

DISCUSSION PAPER

**TOWARDS SHARE BASED MANAGEMENT OF THE BRITISH COLUMBIA
COMMERCIAL SALMON FISHERY**

**FISHERIES AND OCEANS CANADA
PACIFIC REGION**

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Introduction

On April 14th 2005 Fisheries and Oceans Canada announced a blueprint for change in the management of Pacific fisheries. This blueprint included a vision for the fisheries of the future and a series of principles to guide reforms intended to address continuing problems related to: resource conservation and sustainability of harvesting; the poor economic performance of some fisheries; the urgent need to meet the aspirations of First Nations for increased economic access to fisheries resources, and; growing conflict between different groups of harvesters over resource sharing.

Since that time reform of Pacific fisheries has been proceeding. Specific measures introduced to date include the integration of the management of all seven groundfish fishing fleets on a pilot basis and the establishment of the Pacific Integrated Commercial Fisheries Management Initiative (PICFI) in July 2007. Among other things, PICFI provides significantly increased funding to facilitate increased First Nations participation in commercial fisheries and access to training and capacity building to enable First Nations to take full advantage of these new opportunities. PICFI has also provided support for improvements to catch monitoring programs and more collaborative approaches to fisheries management.

In addition, specific direction was provided under PICFI for a movement towards clearer harvest sharing arrangements in the commercial salmon fishery. This is intended to improve conservation and economic performance in this fishery by establishing stronger relationships between end product markets, fish harvesting and the resource as well as facilitating the application of common rules and common standards in First Nations and other commercial salmon fisheries. In addition, this is intended to foster more transparent and mutually acceptable transfers of commercial salmon fishing opportunities to First Nations. To this end, there have been a number of demonstration projects investigating a range of alternative management approaches.

The purpose of this discussion paper is to assist in further advancing reform of the commercial salmon fishery in British Columbia. Through the demonstration projects some progress has been made in identifying the technical issues that need to be addressed in both designing and implementing a new harvest sharing system in this fishery. At the same time considerable challenges remain, as well as significant differences of opinion on the specific direction that should be taken in reforming this fishery.

The intention here is to provide an up to date synopsis of the context for change and the current status of reform in the commercial salmon fishery to help inform further discussions in the coming days and months with First Nations, commercial and recreational stakeholders and with other interested parties. Based upon these discussions, it is anticipated that

implementation approaches used in demonstration fisheries will further evolve to address outstanding issues and the concerns and interests raised by all parties.

Context for Change

There are a number of inter-related factors that are impacting on the salmon fishery and driving the need for management change. These include environmental uncertainty, conservation as well as financial and economic challenges, and First Nations aspirations and attendant conflict in the fishery over harvest sharing.

Environmental Uncertainty:

Climate change and ocean regime shifts are creating great uncertainty around both the present and future status of salmon resources. Survival rates of salmon returning from the ocean for some species and in some areas of the province are lower than have ever been seen within recorded history. The timing of some salmon runs and the behaviour of salmon during their spawning runs to fresh water also seem to be changing. Whether these are temporary aberrations or reflective of more permanent trends is unknown.

A key implication of these changes is less than traditional abundance of some species of salmon in some areas of the province. Of equal importance, the ability of scientists to predict the abundance of salmon in advance of the fishing season is being compromised. Biological models that have proven broadly reliable for many decades are increasingly unreliable. Expected returns more and more frequently simply do not materialize. This undermines the ability of both managers and harvesters to plan for the fishing season. Also, the frequent disappointment of harvesters as a result of unrealized expectations is inevitably creating distrust and tension among harvesters and between fishery managers and harvesters.

Conservation Challenges:

Following the passage of the Species at Risk Act (SARA), a number of sub-populations of some salmon species (including Cultus Lake sockeye, Sakinaw Lake sockeye interior Fraser River coho) have been identified as endangered and recommended for legal listing under the Act as endangered. While they were not subsequently listed, DFO has developed and is implementing recovery strategies for these specific sub-populations. Among a broad suite of measures in recovery plans are harvest restrictions that are already reducing the availability of fish in major salmon fisheries where these sub-populations mix with others. First Nations, commercial and recreational harvesters have all been impacted by these necessary conservation actions.

Of equal significance for the future, DFO has developed and is implementing a Policy for the Conservation of Wild Pacific Salmon that is designed to better address the need for

preservation of biological diversity within salmon species. This policy calls for increased attention to the biological status of all sub-populations within all salmon runs.

There are two practical implications for the salmon fisheries of these conservation initiatives.

First, there will be some need for transition away from traditional, large mixed stock fisheries and towards more terminal fisheries that can better target harvesting efforts to avoid the weaker sub-populations within salmon runs. This will have obvious impacts on many of the established fishing fleets in the fishery.

Second, there is an ongoing need for dramatically improved information on the catch. Knowing catch levels without being able to assess the mixture of geographically and genetically distinct components within the catch is no longer adequate. In addition, knowledge of the catch of other species that are caught incidentally to targeted species and the number of fish that are discarded at sea because they are not permitted to be retained will be increasingly essential, particularly where fisheries may impact species of conservation concern. This will have impacts on both the nature and the cost of fishery monitoring and catch reporting systems in these fisheries.

Financial and Economic Challenges:

Declining harvests as a result of the above factors have been impacting the financial viability of commercial salmon fishing for more than a decade and over this period government has made extensive efforts to address the problem. In 1995, the fisheries licensing structure was substantially revised and area licensing was introduced to the commercial fishery. This was intended to spread out fishing effort and reduce the fishing costs associated with the declining harvests. More significantly, large expenditures of public funds were made to reduce the fishing fleet to a more manageable and economically viable size through the vehicle of voluntary licence retirements. Between 1995 and 2001, the number of eligible licence holders in the fishery was reduced by 50% in this manner.

In spite of these efforts, substantial financial problems remain. Recent annual harvests in the commercial fishery (2003 to 2007) are less than 30% of the annual harvests realized during 1990 to 1994 period. Also, the impact of these declining harvests has been further compounded by a significant downward trend in the prices realized by harvesters. Landed prices for wild salmon in recent years (2003 to 2007) have averaged about \$1.84 per kilogram relative to \$2.55 per kilogram realized in the 1990 to 1994 period. In combination reduced harvests and reduced prices have resulted in an 80% decline in revenues in the fishery relative to this earlier period. Even this understates the financial difficulties faced by the commercial fishery. Consumer price inflation in British Columbia over the intervening period has been on the order of 30% and producer prices for major inputs such as fuel have gone up even more

dramatically. As a result, the substantially depleted revenues received by salmon harvesters in recent years are worth considerably less than in the past. The reality is that the real average net revenues realized by the remaining harvesters in the fishery are only a small fraction of what they were in the past.

It is unlikely that these underlying trends in the fishery will reverse in the immediate future. As noted in the preceding sections, environmental issues and conservation pressures may further reduce harvestable volumes in the fishery. Similarly, a key factor in declining prices in the fishery is the dramatic expansion of farmed salmon production in many areas of the world. Farmed salmon production now dwarfs wild salmon production in world markets and effectively determines the market price in most markets. There is no indication that farmed salmon production will decline in the future and it may in fact increase with technological improvement in farming operations. It is likely that all salmon markets will remain highly competitive and price-challenged into the future.

First Nations Aspirations:

Fisheries in general and the salmon fishery in particular have significant social and cultural importance to many BC First Nations. First Nations view traditional aboriginal fishing for food, social and ceremonial purposes as central to their identity. Many First Nations reserves are located adjacent to key traditional salmon fishing sites and salmon fishing continues to be an important expression of aboriginal culture in British Columbia. A number of First Nations assert that their food, social and ceremonial fishing needs are not being adequately met.

Historically salmon was the predominant commercial fishery in British Columbia. It was one of the early drivers of provincial economic development and BC First Nations individuals, building upon their traditional fishing activities, played a central role in harvesting and processing in the salmon fishery. In addition, in remote areas of the province where many First Nations communities are located, there are few alternative employment opportunities to fishing. In these circumstances economic access to the commercial salmon fishery remains essential to the well being of many First Nations communities and individuals.

Unfortunately, over the last three decades, aboriginal participation in the commercial salmon fishery appears to have declined both in terms of total employment. Although numerous attempts were made to address this decline only in recent years has it begun to reverse as a result of negotiated treaty settlements (such as the Nisga'a and Tsawassen Treaties) and targeted programming (such as the Aboriginal Transfer Program under the Aboriginal Fishing Strategy).

However, neither negotiated settlements nor targeted programs work well under the present management structure to either meet First Nations aspirations or to address the issues and

concerns of current commercial participants. Many established harvesters feel directly threatened by growing aboriginal participation in the fishery while many First Nations are disappointed at what they perceive as slow progress in meeting their goals for increased participation.

Other Conflicts over Resource Sharing:

Broader conflict between harvesters in the fishery has also become evident often fuelled by declining catch levels and low commercial prices. In addition, although the number of recreational salmon harvesters has fallen in recent years, recreational harvesting and access to the fishery for specific species in some areas of the province have become increasingly contentious. There has been growing controversy and conflict between commercial participants and between recreational harvesters and both First Nations and commercial harvesters over resource access and harvest sharing.

Summary:

Wild salmon abundance has been on a declining trend in British Columbia in recent years as a result of climate and ecosystem changes. The problem of reduced biological abundance has been intensified by an improved scientific understanding of the nature of biological resources and the evolution of public attitudes towards their protection that has dramatically raised the conservation bar. All of this is having and will increasingly have substantial implications for both the size of the harvest and the geographic pattern of harvesting in Canada's Pacific salmon fisheries.

There are already significant financial stresses and strains for many of the participants in the salmon fishery because of declining harvests. These have been compounded by prices for salmon products that are substantially lower than ever before in real terms as a result of global market changes and the rise of salmon farming in many areas of the world. Concurrently, the costs associated with wild capture fisheries continue to increase. These trends are unlikely to reverse and could in fact intensify into the future.

The conflict in the fishery among First Nations, commercial and recreational harvesters over resource sharing is already pronounced. With declining harvests and an ever shrinking financial pie, in the absence of change, this conflict between participants in the fisheries will undoubtedly further intensify.

All of this has created a commercial salmon fishery with low financial viability, a bleak and uncertain future and endless disputes that are neither in the best interests of the participants in the fishery nor the resource itself.

Present Commercial Sharing Arrangements and the Need for Change

To help address these problems, as noted in the introduction, PICFI provided direction to establish clearer harvest sharing arrangements in the commercial salmon fishery. A useful starting point for discussing a new commercial harvest sharing system is to identify the key deficiencies of the present commercial harvest sharing system.

Under the present harvest sharing system, after accounting for conservation and First Nations food, social and ceremonial needs and providing for directed fishing priorities and explicit limits on recreational fishing, each year a residual Total Allowable Commercial Catch (TACC) of each species is available for commercial harvesting. Presently, the Department attempts to share this allowable catch between commercial harvesters at an aggregate level according to principles established in the Allocation Policy for Pacific Salmon.

Specifically, Principle 7 of the policy establishes a target sharing arrangement between the various established gear types in the fishery (gillnet, seine and troll). This target sharing arrangement applies on a coast-wide basis to all five species of salmon and is expressed on a common “sockeye equivalent” currency basis (37% gillnet/40% seine/23% troll).

There are several significant problems with this present approach that need to be addressed.

First, although these target shares are used to inform and guide the development of fishing plans, and best efforts are made by the Department to deliver to them, there are “no guarantees that the target allocations will be achieved in any given year or over any given period of years”. The Policy notes that “the achievement of these targets will depend upon the conservation needs of the resource that often necessitates in-season management changes”. The actual harvest shares achieved by the different fishing fleets have differed substantially from the targets since the implementation of the policy because of a variety of conservation issues over the years. This has created considerable uncertainty for commercial harvesters and has effectively benefitted some harvesters at the direct expense of others. The lack of provisions for mutually acceptable compensation for these necessary harvesting changes is one of the factors fueling conflict in the fishery.

Second, because they are coast-wide targets, these allocations provide no certainty or even information to each of the present eight different licence area fleets within the fishery. Different sharing arrangements for fleets in different areas and constantly changing sharing arrangements between fleets in different licence areas from year to year and over periods of years are in keeping with the policy. Although there is a commitment in the policy to move over time to more clearly defined geographical area allocations, to date, nothing has been done

to advance in this direction. This adds to the uncertainties for harvesters associated with the current sharing arrangements.

Third, even these explicit coast-wide harvest sharing targets between gear types are not guaranteed for any time period. For example, the policy calls for adjustments to target allocations “to reflect the relative ability of each gear type to harvest selectively through modification of existing gear and fishing operations” and for “commercial allocations (that) will favour those that can demonstrate their ability to fish selectively”. Although, to date, no explicit changes have been made to the sharing targets, such changes are specifically called for in the policy. Again the threat of such changes creates significant uncertainty for commercial harvesters and such changes may benefit some fishers at the expense of others again with no provision for mutually acceptable compensation.

Finally, the current sharing arrangement focuses only on established commercial gear types and established fisheries. There are no transparent provisions within the system to facilitate shifts or changes over time in the places or ways in which fish are harvested. Although attempts have been made to address this issue when new fisheries have been established the present procedures are best described as clumsy. For example, when a Nisga’a commercial fishery was established under the terms of the Nisga’a Treaty, a number of commercial licences were retired from the established fishery in an attempt to compensate commercial harvesters. But the Nisga’a fishery involved the provision of defined shares of the available harvest of Nass River sockeye and pink salmon. In contrast, each retired licence only reflected the removal of an “opportunity” to fish in the commercial fishery. What these licences represented in terms of actual fishing capacity or actual share of the available harvest for the species in question is highly debatable. This has led to considerable controversy over the adequacy of these and other similar licence retirement mitigation measures undertaken in the fishery.

In summary, the key deficiency of the present sharing system is that it does not provide the certainty and security required by commercial harvesters to efficiently plan their fishing operations. This fuels competition and conflict between harvesters and harvesting groups over their harvest shares and undermines financial performance in the fishery. Also, the present sharing system does not provide sufficient flexibility to address the changing needs of the resource and society without significant conflict and controversy.

Reform Recommendations Received

Two reports are highly relevant to reform of Pacific fisheries in general and the salmon fishery in particular. The first, “Treaties and Transition: Towards a Sustainable Fishery on Canada’s

Pacific Coast” was the work of a Joint Task Group on Post-Treaty Fisheries (JTG)¹ that was appointed by both the Federal Minister of Fisheries and Oceans and the British Columbia Minister of Agriculture, Fisheries and Food. The second, “Our Place at the Table: First Nations in the BC Fishery” was the work of a First Nations Panel on Fisheries (FNP)² which was appointed by leaders of the First Nations Summit and the British Columbia Aboriginal Fisheries Commission. Both reports provided an analysis of current problems, a vision for an improved future and substantive recommendations for reform of the fisheries management system.

The JTG recommended broad structural changes to BC fisheries. These included:

- More secure access rights for commercial harvesters through the issuance of 25 year term licences;
- Immediate implementation of fully transferable Individual Fishing Quotas (IFQ’s) as a mechanism to restore profitability to fishing operations;
- Gradual transfers of commercial access to First Nations in anticipation of treaties with financial compensation to established commercial harvesters for these transfers, and;
- The implementation of co-management arrangements with harvesters.

The FNP also recommended substantive structural changes but more directly focussed from a First Nations perspective. These included:

- Immediate steps to ensure adequate First Nations access to fish for food, social and ceremonial purposes;
- Immediate steps to transfer a minimum of 50% of all fisheries to First Nations, and;
- Recognition of First Nations management rights and a move towards flexible management systems that accommodate the interests of First Nations.

Both reports agree that the management status quo in the fishery is no longer tenable. Both reports recommend the establishment of clearer harvest sharing arrangements in the fishery. Also, both reports recommend the transfer of significant commercial fishing opportunities to First Nations over time with compensation to established fishers and the establishment of improved co-management arrangements in the fishery.

One substantive difference between the two reports relates to the role of individual fishing quotas in reform. The implementation of IFQ’s is central to the recommendations of the JTG. While the FNP did not explicitly rule out IFQ’s as a management tool, because of concerns over

¹ The JTG included Dr. Donald McRae of the University of Ottawa and Dr. Peter Pearse of the University of British Columbia.

² The FNP included Russ Jones (of the Haida First Nation), Marcel Shepert (affiliation?) and Neil J. Sterrit (affiliation?).

their adverse impact on the cost of improving First Nations access to fisheries, they recommended a moratorium be placed on new IFQ regimes in additional fisheries until “First Nation interests including allocations in those fisheries are first addressed”.

After the release of these reports extensive comments on appropriate directions for reform were received from various committees, private organizations and from individuals in response to consultations undertaken by the Department. Across the different perspectives provided and throughout the various reports and submissions received there was a general agreement on the unacceptability of many aspects of the present fisheries management system and there was consensus on the need for reform. Although there were differences on specific directions for reform, general support was evident for improved resource conservation, more involvement of interested parties in decision-making on fisheries and more certainty and stability for those dependent on fisheries resources as goals for reform. This consensus was ultimately reflected in the Vision for Fishery Reform articulated by Fisheries and Oceans Canada in April, 2005.

A subsequent action plan reflected a staged and measured approach to the implementation of fisheries reform. A transition phase was initiated where different options could be tested and evaluated.

Throughout this transition phase a key emphasis has been continuing consultation with all interested parties on the different alternatives for fisheries reform. This reflects DFO’s recognition of the Crown’s duty to consult with First Nations and in some circumstances accommodate their interests where the Department is making decisions or taking actions that could impact upon a claimed aboriginal or treaty right. This also reflects the Department’s clear understanding of the need to fully engage commercial and recreational harvesters, the Province of British Columbia and all other parties with a significant interest in fisheries prior to instituting major management changes.

What We Have Heard on Reform of the Commercial Salmon Fishery

All interest groups agree on the need for management reforms in the commercial salmon fishery. But while there is substantive agreement on some issues there are also fundamentally divergent views on how reform should proceed in this fishery. In particular, there is a key difference of opinion among various interests on the specific recommendation from the JTG to establish “individual” shares or individual fishing quotas in the commercial fishery.

For some, such as the BC Seafood Alliance and many commercial harvesters, individual shares are an essential step to re-establish a financially viable fishery. For others, such as the First Nations Panel, opposition to individual quotas is rooted in concerns over potential adverse

impacts on obtaining future increased access to fisheries for First Nations. For yet others, such as Eco Trust Canada and many other commercial harvesters, the opposition is based on concerns over windfall profits to a lucky few individuals at the potential expense of communities and rural residents and over increased debt loads and costs in the fishery. Finally, for some, objections reflect opposition to a perceived privatization of the common property fishery and to changes in the traditional management of the fishery.

At the same time there appears to be little opposition to, and considerable support for, the establishment of better defined harvest sharing arrangements in the fishery. For example, First Nations explicitly support the establishment of clearer harvest sharing arrangements between themselves and others. The FNP recommends that a minimum 50% share of all fisheries be established and reserved for First Nations. Also, there is general support from other commercial harvesters for clearer harvest sharing arrangements. For example, even those commercial harvesters who directly oppose individual quotas hold that “the full amount and effect of transfers (between fishing sectors and fleets should be) fully understood and fully compensated”³. This implies a need to better define the present harvest shares of all fleets in the fishery and to establish better mechanisms to facilitate mutually acceptable transfers.

Better defined sharing of the commercial harvest between fishing fleets, even in the absence of individual quotas, has the potential to provide significant benefits to the fishery. For example, conservation management can be improved by encouraging improved monitoring and accountability for the harvest. Also, better defined shares can help to more fairly distribute the conservation burden as a result of climate change and environmental uncertainty between the various participants in the fishery thereby encouraging cooperation and reducing competition among fishers over the available harvest. Finally, financial performance in the fishery can be improved by providing greater certainty with respect to fisheries access and expected harvests.

Towards a Share-Based Management System – A Phased Approach⁴

In moving forward to implement a more effective share based management system for the commercial salmon fishery careful consideration was given to the divergent views on implementation and the tremendous complexity of salmon biology and fisheries management.

This was reflected in a measured approach that encouraged interested and willing commercial fleets and First Nations to propose demonstration fisheries. These demonstration fisheries were intended to test a range of alternative share based management approaches with respect

³ “Salmon Management Reform” – Report of the Commercial Salmon Advisory Board’s Sub-Committee on Options for Review and Evaluation (SCORE) – Diamond Management Consulting Inc. – March 1, 2008 – Page 20.

⁴ A comprehensive review and assessment of 2008 demonstration projects in the salmon fishery is currently underway. The following represents only some preliminary observations.

to their practicality, their contribution to improved resource sustainability and economic viability as well as their potential contribution to more transparent transfer of commercial access to First Nations. In addition, it was intended that these demonstration projects would facilitate “learning by doing” on the management needs of a new share based system, identify some best practices that could be more broadly extended and build a degree of familiarity and comfort with proposed changes in the fishery.

Commercial Salmon Demonstration Fisheries Conducted from 2005 to 2008

Fleet	Year	Description
Area A	2008	Full fleet, individual transferable weekly quota for Skeena sockeye and pink salmon based on in-season run size information and target weekly harvest rate.
Area B	2005	Partial fleet (40 vessels max.) voluntary, individual non-transferable quota for chum salmon in Johnstone Strait based on expected catch and effort in the open fishery and a highly uncertain approximation of run size.
	2008	Full fleet, ITQ for Fraser sockeye, with transferability permitted among Area B and H licence holders. ITQ determined in-season.
Area F	2005 - 2007	Partial fleet, voluntary, ITQ Chinook fishery under the Pacific Salmon Treaty allocation. Pre-season ITQ with possible in-season adjustment based on WCVI Chinook composition of the catch.
	2008	Full fleet ITQ Chinook fishery under the Pacific Salmon Treaty allocation. Pre-season ITQ with possible in-season adjustment based on WCVI Chinook composition of the catch.
Area H	2006	Partial fleet, voluntary, ITQ fishery for Fraser sockeye. Pre-season ITQ with in-season adjustment.
	2007	Partial fleet, voluntary, ITQ fishery for chum salmon. Pre-season ITQ with in-season adjustment.
	2008	Full fleet, ITQ for Fraser sockeye, with transferability permitted among Area B and H licence holders. ITQ determined in-season.
	2008	Full fleet individual transferable effort quota for chum salmon in Johnstone Strait, based on boat days of fishing associated with the target harvest rate for the fleet. There is no formal TAC for this fishery.

Note: Common features of all demonstration fisheries include:

- Dockside monitoring to validate landed catch was incorporated as an integral part of all ITQ demonstration fisheries and was paid for by the individuals participating. This also supports the broader objective for more timely and accurate fishery data.

- Data systems to capture quota transactions were developed for all demonstration fisheries and were used by DFO fishery managers and fishery officers to track the authorized catch levels for individual licence holders.

These demonstration fisheries have contributed to understanding some of the practical issues that need to be resolved in order to implement improved share based management in the commercial salmon fishery.

In most other non-salmon fisheries presently operating under share based management systems, a TACC is established before commencement of the fishing season. The established shares are then applied to this TACC to provide an actual harvest target (in the form of pieces or poundage of fish) to each share holder for the upcoming season. These harvest targets are then reflected in the conditions of licence for the fishing season. This provides each fishing fleet and licence holder in the commercial fishery with explicit information on their allowable harvest before the season begins, enables them to efficiently plan their fishing operations and facilitates subsequent enforcement of the rules by the Department's Conservation and Protection personnel.

In many cases this is simply not practicable in the commercial salmon fishery.

The variability in salmon harvests and the uncertainty surrounding the size of the available harvest of some salmon species until fishing has already commenced are key factors that make design and implementation of defined share systems much more challenging with salmon than with most other species. Similarly, the geographic range of the resource and resource harvesting means that the conservation requirements in the salmon fishery are much more extensive and further challenge the ability to implement share based fishing.

For chinook salmon total allowable catches in troll fisheries are established prior to the fishing season as part of a Pacific Salmon Treaty commitment with the United States. In this case, after accounting for First Nations food, social and ceremonial and recreational fishing needs, a Total Allowable Commercial Catch can be pre-determined prior to the fishing season. The shares established for each commercial entity (either fishing fleet or individual fisher) can then be applied to this TACC to provide actual harvest targets for each. In these instances the application of a new shared based system should prove fairly straightforward.

However, experience in the Area F troll demonstration fishery for chinook salmon indicates that this is not always the case. Because of conservation concerns in recent years for West Coast of Vancouver Island chinook salmon (a small component of the total Area F fleet catch), it is sometimes necessary to close the fishery before established pre-season quotas have been realized. This can undermine the improved certainty and other benefits that the share based system are intended to provide.

For other species of salmon, in some areas formal forecasts of the TACC are developed pre-season based upon anticipated returns. However, these forecasts are adjusted on the basis of the actual returns reflected in test fishing and initial harvesting results in the fishery. For yet other species in some areas, there are presently no formal quantitative forecasts of the TACC developed pre-season and fishing is guided by target exploitation rates. The general practice in these fisheries is for fishing to proceed and then be adjusted on the basis of fishing results.

Both of these circumstances were encountered with Area H troll demonstration fisheries for Fraser River sockeye and for chum salmon in Johnstone Strait. One method tested for dealing with this issue was the establishment of conservative (i.e. very low) pre-season quota levels⁵ with in-season adjustments based upon revised/updated forecasts. More recently, effort quotas based upon boat days of fishing associated with the target harvest rate have been tested by this fleet in the chum fishery. The Area "A" Seine fleet used yet another alternative approach in its 2008 fishery for Skeena sockeye and pink salmon. In this area, weekly fishing quotas were established based upon in-season run size estimates.

In summary, the complexity of salmon biology and the nature of commercial salmon fishing make it difficult to implement and apply a standardized "one size fits all" approach to share based management of commercial salmon fishing. The approaches used in different fisheries will need to be tailored to the specific circumstances in different fisheries. In some fisheries for some species in some areas seasonal individual fishing quotas may be appropriate. In other fisheries overall fleet shares in the form of fishing effort may be all that can be provided. Also, conservation needs in the fishery may make it difficult to provide full assurances to fishers or fleets that their defined shares will be fully realized.

How these necessarily different approaches to defining shares might fit together across different fisheries and to what extent they will and will not contribute to achieving the overall goals of fisheries reform need to be determined. All of this speaks to a need to pursue further demonstration fisheries and further testing of different approaches.

Some Key Design Questions for a New Share Based Management System in the Commercial Salmon Fishery

As a result of the demonstration fisheries, a number of key questions that need to be addressed in designing a new share based management system have also become obvious. The Department does not have all of the answers for resolving these and satisfactory solutions will

⁵ For example, with Fraser sockeye where a formal pre-season forecast was available, the initial quota was established on the basis of a forecast run size where there was a very high statistical probability (very low statistical probability) that actual returns will exceed the forecast (will fall below the forecast).

only be found through dialogue with all of the affected parties. In order to begin this dialogue, some initial questions are identified below.

Question 1: Shares of What?

The commercial gear target shares of the aggregate coast-wide harvest of all five species of salmon as identified in the current allocation policy are inadequate. They do not provide sufficient certainty to harvesters to plan and conduct efficient harvesting operations or for transparent and mutually acceptable transfer of harvest shares either between fishing fleets or between established commercial fishers and First Nations. Sharing arrangements need to be better defined in terms of individual species and geographic production areas along the coast.

How many geographic production areas are appropriate for defining harvest shares longer term?

Question 2: Shares for Whom?

The Department's general approach to this issue has been to allocate 100% of the Total Allowable Commercial Catch between the established area licensed commercial fishing fleets and, where agreements are in place, to individual First Nations and groups of First Nations. The justification for this has been that the established fishing fleets and the First Nations who have established agreements have all made substantial commitments and financial investments to participate in these fisheries.

Is this an appropriate approach? To put this question in an alternative way, when are there grounds for assigning shares of the allowable catch to others who do not have the same commitment or dependence on the resource?

Question 3: How Should the Size of Initial Shares be Determined?

The aggregate coast-wide harvest shares by fishing fleet reflected in the present salmon allocation policy were determined through a very lengthy process of negotiation and only after extensive review and consideration by independent advisors to the Department. The obvious preference is for the various area licensed fleets and First Nations to reach consensus between themselves on appropriate initial sharing arrangements. However, the expense and time involved in previous processes is simply impractical when extended to each species and geographically to multiple production areas along the coastline.

What procedures should be used to reach more effective and timely resolution of these matters?

Question 4: How Can Accountability Be Assured in the Absence of Individual Shares?

It is recognized that there is both considerable support and considerable opposition to the concept of further assigning fleet and First Nations shares in the form of individual fishing quotas to individual commercial harvesters within each fishery. Given this lack of consensus, ideally any further distribution of the shares should be a matter left to be resolved by each First Nation and collectively by the individual harvesters within each area licensed fleet. However, since area licensed fleets are not legal entities with any recognized authority or control over the actions of individual licensed harvesters it is unclear how enforcement of the sharing system can be effected in the absence of individual quotas.

How can area licensed fleets be fully accountable for fishing within their established shares in the absence of individual fishing quotas?

Question 5: How Transferable should the Shares Be?

There appears to be general support for the transferability of shares between established fishing fleets and First Nations. This is recognized as necessary to enable First Nations to meet their aspirations for increased commercial opportunities through direct access to the allowable catch without creating conservation concerns and while mitigating impacts on established fishers. At the same time, transferability of shares both between established fishing fleets and between individual fishers has raised a number of concerns. These include the potential for “windfall” gains to the original recipients and the concentration of fishing rights in the hands of a few larger producers with attendant employment losses and the potential disadvantaging of rural and First Nations communities relative to urban based commercial harvesters.

What rules need to be applied to transfers between fishing fleets and between individual fishers to address these concerns?

Conclusions

The current circumstances in and the future prospects for the commercial salmon fishery are very poor. The fishery is facing significant conservation as well as financial and economic challenges and all of this is fuelling growing conflicts over resource sharing. There is general agreement that the management system needs to be reformed to address these many challenges.

Although there are key differences of opinion among the various interests in the commercial salmon fishery with respect to the establishment of individual quotas, there is general agreement that a better defined sharing system for commercial salmon harvest is needed. Better defined sharing of the harvest between different commercial fishing fleets and between

First Nations and the all citizens fishery can provide more certainty and security for the established participants in these fisheries and a more effective facility to provide for transparent and mutually acceptable adjustments when they are required for conservation reasons and for social and economic purposes. This can directly contribute to improved conservation and financial performance, reduce conflict and encourage cooperation in the management of the fishery.

However, a new sharing system that is capable of addressing the challenges will be necessarily complex and it needs to be recognized that the required changes to the fishery cannot be achieved over night. Although this will disappoint those that wish to move quickly, many details remain to be worked out and an incremental approach that fully involves all of the affected parties will be essential to designing and building a system that can work effectively and that is broadly supported by and has the confidence of the participants. Further extensive consultations are required with First Nations, other participants in these fisheries and others with an interest in the resource. It is hoped that this paper will help to focus these discussions in a productive way.

Continuing and expanding the current demonstration projects in the fishery is clearly a key element of moving the transition forward. This will permit further technical analysis of available options, further learning by doing, design and implementation of new monitoring and compliance systems and more importantly building a degree of familiarity and comfort with the proposed changes in the fishery. This should help to advance agreement on some of the fundamental questions that have been raised in this discussion paper as well as contribute to consensus on implementation details.