provide for financial and project reporting.

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13. Decisions Binding on the Parties.

Subject to the financial arrangements described below in section 15, and the other terms of this Schedule, the decisions of the Management Committee will be binding on the parties.

14. Formation of the Nechako Watershed Council.

Immediately following the execution of this Agreement, the Province will help to facilitate the formation of the Nechako Watershed Council (the "Council"), in order to provide advice to the Management Committee on the uses and priorities of the Nechako Environmental Enhancement Fund.

15. <u>Alcan's Financial Contribution</u>.

Funding of each of the selected options will be drawn down as required to meet the cash flow needs of the expenditure program established by the Management Committee for that option as provided in the report. Within 7 days after each contribution has been made into the Nechako Environmental Enhancement Fund by another person of 50% of each draw down for an option, Alcan will make a matching contribution into the Nechako Environmental Enhancement Fund. The aggregate and cumulative maximum of Alcan's contributions will be CAD \$50,000,000 including any costs incurred by Alcan under section 9 (b) or under section 11. Alcan will receive a credit against its obligation to contribute to the Nechako Environmental Enhancement Fund in an amount not exceeding, in the aggregate, CAD\$10,000,000 for the total amount of the reduction or elimination of costs which would have been incurred in the development or implementation of any of the selected options to the extent that such reduction or elimination is shown to be achieved by the use of any design or engineering studies or reports prepared for Alcan prior to the date hereof on the Kenney Dam Release Facility as part of the Kemano Completion Project. These funds will be disbursed in accordance with the program for The CAD\$50,000,000 the use of funding developed by the Management Committee. contribution by Alcan represents its total contribution to downstream enhancement under the program described in this Schedule, including the capital costs of any water release facility which may be selected and, whether or not a water release facility is built, Alcan shall not be required to contribute any further amount to a water release facility or other downstream enhancement. For greater certainty, this provision does not affect any responsibility of Alcan that exists in respect of its ownership of the Works.

16. Operation and Maintenance of a Release Facility.

If a water release facility is built under the program described in this Schedule, then once completed, Alcan will operate, and manage the maintenance of, the facility at its sole cost and expense. Alcan will not be responsible for the costs of maintenance, other than as set forth above, except to the extent that those costs are in part paid for by Alcan through its contribution to the Nechako Environment Enhancement Fund under section 15 of this Schedule.

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