Canada-U.S. Agree on Salmon Treaty

Another full round of negotiations between Canada and the United States on salmon interceptions was held in Seattle November 22 - December 2 in an attempt to finalize the terms of a new agreement between the two countries on Pacific salmon. Follow-up meetings held in Vancouver the week of December 13 concluded with a presentation of the proposals to industry representatives.

Attempts at a settlement have been on-again, off-again for more than a decade. However, agreement appears to be much nearer since the negotiators have now initialled the draft treaty.

The meetings included the two chief negotiators, Dr. Mike Shepard for Canada and his U.S. counterpart Dr. Lee Alverson of Seattle, together with governmental officials, tribal representatives and industry advisors from the two countries.

The negotiators felt that avenues of solution were reached for all of the outstanding issues at the Seattle meetings. When the Vancouver meetings concluded the negotiators said they had found the solutions to all the problems and it would just be a matter of time before a final draft document would be signed and submitted to their respective governments. Shepard stated a document might be ready by January.

At that point the negotiators will recommend the governments submit the Framework Agreement, the fishing regimes and implementation arrangements to their internal processes for early ratification.

The draft framework agreement remains substantially unchanged from July 1982. Both the framework agreement and the fishery regimes are subject to change in further discussions between Shepard and Alverson.

After the last set of negotiations in the spring of 1982, the two negotiators presented a joint report to the governments in July which contained a draft framework agreement and their recommendations for the conclusion of the agreement negotiation and implementation process.

As part of the process the negotiators recommended fishery regimes for intercepting fisheries be developed for the 1983 and 1984 seasons and arrangements for transfer of responsibilities for Fraser River sockeye and pink salmon and the new commission be completed by November 30, 1982.

The main factor in the evaluation by the governments is whether or not the fishing plans represent equity in the balance of interceptions.

Equity — the right of each country to harvest an amount of salmon equivalent to its own production — is the single most important principle of the agreement.

Fishermen's Newsletter

- Letters, Opinion
- New Arrivals
- Bonanza Year

Fisheries and Oceans Pêches et Océans

Volume 5 Number 1 January 1983

Canada

DeBané, Minister of Fisheries, visits Vancouver

The Minister of Fisheries and Oceans, The Honourable Pierre De Bané came to Vancouver in November, his first official visit to the West Coast since his appointment to the Fisheries portfolio in September. Mr. De Bané spent three days meeting with fisheries officials, industry members and touring Salmonid Enhancement Projects.

During a news conference held November 22 prior to returning to Ottawa, Mr. De Bané explained the purpose of his visit: "I came here with an open mind to listen to the needs and aspirations of the West Coast fisheries and to get first-hand advice and information from the industry and my officials."

He said he was most impressed by the degree of public participation in many of the SEP projects, particularly the involvement of native people and stated he had instructed Pacific Region officials to "find ways and means of increasing employment opportunities for natives."

The Minister of Fisheries and Oceans meets the press. (L to R: Deputy Minister, Art May; Director-General Wayne Shinners; De Bané and Gary Vernon, ADM.)

De Bané expressed concern about the many habitat issues which have to be resolved, his main concern being the protection of fisheries resources.

He said he felt confident ways could be found so that the efforts of all user groups would complement one another. He gave as an example the cooperative studies and work which have been achieved between the forest industry and DFO at Campbell River and Carnation Creek.

Mr. De Bané referred to the report of the Commission on Pacific Fisheries Policy as an "excellent analysis" by Dr. Peter Pearse. The Minister stated he had no difficulty with Dr. Pearse's advocacy of directed change for Pacific Fisheries. From his meetings with the Minister's Advisory Council, De Bané said he felt everyone agreed change is needed. But he added that although council members supported some recommendations, they had expressed strong reservations about others.

The Council has agreed to work closely with the Minister and DFO officials over the next few months to consider the recommendations. De Bané said he felt optimistic about working together as a "team" to address the issues identified by Dr. Pearse.

However, the Minister stated he could not ignore his own accountability to Parliament, he must weigh the needs and priorities of all Canadians.

"I am not prepared to delegate my responsibility for decisions, whether for policy or operational matters, to an external body," De Bané said.

Although his background is in law Pierre De Bané has been involved in politics since 1968 when he became the MP for the Quebec constituency of Matapedia-Matane.

Mr. De Bané was appointed ments with the federal government include the positions of Minister of Supply and Services and Receiver General for Canada in 1978.

In 1980 he was appointed Minister of Regional Economic Expansion and in addition held the position of Minister - Advisor for Francophone Affairs to the Prime Minister and the Secretary of State for External Affairs.

He was appointed Minister of State for External Relations at the time of the government reorganization announced on January 12, 1982.

Mr. De Bané was appointed Minister of Fisheries and Oceans September 30, replacing former Fisheries Minister Romeo Le Blanc, now Minister of Public Works.

Communications Branch
Department of Fisheries and Oceans
1090 West Pender Street
Vancouver, B.C. V6E 2P1

Pearse Response Task Force

Dr. Peter Pearse's final report on Pacific Fisheries Policy has been released and is now receiving detailed assessment by a "Pearse Response Task Force" at the Department of Fisheries and Oceans (DFO).

The composition of the Task Force contains names familiar to many fishermen. They are: **David Reid, Al Gibson, Bud Graham, Fred Yeung, David Innell, Mike Halleran** and **Pam McNally.**

Since the report is wide-ranging, containing approximately 300 recommendations, implementation must await detailed analysis of those many recommendations.

User group response to the report has been mixed. Several groups have urged the department not to rush into implementation. One group specifically requested no implementation take place for at least a year.

When Fisheries Minister **De Bané** met with the Minister's Advisory Committee in November MAC members requested no implementation be taken until they had studied the recommendations in greater detail.

In January, the Minister will meet with a special working group of MAC, chaired by United Fishermen and Allied Workers' Union President **Jack Nichol.**

Pearse's report has been widely circulated with over 7000 copies distributed. Demand for the document is still high. During one week recently 287 requests were made to DFO's Communications Branch. An additional 5000 copies of the report have been ordered to meet the demand.

COMMERCIAL FISHING GUIDE

To accommodate possible changes in the Salmon Expectations due to the Canada/U.S. negotiations, the anticipated publication date for the next **COMMERCIAL FISHING GUIDE** is

February 10-15, 1983

LETTERS

Seine fleet's appetite insatiable

Letters to the editor are welcomed. They may be edited for brevity and clarity.

Editor:

After reading your last information bulletin I felt your source of information should come from both sides of the resource, not that this will change the biased opinions you now have.

The user groups are aware of the chinook situation. However, they feel it could be better-managed to give the user groups an advantage and to conserve the chinook stocks.

To make my position clear I am a commercial troller. For the past 25 years I have made my living by this method but I find it getting more competitive every year. With the administration favoring the big monopolies I feel the time for the self-enterpriser is finished as is the fresh fish market. The finger seems to be pointed at the troller for the depletion of the chinook stocks.

Here are a few observations I have made in the past year. Amongst other areas, 11, 12, and 13 closed for a two week period for the conservation of the spawning chinooks, only to be taken by seines at a later date. Some boats took in excess of 6,000 pounds for a two day opening. Of course some boats not quite so experienced and efficient only took 3,000 pounds. Remember! these are all spawners.

If chinook stocks are to be enhanced the running and beach lines the seines have used so effectively must go, especially in Johnstone Straits.

In my experience with trolling we take very few spawners. It seems when the chinook gets close to the spawning stage he is not attracted by artificial lures. But yes! we do take feeders, the average being from 30 to 50 pieces for a twelve day trip.

So the above closure did nothing for conservation.

Other problems that must be apparent to the administration of the resource are the inlets, such as Knights, Kingcome, Smiths, and Rivers; Are these to be left open to the commercial sports element till all chinook stocks are depleted as has happened in many other inlets?

I certainly question the time it has taken the Fisheries Dept. to come up with a figure for commercial harvesting of sport-caught chinooks, and as you know these are all spawners.

I would urge the implementing of the barbless hooks plus observing all commercial boundaries in this case.

The native food fishery which is now mainly made up of seines, could be turned over to the gillnet fleet. I am sure this would strengthen the conservation efforts and slow down that part of the illegal market that now exists.

Looking back there were no problems of this nature before the big efficient seine boats came into the picture. Now the onus is put on the other user groups.

The way I see the resource going now, there will be very little for any of us five years hence. Restoring the creeks is one thing, but satisfying the appetite of the seine fleet is impossible. "Think about it".

Yours truly,
George Powell,
Box 124,
Quathiaski Cove

OPINION

Fraser River Sockeye: Politics of the salmon

Gerard Peters

Gerard Peters *comes to the Department of Fisheries and Oceans with twelve years experience in Indian organizations and local government. Of this article, Gerard says, "I hope it will facilitate communications between all of us who have an interest in fisheries. I think we have to acknowledge that the other guy has legitimate concerns worth exploring. The first step is sharing these concerns. I hope reactions to this and future articles will be shared with me."*

You can write Gerard Peters, c/o Department of Fisheries and Oceans, Communications Branch, 1090 West Pender St., Vancouver, B.C. V6E 2P1.

In September, having just been released from the Lillooet RCMP lockup, Roger Adolph told supporters who'd gathered from throughout the province, "In my eyes and in the eyes of my people, I've done no wrong."

Adolph is chief of the Fountain band near Lillooet. Fountain is one of eleven bands speaking the Lillooet language; together they make up the Lillooet tribe, a part of the Interior Salish group.

The Management Perspective

Fred Fraser of the Department of Fisheries and Oceans (DFO) heads up the management of fisheries over a vast area which includes the Yukon, northern B.C. and the entire Fraser river system. Staff in his division has brought charges against Adolph for fishing during closed periods.

Fraser points out that the Adolph case is an extreme example. Few cases ever reach the courts. His mandate is given him by the lawmakers. These laws say that his first priority with the sockeye is to ensure that enough are allowed to escape and spawn.

His department must also allocate a share to each of the "user" groups. Second only to conservation in priority, is the Indian fishery, followed by the commercial and sports fisheries.

Sockeye & Men's Relationships

The object of all this interest is, on first encounter, a rather simple creature. At age four, weighing an average of six pounds, it returns to its birthplace to spawn and die.

Salmon are a species older than man himself. How have they come to effect, indeed define, how government, Indians and others relate with each other? Or does the difficulty arise when men define the value of salmon in terms of themselves? A review of what we know might help us to better understand.

Sockeye and "Men from Home"

Roughly translated, the Lillooet call themselves the "Men from Home". Little understood by other than themselves, is their regard for the sockeye.

At the turn of the last century, ethnologist Charles Hill-Tout described how the first sockeye caught each season was the object of ceremony. The Lillooet regarded the sockeye as the chief salmon.

"The significance of these ceremonies is easy to perceive when we remember the attitude of the Indians towards nature generally, and recall their myths relating to the salmon and their coming to their rivers and streams. Nothing that the Indian of this region eats is regarded by him as mere food and nothing more."

This regard for the sockeye has changed little. What has changed is that Indians now find themselves in competition for the sockeye. This competition, they say, is governed by rules favouring the opposition.

Settlers and Colonial Politics

Although they arrived slowly, settlers increasingly influenced colonial affairs in general and Indian policy in particular. In a working paper produced for the Treaties and Research Centre in Ottawa in 1981, Dennis Madill says of these settlers, "They were able to gain control of the colonial political structure and to direct Indian policies, usually from an antagonistic stance."

Confederation and Politics

This same attitude carried over from colonial government to confederation. During the debates on the subject of confederation with Canada, one voice spoke for Indian concerns in the legislature. The Honorable Henry Holbrook, J.P. said,

"I would make the adult white population to be 10,000 besides 40,000 Indians; and these Indians ought not to be ignored. If they are not represented, will it not be difficult to make them contented with the change from the Imperial Government to Canada?"

A motion introduced by Holbrook was defeated 20 to 1. This would set the tone for Indian — government relations for the next century.

Salmon and Economics

As a purely commercial product, salmon assumed an importance in the early 1800's when the Hudsons Bay Company dominated the industry. In 1835 the company shipped 4,000 barrels of salt-cured salmon to markets in Hawaii and Asia. Coastal Indians figured prominently in this enterprise. Their catches made the bulk of these shipments.

Cowichan Band youth with salmon spear, an example of traditional fishing.

The salmon business came of age in this part of the world with the advent of canning. In 1876 there were three canneries producing in B.C., but by the turn of the century there were over ninety.

The annual salmon pack climbd from less than 100,000 cases of 48 pounds each in the late 1870's to over two million cases by the early 1900's.

Local and foreign markets for salmon products were firmly established by this time and "salmon as industry" was an important contributor to the economy of the young province.

Economics and the Indian Fishery Policy

It was no accident that regulations affecting Indians and their fishery developed at exactly the same pace as the increasing value of fish as a commodity. Before 1877 fisheries in B.C. were essentially unregulated. Influence exerted by commercial interests and government concern for conservtion changed all that:

—In 1877 the Dominion Fisheries Act included the first official recognition by Canada of native fisheries. It enabled the Minister to issue licences allowing Indians to catch fish for their own use.

—In 1887 the British Columbia Fishing Regulations provided that, "Indians shall, at all times, have liberty to fish for the purpose of providing food for themselves, but not for sale, barter or traffic, by an means other than with drift nets, or spearing."

—In 1894 permission of the Department was required for Indians to engage in the fishery.

—In 1910 a permit was required under which the Department could fix both the time and area that might be fished and specified the type of gear that could be used.

—In 1981 regulations required licences to specify both the species and quantities that could be taken.

Fishery policy and the Lillooet

"Salmon as industry" and the resultant regulations soon touched the Lillooet. For them, the issue was simple. They'd always fished. They'd continue to fish. Tradition would not accommodate politics. They could not conceive of their right to fish being jeopardized by heavy competition from the coast. The most recent example of this view is the Adolph case.

Fisheries and Aboriginal Rights

In the last decade the question of aboriginal rights has been foremost in the minds of Indian people. The federal government has announced a commitment to negotiate. For native people in Pacific Region, the fishery concerns are a major priority.

The Future

Many questions remain to be answered. What will be the effects on fisheries management; on conservation; resource sharing; on International agreements between the U.S. and Canada? There is also the question of inter-governmental relations between Canada and B.C. and relations between Indians themselves. More recently there are the questions raised by the Pearse Commission. All these are questions that must be considered in seeking a final resolution of the Indian fishery issue.

Canada/U.S.A. Agreement Will Benefit B.C. Chinook Stocks

Canada and the United States will soon have a salmon agreement.

The two negotiators have finished their work and have recommended their respective governments sign a treaty. Even if the treaty is not signed immediately both countries still have agreed to manage their fisheries in 1983 under the terms of the proposed agreement.

The agreement makes commitments to rebuild depressed stocks of chinook salmon in both countries within a ten year period. This involves significant catch reductions over the next two years in B.C. and Alaska.

Alaska has relatively few chinook stocks, but harvest large numbers of Canadian chinook. Consequently, the conservation measures will benefit B.C. stocks primarily. Canada could have reduced the harvest of chinooks in B.C. much sooner, but had no assurance that what was conserved here would not be caught later in Alaska. An agreement means Canada can now get on with the job of rebuilding its stocks.

What effect will this have on B.C. fishermen?

During the next two years, the recreational and commercial catch in all areas except the west coast of Vancouver Island will be reduced by approximately 25 percent from the 1981 and 1982 average.

For 1983 this involves reduction of close to 50,000 chinooks in northern troll fisheries, a similar amount in the Strait of Georgia troll fishery, over 50,000 in the sport fishery and over 20,000 in the net fisheries.

For "inside" trollers this could mean larger size limits and/or a shorter season. Each of the following options would reduce the chinook catch by approximately 50,000 pieces:

a) A May 1 opening of fishery and a 22" (55 cm) size limit
b) April 15 opening and 24" (62 cm) size limit
c) May 15 opening and no change in 19" (48 cm) size limit.

(All size limits mentioned are nose to fork length.) There are other options which would achieve the same results.

For northern trollers who already have a large size limit (approximately 24" (62 cm) nose to fork length) it may not be practical to consider larger sizes. If not, then there are few alternatives other than reductions in fishing time. Closures from four to eight weeks will probably be necessary. The length of the closure depends on what time of the season it takes place.

The Salmon Agreement does not call for any catch reductions on the West Coast of Vancouver Island. Canadian stocks are not as abundant there as elsewhere on the coast, and most of the U.S. stocks present do not have serious conservation problems. However, these stocks cannot withstand increased exploitation, and restrictions may be necessary if effort switches to the West Coast during closures elsewhere.

Most of the target net fisheries on chinook salmon have already been eliminated. The chinook catch is now an incidental catch during pink, sockeye and chum fisheries. As it will be difficult to identify the best ways to reduce the harvest of chinooks the department will be asking fishermen for ideas.

Fishermen who bought a 1983 salmon licence without knowing about the new chinook restrictions may want to change their choice of area. The department will accept these changes up until March 15, 1983.

A series of meetings with fishermen will start in January to determine the least disruptive ways for each gear type to do its share of conservation. The department will consult with fishermen's organizations.

Independent fishermen who want their opinions considered are encouraged to express them to one of the following groups:

U.F.A.W.U., Native Brotherhood, Pacific Coast Salmon Seiners Association, Vessel Owners' Association, Northern Trollers Association, Gulf Trollers Association, Pacific Gillnetters Association, Prince Rupert Vessel Owners' Association, Prince Rupert Co-op Fishermen's Guild.

Dr. Neil Bourne with domestic scallop.

New Arrivals at PBS

Dr. Neil Bourne anxiously awaited their arrival at the Nanaimo airport. Their journey had begun in Mutsu Bay in the Aomori province at the top end of Japan's large island. Within 24 hours, if all went well, they would reach their destination, the Department of Fisheries and Oceans' Pacific Biological Station at Nanaimo. The timing was critical. if they were out of their natural element beyond 24 hours, their chances for survival would be greatly reduced.

"They" are of the genus *Patinopecten;* scallops to the layman. More specifically, *Patinopecten yessoensis* or the Japanese scallop, closely related to the native Weathervane scallop *(Patinopecten caurinus).*

To Dr. Bourne their close relationship to the native Weathervane and the similarity between the environment of their origin and that of the west coast raised some interesting possibilities.

He would use these fifty specimens (half male; half female) as brood stock. How their offspring adapted to local conditions and the economic viability of cultivating them was what interested Dr. Bourne.

The Japanese lead the world in marine culture. Beginning in the mid-60's they have put much effort toward the cultivation of scallops while continuing to harvest natural stocks. As a result of cultivation, their harvest of scallops has increased steadily.

In 1972 their harvest of cultured scallops reached the level of their harvest from natural stocks. Since then, however, their cultured stocks have far outstripped their harvest of natural scallops. Theirs is the only country successfully commercializing scallop culture. Production in 1981 was 120,000 metric tons, the highest in the world.

(Continued page 4)

NEWS IN BRIEF

Interim Report on AMAX

The new minister of Fisheries and Oceans **Pierre De Bané** released the 1982 interim report of the Scientific Review Panel on Amax, November 22. "Although some specific studies still have to be completed, I am quite satisfied with the results of this report,"said Mr. De Bane.

In the summary comments, the Panel, chaired by **Dr. J. E. McInerney** of the University of Victoria, stated "In general the Amax/Kitsault tailings discharge has achieved a high level of compliance in its initial 15 months of operation" and that "progress on actions and studies recommended in the Scientific Review Panel's 1981 report has been very satisfactory."

The Panel will continue reviewing additional technical information produced from ongoing studies by the Department of Fisheries and Oceans, Environment Canada and Amax of Canada Ltd. prior to submitting annual reports for this past year, 1983 and 1984.

Reminder of Rule 26

According to Chief Enforcement Officer, **T. M. Moojalsky,** this past year a number of commercial fishermen were stopped by the R.C.M.P. Marine Section for violation of Rule 26 of the International Regulations for Preventing Collisions at Sea. Since some fishermen appear not to be aware of its existence Rule 26 is as follows:

Rule 26
Fishing Vessels

(a) A vessel engaged in fishing, whether underway or at anchor, shall exhibit only the lights and shapes prescribed in this Rule.

(b) A vessel engaged in trawling, by which is meant the dragging through the water of a dredge net or other apparatus used as a fishing appliance, shall exhibit:

(i) two all-round lights in a vertical line, the upper being green and the lower white, or a shape consisting of two cones with their apexes together in a vertical line one above the other; a vessel of less than 20 metres in length may instead of this shape exhibit a basket.

(ii) a masthead light abaft of and higher than the all-round green light; a vessel of less than 50 metres in length shall not be obliged to exhibit such a light but may do so.

(iii) when making way through the water, in addition to the lights prescribed in this paragraph, sidelights and a sternlight.

(c) A vessel engaged in fishing, other than trawling, shall exhibit:

(i) two all-round lights in a vertical line, the upper being red and the lower white, or a shape consisting of two cones with apexes together in a vertical line one above the other; a vessel of less than 20 metres in length may instead of this shape exhibit a basket.

(ii) when there is outlying gear extending more than 150 metres horizontally from the vessel, an all-round white light or a cone apex upwards in the direction of the gear.

(iii) when making way through the water, in addition to the lights prescribed in this paragraph, sidelights and a sternlight.

(d) A vessel engaged in fishing in close proximity to other vessels engaged in fishing may exhibit the additional signals described in Annex II to these Regulations.

(e) A vessel when not engaged in fishing shall not exhibit the lights or shapes prescribed in this Rule, but only those prescribed for a vessel of her length.

Kwantlen Courses

Kwantlen College is offering two courses of special interest to fishermen, towboat operators and other mariners making a living on B.C. coastal waters.

They are a two-day course on Sea Survival and an Advance Open Water Diver Certification course with emphasis on using tools and tackle underwater to make emergency hull repairs, clear web from a wheel, replace zincs and recovery of grounded or sunken vessels.

Those registering for the two day Sea Survival Course will participate in a three hour open water exercise of launching and boarding a life raft while wearing survival suits.

For further information contact A. R. Tarves at the Newton Campus, 591-1111 (local 265).

Pacific and Freshwater

GARY C. VERNON has moved from Assistant Deputy Minister (ADM), Fisheries Economic Development and Marketing, to ADM, Pacific and Freshwater Fisheries. The appointment took effect October 4. Mr. Vernon will be based at DFO Headquarters in Ottawa.

As ADM of this DFO sector, Mr. Vernon is responsible for the planning, direction and coordination of fisheries management and research programs in the Department's Pacific, Western and Ontario regions; also for national programs of fisheries habitat protection, freshwater research and policies governing the management of Indian subsistence fisheries.

New Director of Information Appointed

Wayne Shinners, Director-General of Pacific Region for the Department of Fisheries and Oceans (Canada) announces the appointment of **Mike Halleran,** well-known B.C. conservationist, journalist and film maker as Director of Information for Pacific Region.

Halleran comes to DFO with a wide range of experience in all fields of resource management communications. He has done consulting, film making, writing and other assignments for the B.C. Ministry of Forests, the Fish and Wildlife Branch, the Ministry of Education and the National Film Board as well as previous assignments for DFO.

Halleran is also a past director of the B.C. Wildlife Federation and was for more than 10 years a television producer at CBC producing over 40 documentaries on natural resources and the environment. He is a three-time winner of the "Anik Award" for excellence in documentary film making in Canada, is a frequent speaker at environmental conferences and has been a regular contributor to the outdoor pages of the Vancouver Sun.

An avid fisherman, hunter, naturalist and photographer, Halleran states that "winning friends" for the fisheries resources of the west "and the habitat that sustains them" will be his main priority as Director of Information at DFO. He assumed his new responsibilities on December 1st, 1982.

Appointments

Paul Sprout was recently appointed Senior Biologist for Northern Operations, responsible for all management biology programs including salmon, herring and shellfish. Paul will continue working out of the Prince Rupert office where he previously coordinated herring, herring spawn on kelp and Shellfish fisheries.

Denis Rowse has been appointed Senior Habitat Biologist for Northern Operations as head of the Habitat Management unit which is being decentralized to Prince Rupert. Denis previously worked in Senior Management in the pulp and paper industry in effluent control and administration; he is a long-time Prince Rupert resident.

Gordon Kosakoski has moved from Vancouver headquarters and is now acting Senior Biologist for the South Coast's Division Habitat Management Unit which has also been decentralized to Nanaimo.

Race for Survival — Return of the Sockeye

This was a bonanza year for Fraser River sockeye with a total return of 14.3 million fish, the largest since 1958 and the second largest on the cycle since 1902.

The total escapement of over four million is the largest on record.

Both Adams River and Lower Shuswap River sockeye were predominate on the 1982 cycle with approximately ten million of these two stocks returning and providing the bulk of the commerical catch worth approximately $76 million.

The estimated 1.65 million sockeye run to the Lower Shuswap is the largest since the international Pacific Salmon Fishing Commission began managing the resource. The 500,000 escapement is possibly the largest since 1909.

The Adams River run also increased from about five million total return in 1974 to a present figure of approximately 8.2 million fish. The concentration of sockeye in the Adams was 2.1 million, considered an ideal number, while the lower Shuswap River area increased from the 1958 figure of nearly 10,000 to more than 500,000 this year. With 420,000 spawners in the rest of the district, the numbers indicate a better distribution and less dependency on the Adams.

The rebuilding of the resource is a gradual, complex and ongoing process.

Until 1913 the commercial fisheries had been very successful, with catches averaging nine million sockeye annually. That year the Fraser River produced a catch of 31 million fish and six million headed up the Fraser to spawn. However, rock slides associated with railroad construction in the Fraser Canyon all but blocked migration. During the following years commercial catches rapidly decreased, dropping as low as one-seventh of their former amount.

The Adams River migration, unlike most other sockeye runs, occurred later in the season. Because of better water conditions than in the earlier months, the Adams River sockeye were saved from the Hell's Gate slide of 1913.

However, they were the victims of a logging company's activities during the early 1900's.

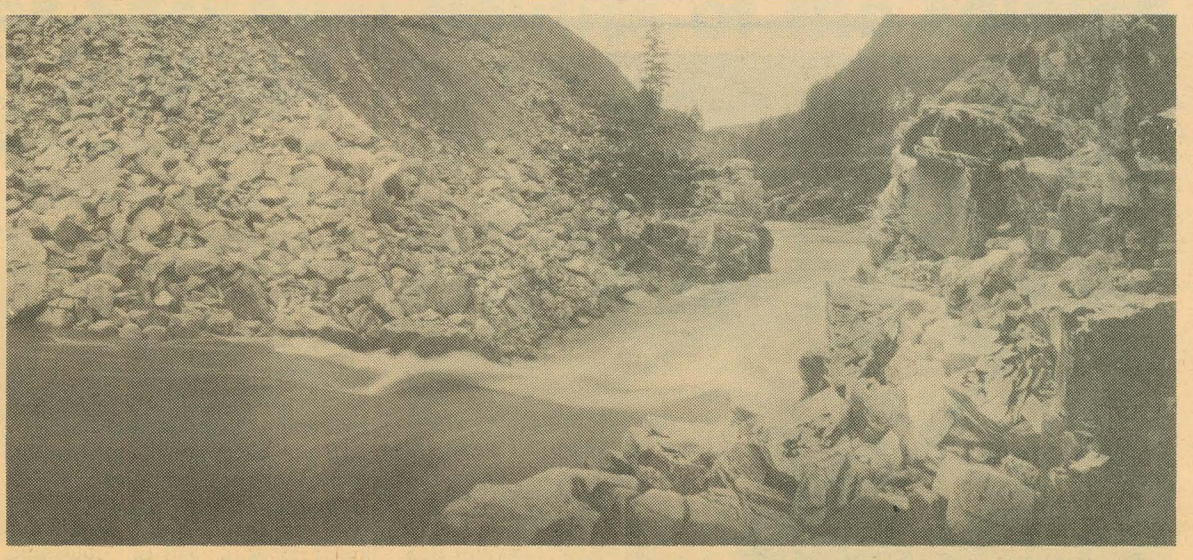
The company built a splash dam at the upper end of the Adams River at the outlet of Adams Lake. The dam was used to store water which would be released suddenly to "flash-float" logs down the river. The results were disastrous for the fish. It wasn't until 1922 when the dam was no longer used the Adams River run began to rebuild, but in a different year from the original 1909-1913 cycle.

Because of the decimation of other stocks, by 1934 the Adams run was larger than all the other Fraser sockeye runs combined.

In 1937 the International Pacific Salmon Fisheries Commission was established to restore the Fraser River sockeye runs. Its mandate was "For the protection, preservation and extension of the Fraser River, with costs to be shared equally by Canada and the United States."

Present negotiations between Canada and the U.S. on salmon interceptions will mean that Canada will regain management responsibility for Fraser River sockeye and pink salmon. Under the terms of the new agreement Canada will set escapement objectives, project allowable catches and conduct enhancement and research programs for the stocks. An international agency, the Fraser River Panel of the new Pacific Salmon Commission will design regulations for the Canadian and U.S. fisheries on the approaches to the river to ensure that the agreed sharing arrangement between the U.S. and Canada for the catch are also met.

Today, through various research programs and projects such as the construction of fishways, the stocks are gradually being revitalized despite sometimes almost insurmountable odds.



Hell's Gate Slide, 1913.

CNR's Twin Tracking Monitored

Twin Tracking of the CNR Mainline to Vancouver

The Canadian National Railway (CNR) is expanding its transport capacity in western Canada by building a second track to Vancouver, paralleling the existing mainline. The twin track will help meet rising demands in the 1980's for bulk commodities such as coal, grain and potash. Since portions of the twin track will also parallel several of British Columbia's important salmon-producing rivers, the Department of Fisheries and Oceans is playing an active role in the planning of the project to ensure potentially adverse effects on salmonids and their habitat are minimized.

The major concern from a fisheries perspective is the potential danger of obstructing or retarding upstream salmonid migration. The construction of the CNR's original mainline track through the Fraser Canyon triggered a slide at Hell's Gate in 1913. The slide prevented major runs of sockeye and pink salmon from reaching their spawning grounds upstream. Some of these runs have still not fully recovered.

Although the twin tracking project is well underway in Alberta and in some less environmentally sensitive regions of B.C., approximately 500 km of track paralleling the Albreda, North Thompson, Thompson and Fraser Rivers still remain to be twinned. Most of these sections have enough land available to enable the second track to be built without affecting the rivers. But approximately 80 km of river bank at various points along the route require the construction of rock fills to carry the new track. Since the centre line of the new track will be about 4.5 metres from the existing one, the river bank may have to be extended accordingly. In addition, 40 km of tunnel will be constructed to by-pass such sensitive areas of the affected river systems as Hell's Gate, Scuzzy Rapids and the Thompson Canyon.

Encroachment by river bank rock fills, concrete abutments and retaining walls can increase river flow velocities by channeling the water through a more constricted passage, and by eliminating many of the small natural river bank indentations which normally decrease the flow speed. Increased water velocity makes upstream swimming slower and more difficult for returning salmonids. Any difficulties or delays encountered cause fish much stress, a factor which can frequently reduce spawning success.

Other concerns of the Department of Fisheries and Oceans are direct or indirect loss of spawning and rearing habitat and the destruction of fish or eggs during construction and maintenance operations.

Task Force Formed

Because of the potential environmental impact, a joint Department of Fisheries and Oceans/Environment Canada Task Force was established in 1980, with additional representation from the provincial Ministry of Environment and the International Pacific Salmon Fisheries Commission. Under the chairmanship of John Payne of the Habitat Management Division of DFO, the Task Force is reviewing the project and providing CNR with environmental advice.

In addition, CNR hired a team of consultants which produced three environmental study reports consisting of two written briefs and a map folio.

Because of the many questions which still need to be answered, a future study program has been drawn up by the consultants.

For instance, information is required on the swimming ability of pink salmon and the effect fills have on those upstream migratory pathways which are close to the river banks.

An estimated $4 million may have to be spent on environmental studies before the project can be finalized.

Radio Tracking Used

One study was conducted last October during the Adams River sockeye run.

A four-man team spent three weeks implanting returning stock with tiny radio transmitters. The fish were then tracked along a 112 km section of the Thompson River from where it empties into the Fraser River at Lytton to where it flows out of Kamloops Lake at Savona. The project demonstrated the feasibility of using the transmitter technique to determine which sections of the river cause upstream migrants difficulty due to high water velocities or constricted pathways. Intensive study and careful design of the proposed railway construction will be necessary to ensure that existing conditions are not made worse.

The CNR twin tracking project proposal and studies have now progressed to a point where public input is desirable and useful. There will be provision made for public input in the near future, when the project is referred to the Federal Environmental Assessment and Review Process.

Preliminary Review of 1982 Landings

Preliminary estimates of landed value of all fish caught in British Columbia in 1982 totalled $219.9 million, which is 4.8 percent lower than the 1981 total of $231 million. These values do not include oysters, year end bonuses for salmon, or groundfish offloaded onto foreign fishing vessels.

Salmon landings were only 54,000 tonnes in 1982, compared to 76,000 tonnes in 1981. In 1982 the landed value of salmon was $130 million, 48 percent lower than the 1981 value but 14 percent above the ten-year average, from 1973 to 1982.

Herring landings will be only 31,500 tonnes this year compared to 34,000 tonnes in 1981, due to an anticipated reduction in the amount of food herring that will be taken. Nevertheless, the landed value for herring is expected to be $47 million, up 26 percent over 1981 levels, due to a strengthening roe herring market.

A slight deeline in halibut landings in 1982 will be offset by an increase in landings of other groundfish species such as hake and dogfish. Overall groundfish landings are expected to be 35.2 thousand tonnes in 1982 compared to 28.7 thousand tonnes in 1981. As groundfish prices did not increase significantly in 1982 the landed value is expected to be $28.5 million.

Shellfish and other species showed a slight decline in landings to 12,000 tonnes.

The landed value is expected to to be $14 million this year.

Big Winners in Tagging Draw

In the third and final draw in the International Salmon Tagging Program both Alfred E. Henry of Port Simpson and Clement S. Edwards of Mission City won $2500. The draw was held in Prince Rupert, October 5 and conducted by Gene Simpson, Manager of B.C. Packers and Robert Strand, Fleet Manager of Prince Rupert's Fishermen's Co-op.

The draw was the climax for the largest adult salmon tagging program that has ever taken place on the Pacific Coast. Sockeye and pink salmon of northern B.C. and Alaskan waters were the program's target species. Similar draws were held in Washington State during the fishing season.

The tagging effort will provide information on interception rates and migration routes, and assist in setting Canadian and American catch quotas.

Lloyd Webb, Canadian coordinator for the tagging program said he is very pleased with the results: "The objectives of the tagging program were met and fishermen caught and returned about ten per cent of the 200,000 tags that were put in," says Webb.

The collection of tags from fishermen and spawning ground surveys ceased November 9.

Brian Riddle, research scientist with Pacific Biological Station in Nanaimo is now analysing the data.

Scallops Continued from page 3

Canada's commercial scallop harvest is restricted mainly to the east coast where the sea scallop *(Placopecten magelanicus)* is harvested. While Canada reflects a decreasing trend in scallop harvest, the Japanese, by virtue of cultivation begun in the mid-60's have become the world's leading producer.

While this shipment will be the first of several, Dr. Bourne stresses that, "Just because we're bringing in this exotic species doesn't mean we'll be ignoring the native scallops. In the long run, greater effort will be made towards cultivating the native species. We just want to try to touch all corners at once."

As it turned out, only one or two Japanese scallops succumbed to the rigors of international travel. The survivors will be kept in quarantine under controlled conditions.

The quarantine conditions will ensure that no pests, parasites or diseases are brought in with these specimens. The controlled conditions will bring the scallops to ideal spawning condition.

Each female could potentially produce spawn in the millions. Dr. Bourne hopes to raise one to two hundred thousand juveniles from each female.

International cooperation will be furthered by the arrival in February of Mr. Minoru Takarada, a Japanese biologist specializing in scallop culture. His arrival will coincide with the period just before the natural spawning cycle.

Once they have spawned, the scallops' departure won't be as heralded as their arrival.

Dr. Bourne says, "We might eat them."