Brian McLachlan

Comments for the Oct. 1, 2026, SRFC Peer Review Panel Meeting

1. I request the Panel's report address the issues, concerns, and suggestions included in my 8.16.26 comment letter to the Panel (attached for the Panel's convenience).

2. The Panel's report should be precise regarding what the Panel is determining and recommending. I emphasize this because it appears the Panel is departing from the actual text of the Terms of Reference (TOR), which could lead to some confusion or misinterpretation. For example, the TOR instructs the Panel's report to include a recommendation on the suitability of the ratio formula approach and Ricker model for use "in determining an updated SMSY for SRFC." TOR at 6. Staff has confirmed that "SRFC" as used in the TOR refers to the SRFC stock. In contrast, my understanding is that the Panel is determining whether the ratio approach and Ricker model are scientifically appropriate to estimate Smsy for the natural-area spawning component of the stock, not for the stock itself. To avoid confusion or misinterpretation, the Panel's report should be clear and precise on this point and should also explain how and why the Panel's review departs from the actual text of the TOR.

In addition, the Panel's report should clearly indicate whether the formula is being evaluated as an "estimate" of Smsy, as the TOR instructs, as opposed to as a "proxy" for Smsy. And, if the term "proxy" is used, the Panel should clarify and distinguish whether proxy is meant as an approximation of an actual Smsy value, or rather as an alternate measure of reproductive capacity. It is my view that the ratio formula is best characterized as an alternate measure of reproductive capacity.

3. For the reasons outlined in my 8.16.26 comment letter, I request the Panel reconsider its preliminary determination that the ratio formula and Ricker Model are scientifically appropriate to employ to estimate Smsy for the natural-area spawning component of SRFC. The definition of MSY included in federal guidelines and the Salmon FMP instructs that estimates of MSY and associated reference points should reflect "prevailing ecological, environmental conditions." Under prevailing conditions (including expected future conditions), hatchery-origin fish comprise approximately 70% of natural-area spawners. The ratio formula and Ricker Model do

not account for the influence of this substantial continuing supplementation of natural-area spawners and thus do not reflect prevailing conditions (i.e., the actual state of nature).

4. The Panel's report should identify and discuss the objective scientific criteria and standards the Panel employed to determine whether the ratio formula and Ricker Model are scientifically appropriate to use to estimate Smsy for the natural area component of SRFC. Identifying objective scientific criteria is necessary to ensure that the Panel's determination is reviewable, repeatable, and refutable, and that it reflects an objective scientific evaluation rather than the subjective views or values of Panel members.

5. The Panel's report should also explain why the Panel applies a "scientifically appropriate" standard when the TOR instructs the Panel to determine whether use of the ratio formula approach and Ricker Model are "scientifically sound". Please identify and discuss any differences between these two standards.

6. Use of the Munsch et al. fry index dataset produces an associated average long-term natural-origin recruitment (Rmsy) value (690,000) that does not seem plausible given the last 40 plus years of SRFC abundance figures. Accordingly, before the Panel recommends a dataset, the Panel should first identify the Smsy and associated Rmsy and Ymsy values produced by use of the dataset in the ratio formula and evaluate these values against historical abundance figures and in light of peer reviewed reports suggesting deteriorating ecological conditions for SRFC (including a recent paper co-authored by Dr. Satterthwaite).

7. The Panel's report should address the "cumulative uncertainty" inherent in employing the ratio formula combined with the Munsch et al. fry index dataset to arrive at an estimate of Smsy. As the Panel recognized, the ratio approach is at best the "least-worst alternative" and, as discussed above, I contend it is theoretically unsound to employ here to estimate Smsy. Combining it with use of the Munsch et al. fry index dataset compounds the problem. Using 2-inch fry as a proxy for 12-20 pound adults is inherently concerning and lacks a strong statistical correlation. Moreover, when common years are considered, use of the Munsch et al. dataset

produces an Smp value three times that estimated by the "gold standard" cohort reconstruction. *See* SRWG Preliminary Responses at 4. Use of the fry index in the ratio formula also produces an average associated Rmsy value of 690,000 natural-origin recruits – a figure that seems implausible given historical abundance figures and credible reports of downward trends in environmental conditions for SRFC. And, at the last Panel meeting, Dr. Buehrens reported concerns regarding using fry as a proxy for adults in calculations related to Skagit River Chinook. Summed up, the cumulative weight of evidence calls into question whether the SRWG's preferred approach (employing the ratio formula + Munsch et al. fry index) is adequately reliable for management purposes. (As the SRWG reported, use of the cohort reconstruction dataset is problematic as well.)

8. I suggest the Panel recommend that estimation of an Smsy value (or proxy) be delayed at least until pertinent Chipps Island smolt data can be incorporated into the Workgroup's analysis.