

NECHAKO FISHERIES CONSERVATION PROGRAM

A Joint Program of the Government of Canada, Alcan and the Province of British Columbia

NECHAKO RIVER TECHNICAL MEETING (88-20)

DATE: Friday, March 3, 1989
TIME: 0800 hours
PLACE: Envirocon Pacific Limited
#205-2250 Boundary Road
Burnaby, B.C.

ATTENDEES:

B.W. Jenkins (Alcan Aluminium Ltd.)
P.A. Slaney (Provincial Crown)

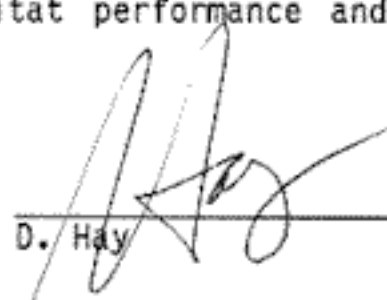
S.P. Blachut (Federal Crown)
J.S. Mathers (Federal Crown)
W.O. Rublee (Alcan Aluminium Ltd.)

DECISION RECORD

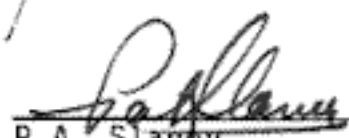
12. The Technical Committee agreed to adopt a strategic framework, (summary attached) which outlines the guidelines for testing and implementing remedial measures, monitoring stock and habitat performance and applied research.



D.L. Deans


D. Hay

B.W. Jenkins


P.A. Slaney

STRATEGIC FRAMEWORK

A strategic framework has been developed to guide implementation of the NFCP. This framework spans the period from 1988 when the field programs were initiated, to 1993, Alcan's first proposed completion date for the Kenney Dam Release Facility and implementation of the long-term Nechako River flows.

The framework provides guidelines for testing and implementing remedial measures, monitoring stock and habitat performance, and researching the ecology of Nechako chinook.

The NFCP operates under the guiding principle that monitoring, assessment of remedial measures, and research should focus on specific measurable elements of habitat and chinook ecology rather than on all variables. Activities proposed to assess achievement of program goals are specifically targeted on chinook adult enumeration, fry emergence and the number and condition of juvenile outmigrants, rather than on all aspects of salmonid life history.

REMEDIAL MEASURES

The Technical Committee will review and approve the plans and specifications for the proposed Kenney Dam Release Facility prior to construction. In addition, the Technical Committee will monitor the application of computer models and flow adjustment protocol during the annual summer temperature management program to conserve and protect sockeye salmon.

Investigations over the next two to three years should establish what remedial measures to use, where to use them, and how many should be used. Selection of remedial measures will be determined by the following six criteria:

- biologically sound,
- consistent with good scientific, engineering, and fiscal responsibility,
- physically durable,
- consistent with techniques proven effective by pilot testing in the Nechako River or on other similar river systems,

- cost-effective, and
- in agreement with the Department of Fisheries and Oceans policy for fish habitat management.

Three stages of remedial measures are identified in the Settlement Agreement. All first-stage measures will be implemented before the long-term flow annual water allocation is adopted. Second and third-stage measures would be implemented only if first stage measures were demonstrated to be inadequate.

General principles have been established as a framework for determining the magnitude of the remedial measures program. These principles include: a rate of stream fertilization that will offset the risk of reduced growth rates of juveniles due to reduced mid-summer water temperatures; and a number of in-stream and off-channel structures that will maintain the amount and diversity of juvenile chinook rearing habitat plus a safety margin allowance. These principles will be developed further by the Technical Committee during subsequent years.

The potential need for second stage remedial measures will be identified upon commencement of long-term flows in order to have proven second stage remedial measures ready for use if required.

HABITAT AND STOCK MONITORING

Primary Monitoring Measures:

The number of adult chinook returning to the Nechako River will be the primary monitoring measure of the program. Systematic aerial counts will be made each year, then compared to the target population of 3100 spawning chinook.

Secondary Monitoring Measures:

Since there is a four to five year time delay before adults return, monitoring of juveniles is important to provide an early indication of habitat conditions. Secondary monitoring measures, therefore, include trapping of juvenile outmigrants to provide an early indication of any changes in productivity; fry emergence to develop an index of egg/alevin survival; and sampling biological characteristics of spawning chinook salmon.

Sound practical techniques and rigorous procedures for establishing an index measure of fry emergence and juvenile outmigrants is considered a priority.

Tertiary Monitoring Measures:

Additional physical and biological monitoring measures might become necessary should primary or secondary measures identify a decline in production. These would include physical monitoring of gravel quality, ice conditions and depth in gravel, total gas pressure, and biological measures of egg incubation and alevin survival, and juvenile growth and distribution.

APPLIED RESEARCH

Studies on the unknown factors or examination of cause/effect relationships are classed as applied research.

Projects such as examining the ecology of overwintering chinook salmon, flume testing of ice effects on the spawning environment, and analysis of the predator/competitor/prey relationship, will be undertaken in the research program to complete the data base on chinook ecology.

COMMITTEE OPERATIONS

The Technical Committee meets regularly to assess progress of the NFCP and to discuss specific strategies and plans. The general public, federal, provincial, and municipal agencies in the region are kept apprised of the program through meetings with the Technical Committee and the publication of an annual report. ■

NECHAKO FISHERIES CONSERVATION PROGRAM

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NECHAKO RIVER TECHNICAL MEETING (88-22)

DATE: Wednesday March 22, 1989

PLACE: Telephone Conference Call

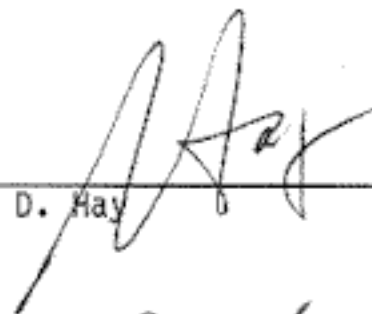
PARTICIPANTS: D.L. Deans (Federal Crown)
D. Hay (Independent Member)
B.W. Jenkins (Alcan Aluminium Ltd.)
P.A. Slaney (Provincial Crown)

DECISION RECORD

13. Alcan will be instructed to maintain the Skins Lake Spillway gate at 29.7 m³/s for the period April 1 to April 15, 1989, due to the late persisting ice conditions.



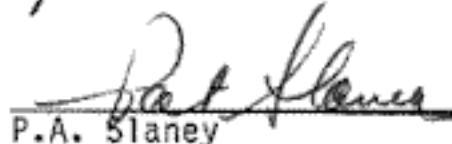
D.L. Deans



D. Hay



B.W. Jenkins



P.A. Slaney

NECHAKO FISHERIES CONSERVATION PROGRAM

A Joint Program of the Government of Canada, Alcan and the Province of British Columbia

NECHAKO RIVER TECHNICAL COMMITTEE MEETING (88-2)

DATE: Thursday, April 28, 1988, and amended by telephone April 29, 1988

TIME: 14:00 hrs.

PLACE: Department of Fisheries & Oceans
555 West Hastings Street
Vancouver, B.C.

ATTENDEES: Mike Fretwell (Federal Crown - alternate)
Bruce W. Jenkins (Alcan Aluminium Limited)
Pat Slaney (Provincial Crown) - by telephone
Duncan Hay (Independent Member) - by telephone

Susan Blachut (Federal Crown - Advisor)
Clyde Mitchell (Alcan Aluminium Limited)

DECISION RECORD

1. Alcan will be instructed to change the Skins Lake Spillway gate on May 1 to release 44.0 m³/s. This decision reflects an anticipation of lower than the normal 5.0 m³/s annual average Cheslatta inflow in 1988 and a review of Murray/Cheslatta hydrograph information indicating that the timing of inflows may be earlier than implied in Schedule C of the Settlement Agreement. This decision is consistent with the intent of the Settlement Agreement with respect to management of the Short Term Annual Water Allocation.



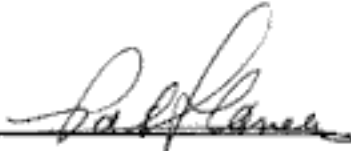
Bruce W. Jenkins



Duncan Hay



Dennis L. Deans



Pat Slaney

NECHAKO FISHERIES CONSERVATION PROGRAM

A Joint Program of the Government of Canada, Alcan and the Province of British Columbia

NECHAKO RIVER TECHNICAL COMMITTEE MEETING (88-3)

DATE: Thursday, May 5, 1988

TIME: 08:00 hrs.

PLACE: Envirocon Pacific Ltd.
#205 - 2250 Boundary Road
Burnaby, B.C.

ATTENDEES: Dennis Deans (Federal Crown)
Bruce W. Jenkins (Alcan Aluminium Limited)
Pat Slaney (Provincial Crown)
Duncan Hay (Independent Member) - Chairman
Clyde Mitchell (Alcan Aluminium Limited)
Mike Fretwell (Federal Crown)

DECISION RECORD

2. The following procedure was established for making future flow management decisions:
- (i) develop a clearly rationalized objective, consistent with the intent of the Settlement Agreement, for the shape of the hydrograph below Cheslatta Falls at hydrometric station no. 08JA017,
 - (ii) each year in January-March estimate the expected Murray/Cheslatta inflow hydrograph and obtain from Alcan a projection of any potential forced spill,
 - (iii) in late March establish a tentative protocol for release of the Annual Water Allocation.
 - (iv) monitor the actual hydrograph at station no. 08JA017 and compare to the objective from (i) above,
 - (v) revise the Skins Lake release protocol only if the actual flows below Cheslatta Falls, in the opinion of the Technical Committee, would jeopardize the objectives in (i) above,
 - (vi) instruct Alcan at least monthly as to the required Skins Lake Releases, and
 - (vii) prepare, for the Annual Report, summaries of the hydrographs from Skins Lake Spillway, hydrometric station no. 08JA017, and estimated Murray/Cheslatta inflow along with rationale behind all flow management decisions.



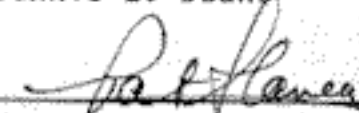
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NECHAKO FISHERIES CONSERVATION PROGRAM

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NECHAKO RIVER TECHNICAL COMMITTEE MEETING (88-4)

DATE: Thursday, May 12, 1988
TIME: 10:00 hrs.
PLACE: Envirocon Pacific Ltd.
#205 - 2250 Boundary Road
Burnaby, B.C.

ATTENDEES: Dennis Deans (Federal Crown)
Bruce W. Jenkins (Alcan Aluminium Limited)
Pat Slaney (Provincial Crown)
Duncan Hay (Independent Member) - Chairman
Clyde Mitchell (Alcan Aluminium Limited)
Mike Fretwell (Federal Crown)

DECISION RECORD

- No fish assessment work will be conducted in conjunction with the 1988 pilot stream fertilization program because of the high probability that the results would be confounded by extrinsic factors and the small scale of the pilot. It is anticipated that fish assessment work will be carried out as part of the larger scale stream fertilization program planned for 1989/90.
- Alcan will be directed to change the Skins Lake release on May 13 to 48.27 m³s. This decision was made in consideration of the drop in hydrograph since May 1 indicating very low Murray-Cheslatta inflow this year.



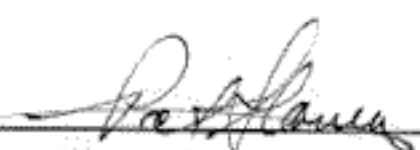
Bruce W. Jenkins



Duncan Hay



Dennis L. Deans



Pat Slaney

NECHAKO FISHERIES CONSERVATION PROGRAM

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NECHAKO RIVER TECHNICAL COMMITTEE MEETING (88-9)

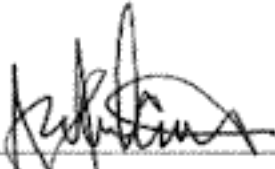
DATE: Friday, August 15, 1988

PLACE: Telephone Conference Call

ATTENDEES: Mike Fretwell (Federal Crown)
Bruce W. Jenkins (Alcan Aluminium Limited)
Clyde Mitchell (Alcan Aluminium Limited - alternate)

DECISION RECORD

5. Alcan will be directed to change the Skins Lake release on August 16 to 29.3 m³/s. This decision was made in consideration of the flow which, if maintained until March 31, 1989, would be expected to fully utilize the water remaining in the 1988/89 Annual Water Allocation.




Bruce W. Jenkins



Duncan Hay



Dennis L. Deans



Pat Slaney

NECHAKO FISHERIES CONSERVATION PROGRAM

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NECHAKO RIVER TECHNICAL COMMITTEE MEETING (88-10)

DATE: Monday, September 12, 1988

PLACE: Envirocon Pacific Ltd.
205 - 2250 Boundary Road
Burnaby, B.C.

ATTENDEES: Mike Fretwell (Federal Crown)
Bruce W. Jenkins (Alcan Aluminium Limited)
Pat Slaney (Provincial Crown)
Duncan Hay (Independent Member) - Chairman


Clyde Mitchell (Alcan Aluminium Limited - alternate)
Jeremy Abbott (Alcan Aluminium Limited)

DECISION RECORD

6. Alcan will be directed to change the Skins Lake release on September 13 to 29.7 m³/s. This decision was made based on a revision of the flow which, if maintained until March 31, 1989, would be expected to fully utilize the water remaining in the 1988/89 Annual Water Allocation.




Bruce W. Jenkins



Duncan Hay



Dennis L. Deans



Pat Slaney

NECHAKO FISHERIES CONSERVATION PROGRAM

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NECHAKO RIVER TECHNICAL COMMITTEE MEETING (88-10)

DATE: Monday, September 12, 1988


PLACE: Envirocon Pacific Ltd.
#205 - 2250 Boundary Road
Burnaby, B.C.

ATTENDEES: Dennis Deans (Federal Crown)
Bruce W. Jenkins (Alcan Aluminium Limited)
Pat Slaney (Provincial Crown)
Duncan Hay (Independent Member) - Chairman


Clyde Mitchell (Alcan Aluminium Limited - alternate)
Mike Fretwell (Federal Crown - alternate)
Jeremy Abbott (Alcan Aluminium Limited)

DECISION RECORD


7. The following programs were approved and are to be managed under DFO direction:
- (i) Proposal for chinook carcass recovery (Project 88-9)
 - (ii) Proposal for chinook spawner enumeration (Project 88-10)
 - (iii) Substrate quality and composition (Project 88-11)



Bruce W. Jenkins



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NECHAKO FISHERIES CONSERVATION PROGRAM

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NECHAKO RIVER TECHNICAL COMMITTEE MEETING (88-11)

DATE: Friday, October 21, 1988

TIME: 07:30 hours

PLACE: Envirocon Pacific Limited
#205 - 2250 Boundary Road
Burnaby, B.C.

ATTENDEES: B.W. Jenkins (Alcan Aluminium Ltd.)
D.L. Deans (Federal Crown)
D. Hay (Independent Member)
P.A. Slaney (Provincial Crown)

A.C. Mitchell (Alcan Aluminium Ltd.)
G.O. Stewart (Alcan Aluminium Ltd.)
J.S. Mathers (Federal Crown)
S.P. Blachut (Federal Crown)

DECISION RECORD

8. Three projects of the 1988/89 approved program were deferred to the 1989/90 year: Substrate Quality and Composition, Stream Access/Fencing and Riparian Vegetation. The rationale for deferral was lateness of season (riparian vegetation) and non-urgency of projects in 88/89 program due to Alcan announcement that Kemano Completion construction schedule is 5 years.
9. The Incubation Environment projects on Winter Physical conditions (Projects 88-11) and Ice Model Feasibility (Project 88-12) were approved following minor revisions. They are both to be managed under DFO direction.



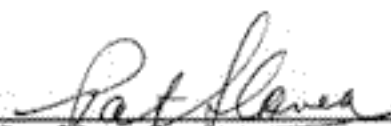
B.W. Jenkins



D. Hay



D.L. Deans



P. Slaney

NECHAKO FISHERIES CONSERVATION PROGRAM

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NECHAKO RIVER TECHNICAL COMMITTEE MEETING (88-12)

DATE: Wednesday, November 9, 1988

TIME: 08:00 hours

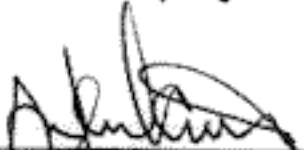
PLACE: Envirocon Pacific Limited
#205 - 2250 Boundary Road
Burnaby, B.C.

ATTENDEES: B.W. Jenkins (Alcan Aluminium Limited)
D.L. Deans (Federal Crown)
D. Hay (Independent Member)
P.A. Slaney (Provincial Crown)

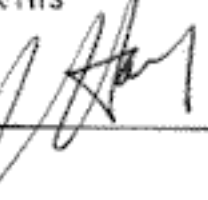
A.C. Mitchell (Alcan Aluminium Limited)
G.O. Stewart (Alcan Aluminium Limited)
W.O. Rublee (Alcan Aluminium Limited)
J.S. Mathers (Federal Crown)
S.P. Blachut (Federal Crown)

DECISION RECORD


10. The Egg/Alevin Survival project (Project 88-13) was approved, following modification to delete the fall field program and include a literature review of techniques. The project will be managed under Envirocon direction.



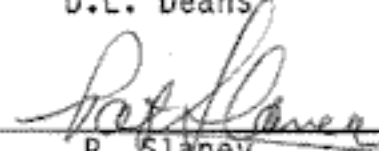
B.W. Jenkins



D. Hay



D.L. Deans



P. Slaney

NECHAKO FISHERIES CONSERVATION PROGRAM

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NECHAKO RIVER TECHNICAL COMMITTEE MEETING (88-14)

DATE: Thursday, January 5, 1989

TIME: 08:00 hours

PLACE: Envirocon Pacific Limited
#205 - 2250 Boundary Road
Burnaby, B.C.

ATTENDEES: D. Hay (Independent Member)
P.A. Slaney (Provincial Crown)
B.W. Jenkins (Alcan Aluminum Ltd.)
D.L. Deans (Federal Crown)

S.P. Blachut (Federal Crown)
J.S. Mathers (Federal Crown)
W.O. Rublee (Alcan Aluminum Ltd.)

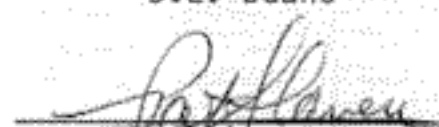
DECISION RECORD

11. The Technical Committee policy on unsolicited proposals and expressions of interest in their programs are as follows:
- A. The Technical Committee does not have an unsolicited proposal fund.
 - B. The Technical Committee will be receptive to unique proposals, and will assess them within the context of the Nechako Fisheries Conservation Program.
 - C. If the Technical Committee was interested in supporting an unsolicited proposal, the Federal Crown representative on the Technical Committee would support the proposal via the Federal Department of Supply and Services, and would act as Scientific Authority.
 - D. Unsolicited proposals from other government agencies, if approved by the Technical Committee, would be supported by the Department of Fisheries and Oceans. The project would be part of the Federal Crown contribution to the Program.
 - E. 'Routine' expressions of interest from the private sector or universities will be catalogued and if suitable, will be provided with appropriate Requests for Proposal.


B.W. Jenkins


D. Hay


D.L. Deans


P.A. Slaney