

**THE BRITISH COLUMBIA SALMON FISHERY “BUYBACK” PROGRAM - A CASE STUDY
IN CAPACITY REDUCTION**

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ABSTRACT

Between 1996 and 2000, the Federal Government of Canada reduced the number of salmon fishing licences in British Columbia by 50%, from a total of 4,416 to the current 2,221 licences, through voluntary “licence retirement”. The total cost of this program was \$273.5 million over 5 years. The purpose of this paper is to describe the program, its relationship to other capacity reduction initiatives, and the lessons learned from the resulting sizeable fleet reduction.

Keywords: capacity reduction, buyback

INTRODUCTION

Like many other limited access competitive fisheries around the world, the B.C. commercial salmon fishery is plagued by a race for the fish, overcapacity and the inability to maximize the value of the product. Over the years a number of initiatives have taken place with the objective of controlling and reducing fishing capacity. The most recent and most successful of these programs were the two licence retirement or buy back programs carried out from 1996 to 2000. Under these two programs, the number of salmon licences was reduced by 50%. Related initiatives to allow for more than one licence to fish from a vessel have resulted in a 10% further decline in the number of vessels fishing for salmon.

The 1996 and 1998-2000 buy back programs were implemented in conjunction with the industry in an administratively fair and transparent process. Assessments at the time indicated that the programs achieved value for money, were well run and met the objectives set out by government.

However, while buy backs to reduce the fleet provide short term mitigation for over capacity problems, they do not change the fundamental incentive structure for fishermen to re-invest in fishing capacity and do not allow for a market based adjustment to bring capacity in line with economic efficiency goals.

HISTORY OF CAPACITY CONTROL AND REDUCTION EFFORTS

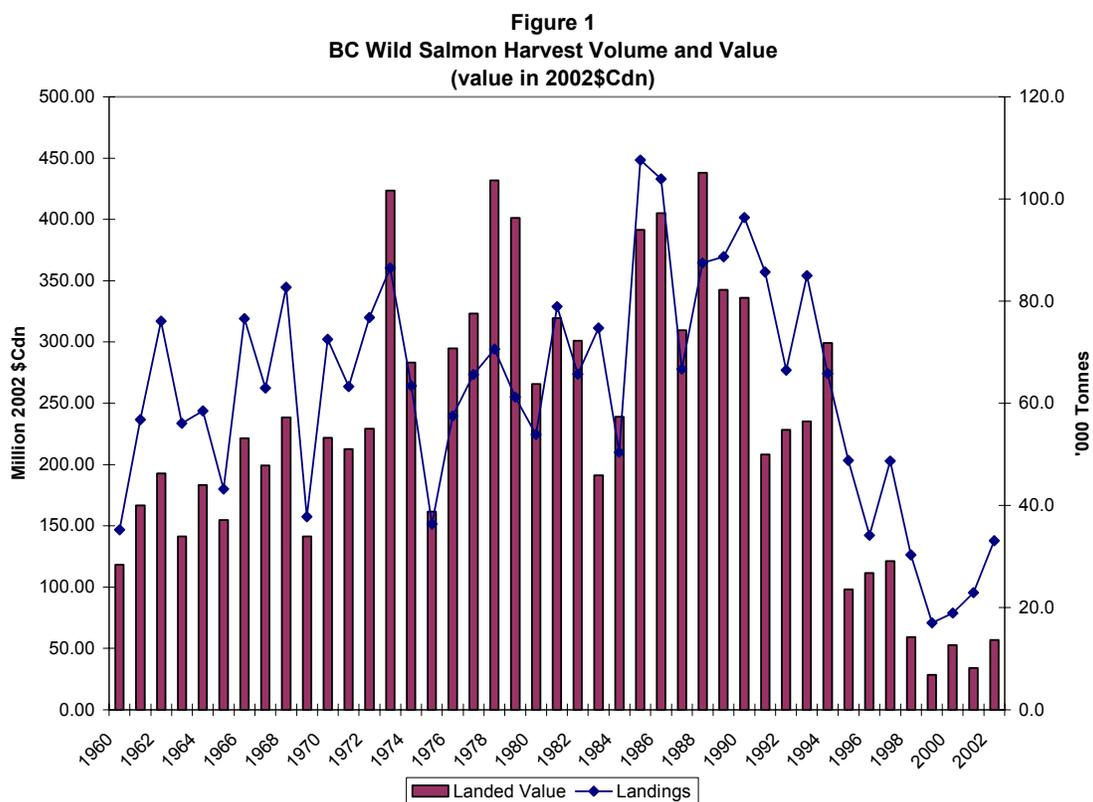
The modern age of controlling and attempting to reduce fishing capacity in the British Columbia salmon fishery started in 1969 with the introduction of what was called the Davis Plan, named after the then Minister of Fisheries. The Davis plan involved two elements to control and reduce fishing capacity. The first element was limiting the number of licensed vessels that could participate in the fishery. Based on landings criteria, a total of 6,932 limited entry licences were issued in 1969. Of these, 5,870 were renewable annually in perpetuity and 1,062 with marginal landings were temporary and set to expire after 10 years. The second element of the Davis plan was an industry funded reduction in the number of renewable licensed vessels – or “buy back”. Temporary licences were not eligible for buy back. The first buy back was funded through increased licence fees for the perpetually renewable licences and sales of the vessels. From 1970 to 1973 there were 362 licensed vessels purchased at a total cost of \$5.97 million CDN. This represented a 6% decrease in the eligible renewable licensed fleet. From 1974 to 1981, no additional licensed salmon vessels were purchased, though the increased licence fees continued to be levied. At the time, the landings and landed values of salmon were increasing – both reducing the imperative to reduce the fleet and increasing the price of doing so. In addition, the number of licensed vessels was declining as a result of cancellation of temporary licences, non-renewal of licences, and

policies which allowed licensed vessel replacement with a larger salmon licensed vessel if the combined total gross tonnage of two vessels being replaced was not exceeded. In this case, one licence would replace two.

In 1981 a new buy back program was recommended with a total budget of \$10 million, roughly equivalent to the accumulated fees intended for this purpose plus interest. In the end, only \$2.5 million was allocated and spent on purchasing 26 licensed salmon vessels in 1981, a less than 1% reduction in the number of eligible licences. The purchased vessels were left tied up for seven months and finally auctioned by the government for about \$660,000. At the end of 1981, the total number of salmon licensed vessels was 4739.

In the wake of both these programs, it was readily recognized that, despite reductions in the number of licensed vessels, the capacity of the fleet to catch fish continued to increase. Fishermen and vessel owners continued to expand their fishing power to compete with each other for an unspecified share of the catch, even when the fleet's capacity was already excessive.

From 1973 to 1994 catches and landed values fluctuated wildly (see Figure 1). Fluctuation is expected in this fishery because of the different species compositions between the years and the different stock strengths between years, however this served to excelebrate the pace of excess investment in years of high earnings.



Managers had increasing difficulty in controlling the expanding capacity of the fleet to catch fish through their traditional means of effort controls. The only management changes of any significance that happened during these years were: limiting the number of salmon licences that could use purse seine gear; disallowing combining of tonnage to produce one larger licensed vessel from two smaller ones; and

dividing the coast into much smaller management units to allow smaller areas to be opened and closed as required. Salmon licensed vessels were all authorized to use either troll (hook and line) or gillnet gear and to fish anywhere in B.C. ocean waters.

Despite the management difficulties involved in controlling catches, there was little political incentive to make any significant changes to salmon management.

This all changed in 1995 when salmon catch volume declined by 26% and landed value in 2002 dollars CDN dropped by 67% from the previous year. Salmon landings had fallen to below 50,000 tonnes for the first time since 1975. This low catch, together with lower prices due to increased world production of wild and farmed salmon, caused the landed value of salmon to fall to its lowest level, in inflation adjusted terms, since government started making estimates 50 years ago (see Figure 1). In subsequent years the volume and value of salmon landings continued to decline falling to as low as 17,000 tonnes and remaining well below historic levels.

The “crisis” of the 1995 fishery and projections for continued poor returns of salmon combined with a new “risk averse” approach to management led to the motivation within industry for significant change in salmon management for 1996. In 1995 the Minister of Fisheries set up the “Pacific Policy Roundtable” to recommend changes to commercial salmon management. The Roundtable was made up of the various stakeholders in the salmon industry and provided its report and recommendations to the Minister in December 1995. The report included recommendations for significant reductions in the fleet through buy-back.

Political motivation for change was assisted by the collapse of northern cod stocks on Canada’s east coast. As a result of the cod fishery crisis on the east coast, the federal government had provided direct income assistance to displaced fishermen starting in 1992. In 1994 government announced The Atlantic Groundfish Strategy (TAGS) with funding of \$1.9 billion CDN over five years for income adjustment and capacity reduction. Salmon fishermen from B.C. were able to point out the lack of equity in government assistance to the east coast fishermen versus west coast fishermen. These factors, along with strong leadership supporting change within the Federal Department of Fisheries and Oceans combined to lead to the first significant capacity control and reduction program since the Davis Plan in 1969.

THE PACIFIC SALMON REVITALIZATION STRATEGY – 1996

Elements of the Plan

The Pacific Salmon Revitalization Strategy introduced several fleet management and capacity reduction measures in 1996:

- An \$80 million CDN government funded voluntary licence retirement program, commonly known as the “buy-back” program;
- Single gear licensing, which entitles the salmon licence holder to fish one kind of gear only;
- Area licensing, that created area restrictions for each licence; and
- The provision that a licence holder may purchase a licence from another licence holder and put it on the same vessel to fish additional areas or gears (thus reducing the number of licensed vessels through “stacking” of licences).

These management and capacity reduction measures were all introduced at once. The hope was to ensure that remaining vessels in the fleet would not dissipate any expected increase in per vessel incomes resulting from the reduction in the fleet by simply investing in another gear type. Instead, the theory went, vessel owners would first fund further fleet capacity reduction through stacking of licenses to be

able to fish a second or third area. This last provision proved to be controversial for some fishermen and was temporarily suspended in 1996, but was reinstated in 1998 after a vote by licence holders showed strong support.

Buy-Back Program Objectives

The objective of the 1996 buy-back program was to reduce the size of the commercial salmon fleet by 20% by permanently retiring and canceling commercial salmon licenses. The program operated with the following policy guidelines:

- Value for money: licence values should not be inflated above reasonable market prices due to speculative behaviour;
- Fairness: all eligible licence holders should be provided equal opportunity to participate in the program;
- Timing: the program was initially set to be completed in three months, with all financial commitments to licence holders finalized by June 30, 1996;
- Scope: the objective was to reduce the number of licences across all gear types
- Eligibility: All salmon licences except those held communally by Aboriginal organizations, were eligible to apply as long as they held a commercial salmon licence in 1995 and had submitted their application and fees for their 1996 licence prior to being accepted for retirement. Also, any licence holder applying for retirement had to be in good standing with ownership of the vessel not in dispute.

Because the government does not recognize licences on fishing vessels as property and because licences are issued “at the absolute discretion of the Minister of Fisheries”, payments under the licence retirement program were termed voluntary ex-gratia payments provided at the discretion of the Government of Canada. Voluntary payments were provided for the licence only. Individuals whose licences were accepted for retirement were responsible for the disposal of their vessel and gear.

Program Design

The program operated essentially as a reverse order auction. Every commercial salmon licence holder was mailed a complete package of information on licensing changes. This package contained an application for licence retirement. Interested licence holders were asked what payment he or she wanted for retirement of the licence. The applications, which were in the form of a signed financial contribution agreement (or contract), stipulated that once accepted and signed by government, the agreement would be binding. Licence holders were permitted to withdraw their applications prior to acceptance by government. Licence holders were also warned that if they had any debts outstanding to the government (ie. unpaid taxes), these debts would be deducted from the payment and remitted to the proper authorities.

All applications were reviewed by a Fleet Reduction Committee composed of an independent chairman and six representatives of the different sectors in the industry. Prior to reviewing any of the information on applications for retirement, each committee member was required to agree to and sign a conflict of interest and secrecy document.

Several criteria were used by the committee to assess the bids, including:

- Comparison to market prices based on price per foot
- Comparison to market prices based on price for the three different gear types
- A desire to, if possible, balance the percentage reduction between the three gear types.
- Maintain the proportion of special Aboriginal only licences in the fleet.
- Condition of the vessel.

- Preference for vessels with only a salmon licence and no other species licences.

Because the objective was to maximize the buy out of potential licence capacity, the Fleet Reduction Committee did not consider historic catches or, in the end, the condition of the actual vessel in making its decisions. They recognized that the vessel could go back into the fishery as a replacement vessel and the individual licence holder was free to go purchase another licence in the open market. Under the program, no attempt was made to restrict the subsequent activities of the licence holder or the vessel, other than the regular regulatory requirements that would apply to any fishery the person or vessel wanted to participate in.

Initially, because of the very short time frame for completion of the buy-back, the program was designed for only one round of applications. After looking at all the 1,111 bids received by the deadline for applications, the Licence Retirement Committee could only recommend 396 be accepted. They also recommended a second round of bids so that those who were rejected in the first round could re-apply with some knowledge about the successful bids in the first round. As a result, a further 611 applications were received for a second round of retirements and 401 were accepted. Most of the second round applicants had applied in the first round and lowered their bids for the second round. Average prices paid in the first round were not made public, however word did get around the industry regarding the amounts that had been paid.

The 1996 buy-back was successful in retiring 797 salmon licences at a total cost of \$78.5 million. This represented a reduction in the total number of salmon licences of 18%.

PACIFIC FISHERIES ADJUSTMENT AND RESTRUCTURING PROGRAM – 1998-2000

By 1997 it was clear that the economic situation for the salmon fishery had worsened with three straight years of historic low catches and landed value. At the same time, the east coast fishery was facing a requirement for a “permanent downsizing of the Atlantic groundfish fishery”. On June 18, 1998, the government announced a \$780 million CDN adjustment program for the east coast fishery which included \$250 million for licence retirement.

On June 19, 1998, the government announced a three year, \$400 million adjustment program for the west coast which included an unspecified amount for licence retirement. Other elements of the adjustment program included habitat restoration and adjustment assistance for displaced fishery workers. The amount for licence retirement and the target fleet reduction were unspecified because the government was worried about licence value speculation. The program also attempted to even out the percentage fleet reduction in each of the gear types for equity reasons.

In the fall of 1998 the government surveyed all salmon licence holders with respect to how the fleet reduction program should be implemented. There was a 46% response rate to the survey. A large majority felt that all salmon licences should be eligible to apply however respondents were about equally divided on whether a reverse auction or appraised market price for each gear category should be used as the basis of payment decisions.

In the end, the licence retirement program operated exactly the same way as in 1996 with the exception that at least two or three rounds of retirement were contemplated from the beginning and average prices paid by gear type were published. Because the funding available was spread over three years, as many rounds as necessary could be planned to reduce the fleet as much as possible with the budget available. As with the 1996 program, reverse order auction bids were elicited from all interested licence holders and reviewed by a Fleet Reduction Committee.

In the 1998-2000 licence retirement program, 1404 salmon licences were retired at a total cost of \$195 million CDN.

OVERALL RESULTS

The licence retirement programs from 1996 to 2000 were successful in meeting the objective of reducing the overall number of licences by 50%. A summary of the retirements by gear and the percentage change in each gear type from 1996 to 2003 is shown in Table 1. The total cost of both programs combined was \$273.5 million. In addition, through the mechanism of stacking licences, the number of vessels engaged in fishing for salmon has further declined to a current level of 1,777 for 2004. In total this represents a 60% reduction in the fleet since 1996.

**Table 1
Number of Commercial Licences Before and After 1996-2000 Buy-Back Programs**

Gear Type	Licences Before 1996 Buy-Back	Licences Retired 1996	Licences Retired 1998-2000	Total Licences 2003*	Percent Reduction 1996-2003
Seine	542	48	216	276	49%
Gillnet	2,558	444	728	1,406	45%
Troll	1,316	305	460	539	59%
Total	4,416	797	1,404	2,221	50%

* total licences in 2003 are greater than the total in 1996 minus the two sets of retirements because of special licences that had been purchased and put in reserve for re-issuance through a program to assist aboriginal people.

Both the 1996 and 1998-2000 licence retirement programs were subject to an independent audit. Both audits found that the programs were well managed, developed in consultation with stakeholders, and met their stated objectives in a cost effective manner and within government guidelines. Government costs of administering the two buy backs were approximately .2% of program costs.

LESSONS LEARNED

Involve industry in program design and implementation

The salmon industry has always been supportive of buybacks that are funded by government. After all, the tax payer is paying for a benefit which accrues to the specific industry. However, there was a lot of debate about how it should work, and in 1998 a survey of all licence holders on options for implementation. In the 1996-2000 buybacks in B.C., the fact that there was an industry committee assisting in the details of the design of the program and making the choices about which bids to accept, went a long way towards making the program run smoothly and transparently. There were very few complaints about the actual administration of these programs.

Short term successive rounds of buyback work best

Any government funding of buyback will affect the market – the bigger and longer the program, the more this is a problem. Word will get out on the highest prices paid regardless of whether government publishes averages or not. Averages or maximum prices on previous rounds will form a floor for bids on subsequent rounds. On the other hand, simply having one round of retirements, may not give the applicants enough information on what bids are acceptable. Table 2 shows the average price per licence paid by gear type over the successive rounds. In both buy-backs, the price of licences increased in

successive rounds. However, at the beginning of the second program, a message was sent with the first round of accepted bids, that the program was not willing to pay as much for licences in 1998 as it was in the second round of 1996.

Table 2
Average Payments per Licence Retired in 1996 and 1998-2000

Gear Type	1996 Retirement		1998-2000 Retirement		
	Round 1	Round 2	Round 1	Round 2	Round 3
Seine	\$405,118	\$433,475	\$420,152	\$432,115	\$435,578
Gillnet	\$73,719	\$84,702	\$77,880	\$80,830	\$84,231
Troll	\$70,881	\$82,136	\$77,532	\$82,150	\$85,872
Total retired	396	401	99	645	665

Proving value for money is difficult

The reverse order auction was chosen for a number of reasons. Normally, market transactions for licensed vessels are between two parties and involve negotiation of a price. Licences alone were rarely traded prior to 1996. With the number of licences targeted for buy-back, that type of negotiation was viewed as impossible. The two options were to either have a reverse order auction or to set a fixed price (either per licence by gear type or per foot per licence by gear type). With the first option, the government was less likely to be criticized for not paying enough since the payments would be what the individual selected fishermen had asked for. With the second option, government could be criticized for being too cheap (or alternatively too generous). In addition, there was a risk that having set a price, uptake would be insufficient to meet the objectives of the program and the government would be criticized for either not achieving those objectives or of being unfair if the fixed price went up in a second round. Alternatively government would have had to adjust the payments to the first round of fixed price agreements.

The problem in a reverse order auction is proving whether government paid too much or not is very difficult. Certainly, based on subsequent year’s incomes in hind sight, the cost of licences taken out in the buy-backs was too high. However, at the time the audit found that the prices were in the estimated range of previous market transactions. These were “estimated” values based on assumptions about the value of a licence as opposed to the value of the vessel, since prior to buy-back, the licence and vessel generally sold as one unit. Because of this, there were very few really comparable market transactions. Once the buy back was announced, the regular market for licences completely dried up since the applicant had to have held the licence in the previous year.

Fleet reduction in one fishery may affect other fisheries

In the B.C. commercial fishery, vessel based licences for different fisheries on one vessel are “married” to each other. When a vessel has two vessel based licences associated with it, the vessel owner can not remove one licence from the vessel, both licences must be transferred together. The buy-back programs were an exception to this rule. If a salmon licence was retired under the program, the vessel retained the licences in the other categories. This resulted in a concern that fishing effort in those other fisheries would increase. For example, in the 1996 buy-back, 146 of the 797 licences retired had other fishery licences associated with them and those vessels would continue to fish in those other fisheries. Many of these vessels had not actively fished these other species licences, and in the open access competitive fisheries, active capacity increased.

The second impact on other fisheries was the re-investment of the payment from government for the retirement of the licence. Many of the payments were simply and immediately re-invested by the businesses that had held the licence. Because these were mostly small individually owned fishing companies, this re-investment was in other fishing business expenses – new equipment, other licences, or quota. This artificial demand for other licences and quota put upward pressure on prices.

Reducing the fleet through buy backs or licence stacking does nothing to change the fundamental economic incentives that cause over capacity

The B.C. commercial salmon fishery, despite a 60% reduction in the number of fishing vessels authorized to fish for salmon, remains a limited entry, competitive fishery. It exhibits all the characteristics of a race to the fish, overcapacity and the inability to maximize the value of the product.

As illustrated in Table 3, while the fleet may have been reduced by 60%, volume of landings and nominal landed values have decreased even more, leaving the fleet in more economic difficulty than in the early 1990's prior to buy-back. All the promises of a more economically viable fleet have not come to pass. The fleet still has significant over capacity relative to harvest volume and value.

**Table 3
Comparison of 4 Year Average Salmon Landed Weights and Values
Early 1990's vs. Most Recent 4 Years**

	4 yrs Avg from 1990-1993	Recent 4 yr Avg 1999-2002	Percent Change
Salmon - landed weights in Tonnes	80,000	23,000	-71%
Salmon Landed Value - Millions \$ CDN	\$207	\$42	-80%

The economic situation for the fishery would have been far worse today without the fleet reduction programs. The economic and social dislocation that would have been caused by the drastic drops in landings and value has definitely been mitigated by the fleet reduction program. However, this is a short term benefit because the same incentives to over-invest in catching capacity exist today as existed prior to fleet reduction. As soon as there are profits made in this fishery and unless changes are made to fundamentally change the incentive to over-invest, the fishery will continue to experience over capacity and remain in economic crisis.

Hopefully, the number of licence holders in the fleet has reduced to the point where the introduction of output control management or individual quota management may be politically and logistically possible. It remains to be seen whether output controls can be effectively introduced into B.C. salmon fisheries given that salmon is managed in-season with TAC's set on a variety of time frames, including weekly. If the introduction of output controls to manage the salmon fishery is successful, the real question will be whether it would have been better to introduce output controls back in 1996 and save the tax payers of Canada the \$273.5 million spent on buy backs.

CONCLUSIONS

Voluntary licence retirement or buy back can successfully reduce capacity through a reverse order auction process that allows licence holders to voluntarily bid against other licence holders for the government to

retire their licence. Quick successive rounds of bidding provide enough information to applicants to re-bid to more acceptable levels and a short-term program minimizes the long-term impact on licence values.

However, in the case of the B.C. salmon fishery, individual remaining licence holders have not seen an increase in incomes because catch volumes and values have declined more quickly than the size of the fleet. The fishery continues to suffer from low productivity and poor economic performance. Although in recent years the salmon fishery generated only 11 percent of the value of landings in B.C., it employs 43% of the fishermen and 59 percent of the vessels. Reducing the fleet has not changed the common property nature of the fishery or the incentive to over-invest in fishing capacity.

Perhaps the best result of the fleet reduction programs is that the fleet is now small enough and the economic crisis deep enough that both industry and government are seriously considering the move to individual quota management. Introducing individual quotas into the B.C. commercial salmon fleet was recently recommended in a federal/provincial task group report, *Treaties and Transition: Towards a Sustainable Fishery on Canada's Pacific Coast* (Donald M. McRae and Peter H. Pearse, April 2004). This recommendation has gained substantial support in many segments of the industry. Acceptance and implementation of individual quota management may be much easier with a vastly reduced fleet. In the long run, this may be the most important legacy of the 1996-2000 buy back programs.

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