

SUMMARY OF ANTICIPATED EVIDENCE

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Genesis of and rationale for the Wild Salmon Policy (up to March 2000 consultations)

- Dr. Riddell will outline his expertise in salmon biology and genetics, and will say that he has maintained his interest in these topics throughout his career.
- Dr. Riddell will say that the concept of a policy for the conservation of wild Pacific salmon evolved initially from his Ph.D. work on population genetics and ecology. When he joined DFO's Pacific Biological Station, and after Dr. Dick Beamish took over as Director, he initiated a population genetics program in 1982.
- He will also say that in approximately 1983 or 1984, there was an initiative within DFO Pacific Region to consider drafting a "stock write-off policy" where by passively managed "stocks" could be disregarded. Dr. Riddell and other DFO scientists disagreed with this initiative, which was eventually discontinued. He will say that the the notion that DFO might disregard small populations influenced his future thinking.
- He will say that if any actual genesis date for the concept of the WSP could be pointed to, then he would suggest that was his 1993 paper entitled *Spatial Organization of Pacific Salmon: What to Conserve*. He will say that what later became the 1993 publication was originally presented at a 1991 NATO conference on Genetic Conservation of Salmonid Fishes (NATO ASI series A: Life Science Vol. 248. 1993). In the first half of the 1990s, Dr. Riddell was also working on other efforts related to the genesis of the WSP, including a panel created by the U.S. National Research Council and reported in *Upstream: Salmon and Society in the Pacific Northwest* (National Academy Press, Washington, DC. 1996)
- He will say that through the 1980s and early 1990s, various international events caused him and his colleagues at DFO to consider what Canada was doing to conserve Pacific salmon diversity. These events included the 1982 formation of the International Society for Conservation Biology, the 1985 Pacific Salmon Treaty, the 1992 UN Convention on Biological Diversity, and salmon listings under the U.S. Endangered Species Act.
- He will say that, in his view, DFO needed a policy that would show that diversity is the basis for conserving salmon and future salmon production. In his opinion, DFO needed a policy that would provide operational guidance on harvest and habitat management that would ensure sufficient conservation of biodiversity.
- He will explain why preserving biodiversity is an essential basis for salmon conservation.
- He will explain the concept of the Conservation Unit (CU) emerging in the late 1990s, the function of CUs in maintaining salmon populations, and the continued relevance of CUs to science and management today.
- He will explain that "stock" or "stocks" are extremely confused terms, and that what stocks mean in science are not the same thing as stocks in public discourse. He will say that the CU concept was an effort to give the spatial organization of salmon biological meaning and to clarify the use of "stocks" in salmon management.
- He will also say that, in addition to biodiversity, it is important to protect habitat and to manage ecosystems that salmon affect and that affect salmon. He does not agree that biodiversity, habitat and ecosystems are three entirely distinct themes, but instead will

explain how these elements of salmon conservation are totally intertwined. He will say that, organizationally, DFO has traditionally separated fishing from habitat management and has only recently addressed ecosystem-based management.

- He will say that the first draft of the WSP was written as a discussion paper and part of the Department's 1998 "New Direction for Canada's Pacific Salmon Fisheries". The paper was drafted by Skip McKinnell, who was then the Chair, Salmon Sub-Committee of the Pacific Science Advisory and Review Committee, along with members of the sub-committee, including Fisheries Management and Salmonid Enhancement Program staff.
- He can describe generally the public consultations on the draft WSP in 2000. In terms of the pivotal issue in those consultations, he recalls discussions about how to ensure salmon distribution in geographic areas and about the need for operational guidelines to direct fishing effort so as to sustain populations within those areas. He will say that these consultations were documented in a report by Dovetail Consulting Inc.

WSP development from 2001 to 2005

- Dr. Riddell will say that, in September 2001, he left government on a secondment to the Pacific Fisheries Resource Conservation Council (PFRCC). He returned to DFO in April 2004. He was only marginally involved in DFO discussions on the WSP over that period.
- He can generally describe DFO's efforts to develop operational guidelines to support the draft WSP. He will say that fisheries managers were very hesitant and concerned with implementing the WSP without operational guidelines. He will say that Science was trying to be pragmatic and to create a conservation bottom line for fisheries management plans.
- During his time at the PFRCC, he observed that DFO's efforts on the WSP were not fruitful. To his knowledge, there were significant disputes between Branches within DFO Pacific region concerning whether the policy would be developed to sustain fisheries or fishes. While he felt little progress was made on the WSP in that period, when he returned to DFO in April 2004, DFO had renewed its efforts to finalize the WSP. He joined the WSP development team and became involved in WSP development including contributing to the writing of drafts and participating in public consultations. He will say that the next version of the WSP was released for public review in December 2004.
- He will say that the WSP development was lead by Pat Chamut and Mark Saunders who together headed a small dedicated team. Both were working exclusively on the WSP. Other key team members included Dr. Jim Irvine, Carol Cross, and Sue Farlinger.
- He will say that the public and stakeholders were highly engaged in the WSP consultations, and that DFO made a sincere and serious effort to document public input and reflect that input in subsequent drafts of the policy.
- He will say that DFO engaged the Province on WSP development to a limited extent. He recalls that DFO gave the Province two advance briefings, but did not invite its direct involvement at that drafting stage. He will say, in his view, the Province did not need to be directly involved with drafting the WSP but that the Province's participation is needed in implementation, particularly in Strategies 2, 3, and 4.

The challenges of WSP development

- He will say that the idea of CUs was the fundamental concept underlying the WSP.
- Although he was at the PFRCC for part of the time, he may be aware of debates within DFO, during the development of the policy, about what the CUs should be and their implications.

- He will say it was a fundamental change, at that time, for some managers to accept the CU concept and to acknowledge that managing salmon is necessarily about managing biodiversity.
- He will say that aspects of the WSP were intentionally non-prescriptive and that some of the vagueness reflects debates about how the policy should be developed or could evolve. In this respect, he will note that the WSP is not meant to be a regulatory guideline that would limit the discretion of the Minister. He will say that DFO acknowledged this explicitly in the WSP at page 29.
- As an example of the WSP's vagueness, he will give as an example the phrase "an acceptable timeframe" within the WSP description at page 10 and within the WSP's definition of conservation unit.
- He will say that the most fundamental and difficult change to the final WSP compared to earlier drafts was the decision to include elements of ecosystem-based science and management in Strategy 3. He will say that the decision to include salmon ecosystem values in the WSP was in response to strong public comment, even though there was uncertainty about how DFO would implement it. He will say that, to resolve this, a compromise was struck. The compromise was that Strategy 3 would have delayed implementation. Rather than calling for immediate implementation of Strategy 3, DFO was to have a two year time period to develop an ecosystem monitoring and assessment approach. He believes that the two year timeline recognized that, while stakeholders had been strongly insistent that an ecosystem-based approach must be a component of the WSP, DFO had to acknowledge that it had limited ability to implement an ecosystem-based approach immediately, which it did at page 23 of the WSP.
- He will say that another challenge was integrating the WSP with the Salmon Enhancement Program (SEP). This issue really gets to the definition of wild salmon in the WSP. He will say that the WSP definition of wild salmon is almost identical to an ICES definition. The definition reflects that fish produced in hatcheries can contribute to recovery of wild populations but not be counted as a 'wild' fish until they spent one generation in the wild. He will say that integrating the WSP into SEP was treated with a certain level of practicality.
- He can explain DFO's considerations in revising the definitions of conservation in 2005. He will say that there was a lot of discussion about how to define conservation, and that initial definitions in drafts of the WSP, such as the "wise use" definition, met with backlash from the public and First Nations.
- He will say that "conservation" is not intended to reflect the notion of "balance". Rather, conservation is about continuation of the evolutionary process and of natural production processes. He will say that balance implies use, and use involves social and cultural decisions, not just scientific advice.
- He will say that the WSP is a conservation policy, not just about fisheries, but about many other issues including habitat and enhancement.
- He would disagree that the WSP should be understood as a "weak stock management" policy as nothing in the WSP addresses or requirements the management of stocks nor requires stocks to be at target escapement levels.
- He would disagree that a conservation policy should not allow for use. It was not a policy to protect biodiversity at all costs, but a practical policy to ensure Pacific salmon biodiversity over the long term while providing for sustainable benefits.
- He will say that one way to understand the WSP is that it directs DFO to sustain all CUs above their lower benchmarks. However, the abundance level need not be the same for different CUs. He will say that DFO is obliged under the WSP to prevent a CU from

declining below the lower benchmark including due to fishing, absent a ministerial decision to the contrary.

- He will discuss the debate about the use of “benchmarks” versus the use of “reference points” within the WSP. However he does not agree that resolving that debate was fundamental to the development of the WSP. He believes that the use of reference points versus benchmarks was a semantic issue. While limit reference points (LRPs) are commonly used around the world to manage most marine fisheries, reference points are generally not used in salmon fisheries. Thus he believes that, with the WSP, DFO was breaking new ground in including lower benchmarks.
- He will say that whether a lower benchmark / LRP is a “true LRP” is a function of where you draw the line between the red zone and the yellow zone (WSP pg.17). In his view, it is less important what you call this line and more important how DFO implements the line that it draws. For example, during development of the WSP, environmental groups urged DFO to strengthen its approach to benchmarks / reference points so as to prescribe mandatory actions if a CU “crossed the line”. However, he will say that the benchmarks / reference points had not been scientifically defined yet and thus could not yet be the basis for operational decisions. Also, if DFO had written an LRP directly into the WSP, he believes that would have resulted in difficult discussions with First Nations.
- Dr. Riddell believes that DFO’s description of the lower benchmark within the WSP was deliberate and careful. It expressly included a significant buffer beneath the lower benchmark, before a CU reached a significant risk of extinction. That buffer beneath the lower benchmark was intended to provide space for food, social and ceremonial fishing. The buffer was intended to avoid drawing a “true LRP” line that was too low, that could increase the risk of extinction, and that may not sufficiently account for management uncertainty/error.
- He will say that the United Nations Convention on Biological Diversity (UNCBD) was not itself a driver in the development of the WSP. In contrast to other federal agencies, DFO has never created any formal plan for responding to UNCBD obligations and Science officials were never asked to do this. Rather, the WSP originated as a Science Branch, Pacific Region initiative.
- He will recall that the independent public review under WSP Strategy 6 was recommended to DFO by an external stakeholder. He will say that he promoted the benefits of this independent five year review, to verify implementation efforts by DFO. At the time, he did not expect DFO to agree to an independent review.

Dr. Riddell’s work at DFO related to WSP implementation from 2005-2008

- Dr. Riddell will briefly describe his role in WSP implementation science, as the former Manager of the Salmon Assessment and Freshwater Ecosystem Division at Science.
- He will say that, generally speaking, Strategies 1-4 were intended to be implemented sequentially. He will say that Strategies 1-3 were informational and intended to inform Strategy 4, and Strategy 5 involved annual processes involved in fishery planning.
- He will say that the action steps in Strategy 1 also generally need to be implemented sequentially: first, one needs to identify CUs; second, one needs to identify benchmarks for the CUs; and third, one needs to evaluate the status of CUs against the benchmarks. However, he will also say that also these action steps are sequential, DFO can and did start working on their implementation concurrently where possible. For example, DFO began working on CU benchmark methodology before the CUs were identified.
- On Strategy 1, Action Step 1.1, he will say that Dr. Blair Holtby was tasked with developing the methodology to identify CUs, which Dr. Holtby and Dr. Kristy Ciruna

subsequently published. That paper was formally accepted by PSARC at a peer review in June 2007 and has since been applied to derive a published CU list and subsequent revisions to that list (see e.g. CAN026815, CAN003680, CAN004236, CAN010276, CAN019233 and CAN019233.)

- He will say whether he responded to the June 2007 PSARC peer review advice that urged Science to consider Aboriginal Traditional Knowledge in identifying CUs. He will describe any direction that he gave to his staff after the June 2007 peer review.
- He will say that, to his knowledge, when Science staff revised the list of CUs, they incorporated comments received during WSP consultations including with First Nations.
- He believes that the list of CUs is best understood as a living document.
- He will say that Dr. Holtby was also tasked with identifying or defining the CUs.
- He will say that it took at least one year longer to define CUs than he had anticipated would be the time necessary.
- He will say that Dr. Holtby and Dr. Circuna's methodology and their identification of CUs is excellent. He has heard no complaint about CU methodology or its application, with the exception of a concern regarding Skeena River Chinook CUs. He will say that the CU methodology has been reviewed favourably by international scientists.
- On Strategy 1, Action Step 1.2, he will say that he was a secondary author on Dr. Carrie Holt's paper creating a methodology for determining benchmarks, which paper was formally accepted by PSARC in January 2009.
- On Strategy 2, he will describe any work he did or staff he may have supervised.
- On Strategy 3, he has some frustration and regrets with the slow rate of implementation. He will say that, on Strategy 3, DFO has not provided discussion papers for public consideration and feedback as intended.
- He will say that in 2005 he assigned responsibility for Strategy 3 to Dr. Kim Hyatt. In addition, Dr. Jim Irvine has on occasion been able to contribute to Strategy 3.
- In the view of Dr. Riddell, Drs. Hyatt and Irvine were trying to do too much and have made Strategy 3 implementation too comprehensive. Dr. Riddell will say that he believes that DFO needed to do a initial thought paper on Strategy 3, to get the ball rolling.
- He will say that, in March 2008, to try to advance progress on Strategy 3, DFO Science organized a workshop on Strategy 3 at UBC with representatives from academia, local governments, First Nations and environmental organizations. However, there was no follow-up and collaborations did not develop beyond the workshop.
- He will be asked whether he ever was consulted by FAM officials on their draft Action Plan responding to the Marine Stewardship Council certification conditions. He will explain any input that he provided. He will say whether he consulted with his Science staff working on WSP implementation regarding the WSP-related conditions.