CHAPTER 20

Perspective of the commercial salmon fishery

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I would like to achieve four things with this paper: first, to describe the importance of the Skeena River commercial sockeye salmon fishery to the thousands of fishermen, shoreworkers and trade people who live and work in native and non-native communities up and down the BC coast; second, to describe the inherent complexity involved in planning and conducting a commercial fishery targeting Skeena River sockeye; third, to illustrate how the industry has participated in building a sustainable fishery; and, finally, and maybe most importantly, to point out how academics, NGO's and fisheries bureaucrats, are avoiding or ignoring the harder decisions and trade-offs that surround altering or eliminating commercial fisheries.

Commercial Skeena River sockeye fisheries

Upon their return to their natal streams Skeena River sockeye pass through commercial fisheries in Alaska, and in BC marine waters around Prince Rupert. They then encounter Aboriginal Food, Social and Ceremonial (FSC) fisheries and Aboriginal Commercial Excess Salmon to Spawning Requirements (ESSR) fisheries as they make their way up the Skeena River past Terrace and then Hazelton. The vast majority (>90 %) end up in Babine Lake. The balance find their way into a myriad of smaller tributaries along the way (Figure 20.1).

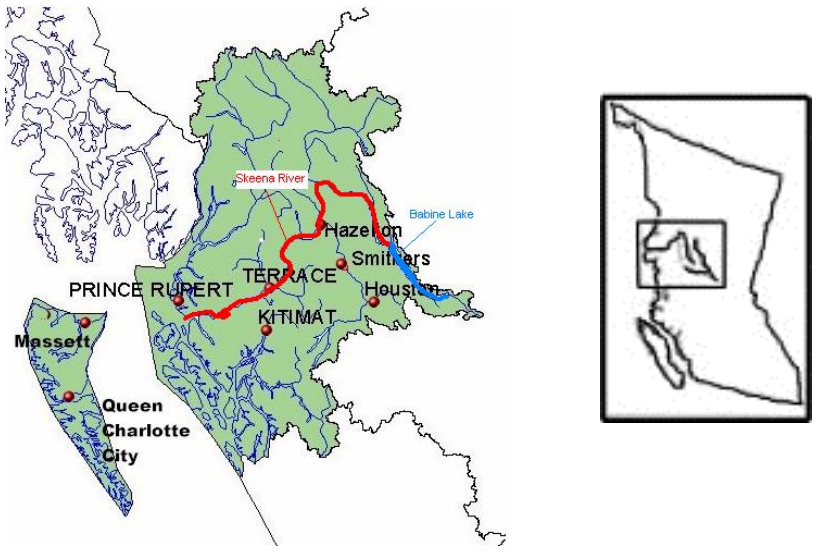

Figure 20.1. Map of Skeena River and Babine Lake.

There are five major First Nations in this area: Tsimshian on the Coast, Gitxsan around the Gitwangak - Hazelton area, the Wet'suwet'en around Moricetown and Smithers, the Gitanyow just north of the Gitxsan, and the Lake Babine people who live in several villages around Babine Lake and near Burns Lake. Archeological records going back 10,000 years make it clear that salmon grew to become an essential element in the First Nations culture, society and diet in this area. Today, First Nations have a constitutional right to harvest salmon for food, social and ceremonial (FSC) purposes. However, they are not allowed to use their FSC harvest for commercial purposes, although this will likely change with the advent of Treaties. First Nations have also had, on the north coast, commercial access to salmon through the commercial salmon fishery. First Nations people owned or operated a large proportion of the fishing fleet in the north of BC and as well they worked in the local processing sector. First Nations employment in both these sectors has declined in the 1990s and 2000s as the result of reduced access to sockeye, poor markets, and fleet and processing rationalization. During the 1990s an in-river Excess Salmon to Spawning Requirements fishery began in which some First Nations were able to participate. There were years in which a significant proportion of the Total Allowable Catch (TAC) was taken in ESSR fisheries and these fisheries provided a significant injection to many local First Nations communities.

Total annual average returns of Skeena sockeye have grown from around 1.7 million for the years 1950 to 1959 to 2.7 million for the years 1990 to 1999. Much of this growth is due to the introduction of large spawning channels in Fulton River and Pinkut Creek on Babine Lake. It is estimated that enhanced sockeye which make up over 90% of returning sockeye could withstand harvest rates of around 80% whereas unenhanced sockeye might only be able to withstand harvest rates of between 50-65%. Managers have tried to balance economic and community interests with resource interests by limiting harvest rates to where some of the potential catch of enhanced Babine fish is foregone but above that would maintain all unenhanced stocks at Maximum Sustainable Yield (MSY). The result has been some significant over-escapements in recent years, the creation of ESSR fisheries and a reduction in the number of sockeye returning to unenhanced streams. Currently none of the unenhanced sockeye stocks have been listed by COSEWIC.

The Skeena River is second only to the Fraser River in sockeye production and it is the key to the northern salmon fishery. It is the life-blood of the industry, and without sockeye there would be no modern commercial fishery. Maintenance of the modern northern salmon fishery requires balancing scientific, management, economic and social objectives.

Policy underlying the development of the modern commercial fishery

This balance was articulated in the 1988 Salmon Stock Management Policy (SSMP). This policy's stated objective was to conserve the resource and provide the highest sustainable contribution to the economic and social development of the people of Canada. It was also explicit in regard to trade-offs, which were to divide stocks into actively managed stocks and passively managed stocks. Actively managed stocks were those that would be targeted by commercial fisheries whereas passively managed stocks were those that would necessarily be impacted by commercial fishing. The objective for passively managed stocks was to not allow them to go extinct but for them to cycle at some lower level of abundance. Fishermen, communities, and processors based their investment decisions on this policy and the explicit trade-offs it articulated.

The benefits of this fishery, particularly to the north coast (a region with a low population base and very dependent upon natural resources) are far reaching. The industry employs 700 gill-net boats, many of which come from the First Nations and coastal communities, 100 seine boats, many of which come from the area, and 2,000 shore workers, 60% of which come from local communities and First Nations. Major in-river ESSR fisheries that have developed along the Skeena River employ large numbers of natives who would not ordinarily have any work and thus provide for significant cash injections into many of their communities. Six major processing plants as well as many smaller ones are located on the north coast.

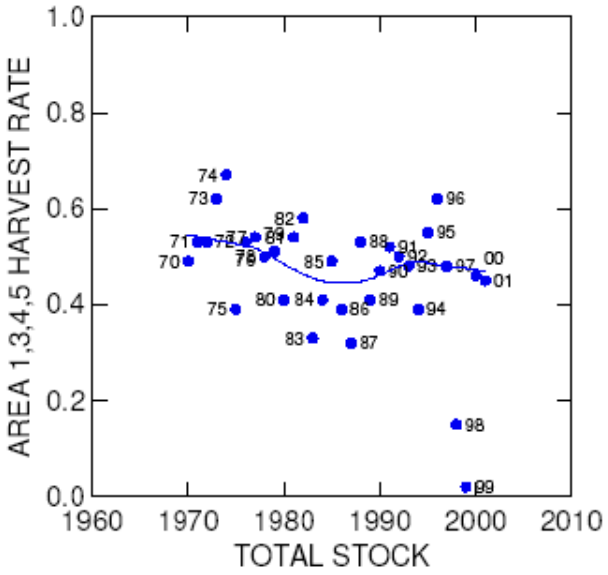

Figure 20.2. Commercial harvest rates from 1960-2000.

Table 20.1. Commercial salmon harvest rates.

Period (years)	Harvest Rate (%)
50-59	0.45
60-69	0.44
70-79	0.54
80-89	0.45
90-00	0.43
2000	0.46
2001	0.45
2002	0.47

The perception is that when enhancement channels were introduced there was a significant increase in marine harvest rates with a concurrent increase in fishing pressure. This is not the case. Figure 20.2 and Table 20.1 shows that in the 1950s the harvest rates averaged around 45% and in 2002, they were approximately 47%. There did seem to be a peak from 1970 – 1979 following the establishment of the enhancement facilities but everybody realized at that time that the increase was not sustainable. Since that time marine harvest rates have been reduced to pre-enhancement levels honouring the trade-offs made explicit in the SSMP.

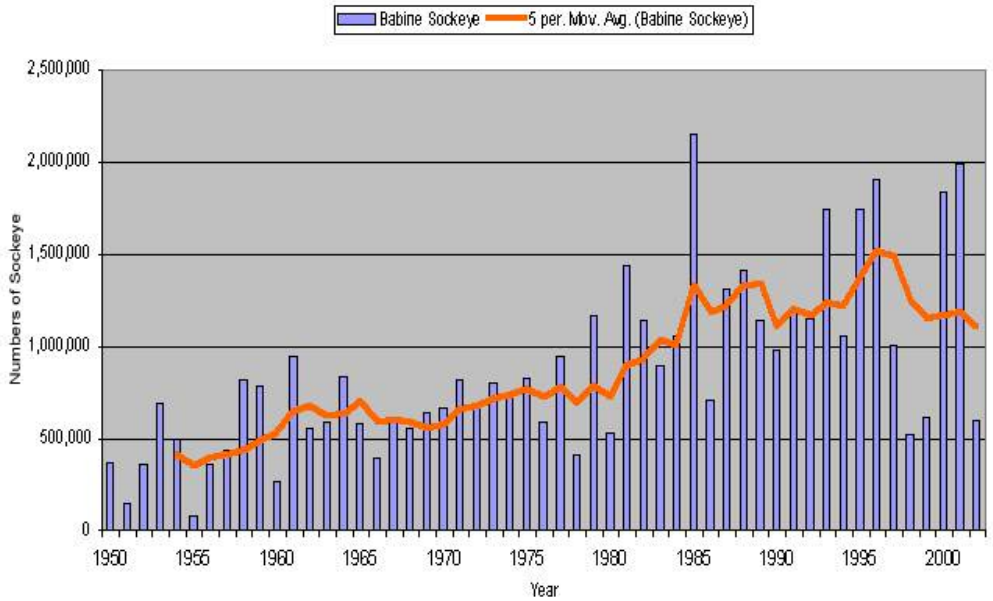

Figure 20.3. Escapement of Lake Babine Sockeye: 1950-2002.

After the development of the Babine enhancement facilities in 1967 the total return of Skeena sockeye increased markedly (Figure 20.3). Escapement targets remained at 1,050,000. With marine harvest rates remaining stable major surpluses of Babine fish occurred, creating massive over-escapements to the spawning facilities. This led to the introduction of ESSR fisheries which became, until recent management changes were implemented, very important to First Nations communities along the main stem of the Skeena and into Lake Babine. Also, even though marine harvest rates remained stable, the increased amount of sockeye available meant larger catches for the commercial industry operating in the marine environment.

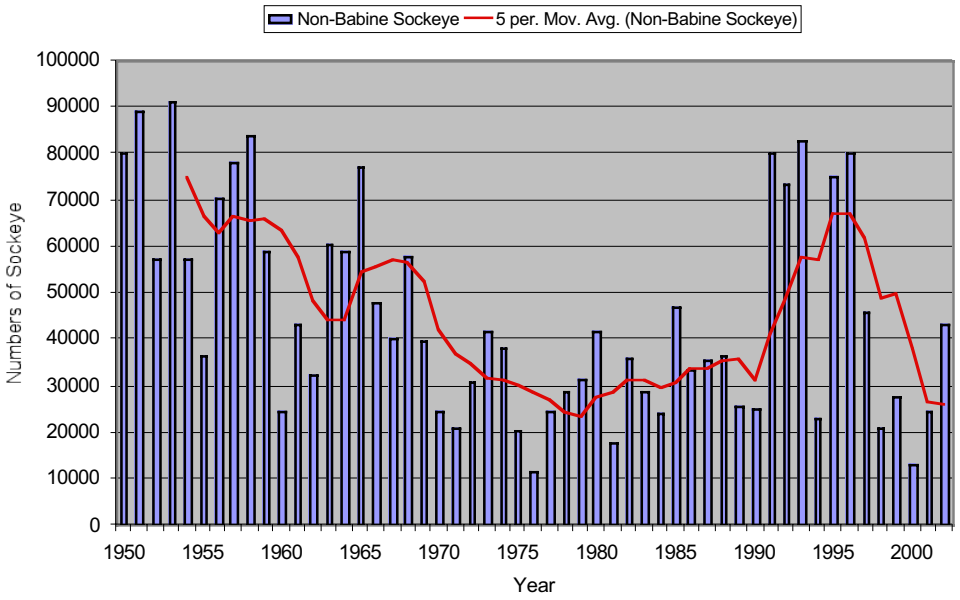

Figure 20.4. Escapement of non-Babine sockeye 1950-2002.

There has been an impact on unenhanced Skeena sockeye stocks. Escapements declined after the introduction of the enhancement facilities in the 1960s. This downward trend stabilized in the 1980s and in recent years there seems to be some growth in aggregate escapements of unenhanced sockeye (Figure 20.4).

The commercial industry, working through the advisory process of the Department of Fisheries and Oceans, has met the objectives set down in the SSMP. Catches have increased, new fisheries have been created and all stocks, including unenhanced sockeye stocks, continue to persist. However, they are cycling at lower levels than what they would be without the fishery.

There are approximately 28 unenhanced sockeye stocks on the Skeena ranging from a few dozen adults to many thousands. Commercial fishermen are frustrated because the non-Babine stocks are a tiny proportion of the overall stocks in the Skeena River. They have met the objectives of the SSMP but now people are demanding that all stocks be maintained at MSY or higher levels. If the policy of DFO were to change to reflect this there could not be a viable commercial fishery and people's and communities livelihoods and investments would disappear.

Fishermen are also frustrated in that there seems to be little or no relationship between commercial harvest rates and escapement of unenhanced sockeye stocks. While there is no question that the stocks are lower than they would be without a commercial fishery, they seem to be stable.

An agreement to rebuild the Morice sockeye

One of the problematic stocks is the Nanika/Morice which branches off the Skeena River at around Hazleton and travels up the Bulkley/Morice to Morice Lake. Figure 20.5 illustrates that there is little relationship between weekly harvest rates and the escapement of Morice Sockeye. Morice Sockeye is a very unproductive stock and it seems to be persisting at a lower level than it would do in the absence of a commercial fishery.

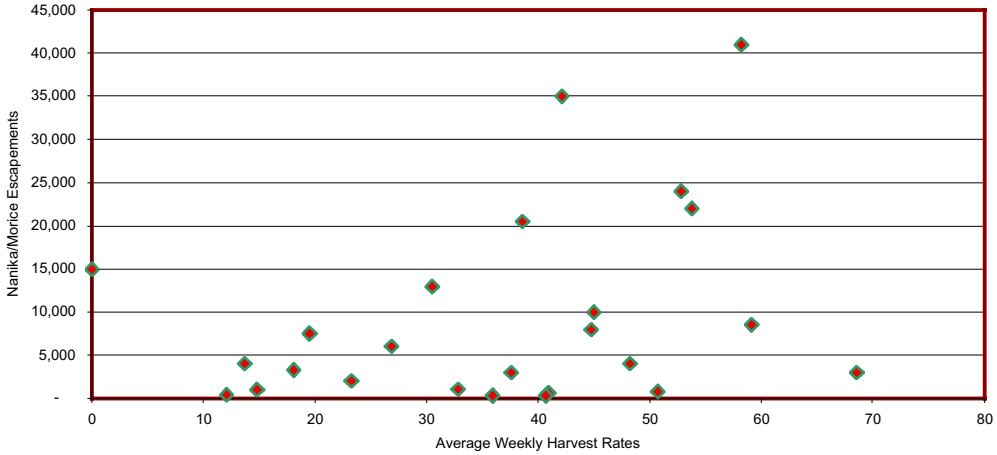

Figure 20.5. Relationship between Nanika/Morice escapements and average weekly havest rates for weeks 7-1 to 7-3.

The Wet'suwet'en people are very concerned by this and they would like to rebuild the stock. In an agreement initiated by some members of the Native Brotherhood, the commercial industry worked with the Wet'suwet'en Chiefs and have implemented a bi-lateral agreement, which has seen, in 2002 and 2003, significant increases in sockeye escapement to the Nanika/Morice.

Status of Non-Babine Stocks

The status of unenhanced stocks varies quite a bit (Figure 20.6). Most of them are below either their productive capacity or MSY targets and most seem to be cycling somewhere in between what scientists are now calling the Prudent Reference Point and MSY. The Prudent Reference Point (PRP) is defined as the point at which the stock would rebound within three years without fishing pressure. There are only one or two stocks that could currently be classified as being below their PRP limit and the status of these stocks must be addressed. The balance of the 28 stocks is persisting around some level of abundance lower than MSY but higher than their PRP. Again, this meets the objectives established by the SSMP.

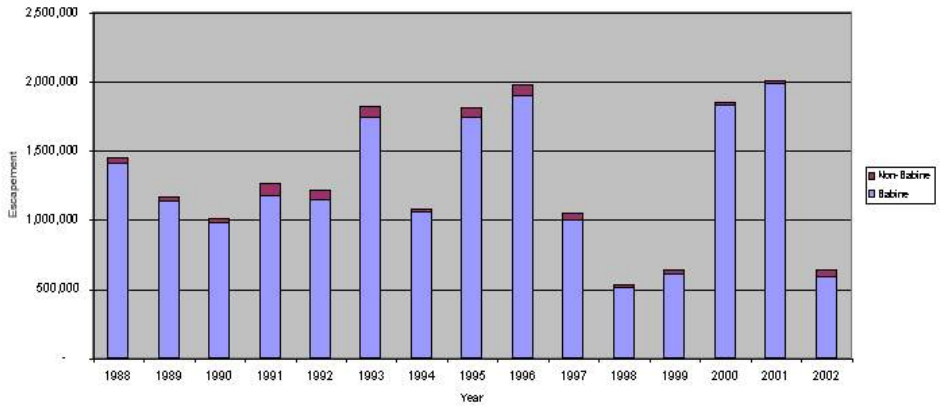

Figure 20.6. Relative size of escapements of Babine (largely enhanced) and non-Babine (unenhanced) sockeye.

Industry has responded to conservation challenges

Often the fishing industry is portrayed by bureaucrats, academics and NGOs as a rapacious monolith. The reality is that the industry is comprised of thousands of people working very hard to make a marginal living in areas with little alternative employment opportunities. These people, I am proud to say, have worked hard over the last decade-and-a-half to create a sustainable fishery, embracing significant improvements in the way they do things. They have:

1. reduced harvest rates from the peak in the 1970s,
2. introduced the revival boxes in the 1980s which are now on every fishing boat on the coast,
3. developed the first selective seine fishery in the world in the early 1990s,
4. participated in the Skeena Watershed Committee process which revolutionized how fisheries were managed on the Skeena River,
5. worked with the First Nations to introduce some of the first in-river and in-lake commercial fisheries in BC in modern times,
6. cooperated with DFO during the 1998 coho salmon crisis to rebuild coho returns (which we see happening in the north coast faster than anywhere else),
7. designed a series of studies that led to the introduction of selective seining coast-wide,
8. designed and organized a series of studies that led to the introduction of more selective gill-nets in terms of drop weed lines (to allow steelhead, which tend to swim at the top of the water column, to pass through the nets) and mesh sizes in order avoid or release certain species of fish,
9. developed the first selective gill net fishery in 2000 with a combination of short-sets and different mesh size, which was scientifically proven to be extremely successful at ensuring the survival of different stocks,
10. negotiated an historic bilateral agreement with First Nations to increase escapements to a specific stock, and
11. worked with the First Nations and DFO to reduce harvest rates in the Gitwangak sockeye in 2002.

The industry is proud of these achievements. They have also proven their ability to take on and solve specific issues such as an action plan if one or two stocks is below its PRP. Industry cannot persist in an environment which eliminates the trade-offs in the SSMP in favour of a policy which demands that all stocks be at or very near to their MSY or productive capacity.

Problems with management approaches

Many DFO bureaucrats, NGOs and people from academia are prescribing a no-risk doctrinaire regime that argues for a new set of objectives so that "each salmon species, whether mixed stock fishery, must be managed in accordance with the strength of its weakest genetically defined stock component and that all genetically defined stocks in each species group should be maintained at MSY or higher levels and that these objectives should take precedence over all other socio-economic objectives." That is a pretty hard pill to swallow for the commercial industry people who are trying to make a living. Fisheries management used to be a dynamic, flexible and pluralistic process set within the context of the trade-offs laid down within the SSMP. Fisheries management, under pressure from within and without, is evolving into a top down doctrinaire approach that tolerates no risk. There used to be consideration for people, communities and economy when risk was calculated. A calculation of risk involved more than the relative abundance of a stock of fish; it involved the impacts upon people, communities and economies. It promoted a collaborative approach between the stakeholders, managers and scientists such as we saw in the Skeena Watershed Committee (SWC) process.

Another frustration is that DFO employs simplistic, linear models to evaluate risks and possible solutions. They have not incorporated the local, historical knowledge that fishermen can bring to the subject. I will give you a quick example with respect to steelhead. Fishermen knew where a large proportion of

steelhead were intercepted. They knew this because they had learned from their fathers, grandfathers and great-grandfathers who fished the same drifts. This information was brought to DFO but they said that their models could not absorb this level of detail and so could not ascertain or measure its impact.

The models also have difficulty assessing real world solutions and compromises. The Kitwanga (which has an unproductive unenhanced sockeye stock) is a volatile river. A large back eddy guards its mouth where it enters the Skeena River. The sockeye hold in this back eddy waiting for the Kitwanga to rise. There are six or seven families who take their food fishery in the immediate area and just below the back eddy there was a major ESSR fishery. Working with these First Nations has led to them adjusting their food fishery so as to reduce the impact on Kitwanga sockeye. The result was an increase in sockeye escapement to the Kitwanga in 2002 and 2003. Again, we were told that this type of solution cannot be incorporated into the management model.

The only factor that can be measured by the current management model is marine harvest rates so all solutions must incorporate measurable changes in harvest rates. Innovative solutions that benefit all users cannot be incorporated so the benefits cannot be measured. The simplistic construction of this approach, focusing exclusively on the manipulation of marine harvest rates, assumes that scientists are capable of making the necessary value judgments. It assumes that managers cannot be trusted to manage the fishery and cannot be trusted to work with the fishermen to ensure a sustainable fishery. It assumes that fishermen cannot contribute useful knowledge and have little interest in building a sustainable fishery.

It also ignores other options that we feel are in the toolbox such as: moderate lowering of harvest rates, modified fishing times and locations, targeted enhancement, in season adjustments in response to specific challenges, the Nanika (see below) type of arrangements between stakeholders, local adjustments to increased escapements, such as the Kitwanga example, and increased funding for First Nations' fisheries research.

Critical scientific economic and political questions left unanswered

There are critical scientific and economic questions that have been left unanswered. For instance, how should a salmon stock be defined, as a reasonable stock grouping or as an independent conservation unit? What is a reasonable rebuilding target for a stock: limit reference point; prudent reference point; MSY; maximize escapement or productive capacity? What is a reasonable rebuilding trajectory for a stock and how quickly do we to get there and how risk-tolerant are we prepared to be? The answers to these questions have very different ramifications for the commercial industry. If any of these answers lead to management objectives substantially different than what is outlined in the SSMP the very existence of the commercial fishery will be jeopardized.

Risk intolerant approach

The proposed risk intolerant approach supported by many in the science community would cut the commercial and ESSR sockeye harvest on the Skeena by over 50%. This would collapse the industry as we know it and would also preclude any but the most terminal ESSR fisheries.

Modeling the impact of a risk intolerant management approach indicates that it would produce a major decrease in commercial catch compared to the 1988 to 2002 commercial catch. Fishermen would be catching less than half the sockeye. The average fishermen's gross income would be cut by approximately 50% (see Figure 20.7) which would eliminate any net income as all the remaining income would go to paying fishing expenses. It would be like going home to your spouse and saying, "Guess what, the good news is, I am going to be able to go to work tomorrow but the bad news is they are not going to pay me." That is the scenario that the fishermen are facing. This would no longer be an economically viable fishery. And what benefits would accrue? Some of the unenhanced sockeye stocks would be larger than

they currently are. This is the trade-off many in the scientific, NGO and academic communities are calling for.

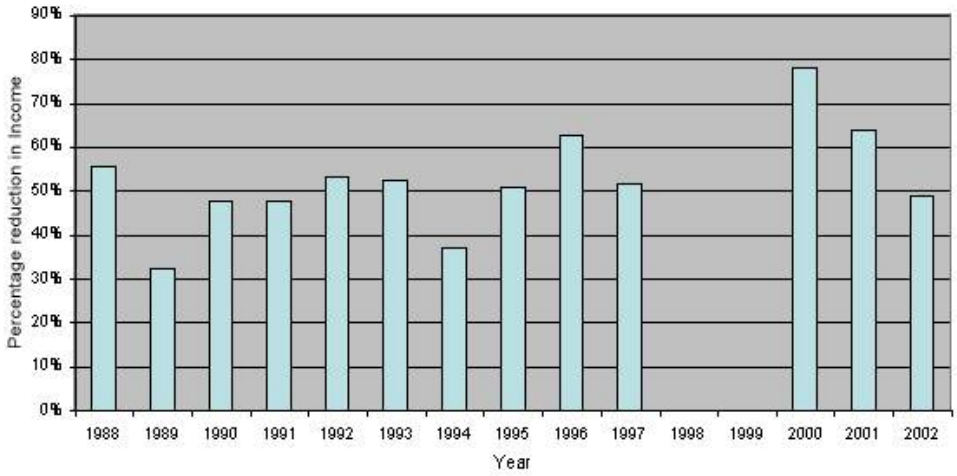

Figure 20.7. Percent reduction in average gillnetter's income from Skeena River sockeye for the years 1988-2002 if weak management had been in place.

Additional consequences of new approaches

We have heard some of the platitudes about people wanting to see a commercial fishery while at the same time moving unenhanced sockeye stocks closer to their productive capacities. This is either foolish or mean-spirited. There would be no commercial fishery under those kinds of scenarios. In-river fisheries for the First Nations, as I have described, would also be finished.

The social contract between DFO and the stakeholders is being seriously eroded and we are seeing big problems including large-scale poaching, people not working with the enforcement people, fishermen no longer willing to work with managers, and a real collapse of trust between fishermen, other stakeholders and DFO. The real question in their minds is why should they work to defend the resource? For the first time, at a North Coast Advisory Board meeting, I heard a commercial fisherman say, "Listen, if this fishery goes, we will need fish farms because we need to have jobs." I could not believe my ears because at the same time as we are fighting expansion of fish farms to the north coast, we have a commercial fisherman considering this option because he does not know what else can be done.

Moving away from the trade-offs articulated in the SSMP to a new no-risk approach that seeks to maximize the productive capacity of unenhanced sockeye stocks on the Skeena will also eliminate the incentive to work with DFO and others on innovative and cooperative projects and processes such as the Skeena Watershed Committee process, Nanika Agreement and Pallant Creek. Clearly the current commercial fishery is not viable in the proposed regime. There will be staggering personal, social and economic transition costs if we go down this road.

Industry's position is that we made decisions and investments based on DFO's 1988 policy and we received re-commitments of this policy from two recent ministers. Industry was guaranteed that the future of the industry would be conservation, partnership and economic viability. We would like to work with the DFO managers and stakeholders to maintain an economically and ecologically viable fishery. However, if DFO decides to introduce this new regime, in the face of these previous commitments, then government has an obligation to compensate industry.

In light of many of a number of previous papers, it is irresponsible for me to not include some discussion of the consequences of the proposed changes to salmon management. There will be real life consequences

to people. We believe that the dramatic changes in policy demand social accountability: How should the compensation be paid to fishermen; who should be compensated; how will communities adjust; what are the social costs of lost livelihoods and businesses as people lose everything; what role should government play in helping the fish processing business and the 2,000 shore workers adapt to changes? All of these questions have to be addressed. Failure to demand changes without consideration of the consequences is why industry argues that science and scientists are not the people who should be making value judgments. And these *are* value judgments. If the salmon stock's Limited Reference Point (LRP) is 100 and a scientist says that the stock should have an LRP of 1,000, then the difference between 100 and 1,000 involves political, social and economic value judgements.

Change the course

I would argue that there is a way to manage salmon resources that will allow us maintain a sustainable resource and fishery. To get there we will have to entrench a policy commitment that clearly states that there is an environmentally and economically sustainable fishery in our future. There has to be some kind of balanced approach. It might be quite different from what we saw in 1988, but without some kind of balance that states that we can have an economically viable fishery, we have to return to the question of what happens to the people. I think that new partnerships between industry and DFO, with respect to the salmon fishery, can be one of the solutions that will take us to where we want to go. We saw an example of this in Barkley Sound in 2002 where seiners went to a pool fishery. We have also developed several Individual Quota (IQ) fisheries that have allowed for both a bountiful resource and a viable fishery and we have gone to non-competitive fisheries to reduce fishing pressure. These examples illustrate our willingness to build new partnerships that would get us to where we have to be for a sustainable fishery.

But we must have access to sockeye or else it becomes just an academic exercise. Industry does have the skills - we are willing to change and to adapt. I recall all the changes that we experienced over the years on the Skeena where people were willing to adapt to preserve their fishery and to ensure that they have a fishery for the future. Interest-based negotiations are a part of it as well as accommodation and compromise. We, as a fishing community, have to move toward some sort of forum where we can discuss and hammer out some of these concepts, where we can all take our interests, put them on the table and try to negotiate something that would allow us to have a fishery that meets the objective of conservation and still meets the goals and aspirations of people in the commercial fishery.

I believe it is possible but it will take compromise and a willingness to accept that not all of these stocks are going to be at their productive capacity. An example of a process we could use to do this, is the Skeena Watershed Committee process which ending in 1996. Although it was somewhat flawed, it did get people together and significant compromises were made all around. We preserved the fishery – a very different fishery – but it was a sustainable fishery that everybody agreed to and everybody could buy into. The Nanika Agreement is another example. In this case, a bi-lateral agreement was reached between industry and First Nations and it was successful in increasing escapements to a specific stock. Pallant Creek is another example; here industry worked with First Nations on the Queen Charlotte Islands to create, for the first time, a commercial fishery that helped to pay for a hatchery owned by the Haida Nation. All of these things are possible and we can create these kinds of institutions that will create a fishery for the future but it is predicated on industry having access to enough sockeye to maintain an economically viable fishery.