

CHAPTER 12

Dialogue following State of Salmon Stocks and Habitat

How to move the discussion forward and give clear direction to the politicians and managers?

Karl English asked: How do we get there? We have a problem associated with getting all the scientists on the same page with conservative approaches to fisheries management and fisheries advice to politicians. We have to have a fair degree of culpability in the demise of these stocks. How can we improve our ability to get on the same page and move the discussion forward to give clear direction to the politicians and managers?

Brian Riddell noted that he does a lot of work in the Columbia basin in the US side in addition to his work in BC - a process that is useful there is their use of independent science organizations. These are people, largely from outside the Columbia basin, who are brought in for their proven scientific capabilities and background; they are very diverse groups of 9-12 people who try to give a credible balance as to the pros and cons and, from there, it goes to the decision-makers. In his opinion, the only thing a scientist can really do is try to provide the clearest, most honest, objective assessment of the situation that they can and to write that in such a way that people can understand. These organizations actually proved to be quite successful at doing that and, in the Columbia, that has really helped the people there. We do not have a process like this in Canada as yet.

Getting the right message to the public

John Fraser commented on the importance of getting the message out to the public. He explained that three years ago, when the Pacific Fisheries Resource Conservation Council prepared a report on the state of the salmon stocks in British Columbia, they had to point out that, on the data available to them at the time, the salmon stocks along the west coast of Canada, British Columbia, were at the lowest in recorded history (see also <http://www.sfu.ca/cstudies/science/salmon.htm>). Then last year, reminding everybody that is what they had said three years ago, they had to record that as a consequence of increased ocean survival, a lot more fish were coming back from California right up through British Columbia. He stressed the importance of focusing on whether we are doing better or worse and in what context; otherwise the public will not understand what we are talking about.

What is the scale of overfishing in the Russian Far East and how much of it can be attributed to the change in political regime?

Terry Glavin posed the following question to Xanthippe Augerot: In the Russian far east, how much of the overfishing is attributable to the collapse of order since the Soviet Union fell apart? What is the generally accepted view of what the scale of overfishing is in the Russian Far East?

Xanthippe Augerot replied that one would find varied statistics about the extent of overfishing in the Russian Far East. It varies by region in terms of access and just how expensive it is to get to the rivers. Many places are only accessible by helicopter. For example, based on the estimates from the Amu River, that she has heard about from her biologist colleagues, in some river reaches the real take rate is five to seven times the reported rate in the commercial fisheries and in the so-called sports fisheries, which are really personal-use fisheries. In other areas, the estimates are that the real catch rate is anywhere from 20%-70% more than the reported catches. This makes it particularly hard to be straightforward, in addressing John Fraser's comments, because it is difficult to calibrate what the reported catch rates mean across the Russian Far East. Different calibrations in different places would be needed in order to tell the true story.

The overharvest and poaching is associated with the collapse of the Soviet Union, although there was also some poaching prior to this. The collapse of order is at least as important as the collapse of the economic system. The collapse of the economic system, and the lack of livelihoods in many remote locations, has been blamed for most of the problem, but it is also due to inattention and a culture benefiting or profiting from natural resources wherever this is possible, with a short-term view. That attitude goes from the regions all the way up to Moscow and it has shown up recently in the political murders of the Governor of Magadan and a General in Sachaline as well as the border guards and in various kinds of investigations of different fisheries and management agencies. This has resulted in turf battles between groupings of people trying to dip into the buckets of profits from salmon and other fisheries.

Risk of extinction – timing of measurements

Guido Rahr commented that when *Xanthippe* and her team were looking at the data for the Russian Far East on salmon stocks, at first, it did not look so bad – that was, until they realized that they were measuring a risk of extinction and that is a pretty high bar. Long before the fish are extinct there are big food web impacts and cultural impacts. He noted that he is not absolutely sure that the risk of extinction is the only thing they should be measuring and that maybe there are other metrics that will reveal the true magnitude of the declines. An additional comment is that, by the time the fish are noted on the risk of extinction chart and observable declines have been catalogued over some period of time, the impacts are entrenched - there are 100,000 people in the watershed or there is a serious harvest factor or some development in the watershed. He noted that they are behind the curve at that point and, by the time they notice what is going on, the ability to do something about it may not be effective.

The problem lies with management

Robert Kreutziger commented: I have a document produced by the Department of Fisheries and Oceans which states that 75% of salmon fry are cannibalized by the predation of Dolly Varden and the trout in Adams Lake. That left, after the ocean migration, only 5% returning. At one meeting I asked the question of a DFO scientist, "What is the migration route of exiting salmon fry out of the Fraser River, lower mainland and American side of the Gulf of Georgia?" The unequivocal response was Johnstone Strait. But then I read a report also written by DFO scientists where they opened up the stomachs of the farm fish in pens from the lower part of Johnstone Strait – and they found salmon fry in the stomachs of those fish. How did they get into the stomachs? This is confusing. The one report it says that only 5% of the fish that went to the ocean came back but that was in 1986. Since then, we have exposed these fish to fish farms and pitlamps - if we cut that 5% in half that is 2.5%. What are we doing to stop the diversion and decline of our salmon fry? The information is here but you can't use it. This is a management problem, and not just a fisherman's or a conservation problem. We should open our eyes - we can save this fishery.

John Fraser replied that the participants at this workshop are all here because, maybe not as explicitly and perhaps not as vehemently, they want to be sure that there are wild fish on this coast well into the future for as far as we can see. Secondly, many of us believe that the value of the wild fish, if properly managed, can continue to benefit the people on the coast for generations to come. The notion that there is no more

traditional commercial value for the wild salmon stocks is, in his view, something that is propagated by those who, first of all do not want to spend any money on the management of wild salmon stocks and, secondly, do not understand anything about the economic base of British Columbia. While it is true that the revenue from the wild salmon stocks and the traditional types of commercial fishery have gone down, relative to some years ago, the value of the wild fish stocks is still extremely important - the tourism, outfitting, guiding and sportfishing industry depends on it – let alone the concern of First Nations. Certainly, to abandon the potential for a useful commercial fishery on wild salmon would be a great mistake. He assured Mr. Kreutziger that it is important that he is here and that he said what he said and he thanked him for coming a distance to come and speak to us as frankly as he has, and also speaking to us with a lifetime of experience.

Brian Riddell replied that he could not comment on the specific examples without seeing the material; however, he noted that if we come back to the value of the commercial fishery, anyone who is not familiar with fishing in British Columbia should understand that, in the past decade, there have been enormous changes. In different people's minds, some of these are positive and some negative, but there has been a lot of attention paid to trying to provide a better future for the fishery. There have been enormous costs, in the short term, because of the poor marine survival. However, we would not have achieved a number of escapement goals and we would not be seeing as many fish on the spawning grounds, if it were not for the sacrifice of the commercial fisheries. These commercial fisheries, of course, have to be managed so that they are sustainable. Many conservation groups will point out that it is not a 'right' to actually go fishing, it is an 'opportunity' to go fishing. We want to ensure that the fish are preserved for the future for everyone and that there certainly is an expected future for commercial fishing in British Columbia. He believes that we are seeing as many impacts from market value changes, as we are with the salmon runs and there is no question that salmon farming has affected markets, such as for pink and chum salmon. All of these things come into the big picture. We are not giving up on the commercial fishery - it has been important for 120 odd years of history in British Columbia and will continue to be.

Can recent increases in pink salmon returns be attributed to increased ocean survival?

Lee Montgomery noted that three presentations referred to recent increases in pink salmon and asked if the presenters could speculate on the reasons behind that?

Mitsuhiro Nagata commented that this could be attributed to both better ocean conditions and hatchery improvements. This is supported by their data about the relationship between the size of the juvenile stock and returning rate. There are some indications that in recent years however ocean conditions may be getting worse and it is possible that pink salmon may decrease with this shift.

Brian Riddell replied that the recent returns in Puget Sound, Southern BC, and the central coast of British Columbia up to Prince Rupert have all been substantially increasing in the past couple of returns. In the 1990s pink salmon went through one of their all time lowest periods of marine survival. The only place where they can actually measure marine survival at all is in the Fraser River and, in 2001 in the absence of any real commercial fishing, there were in excess of 22 million spawners in the Fraser River – that is the largest ever number recorded in recent time (although possibly not back in the turn of the century). Clearly, across the board because of the wide distribution, it was a marine event that allowed for it. To get that many fish back, one had to have successful recruitment from fresh water as well. He noted that *Bill Heard* may be able to comment about poorer return in the Southeast Alaska region last year.

Bill Heard replied that the pink returns in Southeast Alaska last year were below the last ten-year average. However, this last ten-year average has been relatively high. In the Prince William Sound SouthCentral area, the run was about normal last year.

Xanthippe Augerot noted, with the caveat that she was not an expert in pink salmon dynamics, that the catches have been very good for pink salmon at the southern edge of their range in the Russian Far East, in the Northern part of the Japan Sea and on Sakhalin Island. In fact, they have attained some peak run sizes on Sakhalin Island for this recent history. On Kamchatka, they have had not had such strong run sizes and there have been some disappointments. She believes that on Sakhalin Island they attribute part of their success to their very active hatchery program - they have recently renovated almost all of their hatcheries with the help of Japanese technology and funding assistance. Given the pervasiveness of the pattern, it is also very likely due to marine conditions.

Ocean Survival

John Fraser commented: Studies have shown that we have had for a number of years a better marine survival from California North. However, we are in a period of El Nino and I am wondering if anyone wants to speculate whether or not that is going to affect the ocean survival of salmon that are out there in the ocean now and due to come back sometime this coming fall or the following year?

Brian Riddell noted that in preparation for the upcoming report of the Pacific Fisheries Resource Conservation Council, he had discussed the developing El Nino with scientists at the Institute of Ocean Sciences and their sense was that it was starting to show development but really did not mature - that it was a very small El Nino and they are not expecting a major change in production. We should be clear that El Nino is not the only determinant of the production. It can be related to certain populations in British Columbia but the big changes that we are talking about, in pink salmon for example, are largely related to the north central Pacific regions. Some of the other environmental indicators actually do a better job of predicting change. He referred to Mitsuhiro Nagata's comment about indications of decline and noted that he had not yet heard that for North American salmon.

The relationship of the BC Treaty Negotiation process to salmon management

Karl English noted the troubles on the Fraser River that Ken Wilson had referred to and the difficulties and challenges that lie ahead with Treaty Negotiations and the lack of resources and asked: Do you see the Treaty Negotiation process as a part of the solution or a part of the problem?

Ken Wilson replied that the Treaty process is proceeding and at some point we will begin signing treaties in the Fraser. At that point we will have to start managing our fisheries to address the goals and obligations that are incorporated into those treaties and therefore management on the Fraser River will become more complex. It will create some problems but it will also create some opportunities because the benefits will be redistributed and people will start to take some ownership for the problem.

On endangered status and Cultus Lake sockeye

Terry Glavin noted that he was a member of the 2002 Fraser Sockeye Review Committee, and he commented that it was his experience that the availability of data can sometimes confuse issues almost as much as the lack of appropriate data. For example, the Cultus Lake sockeye is a data rich population, but what can we say about the status of Cultus Lake sockeye in relation to the other co-migrating populations of sockeye within that late run timing group? Since the Cultus Lake sockeye stock is the only one that is officially declared as *endangered*, on the face of it, a lay person would say that this is the stock that is in the worst shape, but is that what we should be assuming?

Ken Wilson replied that he did not think it is safe to assume that. There are a number of late stocks and they have all been suffering under the burden of 80-90% pre-spawn mortalities for the last five years. The biggest stocks, such as the Adams River run, have the biomass to put up with this load for a little while but smaller stocks are the ones likely to be most affected. There are lots of other stocks that are far smaller than the Cultus Lake sockeye, such as stocks from the Widgen Slough, and there are 50 or so places in the lower Fraser where there are what they believe, late stocks, and these stocks are subject to

the same sorts of mortalities. In his opinion the Cultus sockeye probably, in some ways, is representative of other late stocks that are too data impoverished to really assess.

What about lake fertilization?

Robert Kreuziger asked why lake fertilization could not be used to rebuild the Cultus Lake sockeye? He gave the example of the rebuilding of Weaver Creek – he referred to a document that says, “Dead salmon are removed from the channel daily and the carcasses are buried upstream beside the Weaver Creek.” He told the story about a man in Campbell River fifty years ago who told him that he was assigned the job at Babine Lake of raking carcasses out of the lake. He said to the Fisheries Officer, “You can’t do that. You are starving the fish.” Sockeye don’t eat each other, they work off the ecosystem. He suggested that we should try to recapture some of that mentality of lake fertilization and the translocation of carcasses so that there is no waste - that would help to replenish the whole ecosystem.

Ken Wilson agreed that these were good suggestions but commented that before we go too far down this road, we all have to be able to sit at the same table and have a civil conversation about what we are trying to accomplish with the management of these stocks.

Is there any hope and can it be turned around?

Otto Langer asked if it is possible to design a recovery pilot program for DFO in face of all the challenges that Ken had outlined in his presentation. He noted that they have resource cuts and a confused will, and the complexity of their job has increased greatly over the last twenty years in addition to real problems at the management level. Is there any hope that it can be turned around?

Ken Wilson replied that when two ends of the string don’t meet, you have to re-think the problem. It is fairly clear that DFO is struggling in a lot of different directions but they are trying to do too many things, too much of the time. That is why he was arguing that DFO needs to sharpen its mandate so that the resources they have are sufficient to fulfill it – to do this they are going to need to off-load a lot of things. He added that we are also going to need to find creative ways of funding things because DFO is not going to be able to do it. We can all yell at the government and urge them to do their job and provide us with the money we need to do ours but, realistically, he believes that we will have to find ways of accommodating the changing (diminishing) budgets of DFO and we are going to have to do it through changing our priorities and policies and partnerships. The first task has to be soul-searching.

Is the regional management approach part of the solution?

Wayne Jacob asked: Could you comment on the fact that DFO is quite likely going to be moving to regional management, which takes a broader perspective in management and increases the participation of multiple parties and leads to models that are based more on economics such as the multi-attribute style of resource evaluation. How do you see that process working in the future and, in particular, for the Fraser River sockeye stocks?

Ken Wilson replied that he supports this move, and gave the example of the recent movement of more DFO staff to Kamloops, in interior BC. He noted that over the next ten or fifteen years we are going to see a lot more of the activity that surrounds salmon management occurring further away from Vancouver and in the interior of the Province. He believes that it is helpful, efficient and sensible to have DFO staff located in the places where the work needs to be done. It also allows them to do one of the most important jobs and that is to build solid relationships with the people that they will have to work with and that are going to be harvesting the resource in their area. He commented: I am positive that we will be able to work this out and I think DFO made the right move in decentralizing people into the Fraser, although it may not always look like that, particularly given the costs involved and the budget constraints. I support the philosophy of decentralizing DFO and moving management staff into the regions and into the watersheds.

Who is responsible for recovery planning?

Brian Riddell asked: What does SARA say about who has involvement in recovery planning?

Chris Wood replied that once the stocks are legally listed, there is an obligation to complete a recovery strategy within a certain time-frame and that is done by appointing a recovery team, which under SARA has to include quite broad representation of people who can provide information that is relevant to making sure that the recovery strategy is broad enough to include all the factors that need to be considered. It also has to include some consideration of the socio-economic impacts and would require people with that type of expertise. The answer is that it will have to be quite broad and will involve consultation.

Day One Wrap-up Comments –John Fraser

During today, we have gone from very wide-ranging and general observations about the state of the global fishery and, more specifically, the salmon – both Atlantic and Pacific – and what I think is very great interest with respect to Pacific salmon, North America, Russia and the Orient. Also, we have been addressing some very specific problems and, inevitably, we have been involved in a discussion about the resources available to the Department of Fisheries and Oceans. If the net result of all these discussions is that, within our area of responsibility, the Pacific salmon stocks are low or, in many cases, declining and badly need attention, especially with respect to stocks such as the Sakinaw Lake and Cultus Lake sockeye salmon and some coho stocks, the question is: Do we have the resources to do it? If we haven't, is that partly because we are not making it clear enough in the public domain that this magnificent heritage needs to be preserved, sustained and advanced?

For example, what kind of money would it take to carry out a study, covering the last five years, of what was happening to these late returning sockeye and to determine why they entered the Fraser early and why is it they were behaving in that pattern, which was unusual? We don't have the answer to this question. Ken Wilson mentioned that the Adams River run, which is a late run, came in this past autumn with many more fish than was expected and was so abundant that, perhaps, the 80-90% pre-spawning mortality that had affected the late run sockeye stocks for several years before, was not noticeable or not measurable or maybe didn't even happen. I wonder what will happen this coming autumn? There is certainly something going on there and we probably do not have the answers. With respect to the Cultus Lake sockeye, even with your best efforts, one has to wonder if those declines have been coming for a long time. Was it overfishing? Why, when fishing patterns have been much the same as they have been for decades before, did it not happen a long time before? Is there some genetic problem?

Last year, the Department of Fisheries and Oceans and the Pacific Salmon Commission were very worried about the late run sockeye - they were worried about pre-spawning mortality and, as a consequence, told the commercial fishery that they had a concern and therefore were only going to give them 15% of what they estimated the run to be. They estimated it to be 3 million and then it came in at 8-9 million. This led to complaints from the commercial fishery and others who questioned the fact that DFO could not more accurately approximate how many fish were coming back. However, what was not explained, no matter how hard some people tried to do it with the media, was that the reason DFO and the Pacific Salmon Commission said only 15% of the fish coming back should be taken, was because of the tremendous concern over the 80-90% mortality of those late fish for the four or five years previously. In other words, there were a number of people trying to do the right thing, such as exercise the precautionary principle, and it was very difficult to get that message across to the media - they were, frankly, more interested in frightening and dismal stories about how many dollars some people had lost because they could not fish. Eventually, it was adjusted and then the Minister, reacting to the agitation, held an Inquiry and there was a great deal of attention paid to it. There had been more attention paid to the fact that they misjudged the returning numbers of Adams River sockeye than has been done to find out why, for four or five years before, the sockeye were dying before they could spawn.

That is the kind of thing that, with the best will in the world and the most benevolent and generous commentary upon the Department, makes those of us who are concerned about this, wonder about where the priorities lie? We should be able to define some priorities. The other thing to keep in mind is that what seems like a lot of money is really not; for instance, the stewardship program, which is now being sunsetted, cost \$8-9 million. That may seem like a lot of money if you are in DFO headquarters trying to figure out how to keep this program going but it is an infinitesimal percentage of the total budget of DFO and if you want to start adding up some of the things that the federal government spends money on, then maybe we, as citizens here, have to say that we have identified a number of areas that badly need attention and they cannot get the attention unless something is done about this budget. We are not talking about hundreds of millions of dollars - we are talking about some millions, and that is a very small percentage when one considers that we have just spent nearly a billion dollars to get mostly law-abiding people to register their shotguns and rifles. I think we can find some money to look after the fishery resource.

