

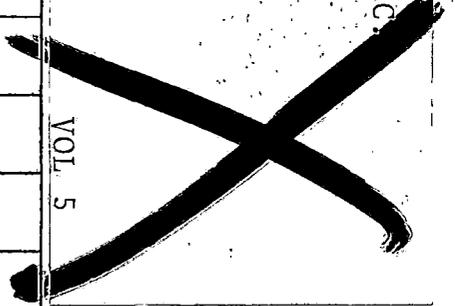
Referred to / Remis à	Remarks / Remarques	Initials / Initiales	Date	P.A. Classifier / Date - 7 1989	Initials / Initiales	B.F. Reporter / Date
J. Wild	3648	JW	MAR - 3 1989		JW	
D. Deans	951	DD	JUN 15 1989		DD	JUN 19 1989
J. Boland	1782	JB	OCT - 5 1989		JB	OCT 10 1989
D. Deans	2079	DD	NOV - 2 1989		DD	NOV - 3 1989
D. Deans	2189	DD	NOV - 9 1989		DD	NOV 16 1989
J. Wild	2306	JW	NOV 23 1989		JW	DEC - 1 1989
D. Deans	2543	DD	DEC 11 1989		DD	JAN 31 1990
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Date Closed - Date de fermeture: NOV 21 1989  
 Date Opened - Date d'ouverture: February 7, 1989

X/R 1181-121-50-4

FRASER RIVER, N.B.C.  
 YUKON AREA  
 PLANNING COMMITTEE

VOL. 5



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# CLOSED VOLUME VOLUME COMPLET

Dated From  
À compter du

*Feb 7/89*

To  
Jusqu'au

*Nov 27/89*

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*X/R 1181-121-50-4*

*1110-F9*

Volume

*7*

1110-F9

Memo

F: APC

To: APC Memebers

From: Bill Masse  
Area Planning Coordinator  
Fraser River, NBC & Yukon

November 27, 1989

Re: Workplans 1990-91

You will recall that at our November 24 meeting, we discussed the process we would go through this year in reviewing workplans. We all agreed that there is simply too much paper work to attempt detailed review of workplans from all Branches as we have attempted in past years. The Regional workplan process is not designed to incorporate meaningful APC review. We decided to carry out a less rigorous review this year.

The process decided on was that we would send out to APC members the statement we sent out to Division staff, outlining the directions we wanted the Division to take in 1990-91. In addition, when we have wrap up of Division plans, we will send that out to APC members. Then at the next meeting, each member will come prepared to discuss how his Branch will be contributing to those Directions in 1990-91.

We also discussed the need for a more streamlined APC process that allows more meaningful input by APC's. It was suggested that we dust off the proposal we developed some time ago of a more rational planning cycle. I have attached our proposal for your review.

*Bill*  
Bill Masse

NOV. 27 1989 11:37 DEPT FISHERIES & OCEANS N. WEST



Government of Canada  
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MEMORANDUM NOTE DE SERVICE

SECURITY CLASSIFICATION - DE SÉCURITÉ

OUR FILE - N / RÉFÉRENCE

YOUR FILE - V / RÉFÉRENCE

DATE  
November 03, 1989

TO  
A District Supervisors and Unit Heads  
Fraser River, N.B.C. & Yukon Division

FROM  
DE F. J. Fraser  
Area Manager  
Fraser River, N.B.C. & Yukon Division

SUBJECT  
OBJET DIVISION PRIORITIES, 1990-91

As a result of the impressive work done by a number of you in this Division assisted by others from Planning, Science Branch and SEP, in the preparation of the Fraser River Sockeye Task Force Report and as a result of the very successful presentation made recently to the B.C. - P.C. Caucus, we are now on the threshold of a major new integrated planning initiative in the Fraser River watershed.

On the other hand, as you all know, our operating budgets have decreased and our workloads have expanded over the last several years. Our tendency has been to cover the most publicly visible work items. Also, we have tended to cover the work that has the greatest immediate consequence if it is not carried out. This has meant that some of the less visible parts of our job and those with significant long-term effects are starting to suffer. For instance, stock enumeration work has suffered in some areas. Similarly, our habitat management work is falling by the wayside in some areas. Both of these trends will have serious long-term consequences, affecting our ability to manage stocks properly and to protect their habitats from deterioration.

Consequently, you will need to know what the Branch priorities (attached) and Division priorities (attached) are in order to meet this new challenge and, at the same time, get on with as much of the on-going work of the Division as we can.

In the preparation of your 1990-91 Workplans, please ensure that the Branch and Division priorities are addressed and that any adjustments to your on-going programs reflect the need to scale back all existing activities to a minimal level consistent with sound management practices.

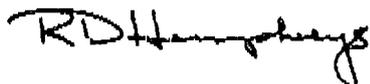
You are to assume that the current level of A-Base funding applies in 1990-91. Include in your A-Base plan what you think you can realistically accomplish with the resources available. Activities or projects that cannot be covered by A-Base resourcing should be identified on the Additional Resource Justification forms or, if they meet the criteria, as Canada/U.S. proposals.

- 2 -

All Canada/U.S. project proposals will be handled as they were for this fiscal year, i.e. they are judged on how well they relate to Treaty obligations.

As I am required to submit our detailed operational workplans for review by the Director by the end of November, please ensure that your plans are complete and in my office by November 15 at the latest. I will then review your draft workplans with you on November 22 and 23 (schedule attached).

Louise or Bob will be able to assist you should have any questions. Also, Bill Masse may be helpful to you in describing impacts.



for F. J. Fraser

cc: L. McFall  
B. Masse

## Fraser River, N.B.C. and Yukon Priorities

November 1, 1989

### Major New Directions in 1990-91 are:

1. to continue the development of integrated salmon stock production plans. In 1990-91, stock rebuilding plans for sockeye will be completed and implemented including plans for harvesting harvested rebuilt stocks without endangering co-migrating stocks and species. A major effort will be directed at developing habitat management plans for each major sub-basin of the Fraser watershed. These plans are to be completed by 1992 and will require dedication of 4 PY's from the Divisional Habitat Management Unit. Districts 1 and 2 will be required to adjust their programs in order to backfill essential habitat referral work;
2. to continue the computerized rationalization of IFF management. Targets in 1990-91 will be to implement the system in Steveston and design and implement it in Lillooet;
3. to implement the Base Level Program in all Districts;
4. to improve our stock enumeration program on chinook, chum and coho stocks. Coverage of all chinook and chum streams must be maintained at least at three walks or equivalent. Major coho streams must receive the same coverage;
5. to ensure that habitat protection and enforcement capability is provided year round in all Districts whether or not fisheries are underway. Where applicable, dedicated habitat officers should be designated;
6. to develop a more rationale habitat management program in District 10 by sub-dividing the District and prioritizing each area for habitat purposes;
7. and finally, to ensure that everything that we do contributes to the conservation and protection of the fisheries resource and that good management practices are reflected in every program.

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**1990-91 Fraser River, Northern B.C. and Yukon Division Workplan\*****Review Schedule****November 22, 1989****Major New Directions in 1990-91 are:**

0830 - 1030	Management Biology	R. Harrison
1030 - 1130	Habitat Management	O. Langer
1300 - 1400	Enforcement	R. Martinovich
1400 - 1500	District #10	G. Zealand
1500 - 1600	District #1	B. Rosenberger

**November 23, 1989**

0830 - 1030	District #2	D. Aurel
1030 - 1130	Native Affairs	B. Guerin

\* This review will include A-Base workplans, Additional Resource Justifications (B-items), and Canada-U.S. workplan proposals.

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ACCOUNTABLE MANAGER SUMMARY

BRANCH: Fisheries Branch

ACCOUNTABLE MANAGER : A.F.LILL

COLLATORS:

ORGANIZATIONAL UNIT DESCRIPTION:

Reporting to the Regional Director General, Pacific Region, the Regional Director, Fisheries Branch manages resource management, habitat management and conservation programs for the Region. The Branch consists of a Director's office and eight Divisions - Conservation and Protection, Resource Allocation and Industry Liaison, Habitat Management, Aquaculture, Recreational Fisheries, North Coast, South Coast and Fraser River, Northern B.C. and Yukon Divisions. The Branch operates out of approximately 50 locations within British Columbia and the Yukon providing resource management, conservation and enforcement services for the resources and user groups in these areas. The Branch maintains on-going programs in the following areas: enforcement and regulations, licencing, catch statistics, Indian food fisheries, land claims, Fishery Officer training and career development, recreational fisheries policy development and sport fishery advisory activities, aquaculture, habitat management related to water quality, water use, land use, inventory and restoration issues, salmon, shellfish, herring, and groundfish management, foreign fisheries and joint ventures with off-shore interests, maintenance of the regional Operations Centre and radio room, biological services in support of resources management activities, plus provision of resource management, dedicated enforcement, District operations, Native Affairs, administration and provision of direction for inspection activities within the geographic areas of responsibility.

ORGANIZATIONAL OBJECTIVE:

The objective of the organization, as mandated by the Fisheries Act, is to manage the fisheries and habitat resources within the Pacific Region by developing harvesting plans, managing and enforcing the fisheries, managing and enhancing the habitat resource, collection of statistics, plus participating in domestic and International advisory, consultative and negotiation activities.

**SECTION B**

**PRIORITIES ADDRESSED WITH RATIONALE FOR SELECTION:**

**1) MAINTAIN AND DELIVER MANDATED FUNCTIONS AND SERVICES**

Major new priorities include:

- implementation of new conservation measures in the groundfish and abalone fisheries;
- replacement air surveillance procedures to replace DND Tracker aircraft;
- \* - adjusting ongoing operational programs to minimize disruption while providing for support of Vision 2000 Initiatives and Indian Co-management.
- implementation of process to rebuild Georgia Strait coho stocks.

**2) IMPLEMENT VISION 2000 INITIATIVES**

- \* a) Lead a regionally integrated long-term harvest and production planning process for salmon to meet domestic and international requirements; with consideration for issues such as global salmon production. ( 1992 completion)
- b) Contribute to a revised regional consultation and allocation process for all sectors in the salmon fisheries.
- c) Work with the commercial salmon industry to develop an area licensing scheme by 1992 in conjunction with the comprehensive licence policy review.
- \* d) Implement a crab commercial fishery licence and a limited entry commercial prawn fishery licence.
- e) Implement an ITQ plan with management support for the halibut fishery and develop a similar scheme for sablefish.
- f) Prepare to implement limited entry in all currently unlimited commercial fisheries by 1992.

**3) IMPROVE EFFECTIVENESS AND EFFICIENCY OF PROGRAM DELIVERY**

- \* a) Implement the Base Level Program in all Districts and pilot test its extension to area habitat management, management biology, and enforcement groups.
- b) Evaluate the potential of consolidating office space and administrative activities where deemed appropriate.
- c) Modify the enforcement and catch data system to reflect the FTA panel decisions. (pending Ministerial decision)
- d) Participate on senior-level in-depth assessments and design of new approaches to the provision of support services.
- e) Examine the feasibility and pilot test if possible the devolution of the fullest possible range of fisheries management activities in a watershed to a volunteer community group.
- f) Review core and decentralized habitat management and fisheries biology units and develop recommendations designed to improve effectiveness and reduce costs.

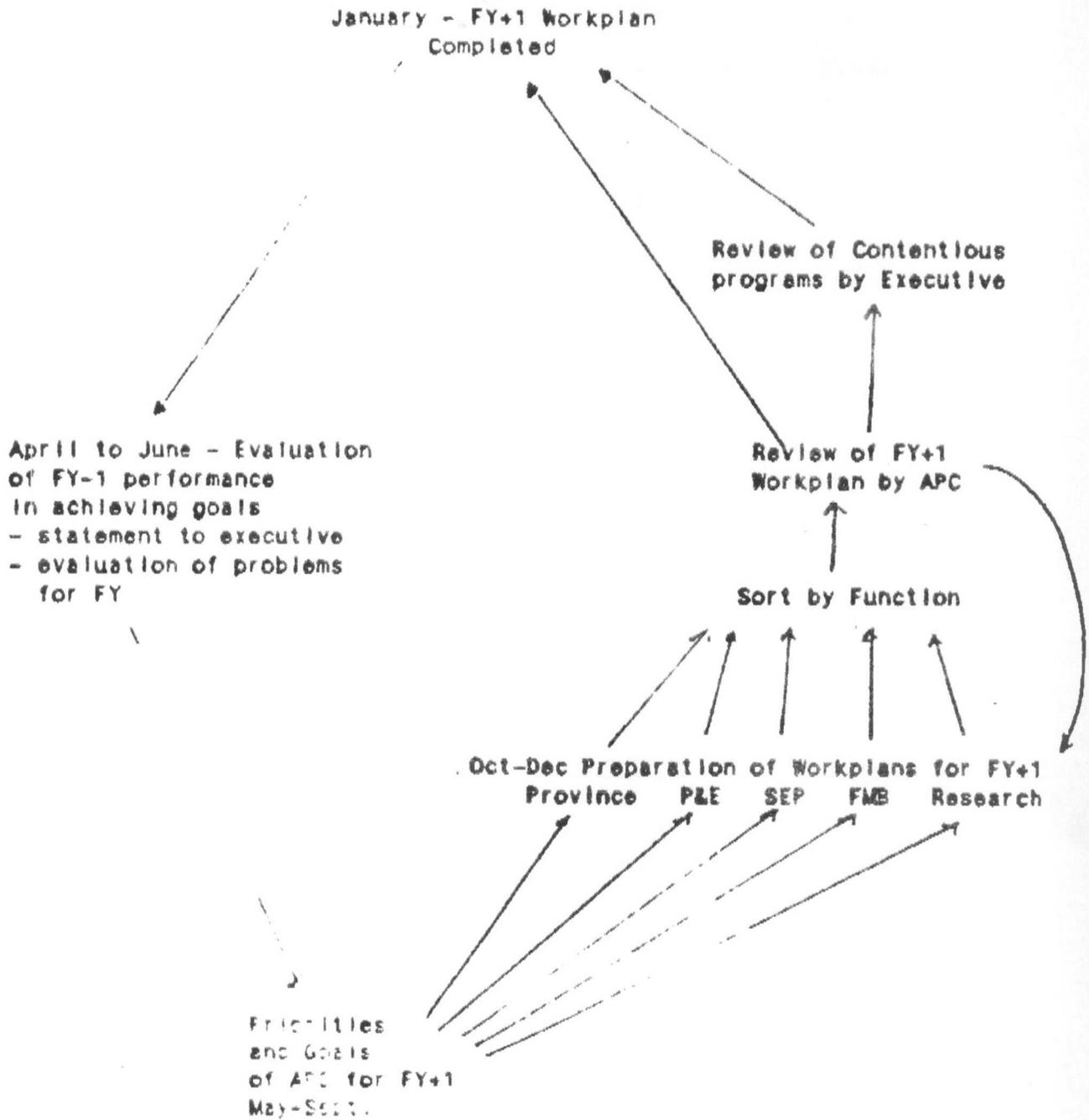
**4) INSTITUTE IMPROVED ORGANIZATIONAL ARRANGEMENTS, MANAGEMENT, AND COMMUNICATION SYSTEMS**

- a) Implement Commercial, Recreational, and Native Sector Divisions at Regional Headquarters and Area Offices.
- b) Implement new health and safety procedures and communications systems with other law enforcement agencies for fisheries officers exposed to dangerous field situations.
- c) Implement a revised APC process with improved regional direction.
- d) Develop a strategic plan for personnel development.

**5) IMPLEMENT THE DFO/INAC NATIVE CO-MANAGEMENT PROGRAM AND NEGOTIATIONS OF THE NISGA'A CLAIM****6) COMPLETE THE FRAMEWORK AND INSTITUTIONAL ARRANGEMENTS FOR A FEDERAL-PROVINCIAL FRASER WATERSHED SUSTAINABLE DEVELOPMENT PLAN**

- 7) PARTICIPATE IN RENEGOTIATION AND IMPLEMENTATION OF REGIMES FORTHCOMING OUT OF INTERNATIONAL TREATIES
  - a) Participate in the renegotiation of the expired annexes of the Pacific Salmon Treaty and implement fishing regimes to respond to negotiated terms.
  - b) Participate as, required, in the development of a new expanded North Pacific international agreement to address both fisheries management and science issues.
  - c) Develop closer ties with the International Pacific Halibut Commission.
  
- 8) FOCUS EFFORTS AND RESOURCES ON AN IMPROVED APPROACH TO HABITAT ISSUES WITHIN THE PACIFIC REGION
  - a) Develop methodologies to determine productive capability of various habitat types.
  - b) Develop expertise and approaches to dealing with contaminant issues.
  
- 9) AQUACULTURE
  - a) Implement the National Aquaculture Strategy at the regional level.

Figure 1 - Workplanning Cycle



Frasier River ALC

Nov 24, 1989

Fred Fross

James Boland

Bob Humphreys

Don Ware

Don Ouel

Dennis Deans

Bill Morse

Guest: Bill Geurin

1. Indian Policy Issues

- Define the differences between DFO and Natives
  - Native aspirations and expectation that they feel are necessary to cause it.

Lock of Trust - both way

Dealings all with enforcement officer

- seen as "can't do something" - authority
- guard house attitude of FO's - no communication

Allocation

- right to sell and catch don't agree with allocation or
- more involvement in the enforcement program
- more involvement with the DFO's right
- co-management means sharing in the decisions.
- that has all persons agreeing with allocation
- don't believe the existing food policy
- elders are afraid that if the fisheries changes to an economic fishery there would be no fish left for food so the elders would starve.
- they don't see that they are no. one priority.

Employment

- see fishermen
- it is difficult to support low on family.

171-311

## Summary Issues

- Trust - Relationship
- Communication
- Allocation
- Co-management
- Employment

## Trust

- : extent of this is from RDC to FO's and involves anyone who is seen to control other access to fisheries.
- : Native people do not understand the biological processes of the fish and they need some educating by their own people
- : We don't communicate our activities

## 2. Concurs Report

The Fraser River is being put into the Federal Environmental agenda.

## 3. APC Process

- There will be a Super APC
- The Branch directors will be asked to put more emphasis into membership selection.

## 4. Sochege T.F. and SEP

- comment to be in to Fed by Dec 8
- concern that the SEP activities

NOV 23 1989

1110 -F9

**The Fraser River:  
An Opportunity for  
Environmentally Sustainable Economic Development**

**Introduction and Background:**

The concept of environmentally sustainable economic development is based on the fact that the economy and the environment are closely linked. Specific linkages are complex and often difficult to measure and anticipate. However, there is no disputing the fact that economic development affects the environment. More important, and equally self evident, is the fact that economic development is dependent on the natural resource base. Development cannot be sustained into the future if it destroys the resource base and the quality of life. The resource base must be treated as the principle which will yield an ongoing benefit but only if we extract the interest and leave the principle intact.

In recent years, world-wide attention has been drawn to serious environmental issues with greater intensity than ever before. This reflects a growing awareness that the environment is all too fragile and is in crisis. The emergence of issues such as global warming and ozone depletion have alerted people that the need for environmental protection has gone beyond aesthetic considerations. It has become apparent that the economic, cultural and even physical health of the world's population is threatened.

In response to this heightened concern, the Federal Government in Canada has put much greater priority on the environment. In its Speech from the Throne, the Government outlined four mutually compatible and reinforcing commitments to sound economic management, sustainable development, constitutional reform and good government through leadership.

Similarly, the B.C. Provincial Government has made a major commitment to sustainable development. After the National Task Force on Environment and the Economy was endorsed by Canada's ten Premiers and the Prime Minister, B.C. established its own Task Force. In its June 1989 report it recommends a comprehensive process for fostering sustainable development in the province. It is clear that governments at all levels are ready to move on this common aspiration.

The Fraser River basin provides a unique opportunity to create a pilot model of the sustainable development concept in B.C. The basin contains a wealthy resource base including fisheries, forestry, agriculture, and minerals. The river system itself is a resource which is put to many uses including irrigation, domestic water supply, power production, recreation, transportation, waste disposal and fisheries production. Many of these uses conflict with

each other and important fishery resources are threatened by the level of pressure currently on the river.

### **The Fisheries Perspective**

Perhaps no other resource links the economy and the environment more directly than does the salmon resource of the Fraser River watershed. The Fraser River system produces more salmon than any other single river system in the world. In addition, another 29 fish species reside in the river and 87 more in the estuary. Many of these other species are important to recreational and native interests.

The salmon are the most important fisheries resource to B.C.'s commercial, recreational and Indian food fishery. The Fraser, in recent years has generated average annual economic value of \$260 million in commercial, recreational and Indian food fisheries. This represents over 60 percent of the total value of B.C. salmon production.

Sockeye salmon is the most important of Fraser salmon stocks. The runs were reduced considerably at the turn of the century as a result of slides in the Fraser canyon caused by railway construction and logging splash dams on some major tributaries. Those obstructions have been overcome but the stocks are still not recovered to former levels although these events occurred more than 75 years ago.

The Department of Fisheries and Oceans has carried out exhaustive studies on the capacity of the environment to produce sockeye salmon. It was found that the capacity exists to produce significantly more sockeye from the system. Further, the department has developed detailed plans to achieve this potential with an interim goal of doubling current production. The return in 1989 of 10 million sockeye to the Horsefly system, worth \$133 million and the second largest return in 75 years, is the result of deliberate management action taken over the last several cycles to increase escapements and subsequent production. This is a dramatic indication that the plan will work. Similar opportunities have been identified elsewhere in the watershed. The potential is currently available to increase the salmon resource by at least a two fold factor thereby generating economic value in excess of \$500 million annually.

The ability to sustain these levels of production into the future, however, depends on a healthy environment. The department is undertaking an exhaustive study of the habitat capacity for the other salmon species in the system together with the development of detailed habitat conservation and improvement requirements. This work is to be completed within two years (1992). A preliminary overview suggests that salmon production is seriously threatened in many parts of the watershed from competing resource use.

The Upper Fraser, above Williams Lake, is a major production area for chinook and sockeye. In recent years, the area has generated annual salmon values of about \$69 million. This is somewhat misleading, however because it includes the Horsefly system. The rebuilding success on that stock indicates that annual production from the Upper Fraser will generate significantly greater annual benefit from now on.

The Upper Fraser is threatened primarily by logging activity. Large scale clearcutting in some areas such as the Bowron Lakes region has seriously affected the hydrology of the area, causing increased sedimentation and water temperatures. These man-made changes are having a serious impact on fish habitat and its productive capacity. Significant forest harvesting activity is being planned for other sensitive and extremely important fish production areas. The most notable is the Stuart-Takla system. The Upper Fraser also includes the Prince George-Quesnel complex of five pulp mills which is one of the three main water quality hot spots in the system.

The Chilcotin system is important to chinook and coho production and has generated about \$26 million of economic value annually in recent years. This area is sensitive to perturbation but not under major threat at this time. Forest harvesting is a concern.

The Thompson system is extremely important, generating \$77 million annually from sockeye, chinook, coho and pink production. This area is subject to severe water use conflicts. Water diversions, primarily for agricultural purposes, are causing problems with low flows and high temperatures. Sewage and pulp mill effluents at Kamloops make this another water quality hot spot which is aggravated by low flow problems.

The system below Lillooet, and including the Seton system produces all five species of salmon and generates \$85 million in annual benefits. It is important to note that the mainstem of the river provides a migration corridor for the entire watershed. Also the estuary is a critical rearing area for some species most notably chinook salmon.

The lower portion of the watershed is subject to intense pressure. The lower mainland supports over 50 percent of the B.C. population. Dyking and hydro developments in the past have caused severe losses in habitat. Urban and industrial development is continuing to erode the habitat base at an alarming rate. The lower part of the mainstem contains the cumulative effluent load from up-river sources together with the sewage and urban run-off from the major metropolitan area. This makes it the third water quality hot spot in the basin. Streams away from the developed area (Harrison, Pitt, Chilliwack and Lillooet Rivers), are subject to impacts from logging and flood control projects.

In summary, the fisheries resource is under intense pressure throughout the watershed. The main problems are impacts from forest harvesting, water use conflicts, water quality and habitat losses to urban and industrial development. Logging occurs throughout the watershed but is of particular concern in the Upper areas where it threatens important sockeye and chinook production. Water use conflicts are a major problem in the Thompson system. Water quality is a problem as a result of pulp mill effluent, sewage and urban run-off. Water quality hot spots are at Price George, Kamloops and in the Lower Fraser metropolitan area. We are at threshold levels with water quality that will severely threaten fish production if action is not taken immediately.

The outlook is that development pressure will continue in the future and more than likely escalate. British Columbia is poised to be the next major growth area in Canada and perhaps in North America. If trends continue unchecked, salmon production in some parts of the basin will be eliminated forever. The situation poses a major challenge for all of us. How will we develop the basin on an environmentally sustainable basis?

#### **A Fundamental Problem**

Perhaps the single most frustrating factor for any resource agency and indeed for resource based industries is the lack of a comprehensive management framework. There are examples of successful attempts to manage resources cooperatively in specific parts of the basin. These include the Fraser River Estuary Management Program and the North Fraser Harbour Commission Environmental Management Plan. For the most part, however, resources are managed independently by a multitude of agencies at the federal, provincial and municipal levels. Each entity in the process is managing quite responsibly to further the interests of its own constituents but this is often at the expense of other groups. Resource agencies operating at cross purposes lead to inconsistent application of environmental standards, needless destruction of fish habitat, inefficient use of staff time and funds and finally, irretrievable loss of valuable renewable resources.

#### **Conclusions and Recommendations**

The Fraser River system is a unique opportunity for initiating a model to demonstrate how economic development can be planned on an environmentally sustainable basis. It is a system which has played a key role in the development of the Province and its natural resources generate significant economic wealth. In the past, development proceeded without full consideration of effects on other resources. The pace of current and anticipated growth will result in serious damage to valuable resources unless governments and the public join together to plan future development in a wise manner.

Action should begin immediately to work towards a formal federal-provincial agreement to develop and implement a comprehensive plan for the watershed. Consistent with environmentally sustainable development principles, the planning process should include all resource agencies at both levels of government, municipal governments, the general public and industry. The basic objectives of the agreement would be:

1. To reverse the trend of deterioration of the Fraser Basin's environment and living renewable resources.
2. To promote a public awareness of the importance of the environmental resources of the Fraser Basin.
3. To develop the resources of the basin in a manner that can be sustained by the natural environment.
4. To develop a consistent enforcement program for environmental standards.

Certain problems cannot wait on the development of long term approaches. Action must be taken now to halt further loss of fish production capability. These include:

1. Logging
  - Reduce the rate of cut in the watershed. Delay the opening of new areas until integrated plans are developed.
  - Develop interior logging guidelines and ensure strict compliance.
2. Urbanization/Industrialization
  - Develop management plans that will limit development in critical habitat areas and follow up with diligent monitoring.
  - Greatly increase leave strips in critical watersheds.
  - Require storm water retention and treatment.
3. Water Quality
  - Institute a moratorium on new pulp mills and no expansion of old ones.
  - Upgrade effluent treatment at existing pulp mills to prescribed standards.
  - Require tertiary treatment for sewage.
4. Flow Alteration
  - No further diversions on critical streams.
  - Fish maintenance flow formulas should be developed and applied on critical streams.
  - All water licences should be reduced accordingly during critical flow periods.
  - Better water storage schemes should be developed.

The Department of Fisheries and Oceans is in the final stages of preparing a comprehensive planning document providing the means whereby current salmon production can be at least doubled from its present level using the available natural habitat. The success of the project, which would generate another \$260 million annually in economic benefits, depends entirely on the premise that the habitat 20 years from now will be at least as healthy as it is today. This salmon development plan will not be achieved without a comprehensive, pro-active integrated watershed plan that has the involvement of all affected parties. The opportunity is available now with a good probability of success. However the longer we wait to initiate the proposal, the greater will be the loss of habitat diminished opportunity for success.

## REVISED AREA PLANNING COMMITTEE (APC) PROCESS

### INTRODUCTION

APCs were implemented in the Region several years ago to plan and co-ordinate the work of Fisheries, Science, SEP, and Program Planning and Economics in each of the three Fisheries Branch areas. They have enjoyed some considerable successes over the years but have probably not met the original expectations of senior management.

Revisions to the process are required to introduce regional consistency and accountability into APCs with clearly defined workplans, membership responsibilities, resources, and reporting relationships. The active support and involvement of Regional Executive Committee members is required for the process to work effectively.

The Directors of the Fisheries Branch and Program Planning and Economics have met with the three APC chairmen and selected staff. It was agreed that a new process is required because of the heavy workload which it is expected that the APCs will encounter through implementation of Vision 2000 and because of inadequacies in the present arrangement.

### PROBLEM AREAS

The following problem areas were identified:

1. There is no Regional management and co-ordination process actively in place at the present time, which has led to inconsistency between APCs and a perception of low priority placed on the process by top Regional management.
2. APC chairs are heavily overloaded with their regular fisheries management and Canada-US duties and many of the members are not able to bring significant time, resources, and feedback from their branches to the process.
3. APC meetings are often not the right forum to get planning assignments completed and much of the productive work has been done to date in Task groups.
4. APCs have not usually been able to review workplans in any depth (but have often improved co-ordination between branches and identified potential overlaps).
5. There is no process for resolving conflicts between the individual branches management and priority-setting processes and concerns raised in the APCs.

6. Branch Directors and Division Chiefs which may have a considerable stake in the outcome of the APC process are not involved and do not consistently select their representatives.
7. The scope of the issues that can come before an APC are so great that some of the members present often have little interest or expertise in topics being discussed.
8. Feedback to and from the branches from their representatives is largely dependent upon the interests and dedication of the member in question and can be considerably influenced by his own program interests or bias and his knowledge of and/or support from his own branch.
9. The APCs themselves have no clearly-defined assignments with appropriate workplans complete with dedicated resources and milestones to ensure performance towards Regional objectives.
10. The APCs have relied upon Regional priorities documents to assist them in reviewing proposals or workplans from individual branches. However there are no accepted standards or guidelines to define the scope and responsibilities of the APC review. The extra effort to date this year with respect to Vision 2000 should be a considerable improvement with respect to priority-setting but standards are still required.
11. The perceived expectations of APCs by the Regional Executive are often unrealistic with respect to the time, resources, and expertise available. For example the review of workplans has been of necessity quite cursory and/or inconsistent.
12. Preliminary Salmon Stock Management options and approvals of several enhancement projects were developed several years ago largely through a major workshop process supported by outside consultants. None of the APCs have been able to complete a fully integrated harvest and production salmon plan for even a portion of their areas. Such plans should also include full public consultation and priorities to guide Canada-US negotiations.
13. The APCs have been able to devote very little effort to non-salmon issues despite significant needs for area planning especially in the shellfish fisheries.
14. Planning for eventual settlement of native claims has been almost non-existent and is inadequate even for the much-advanced Nisga'a claim.
15. The very successful PSARC process has perhaps pre-empted some of the potential tasks of APCs. The two processes need to be compared and modified if necessary with respect to any overlaps and/or missing links.

## POTENTIAL TASKS

1. Identify Agenda items and timeframes and assignments for the workshop by reviewing the Branch and regional priorities for 1990 and Vision 2000.
2. Establish the framework for an integrated harvest and production plan and determine what elements exist already for each area and defined sub-areas/fisheries.
3. Develop preliminary goals and objectives to meet the Canada-US Salmon Treaty requirements for each sub-area starting with the Skeena-Nass draft as a model.
4. Complete preliminary negotiating frameworks for each of the panels and the chinook working group in terms of musts, wants, and nice to's.
5. Develop a new APC process to develop the plan over the next two years and identify potential major assignments for task groups or major workshops.
6. Review the potential SEP production projects list and Lill's preliminary comments for: incorporation into the Joint Goals and Objectives document; feedback to SEP; and incorporation into the integrated harvest and production plan.
7. Develop options and strategies for consultation into the planning process.

For Wed.  
session.

Not for  
discussion in  
next 2 days  
workshop.



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MEMORANDUM / NOTE DE SERVICE

TO: J. Wild

TO: F.J. Fraser  
Chairman  
Area Planning Committee

002306

NOV 23 AM 11:18

SECURITY - CLASSIFICATION - DE SÉCURITÉ
OUR FILE -- N / RÉFÉRENCE
YOUR FILE -- V / RÉFÉRENCE
DATE November 17, 1989

FROM: Robin Harrison  
Chairman  
Fraser River Sockeye Task Force

dh

FISHERIES & OCEANS  
FISHERIES PACIFIC  
1110-F9

SUBJECT: FRASER SOCKEYE ENHANCEMENT

Attached is a draft of the enhancement section of the Fraser Sockeye Task Force Report which is submitted for review and comment by the APC. It is incomplete in that lake enrichment has not yet been dealt with in the report. This topic is still under discussion, particularly with respect to the implications for the cyclic dominance experimental approach. A meeting of the cyclic Dominance Working Group of PSARC Salmn Subcommittee is being held today to further explore this issue.

We have attempted to prioritize projects on the basis of perceived management need. However, there is still a need to develop an implementation schedule. This will likely take into account factors such as management desirability, feasibility and social/economic needs and funding availability. I believe the APC could assist in this process. Many proposed projects are conceptual only and require additional investigation to determine their feasibility.

Due to time constraints not all Task Force members have reviewed this draft. I am, therefore, distributing it to them by a copy of this memo for their review as well.

Comments would be appreciated at your earliest convenience.

Robin Harrison

c.c. Task Force Members  
L. Berg  
J. Wild  
R. Mylchreest

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## ENHANCEMENT STRATEGIES

### A. The Role of Enhancement in the Sockeye Rebuilding Plan

The rebuilding of Fraser River sockeye stocks is expected to be achieved largely through harvest rate reductions. Enhancement activities can, however, complement the harvest management plan in developing runs to their full potential by:

1. assisting in the rebuilding of runs that are well below their spawning potential, particularly in the off-cycle years;
2. providing additional major production to take advantage of under-utilized rearing capacity (eg. fry output through large spawning channels) or improving lake productivity to increase survival rates (eg. lake enrichment);
3. assisting in the investigation of the cyclic dominance theories;
4. compensating fishermen for foregone catch during the initial years of the rebuilding program, and
5. helping maintain co-migrating sockeye stocks and other species that might be impacted by increased harvesting of larger Fraser sockeye runs.

The type of enhancement activity, production goal and implementation schedule for potential projects, will depend on the enhancement objectives for specific stocks. For some projects, multiple objectives may apply.

Enhancement activities can be broadly considered in three categories: habitat restoration or improvement, small/medium size facilities designed to assist in run rebuilding and, large production activities. Habitat restoration projects include activities such as gravel improvement, beaver dam or log jam removal, improvement of migratory passage (eg. Hells Gate) and predator reduction. Most of these projects are small and would be expected to have no impact on harvest management approaches. The small to medium sized projects include moderate size spawning channels and incubation facilities. Little or no affect on harvest management approaches is expected in the initial years but, as the runs increase as a result of enhancement and wild stock rebuilding, harvesting may be initiated during periods now closed to fishing. Large production activities include major enhancement facilities and also lake fertilization. Depending on the approach, large enhancement production may affect harvest management.

Development of an enhancement plan for Fraser sockeye must be undertaken in a manner that complements the overall rebuilding plan. Careful selection of stocks to be enhanced is required, and as the resulting adult production from large enhancement projects could amount to several million sockeye, development of a harvesting policy for enhanced fish is necessary. Two basic approaches could be taken for the harvest of enhanced fish. The first approach is to maintain exploitation rates at levels compatible with natural productivity - i.e. at an

average of about 70%. However, if this is done, large enhancement projects may result in surplus fish returning to the facility or adjacent spawning area. How these surpluses are dealt with will depend on factors such as the magnitude of the surplus, the availability of spawning area, and the quality of the fish. In some situations, terminal harvesting of surplus fish may be desirable and feasible, while in other instances, it may be best to simply allow any surplus fish to spawn. The second approach involves an increase in exploitation rates to take advantage of large returns of enhanced sockeye. This approach may result in the over-harvest of co-migrating sockeye stocks and species, but enhancement of co-migrants could theoretically minimize such impacts by enabling them to withstand higher harvest rates as well. However, this approach is not advocated by the Task Force as enhancement of the co-migrating stocks and species may be unsuccessful, and therefore, over-harvesting would still occur. The additional enhancement cost involved is also of concern. Therefore, the Task Force recommends that, as a general rule, exploitation rates be maintained at levels consistent with wild stock productivity, but fully recognizes that there may be occasions when higher exploitation rates are warranted for the harvest of enhanced stocks.

#### **B. Justification of Management Priorities for Enhancement**

There are numerous potential sockeye enhancement projects in the Fraser River watershed, but it would be unrealistic to expect that all could be implemented. Therefore, the Task Force developed a rationale for prioritizing prospective projects into three categories: 1-high priority, 2-medium priority, and 3-low priority (Table 1). The following criteria were taken into account when prioritizing projects on the basis of a "management" desirability:

1. the difference between current escapements and interim targets;
2. predicted time to achieve interim targets - stocks not rebuilding as quickly as desired may require enhancement;
3. recent trends in escapement - a downward trend would suggest that enhancement might be desirable;
4. historical production - evidence of large runs in the past would tend to support the belief that major increases are possible;
5. estimates of under-utilized habitat capacity - including both spawning and rearing;
6. manageability - taking into account factors such as migratory timing and possible impacts on other stocks.

These criteria were also used to determine the magnitude of the enhancement activity required, although at this point in time, numerical production goals have not been developed for most projects.

### C. Enhancement Options

Most lakes in the Fraser River watershed could rear far more fry than the natural spawning grounds could produce (Table 1). Therefore, a large future production potential for sockeye exists. The largest potentials are in the Stuart, Quesnel, Francois and Harrison systems in the dominant years, with other large lakes such as Shuswap and Chilko having great potential in the off-cycle years. To take advantage of these production potentials, large fry production facilities are required. Spawning channels have successfully increased the production of some Fraser stocks and may be the most cost-effective way to produce large numbers of fry, but lake enrichment also provides substantial production benefits by promoting the growth and survival of fry and could also be used to enhance Fraser River sockeye.

Several lakes have been tentatively identified as potential candidates for lake enrichment: Takla, Trembleur, Stuart, Fraser, Quesnel, Chilko, Shuswap, Harrison and Pitt lakes. Investigations have focused on Chilko, Quesnel and Shuswap lakes with only relatively cursory work done on the others. As there is so much uncertainty with regard to the most appropriate lake enrichment strategy, the Task Force is unable to provide recommendations at this time. However, the matter is being actively discussed.

Recommended enhancement activities, other than lake enrichment, are described below for each of the major watersheds in the Fraser River drainage.

Table 2 lists the projects by lake and stock and indicates the management priority, type of project proposed and provides brief comments. The recommended year for implementation of individual projects requires discussion. In general, those projects given priority 1 would be implemented first, on the cycle year when the need is greatest.

#### I. Stuart River Watershed

Two sockeye "runs", which are separate in their peak migratory and spawning timing by several weeks, spawn in the Stuart River watershed. The Early Stuart run is comprised of 25-30 separate populations that spawn in tributaries of the Middle River and Takla and Trembleur lakes. Dominance for the run as a whole is on the 1989 cycle but some of the early-run stocks are dominant on the 1987 or 1988 cycles.

Although the overall interim escapement goals are expected to be achieved within the prescribed time frame through harvest rate management, enhancement of several stocks is recommended to increase rebuilding rates on off-cycle years and to provide fry to rear in under-utilized areas of Takla and Trembleur lakes. It would be desirable to achieve target production levels as quickly as possible, since the run is highly valued by Indian food and commercial fishermen. The objective is to eventually have some level of commercial fishing on all cycles, and not just on the dominant 1989 cycle.

The Early Stuart run has minimal overlap in timing with other sockeye stocks and could, therefore, be harvested without affecting the harvest rate of other Fraser sockeye stocks. However, it does coincide with early

run Fraser chinook and with summer steelhead so the impact on these species would have to be considered in the overall management plan. A central incubation facility to handle several stocks simultaneously, is envisioned.

Late Stuart sockeye, are dominant on the 1989 cycle and spawn primarily in Middle and Tachie rivers, with smaller populations in Kuskwa and Kazchek creeks. The fry rear in Trembleur and Stuart lakes. There is a vast under-utilized rearing potential in these lakes which suggests that large fry producing facilities would greatly enhance this run. In addition, Late Stuart sockeye coincide in migratory timing with Quesnel Lake sockeye, and therefore, may be affected by harvesting a large Quesnel run. Enhancement of Late Stuart sockeye would help offset this effect but should be distributed between the Middle and Tachie rivers, if possible.

In view of the foregoing, the enhancement options considered for this watershed include:

a) Takla Lake System

Takla Landing has been identified as a potential site for a satellite or central incubation facility for planting eyed eggs into selected streams or releasing fry/juveniles into target under-utilized areas of Takla Lake. The production capacity of the facility would be 2 million eggs resulting in the production of approximately 16,000 adults. Several stocks should be handled simultaneously and the selection of stocks would likely vary from cycle to cycle depending on need.

i) Driftwood River

Construction of a spawning channel on the Driftwood River would be impractical due to the severe low winter flows (<6cfs). Transplants of sockeye from Middle River streams may be an option for building up the off-cycle years, which currently have few spawners.

ii) Leo Creek

A central incubation facility, located on Leo Creek, with the capacity to handle several stocks would increase fry production from this creek. The facility could be operated through a community involvement program, as an Indian community is located nearby. Transplants from Gluske Creek would also be favourable for rebuilding this stock.

iii) Dust Creek

A bio-reconnaissance study should be undertaken to investigate the feasibility of enhancing Dust Creek to supply fry to the under-utilized west arm of Takla Lake.

iv) Sandpoint/Takla Narrows

A reconnaissance study should be undertaken to investigate the feasibility of constructing a small channel.

**b) Trembleur Lake System**

**i) Paula Creek**

A small incubation project could be established to enhance fry production in Paula Creek.

**ii) Gluske Creek**

The Gluske Creek sockeye run is currently productive and although it is not in need of enhancement, a small eyeing station on this creek would help provide fry transplants to other creeks and thereby improve general spawner distribution to lower Takla Lake tributaries. Additional bio-reconnaissance should be undertaken.

**iii) Kazchek Creek**

Flow stabilization is required for Kazchek Creek.

**c) Stuart Lake System**

**i) Kuzkwa Creek**

Low flows are a problem in Kuzkwa Creek, consequently attention should be directed at stabilizing the flows.

**ii) Tachie River**

The I.P.S.F.C. proposed construction of a major spawning channel for late-Stuart sockeye on Tachie River. The Task Force recommends construction of a more modest spawning channel with a production potential of approximately 300,000 adults.

**II. Francois Lake Watershed**

**a) Nadina River**

There are two sockeye spawning populations in the Nadina River - an early run that spawns in the lower Nadina River, and a late run that spawns in upper Nadina River. The late run is being enhanced by a spawning channel, but the productivity of the channel is low. Historically, the Nadina River spawning population numbered in excess of 30,000 spawners but despite the operation of a spawning channel, this population appears to be facing extinction on some cycle years. Enhancement assistance is required on all cycles as escapement objectives specific for this stock cannot be realistically managed for as it is intermingled with many other stocks in the fishing areas. Construction of an incubation/rearing facility to be associated with the existing Nadina spawning channel should be investigated.

b) Nithi River

Low flows and poor access due to excessive weed growth and beaver dams, limit production in the Nithi River. An improvement in access should be addressed, possibly as a joint venture with Ducks Unlimited and the Habitat Conservation Fund.

c) Francois Lake

The rearing capacity of Francois Lake is currently greatly under-utilized. Transport of fry from the proposed spawning channel on the Stellako River to Francois Lake for rearing should be investigated.

**III. Fraser Lake Watershed**

With the proposed reduction in harvest rates, the interim escapement goals of Fraser Lake stocks are expected to be achieved on all cycle years. However, minor enhancement projects conducted in this system, would assist the rebuilding effort. Potential enhancement projects include:

a) Endako River

Low flows during the late fall may affect egg survival rates in the Endako River. This potential production limitation should be investigated.

b) Ormonde Creek

Production in Ormonde Creek could be increased by removing a beaver dam located at the creek mouth, which blocks fish access.

c) Stellako River

Construction of a medium sized spawning channel on the Stellako River, to provide fry for transport to Francois Lake, should be investigated. A potential site exists downstream of the power-line crossing and, although hydrologic data suggests low flows may be a problem, a small medium dead-storage weir would ensure against this risk.

**IV. Quesnel Lake Watershed**

Quesnel Lake sockeye spawn mainly in the Horsefly River with a smaller population in the Mitchell River. Dominance is on the 1985 cycle but the size of the 1986 subdominant cycle is growing. The spawning populations on the other two cycles are relatively small. The migratory timing of Quesnel Lake sockeye coincides with the Late Stuart, Chilko and Stellako stocks, consequently these stocks could be impacted by major enhancement of Quesnel sockeye.

The dominant 1985 cycle interim spawning escapement goals have nearly been reached for the Horsefly stock and have probably been exceeded for the Mitchell River population. Realization of the interim goals for the off-cycle years will be assisted by the newly constructed spawning channel on the lower Horsefly River which has a production potential of 300,000 adults. Further assistance from additional spawning channels in selected

locations would help to speed up the rebuilding rate of the off-cycles.

The rearing capacity of Quesnel Lake is thought to be in excess of the number of fry that the spawning grounds can produce but there is some uncertainty. On-going studies have been designed to derive improved estimates, and the expected large fry output from the 1989 spawning should help in this evaluation. If a considerable under-utilized rearing capacity is identified, additional spawning channels to increase fry output would be warranted.

a) Upper Horsefly River

Construction of a spawning channel(s) near the area of the heavy concentration of natural spawners, would assist the rebuilding of the off-cycles and provide fry to take advantage of the rearing potential of Quesnel Lake on both dominant and non-dominant cycles. Continuation of the airlift of adult sockeye above the falls as was done in 1985, on subsequent dominant years, is favoured over the installation of a fishway because of the lower costs.

b) McKinley Creek

A site for the construction of a medium sized spawning channel has been identified but additional topographical surveys are required.

c) Mitchell River

A flow control structure was installed on Mitchell River in 1989 to improve egg-to-fry survival. Construction of a spawning channel with the production potential of 300,000 adults, would provide for additional fry to utilize the north arm of Quesnel Lake. A site has been identified but further surveys and Provincial approval are required. This proposal should be carefully evaluated as the capacity of the Mitchell River spawning grounds may already be exceeded on the dominant year. Consequently, some means for dealing with surplus fish escaping the fisheries would need to be developed.

**V. Bowron Lake Watershed**

Due to the anticipated impacts from massive clear-cut logging in the Bowron River watershed and because spawner escapement levels have generally been below target levels, some small scale enhancement activity should be conducted. An ex-I.P.S.F.C. fence site on upper Bowron could be developed into a broodstock capture, holding and incubation site (eyeing station).

**VI. Chilko Lake Watershed**

Chilko Lake sockeye spawn primarily in the Chilko River just below Chilko Lake and in the lake near the outlet. A smaller population spawns near the south end of Chilko Lake. A spawning channel was constructed on the Chilko River in 1988 to improve egg-to-fry survival and to take advantage of the under-utilized rearing habitat of Chilko Lake. Escapement objectives are expected to be achieved through harvest management. Enrichment of Chilko Lake was implemented in the fall of 1988 to improve the growth and survival of juveniles, but was discontinued in 1989 due to lack of funds. Future enrichment must take into account the effects on

the cyclic dominance adaptive management plan which calls for a 50% harvest rate on the mid-timing 1987 cycle.

#### **VII. Seton / Anderson Lake Watershed**

Assuming favourable survival conditions, the Gates Creek population should reach escapement target levels from the harvest rate reductions. However, some small scale enhancement should be considered for the off-cycle years. Enhancement options include:

##### **a) Portage Creek**

Channel stability requires improvement near the stream mouth, to increase egg-to-fry survival. This is a potential community involvement project. The possibility of an eyeing station or satelliting from Gates Creek channel is also possible.

##### **b) Gates Creek**

The productivity of the existing channel is low. Although the production potential is small due to a poor availability of broodstock in off-cycle years, construction of egg incubation boxes may be feasible. Lake rearing pens are also recommended to improve the fry survival.

#### **VIII. Kamloops Lake Watershed**

Progeny from the North Thompson River sockeye spawners are believed to rear in Kamloops Lake. As this rearing habitat is thought to be under-utilized, enhancement efforts to increase fry production should be beneficial.

##### **a) Raft River**

A site for a small spawning channel has been identified, but reconnaissance and topographic surveys are required to assess the feasibility.

##### **b) Fennell Creek**

Enhancement of Fennell Creek would be feasible if a surplus fish utilization policy was developed. Otherwise escapements would be grossly exceeded, as is starting to occur on some years now. The local Indian Band could benefit from the surplus returns if a satisfactory harvesting arrangement could be made.

#### **IX. Adams Lake Watershed**

Adams Lake once supported a large sockeye population that spawned in the Upper Adams River but the run was eliminated by a dam at the outlet of the lake early this century. Numerous eyed-egg and fry plants were undertaken by the I.P.S.F.C. in an attempt to re-seed the Upper Adams River with sockeye. A small run now occurs on the 1988 cycle with spawning taking place in Upper Adams River and in Momich-Cayenne creeks. Few sockeye have been observed on the other cycles. In recent years, incubation and release of sockeye fry has occurred with an on-site hatchery. As there is a very large potential for increasing the runs, the Task Force recommends continuation of the enhancement operations that have recently occurred.

a) Momich / Cayenne Creeks

Further reconnaissance of a potential site for a small channel is currently being conducted.

b) Momich Lake

The survival of juvenile sockeye utilizing the lake could be increased through predator control. Although this lake has the potential of being an experimental lake, a reconnaissance study is required.

c) Upper Adams River

Historically, the Upper Adams River sockeye population produced very significant returns. This population is currently believed to be at the same point in its rebuilding cycle as the Horsefly River was during the 1940's. Recovery would be accelerated by enhancement. Operation of the existing small pilot hatchery as a satellite/transplant facility for Scotch and Seymour Rivers should be undertaken. However, the facility may require upgrading. Particular attention should be focused on which stocks should be used for the satelliting /transplanting.

**X. Shuswap Lake Watershed**

Juveniles of both summer and late run sockeye rear in Shuswap Lake. The summer run, which is much smaller than the late run, is produced mainly in the Seymour River and Scotch Creek. These stocks are dominant on the 1986 cycle. The late run is dominated by the Adams River stock but the Lower Shuswap stock has been increasing rapidly on the dominant 1986 cycle. Enhancement projects recommended for this system include:

a) Scotch Creek

A medium size channel could be constructed on Scotch Creek to increase production. Although a potential site has been identified, natural shifting of the river channel requires additional topographical surveys to assess the feasibility of the site.

b) Seymour River

The Seymour River is subject to high flows. Construction of a small spawning channel would help stabilize production and increase fry output into the currently under-utilized Seymour Arm of Shuswap Lake.

c) Lower Adams River

Spawning in the Lower Adams River is currently successful but low winter flows often incur high egg mortalities in some spawning areas in the vicinity of the public display area. Construction of a flow control structure and addition of gravel to the display area of the Lower Adams River would improve egg-to-fry survival. The timing of these enhancement activities is important.

d) Lower Shuswap River

A reconnaissance study is required to identify candidate projects.

e) Shuswap Lake

Management of the fisheries is expected to provide sufficient numbers of spawners to reach interim escapement target levels for the 1986 and 1987 cycles. Shuswap Lake is a good candidate for enrichment based on technical information. However, due to political considerations, it is not being recommended for enrichment at this time.

**XI. Mabel Lake Watershed**

a) Middle Shuswap River

Gravel quality is presently poor due to siltation from a nearby hydro-electric dam. Gravel replacement would improve egg-to-fry survival. The rearing capacity of Mabel Lake is under-utilized, consequently construction of a production facility on the Middle Shuswap River would be advantageous.

**XII. Harrison Lake Watershed**

Harrison Lake supports progeny from the Birkenhead River, Weaver Creek, and Harrison River. Weaver Creek production has been facilitated with a major spawning channel since 1965. The increased production of the Weaver stock has allowed for an intense fishery which has incurred negative impacts on co-migrating sockeye stocks.

a) Birkenhead River

Construction of a medium sized spawning channel is suggested but a reconnaissance study is required to evaluate the feasibility of this proposal.

b) Big Silver Creek

The present escapement is well below historic levels and is probably due, in part, to natural alterations in the channel configuration in the vicinity of the spawning grounds. Re-opening of the blocked side-channel could result in a large increase in production.

c) Harrison River

Current stock abundance is low as this late-timed run has been affected by the Weaver Creek sockeye fisheries. A feasibility study is required develop enhancement techniques.

d) Widgeon Slough

Poor egg-to-fry survival, probably attributable to the silt-laden spawning gravel, could be improved by the addition of better quality gravel. This could be a community involvement project.

e) Harrison Lake

A competitor control study should be considered to assess the feasibility of increasing the survival of fry rearing in Harrison Lake.

#### **XIII. Pitt Lake Watershed**

The production of Upper Pitt River sockeye has been supported by an incubation channel for many years. The facility needs replacing and consideration is being given to re-establishing it on a different tributary. Expansion of the facility and possible construction of a spawning channel to further augment production has been discussed. As there is navigable access from the Fraser River to Pitt Lake, the possibility of a directed fisheries for sockeye in Pitt Lake should be considered. This may however, have an impact on the small early-timed chinook run into Pitt Lake, presently being enhanced. Predator control and fertilization of Pitt Lake should be investigated, but a reconnaissance study is required to define the bottleneck to production in the Pitt River System.

#### **XIV. Cultus Lake Watershed**

The Cultus Lake stock is relatively strong on the 1987 cycle, but is weak on the 1988 and 1989 cycles. Predator control has been applied to this stock in the past and was found to benefit production. A study to further investigate predator control in Cultus Lake has been proposed. Fry production could be increased through the construction of an incubation facility. Milfoil removal from the spawning beds is also recommended to improve egg survivals.

#### **C. Fry Plants to Barren Lakes**

Sockeye currently have access to approximately 24 lakes throughout the Fraser River drainage, which are used for juvenile rearing. There are, however, numerous lakes which are currently inaccessible to sockeye but which may have the capacity to rear substantial quantities of sockeye juveniles. These barren lakes could be utilized for rearing by planting sockeye fry, hatched in a central incubation facility, into them, and allowing the fry to emigrate seaward on their own. As no surveys have been done to assess which lakes may be suitable or to estimate productivity, there is no information at this time on the additional production that might result from the use of these barren lakes. However, the large number of lakes and the size of some of them suggests that the potential could be very large.

This technique of planting sockeye fry into lakes barren of sockeye has been successful in Alaska, resulting in additional commercial catches of up to several hundred thousand fish. The approach is also currently being tried as a joint Canada/U.S. project in the Stikine watershed with plans to enhance Taku River sockeye starting in 1990. In the Fraser River watershed, the broad selection of stocks with different migratory timing, makes it possible to select stocks for planting into barren lakes to augment natural runs at the most appropriate time for harvesting.

The Task Force supports the concept of additional sockeye production from barren Fraser watershed lakes. Before proceeding further, it will be necessary to undertake limnological surveys of a number of potential candidate lakes to estimate their rearing capacity for sockeye. In addition, consideration will have to be given to the broodstock selection and to utilization of returning adults escaping the common fisheries as they will not have access to the lakes

due to natural barriers to migration. It is recommended that funds be provided in 1990 to undertake preliminary surveys.

Table 1. Identification of enhancement opportunities for Fraser River sockeye.

MGMT. GROUP	STOCK	LAKE SYSTEM	E S C A P M E N T				SPAWNING CAPACITY	REARING CAPACITY	PRODUCTION POTENTIAL*
			1985	1986	1987	1988			
Early	E. Stuart	Takla/Trembleur	234,509	28,584	148,294	179,807	664,000	3,405,000	1,370,500
Summer	U. Pitt	Pitt	3,560	29,177	13,637	37,747	70,000	663,000	296,500
	Bowron	Bowron	6,359	3,118	11,071	12,780	45,000	108,000	31,500
	Nahatlach	Nahatlach	1,257	8,996	13,501	16,446	281,000	35,000	0
	Gates	Seton/Anderson	6,343	17,863	16,237	45,981	29,000	429,000	200,000
	Upper Adams	Adams	-100	0	0	13,081	1,557,000	1,923,000	183,000
	Nadina	Francois	13,825	3,545	38,515	8,744	21,000	2,805,000	1,392,000
	Horsefly	Quesnel	1,341,845	181,213	20,546	6,830	2,405,000	4,773,000	1,184,000
	L.Stuart	Trembleur/Stuart	274,630	28,715	6,472	7,117	1,306,600	7,642,000	3,167,700
	Chilko	Chilko	71,435	293,804	424,286	374,527	624,000	686,000	31,000
	Stellako	Fraser	42,099	77,177	211,085	367,702	434,000	1,091,000	328,500
N & S Thompson	Shuswap/Kemloops	16,124	175,127	106,730	64,619	402,000	366,000	0	
Late	Adams/L.Shuswap	Shuswap	1,523	2,264,701	617,325	4,772	2,981,000	3,827,000	422,550
	Mid. Shuswap	Mabel	0	80,529	0	0	546,000	809,000	131,500
	Birkenhead/Weaver	Harrison	49,030	446,368	224,817	215,848	347,000	3,831,000	1,742,000
	Harrison	?	5,097	7,265	5,228	1,544	81,000	?	0
	Cultus	Cultus	424	3,256	32,184	861	56,000	80,000	12,000
			2,078,386	3,657,738	1,895,947	1,370,339	11,850,500	32,473,000	10,492,750

\* - Production potential based on 1/2 of the spawning and rearing potential.

Table 2. Proposed Enhancement Projects for Fraser River Sockeye

<u>LAKE</u>	<u>STOCK</u>	<u>MANAGEMENT PRIORITY</u>	<u>TYPE OF PROJECT</u>	<u>COMMENTS</u>
Takla	E. Stuart	2	Hatchery	Central incubation facility, of 1-2 million egg capacity to build up low runs of several stocks; possibly at Takla Landing.
	Leo Creek	2	Hatchery	Small central incubation facility to increase runs of several small stocks; possible Indian community involvement project; possible transplant from Gluske Creek.
	Dust Creek	2	Satellite	Possibly satellite stock from central incubation facility located elsewhere to add fry to west arm of Takla Lake; needs reconnaissance
	Sandpoint/ Narrows Cr.	2	Spawning channel	Reconnaissance needed to investigate feasibility of a small channel.
	Driftwood R.	2	Transplant	Has significant numbers of spawners in 1 year only; spawning channel not feasible; possible transplant from Middle River streams.
Trembleur	Paula Creek	2	Incubation facility	Small incubation project to enhance production.
	Gluske Creek	2	Hatchery	Small facility to enhance several stocks in lower Takla Lake area.
	Kazchek Cr.	2	Flow stabilization	
Stuart	Kuzkwa Cr.	1	Flow stabilization	Stream subject to periodic low flows

Table 2 con't.

<u>LAKE</u>	<u>STOCK</u>	<u>MANAGEMENT PRIORITY</u>	<u>TYPE OF PROJECT</u>	<u>COMMENTS</u>
	Tachie R.	1	Spawning channel	To help offset potential impacts of harvesting large Horsefly runs, a moderate size channel (300,000 adults) is proposed.
Francois	Nadina R.	1	Incubation Facility	Recommend investigation of construction of a incubation/rearing facility in conjunction with existing spawning channel to build up all cycles.
	Nithi R.	1	Spawner access improvement	Excessive weed growth and beaver dams impedes access; possible joint venture with Ducks Unlimited and Habitat Conservation Fund.
Fraser	Endako R.	1	Flow stabilization	Investigate potential for improving flows in late fall which may be affecting egg-to-fry survival.
	Ormonde Cr.	1	Spawner access improvement	Remove beaver dam at creek mouth.
	Stellako R.	3	Spawning channel	Investigate construction of a medium sized spawning channel to provide fry for transport to Francois Lake.
Quesnel	Horsefly R.	1	Spawning channel	Spawning channels adjacent to upper Horsefly R. below falls would assist rebuilding of off cycle runs and add fry to Quesnel Lake.
	Horsefly R.	1	Airlift	Continue airlift above falls on dominant years
	McKinley Cr.	1	Spawning channel	Channel to assist rebuilding of off cycles; site identified.

Table 2 Con't.

<u>LAKE</u>	<u>STOCK</u>	<u>MANAGEMENT PRIORITY</u>	<u>TYPE OF PROJECT</u>	<u>COMMENTS</u>
	Mitchell R.	1	Spawning channel	Channel would add fry to north arm of Quesnel Lake and help build up off-cycles; good site identified; would result in over-escapement so policy needed to deal with surpluses before proceeding.
Bowron	Bowron R.	2	Incubation facility	To mitigate against possible impacts of clear cut logging, a small incubation facility is recommended; would also assist in building up low years.
Chilko	Chilko R.	2	Enrichment	Future enrichment must take into account the effects on cyclic dominance adaptive management plan.
Seton/ Anderson	Portage Cr.	2	Improve channel stability	Improve channel stability near creek mouth to improve egg-to-fry survival; possible community involvement project.
	Portage Cr.	2	Incubation facility	Possible small incubation facility or satelliting from Gates Creek channel.
	Gates Cr.	3	Incubation/ rearing facility	Incubation boxes to improve survival in off cycle years; consider lake net pen rearing.
Kamloops	Raft R.	2	Spawning channel	Channel site identified, but further reconnaissance needed to assess feasibility.
	Fennell Cr.	2	Hatchery or spawning channel	Small facility envisaged but would result in surplus escapements (policy needed); local Indian band could benefit.

Table 2 Con't.

<u>LAKE</u>	<u>STOCK</u>	<u>MANAGEMENT PRIORITY</u>	<u>TYPE OF PROJECT</u>	<u>COMMENTS</u>
Adams	Momich/ Cayenne	1	Spawning channel	Channel to increase fry input to Adams Lake; further reconnaissance needed.
	Upper Adams R.	1	Hatchery	Continue to operate existing hatchery; possibly transplant stocks for release in Adams R. in off cycle years.
Shuswap	Scotch Cr.	2	Spawning channel	Potential site identified but further reconnaissance needed; also could possibly satellite from upper Adams facility in off- cycle years.
	Seymour R.	2	Spawning channel	Channel would help stabilize production and increase fry output into Seymour Arm.
	Lower Adams R.	2	Flow control, gravel addition	Improve egg-to-fry survival in vicinity of public display area now affected by low water flows.
Mabel	Middle Shuswap R.	3	Gravel replacement	Gravel quality currently affected by siltation from nearby dam.
	Middle Shuswap R.	3	Hatchery or spawning channel	Rearing capacity of Mabel Lake under- utilized; facility would add fry; needs further study.
Harrison	Birkenhead R.	2	Spawning channel	Channel would add fry to take advantage of un- utilized rearing capacity; reconnaissance needed to assess feasibility.

Table 2 Con't.

<u>LAKE</u>	<u>STOCK</u>	<u>MANAGEMENT PRIORITY</u>	<u>TYPE OF PROJECT</u>	<u>COMMENTS</u>
	Big Silver Cr.	2	Re-open side channel	Escapements below historic levels in part due to natural alteration in channel; re-opening blocked side channel should increase production.
	Widgeon Slough	2	Gravel addition	Existing gravel silt- laden; improve egg-to- fry survival by adding gravel.
	All stocks in lake	2	Competition control	Study extent of competition in Harrison Lake to determine if survival is being affected and could potentially be improved
Pitt	Upper Pitt R.	2	Hatchery expansion/ spawning channel	Additional fry could take advantage of un- utilized rearing capacity.
Cultus	Cultus L.	1	Predator control	Previous studies indicate that production could be increased by squawfish removal.
	Cultus L.	1	Incubation facility	Production on low years would benefit from additional fry production.
	Cultus L.	1	Milfoil removal	Removal of milfoil from spawning areas should improve egg-to-fry survival.

Memo

TO:

*FK*  
*cover*  
*Signed*  
*D. Deans*

To: APC Members

002189

NOV -9 11:43

From: Bill Masse  
Planning Coordinator  
Fraser River NBC & Yukon

*OK*

FISHERIES & OCEANS  
FISHERIES PACIFIC

November 8, 1989

*1110-F9*

Re: Meeting Notes from Oct. 26, 1989

Attached for your review are draft notes from our meeting of October 26, 1989. Please comment by November 30, 1989.

*Bill*

Bill Masse

## Draft Meeting Notes

Fraser NBC & Yukon APC

October 30, 1989

### In Attendance:

F. Fraser	R. Humphreys	J. Boland
D. Deans	B. Masse	D. Ware
R. Harrison	O. Langer	

### Agenda:

1. Fraser Habitat Planning Update O. Langer
2. Fraser Sockeye Task Force Update R. Harrison
3. P.C. Caucus Briefing
4. Director's Concept of APC's
5. NBC & Yukon Issues
  - Research Requirements
  - Habitat enforcement policy
  - Habitat management for resident species
  - Yukon placer
  - Transboundary plan
  - Cooperative management strategy (Tahltans)
  - Whitehorse hatchery
  - Northern BC Habitat (Liard)
  - Planning initiatives (Yukon-Alsek, DIAND land use planning.....)
  - Other
6. Indian Policy Information Requirements

#### 1. Fraser Habitat Planning Update:

O. Langer outlined the progress on habitat planning since the last meeting. He said that little work was carried out during the summer with the major exception of B. Schouenberg who has been working almost full time on habitat capacity. He said a workshop was held last week on coho capacity and concensus was reached on production standards.

He said he has decided to get back on track following direction from senior management that the plan for the watershed had to be completed by 1992 largely by refocusing existing resources. He held a meeting with his staff earlier in the week to determine how to free up the resources in his unit to get on with the job. The

immediate targets he has set are:

1. To complete the Stuart-Takla plan by the end of the Fiscal Year. He should have a first draft in January.
2. B. Schouenberg will start on the Shuswap in addition to covering coho throughout the watershed as part of the initiative that has begun to resolve coho problems regionally. The fisheries work can be carried out internally. However, we need outside legwork to carry out soil stability and other data assembly work needed for the Shuswap. About \$15,000 is required.
3. We also want to get started on the Lower Fraser but the urgency of the situation requires a backwards approach. He said the protection plan has to be developed first, before the data is gathered.

O. Langer said that in his meeting this week he identified 3 py by cutting programs. Backfilling options need to be identified and discussed. However the O&M resources for data gathering cannot be found within divisional budgets.

D. Deans said that the Director has asked that a framework be developed for the Region, outlines be developed for all areas and the Fraser Basin plan completed in two years. He said that the Regional framework will be developed at a workshop planned for October 31, 1989.

F. Fraser said the two year time frame is in step with the rest of our planning. Any later and it would not serve our purposes.

It was asked if funding for this work could come from Canada/U.S. It was felt it could but it would require a change in priority by the R.D.G.

F. Fraser said the whole Division has to respond to our new directions and he is prepared to refocus the Division in the workplanning process this year. He also said that the job is too big to be absorbed entirely by the Division and asked if there were funds available elsewhere in the Region.

D. Deans said he was pretty sure some funds will be made available. He was not confident that it would be all that has been asked for. He said that resource requirements need to be very carefully described. He also said that the need to bring all parts of the Region up to speed is important. He said that a great deal of money has gone into the Cowichan so there is a great deal of data but no plan. The Fraser River Division has the right concept of how to develop a plan but needs resources to collect the required background information. Therefore the Fraser would get the lions share of any resources that come available.

## 2. Fraser Sockeye Task Force Update

R. Harrison said he has been focussing recently on rewriting the document from last December to make it more readable and suitable for public review. He said he has also been focussing on enhancement and is starting to look at the harvest of other species.

He said he recently convened two meetings on enhancement. One was called to clarify the rationale and to narrow down the range of projects.

The second meeting was called to address some concerns he had with the effect of enhancement on the cyclic dominance experiment. Specifically, he was concerned that proposals to enhance the Quesnel system might mask the results of the experiment to increase escapements in the off-cycle years. There are two objectives to the experiment; one, to see if off-cycle years can be built up; and two, to see if building up the off-cycle suppresses production in the high cycle year. The concern was that enhancement on the high cycle year would obscure the suppression effect.

The concensus of the meeting was that the stock is still building on the high cycle year from natural rebuilding efforts. Therefore we cannot separate the suppression effects anyway and enhancement should not be ruled out on those grounds. The same conclusion does not apply in the Shuswap where the run on the dominant year has been near capacity for a number of years and an adequate baseline has been established.

R. Harrison said that all the results to date are being incorporated into an enhancement chapter which should be reviewed by the APC. He said it would be ready November 16, 1989. He suggested that D. Griggs, Director of SEP be invited to attend when it is discussed.

It was noted that enhancement appears to be focused on sockeye. It was asked if it is being considered for other species to mitigate against impacts resulting from rebuilding sockeye. R. Harrison said that their analysis so far says that impacts on other species will be beneficial. However the analysis is incomplete. If extra days are required to catch increased sockeye runs there could be a problem. A surplus fish policy may be required.

R. Harrison also pointed out that enhancement techniques do not appear to be effective on chinook salmon. It was then asked if SEP should be studying enhancement technologies to see if they can be made more effective. It was noted that SEP is studying various release times thinking that may be influencing survival. It was mentioned that ocean migration also needs to be studied. There is a good chance that something is happening in the ocean to cause mortality.

It was further noted that we have been focusing on sockeye for 3 years and we still have not brought other species into the picture. Even now we are only looking at them in terms of the spillover from our sockeye plan. We have not looked at them from a proactive point of view and decide where we want to be with these stocks in the future. The anticipated future emphasis on recreational fisheries may increase significantly the importance of species such as chinook. It was suggested that perhaps we should back off sockeye for a year and turn our attention to the other species. We can then plan our production with a big picture perspective.

It was argued that no matter what, sockeye is going to continue to be the most important species. Even in the recreational fisheries there is increasing interest in sockeye. Furthermore, there are plans on the other species developed through the Canada/US process. The APC does not need to be involved except perhaps as a clearing house.

### **3. Presentation to the PC Caucus**

F. Fraser said that some members of the B.C. Caucus of the Federal Progressive Conservative Party became interested in the state of the Fraser and its environment. He said they arranged to have the Caucus briefed jointly by DFO and the Department of Environment. In addition to the presentation developed jointly with DOE, DFO developed a briefing book that was distributed to Caucus members. The briefing book gives an excellent statement on the status of Fraser salmon stocks and their habitat. In particular there is a statement of economic values and the potential for major increases in production.

The presentation was very well received. The economic statement in particular made a strong impression. The Minister of Fisheries and Oceans was there and there is a great deal of momentum developing behind a joint Federal-Provincial effort on the Fraser based on environmentally sustainable development. The lead will be fisheries because of the economic values involved.

Two weeks later the presentation was made to PARC. The briefing book was again distributed. There was even more focused interest there. They were interested primarily in environmental issues and in particular were concerned about hydro development proposals.

Copies of the Briefing Book will be distributed to APC members who do not already have one.

### **4. Director's Concept of APC's**

It was noted that the Director called a meeting to discuss the operation of APC's. He was concerned about whether they were properly constituted and whether they were getting the job done. In particular he was concerned with the apparent anomaly in the Fraser APC that it did not include technical staff from the Division as members.

F. Fraser said that he was at the meeting and it was unclear to him what the outcome was. However, he stated at the meeting that the Fraser was making much greater progress than the other Divisions in developing long range plans. This would indicate that the approach in the Fraser was effective. This claim did not appear to be disputed. He said it was not important that all the APCs be organized in the same way as long as they get the job done. He also recommended to the Director that there be much greater linkage between the APCs. He suggested that there be regular meetings of the APC chairmen, chaired by the Director. This suggestion seemed to be accepted.

It was noted in discussion that although technical staff of the Division are not members of the Committee, they are involved heavily on an as needed basis on particular issues such as the Sockeye Task Force.

## 5. NBC and Yukon Issues

Under this topic, the issues raised at the last meeting, which was held in Whitehorse were reviewed and action recommended by the APC.

### 5.1 Whitehorse Hatchery

At the meeting in Whitehorse, it was noted that the hatchery was originally built as compensation for fish production lost as result of a dam. The Department was under the impression that the Northern Canada Power Commission (NCPC) was responsible for operating expenses. However NCPC never lived up to this commitment. NCPC has since been disbanded and its responsibilities taken over by the Yukon Territorial Government (YTG). Each year the question of operating funds comes up and SEP is required to pick it up. It was decided that DFO should take charge, turn it into a production facility (as opposed to a compensation facility) and operate it as an ongoing SEP facility.

J. Boland said he looked into this option and found that the Senior Executive was not prepared to operate it as a production facility. They wanted to have it operated by International or close it down. J. Boland said he would seek written direction to that effect.

R. Humphreys said it should be brought up with the Yukon Territorial Government. It was decided that the history of the facility should be researched beforehand to document all the decisions and commitments made on the facility over the years.

### 5.b Habitat Enforcement

There was a perception that staff in District 10 were

unwilling to lay charges because they did not feel they had enough support from management. They said the last time they charged somebody for a habitat offence was in 1986 but it was stopped at a senior level in the department. They also felt that decisions were being made behind the scenes without staff involvement. It was suggested that perhaps there should be a directive sent to staff re-affirming the Department's commitment to sound habitat enforcement practices.

It was felt that this was unnecessary because staff do appear to be moving on habitat enforcement. They have been working closely with the mining inspectors regarding the laying of charges.

#### 5.c Habitat for Resident Species

The concern raised at the Whitehorse meeting was that the management responsibility for resident species has been transferred to the YTG but the habitat responsibilities for those species have stayed with DFO. However YTG has not given any direction to DFO on their priorities.

It was mentioned that since the Whitehorse meeting, work has begun on the development of a habitat sub-agreement. However a recently stated Federal Government position is that no environmental responsibility will be delegated.

#### 5.d Yukon Placer

It was noted that the 1983 Placer Authorization, which compromises fish habitat requirements quite severely has made some staff quite bitter. It has meant that some are not cooperating with the implementation. This makes the job more costly and some of the work is not getting done.

It was noted that the sediment levels in the authorization will be reviewed in 1991. The rational approach for DFO would be to work towards more satisfactory standards through the review process. This would mean cooperating with the authorization and document the effects on fish. DFO staff are cooperating by providing anecdotal information to support the studies.

It was noted that there is still a problem with balancing Placer mining with the rest of the program. Politically motivated issues such as this tend to sap our resources and prevent us from carrying out other important work.

#### 5.e Transboundary Plans

At the Whitehorse meeting it was noted that there was no long term plan for Transboundary rivers.

It was stated that the Transboundary rivers need to be put

into perspective. We are expending great resources there for a fishery with hardly any value. Perhaps we should be simply announce the quota, open and close the fishery and discontinue on the grounds monitoring.

#### 5.f Cooperative Management Strategies with the Tahltans

At the Whitehorse meeting the question was raised whether there was an opportunity with the Tahltans to develop a model cooperative management process.

It was noted that the activity of a year or so has slowed down. Also, the same question arises as with other activities on the Transboundary rivers. Do we want to pour more resources into an area where the fishery values are so low?

#### 5.g Northeastern B.C.

It was noted at the Whitehorse meeting that the Northeastern part of B.C. gets no attention at all despite salmon populations in the Liard system. Any habitat work there is precluded by cost of getting there and the lack of resources in the District.

It was suggested that the District be sub-divided into geographic areas and action decided for each sub-division, based on priority. Some areas would simply not receive any attention. Some areas would be identified for YTG to take over and Northeastern B.C. would not be covered or could be handled by the B.C. M.O.E.

#### 5.h Planning Initiatives

At the Whitehorse meeting it was mentioned that there are a number of planning initiatives underway in the Yukon and DFO does not have the resources to respond. It was pointed out that DFO has missed out on opportunities in the past to obtain resources through land use planning processes and should make a commitment to the ones that are coming up.

#### 5.i Research Requirements

Dan Ware offered to provide a summary of the work to date on global warming as it might affect NBC & Yukon. He said the current thinking is that the greatest impact will be felt in the North.

There were other research topics of interest in the Yukon that were discussed briefly. These included research into sedimentation connected with the Placer Authorization and on the unique life cycle of Yukon chinook salmon.

### 6. Indian Policy Data Requirements

The intent is to address Indian policy issues at the next meeting. The approach that was suggested was that we would try to summarize the Indian perspective on DFO. We would ask the question; What would the Indian community want from DFO to make relations more harmonious? We would also sketch out the DFO perspective and see where the common ground is or where there might be room for movement.

It was decided that B. Masse would work with B. Guerin to develop the Indian perspective. B. Humphreys would develop the DFO perspective.

APC MEMBERS ONLY

<u>Name</u>	<u>Location</u>	<u>Telephone</u>
F.J. Fraser	DFO New West.	6-6478
R.D. Humphreys	DFO New West.	-6509
W.D. Masse	DFO New West.	-8713
D.D. Aurel	DFO New West.	-2618
Dennis Deans	DFO - Vancouver	-3282
James Boland	DFO - Vancouver	-0233
Karina McGivney	DFO - Vancouver	-2600
Art Tautz	U.B.C. - Fisheries	660-1812
Dan Ware	P.B.S. - Nanaimo	756-7199

TO: Dennis Deans  
D. Deans' file  
covered  
signed

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*D/K*

FISHERIES & OCEANS  
FISHERIES PACIFIC

1110-F9

**Memo**

**To: APC Members**

**From: Bill Masse  
Area Planning Coordinator  
Fraser River NBC & Yukon Division**

**November 1, 1989**

**Re: Our next meeting**

This will confirm that our next meeting is scheduled for Nov. 24, 1989 at 9:00 a.m. in boardroom 4F at 555 W. Hastings. An agenda will follow.

*Bill*

**Bill Masse**

110-F9

# Frederic APC

Oct 26, 1989

## 1. Freeder Task Force Report

### a. Habitat

- WGS been working on Celo carrying capacity
- appears to be a consensus
- Plan in dormency until Oct
- Stuart-Tokla to be completed by Dec 31
- Shuswap need \$15,000 to complete the soil sensitivity
- Lower-mainland working with the municipalities

### b. Harvest

- revising the document to be more readable
  - looking into enforcement's role and refine the scope of projects in order to bring forward
  - cyclic dominance has been looked at in relation to 500
- P.SARC has suggested a reduction in harvest rates to build cyclic dominance

P.SARC also has indicated that enforcement initiatives could offset ~~the~~ on the experimental approach.

Should the experiment on non-dominant cycle this steps a look at the mechanisms at work in the lake

If don't do the experiment then could do the enforcement questions come being asked as would increasing the non-dominant cycle offset (supers) the dominant cycle

The experiment would last for 4 cycles.

- It appears that the Task Force is looking at stockpile at the exclusion of the other species. I keep this feeling following much discussion because all the enforcement

## A. Yukon & Northern B.C.

### Whitehorse Rapids Hotkey

- DFO will operate this one more year and then leave it up to international to pick up the operation.
- One option ~~also~~ would be to get the present power commission (YTC) to pick it up.

Gordon Ennis to get a history of the Whitehorse Rapids.

particularly we are interested in the decisions taken that removed the operational responsibility from the NEPC to DFO.

### Habitat Enforcement

lack of support by senior mgmt.

needs to be looked into further because of recent

### Habitat Mgt

- we need to look into the B.C. sub-agreement on cooperation act.

- need to call Ottawa to see if they have a comment on idea of a sub-agreement with YTC.

### Yukon Plan

o vision was accepted re deal with linkage and revise the authorization.

o staff will be told to cooperate

### Transboundary Plan

o need to do an analysis of the values generated by the international investment

### Cooperative Mgt with Tahltans

o we should not do anything until they come to use once again.

FRAC -

Northeastern B.C. Habitat issues

I said that Fred should set up his organization so that the staff don't feel guilty because they can't do the whole job.

Planning Initiatives.

We want to establish our goals and activity plans so if money appears

Research

- Global Warming  
agreed to ~~write~~ have a 2 pager from Dr. Dan Wove and then discuss a management strategy in the event of warming.
- Need to wait to see what the Yukon Power States bring forward

Indian Policy Information Requirements

- need Bill Quinn to develop (with Bill Marris help) a vision of what the Natives see as a harmonious view.
- need to develop a Fr. Riv Div view of the world

TO: *P Chamut*

APC MINUTES DISTRIBUTION LIST

F. Fraser	<i>DFK</i> DFO, New Westminster OCT 10 AM 11:50
R.D. Humphreys	" " "
W.D. Masse	" " FISHERIES & OCEANS PACIFIC
D.D. Aurel	" " " 1110-F9
O. Langer	" " "
R. Harrison	" " "
P.S. Chamut	DFO, Vancouver
A.F. Lill, P. Eng.	" "
Dennis Deans	" "
T.D. Bird	" "
James Boland	" "
Records - File #1110-F9	" "
D. Griggs	" "
F.E.A. Wood	" "
K. McGivney	" "
D.D. Radford	" "
J. Davis	" Sidney, B.C.
R.J. Beamish	" Pacific Biological Station
D. Ware	" " " "
P. Sprout	" South Coast Division
D. McCulloch	" " " "
N. Lemmen	" North Coast Division
A. Tautz	M.O.E.P., U.B.C.
D. Narver	" Fisheries Branch
J. O'Riordan	" Victoria
P. Caverhill	" Surrey, B.C.
I. MacGregor	" Kamloops, B.C.
J. Cartwright	" "
D.L. Zirul	" Prince George, B.C.
R.S. (Bob) Hooton	Smithers, B.C.
J. Leggat	" Williams Lake, B.C.

## Final Meeting Notes

### Fraser River NBC & Yukon Area Planning Committee

July 31, Aug. 1, 1989

July 31, 1989

#### In Attendance:

F. Fraser	J. Boland
B. Humphreys	B. Masse
D. Deans	G. Zealand

#### Agenda:

The evening session on July 31 was devoted to a discussion of the agenda for Aug. 1.

F. Fraser said the APC is establishing a framework for planning in the Division. He said the committee went through a number of false starts before it finally started producing results when it established the Fraser Sockeye Task Force. The Task Force provided the initiative that is starting to pull all the pieces together into a comprehensive plan including all the salmon species and all the program elements (stock and habitat management and enhancement). He wanted to start the same type of process in the Northern BC & Yukon.

He said he wanted a review of the major programs in the District but he did not want simply a travelogue. He wanted the problems to be identified but in balanced prospective. He also wanted to get a sense of the priorities.

There were a number of specific issues that APC members and the District Supervisor wanted to address. They included:

- Yukon & Alsek Basins Committee
- Climate change
- Land Use Planning initiatives of DIAND
- U.S. biological studies in Canada
- Buildings and field camps
- SEP presence in Yukon and the advantages of a Yukon CA
- Habitat management in Northern BC
- Habitat strategy- workload/staff
- The program planning process
- Referrals
- The budget for Yukon placer work
- Whitehorse hatchery

It was decided that each of these issues would come up as we review major program elements but we must keep this list in mind to be sure we touch on them all. The attached agenda was agreed upon.

August 1, 1989

In attendance:

F. Fraser	B. Masse
B. Humphreys	G. Zealand
J. Boland	A. von Finster
D. Deans	S. Johnston
	S. Kreigl
	B. Hume

F. Fraser made some opening remarks. He said that the APC has undertaken some major initiatives down south and now wants to focus on the north. He said we are looking for ways to scale up the operation to meet the demand or failing that, scale it down to meet budget constraints. He said we want a good review of issues. We need the detail but we should try to boil things down to fundamentals. In the afternoon, we will look at priorities and a framework for planning.

Habitat Management:

A. von Finster reviewed habitat issues as in the attached paper.

In summary, the District covers an extremely large area comprising half the geographical area of the Region. However there is only one person dedicated to habitat work in the District. This makes it impossible to cover the workload. Most of the work is focused on the Yukon drainage. Northern BC receives very little attention.

In Yukon, the Dept of Indian Affairs and Northern Development is the lead federal Government agency and is development oriented. DFO staff in Yukon feel that their hands are tied in terms of laying habitat charges. They have laid charges in the past and had no support from management in DFO. In addition, staff feel that decisions are being made at the political level without the involvement of staff. As a result, they have laid no charges since 1986. Without question, staff need some direction on this matter.

There needs to be more action to develop a coordinated working relationship with the Yukon Territorial Government (the YTG). The YTG has recently taken over the management of resident fish stocks in the Yukon. However, DFO retains habitat responsibilities. No arrangements have yet been made on how the habitat for resident freshwater species will be managed.

There are several land use planning initiatives underway requiring input from DFO. These include Northern Land Use Planning, Yukon Conservation Strategy, The Alsek and Yukon Basins Committee and so on. These take a great deal of staff time.

There was a discussion on the Whitehorse hatchery. It was noted that the facility was originally constructed as compensation for fish killed by the turbines at the dam at Whitehorse. However there was no agreement with the power authority to cover ongoing operations. Each year, there is an attempt to resolve the matter but in the end SEP is ordered to operate it.

It was decided that the hatchery should be turned into a production facility and managed on an ongoing basis by SEP. It was cautioned that we should not let the power authority entirely off the hook. A written statement should be filed outlining DFO's understanding of the original agreement and the DFO's intent to operate it as a production facility because of lack of cooperation with the power company.

#### Salmon Management:

The department manages 4 major transboundary Rivers including the Stikine, Taku, Alsek, and Yukon. Other smaller transboundary rivers under DFO authority in the District are the Unuk, Whiting and Chilkat.

The Stikine and Taku each have commercial fisheries managed under the terms of the US-Canada Treaty. On the Stikine, the major species is sockeye. Total production is about 150,000 of which the US takes about 25,000 and Canada takes 15,000. Catch sharing arrangements were re-negotiated in 1988, based on a sliding scale where the Canadian share declines if the TAC increases. Other important species are coho, which is covered under the current agreement and chinook which are harvested incidentally. Chinook have been under a rebuilding program but indications are that the is close to its potential. However there is no agreed upon harvesting arrangement. The current arrangement on sockeye and coho runs until 1992.

In-season, the fishery is managed using a model. The model essentially uses catch per unit effort in the fishery as an indicator of run size. DFO has started a test fishery to develop an alternative method.

The Taku commercial fishery also depends largely on sockeye but it also has a large pink run in the odd years.

The important thing to note on both rivers is that there is no plan for the stocks once the current agreement runs out in 1992.

The Alsek only supports Indian food fisheries and sport fisheries.

There is still no agreement on the sharing of Yukon River catches. There is a general agreement on an operating framework however. Canada has been operating its fisheries almost flat out in order to force the US to the bargaining table. Exploitation rates on chinook are at about 85%.

US studies in Canada is an issue of concern on transboundary rivers. Canada does not have the funds to carry out the studies required on the Canadian portions of transboundary rivers. The Americans do. There is a concern that the results of these studies will be used against us in negotiations.

In the discussion it was felt that Canada needs the data just as the US does. Also the Americans would not falsify the data to meet their needs. They might interpret it differently to support their own positions. As long as the data are available to Canada, this would not in itself be a problem. It was also pointed out that DFO still retains the authority to approve project proposals and withholds approval if the data is not of use. The main problem is that Canada does not have a long term plan outlining DFO aspirations on these stocks after 1992. Without this framework it is difficult to assess study proposals.

The question was raised as to whether there was an opportunity for the Tahltans to work cooperatively with us. It was felt that there was a good potential and there was also the potential to work with Great glacier. They have incubation facilities that could be used for enhancement work.

There was concern that the Tahltans could not provide the staff of sufficient qualifications. However the Tahltans are prepared to work in the long term towards full co-management but they need training. DFO needs to make a long term commitment. DFO needs to write up a long term strategy for cooperative management with the Tahltans.

SEP

J. Boland said that Gary Tacognia came up to whitehorse and found a lot of interest among recreational and native groups. He asked if District staff were interested in having a CA. He also noted that it can change the District in many ways. A CA will raise the consciousness of the public to environmental issues. This will put added pressure on staff.

F. Fraser asked what the role of the CA is. J. Boland said there were two functions of the CA. One, to increase public awareness of the resource and two, to respond to public demands for assistance with public participation projects and information about the resource.

District staff were very much interested in having a CA in the District. In particular, it was noted that the CA could carry out much work such as presentations to schools, that cannot even be done now because of the heavy workload of staff. It was decided that F. Fraser would draft a memo to J. Boland outlining the agreed understanding of the roles of the CA and expressing his support for one in District 10.

#### Land Claims:

The Land Claim process has been ongoing for about 15-18 years. Last year, a general agreement was signed involving \$250 million and a large amount of land. However, there are still a great many issues to resolve. Currently there are about 20 sub-agreements being negotiated dealing with land, renewable resources, taxes and so on.

#### Other Issues:

There was a short discussion about the implications of global climate change. DFO needs to keep track of trends in such indicators as temperature, flows and glacier storage so that we can be ready to adjust our production plans if conditions begin to change.

Interest was expressed in the Stream Inventory System (SIS). So far there has been no budget to develop the SIS for the Yukon. Also there is no computer for habitat in the District. It was also noted that the SIS was on the VAX so a micro may not be sufficient without a hook-up to the VAX. Nobody at the meeting had the technical knowledge of the computer requirements of the SIS and it was decided that L. Jaremovic or K. Pontus should be invited to the District to explain what SIS is and how it can be used.

S. Kriegl raised the problem of stream enumeration. The District has no funds to enumerate stocks. Only 9 out of 84 known salmon streams were covered in his Sub-District. It was noted that the transboundary funds cover some of the stock enumeration work. It was recognized that this was a serious problem but there were no immediate solutions available.

Better coordination with YTG is required. There is a need for a Transfer Committee to implement the devolution of responsibilities to the YTG. There also needs to be a Territorial/Federal transplant committee. YTG has gone ahead and transplanted fish without consulting DFO. There is also the matter of the Yukon and Alsek Basins Committee made up of DIAND, DOE and DFO. This will require DFO input.

#### Summary of Action Required:

1. Clarification of habitat enforcement policy.
2. Develop DFO approach to managing habitat of resident species. All other management responsibilities for these species have been transferred to the YTG.
3. Develop DFO plan for providing input to various planning initiatives.
4. Develop long term plan for transboundary rivers.

5. Develop long term DFO strategy paper on cooperation with the Tahltans.
6. Write memo outlining the roles and expected benefits of having a CA in District 10.
7. Develop production plan for the Whitehorse hatchery.
8. Schedule a SIS workshop for District 10 staff.
9. Outline a plan for the orderly implementation of Yukon Devolution. Among other things, a Transfer Committee and a Transplant Committee needs to be established.

## Agenda

**Fraser River NBC & Yukon APC**

**August 1, 1989  
Whitehorse Yukon**

<b>08:30-09:30</b>	<b>Habitat</b>	<b>A. von Finster</b>
<b>09:30-10:30</b>	<b>Salmon Management</b>	<b>S. Johnston</b>
<b>10:30-11:30</b>	<b>Land Claims</b>	<b>G. Zealand</b>
<b>11:30-12:00</b>	<b>SEP</b>	<b>J. Boland</b>
<b>13:30-17:45</b>	<b>Planning and Priorities</b>	<b>Open</b>

## DISTRICT 10 - Habitat Issues

District 10 comprises the approximate northern half of Pacific region.

There is one habitat position dedicated to this area. Two of the three fishery officer positions are always staffed, and these officers handle most of the annual referral load. Habitat addresses certain sectors and activities, and provides advice and continuity to the fishery officers. Management Biology staff also aid habitat when possible.

Jurisdictionally, the District is split into the Yukon and Northern British Columbia. The former jurisdiction lags well beyond the latter in the development of environmental laws and regulations, and in the enforcement of those federal statutes existing.

Each jurisdictional area will be treated separately.

### Yukon Territory Habitat Issues

The Department of Fisheries and Oceans (DFO) is responsible for both freshwater and anadromous fish habitat in the Yukon. However, most effort has been expended on anadrous fish.

These are comprised of chinook, coho, and sockeye salmon in the Tatshenshini system, and chinook and chum in the Yukon system.

As a function of geographical area and human activity, most effort is expended on the resources of the Yukon River.

The natural history of the species concerned (chinook and chum) has yet to be adequately studied. Due to climatic and hydrologic considerations, survival strategies must vary from those of the center or southern portions of the range of these species. In addition, rearing and/or migrating juveniles must contend with predacious fish (especially inconnu and northern pike) which are absent over most of the species' range.

It is to be expected, is borne out in observation, and is reflected in habitat management, that utilization of habitat will differ from the geographical center of DFO's activity. Problems have in the past risen, and continue to rise, when decisions or statements are made by those unfamiliar with the nuances of Yukon River chinook behaviour.

#### 1) Placer

- levels of activity currently down due to low price of gold,
- majority of mining in Yukon watershed; approximately 3.7% of Yukon River Basin in the Yukon are Type IV streams (hence exempt from No Net Loss Policy),
- studies are currently in progress to address contentious matters,
- DFO District 10 habitat mainly concerned with preparation of background information for reclassifications; this has been hampered by slow release of funds for fieldwork (In 1988, funds became available about September 1; in 1989, will be available about August 5).

2) **Hardrock Mining**

A) **Active**

a) **Curragh**

- prime mover of Yukon economy,
- formerly Cyprus Anvil,
- both operation and history complex,
- currently developing new pits,
- have stated that result of these pits would be the elevation of zinc to levels which would preclude fish usage in van Gorda Creek and in some portion of the Pelly River downstream. This would result in degradation/destruction of high quality chinook rearing/overwintering habitat.

b) **Ketza**

- small gold mine,
- at present not seen as large problem.

B) **Potential**

a) **Grew Creek**

- gold mine on tributary to Pelly River.

b) **Mac Pass**

- very large base metal mine,
- inactive, but rising base metal prices will result in resumption.

c) **Mt. Nansen area**

- gold,
- confused geology results in small deposits with extremely variable metallurgy,
- any mine in this area will be "dirty;" mill process will have to change constantly,
- heap leaching proposals.

d) **Watson River area**

- gold,
- one mine operated briefly, has shut down (Mt. Skukum),
- another almost went into production; foundered on mismanagement and falling prices.

e) **Beaver River Area**

- precious and base,
- very rich area - has twice progressed to pre-production decisions,
- government-financed road would almost certainly result in a mine.

f) **Wellgreen**

- precious and base
- large, low grade deposit,
- actively being developed,
- calls for smelter on site.

3) **Agriculture**

- as of February 10, 1989, 255 applications had been reviewed, totalling 425 square km; number granted probably much less.
- most on salmon-bearing waters.
- screening, land development and increasingly, water allocation concerns.

- 4) **Forestry**
  - only large scale forestry is in Liard drainage,
  - proposals for other areas.
  
- 5) **Hydro-electric**
  - a) **Aishihik**
    - persistent problems with operation.
  - b) **Whitehorse Rapids**
    - hatchery built to compensate for turbine mortalities to chinook juveniles,
    - legal, financial, and proprietary questions remain.
  - c) **Mayo System**
    - planning in process for second generating station: will further impact residual Mayo River chinook run,
    - natives becoming increasingly interested in river and our stewardship of it.
  - d) **MacIntyre System**
    - Yukon Electrical Company are actively considering building 3rd generating station,
    - problems anticipated.

Important to note that all indications are that YTG will actively and aggressively pursue further hydro-electric expansion in the near future.

- 6) **Lineal**
  - A) **Highways**
    - minor at present; generally become important during recessions.
  - B) **Resource Roads**
    - low standard roads to specific developments,
    - constant irritant.
  - C) **Alaska Highway Pipeline**
    - after Exxon Valdez, suddenly attractive.
  
- 8) **Urban**
  - A) **Whitehorse**
    - persistent problems with toxic effluents,
    - foreshore development concerns.
  - B) **other communities**
    - Yukon Territory Water Board (YTWB) has in some instances licenced toxic discharges.
  
- 9) **Planning**
  - A) **Northern Land Use Planning**
    - increasing effort required to keep up with this process.
  - B) **Yukon Conservation Strategy**
    - necessary to participate in this process.

#### Northern British Columbia Habitat Issues

DFO is responsible for the management of anadromous fish in the Unuk, Stikine, Taku and Alsek Rivers, which drain to the Pacific Ocean through the Alaska Panhandle, and Yukon River, which heads in British

**Columbia.**

Lack of access has generally limited development of the area. However, several sectors do now, or will soon constitute issues.

- 1) Hard rock mining
  - A) Windy Craggy
    - precious, base and strategic minerals,
    - under development,
    - currently calls for major mine, 100 km access road.
  - B) Golden Bear
    - gold,
    - mill under construction,
    - 150 km haul road completed,
    - production early 1990.
  - C) Skyline
    - gold,
    - mine in production,
    - air supported.
  - D) SNIP
    - gold,
    - mine working toward production,
    - air supported.
- 2) Placer
  - limited due to low gold prices,
  - much of area has recently been opened to placer,
  - sector has great potential to impact fisheries.
- 3) Lineal
  - reconstruction of Alaska highway in Teslin watershed,
  - mine access roads such as Iskut River Road, Windy Craggy, etc.
- 4) Forestry
  - lower Stikine, helicopter and/or conventional.
- 5) Hydro-electrical
  - Stikine River system - currently shelved.

## Meeting Notes

Fraser River NBC & Yukon APC

July 18, 1989

### In Attendance:

F. Fraser  
D. Deans  
J. Boland  
A. Tautz  
B. Masse

### Agenda:

The agenda was approved as attached but it was noted that we probably would be unable to complete the agenda in the time available.

### Visions 2000:

The Visions 2000 paper was prepared by Planning Branch staff as a Pacific Region contribution to a National priority setting exercise. The paper has been presented in Ottawa. There will be further development in the Region and it will be used to develop strategies and to set priorities for the workplanning process. It was put on the APC agenda for two reasons. The first is to have the APC comment on the directions laid out in the Visions document. The second is to start developing strategies relevant to the Fraser NBC & Yukon Area to further those directions.

The APC had few comments on the directions outlined in the Visions document. The only comments were that there should be numbers put on the future directions as targets. Also it was noted that little time was devoted to aquaculture. It was suggested that the growth of the aquaculture industry may have significant effects on the future of the fishery, particularly if the traditional industry is not dynamic enough to adjust to the competition.

It was felt that the Task Force plan should be fitted to the Vision of the future. B. Masse was tasked with looking at the Task Force plan and the Visions document, to outline the common areas and the differences that would need to be worked out.

The APC also felt that the area where the Fraser Yukon Division could make the biggest contribution is on Native issues. It was proposed that we develop a scenario of what conditions would have to be in place to result in harmony between DFO and the Native community. We could then develop a check list of the steps that could be taken to resolve Native issues.

**APC Agenda:**

It was decided that the most important issue to be tackled next by the APC is the Native issue. B. Guerin would be asked to develop a list of Native aspirations for discussion by the APC. A Treaty being developed by the bands of the Lower Fraser, which lays out their common aspirations would be a good place to start. The APC will meet on August 24,89 on Native issues.

The next issue to be looked at would be Northern BC and Yukon issues. It was decided that the next meeting would be held in Whitehorse so that the staff there could give the APC a detailed briefing on issues. It was decided that this meeting would be held on July 31,89 and Aug.1,89.

**Draft Agenda**

**Fraser River NBC & Yukon APC**

**July 18, 1989**

**9:00-10:30 Visions 2000**

**10:30-12:00 The APC Agenda**

**12:00-13:00 Lunch**

**13:00-14:00 Sockeye Salmon Aquaculture**

**14:00-16:00 Self-financing Fisheries Management Programs**

*James Boland*

TO: *J. Boland*

001782 OCT -5 A11:16

*ok*

**Memo**  
FISHERIES & OCEANS  
FISHERIES PACIFIC

*1110-F9*

**To: APC Members**

**From: Bill Masse**  
**Area Planning Coordinator**  
**Fraser River, NBC & Yukon Division**

**October 3, 1989**

**Re: Next APC Meeting**

This will confirm that our next meeting will be held October 26, 1989 at 9:00 A.M. here in New Westminister. I have attached a draft agenda.

*Bill*

**Bill Masse**

## Agenda

### Fraser River NBC & Yukon Area Planning Committee

October 26, 1989

- 9:00-11:00 Northern BC & Yukon Recap and Action Plan
- Habitat Enforcement Policy
  - Habitat Management for Resident Species
  - Yukon Placer
  - Transboundary Plan
  - Cooperative Management Strategy (Tahltans)
  - Whitehorse Hatchery
  - Northern BC Habitat
  - Planning Initiatives (Yukon-Alsek, DIAND Land Use Planning.....)
  - Other
- 11:00-12:00 Indian Fisheries Policy
- 12:00-13:00 Lunch
- 13:00-16:00 Indian Fisheries Policy (cont.)

APC MINUTES DISTRIBUTION LIST

F, Fraser	DFO, New Westminster
R.D. Humphreys	" " "
W.D. Masse	" " "
O. Langer	" " "
<u>STN.</u> R. Harrison	" " "
(422) P.S. Chamut	DFO, Vancouver
(422) E.R. Gaudet	" "
(327) Dennis Deans	" "
(327) T.D. Bird	" "
(321) James Boland	" "
<del>Records - File #1110-F9</del>	" "
(321) D. Griggs	" "
(317) F.E.A. Wood	" "
(317) K. McGivney	" "
(317) D.D. Radford	" "
	DFO, Kamloops
Colin Levings	" W. Vancouver, B.C.
J. Davis	" Sidney, B.C.
R.J. Beamish	" Pacific Biological Station
P. Sprout	" South Coast Division
D. McCulloch	" " " "
N. Lemmen	" North Coast Division
A. Tautz	M.O.E.P., U.B.C.
D. Narver	" Fisheries Branch
J. O'Riordan	" Victoria
P. Caverhill	" Surrey, B.C.
I. MacGregor	" Kamloops, B.C.
J. Cartwright	" "
D.L. Zirul	" Prince George, B.C.
Bob Hooten	Smithers, B.C.
J. Leggat	" Williams Lake, B.C.

## Meeting Notes

Fraser River N.B.C. & Yukon Area Planning Committee

June 20, 1989

### In Attendance:

F. Fraser	D. Deans
B. Masse	D. Aurel
J. Boland	

### Special Attendees:

R. Harrison	Sockeye Task Force
O. Langer	Habitat Production Plan

### Sockeye Task Force Update:

Before R. Harrison started on an update of the Sockeye Task Force, D. Deans commented that he and some of his staff attended a workshop in Burlington Ontario on habitat production planning. The work that is being carried out in the Stuart Takla was presented there as an example of what is being done Regionally. It was very well received. D. Deans wanted us to know that we had national attention for the work we are doing.

R. Harrison outlined the status of the Sockeye Task Force work, focusing on the concerns raised at the Regional Executive meeting held in April. They raised two concerns at that meeting: 1) The enhancement plan has not been developed to accompany the rebuilding plan and 2) There is no plan yet to harvest rebuilt stocks in future without negative impacts on non-sockeye stocks.

R. Harrison said that W. Saito has met several times with enhancement staff to develop enhancement strategies. Their work is not yet finalized but a fair amount of progress is being made. Not much has been done on harvest management yet but Saito should have a basic plan that could be put before the APC in about a month.

He also said he would like to develop a summary report of the plan. However he wants to have the enhancement and harvest plan included before he puts it out.

It was suggested that we could also put out information on results soon because in fact, the rebuilding of Fraser sockeye started 4 years ago. Results should be showing up next year.

Concern was expressed about developing an enhancement plan. When we have not developed production plans on the other species. In fact our planning is still focused on sockeye. We have not started dealing with the other species yet.

### Habitat Production Planning:

O. Langer outlined progress on habitat planning. He said that in the Fall, a draft procedures document was presented which outlined a process of developing about 20 habitat management area plans throughout the Fraser watershed. During January, \$20,000 was made available from Sockeye Task Force funds to develop a plan for the Stuart-Takla area.

O. Langer outlined the information that was assembled by consultants by referring to three maps that were developed on the watershed. One map showed salmon habitat values, the second outlined the topological features of areas within the area and the third showed development plans by competing resource users.

He said that our original plans were to complete the Stuart Takla plan as a first priority because it was relatively simple (only one major competing resource interest and two salmon species). We would then move to the Shuswap area and then the lower Fraser South Shore. He said that we found out a month or so ago that there would be no O&M support to carry out this planning. We have been working over the last while to develop a workplan for continuing this work using staff time both within the Division and in the rest of the region.

It was suggested that we develop a summary statement of productive capacity throughout the watershed. This would give us the goal statement for the habitat planning work, similar to the 30 million target that was given to the original Sockeye Task Force.

There was discussion of the next steps in the process. It was mentioned that SEP has funds set aside for production planning. Perhaps some funds could be found to support some of this work.

It was decided that a memo would be drafted to P. Chamut outlining the work we will be doing and the staff commitments we will require. This will be completed by the end of the week.

### Self-Financing Fisheries Management Programs

Only a very short discussion of this topic was possible. It was suggested that the paper should be fed into the meeting to discuss long term directions that is to be held July 25.

Also another suggestion of opportunities for self-financing was offered, and that was to charge for habitat referrals.

### Workplans

There was discussion of whether the workplan process would continue and if it was meeting the budget planning needs of the department. It was felt that there needs to be a much better vetting of programs across Divisions at the Branch level. SEP was

able to accomplish a very meaningful review of programs and reallocate budgets across Divisions but it was carried out through reorganization and it took a long time. It was decided that the APC should take action and write a memo to the Director outlining the kind of process that will work.

In the shorter term, F. Fraser said that he feels the budget problems in the Division have reached a crisis level. There are simply not enough resources to do all the work required. Last year, the Division was virtually shut down in December because there was not enough money to continue operations. We need a way of deciding what activities to drop from the program so that things do not get dropped by default. He wants to review this problem and develop a plan for dealing with budget shortfalls this year. Decisions on changes to the program resulting from budget shortfalls must be approved by the Director as well. F. Fraser was not sure of the APC's role in a process of this nature but he felt the APC could provide advice and comment.

#### Membership

It was noted that C. Levings was withdrawing from the APC because he was going on development leave. Several names have been put forward by the Science Branch as a replacement. But F. Fraser wanted to discuss alternatives with the APC before deciding.

Several names were discussed. The group settled on D. Ware as the most appropriate choice. F. Fraser would contact him to see if he is interested. M. Healey was the second choice.

F. Fraser wanted to discuss the idea of adding the District Supervisors from Kamloops and Whitehorse. He felt we were not getting on with some things such as the development of plans for Northern B.C. and Yukon. Also, he felt that field staff did not feel involved in the process.

It was felt that this breaks with the original concept of the APC. The APC was formed in the Fraser as a "think tank" to generate and flesh out new ideas. In other Areas, the APC's are Divisional Executives, which include all the senior staff of the Division. There was also concern about making the APC too big. It was decided to leave membership as it is and deal with these concerns in other ways.

The lack of progress on developing plans for other areas is simply a problem of us not getting the process going. The task force approach worked for sockeye and we need to get those processes going in these other areas. Field staff will become more and more involved as we get these initiatives underway. For instance the habitat planning initiative on the Stuart/Takla involved B. Huber from Pr. George. Also, activities like the workshop on the Sockeye Task Force are excellent for bringing staff up to speed on the activities of the APC. Finally there was the suggestion that an annual report on the APC should be developed.

Next Meetings

The next meetings of the APC were set as follows:

July 18, 1989  
Aug. 1, 1989  
Aug. 24, 1989  
Sept. 6, 1989  
Oct. 12, 1989  
Nov. 1, 1989  
Nov. 22, 1989  
Dec.12, 1989

# Froese APC - Whitehorse

July 31 / Aug 1

- Fred Froese
- Bob Humphreys
- Bill Morse
- James Boland
- D.L. Deers

## Issues

Habitat

Place Mining

Climate Change

Logging

North B.C.

Hard Rock Mining

Pacific

Agriculture

Arctic

Linear Development

Yukon

Departmental Resources

Whitehorse Reports

Management Plans

Hydro Development

Next Strategy

(How do we look into this issue)

Problem is that the Yukon River Fisheries are driven by the International Fishery

## Land Claims

Yukon Alsek River Boxus Agreement

Land Use Planning. North Slope Coord with Winnipeg.

YQA involvement in studies of Canadian Resources

DPW survey on buildings and works.

Get into to the Yukon. CD's Whitehorse Report.

## Agenda - attached

### 1. Habitat review

- H&AP leaching needs to be looked at what process is DGS using to counteract the development of this strategy.

- Hard Rock Mining: difficult to administer the F&C staff feel they have given up all power to the Water Board and if the water licence is given then they don't or can't do anything about it.

It appears that gross assumptions are being made about the authority and the role of staff. It seems that it is easier to sit back and take shots.

### ◦ Aquaculture

land use is being a new problem

### ◦ Water Use

Allocation: problems are emerging

### ◦ Linear Development

Culverts - highway are ok.

There are gross assumptions being made on what policy means. There does not seem to be any consideration on problem solutions

Surge - It would appear that these people are an island and don't even try to work with other regulatory agencies and don't do anything for themselves

Hydro - is an emerging problem.

If we are going to be successful then the future staff are going to have to be told how to act.

In B.C. Mining.

- Windy Craggy - no fish problems
- Johnny Mtg. & Snip, Skyline
- Sulphurettes - Uncle Mountain
- Golden Bear

Alcoa Mining - not being informed about the status.

Alcoa Rebo - Windy Craggy, Golden Bear <sup>then just fall.</sup>  
 There is a tendency to deal with all issues rather than  
 Frosty - Lower Sticks

Alcoa is managed by the Reserve out of Smithers so meetings are very difficult to get to

Hydro - Stikine Shelved

Land Use Planning - DWRD & VTO are very active and so very time consuming. For 1 hr of work

Single Biggest problem

Lack of resources - meetings, STSS, training, VTO devolution (needs to finally develop a working agreement)

Solomon Mgt.

5 transb. Stikine Taku Alsek major  
 Umic Whiting. Chilkot minor

Stikine - CA CO SK (B21000)  
 USA (25,000) CN 6000 CO 1000 (100,000)  
 SK 15,000 ESC (60,000) ESC

- Controlled by International Technical Centre [catch/effort model]

~~Five~~ ~~Three~~ Two processes Great Glacier United  
 catch US Thalters, and one fish prefer (to wrangle)

Currently 18 fisherman on the river.  
 Task for ~~to~~ to develop a more reliable data base for  
 escapement

SEP = joint venture with USA incubate 3 x 10<sup>6</sup>  
 eggs of Thalters in US hatchery and fry  
 brought back to the Lake

- Tanya 100,000 SK potential

	CN	SK	CO	PK	CM
TAKU catch US		25,000?		600,000	80,000
CO	200	15,000	4000	7000	4000
ESC	15,000	100,000	40,000	1,000,000	60,000?

Managed by 18% of TAC for SK  
 International

River Tagging Prog to get total numbers - Radio Tagging too.  
 Habitat studies being conducted by the Albers

Alsek Sport fishing for SK 500 US 15,000 SK  
 Indian Food Fish 2500

There is a velocity barrier on the Alsek which precludes  
 many

Yukon - under negotiation  
 3 species  
 80% CP 90% CP sought by US.  
 CA 40,000 by U.S.  
 CN exploitation 85%  
 escapement 50% of what it should be 30,000 CN

170,000 (85,000 CP)  
 400,000 no stock cd work  
 11,000 CN caught by CN  
 30,000 CP  
 ESE 18,000  
 60,000

SEP into the Yukon

1990-91 CA will be assigned to the Yukon  
 staff were made aware of the potential impacts and  
 influence of a CA. The staff agreed the CA would be  
 welcome and he would be integrated into the Yukon  
 operation. It was emphasized that the CA would  
 heighten awareness and generate revenue to the client  
 to get involved in many different aspects of DFO  
 business especially in the habitat fields. Despite of  
 this the Whitehorse staff agreed with the concept.

Yukon Land Claims

Trying to work with Bands to co-manage the resources.  
 There is an issue related to IFP licenses and the use of  
 the information gathered from the licenses.  
 Concern is that the enforcement of those who don't have a  
 license will push the issue into the political arena.

AGENDA

August 1, 1989

08:30 - 09:30	Salmon Management	S. Johnston
09:30 - 10:30	Habitat	A. von Finster
10:30 - 11:30	Land Claims	G. Zealand
11:30 - 12:00	SEP	J. Boland
13:30 - 17:45	Planning and Priorities	Open

1110-F9

## Final Meeting Notes

### Fraser River NBC & Yukon Area Planning Committee

July 31, Aug. 1, 1989

July 31, 1989

#### In Attendance:

F. Fraser	J. Boland
B. Humphreys	B. Masse
D. Deans	G. Zealand

#### Agenda:

The evening session on July 31 was devoted to a discussion of the agenda for Aug. 1.

F. Fraser said the APC is establishing a framework for planning in the Division. He said the committee went through a number of false starts before it finally started producing results when it established the Fraser Sockeye Task Force. The Task Force provided the initiative that is starting to pull all the pieces together into a comprehensive plan including all the salmon species and all the program elements (stock and habitat management and enhancement). He wanted to start the same type of process in the Northern BC & Yukon.

He said he wanted a review of the major programs in the District but he did not want simply a travelogue. He wanted the problems to be identified but in balanced perspective. He also wanted to get a sense of the priorities.

There were a number of specific issues that APC members and the District Supervisor wanted to address. They included:

- Yukon & Alsek Basins Committee
- Climate change
- Land Use Planning initiatives of DIAND
- U.S. biological studies in Canada
- Buildings and field camps
- SEP presence in Yukon and the advantages of a Yukon CA
- Habitat management in Northern BC
- Habitat strategy- workload/staff
- The program planning process
- Referrals
- The budget for Yukon placer work
- Whitehorse hatchery

It was decided that each of these issues would come up as we review major program elements but we must keep this list in mind to be sure we touch on them all. The attached agenda was agreed upon.

August 1, 1989

In attendance:

F. Fraser	B. Masse
B. Humphreys	G. Zealand
J. Boland	A. von Finster
D. Deans	S. Johnston
	S. Kreigl
	B. Hume

F. Fraser made some opening remarks. He said that the APC has undertaken some major initiatives down south and now wants to focus on the north. He said we are looking for ways to scale up the operation to meet the demand or failing that, scale it down to meet budget constraints. He said we want a good review of issues. We need the detail but we should try to boil things down to fundamentals. In the afternoon, we will look at priorities and a framework for planning.

Habitat Management:

A. von Finster reviewed habitat issues as in the attached paper.

In summary, the District covers an extremely large area comprising half the geographical area of the Region. However there is only one person dedicated to habitat work in the District. This makes it impossible to cover the workload. Most of the work is focused on the Yukon drainage. Northern BC receives very little attention.

In Yukon, the Dept of Indian Affairs and Northern Development is the lead federal Government agency and is development oriented. DFO staff in Yukon feel that their hands are tied in terms of laying habitat charges. They have laid charges in the past and had no support from management in DFO. In addition, staff feel that decisions are being made at the political level without the involvement of staff. As a result, they have laid no charges since 1986. Without question, staff need some direction on this matter.

There needs to be more action to develop a coordinated working relationship with the Yukon Territorial Government (the YTG). The YTG has recently taken over the management of resident fish stocks in the Yukon. However, DFO retains habitat responsibilities. No arrangements have yet been made on how the habitat for resident freshwater species will be managed.

There are several land use planning initiatives underway requiring input from DFO. These include Northern Land Use Planning, Yukon Conservation Strategy, The Alsek and Yukon Basins Committee and so on. These take a great deal of staff time.

There was a discussion on the Whitehorse hatchery. It was noted that the facility was originally constructed as compensation for fish killed by the turbines at the dam at Whitehorse. However there was no agreement with the power authority to cover ongoing operations. Each year, there is an attempt to resolve the matter but in the end SEP is ordered to operate it.

It was decided that the hatchery should be turned into a production facility and managed on an ongoing basis by SEP. It was cautioned that we should not let the power authority entirely off the hook. A written statement should be filed outlining DFO's understanding of the original agreement and the DFO's intent to operate it as a production facility because of lack of cooperation with the power company.

#### Salmon Management:

The department manages 4 major transboundary Rivers including the Stikine, Taku, Alsek, and Yukon. Other smaller transboundary rivers under DFO authority in the District are the Unuk, Whiting and Chilkat.

The Stikine and Taku each have commercial fisheries managed under the terms of the US-Canada Treaty. On the Stikine, the major species is sockeye. Total production is about 150,000 of which the US takes about 25,000 and Canada takes 15,000. Catch sharing arrangements were re-negotiated in 1988, based on a sliding scale where the Canadian share declines if the TAC increases. Other important species are coho, which is covered under the current agreement and chinook which are harvested incidentally. Chinook have been under a rebuilding program but indications are that the is close to its potential. However there is no agreed upon harvesting arrangement. The current arrangement on sockeye and coho runs until 1992.

In-season, the fishery is managed using a model. The model essentially uses catch per unit effort in the fishery as an indicator of run size. DFO has started a test fishery to develop an alternative method.

The Taku commercial fishery also depends largely on sockeye but it also has a large pink run in the odd years.

The important thing to note on both rivers is that there is no plan for the stocks once the current agreement runs out in 1992.

The Alsek only supports Indian food fisheries and sport fisheries.

There is still no agreement on the sharing of Yukon River catches. There is a general agreement on an operating framework however. Canada has been operating its fisheries almost flat out in order to force the US to the bargaining table. Exploitation rates on chinook are at about 85%.

US studies in Canada is an issue of concern on transboundary rivers. Canada does not have the funds to carry out the studies required on the Canadian portions of transboundary rivers. The Americans do. There is a concern that the results of these studies will be used against us in negotiations.

In the discussion it was felt that Canada needs the data just as the US does. Also the Americans would not falsify the data to meet their needs. They might interpret it differently to support their own positions. As long as the data are available to Canada, this would not in itself be a problem. It was also pointed out that DFO still retains the authority to approve project proposals and withholds approval if the data is not of use. The main problem is that Canada does not have a long term plan outlining DFO aspirations on these stocks after 1992. Without this framework it is difficult to assess study proposals.

The question was raised as to whether there was an opportunity for the Tahltans to work cooperatively with us. It was felt that there was a good potential and there was also the potential to work with Great glacier. They have incubation facilities that could be used for enhancement work.

There was concern that the Tahltans could not provide the staff of sufficient qualifications. However the Tahltans are prepared to work in the long term towards full co-management but they need training. DFO needs to make a long term commitment. DFO needs to write up a long term strategy for cooperative management with the Tahltans.

SEP

J. Boland said that Gary Tacognia came up to whitehorse and found a lot of interest among recreational and native groups. He asked if District staff were interested in having a CA. He also noted that it can change the District in many ways. A CA will raise the consciousness of the public to environmental issues. This will put added pressure on staff.

F. Fraser asked what the role of the CA is. J. Boland said there were two functions of the CA. One, to increase public awareness of the resource and two, to respond to public demands for assistance with public participation projects and information about the resource.

District staff were very much interested in having a CA in the District. In particular, it was noted that the CA could carry out much work such as presentations to schools, that cannot even be done now because of the heavy workload of staff. It was decided that F. Fraser would draft a memo to J. Boland outlining the agreed understanding of the roles of the CA and expressing his support for one in District 10.

#### Land Claims:

The Land Claim process has been ongoing for about 15-18 years. Last year, a general agreement was signed involving \$250 million and a large amount of land. However, there are still a great many issues to resolve. Currently there are about 20 sub-agreements being negotiated dealing with land, renewable resources, taxes and so on.

#### Other Issues:

There was a short discussion about the implications of global climate change. DFO needs to keep track of trends in such indicators as temperature, flows and glacier storage so that we can be ready to adjust our production plans if conditions begin to change.

Interest was expressed in the Stream Inventory System (SIS). So far there has been no budget to develop the SIS for the Yukon. Also there is no computer for habitat in the District. It was also noted that the SIS was on the VAX so a micro may not be sufficient without a hook-up to the VAX. Nobody at the meeting had the technical knowledge of the computer requirements of the SIS and it was decided that L. Jaremovic or K. Pontus should be invited to the District to explain what SIS is and how it can be used.

S. Kriegl raised the problem of stream enumeration. The District has no funds to enumerate stocks. Only 9 out of 84 known salmon streams were covered in his Sub-District. It was noted that the transboundary funds cover some of the stock enumeration work. It was recognized that this was a serious problem but there were no immediate solutions available.

Better coordination with YTG is required. There is a need for a Transfer Committee to implement the devolution of responsibilities to the YTG. There also needs to be a Territorial/Federal transplant committee. YTG has gone ahead and transplanted fish without consulting DFO. There is also the matter of the Yukon and Alsek Basins Committee made up of DIAND, DOE and DFO. This will require DFO input.

#### Summary of Action Required:

1. Clarification of habitat enforcement policy.
2. Develop DFO approach to managing habitat of resident species. All other management responsibilities for these species have been transferred to the YTG.
3. Develop DFO plan for providing input to various planning initiatives.
4. Develop long term plan for transboundary rivers.

5. Develop long term DFO strategy paper on cooperation with the Tahltans.
6. Write memo outlining the roles and expected benefits of having a CA in District 10.
7. Develop production plan for the Whitehorse hatchery.
8. Schedule a SIS workshop for District 10 staff.
9. Outline a plan for the orderly implementation of Yukon Devolution. Among other things, a Transfer Committee and a Transplant Committee needs to be established.

## Agenda

**Fraser River NBC & Yukon APC**

**August 1, 1989  
Whitehorse Yukon**

**08:30-09:30 Habitat**

**A. von Finster**

**09:30-10:30 Salmon Management**

**S. Johnston**

**10:30-11:30 Land Claims**

**G. Zealand**

**11:30-12:00 SEP**

**J. Boland**

**13:30-17:45 Planning and Priorities**

**Open**

## DISTRICT 10 - Habitat Issues

District 10 comprises the approximate northern half of Pacific region.

There is one habitat position dedicated to this area. Two of the three fishery officer positions are always staffed, and these officers handle most of the annual referral load. Habitat addresses certain sectors and activities, and provides advice and continuity to the fishery officers. Management Biology staff also aid habitat when possible.

Jurisdictionally, the District is split into the Yukon and Northern British Columbia. The former jurisdiction lags well beyond the latter in the development of environmental laws and regulations, and in the enforcement of those federal statutes existing.

Each jurisdictional area will be treated separately.

### Yukon Territory Habitat Issues

The Department of Fisheries and Oceans (DFO) is responsible for both freshwater and anadromous fish habitat in the Yukon. However, most effort has been expended on anadrous fish.

These are comprised of chinook, coho, and sockeye salmon in the Tatshenshini system, and chinook and chum in the Yukon system.

As a function of geographical area and human activity, most effort is expended on the resources of the Yukon River.

The natural history of the species concerned (chinook and chum) has yet to be adequately studied. Due to climatic and hydrologic considerations, survival strategies must vary from those of the center or southern portions of the range of these species. In addition, rearing and/or migrating juveniles must contend with predacious fish (especially inconnu and northern pike) which are absent over most of the species' range.

It is to be expected, is borne out in observation, and is reflected in habitat management, that utilization of habitat will differ from the geographical center of DFO's activity. Problems have in the past risen, and continue to rise, when decisions or statements are made by those unfamiliar with the nuances of Yukon River chinook behaviour.

- 1) Placer
  - levels of activity currently down due to low price of gold,
  - majority of mining in Yukon watershed; approximately 3.7% of Yukon River Basin in the Yukon are Type IV streams (hence exempt from No Net Loss Policy),
  - studies are currently in progress to address contentious matters,
  - DFO District 10 habitat mainly concerned with preparation of background information for reclassifications; this has been hampered by slow release of funds for fieldwork (In 1988, funds became available about September 1; in 1989, will be available about August 5).

2) **Hardrock Mining**

A) **Active**

a) **Curragh**

- prime mover of Yukon economy,
- formerly Cyprus Anvil,
- both operation and history complex,
- currently developing new pits,
- have stated that result of these pits would be the elevation of zinc to levels which would preclude fish usage in van Gorda Creek and in some portion of the Pelly River downstream. This would result in degradation/destruction of high quality chinook rearing/overwintering habitat.

b) **Ketza**

- small gold mine,
- at present not seen as large problem.

B) **Potential**

a) **Grew Creek**

- gold mine on tributary to Pelly River.

b) **Mac Pass**

- very large base metal mine,
- inactive, but rising base metal prices will result in resumption.

c) **Mt. Nansen area**

- gold,
- confused geology results in small deposits with extremely variable metallurgy,
- any mine in this area will be "dirty;" mill process will have to change constantly,
- heap leaching proposals.

d) **Watson River area**

- gold,
- one mine operated briefly, has shut down (Mt. Skukum),
- another almost went into production; foundered on mismanagement and falling prices.

e) **Beaver River Area**

- precious and base,
- very rich area - has twice progressed to pre-production decisions,
- government-financed road would almost certainly result in a mine.

f) **Wellgreen**

- precious and base
- large, low grade deposit,
- actively being developed,
- calls for smelter on site.

3) **Agriculture**

- as of February 10, 1989, 255 applications had been reviewed, totalling 425 square km; number granted probably much less.
- most on salmon-bearing waters.
- screening, land development and increasingly, water allocation concerns.

- 4) **Forestry**
  - only large scale forestry is in Liard drainage,
  - proposals for other areas.
- 5) **Hydro-electric**
  - a) **Aishihik**
    - persistent problems with operation.
  - b) **Whitehorse Rapids**
    - hatchery built to compensate for turbine mortalities to chinook juveniles,
    - legal, financial, and proprietary questions remain.
  - c) **Mayo System**
    - planning in process for second generating station: will further impact residual Mayo River chinook run,
    - natives becoming increasingly interested in river and our stewardship of it.
  - d) **MacIntyre System**
    - Yukon Electrical Company are actively considering building 3rd generating station,
    - problems anticipated.

Important to note that all indications are that YTG will actively and aggressively pursue further hydro-electric expansion in the near future.

- 6) **Lineal**
  - A) **Highways**
    - minor at present; generally become important during recessions.
  - B) **Resource Roads**
    - low standard roads to specific developments,
    - constant irritant.
  - C) **Alaska Highway Pipeline**
    - after Exxon Valdez, suddenly attractive.
- 8) **Urban**
  - A) **Whitehorse**
    - persistent problems with toxic effluents,
    - foreshore development concerns.
  - B) **other communities**
    - Yukon Territory Water Board (YTWB) has in some instances licenced toxic discharges.
- 9) **Planning**
  - A) **Northern Land Use Planning**
    - increasing effort required to keep up with this process.
  - B) **Yukon Conservation Strategy**
    - necessary to participate in this process.

#### Northern British Columbia Habitat Issues

DFO is responsible for the management of anadromous fish in the Unuk, Stikine, Taku and Alsek Rivers, which drain to the Pacific Ocean through the Alaska Panhandle, and Yukon River, which heads in British

Columbia.

Lack of access has generally limited development of the area. However, several sectors do now, or will soon constitute issues.

- 1) Hard rock mining
  - A) Windy Craggy
    - precious, base and strategic minerals,
    - under development,
    - currently calls for major mine, 100 km access road.
  - B) Golden Bear
    - gold,
    - mill under construction,
    - 150 km haul road completed,
    - production early 1990.
  - C) Skyline
    - gold,
    - mine in production,
    - air supported.
  - D) SNIP
    - gold,
    - mine working toward production,
    - air supported.
- 2) Placer
  - limited due to low gold prices,
  - much of area has recently been opened to placer,
  - sector has great potential to impact fisheries.
- 3) Lineal
  - reconstruction of Alaska highway in Teslin watershed,
  - mine access roads such as Iskut River Road, Windy Craggy, etc.
- 4) Forestry
  - lower Stikine, helicopter and/or conventional.
- 5) Hydro-electrical
  - Stikine River system - currently shelved.

## Meeting Notes

Fraser River NBC & Yukon APC

July 18, 1989

### In Attendance:

F. Fraser  
D. Deans  
J. Boland  
A. Tautz  
B. Masse

### Agenda:

The agenda was approved as attached but it was noted that we probably would be unable to complete the agenda in the time available.

### Visions 2000:

The Visions 2000 paper was prepared by Planning Branch staff as a Pacific Region contribution to a National priority setting exercise. The paper has been presented in Ottawa. There will be further development in the Region and it will be used to develop strategies and to set priorities for the workplanning process. It was put on the APC agenda for two reasons. The first is to have the APC comment on the directions laid out in the Visions document. The second is to start developing strategies relevant to the Fraser NBC & Yukon Area to further those directions.

The APC had few comments on the directions outlined in the Visions document. The only comments were that there should be numbers put on the future directions as targets. Also it was noted that little time was devoted to aquaculture. It was suggested that the growth of the aquaculture industry may have significant effects on the future of the fishery, particularly if the traditional industry is not dynamic enough to adjust to the competition.

It was felt that the Task Force plan should be fitted to the Vision of the future. B. Masse was tasked with looking at the Task Force plan and the Visions document, to outline the common areas and the differences that would need to be worked out.

The APC also felt that the area where the Fraser Yukon Division could make the biggest contribution is on Native issues. It was proposed that we develop a scenario of what conditions would have to be in place to result in harmony between DFO and the Native community. We could then develop a check list of the steps that could be taken to resolve Native issues.

**APC Agenda:**

It was decided that the most important issue to be tackled next by the APC is the Native issue. B. Guerin would be asked to develop a list of Native aspirations for discussion by the APC. A Treaty being developed by the bands of the Lower Fraser, which lays out their common aspirations would be a good place to start. The APC will meet on August 24,89 on Native issues.

The next issue to be looked at would be Northern BC and Yukon issues. It was decided that the next meeting would be held in Whitehorse so that the staff there could give the APC a detailed briefing on issues. It was decided that this meeting would be held on July 31,89 and Aug.1,89.

**Draft Agenda**

**Fraser River NBC & Yukon APC**

**July 18, 1989**

**9:00-10:30 Visions 2000**

**10:30-12:00 The APC Agenda**

**12:00-13:00 Lunch**

**13:00-14:00 Sockeye Salmon Aquaculture**

**14:00-16:00 Self-financing Fisheries Management Programs**

1110-FB9

**Memo**

**To: APC Members**

**From: B. Masse**  
**APC Coordinator**  
**Fraser River NBC & Yukon Division**

**July 31, 1989**

**Re: Meeting Notes**

Please comment on the attached draft meeting notes from our last meeting. If I do not hear from you by August 25, I will assume you have no comments.



W.D. Masse

## Draft Meeting Notes

Fraser River NBC & Yukon APC

July 18, 1989

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D. Deans  
J. Boland  
A. Tautz  
B. Masse

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FRASER APC

July 18, 1989

1. Indian Food Fish Mgt.

It took 3 hours to make a decision that did not follow the rules established related to conservation / Indians / others and reasonable food fish requirements. It appeared that Fred made a decision as suited him at this time. It is very weak in regards court logic.

2. Discussion of the Agenda.

see attachment.

3. Visions

The ability of the APC to deal with the words is largely inhibited by the focus on problems that exist.

It was suggested (by me) that Fred could accept the ideal that he would like harmony within the Fraser River Division management process and develop the strategic framework that would result in this harmony.

It is unclear if Fred wants to do this.

4. Future Agendas

- Task Force Report is due on Sept.
- Native issues. - IIFC treaty. Bill Gerson to tell us what happens is.
- Andrew Thompson paper on the implications of Sparrow on Aboriginal Rights and Indians Mgt.

1110-F9

**RAPIDFAX FACSMILE TRANSMISSION MESSAGE  
MESSAGE TRANSMISSION FACSMILE**

**PLEASE DELIVER UPON RECEIPT**

<b>TO:</b>	KAARINA MCGIVNEY	-	D.F.O. VANCOUVER	-	
	DENNIS DEANS	-	" "		- *16
	JAMES BOLAND	-	" "		
	W. ELIAS	-	" KAMLOOPS		- *00
	COLIN LEVINGS	-	" W. VANCOUVER, B.C.		- *76
	ART TAUTZ	-	M.O.E.P. - U.B.C.		- *29

**ANY SPECIAL INSTRUCTIONS FOR SENDING MESSAGE  
INSTRUCTIONS SPECIALS POUR ENVOI DE MESSAGE.**

**SENDER'S NAME / EXPEDITEUR/NOM** BILL MASSE - AREA PLANNING AND ECONOMIC CO-ORDINATOR

**SERVICE & BRANCH / SERVICE ET DIRECTION** FRASER RIVER, N.B.C. & YUKON DIVISION, FISHERIES BRANCH

**DEPARTEMENT** DEPARTMENT OF FISHERIES AND OCEANS

**CITY/VILLE** NEW WESTMINSTER, B.C. **TELEPHONE NO.** 666- 8713

**NO. OF PAGES TO FOLLOW** 3

*K. McGivney received original  
copies made for all others*

## Memo

To: APC Members

From: W.D. Masse  
Area Planning Coordinator  
Fraser River NBC & Yukon

July 14, 1989

Re: APC Meeting, July 18, 1989, 9:00 AM, New Westminster

Attached is a draft agenda for our meeting of the above date.

The first item refers to the document I distributed to you prior to the last meeting. You will recall that we did not have time to discuss the document in detail. You will also recall that a meeting of the Regional Executive was being scheduled for the end of July, to further develop the paper. As far as I have been able to determine, the meeting will not be taking place but this document is taking on the status of a blueprint for the future in the Region. I believe the APC should have considerable interest in this, both in terms of shaping that direction and initiating strategies within our sphere of influence to further it.

The long term directions discussion should lead nicely into a discussion of the APC agenda. We have been somewhat inactive lately so I think it is important that we spend some time discussing what our agenda should be at the next few meetings. I developed the attached list of items and issues that we have had on our "to do" list for some time now.

The paper on self-financing was also distributed prior to the last meeting.

See you on Tuesday.



W.D. Masse

81	100	- 10%	= 90%
82	90	- 10%	= 81%
83	81	- 10%	= 73%
84	73	- 10%	= 70%
85	70	- 10%	= 63%
86	63	- 10%	= 57%
87	57	- 10%	= 51%
88	51	- 10%	= 46%

**Draft Agenda**  
**Fraser River NBC & Yukon APC**

**July 18, 1989**

9:00-10:30 Visions 2000

10:30-12:00 The APC Agenda

12:00-13:00 Lunch

13:00-14:00 Sockeye Salmon Aquaculture

14:00-16:00 Self-financing Fisheries Management Programs

1110-F9

## The APC Agenda

### Fraser River NBC & Yukon APC

#### Production Planning

- Fraser Sockeye
- Fraser Other Salmon Species
- Fraser Habitat
- Squamish
- Indian River
- Transboundary Rivers
- Yukon Rivers
- Crabs
- Groundfish and Other Shellfish

#### Indian Issues

- Defining Indian Food Fish Needs
- Allocation Between Bands
- Enforcement
- Surplus Fish
- Enhancement
- Participation in Biological Programs
- Commercialization

#### Priorities and Workplans

#### Long Term Directions (Visions 2000)

#### NBC & Yukon Issues

#### Sport Fisheries

Dennis Deans ✓  
July 11/89

RECEIVED

JUL 10 1989

HABITAT MGMT. DIV.

Memo

To: Fraser NBC & Yukon APC Members

From: Bill Masse  
Area Planning Coordinator

July 4, 1989

Re: Meeting Schedule

This is to remind those who were at our last meeting and inform those who were not, of our upcoming meeting schedule. The following dates were set at our June 20 meeting:

- July 18, 1989
- August 1, 1989
- August 24, 1989
- September 6, 1989
- October 12, 1989
- November 1, 1989
- November 22, 1989
- December 13, 1989

Not available because of the Thompson River "Whole River Study" workshop with DOE MDS and DFO.  
JLD

An agenda and other materials for the July 18 meeting will follow.

*Bill*

Bill Masse

*Done*

1110-F9

## Meeting Notes

Fraser River N.B.C. & Yukon Area Planning Committee

June 20, 1989

### In Attendance:

F. Fraser	D. Deans
B. Masse	D. Aurel
J. Boland	

### Special Attendees:

R. Harrison	Sockeye Task Force
O. Langer	Habitat Production Plan

### Sockeye Task Force Update:

Before R. Harrison started on an update of the Sockeye Task Force, D. Deans commented that he and some of his staff attended a workshop in Burlington Ontario on habitat production planning. The work that is being carried out in the Stuart Takla was presented there as an example of what is being done Regionally. It was very well received. D. Deans wanted us to know that we had national attention for the work we are doing.

R. Harrison outlined the status of the Sockeye Task Force work, focusing on the concerns raised at the Regional Executive meeting held in April. They raised two concerns at that meeting: 1) The enhancement plan has not been developed to accompany the rebuilding plan and 2) There is no plan yet to harvest rebuilt stocks in future without negative impacts on non-sockeye stocks.

R. Harrison said that W. Saito has met several times with enhancement staff to develop enhancement strategies. Their work is not yet finalized but a fair amount of progress is being made. Not much has been done on harvest management yet but Saito should have a basic plan that could be put before the APC in about a month.

He also said he would like to develop a summary report of the plan. However he wants to have the enhancement and harvest plan included before he puts it out.

It was suggested that we could also put out information on results soon because in fact, the rebuilding of Fraser sockeye started 4 years ago. Results should be showing up next year.

Concern was expressed about developing an enhancement plan. When we have not developed production plans on the other species. In fact our planning is still focused on sockeye. We have not started dealing with the other species yet.

### Habitat Production Planning:

O. Langer outlined progress on habitat planning. He said that in the Fall, a draft procedures document was presented which outlined a process of developing about 20 habitat management area plans throughout the Fraser watershed. During January, \$20,000 was made available from Sockeye Task Force funds to develop a plan for the Stuart-Takla area.

O. Langer outlined the information that was assembled by consultants by referring to three maps that were developed on the watershed. One map showed salmon habitat values, the second outlined the topological features of areas within the area and the third showed development plans by competing resource users.

He said that our original plans were to complete the Stuart Takla plan as a first priority because it was relatively simple (only one major competing resource interest and two salmon species). We would then move to the Shuswap area and then the lower Fraser South Shore. He said that we found out a month or so ago that there would be no O&M support to carry out this planning. We have been working over the last while to develop a workplan for continuing this work using staff time both within the Division and in the rest of the region.

It was suggested that we develop a summary statement of productive capacity throughout the watershed. This would give us the goal statement for the habitat planning work, similar to the 30 million target that was given to the original Sockeye Task Force.

There was discussion of the next steps in the process. It was mentioned that SEP has funds set aside for production planning. Perhaps some funds could be found to support some of this work.

It was decided that a memo would be drafted to P. Chamut outlining the work we will be doing and the staff commitments we will require. This will be completed by the end of the week.

### Self-Financing Fisheries Management Programs

Only a very short discussion of this topic was possible. It was suggested that the paper should be fed into the meeting to discuss long term directions that is to be held July 25.

Also another suggestion of opportunities for self-financing was offered, and that was to charge for habitat referrals.

### Workplans

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able to accomplish a very meaningful review of programs and reallocate budgets across Divisions but it was carried out through reorganization and it took a long time. It was decided that the APC should take action and write a memo to the Director outlining the kind of process that will work.

In the shorter term, F. Fraser said that he feels the budget problems in the Division have reached a crisis level. There are simply not enough resources to do all the work required. Last year, the Division was virtually shut down in December because there was not enough money to continue operations. We need a way of deciding what activities to drop from the program so that things do not get dropped by default. He wants to review this problem and develop a plan for dealing with budget shortfalls this year. Decisions on changes to the program resulting from budget shortfalls must be approved by the Director as well. F. Fraser was not sure of the APC's role in a process of this nature but he felt the APC could provide advice and comment.

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Next Meetings

The next meetings of the APC were set as follows:

July 18, 1989  
Aug. 1, 1989  
Aug. 24, 1989  
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Oct. 12, 1989  
Nov. 1, 1989  
Nov. 22, 1989  
Dec. 12, 1989

D. Deans

1110-F9

June 20/89

**Memo**

**To: APC Members**

**From: Bill Masse  
Area Planning Coordinator  
Fraser NBC & Yukon Division**

**Re: Meeting Notes**

Attached for your review are draft meeting notes from our meeting of June 20, 1989. If I do not hear from you by July 7, 1989, I will assume you have no comments.



**Bill Masse**

*Draft* Meeting Notes

Fraser River N.B.C. & Yukon Area Planning Committee

June 20, 1989

In Attendance:

F. Fraser	D. Deans
B. Masse	D. Aurel
J. Boland	

Special Attendees:

R. Harrison	Sockeye Task Force
O. Langer	Habitat Production Plan

Sockeye Task Force Update:

Before R. Harrison started on an update of the Sockeye Task Force, D. Deans commented that he and some of his staff attended a workshop in Burlington Ontario on habitat production planning. The work that is being carried out in the Stuart Takla was presented there as an example of what is being done Regionally. It was very well received. D. Deans wanted us to know that we had national attention for the work we are doing.

R. Harrison outlined the status of the Sockeye Task Force work, focusing on the concerns raised at the Regional Executive meeting held in April. They raised two concerns at that meeting: 1) The enhancement plan has not been developed to accompany the rebuilding plan and 2) There is no plan yet to harvest rebuilt stocks in future without negative impacts on non-sockeye stocks.

R. Harrison said that W. Saito has met several times with enhancement staff to develop enhancement strategies. Their work is not yet finalized but a fair amount of progress is being made. Not much has been done on harvest management yet but Saito should have a basic plan that could be put before the APC in about a month.

He also said he would like to develop a summary report of the plan. However he wants to have the enhancement and harvest plan included before he puts it out.

It was suggested that we could also put out information on results soon because in fact, the rebuilding of Fraser sockeye started 4 years ago. Results should be showing up next year.

Concern was expressed about developing an enhancement plan. When we have not developed production plans on the other species. In fact our planning is still focused on sockeye. We have not started dealing with the other species yet.

### Habitat Production Planning:

O. Langer outlined progress on habitat planning. He said that in the Fall, a draft procedures document was presented which outlined a process of developing about 20 habitat management area plans throughout the Fraser watershed. During January, \$20,000 was made available from Sockeye Task Force funds to develop a plan for the Stuart-Takla area.

O. Langer outlined the information that was assembled by consultants by referring to three maps that were developed on the watershed. One map showed salmon habitat values, the second outlined the topological features of areas within the area and the third showed development plans by competing resource users.

He said that our original plans were to complete the Stuart Takla plan as a first priority because it was relatively simple (only one major competing resource interest and two salmon species). We would then move to the Shuswap area and then the lower Fraser South Shore. He said that we found out a month or so ago that there would be no O&M support to carry out this planning. We have been working over the last while to develop a workplan for continuing this work using staff time both within the Division and in the rest of the region.

It was suggested that we develop a summary statement of productive capacity throughout the watershed. This would give us the goal statement for the habitat planning work, similar to the 30 million target that was given to the original Sockeye Task Force.

There was discussion of the next steps in the process. It was mentioned that SEP has funds set aside for production planning. Perhaps some funds could be found to support some of this work.

It was decided that a memo would be drafted to P. Chamut outlining the work we will be doing and the staff commitments we will require. This will be completed by the end of the week.

### Self-Financing Fisheries Management Programs

Only a very short discussion of this topic was possible. It was suggested that the paper should be fed into the meeting to discuss long term directions that is to be held July 25.

Also another suggestion of opportunities for self-financing was offered, and that was to charge for habitat referrals.

### Workplans

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FRASER APC.

MEETING NOTES

June 20/89

1. Salmon/Habitat Planning Task Force - Update
- general comment on National workshop.
  - ~~Harvest~~ Comments on the Executive Review  
Better integration between SEP and Mgt Plan
- || There is no integration of Habitat ||  
Production in the Harvest/SEP plan
- SEP and Harvest Mgt are looking at the production inputs that could be done by SEP.
  - work on other stock impacts has been put aside for now.

need to look at SEP re Habitat Prod.

a) Conclusion: (on Harvest Plan)  
where is the report? It needs to be completed in context of mixed stock and enhancement contributions.

What expectations does RIT have of the SEP.

- Could do central incubation units in Stuart and Quesnel.

There has not been enough work put into Total package mixed stock and Enhancement is going ahead without

Allocation. We are looking at the allocation question when we haven't looked complete picture

b) Habitat - Need to put SEP together with Habitat  
Need to better integrate Harvest  
Need to make general statements for the whole watershed

2. Planning and Mgt of Divisional needs  
there will be a zero base type review

## Kemano

Notes about a statement made to the Minister of Indian Affairs by representatives of the Haisla Band

The presentation is based on their desire to settle lands claims before the KCP can be completed/started.

They are suggesting the technologists do not know what changes the project will bring to the Kemano River and its fish productivity.

Specifically they say the salmon will be reduced and salmon stocks will be destroyed.

They object to the government working with Alcan and feel these sessions are done in secret. Without the knowledge of the Haisla people and the public.

They accuse the govt of considering Haisla as too poor and too small to worry about and the public to stupid to care.

They would also base their application for an injunction of the fact that mercury has been released to the river (they say they can show samples collected). They say they will go public with the mercury and benzodioxines and other toxic substances they know about.

They are asking for support so they can hire their own staff to study these and other issues.

TO: *D. Deans*

**APC MEMBERS ONLY**

*Dh* 000957 JUN 15 12:30

**F.J. Fraser**

**DFO New West.** FISHERIES & OCEANS  
FISHERIES PACIFIC

**R.D. Humphreys**

**DFO New West.** *1110-F9*

**Kaarina McGivney**

**DFO New West.**

**W.D. Masse**

**DFO New West.**

**D. Aurel**

**DFO New West.**

**Dennis Deans**

**DFO - Vancouver**

**James Boland**

**DFO - Vancouver**

**Colin Levings**

**DFO - W. Vanc. Lab.**

**Art Tautz**

**U.B.C. - Fisheries**

**Memo**

**To: APC Members**

**From: Bill Masse  
Area Planning Coordinator  
Fraser River NBC & Yukon Division**

**June 9, 1989**

**Re: APC Meeting-June 20, 1989, 9:00 am New Westminster**

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For the first item of business, Sockeye Task force update, we will focus on the Fisheries Management Executive meeting of April 17, 1989. You will recall that we presented a submission of resource requirements to implement the Task Force plan. The Executive gave us some further direction but they also laid out some constraints. The Sockeye Task Force and the Habitat Task Force needs direction from the APC on the next steps in the process.

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Bill Masse

cc R. Harrison  
O. Langer



ACCOUNTABLE MANAGER SUMMARY  
1989/90

BRANCH: Fisheries

ACCOUNTABLE MANAGER: F.J. Fraser

DIVISION: Fraser River, Northern B.C. & Yukon

COLLATORS: 1740; 1750; 1751; 1752; 1741;  
1742; 1756; 1743; 1747; 1748

ORGANIZATIONAL UNIT DESCRIPTION:

The Fraser River, Northern B.C. and Yukon Division is one of four geographically defined units within the Fisheries Branch. The other three units are North Coast, South Coast and Offshore Divisions. The Fraser River, N.B.C. and Yukon Division is responsible for fisheries resource and habitat management, enforcement and product inspection activities throughout the Fraser River watershed, in the transboundary river watersheds of Northern B.C. (Taku and Stikine Rivers) the Yukon River watershed and all freshwater resources within the Yukon Territory. The Division is composed of three Fisheries Management/Enforcement Districts (1, 2 and 10), a Management Biology Unit, a Habitat Management Unit, a Special Enforcement Unit and a Native Affairs Unit.

ORGANIZATIONAL OBJECTIVE:

To achieve and perpetuate full production potential of the fisheries resources within the geographic area of responsibility, the best use of the resources through the application of good management practices and allocation principles and the maximizing of fish production potential through the protection and management of fish habitat, and input into the salmon enhancement planning process.

PRIORITIES ADDRESSED WITH RATIONALE FOR SELECTION:

Division Priorities

Priority #1

Develop long term fisheries and habitat management plans and ensure that the activities of other Branches (Science, SEP and Planning) are consistent with fisheries and habitat management plans and priorities in the Division.

Rationale:

- Responds to Fisheries Branch priority E-1-1.
- Relates to Regional Key Priority #1 and special focus 1.
- The department has recognized for some time, the need to break out of reactive crisis style management into pro-active management in pursuit of long term goals and plans.

- 2 -

- The current mood of government to achieve more with less makes the need for co-ordinated teamwork an imperative.
- The Fraser, N.B.C. and Yukon Division has made progress in this area as a result of the effectiveness of its Area Planning Committee.

### Priority #2

Undertake a lead role to achieve the Regional priority to complete a Fraser River salmon production plan that includes strategies for harvest and enhancement of these stocks.

#### Rationale:

- Responds to Regional Key Priority #1, Special Focus 1, and Fisheries Branch Priority B-1-1.
- The Fraser River is the greatest sockeye salmon producer in B.C. The stocks were previously much larger than at present with catches estimated to be as high as 30-50 million in the big years. Preliminary stock modelling exercises indicate that through a combination of reduced harvest rates and enhancement initiatives, Fraser River sockeye runs could be rebuilt to the 30 million level within three to five cycles.

### Priority #3

Assist in the development and establishment through negotiations with the U.S., of fishing regimes in Fraser Panel Waters, Taku, Stikine and Yukon Rivers.

#### Rationale:

- Necessary for Canada to meet her obligations under the Pacific Salmon Treaty.

### Priority #4

Develop and implement effective management plans and strategies for all commercial fisheries within the Division for the 1989/90 season.

#### Rationale:

- Addresses our on-going responsibility under DFO's Mandated Business Objectives, to manage the fisheries within this Division in such a way as to conserve and protect the stocks upon which they are based and to sustain economic utilization of the fisheries resource for those who derive their livelihood or benefit from it.

### Priority #5

Develop and implement effective management plans and strategies for all Indian food fisheries within the Division for the 1989/90 season.

Rationale:

- Addresses our on-going responsibility under DFO's Mandated Business Objectives, to manage the fisheries within this Division in such a way as to conserve and protect the stocks upon which they are based and to sustain Indian traditional utilization of the fisheries resource.

Priority #6

Develop and implement effective management plans and strategies for all recreational fisheries within the Division for the 1989/90 season.

Rationale:

- Addresses our on-going responsibility under DFO's Mandated Business Objectives, to manage the fisheries within this Division in such a way as to conserve and protect the stocks upon which they are based and to sustain economic utilization of the fisheries resource for those who derive their livelihood or benefit from it.

Priority #7

Develop and implement plans and strategies for improving catch monitoring, habitat capacity, escapement, test fishing and other data used in stock and habitat assessment throughout the Division for the 1990/91 season.

Rationale:

- Addresses the Regional Developmental Objective related to Key Priority #1 to improve the collection, usage and integrity of fisheries data.
- Provides the necessary data for the planning and management of fisheries and habitat throughout the Division.
- Data requirements are stipulated in our commitments under the Canada/US Salmon Treaty.

Priority #8

Develop and implement an improved fisheries enforcement program on the most important and economically valuable species in the Division during 1989/90.

Rationale:

- Addresses the Regional Operational Objectives related to key Priority #1 to reduce the incidence of illegal fishing activities and to sustain the production capacity of fish habitat.

### Priority #9

Develop and implement a proactive fish habitat management plan for the Fraser River watershed, the transboundary rivers of Northern B.C. as well as the Yukon River system.

#### Rationale:

- Addresses the Regional Operational Objective related to Key Priority #1 to sustain productive capacity of fish habitat and also responds, in part, to the Developmental Objective related to Key Priority #1 to implement the new Habitat policy and evaluation method.

### Priority #10

Participate in special programs for native people, employment in fisheries activities and development of cooperative fisheries management programs with native people in the Fraser watershed, Northern B.C. and Yukon through consultation with tribal councils and other advisory bodies.

#### Rationale:

- Addresses the Regional Developmental Objective related to Key Priority #1 to develop and implement a cooperative management plan for native fisheries, consistent with national policy and the Fisheries Branch Resource Management Objective to develop an operational plan to ensure region-wide, consistent application of management and enforcement of the Native food fishery.

### Priority #11

Complete the AMS tailored to fit the operation of the Fraser River, Northern B.C. and Yukon Division including the RMS, Operational Framework, 5-year expectations and 1989/90 fishing plan.

#### Rationale:

- This is a Fisheries Branch Objective (E-1-2) directed toward Regional Key Priority #1, i.e. effective resource (fish) management and, specifically, the related Operational Objectives of improved success rate at meeting target escapements and sustained productive capacity of fish habitat.
- Documenting and formalizing the adaptive management decision-making process will help us learn from past experiences, eliminate the less effective approaches, and allow our management experience to be passed on more effectively for ongoing reference.

### Priority #12

Develop an inland salmon sport fishery in the Fraser River watershed covering all species on a 12-month/year basis as appropriate.

Rationale:

- Partially due to increased leisure time and partially in response to the successful rebuilding of some Upper Fraser River watershed chinook salmon stocks, there has recently been a renewed interest in sport fishing opportunities within the Fraser watershed. This includes an interest in the other 3 species (chum, sockeye and pink) not currently targetted by sport fisheries. There is also an urgent need to undertake this initiative as a result of the newly formed Sportfish Division in the Region and the need for increased involvement with the Sport Fish Advisory Board.

Priority #13

Complete rationalization of the Indian food fishery throughout the Fraser River watershed and in adjacent areas.

Rationale:

- Addresses the Regional Developmental objective related to key Priority #1 to improve collection, usage and integrity of fisheries data.
- Recognizing, that we now have an active fishery regime instead of passive management in the IFF, a finite quantity of fish to catch, a within-watershed allocation responsibility, an IFF capability to sometimes catch more fish than is allocated and increased interest by native people in involvement in a cooperative management approach to IFF management, this initiative is necessary in order to satisfy the DFO mandate to manage the fisheries resource in such a way that Indian people's reasonable food fish requirements are met.

TACTICS FOR ADDRESSING PRIORITIES:

Priority #1

- (a) Hold regular meetings of the A.P.C. (at least once per month) to direct planning initiatives such as the Fraser Sockeye Task Force Phase III and N.B.C. and Yukon development plans.

Priority #2:

- (a) Finalize Phase II plans, hold consultations and information sessions with user groups and begin implementation of the Fraser River Salmon Management Plan, which is to develop appropriate harvest strategies to yield the harvest and stock rebuilding results recommended in Phase I.

Priority #3:

- (a) Continue to gather, analyze, and prepare reports on the stock assessment and biological data needed to manage the fisheries on salmon produced in the Taku, Stikine, Yukon and Fraser rivers of mutual interest to Canada and the U.S.A.

- 6 -

- (b) Participate in consultations and technical discussions with Canadian and American members of the Fraser River Panel and the Northern Panel and attend meetings of the Pacific Salmon Commission.
- (c) Prepare and implement fishing plans for the transboundary rivers that will maximize catch to Canada consistent with conservation concerns and good management practices.

Priority #4

- (a) Develop fisheries management plans for the 1989/90 season in consultation with the appropriate user groups,
- (b) Schedule work activities to reflect the need to:
  - (i) manage 10 to 12 separate commercial openings for sockeye and chum salmon on the lower Fraser River,
  - (ii) conduct weekly commercial salmon fisheries on the Taku, Stikine and Yukon Rivers throughout July, August and September,
  - (iii) conduct commercial prawn, crab and shrimp fisheries in Howe Sound and Boundary Bay.

Priority #5

- (a) Schedule work activities to reflect the need to manage Indian food fisheries throughout the year in the lower Fraser and from early July to October in the upper Fraser system and in Yukon.

Priority #6

- (a) Schedule work activities to reflect the need to manage recreational fisheries throughout the year in the Fraser estuary, Howe Sound, Burrard Inlet, Fraser River bars and tributaries and numerous locations throughout the Yukon and Northern B.C. and the Interior of B.C.

Priority #7

- (a) Develop a co-ordinated approach toward spawner enumeration throughout the Division between the Management Biology Unit and Fishery Officers,
- (b) Design and implement test fisheries on the Fraser, Taku, Stikine and Yukon rivers so that they generate the maximum amount of data with which to manage the fisheries at the least amount of cost to the resource.

Priority #8

- (a) Special Enforcement Unit, Habitat Management Unit and Districts to develop and implement an integrated enforcement plan to address

- 7 -

known, chronic illegal fishing activities and habitat offences having significant negative impacts on fish or fish habitat,

- (b) Look for ways to expand the Crimestoppers program.

Priority #9

- (a) Habitat Management Unit and Districts to work together to develop and implement a balanced work activity plan reflecting the need to become more involved in the evaluation of productive habitat capacity as well as maintaining an effective habitat referral system and response mechanism to deal with habitat violations.

Priority #10

- (a) Work with the Interior Indian Fisheries Commission to develop an effective DFO/IIFC cooperative fisheries management program throughout the Fraser River watershed;
- (b) Continue to work with the Tahltan Tribal Council to develop a co-operative watershed management plan for the Stikine River;
- (c) Cooperate with the Conservation and Protection Division in developing a Special Native Fishing Officer training program.

Priority #11

- (a) Continue the AMS process with completion of all Operational Frameworks (one for each Sub-District throughout the Division and a Record of Management Strategies for the Fraser Watershed and northern Transboundary Rivers.
- (b) Fishing plans for 1989/90 and 5-year expectations to be prepared for the Division.

Priority #12

- (a) Continue to provide inland sportfishing opportunities in 1989/90 for chinook and coho salmon at a number of specific locations and for specified periods of time, subject to conservation concerns;
- (b) Develop plans and make recommendations regarding the chinook rebuilding process;
- (c) Prepare for anticipated rapid growth in inland sportfishery pressure, including the requirement for Division involvement in the new Regional Sportfish Division and chairmanship of the Fraser River Sportfish Advisory Sub-Group of the Sport Fishery Advisory Board.

Priority #13

- (a) Develop and expand a computer-based catch and effort statistics gathering and processing system and a computer-based IFF licencing system throughout the watershed; to be completed over a 2-year period.

**Pages 133 to / à 140  
are not relevant  
sont non pertinentes**

Government  
of Canada

Gouvernement  
du Canada

MEMORANDUM

NOTE DE SERVICE

B. Humphreys ✓  
Assistant Manager  
Fraser River, NBC and Yukon Division

P.S. Chamut  
Director General  
Pacific Region

Dept. of Fisheries & Oceans  
RECEIVED  
APR 27 1989  
FR-NBC-YUKON DIVISION  
Area Manager's Office

SECURITY - CLASSIFICATION - DE SÉCURITÉ
OUR FILE/VOTRE RÉFÉRENCE
YOUR FILE/VOTRE RÉFÉRENCE
DATE APR 21 1989

File: 8000-4

Fraser Planning Presentation to the Regional Executive Committee

I am very pleased with the progress that the Fraser group has made on developing plans for new directions in fisheries and habitat management. This has been a major task which, although not yet finished, is already yielding significant benefits and visible progress.

I was especially taken with the creative thinking on implementation of plans with alternative uses of existing resources. I encourage further development of the overview level of both fish production and harvesting plans to identify critical issues, interconnections and options. I was especially pleased that staff are looking at their current activities to identify low priorities from which to possibly redirect resources. The proposed proactive habitat approaches are definitely worth following up on. We shouldn't let current practice and policy inhibit the range of options considered.

I congratulate you and the involved staff on the progress you are making.

P.S. Chamut

cc: R. Harrison  
O. Langer  
T. Gaudet

1110-F9

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The Fraser River, Northern B.C. and Yukon Division is one of four geographically defined units within the Fisheries Branch. The other three units are North Coast, South Coast and Offshore Divisions. The Fraser River, N.B.C. and Yukon Division is responsible for fisheries resource and habitat management, enforcement and product inspection activities throughout the Fraser River watershed, in the transboundary river watersheds of Northern B.C. (Taku and Stikine Rivers) the Yukon River watershed and all freshwater resources within the Yukon Territory. The Division is composed of three Fisheries Management/Enforcement Districts (1, 2 and 10), a Management Biology Unit, a Habitat Management Unit, a Special Enforcement Unit and a Native Affairs Unit.

ORGANIZATIONAL OBJECTIVE:

To achieve and perpetuate full production potential of the fisheries resources within the geographic area of responsibility, the best use of the resources through the application of good management practices and allocation principles and the maximizing of fish production potential through the protection and management of fish habitat, and input into the salmon enhancement planning process.

PRIORITIES ADDRESSED WITH RATIONALE FOR SELECTION:

Division Priorities

Priority #1

Develop long term fisheries and habitat management plans and ensure that the activities of other Branches (Science, SEP and Planning) are consistent with fisheries and habitat management plans and priorities in the Division.

Rationale:

- Responds to Fisheries Branch priority E-1-1.
- Relates to Regional Key Priority #1 and special focus 1.
- The department has recognized for some time, the need to break out of reactive crisis style management into pro-active management in pursuit of long term goals and plans.

- 2 -

- The current mood of government to achieve more with less makes the need for co-ordinated teamwork an imperative.
- The Fraser, N.B.C. and Yukon Division has made progress in this area as a result of the effectiveness of its Area Planning Committee.

### Priority #2

Undertake a lead role to achieve the Regional priority to complete a Fraser River salmon production plan that includes strategies for harvest and enhancement of these stocks.

#### Rationale:

- Responds to Regional Key Priority #1, Special Focus 1, and Fisheries Branch Priority B-1-1.
- The Fraser River is the greatest sockeye salmon producer in B.C. The stocks were previously much larger than at present with catches estimated to be as high as 30-50 million in the big years. Preliminary stock modelling exercises indicate that through a combination of reduced harvest rates and enhancement initiatives, Fraser River sockeye runs could be rebuilt to the 30 million level within three to five cycles.

### Priority #3

Assist in the development and establishment through negotiations with the U.S., of fishing regimes in Fraser Panel Waters, Taku, Stikine and Yukon Rivers.

#### Rationale:

- Necessary for Canada to meet her obligations under the Pacific Salmon Treaty.

### Priority #4

Develop and implement effective management plans and strategies for all commercial fisheries within the Division for the 1989/90 season.

#### Rationale:

- Addresses our on-going responsibility under DFO's Mandated Business Objectives, to manage the fisheries within this Division in such a way as to conserve and protect the stocks upon which they are based and to sustain economic utilization of the fisheries resource for those who derive their livelihood or benefit from it.

### Priority #5

Develop and implement effective management plans and strategies for all Indian food fisheries within the Division for the 1989/90 season.

Rationale:

- Addresses our on-going responsibility under DFO's Mandated Business Objectives, to manage the fisheries within this Division in such a way as to conserve and protect the stocks upon which they are based and to sustain Indian traditional utilization of the fisheries resource.

Priority #6

Develop and implement effective management plans and strategies for all recreational fisheries within the Division for the 1989/90 season.

Rationale:

- Addresses our on-going responsibility under DFO's Mandated Business Objectives, to manage the fisheries within this Division in such a way as to conserve and protect the stocks upon which they are based and to sustain economic utilization of the fisheries resource for those who derive their livelihood or benefit from it.

Priority #7

Develop and implement plans and strategies for improving catch monitoring, habitat capacity, escapement, test fishing and other data used in stock and habitat assessment throughout the Division for the 1990/91 season.

Rationale:

- Addresses the Regional Developmental Objective related to Key Priority #1 to improve the collection, usage and integrity of fisheries data.
- Provides the necessary data for the planning and management of fisheries and habitat throughout the Division.
- Data requirements are stipulated in our commitments under the Canada/US Salmon Treaty.

Priority #8

Develop and implement an improved fisheries enforcement program on the most important and economically valuable species in the Division during 1989/90.

Rationale:

- Addresses the Regional Operational Objectives related to key Priority #1 to reduce the incidence of illegal fishing activities and to sustain the production capacity of fish habitat.

### Priority #9

Develop and implement a proactive fish habitat management plan for the Fraser River watershed, the transboundary rivers of Northern B.C. as well as the Yukon River system.

#### Rationale:

- Addresses the Regional Operational Objective related to Key Priority #1 to sustain productive capacity of fish habitat and also responds, in part, to the Developmental Objective related to Key Priority #1 to implement the new Habitat policy and evaluation method.

### Priority #10

Participate in special programs for native people, employment in fisheries activities and development of cooperative fisheries management programs with native people in the Fraser watershed, Northern B.C. and Yukon through consultation with tribal councils and other advisory bodies.

#### Rationale:

- Addresses the Regional Developmental Objective related to Key Priority #1 to develop and implement a cooperative management plan for native fisheries, consistent with national policy and the Fisheries Branch Resource Management Objective to develop an operational plan to ensure region-wide, consistent application of management and enforcement of the Native food fishery.

### Priority #11

Complete the AMS tailored to fit the operation of the Fraser River, Northern B.C. and Yukon Division including the RMS, Operational Framework, 5-year expectations and 1989/90 fishing plan.

#### Rationale:

- This is a Fisheries Branch Objective (E-1-2) directed toward Regional Key Priority #1, i.e. effective resource (fish) management and, specifically, the related Operational Objectives of improved success rate at meeting target escapements and sustained productive capacity of fish habitat.
- Documenting and formalizing the adaptive management decision-making process will help us learn from past experiences, eliminate the less effective approaches, and allow our management experience to be passed on more effectively for ongoing reference.

### Priority #12

Develop an inland salmon sport fishery in the Fraser River watershed covering all species on a 12-month/year basis as appropriate.

- 5 -

Rationale:

- Partially due to increased leisure time and partially in response to the successful rebuilding of some Upper Fraser River watershed chinook salmon stocks, there has recently been a renewed interest in sport fishing opportunities within the Fraser watershed. This includes an interest in the other 3 species (chum, sockeye and pink) not currently targetted by sport fisheries. There is also an urgent need to undertake this initiative as a result of the newly formed Sportfish Division in the Region and the need for increased involvement with the Sport Fish Advisory Board.

Priority #13

Complete rationalization of the Indian food fishery throughout the Fraser River watershed and in adjacent areas.

Rationale:

- Addresses the Regional Developmental objective related to key Priority #1 to improve collection, usage and integrity of fisheries data.
- Recognizing, that we now have an active fishery regime instead of passive management in the IFF, a finite quantity of fish to catch, a within-watershed allocation responsibility, an IFF capability to sometimes catch more fish than is allocated and increased interest by native people in involvement in a cooperative management approach to IFF management, this initiative is necessary in order to satisfy the DFO mandate to manage the fisheries resource in such a way that Indian people's reasonable food fish requirements are met.

TACTICS FOR ADDRESSING PRIORITIES:

Priority #1

- (a) Hold regular meetings of the A.P.C. (at least once per month) to direct planning initiatives such as the Fraser Sockeye Task Force Phase III and N.B.C. and Yukon development plans.

Priority #2:

- (a) Finalize Phase II plans, hold consultations and information sessions with user groups and begin implementation of the Fraser River Salmon Management Plan, which is to develop appropriate harvest strategies to yield the harvest and stock rebuilding results recommended in Phase I.

Priority #3:

- (a) Continue to gather, analyze, and prepare reports on the stock assessment and biological data needed to manage the fisheries on salmon produced in the Taku, Stikine, Yukon and Fraser rivers of mutual interest to Canada and the U.S.A.

- 6 -

- (b) Participate in consultations and technical discussions with Canadian and American members of the Fraser River Panel and the Northern Panel and attend meetings of the Pacific Salmon Commission.
- (c) Prepare and implement fishing plans for the transboundary rivers that will maximize catch to Canada consistent with conservation concerns and good management practices.

#### Priority #4

- (a) Develop fisheries management plans for the 1989/90 season in consultation with the appropriate user groups,
- (b) Schedule work activities to reflect the need to:
  - (i) manage 10 to 12 separate commercial openings for sockeye and chum salmon on the lower Fraser River,
  - (ii) conduct weekly commercial salmon fisheries on the Taku, Stikine and Yukon Rivers throughout July, August and September,
  - (iii) conduct commercial prawn, crab and shrimp fisheries in Howe Sound and Boundary Bay.

#### Priority #5

- (a) Schedule work activities to reflect the need to manage Indian food fisheries throughout the year in the lower Fraser and from early July to October in the upper Fraser system and in Yukon.

#### Priority #6

- (a) Schedule work activities to reflect the need to manage recreational fisheries throughout the year in the Fraser estuary, Howe Sound, Burrard Inlet, Fraser River bars and tributaries and numerous locations throughout the Yukon and Northern B.C. and the Interior of B.C.

#### Priority #7

- (a) Develop a co-ordinated approach toward spawner enumeration throughout the Division between the Management Biology Unit and Fishery Officers,
- (b) Design and implement test fisheries on the Fraser, Taku, Stikine and Yukon rivers so that they generate the maximum amount of data with which to manage the fisheries at the least amount of cost to the resource.

#### Priority #8

- (a) Special Enforcement Unit, Habitat Management Unit and Districts to develop and implement an integrated enforcement plan to address

- 7 -

known, chronic illegal fishing activities and habitat offences having significant negative impacts on fish or fish habitat,

- (b) Look for ways to expand the Crimestoppers program.

Priority #9

- (a) Habitat Management Unit and Districts to work together to develop and implement a balanced work activity plan reflecting the need to become more involved in the evaluation of productive habitat capacity as well as maintaining an effective habitat referral system and response mechanism to deal with habitat violations.

Priority #10

- (a) Work with the Interior Indian Fisheries Commission to develop an effective DFO/IIFC cooperative fisheries management program throughout the Fraser River watershed;
- (b) Continue to work with the Tahltan Tribal Council to develop a cooperative watershed management plan for the Stikine River;
- (c) Cooperate with the Conservation and Protection Division in developing a Special Native Fishing Officer training program.

Priority #11

- (a) Continue the AMS process with completion of all Operational Frameworks (one for each Sub-District throughout the Division and a Record of Management Strategies for the Fraser Watershed and northern Transboundary Rivers.
- (b) Fishing plans for 1989/90 and 5-year expectations to be prepared for the Division.

Priority #12

- (a) Continue to provide inland sportfishing opportunities in 1989/90 for chinook and coho salmon at a number of specific locations and for specified periods of time, subject to conservation concerns;
- (b) Develop plans and make recommendations regarding the chinook rebuilding process;
- (c) Prepare for anticipated rapid growth in inland sportfishery pressure, including the requirement for Division involvement in the new Regional Sportfish Division and chairmanship of the Fraser River Sportfish Advisory Sub-Group of the Sport Fishery Advisory Board.

- 8 -

Priority #13

- (a) Develop and expand a computer-based catch and effort statistics gathering and processing system and a computer-based IFF licencing system throughout the watershed; to be completed over a 2-year period.

**Pages 153 to / à 160  
are not relevant  
sont non pertinentes**

**Page 161**  
**is a duplicate**  
**est un duplicata**

D. Deary (ARC)

Government of Canada / Gouvernement du Canada

MEMORANDUM / NOTE DE SERVICE

1110-F9

TO: SEE CIRCULATION LIST

FROM: O.E. Langer, Head, Habitat Management Unit, Fraser River, Northern B.C. and Yukon Division

Dept. of Fisheries & Oceans RECEIVED MAR - 2 1989 FR-NBC-YUKON DIVISION Area Manager's Office

SECURITY - CLASSIFICATION - DE SÉCURITÉ, OUR FILE - N / RÉFÉRENCE, YOUR FILE - V / RÉFÉRENCE, DATE February 22, 1989

SUBJECT: FRASER RIVER HABITAT MANAGEMENT PLAN

File: 8400 - 1

I apologize for not being in contact with many of you since early January 1989, concerning the status of the above plan. In that I have not received any comments on the December 16, 1988 draft procedures document, I can only assume that you are busy. I fully appreciate this in that I have the same problem (ie. I can never get around to draining the swamp because ...!). Despite the above, I have not put the above tasks to rest.

On January 6, 1988 I was invited to a DFO Senior Executive meeting called to review the Fraser River Sockeye Task Force Plan. I gave a presentation on our procedure to develop a plan. It was well received by several Directors and the DG and about \$20K of uncommitted Task Force funding was transferred to HMU to complete a 'pilot' HMP in the Stuart/Takla HMA.

On January 26, 1989, I called a meeting of various staff that would be expected to contribute to the Stuart/Takla Plan. DFO Planning has kindly volunteered the full-time services of Mr. Schouwenburg to work on their plans. As of February 10, 1989, Bill Schouwenburg was reviewing habitat capacities for the initial HMA. In addition, I have drawn up terms of reference and issued a \$15K contract to a consultant to proceed on select aspects of the HMA Plan (Terms of Reference attached). In March I will involve our HMU staff from Prince George and Kamloops in workshops to develop a Habitat Protection Plan for the area. Formal contacts have been made with the BCFS to cooperate with our staff in developing this plan. Unfortunately, the local BCFS staff have been less than cooperative in this area to date.

Copy to: A.P.C. Mar. 10 / 89

ROH

- 2 -

In that I will consider the Stuart/Takla HMA plan to be a priority between now and April 1, 1989, I will not call a meeting to finalize our December 16, 1989 procedures document. However, if I can obtain any comments on it, I will appreciate them greatly. Meanwhile, I will attempt to mainly rely upon DFO Habitat staff, Mr. Schouwenburg and a consultant to put together a draft Stuart/Takla HMAP. When a draft product is available, I will circulate it for comment.

I hope this update will inform you on the status of the development of habitat plans on the Fraser River.

  
O.E. Langer

OEL/cme  
a.6/HM89-08

FRASER RIVER HABITAT MANAGEMENT PLAN

Circulation List:

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D. Aurel  
W. Elias  
A. von Finster  
B. MacDonald  
B. Huber  
G. Kosakoski  
S. Macfarlane  
K. Conlin  
R. Duncan  
L. Dutta  
R. Harrison  
W. Saito  
W. Masse  
W. Schouwenburg  
C. Scrivner  
J. Patterson  
A. Tautz  
L. Jaremovic  
R. Higgins  
D. Rowse



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Vancouver (C.-B.)  
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Your file    *Votre référence*

Our file    *Notre référence*

1755-3

February 16, 1988

*example of  
mail out.*

P. Harder and Associates  
913 Alexander Road  
Victoria, BC  
V9A 4K6

Dear Sirs:

**Re: Proposal  
Stuart / Takla Habitat Management Plan  
Tender Number VPST 88-132**

The Department of Fisheries and Oceans is inviting proposals to conduct the necessary literature search, interviews, workshops and obtain necessary agency data to prepare several sections of the Habitat Management Plan for the Stuart-Takla HMP in an initial plan, all sections, terminology, classifications, etc. should be selected as to be applicable to other HMA's to be developed for the Fraser River system. The Department reserves the right to reject any or all proposals and the lowest proposal may not necessarily be accepted.

Proposals will be received until February 27th, 1989, 2:00 p.m. Sealed proposals, must be addressed to the Head, Contracts Section, Materiel Management Division, Department of Fisheries and Oceans Pacific Region, Suite #400, Registry Office - 555 West Hastings St., Vancouver, BC V6B 5G3.

Specifically, the report is to address:

1. Description of the Stuart-Takla HMA

- geographic area
- physiographic description
- bio/geo/climatic description
- hydrology overview
- description of streams and lakes (lengths, areas, depths)

.../2

P. Harder and Associates  
February 16, 1989  
Page Two

## 2. Review of Conflicting Resource Uses

Assemble and present in a narrative and graphic form:

- mineral resources (including dormant mines, new claims, etc.)
- placer mine potential
- forest harvesting and access plans (include scheduling)
- hydro development (including impacts of any downstream projects that may specifically effect runs in this HMA - ie. Nechako flows)
- transportation (highways, railroads, etc.)
- population and settlements
- industrial plants and effluents

Most of the above information will come from B.C. Government agencies and Regional/Municipal Governments.

## 3. Conflict Interaction

Based on DFO resource information and the information obtained in Tasks 1 and 2, the Consultant will review and quantify salmon resource impacts and/or production limitations resulting from other industrial users (eg. lowered gravel quality, increased temperatures). This task will require a formal workshop with DFO staff.

## 4. Climate Change

Further to the hydrology review and items 2 and 3, appropriate literature and experts (eg. AES) are to be consulted to examine the long term implications of climatic change on salmonid production in this HMA.

## 5. Habitat Restoration and Development Options

The Contractor will assemble and present all existing information and ideas on all habitat restoration and development (enhancement) needs and opportunities. Some of this information is available, however, interviews of DFO staff is required for smaller restoration items, etc.

.../3

P. Harder and Associates  
February 16, 1989  
Page Three

II. Your Price Proposal Should Include the Following Information:

- a) Daily or hourly rates for each category of personnel together with substantiation for each rate including overhead and profit. The following formula is an example of the detail required:

$$\frac{(\text{Annual Salary} + \text{Fringe Benefits}) + \text{Overhead} + \text{Profit}}{\text{Number of working days (or hours) per annum}}$$

- b) Total manpower costs per task, calculated using daily or hourly rates, and the task schedule.
- c) Prices for direct expenses, such as materials, supplies, equipment, purchases, leasing and/or rentals, subcontract work, travel, computer cost, long distance communications, reproductions, shipping, etc.
- d) Proposed fee or profit, if any, and the basis on which it is applied or computed.
- e) Estimated total price to complete work.
- f) Federal Sales Tax and/or Customs Duties if applicable.

Yours truly,



A.R. Charette  
Head, Contracts Section  
Materiel Management Division  
Management Services Branch  
Pacific Region  
Fisheries and Oceans

cc: L. Jaremovic,

ARC/gw

1110-179



Government of Canada

Gouvernement du Canada

MEMORANDUM

NOTE DE SERVICE

TO  
A

D. Griggs  
Director  
Salmonid Enhancement Program

FROM  
DE

F.J. Fraser  
Area Manager  
Fraser River, N.B.C. & Yukon Division

SUBJECT  
OBJET

REQUEST FOR FRASER RIVER FISHERY INFORMATION

SECURITY - CLASSIFICATION - DE SÉCURITÉ
OUR FILE - N / RÉFÉRENCE
YOUR FILE - V / RÉFÉRENCE
DATE March 9, 1989

*[Handwritten signature]*  
*cc. Fraser River for info.*

In response to your February 22, 1989 memo, there was a commercial gill net fishery in the Fraser River directed at harvesting surplus chum salmon on October 19, 1988. This fishery harvested an estimated 42,400 chum, 9,900 coho and 200 chinook salmon.

The actual stock composition of the catch is unknown; however, past data permit some general statements about stock composition to be made.

**Chum**

Most of the major stocks of chum would be expected to be present in the river at the time of the fishery. Past run timing data and the expected abundance of the major stocks in 1988 would suggest that the abundance of Chehalis, Vedder-Chilliwack and Stave river chum would probably be greater than those returning to the Harrison River. Therefore, the harvest of Harrison River chum in the aforementioned fishery would probably comprise less than 25% of the total catch or approximately 10,000 fish.

A catch of 42,000 chum salmon is significant when compared to the total escapement of approximately 450,000 chum salmon and to the escapement goal of 700,000 chum. However, it must be remembered that at the time of the fishery, the predicted total escapement was much higher, i.e. 900,000 chum. The large discrepancy between the early prediction and the actual number is due to a very poor return to the river of the late portion of the run. The reasons for that poor return are unclear. However, there was a large catch of chum outside of the Fraser River, particularly in Johnstone Strait. It is suspected the run timing was compressed in 1988 causing a higher proportion of Fraser chum (and some other stocks) to be caught within a relatively brief period.

**Coho**

The coho present at the time of the October 19 fishery would be comprised of a mixture of stocks from both lower Fraser and upper Fraser tributaries. Probably at least 50% were fish returning to enhancement facilities. It is impossible to determine how many were wild fish returning to the Harrison system although the impact would not be expected to be large because so many stocks are involved.

D. Griggs, March 9, 1989

2

### Chinook

The major chinook stock that would be present in the Fraser River during the fishery is the Harrison River stock. A catch of 200 in relation to an escapement of about 35,000 is not of major concern. The relatively poor run in 1988 is likely the result of low survival coupled with relatively high harvest rates in marine fisheries.



F.J. Fraser

c.c. E.R. (Ted) Gaudet  
R. Harrison

Dennis Deane (APC) 1110-F9

Government of Canada / Gouvernement du Canada

MEMORANDUM NOTE DE SERVICE

TO: Dave Schutz, Head, Biological Services Division

FROM: Robin Harrison, Senior Management Biologist, Fraser River, N.B.C. & Yukon Division

Dept. of Fisheries & Oceans RECEIVED FEB - 7 1989 FR-NBC-YUKON DIVISION Area Manager's Office

File: 8903-T6 8140-S4

SECURITY - CLASSIFICATION - DE SÉCURITÉ OUR FILE - N / RÉFÉRENCE YOUR FILE - V / RÉFÉRENCE DATE February 7, 1989

SUBJECT: IMPACT OF COMMERCIAL AND INDIAN FOOD FISHERIES ON THOMPSON RIVER STEELHEAD

This is in response to the request for information on the impact of commercial and Indian food fisheries on Thompson River steelhead.

The most complete analysis of the impact of various fisheries on Thompson River steelhead has been undertaken by Ian McGregor of the provincial government. Ian made an excellent presentation at a meeting of the Fraser River Advisory Committee on January 31, 1989. The following is a brief summary of the main points from his review along with my comments.

Commercial Fishery

Thompson River steelhead are caught in commercial net fisheries in Johnstone Strait and Juan de Fuca Strait from early September to early October and in the Fraser River commercial fishery from mid September to late October. The catch trend in all areas has been downward since the early 1970's reflecting a decline in fishing effort (and, perhaps, also steelhead abundance) (Figs. 1-7). Recent catches, based on DFO sales slips, have been in the order of 100-300 in Johnstone Strait, and up to 500 in Juan de Fuca and the Fraser River. While these estimates are undoubtedly low, independent catch estimates by Ian's group suggest that they are in the right ballpark. There are likely some anomalies, however, as he did mention that in one recent year (1985 I believe) he estimated that the Fraser gillnet fleet took 1,200 steelhead in one opening. This would be an unusual occurrence. Overall the commercial catch in these three areas combined is likely in the order of 1,000-1,500 annually on average.

Indian Food Fishery

The Fraser River Indian food fishery is a major harvest of Thompson steelhead with catch in the 2,000-4,000 range. The largest catches are in the Fraser Canyon in the vicinity of Saddle Rock. The catch trend is generally upward, reflecting greater effort in recent years. Catches tend to be lower in odd-numbered years when pinks return to the river (effort is reduced during the pink migration as the Indian generally consider them a nuisance).

Copy to: A.P.C. Members Feb. 17/89

204 000170

Dave Schutz, February 7, 1989

2

### **Sport Fishery**

Thompson steelhead are caught in two major sport fisheries in the Fraser River: the lower Fraser and Thompson River. The recent catch in the lower Fraser has been 400-1,000 per year while the Thompson River harvest is up to 1,000 (Figs. 8-10). Catch and release fisheries have been implemented in this fishery in some recent years and will apparently be the norm from now on.

The catch in all fisheries in 1987 along with the spawning escapement is depicted in Figure 11.

### **Management Actions and Future Outlook**

In earlier years, there was a fishery in Johnstone Strait each week during September regardless of salmon stock strength. More recently, fisheries have been confined to the third week in September (except when necessary to harvest late sockeye and pink) with the result that steelhead catches have declined. If this pattern is maintained in the future, steelhead catches should remain low even if chum runs increase since most chum fishing occurs after steelhead have left the area. I wouldn't anticipate much change in Area 20 either. Chum are not a target species in this area and most sockeye and pink fishing is over by the time steelhead become abundant.

Within the Fraser River, the chum management plan restrict directed chum fishing to the period after October 15, mainly for steelhead protection. This protects the first half of the steelhead run, although fisheries for sockeye in September and early October do have an impact. As chum runs increase in size, additional commercial fishing can be anticipated with some impacts on the latter half of the Thompson steelhead run. There is normally a peak chum run into the river about October 15-20, so deferring fishing to a later date wouldn't be practical (some local gillnetters are already concerned about the October 15 guideline).

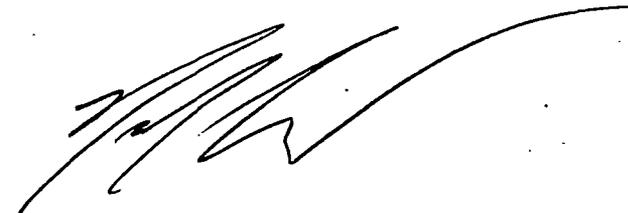
While the impact of the Fraser commercial gillnet fishery on Thompson steelhead is not great (Ian McGregor concurs with this) there was discussion at the January 31 FRAC meeting on how the impact could be further reduced. The gillnetters present at the meeting indicated that many fishermen would be willing to voluntarily release steelhead that appear to have a reasonable chance of surviving. The need for publicizing the plight of Thompson steelhead to the commercial fishing community in order to seek their cooperation in releasing steelhead was recognized. Suggestions included placing articles in key fishing publications and possibly including a comment on the commercial fishing telephone recording.

Dave Schutz, February 7, 1989

3

With respect to the Indian food fishery, Ian will shortly commence a series of meetings with key Indian bands to try to persuade them to reduce steelhead catches. The issue was discussed on February 1 with Fred Fraser, Don Aurel and myself. We have agreed to work with the province to see if there are options for altering fishing patterns to reduce steelhead catches while not adversely affecting fishing plans for sockeye and other salmon species.

In summary, the commercial fishery is not the villain that it is often portrayed with respect to Thompson steelhead. As the commercial catches have declined due to a reduction in fishing effort, the commercial fishery is unlikely to be the major contributor to the decline in Thompson steelhead abundance. The Indian food fishery has a substantial and growing impact, however. Since the province has taken steps to reduce the impact of the sport fishery through catch and release, there is probably justification in working with the Indian community to find ways to reduce steelhead catches.

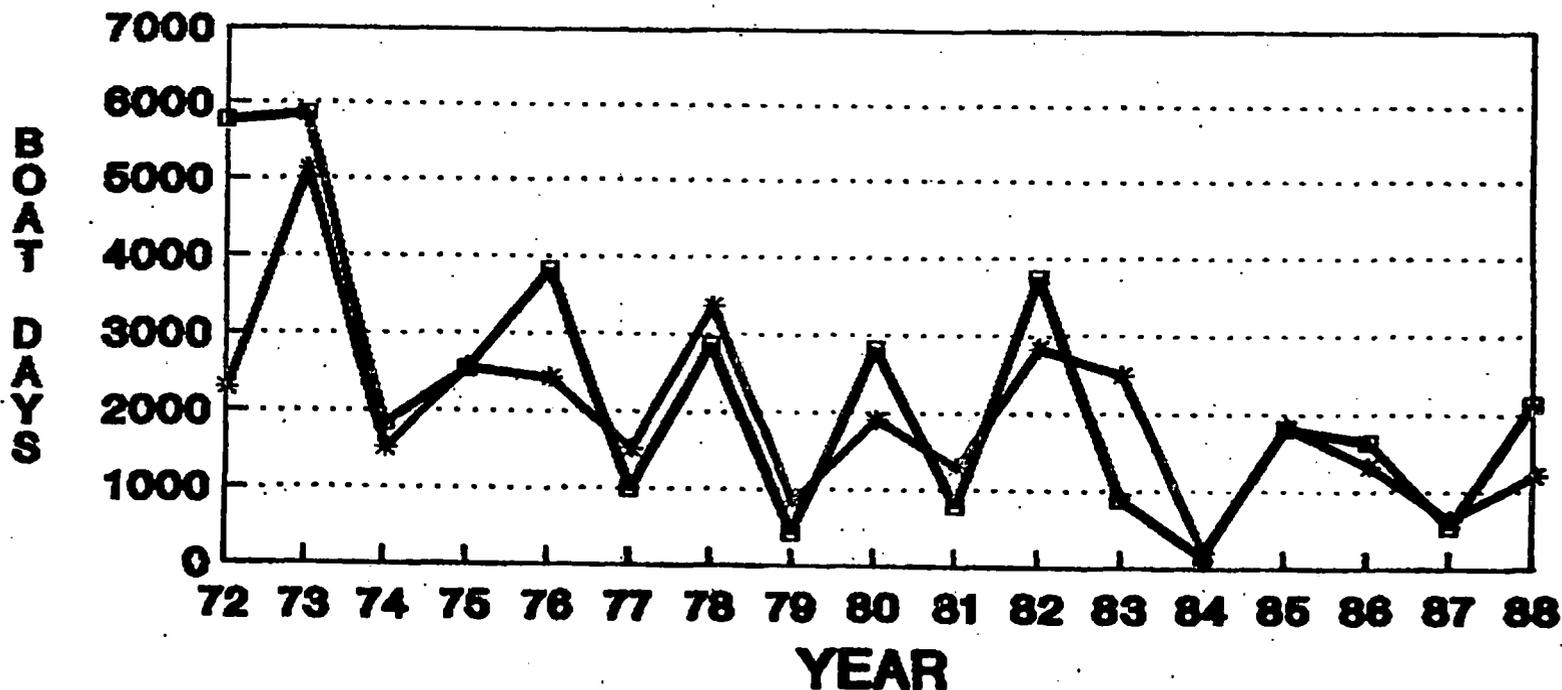
  
for Robin Harrison

Attachment  
c.c. F.J. Fraser

/rr  
memos\jan-feb\schutz.207

Figure 1.

# JOHNSTONE STRAIT COMMERCIAL EFFORT Area 12 and 13 combined



1973 - 1988

—■— Johnstone (GN) . —\*— Johnstone (SN)

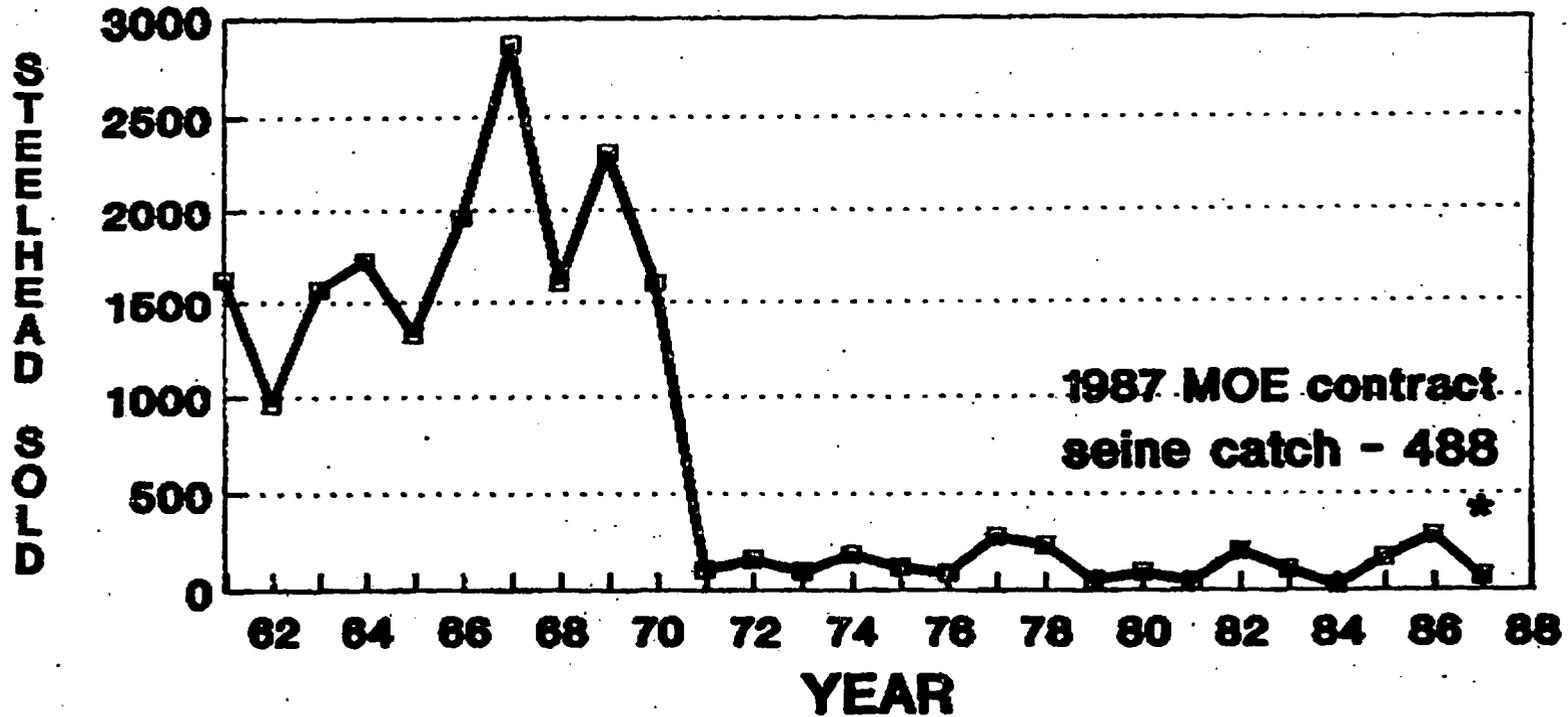
Data from D.F.O. counts, Sept. and Oct.

Figure 2..

# COMMERCIAL CATCH STATISTICS

## SN & GN SEPT.,OCT. (1961 - 1988)

FEB 03 '99 09:53 ENV KAM/LOOPS



COMMERCIAL CAUGHT SH

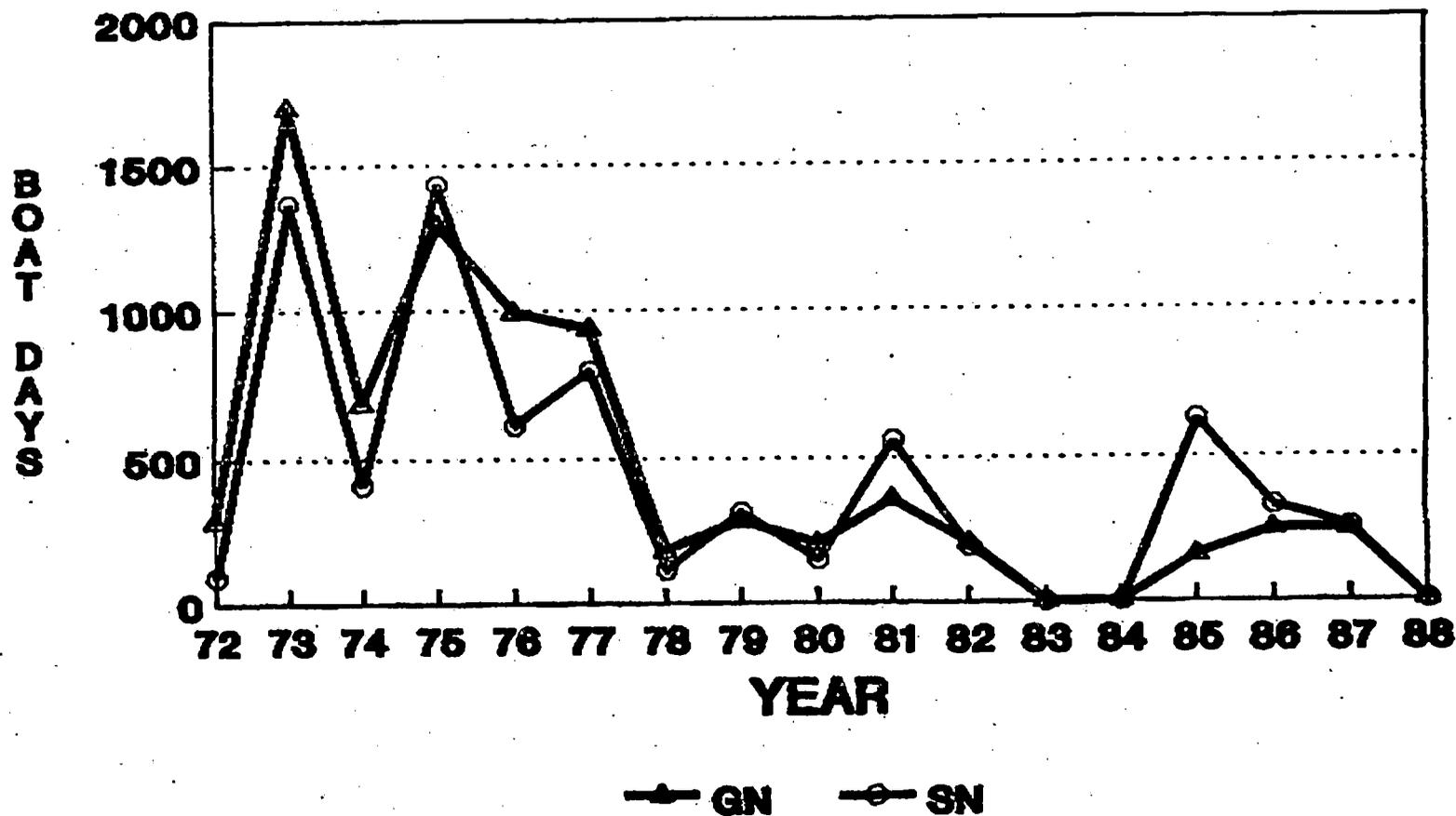
—■— JOHNSTONE ST.

data from DFO sale slips

P.5

Figure 3.

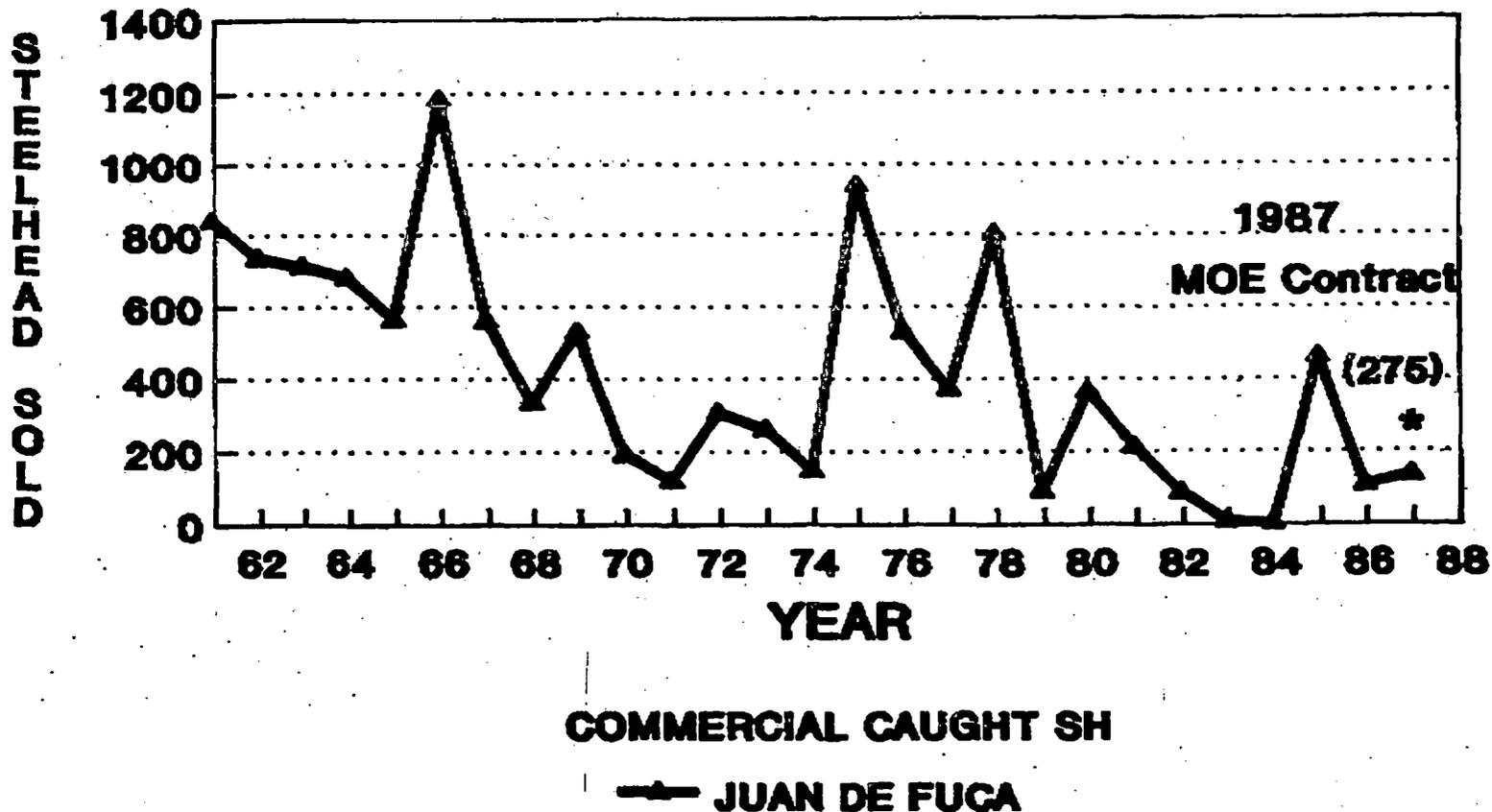
# JUAN DE FUCA COMMERCIAL EFFORT SEPT - NOV (EFFORT - DAYS\*BOATS)



-data from PSC/DFO count Area 20

Figure 4.

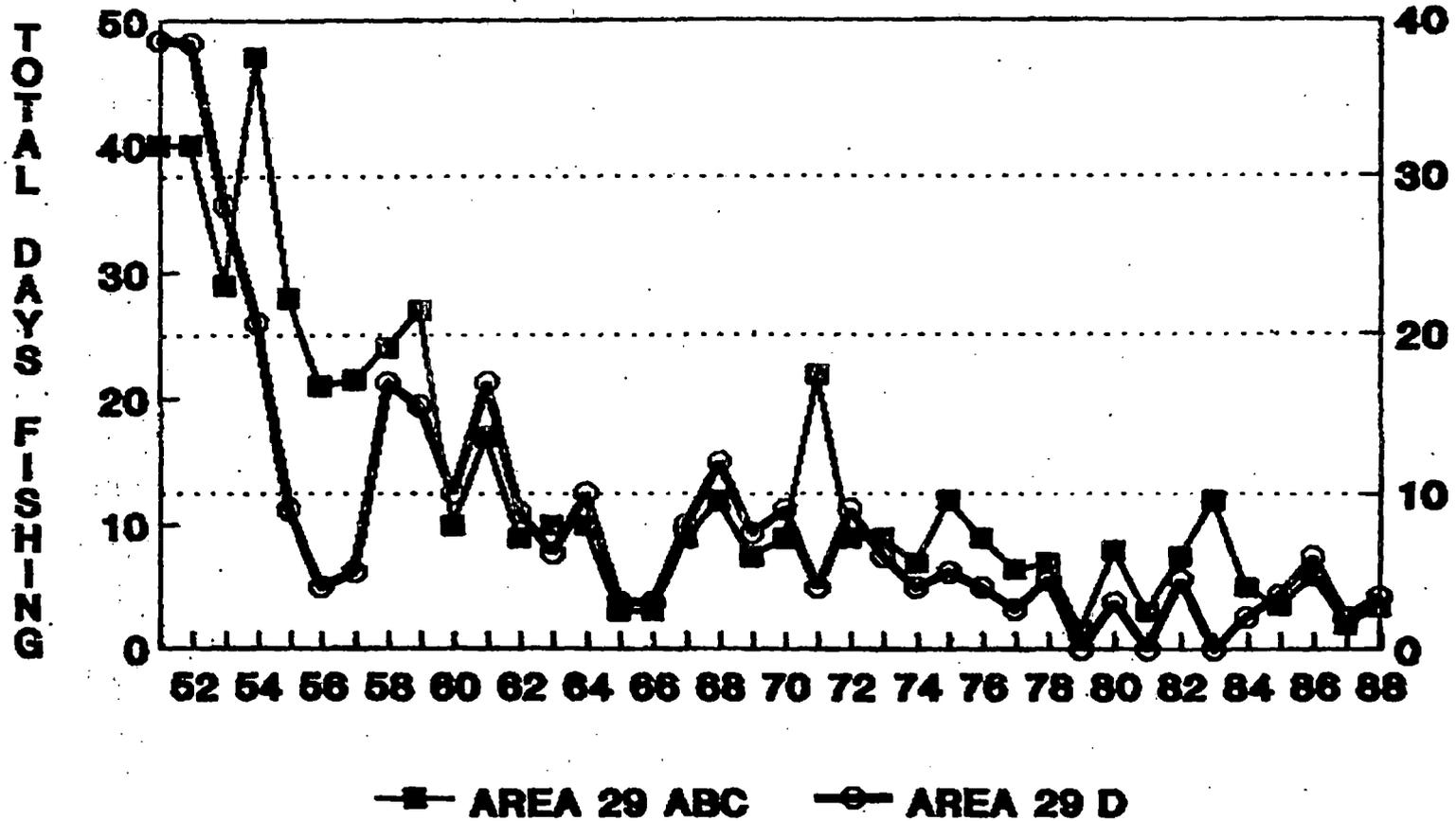
# COMMERCIAL CATCH STATISTICS SN & GN SEPT/OCT (1961 - 1988)



data from DFO sale slips

Figure 5.

# TOTAL DAYS OF COMMERCIAL FISHING AREA 29 SEPT - DEC (1951-88)

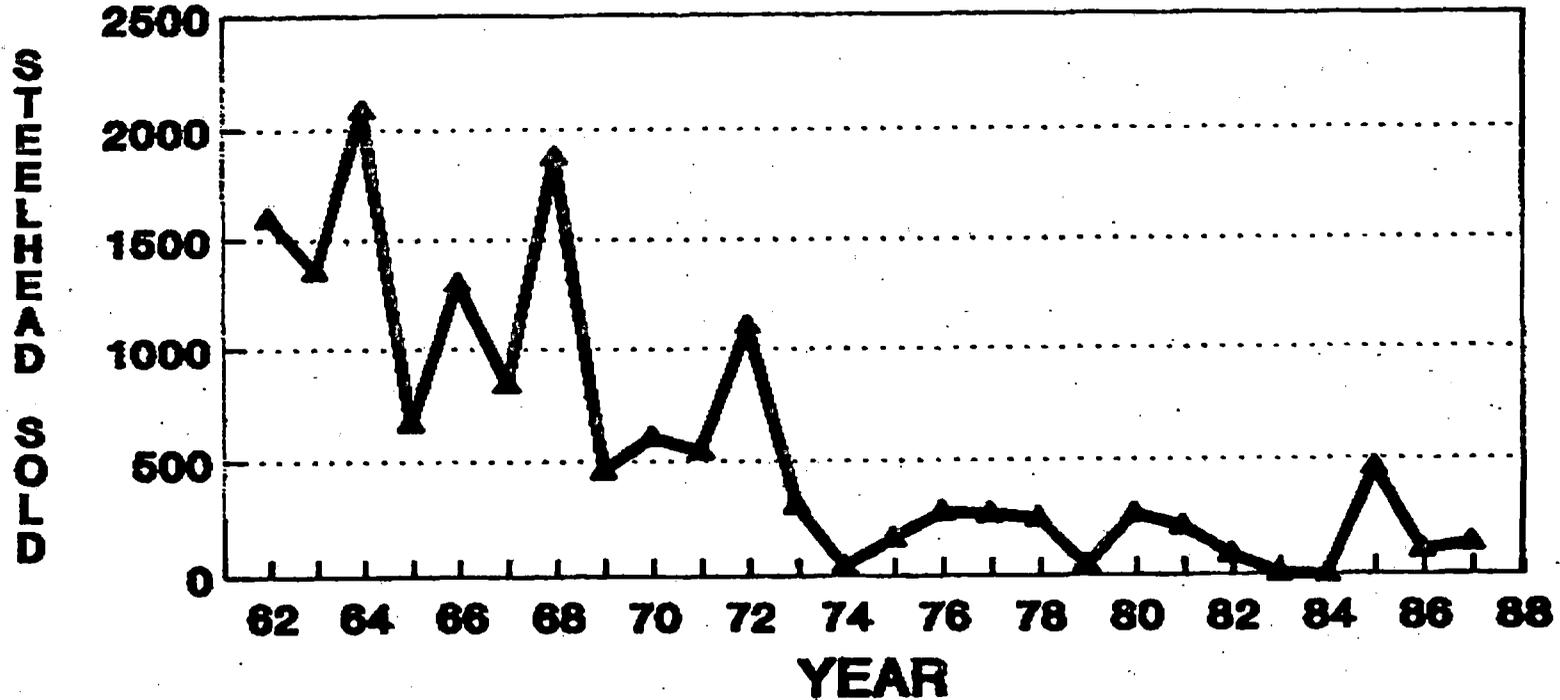


- data from DFO (MF.)

Figure 6.

# COMMERCIAL CATCH STATISTICS

## GN & SN; SEPT, OCT, NOV (1961 - 1988)



COMMERCIAL CAUGHT SH

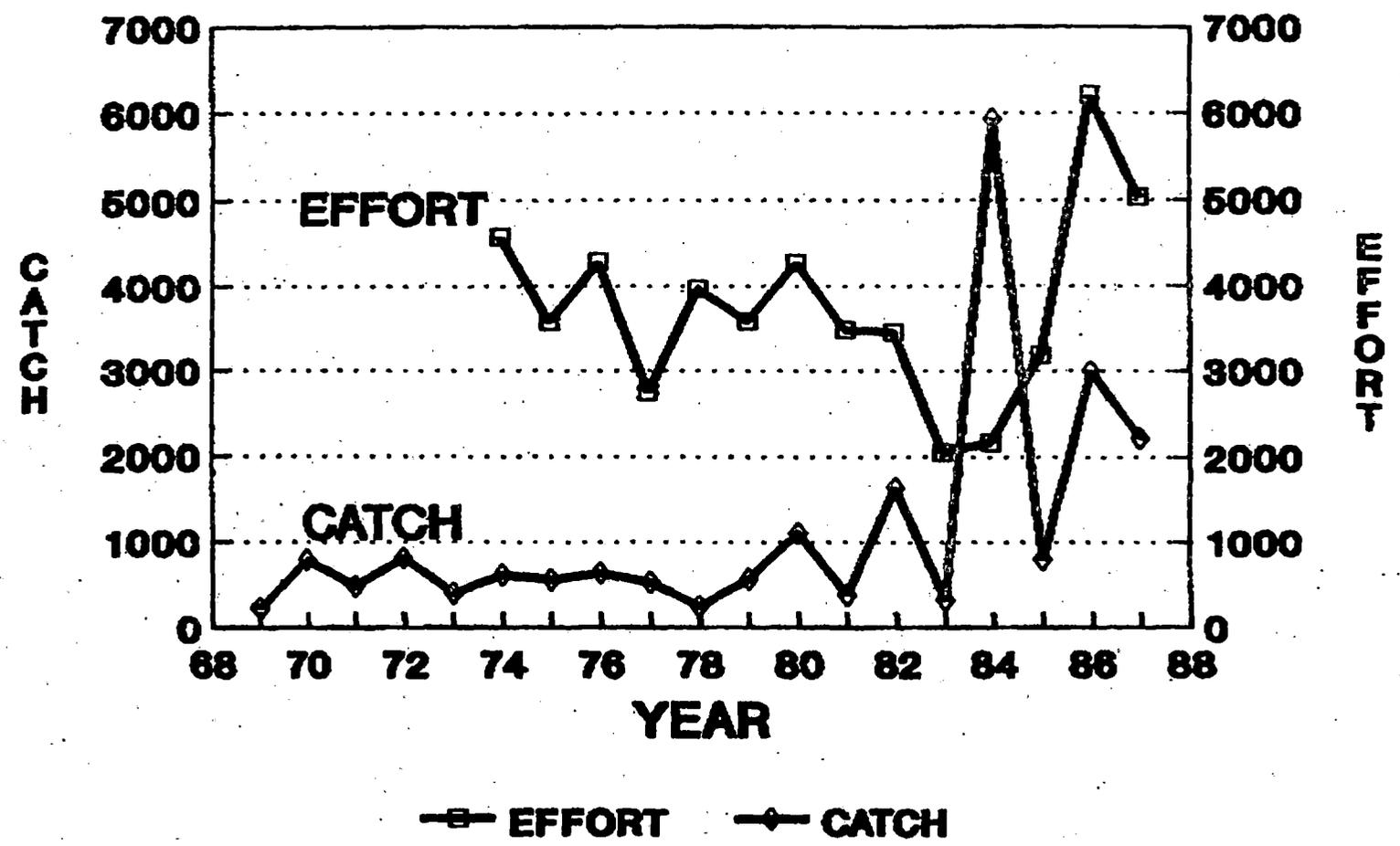
—▲— FRASER

data from DFO sale slips

FEB 03 '89 09:55 ENV KATLOOPS

Figure 7.

# FRASER NATIVE GILLNET 1969-1987 -effort (netdays) and steelhead catch

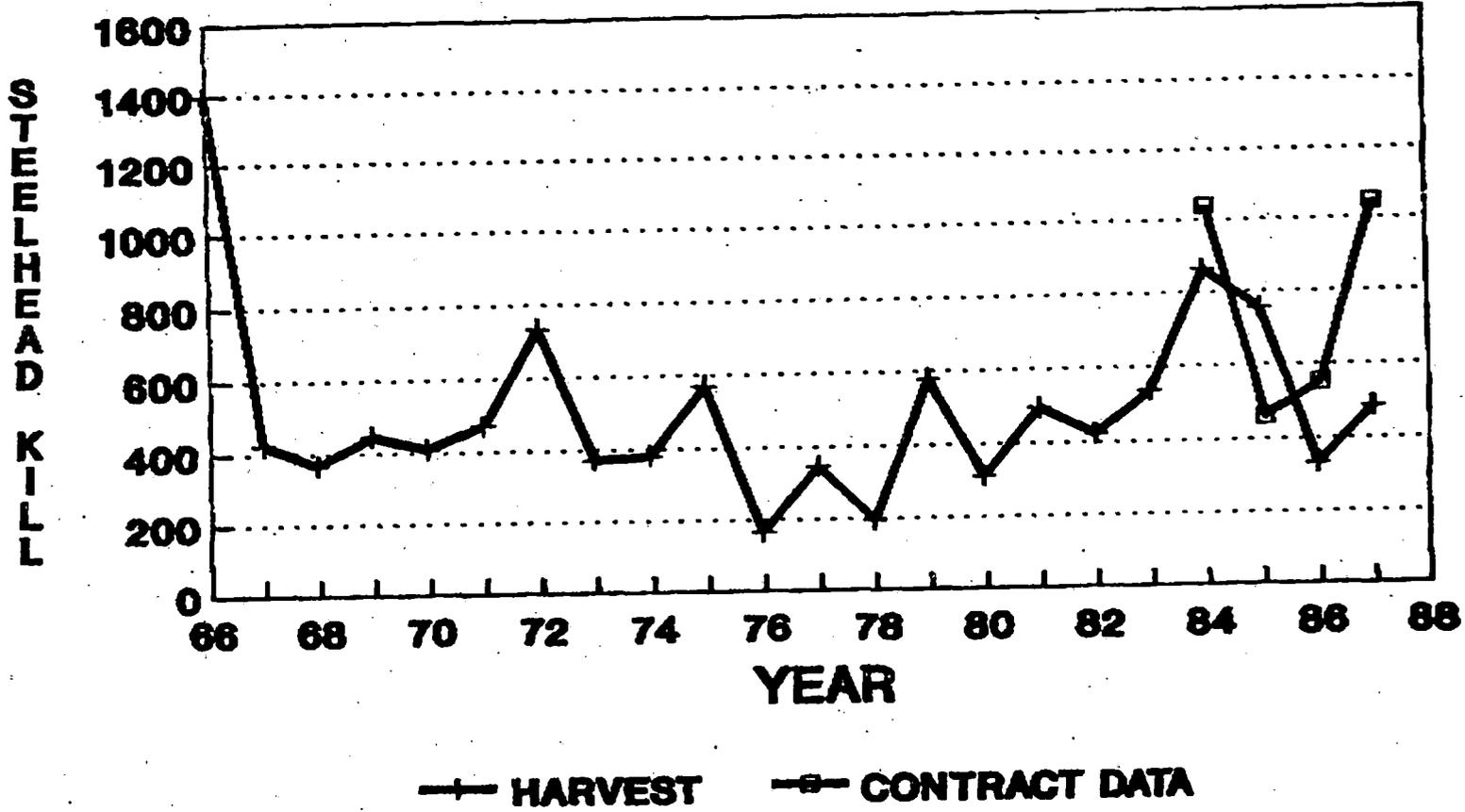


[DFO data, Sept, Oct, Nov]

FEB 03 '89 09:56 ENV KAPLOOPS

Figure 8.

# FRASER RIVER ANGLER HARVEST 1966 - 1987, ALL YEAR



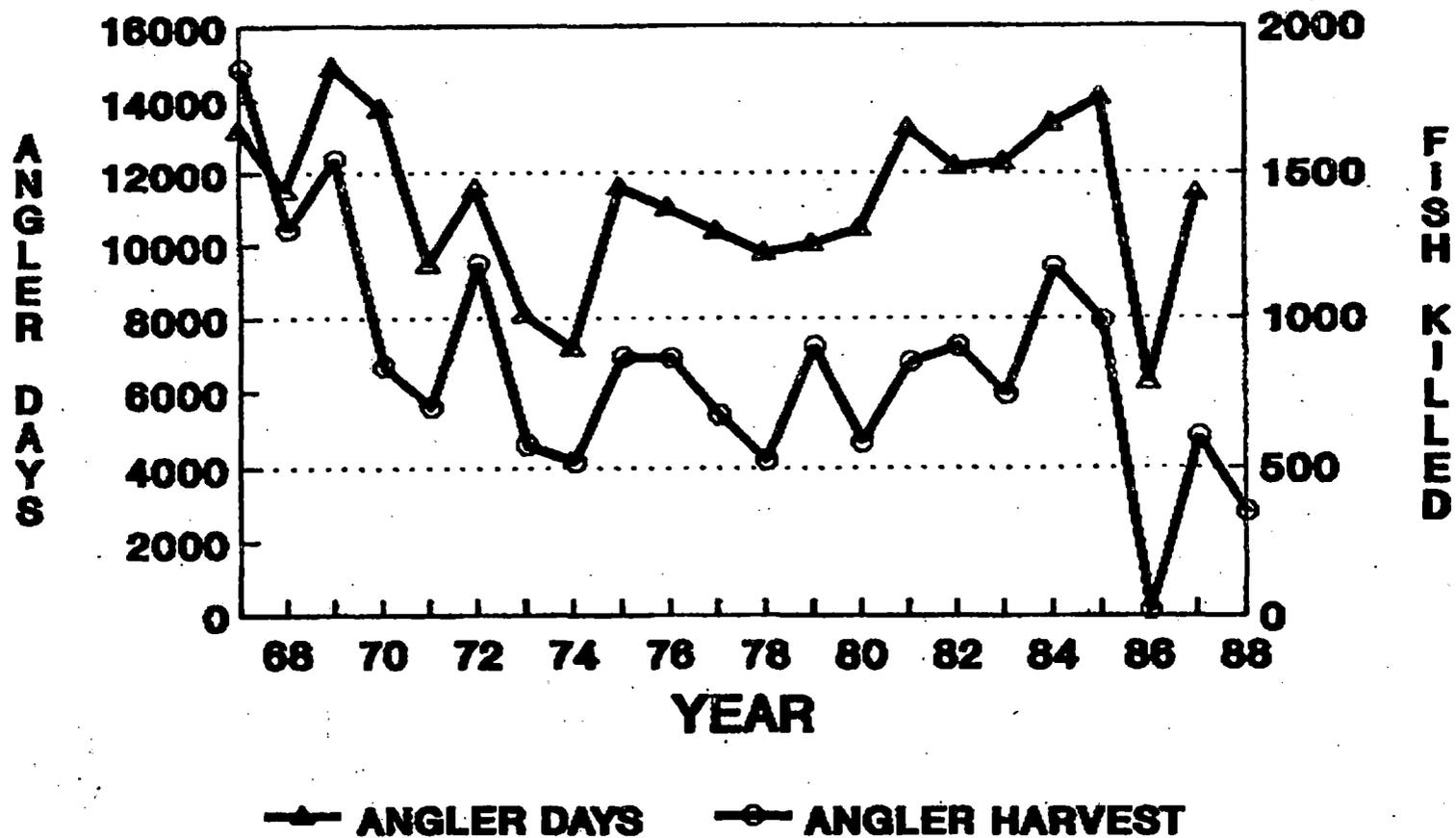
8H Harvest Analysis, MOE/DFO contract

MEB 03 '89 11:23 ENV KAMLOOPS

Figure 9.

# THOMPSON RIVER ANGLER EFFORT

## Angler days per year (1967 - 87)

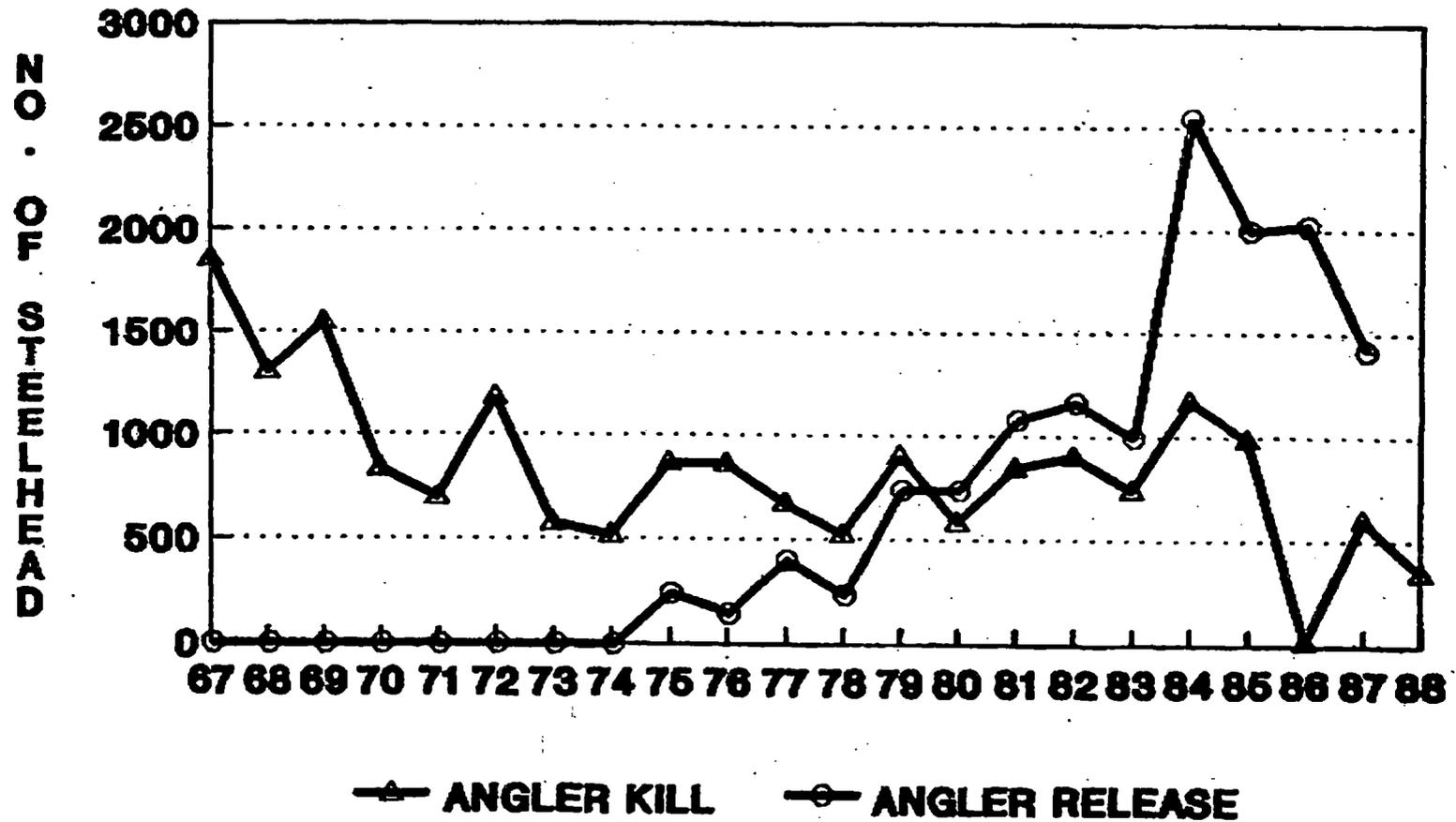


Harvest Analysis data (kill = 0.5)

Figure 10.

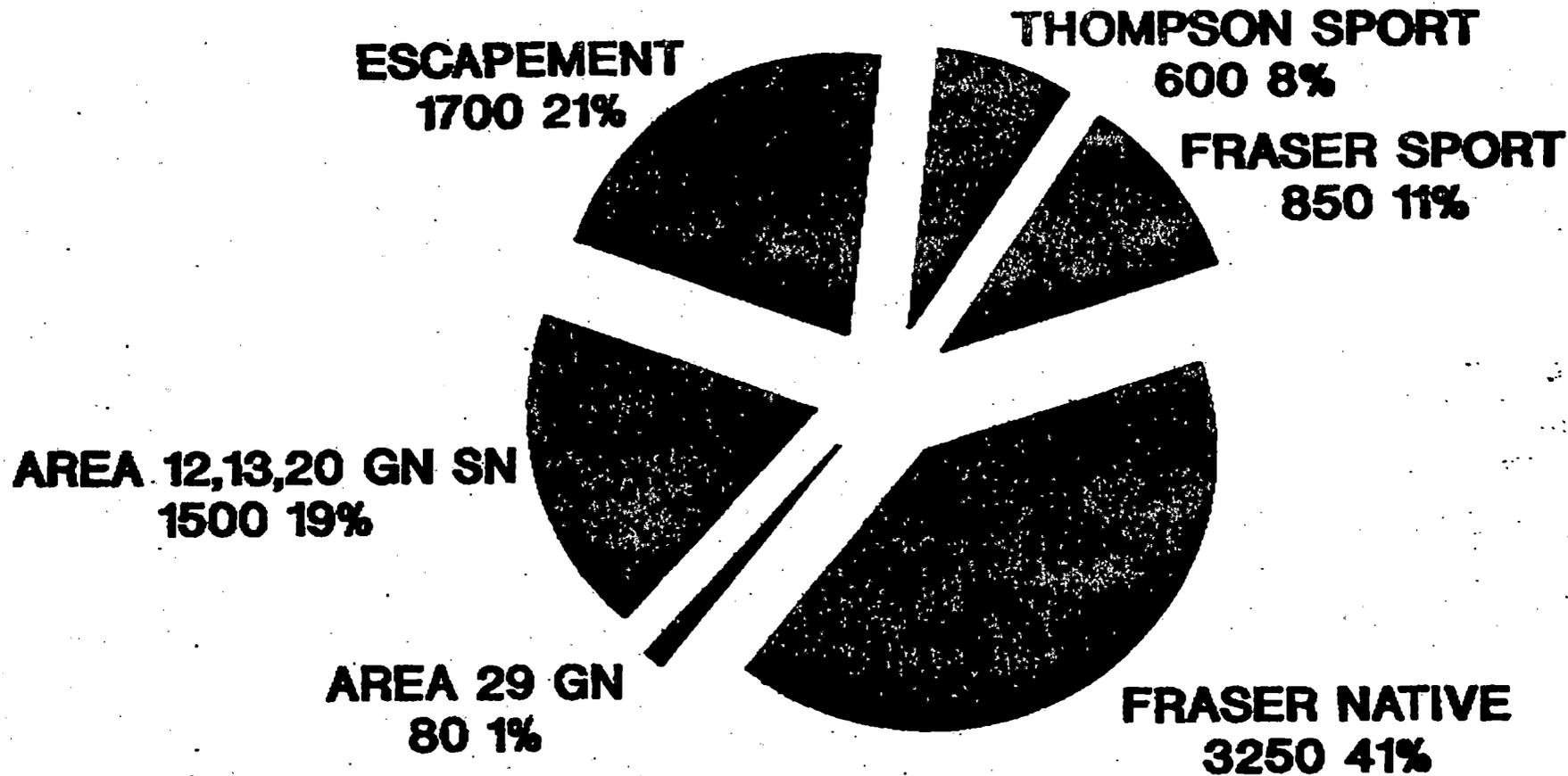
# THOMPSON ANGLER HARVEST TREND

## Kills and Releases per Year



- correct data from Harvest Anal. (- 0.5)

Figure 11. **STEELHEAD HARVEST BY USER GROUP  
1987 RESULTS**

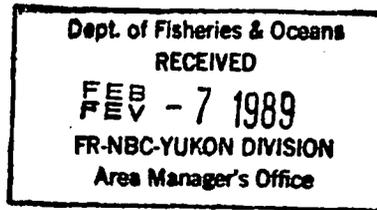


GN - gillnet SN - seine

1110-F9

D. Griggs  
Director  
Resource Enhancement Branch  
Fisheries

Regional Director  
Fisheries Branch



File: 8140-P2

SUMMIT LAKE - PIKE TRANSFER

This is in response to your memorandum of January 6, 1989 on the subject.

Both my staff and their provincial counterparts in MOE have given considerable thought to developing solutions to the potential problem of pike transfer from the Summit Lake drainage into the Fraser River. Needless to say, both options you have identified were considered. However, for various reasons these have been ruled out. The following rationale is provided to explain why these options are not considered feasible.

Firstly, you suggested that one option would be to employ student help to undertake a gillnetting program in Summit Lake. DFO and MOE undertook a comprehensive joint program designed to capture pike in the Summit Lake-Crooked River drainage in 1987. The Summit Lake drainage is characterized by numerous tributaries with extensive wetland areas. These habitats are considered ideal for Northern pike. During this capture program, a total of 986 hours of gillnet fishing was undertaken in Summit Lake alone. Only 1 pike was captured. However, it was estimated to be 5-6 years old and had evidence of prior spawning. At the same time, over 7,000 fish of other species were sacrificed. Similarly, in over 255 hours sampling in the Crooked River, over 4,000 fish were captured but no pike. In Summit Lake tributaries, gillnets and minnow traps were used with the resulting capture of 1,700 fish but again no pike. In total, over 11,000 fish were sacrificed to capture one pike. In view of the above, it is apparent that it would be extremely difficult to capture all pike in the drainage and considering the losses to other fish stocks which would result from such a program, it is not considered realistic.

Copy to: A.P.C. Members  
Feb. 17/89

ZOH

- 2 -

The second option, namely chemical treatment, has been considered but also ruled out for the following reasons. First, the Summit Lake drainage is extremely large and complex. MOE considered the option of chemical treatment and estimated that an excessive amount of rotenone would be required (approximately 30,000 U.S. gal.). Costs for purchase and application were estimated to be in the order of \$800,000 - \$1 million. Additionally, pike re-invasion of Summit Lake and the Upper Crooked River could be a continuing problem. Finally, local residents and anglers in the area expressed concern about pesticide treatment in Summit Lake. These concerns were voiced to MOE officials at a public meeting held September 9, 1987. One major concern was the uncertainty with respect to the effect of pesticides on domestic water supplies. Provincial officials have ruled out this option unequivocally.

The remaining option left to pursue is the physical barrier proposal, hence my December 16, 1988 memorandum to you.

I trust the above will provide satisfactory answers to some of the questions you have posed. Should you wish to discuss this matter further, my staff in New Westminster would be pleased to meet with you at your convenience.

E.R. (Ted) Gaudet

cc: P.S. Chamut  
F.J. Fraser  
O.E. Langer

1110-F9

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S. Willett	" Prince George, B.C.
Bob Houten	" " " "
J. Leggat	" Williams Lake, B.C.

## Final Meeting Notes

Fraser River N.B.C. & Yukon APC

Jan. 13, 1989

### In Attendance:

F. Fraser	B. Masse	J. Boland
K. McGivney	R. Harrison	
A. Tautz	C. Levings	
D. Aurel	O. Langer	

### Sockeye Task Force:

There was concern that the Task Force report does not have a fully integrated habitat management section. The draft section distributed before the meeting was not adequate. It was felt that the report should not be released until the habitat management plan for the Stuart is complete. This is scheduled for the end of March.

R. Harrison outlined several issues that should be presented to the Fisheries Management Executive for direction as follows:

#### 1. Fishing Patterns

R. Harrison said that modeling of the impacts of sockeye rebuilding indicate that initially the impact on other stocks will be positive. Later when rebuilt stocks are to be harvested, fishing patterns and allocations between gears will have to be changed to avoid impact on other species. The Task Force requires guidance on how much change is acceptable.

The APC felt that some estimates of the amount of change required should be developed in order to frame this question for the FME. This could not be carried out in time for the FME meeting scheduled for Jan. 16.

#### 2. Other Species Guidelines

The Task Force used the chinook conservation guideline of reducing South coast chinook harvests by 20%. No similar guidelines are available for other species.

#### 3. Surplus Fish

The Task Force plan may result in escapements, surplus to interim spawning goals. Policy will have to be developed to decide whether those fish should be harvested or left on the spawning grounds to test spawning potential. Further, if they are to be harvested, many other policy questions arise.

There was considerable discussion on this topic. The tendency of the APC was to ignore the question for the time being and put all surpluses on the spawning ground to test potential. It was noted however that the

surpluses will be largest on the dominant cycle year where interim goals are at capacity levels. Most of the potential to be tested is on the off cycle years.

4. Indian Food fisheries

The Task Force has assumed that the IFF will be allocated 500,000 sockeye. As stocks rebuild, there will be more fish in the river. This will require that fishing days be reduced to keep the fishery within the allocation of 500,000. The native community will question what is in this plan for them.

5. Sport Fisheries

There is the question of how the sport fish community will be involved in the plan. They will be concerned about some aspects of the plan such as impacts on chinook, coho and steelhead and will want to know what's in it for them. There was some discussion of the success of sockeye fisheries in Alaska. There was also discussion about the need for an allocation of sockeye to the sport fishery in tidal waters. Commercial fishermen who will make the largest contribution to rebuilding, will want to be assured that they will derive the benefits.

6. Cyclic Dominance

Estimates of the net economic benefits of catch reductions on late-timed runs in the 1988 cycle year and mid-timed runs in the 1987 cycle year. This would increase escapements in the off-cycle years of a number of stocks thereby providing data on the productivity of stocks in the off-cycles. This could possibly allow much greater benefits. It was shown that the 1988 cutbacks were the lowest of the two and generated the greatest net economic benefits. However the 1987 cutbacks generated the most information because they affect more stocks.

There was considerable discussion on how this material should be presented. It was decided that it was too complicated to discuss this part of the plan in detail with the FME at the meeting on the 16th. More time would be required to explain the complexities.

7. Resource Requirements

The implementation of the plan will require additional resources. These requirements include workload increases for instance if new fisheries are introduced to harvest surpluses. Also required will be resources to ensure proper monitoring and research to reduce uncertainty. B. Masse has been assembling this information but it will not be ready for presentation to the FME. However it was decided that the issue be raised with the FME.

8. Regional Coordination

Concern was expressed that when presenting this plan to industry we will require an explanation of the Region

wide planning schedule to assure them that they will not have to take cutbacks in other areas on the coast at the same time as in the Fraser.

### Habitat Management Plan

O. Langer outlined the progress he has made in developing a habitat management plan for the Fraser system. The major progress to date has been to define Habitat Management Areas (HMA's). They are based primarily on stocks and generally follow watershed boundaries. However they are fairly close to Sub-District boundaries.

One aspect that O. Langer thought needed further discussion was how to deal with the Fraser mainstem. In the proposed HMA delineations, parts of the Fraser mainstem form the boundary between HMA's. This means that the mainstem may not be dealt with adequately because it does not fall into either HMA. He felt that the mainstem is important for migration and rearing of all the stocks and should perhaps be dealt with separately in a series of 3 HMA's.

O. Langer proposed that Habitat Management Plans (HMP's) be developed for all HMA's over a period of three years, starting with the Stuart, Shuswap and Fraser South Shore HMA's. The Stuart was chosen because it supports important sockeye stocks and is under considerable pressure. The Forest Service is planning clear-cut logging in the watershed. The Shuswap was chosen because it supports more varied species. The Fraser South Shore does not support major salmon stocks but it is under tremendous pressure from urbanization. It was chosen to see if the planning approach can be applied in such an area.

There was considerable discussion about how to integrate the Habitat Management planning with the Sockeye Task Force plan. The concept of production units was discussed with habitat the underlying basis of production. It was noted that the Task Force plan follows that approach in that stock by stock habitat capacity estimates form the basis of the production goals. What is missing are strategies to protect and improve the habitat base. Also, the salmon species other than sockeye are not yet dealt with.

There was also discussion of the concept of developing an overview of the entire watershed before embarking on individual HMP's. An estimate of production and value by species would be developed for each HMA. There would also be a bird's eye summary of the conflicts in each area so that we could get a sense of the priority of each HMA. Such a document could also be useful immediately for other purposes such as workplans. It was suggested that the recently completed South Coast and Fraser SSMP might serve these purposes. B. Masse would review the SSMP.

The APC was asked if it would support using the remaining budget

of the Task Force to get on with the development of the Stuart HMP. It is projected that it could be completed by the end of March, 1989. The APC supported this proposal.

Next Meeting:

the next meeting was set for Jan. 27, 1989. It is noted that D. Deans will be unavailable for that meeting.

DEPARTMENT OF FISHERIES & OCEANS
R
MAR - 3 1989
Final Meeting Notes
003648
SEP ENGINEERING

Department of Fisheries & Oceans South Coast Division
TO: J. Wild
FEB 27 1989
File No. 3 MAR 3 1989
NANAI 28 C.

Fraser River N.B.C. & Yukon APC

Jan. 13, 1989  
FISHERIES & OCEANS  
FISHERIES PACIFIC

1110-F9

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- |             |             |           |
|-------------|-------------|-----------|
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| K. McGivney | R. Harrison |           |
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