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December 21, 2010

By Email

Commission of Inquiry into the Decline of Sockeye
Salmon in the Fraser River
2800 – 650 West Georgia Street
Vancouver, British Columbia
V6B 4N7

Attention: Brian J. Wallace

Dear Sir:

Re: FRASER River Sockeye Salmon - Commission of Inquiry - DFO
Our File: 2-272052
Commission's Written Re-examination for Wild Salmon Policy Implementation Panel:
Questions and Answers - Dr. Jim Irvine

With respect to your re-examination questions of the Wild Salmon Policy Implementation Panel in your correspondence dated December, 17, 2010, we write to provide you with the answers from Dr. Jim Irvine.

The answers are set out below in bold text for your ease of reference.

Question:

1. On December 7, 2010, you described in your testimony the relationships between the WSP Implementation Team and the Regional Management Committee (RMC), Operations Committee and Strategic Directions Committee. At page 68, line 36 of the transcript, you testified that: "While the Operations Committee provides direction and can make decisions at that level, any substantive decision would be referred back to the RMC table for final decision".
 - a. Since June 2005, have you yourself ever made a presentation to the Operations Committee or to the RMC regarding the WSP?
 - b. On what do you base your view that the Operations Committee does not make final substantive decisions?

Answer:

- a. **Yes. During the fall of 2006, while developing the final presentation on Strategy 1 for the multi-stakeholder and First Nations sessions held during Oct 2006-January 2007, I presented drafts of the presentation describing Strategy 1 on two or three occasions.**
- b. **The Operations Committee is the Region's primary forum for monitoring progress and providing direction on the implementation of key initiatives. The Regional Management Committee (RMC) is the principal decision-making body, while the Strategic Directions Committee is responsible for the development of policy. All three committees are important but major decisions are reached by the RMC.**

Question:

- 2. On December 3, 2010, at page 66, line 47 of the transcript, in the context of describing the WSP implementation team and its structure, Mark Saunders said that "the Strategy 3 lead is Kim Hyatt and Jim Irvine working on that."
 - a. To clarify, do you understand yourself to be an official Strategy 3 lead on the WSP Implementation Team? Or do you simply work on Strategy 3?

Answer:

- a. **Dr. Hyatt and I are both official Strategy 3 leads. Dr. Hyatt is the overall lead and I lead with respect to Action Step 3.2 (e.g. Fisheries Oceanography Working Group).**

Question:

- 3. On December 3, 2010 at page 73, line 7 of the transcript, counsel for Canada asked you:

"What is meant by the phrase "an acceptable timeline" in the definition of a conservation unit?"

Mr. Timberg then referred the Registrar to page 38 of the WSP, which defines Conservation Unit as:

Conservation Unit (CU). A group of wild salmon sufficiently isolated from other groups that, if extirpated, is very unlikely to recolonize naturally within an acceptable timeframe

At line 12, you answered:

"Yeah, the definition at the back doesn't indicate the timeframe, but if you find in the text where "conservation unit" is defined, we do provide a little more background, a little more detail, and so we indicate that an acceptable timeframe is, as kind of I implied earlier, about a human lifetime, or 100 years. And we did that just to provide, you know, some feel for the period of time. So it doesn't

really matter whether it's 90 years, 110 years. But we decided that it was more appropriate to indicate this time in a human lifetime than a salmon lifetime.

At line 24, Mr. Timberg asked:

"And why is that?"

At line 25, you answered:

"Why is that? Because the salmon, depending on the species, a Coho salmon lives two years; the pinks are – Coho salmon normally lives three years, I'm sorry; pink salmon lives two; sockeye are normally four, but they could be three, four or five; Chinook could be three, four, five, six, seven or eight, usually four, five or six, so there's a tremendous variability in the lifespan of the individual species.

So perhaps a more appropriate way to define this would be in terms of generations of fish, but we're already talking about five species with many different life history approaches, so we felt, "Well, let's just talk about a human lifetime. People can relate to a human lifetime," even though my grandfather lived to be 106; I'll probably die at 66, you know, so it varies, but it really doesn't matter. So it's really just the idea that this is sufficiently isolated, this group of fish is sufficiently isolated from other groups of fish that if it was extirpated that this is not a final result, because, after all, all of these salmon have colonized from, say, four or five glacial refugia (sic), to all of the habitats within B.C. and the Yukon over the last 10,000 years.

So this is not a final point, but from a human perspective, a human lifetime is a long time."

However, turning away from the transcript and to the text of the WSP where "conservation unit" is defined with a little more detail, one sees the following text at page vi on the "Snapshot" page:

Wild salmon will be maintained by identifying and managing "Conservation Units" (CUs) that reflect their geographic and genetic diversity. A CU is a group of wild salmon sufficiently isolated from other groups that, if lost, is very unlikely to recolonize naturally within an acceptable timeframe (e.g., a human lifetime or a specified number of salmon generations). (underlining added)

And, at page 10 within Strategy 1 is the following additional detail about the definition of CU:

DFO intends to maintain diversity through the protection of "Conservation Units" (CUs). A CU is a group of wild salmon sufficiently isolated from other groups that, if extirpated is very unlikely to recolonize naturally within an acceptable timeframe, such as a human lifetime or a specified number of salmon generations. (underlining added)

- a. Do you agree that the reason that a specified number of salmon generations was included, as an example of what is meant by “acceptable timeframe”, is to prevent inconsistency with the approach taken by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), the independent scientific body codified by the *Species at Risk Act*?
- b. Do you agree that COSEWIC uses “three generations” in identifying and assessing the status of Designatable Units, including for Pacific salmon?
- c. Are you able to explain the implications for CU identification of selecting a longer timeframe, that is, a human lifetime, as the “acceptable timeframe” in contrast to three salmon generations? What are the implications of using a longer timeframe for determining the size of a CU and the number of populations within it?

Answer:

- a. **No**
- b. **COSEWIC uses World Conservation Union (i.e. IUCN) criteria when assigning the risk of extinction to a “species”. The criteria are not prescriptive. The most frequently used criterion is the rate of decline over 3 generations or 10 years, whichever is longer; an example of another criterion used by COSEWIC is the size of the population.**

It is important to realise that COSEWIC is interested in identifying groups of organisms at risk of extinction. The WSP is interested in this as well, but it is also interested in populations that are healthy. The WSP uses decline rate criteria to assess status, similar to COSEWIC.

- c. **You are confusing two separate issues. The first is the identification of units of diversity to protect, and the second is the categorisation of status or risk of extinction of these units.**

COSEWIC and WSP use similar approaches to identify Designatable Units and Conservation Units respectively. The “acceptable timeframe” of WSP (human life time or specified number of salmon generations) is intended to provide an indication of the degree of isolation required before a unit of salmon can be considered a Conservation Unit.

The decline rate (e.g. over 3 generations) is one of several ways used by both COSEWIC and the WSP to categorise the risk of extinction (or status for WSP).

You may wish to examine my review of COSEWIC and SARA in *Fisheries* (2005; December: 11-19) and perhaps my article on the WSP and diversity in *American Fisheries Society Symposium* (2008: 49: 391-398).

Question:


4. You were referred to the Aquaculture Policy Framework by counsel for the BC Salmon Farmers' Association. Have you had any direct experiences working with the Aquaculture Policy Framework?

Answer:

I am quite sure I reviewed the framework earlier on during the development of the WSP.

We trust you will find the above in accordance with the format as set out in our correspondence to you with Canada's written re-examination answers and questions, dated December 16, 2010.

Yours truly,

A handwritten signature in black ink, appearing to read 'M. Taylor', written over the words 'Yours truly,'.

Mitchell R. Taylor, Q.C.
Senior General Counsel