

**RULING RE: RULE 19 APPLICATION FOR
PRODUCTION OF AQUACULTURE HEALTH RECORDS**

Background to the application:

1. On July 5, 2010, pursuant to Rule 18 of the commission's rules of practice and procedure, the Aquaculture Coalition and the Conservation Coalition (the "applicants") asked commission counsel to request of the Province of British Columbia (the "Province"), the Government of Canada ("Canada") and the British Columbia Salmon Farmers' Association ("BCSFA") (together, the "respondents") certain documents (the "Initial Request").

2. The Initial Request sought documents relating to fish health, pathogens and disease, as well as stocking data in farmed salmon. The applicants also requested fish health data for wild salmon. The geographic and temporal scope of the Initial Request was for fish farms and "wild salmon on the Fraser River migration route (including both sides of Vancouver Island and north of Vancouver Island through Klemtu) dating from 1980 to the present."

3. The BCSFA wrote to commission counsel on July 30, 2010, advising that it found the Initial Request "overreaching in its scope, both in terms of the kinds of documents requested and the period of time which the request covers." The BCSFA expressed concern about the temporal scope of the Initial Request:

We are concerned that expanding the timeframe of the evidence placed before the Commission will detract from the Commission's process and will place additional financial pressures on all participants. As a practical consideration, the Commission should seek to limit the scope of the investigation to material times, which based upon our understanding of the Terms of Reference, would be within the last five to ten years.

4. In its letter, the BCSFA proposed providing the commission with “aggregated data for the years 2007 to 2009 from the Fish Health Documents with a report summarizing and explaining the raw data ...”

5. On August 11, 2010, Canada responded to the Initial Request, noting that it had relevant documents (i.e. fish health records for Fraser sockeye covering 2004-2009) which it was in the process of producing to the commission, but it expressed concern about a request reaching further back in time from 2004, as it would delay the production of other relevant documents.

6. On August 18, 2010, the applicants wrote in response to the positions of the respondents. They reiterated their request for information from individual salmon farms (as opposed to aggregated data proposed by BCSFA); however, they revised their request, seeking documents going back 22 years (to 1988). The applicants also accepted a suggestion of the Province that the scope be limited to “documentation, and hence farm data, in the Fraser River and along the migration routes of the Fraser River sockeye.”

7. Although commission counsel supported the Initial Request, on August 19, 2010, commission counsel wrote to the respondents requesting the documents sought by the applicants, but limiting the request to documents from the period 2004-2009 and from 21 identified fish farms explaining as follows:

At a broad level, the Applicants’ request touches on a topic that is expected to be the subject of hearings which may be controversial. There is likely to be disagreement and debate on whether, for instance, the presence of salmon farms – in the migration routes of Fraser River sockeye – has a deleterious impact on migrating salmon. To attempt to answer this question, it becomes relevant and necessary to have an understanding of the type of information sought in this application.

Given this, commission counsel have agreed in many respects with the Applicants’ request for documents. There are, however, several parameters that may properly be placed on the request that commission counsel are making through this letter. ...

First, in obtaining general documentary production from Canada, the commission has commenced with a five-year time frame (2004-2009), though the production to date from Canada contains many relevant documents that pre-date this period. The five-year time frame permits a good understanding of the recent documentary record, and strikes a balance by not going back decades. Unless otherwise noted, our requests below employ this five-year period.

Second, insofar as the documents at issue deal with wild salmon, relevant materials will be those dealing with Fraser River sockeye, as opposed to other species of Pacific salmon.

Third, geographically, relevant materials relate to the migration routes of Fraser River sockeye, rather than Fraser River salmon generally.

...
 For both the Province and the BCSFA, commission counsel have, with the assistance of the commission's science staff, identified aquaculture facilities which are proximate to the migration routes of Fraser River sockeye. The enclosed maps detail these areas and facilities. ...

8. The specific requests of the respondents for documents for the time period from 2004 to 2009 made by commission counsel were:

the Province:

...

- Documents relating to fish health, mortality and pathogens including sea lice and disease, for the farms in the area identified above and in the maps appended to this letter. This includes the data from the Province's Fish Health Database.

the BCSFA:

...

- Documents relating to fish health, mortality, and pathogens including sea lice and disease, for the sites in the area identified above and in the maps appended to this letter; and
- Documents relating to the stocking of salmon farms identified above, including the number of fish, species, location, dates of entry into the facility, harvesting, mortality, and age-class.

The BCSFA is requested to supply the above information at a farm-specific level, rather than as aggregated information. ...

Canada:

... Commission counsel confirm that we seek the following documents

....

- Case reports pertaining to wild sockeye salmon health;
- Documents from CFIA [Canada Food Inspection Agency] related to the National Aquatic Animal Health Program;
- Canada's submissions to the World Organization for Animal Health related to salmon diseases; and
- The summary created by CFIA officials of test results related to therapeutic use in finfish aquaculture facilities.

The Rule 19 application:

9. In response to commission counsel's request, the applicants brought this application under Rule 19 to compel production of the documents they initially sought (as revised in the letter of August 18, 2010). A hearing date of September 22, 2010 was set and the applicants and respondents, as well as any other participants and commission counsel were invited to provide written submissions.

10. In addition to their written submissions, the applicants tendered the affidavits of Stan Proboszcz, fisheries biologist with Watershed Watch Salmon Society, and of Alexandra Bryant Morton, fisheries biologist, both affirmed September 9, 2010. The applicants objected to the five year and 21 farms approach of commission counsel, maintaining that "a longer time span of production is necessary for the Commission to assess the impact and causation between health of fish in aquaculture facilities and health of wild sockeye stocks [and] there are additional fish farms that are of sufficient proximity to Fraser sockeye migration routes to potentially impact Fraser sockeye which ought to be included in the production request."

11. The applicants objected to the geographic limits of commission counsel's request, which covered only 21 fish farms:

25. In the Applicants' submission, a proximate fish farm is one that can potentially impact Fraser sockeye stocks. In this regard, a 2005 study entitled *Transmission dynamics of parasitic sea lice from farm to wild salmon* Krkosek et al found that infection pressure from salmon farms caused sea lice levels to exceed ambient levels for an average of thirty kilometres. Therefore, a reasonable and scientifically sound way to determine which farms are potentially relevant to declining stocks is to identify which farms are within thirty kilometres of Fraser River sockeye salmon migration routes.

26. In the Applicants' submission, all farms within thirty kilometres of Fraser sockeye migration routes could potentially impact Fraser sockeye and are therefore sufficiently proximate to warrant ordering the production of all fish health and stocking documents.

12. The applicants relied on the affidavit of Mr. Proboszcz, seeking information from an additional 99 fish farms which he identified as within 30 kilometres of Fraser River sockeye migration routes.

13. The applicants criticized commission counsel's request for documents from the five-year period of 2004-2009:

30. There is no biological or scientific basis to limit the examination of fish health data to a five-year time frame. It is only with an examination of multiple life-cycles of specific salmon stocks that any comprehensive and reliable scientific determinations can be made regarding long-term impacts of disease and parasite exposure. Absent multiple comparator years of specific Fraser sockeye runs, any determination of the relationship between the health and stocking of fish farms and declining salmon stocks will be of limited value. ...

14. The participant groups, Area D Salmon Gillnet Association and Area B Seine Society, and the Heiltsuk Tribal Council filed brief written submissions supporting the application.

15. The Province did not provide written submissions in response to the application, though orally supported the parameters set by commission counsel.

16. Canada provided written submissions on September 14, 2010, reinforcing its position that an extension of the time period beyond November 1, 2004 would “entail a significant restructuring of the document production work, both by having to add resources to assemble further documents and by diverting existing resources away from current document processing work”. Canada supported its submissions with affidavits sworn on September 14, 2010, from Rachelle Haider and Christina Gallo, support staff at the Department of Justice.

17. The BCSFA provided written submissions objecting to the application, but offering to provide “the requested documents on the terms in the Commission’s Request of August 19, 2010, subject [to] the Commissioner’s consideration of the BCSFA’s affidavit materials ... explaining the scientific basis for aggregating the requested fish farm data.” In support of its submissions, the BCSFA tendered the affidavits of Kenneth M. Brooks, a fisheries biologist and environmental scientist, affirmed September 16, 2010, and of Tom Watson, a biologist, affirmed September 13, 2010.

18. The affidavit material filed by the BCSFA took issue with the 30 kilometre limit identified in the affidavit of Mr. Proboszcz, asserting that there is no evidence disease or lice from fish farms can travel this distance and subsequently infect wild sockeye salmon.

19. Commission counsel provided written submissions on September 17, 2010, in which they expanded their reasons for limiting the Initial Request to 21 identified fish farms and for a period from 2004-2009, as follows:

The Fish Farms Selected for Specific Document Disclosure

6. Commission counsel limited the Request for documents from fish farms to 21 aquaculture facilities proximate to the sockeye migration route along the east side of Vancouver Island. With reference to scientific articles (cited in the Request at footnote 1, page 5), and in particular to the map on p. 58 of the article by Groot and Cooke (reproduced at Exhibit “E” of Affidavit #1 of Stan Proboszcz), commission counsel identified aquaculture facilities located along the

assumed migratory routes of Fraser River sockeye smolts. The 21 fish farms identified in the Request are comprised of (1) those that are closest to the sockeye routes identified on the Groot and Cooke map through the Discovery Islands; and (2) those that border the waters of the Queen Charlotte Strait, through which the smolts migrate.

...

9. The Applicants have pointed out, correctly, in their submissions, that Fraser River sockeye sometimes use an alternative migratory route along the west side of Vancouver Island. Therefore, they say, fish farm data from the west side of Vancouver Island must also be disclosed to the commission. Commission counsel did not include farms from the west side of Vancouver Island in the Request for the following reasons. We understand the “inside” route to be the preferred and primary route for migrating Fraser River sockeye. Also, unlike the Discovery Islands where the migrating salmon are forced by geography to swim through narrow channels which bring them into proximity with fish farms, we had no scientific information available to us concerning how close the sockeye smolts come to fish farms along the west coast of Vancouver Island. Furthermore, we determined that the objective of testing for relationships between fish farms and the health of Fraser River sockeye could be accomplished with a data set collected from fish farms along the main sockeye migration route.

10. The Applicants have also suggested that the commission should be seeking fish health data from all fish farms within a 30 km radius of sockeye migration routes. In our view, the question that should be asked on this application is whether the 21 sites identified will adequately inform the understanding of salmon-farm disease and sea lice frequency adjacent to sockeye smolt migration routes. We have deliberately selected 21 “worst-case scenario sites” in terms of pathogen exposure. If a trend cannot be demonstrated at these sites, there is little value in studying other locations that are situated at greater distances from these routes.

...

The Time Frame for the Document Requests

12. Commission counsel limited the Request to documents produced in the five years leading up to the announcement of the Inquiry (November 2004-2009). Commission counsel chose to employ the five-year period reflected in the commission’s current approach to initial disclosure from Canada.

...

14. Commission counsel acknowledge the possibility that the temporal limits placed around the document request may prevent some effects from being determined through the planned analyses (which we describe below). But given the number and complexity of

the issues under investigation by this Inquiry, we felt it acceptable to proceed in the face of this risk. A five-year data set will provide an opportunity to understand relationships between fish farms and the 2009/2010 returns. A sufficient picture of aquaculture effects, proportionate to the topic's place in the Inquiry, can be provided through data for the last five years.

20. In the reply submissions filed by the applicant Conservation Coalition on September 17, 2010, it noted that the only issue before me at this stage "is whether the scope of the production of documents as requested by Commission Counsel ought to be expanded along geographic and temporal planes." In support of expanding the scope of the request it wrote:

6. It is worth pointing out that the same scientific studies and publications relied upon by the Commission Counsel in his letter of August 19 are in fact relied upon by the Applicant in its evidence.

7. A close examination of those publications shows that the out migration path of the juvenile sockeye salmon from the Fraser River predominantly occurs through the Strait of Georgia in a northerly direction. However the publications also support a finding that juvenile sockeye from the Fraser River are to be found along the West coast of Vancouver Island and the central coast of British Columbia. The in migration of adult sockeye to the Fraser occurs either along the West Coast of Vancouver Island or through the Strait of Georgia.

...

10. Thus there is ample authority to expand the production of records from salmon farms located along all of the migration paths of Fraser River sockeye and not just the ones as delimited in Commission Counsel's letter of August 19.

21. The co-applicant, the Aquaculture Coalition, also filed its reply submissions on September 17, 2010 stressing that the temporal scope of the documents requested must be extended back to 1988:

21. The appropriate time-line must take into account that, although individual year returns have varied, it is clear that productivity has been declining steadily since 1992. It is in 1992 that salmon farms first reported disease events. Nothing less than a full examination, starting from 1988 (the generation preceding to the 1992 returns)

will provide a fair examination of the possibility that disease and pathogens have played an important part in the as yet unexplained variability and declines.

22. On September 22, 2010, I heard argument on the application and on October 20, 2010, I issued my Interim Ruling.

The Interim Ruling:

23. In my Interim Ruling, I noted at paragraph two the rationale of commission counsel for limiting the applicants' initial request temporally and geographically, in particular, that counsel's assessment of what documents are relevant and necessary "must strike a balance between (1) ensuring a full and informed investigation of the issue, and (2) avoiding a prolonged and tangential review of the documents with little or no connection to the commission's work."

24. At the hearing, the respondents acknowledged that they could produce the documents as requested by commission counsel. Thus, I ordered that the Province produce the documents requested by commission counsel forthwith, and that the BCSFA produce forthwith the documents requested by commission counsel and in the form requested by commission counsel.

25. Given the extensive document production process engaged in by the respondent Canada, I ordered Canada to advise commission counsel within one week from the date of my Interim Ruling of its estimate of time for delivering the documents sought by commission counsel.

26. With respect to the applicants' assertion that the requested documents should be expanded geographically and temporally to conform to their initial request, I concluded that I needed further evidence before issuing my final ruling. Accordingly, I invited counsel for the respondents to provide me with additional evidence by November 1, 2010, addressing any hardship that would be

occasioned by the collection and production of a broader set of documents than that sought by commission counsel.

27. I further invited counsel for the applicants, the respondents and the commission to provide me with evidence addressing any consequences in terms of timeliness and cost associated with the analysis and presentation of the evidence on this topic which may flow from me ordering a broader production of documents than that sought by commission counsel.

Additional Evidence following Interim Ruling

28. In her affidavit sworn October 29, 2010, filed on behalf of Canada, Annie Champagne, Director of the Aquatic Animal Health Division of the Canadian Food Inspection Agency (“CFIA”), deposed that with respect to the temporal limits, the Fish, Seafood and Production Division of the CFIA holds documents relating to therapeutant and toxin level test results dating from 1990 and could produce these documents in a few days to a week. In the affidavit of Alan Cass, a DFO biologist, sworn November 2, 2010, he deposed that Canada holds records for wild sockeye case reports from 1962-2009 (and they have started scanning the case reports from 1998-2004), parvicapsula-related documents from 2000-2004, and infectious hematopoietic necrosis virus documents from 1987-2009. The estimate of time to collect and produce these documents to the Department of Justice for uploading to Ringtail varies, but it is generally under a month.

29. However, in her affidavit sworn November 1, 2010, Ms Haider deposed that expanding the request beyond five years would result in further delay of the ongoing production of documents by Canada relevant to the hearings and would result in upwards of “several hundred thousand documents for each additional five year period” requested. I note that Ms Haider does not distinguish in her affidavit between documents related to aquaculture and general documents

related to the work of the commission. This application, of course, only deals with the limited set of aquaculture documents being sought.

30. In his affidavit sworn November 2, 2010, Mark Sheppard, Aquatic Animal Health Veterinarian, Ministry of Agriculture and Lands, deposed that the Province's Fish Health Program was initiated in 2001 and that the Province can produce relevant records from 2002 forward in approximately 24 days. Raveen Sidhu, staff with the Legal Services Branch of the Ministry of Attorney General, deposed that relevant records from 2000 forward are stored electronically in an archived database; however, relevant records prior to 2000 have been destroyed.

31. The BCSFA also asserted that prior to the implementation of provincial regulation, the aquaculture industry's record keeping is difficult to ascertain and in the affidavit of Stephen Budgeon, IT Manager of Marine Harvest Canada Ltd., sworn November, 1, 2010, he said that it would take "many months" to determine whether data exists and to put it into useable form.

32. The BCSFA estimates between \$12,000 - \$19,000 per month in "lost productivity" if the request for documents were to reach back before the early 2000s (affidavit of Budgeon, paragraphs 6 & 7; affidavit of Mia Parker, Manager, Regulatory Affairs, Grieg Seafood B.C. Ltd., sworn November 2, 2010, paragraphs 5 & 6; and affidavit of Frank Bohlken, environmental scientist for Triton Environmental Consultants Ltd., sworn November 2, 2010, paragraph 7). I note that this affidavit material does not define "lost productivity" and does not provide sufficient details for me to assess the likely magnitude of any hardship which would be occasioned. It does, however, provide some evidence of potential hardship to the BCSFA should I order the production of documents from the 1990s or earlier.

33. In his affidavit provided at the request of commission counsel, Josh Korman, a fish biologist at Ecometric Research Inc., sworn November 1, 2010,

noted the difficulty in limiting the requested information to a five-year data set and commented upon the timeliness and cost of expanding the information:

10. Hypothetically, it would be helpful to consider a longer time series of data. It is reasonable to expect that the expanded dataset would substantially strengthen inferences regarding the effects of salmon farms on Fraser sockeye returns. A key part of such an analysis would likely entail relating temporal variation in disease and lice frequency with marine survival rates (as indexed by variation in recruits/spawners). Such an analysis could be undertaken using an expanded 20-year dataset, if those data were available in a consistent format, but is not possible with the current five-year dataset because of insufficient replication.

...

13. Currently, given my other commitments and the later-than-expected start to this project, I expect the assessment of the data from 21 farms for five years to be completed by March 31, 2011. If the additional data were available with sufficient consistency, I would expect a 50 per cent increase in the amount of time required to do my analytical work. Despite this, I anticipate that I could still complete the work by March 31, 2011. The cost of the analysis would also increase by approximately 50 per cent.

Analysis

34. I am satisfied, on the whole of evidence that the geographic and temporal limits imposed by commission counsel ought to be broadened for the reasons that follow.

35. First, with respect to the geographic scope of the request, while I understand the approach of commission counsel to limit the request to 21 identified fish farms along the out-bound northern migration route, I have concluded that information from fish farms in proximity to other potential migration routes (such as the western or southern portion of Vancouver Island) would be relevant and contribute to a full and informed investigation of this issue.

36. The applicants urged me to adopt the approach set out by Mr. Proboszcz in paragraph 15 of his affidavit:

According to my research and understanding of the transmission of disease and parasites, in order to assess the impact of aquaculture on declining Fraser River sockeye, including the impact of diseases and sea lice from salmon aquaculture facilities, fish health and stocking records of all those facilities that are sufficiently proximate to the various Fraser sockeye migration routes as to potentially transmit pathogens, including disease or sea lice must be reviewed. In this regard, a reasonable and scientifically sound way to determine which farms are potentially relevant to declining stocks is to identify which farms are within thirty kilometres of Fraser River sockeye salmon migration routes.

37. The respondent BCSFA takes strong issue with Mr. Proboszcz's opinions and with the literature upon which Mr. Proboszcz relied to reach his opinions, particularly the conclusion that a reasonable and scientifically sound way to determine which farms are potentially relevant to declining stocks is to identify which farms are within thirty kilometres of the Fraser River sockeye salmon migration routes.

38. In my view, this ruling is not the time or place for me to decide the serious conflict in the parties' positions regarding the evidence on this point. However, I think that data from the additional fish farms identified in the affidavit of Mr. Proboszcz may assist me in assessing such issues as the impact of fish farms on Fraser River sockeye salmon (if any) and in determining the degree of proximity required for a risk of infection to exist.

39. Moreover, neither the Province nor the BCSFA identified any hardship to them or delay of the commission's proceedings which would be occasioned by broadening the geographic reach of the documents ordered to be produced by the respondents. On this point, the respondent Canada stated:

5. ... Canada has not taken a position on the geographic reach of any Order made. Further, the breadth of the geographic reach, whether it be 21 farms as set by Commission counsel in his letter or a larger

number requested in the motion, will not have a significant impact on the work entailed or timing to produce documents.

40. Second, in considering the temporal scope of the request and whether it should be expanded past the five years, I am of the opinion that there is substantial utility in obtaining documents from a broader period, especially to the extent that they can be obtained in a timely way and useful format.

41. In assessing the need for further documents, I note the evidence of Dr. Korman, who opined that it is reasonable to expect that an expanded data set would substantially strengthen inferences regarding the impact of salmon farms on Fraser sockeye.

42. The benefits of a larger data set going back further in time were also identified in the affidavit of Gordon Fredric Hartman, fisheries scientist, sworn November 1, 2010, filed on behalf of the applicants:

4. It is also my opinion that there is a greater chance that a subset of data (instead of all spatially and temporally relevant information) may produce inconclusive results, thereby producing a need for additional data to substantiate scientific findings. In addition, the statistical analysis of a subset of data will often produce results with larger associated error relative to the same analysis of a larger data set. Thus, there will likely be greater confidence in scientific findings derived from a larger data set. Moreover, solely analyzing a subset of data increases the likelihood of coming to erroneous conclusions. It is therefore most efficient to obtain a more robust data set at the outset and avoid inconclusive or erroneous scientific findings.

5. Furthermore, five-years of data cover only one and one quarter life cycles of the common run component among Fraser River sockeye salmon. As such, in my opinion, analyzing five-years of data respecting the environmental conditions faced by out-migrating Fraser sockeye salmon is unlikely to provide a reasonable basis for the meaningful evaluation of sockeye salmon population fluctuations. ...

43. I note the opinion of Dr. Brooks that “examining arbitrary time periods in temporally cycling data can lead to misleading results that depend on the period

examined”, however, none of the affidavit material filed by the respondents persuades me that an expanded data set (if available) would not strengthen the analysis.

44. On the issue of the quality and availability of data, I note the evidence from the Province that it did not regulate the aquaculture industry until 2001, and that documents from prior to 2000 have been destroyed. In her affidavit, Ms. Sidhu deposed that she had been advised by Gary D. Marty, D.V.M., Ph.D., Diplomate, A.C.V.P. Fish Pathologist that:

1.:

- (a) The Cases from 2000-2002 - ... These records are stored electronically in an archived database. ... We would be able to provide individual case reports, but these case reports would not be summarized on a spreadsheet ...
- (b) Note that many of these case reports will have no information about the farm of origin. ...
- (c) Cases before 2000 – we have no records from cases before 2000 (they have all been destroyed).

45. In his affidavit, Dr. Sheppard deposed:

12. The BCMAL [British Columbia Ministry of Agriculture and Lands] maintains a Fish Health Audit and Surveillance Database dating 2004-2009. ...

...

19. To my knowledge the randomized overseeing audit information was not collected by BCMAL prior to 2002.

20. In the pre 2002 period, the Province may have some scattered project and case by case diagnostic confidential medical records from fish samples submitted by owners of aquaculture facilities on an as needed basis for diagnostic analysis. This material is submitted when an individual owner or private veterinarian would like to investigate or confirm fish lesions. If the private veterinarian was not in need of confirming the diagnosis the samples would not be submitted to the BCMAL.

21. These non random submissions are sometimes submitted without specific site of origin information and would not be considered

representative of the farm or general area, or region, or of population dynamics.

...

23. If the Commission decides to order additional disclosure from the 21 specific farms along the Fraser River migration route subject to this commission from 1988 onwards, I do not know what information may be located if any, or how long it would take to find and collate these materials if they exist.

24. If the Commission decides to order additional disclosure from all farms subject to this Commission from 1988 onwards, I do not know what information may be located if any, or how long it would take to find and collate these materials if they exist.

46. The BCSFA also provided evidence regarding the likely state of documents prior to 2000 and the time and hardship associated with collecting these documents. In his affidavit, Mr. Budgeon stated:

6. I am informed by Clare Backman, Environmental and Sustainability Director for Marine Harvest, that the present Marine Harvest is composed of at least twenty-four now-defunct companies, and that in the course of numerous purchases and amalgamations the fish health and fish stocking records of those former companies, which would have been kept in paper form, were likely lost, or were not transferred as part of any asset purchase agreements. I am also informed by Mr. Backman that it would require considerable time and expense just to determine whether any of these former companies' records dating back to the 1990s or earlier even exist and could be obtained for the Commission.

7. I am informed by Clare Backman that there are 5 of Marine Harvest employees who would be somewhat qualified to engage in such a search for the documents the Aquaculture and Conservation Coalitions have requested. Were they to devote half of their work week to searching for these documents, I roughly estimate that it could take many months to determine whether the data exists and, assuming it is decipherable and coherent, to put it into a useable form. At those employees' hourly rates, such an undertaking could cost Marine Harvest as much as an estimated \$12,000 dollars per month in lost productivity.

47. In his affidavit, Mr. Bohlken deposed:

7. On November 1 2010 I spoke with Dr. Dianne Morrison, a veterinarian employed by Marine Harvest Canada Ltd., concerning data collection by the B.C. aquaculture industry. Dr. Morrison stated, and I verily believe it to be true, that an initiative by the B.C. aquaculture industry in the early 2000s resulted in standardized reporting of aquaculture data including inventory, mortality (number and cause), and fish health events. Dr. Morrison stated, and I verily believe [it] to be true, that prior to this standardization, fish farms may have used a variety of methods for compiling data, including paper files and spreadsheet files. Dr. Morrison further stated, and I verily believe [it] to be true, that prior to the aquaculture industry initiative of the early 2000s there was no regulatory requirement to maintain data on fish health or mortality rates.

48. In the affidavit of Ms. Parker, she stated:

5. Records from before Grieg began using the fish health database, if they even exist, are likely in paper format or held within legacy data systems that are incompatible with current operating systems and software. These records may also hold different types of information than that submitted to the current fish health database, as there was no prior comprehensive reporting scheme in place and no regulation saying what data had to be collected.

6. It would require considerable time and effort to determine whether or not these records even exist. There are 3 employees at Grieg who may be able to identify such records in various forms and formats. At those employees' hourly rates, such an undertaking could cost Grieg as much as an estimated \$19,000 dollars per month in lost productivity.

7. Due to the likely gaps or non-existence of older data, interpretation of the data would be very difficult and time consuming and may not result in an accurate and reliable analysis. Furthermore, there is a real risk that older data collected using different methods, missing data, and data lacking context could inadvertently cause confusion or be misused.

49. Canada provided the evidence of Mr. Cass that it had assigned resources to scan the wild sockeye salmon case reports from 1998 through 2004, but that documents prior to 1998 are in hard copy and additional resources and time

would be required to scan the hard copy reports, because “the paper size varies among reports and each page must be scanned manually.”

50. In their submissions on this point, the applicants assert, *inter alia*, that “the evidence shows that the increase in cost or time is difficult to assess, but is not such that it outweighs the increased scientific value and public benefit” in having an expanded set of data dating back to 1988.

51. Commission counsel submitted that I weigh the likely quality, availability and format of data from a period prior to 2004, against the value of that additional evidence in determining the temporal scope of an order for production of documents from a period prior to 2004:

- a) The likely quality of data prior to 2004. Is the data prior to 2004 comprehensive, or is it haphazard and uneven? Was it collected and recorded in ways that would allow for a continuous data set? One of the themes running through various affidavits, particularly with respect to the fish-health data under control of the Province or the BCSFA, is that the quality (and availability) of the data decreases when one reaches back in time beyond 2002 – even more so in the years before 2000. Working backward in time, this apparent reduction in quality and availability appears to correspond to the period prior to the Province’s implementation of mandatory reporting requirements for finfish aquaculture facilities.
- b) The likely availability of data prior to 2004. Do records exist prior to 2004? How far back in time? Are the data sets consistent? If pre-2004 data are inaccessible from participants, and inconsistent in nature, the older records are of less assistance. In contrast, if the earlier data are consistent and available, they may permit a more detailed examination.

...

d) The likely format of additional information. Are the documents and data prior to 2004 likely to be in a paper format, such that they would require extensive data input to be presented in an electronic form? Are the documents in a compatible electronic format? How much work would it take to make the data compatible? As some of the affiants point out, if data are available and can be provided in the same format as the current request, they can be accommodated into the analysis of post-2004 data (see Affidavit of Josh Korman #1, at para. 13; Affidavit of Gordon Fredric Hartman #1, at para. 3). But variable formats could greatly increase the scope of work required to get the data in shape for analysis and if the earlier data are not available in a comparable or consistent format, “the utility of reaching back to 1992 is greatly diminished” (see Affidavit of Josh Korman #1 at para. 11; see also paras. 9, 12 and 14).

...

f) The delay to the commission’s work that may be occasioned by seeking further documents. Dr. Korman does not suggest any difficulty associated with adding data from the 2002-2004 period into his analysis, but does note potential difficulties and delays if data from the pre-2002 are included, given his understanding of the nature of the earlier data. He cannot comment on the extent of that delay without seeing the data, but notes that it could result in a “substantial increase in the amount of work required to complete the analysis” (Affidavit of Josh Korman #1 at para.12). The documents at issue are to be considered not only by participants, but also (1) by Dr. Korman in his statistical analysis, and (2) by contracted scientific researchers who will engage in a further assessment of the effects of fish farms on wild sockeye salmon. For these contracted researchers, who have yet to be retained, it is expected that their work will rely on Dr. Korman’s analysis, and that it is realistic to expect their conclusions to be provided some time *after* Dr. Korman’s report is complete. If the

additional data would delay Dr. Korman's analysis, this could have a cascading effect on the timing of the contracted researcher's work.

52. The evidence provided by Ms. Sidhu, Dr. Sheppard, Mr. Cass, Mr. Budgeon, Mr. Bohlken and Ms. Parker persuades me that there is a likelihood that the respondents possess documents in a useable format from 2000 to the present which will assist me in making findings regarding the impact, if any, of salmon farms on Fraser River sockeye salmon, and which can be obtained without impacting disproportionately on the participants or the conduct of the commission. However, I am not persuaded that I should order the production of documents sought by the applicants prior to 2000.

53. In my view, there is much uncertainty regarding the quality, availability and format of data from the years prior to 2000 as established by the evidence of Ms. Sidhu, Dr. Sheppard, Mr. Budgeon, Mr. Bohlken, Ms. Parker and Dr. Korman. Their evidence suggests that even if available, such data is likely to be in a format which is not helpful. Further, according to the evidence of Drs. Korman and Sheppard, Mr. Budgeon, Ms. Parker, Ms. Haider and Mr. Cass, the search for, production and analysis of documents from this earlier period is likely to occasion significant delay in the commission's process and some hardship to the respondents. I do not think such delay and hardship is warranted given that the outcome of this expenditure of time and effort is unlikely to advance my understanding of this complex issue.

54. In the result, I find that the respondents should produce those documents sought in this application, which are in their possession and control, for the period of January 1, 2000 to September 1, 2010, for

- i. the 21 fish farms originally identified by commission counsel; and

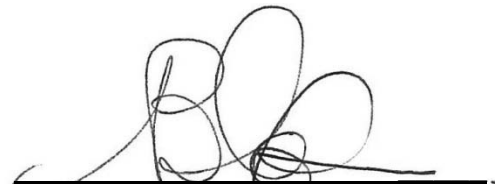
ii. the additional 99 farms, identified in Mr. Proboszcz's affidavit, specifically:

- In Johnstone Strait and eastern Queen Charlotte Strait: Wehllis Bay; Mt. Simmonds; Maude; Cecil; Cypress; Sir Ed; Simoom Sound; Cliff Bay; Smith Rock; Burdwood; Deep Harbour; Wicklow; Blunden; Upper Retreat; Arrow Pass; Midsummer; Potts Bay; Port Elizabeth; Larsen Island; Swanson; Bennett Point; Bocket & Lily; and Mistake Island.
- Along the Central Coast: Jackson Pass and Lochalsh.
- In the Discovery Islands and Johnstone Strait: Poison Creek; Jack Creek; Althorp; Shaw Point; Phillips Arm; Freddie Arm; Egerton; Farside; Sonara Point; Thurlow; Brougham; Young Pass; Mayne Pass; Venture; Sonora; Cyrus Rocks; Barnes; Doctor Bay; and Church House.
- Along the northern portion of the West Coast of Vancouver Island: Markale Pass; Charlie's Place; Amai; Centre Cove; Hohoae; Monday Rocks; Koskimo Bay; Mahatta West; Mahatta East; and Cleagh.
- In Georgia Strait: Ahlstron; Culloden; and St. Vincent Bay.
- Along the southern portion of Vancouver Island: Sooke Basin; Goodridge Island; and Saltspring.
- In Queen Charlotte Strait: Hardy Bay.
- Along the central portion of the West Coast of Vancouver Island: Cliff Cove; Esperanza; Lutes; Hecate; Steamer Point; Conception Point; Williamson Passage; Muchalat North; Muchalat South; Gore Island; Atrevida; Shelter Inlet; Dixon; Millar; South Shelter; Ross Pass; Binns Island; Bare Island; Bawden; Westide; Cormorant; Saranc; Bare Bluff; MacIntyre Lake; Bedwell; Rant Point; Mussel Rock; Fortune Channel; Tranquill; McCall; Eagle Bay; Indian Bay; Warne Island; Baxter; Dawley Passage; Jane Bay; Barkley; and San Mateo.

55. Further, said documents shall be produced by the respondents by January 21, 2011.

56. I wish to make it clear that this ruling is not to be construed in any manner as a finding on whether aquaculture is a cause for the decline of Fraser River sockeye salmon.

Dated December 8th, 2010



The Honourable Bruce I. Cohen
Commissioner