

Correction Summary October 29, 2014: On page 5 of our review of the CSS draft 2014 Annual Report, the ISAB has clarified and corrected statements regarding research findings summarized from Copeland et al. (2014) and Copeland and Venditti (2009) – see new text in blue font. The changes were made in response to an October 27, 2014 letter from David Venditti and Timothy Copeland, Idaho Department of Fish and Game. Excerpts from the letter are included below with the ISAB’s response. These changes do not affect any of our conclusions or advice to the CSS, including the ISAB comment that life history variation should be considered in the CSS life cycle model.

Venditti and Copeland Letter: *The ISAB has conflated two of the life history types from our studies (fry and age-0 smolts). This is potentially a problem and we wish to clarify what is known about them with certainty.*

Copeland and Venditti (2009) identified four major juvenile life history types found in the Chinook populations studied (Table 1).

Table 1. Summary of juvenile life history types modified from Copeland and Venditti (2009). The table summarizes the life-histories identified, dates of trapping and age when the juveniles leave their natal stream, age at ocean entry, the populations we observed the life-history types in, and the type designation in Copeland et al. (2014) if applicable.

Type	Trap Date	Trap Age	Ocean Age	Pop.	Copeland et al. 2014
Fry	March-June	Sub-yearling	Unknown	All	Not included
Parr	July-November	Sub-yearling	Yearling	All	DSR
Age-0 smolt	May-June	Sub-yearling	Sub-yearling	PAH ^a	Not included
Smolt	March-June	Yearling	Yearling	All	NRR

^a *The Pahsimeroi River is our only study population where we have been able to collect enough age-0 smolts to make any statements about them, although they occur in other populations as well.*

In the CSS review, the ISAB makes the following statement concerning the fry juvenile life history type: “Fry that emigrate in spring and enter the ocean as subyearlings.” This is not consistent with our usage of the term “fry”, and the ISAB has combined the fry and age-0 smolt types. We have made no statements or hypothesized where fry go after leaving the natal stream or when they enter the ocean, because they are too small to PIT tag. The ISAB continues to say, “The first two life history types [fry and parr migrants] are considerably more abundant at the time of migration than smolts, according to Copeland et al. (2014).” In Copeland et al. (2014) we do state that the DSR type (i.e., parr) is numerically more abundant than the NRR type but age-0 smolts were omitted from our analyses (see first paragraph in Methods). Fry were also omitted, since they are too small to tag.

ISAB Response: We have clarified our text involving age-0 smolts and fry. When preparing the CSS review, we were not aware that a “fry” life history type had been described in the Snake River Basin, although we are familiar with the fry type in other Chinook populations. When describing age-0 smolts in the report, we should not have described them as “fry that emigrate in spring and enter the ocean as subyearlings” because the term “fry” had been used to describe another life history type. We have attributed information related to age-0 smolts to Copeland and Venditti (2009) and mention that their relative abundance has been estimated in the Pahsimeroi River. The report now mentions the “fry” life history type and notes that its rearing area after emigration from the natal river is unknown.

Venditti and Copeland Letter: Finally, the ISAB states: “Copeland and Venditti (2009) and Copeland et al. (2014) hypothesized that significant gains in abundance and population productivity could be achieved via improved SAR of age-0 spring Chinook smolts, which are abundant yet seem to have a very low SAR”. In Copeland & Venditti (2009), we focused on survival from egg to smoltification of the Pahsimeroi population and state “Small increases in the survival of age-0 smolts to adulthood would have large impacts on the productivity of this population.” The ISAB has conflated our two papers here as well. We do make a very similar statement in Copeland et al. (2014) about increasing the survival of the DSR type and its effect on population abundance and productivity, although the mechanisms to improve DSR and Age-0 smolt survival would need to operate at different times and possibly at different locations.

ISAB Response: We have deleted references to Copeland et al. (2014) when describing age-0 smolts in the Pahsimeroi River, and now only reference Copeland and Venditti (2009).

Venditti and Copeland Letter: In our work, we have struggled with how to label and define the phenotypes. We believe this clarification is necessary to avoid further confusion.

ISAB Response: The table shown above is very helpful, and it would be worthwhile to publish it. It also would be worthwhile to further evaluate relative abundances of fry and age-0 smolts in watersheds other than the Pahsimeroi.