Project Number: 23024

Project Title: Hancock Springs Passage and Habitat Restoration Improvements

Sponsor: YN

ISRP or CBFWA Comment or Issue #1:
"…, there is no statement about what the quantitative biological effects of opening up this area might be."

ISRP or CBFWA Comment or Issue #1:
It's believed the greatest survival advantage will occur for juvenile spring chinook that overwinter in Hancock Springs, opposed to the mainstem of the upper Methow River. I have chosen to use Yakima Basin Ecosystem Diagnosis and Treatment (EDT) estimated overwinter lifestage survival values to answer this question. I argue that the upper Naches River is similar in overwinter habitat attributes to that of the upper Methow Basin. For example, both reaches lack channel complexity and are dominated by run-type reaches in the winter months. Therefore, it's believed that use of the Naches EDT overwinter survival values are reasonable to apply to the upper Methow in the absence of any empirical data specific to the Methow Basin.

The EDT benchmark overwinter survival rate for spring chinook is 70%, meaning this is the highest survival rate obtainable in nature under ideal habitat conditions. The estimated value in the upper Naches River was 47%; while it's believed Hancock Springs will achieve a 70% overwinter survival rate when the habitat is fully restored. This equates to a 1.5 times increase in overwinter survival for spring chinook rearing in the springs, opposed to the mainstem.

It's difficult to estimate what fraction of the entire juvenile population would utilize the springs to make some statement of its importance relative to the entire population. Using an overwinter rearing density of 0.3 fish/m^2 (based on the EDT value used in the model), and the amount of available rearing habitat as 5,900 m^2, the approximate spring chinook overwintering capacity is 1,800 juveniles. Based on these values the absolute difference in the number of fish surviving to the smolt stage between the river and the springs is 846 and 1,260 fish, respectively. Though this represents a small number

of fish relative to the entire population, this project provides an opportunity to reconnect existing habitat, which is valuable in the Methow for overwintering spring chinook.

ISRP or CBFWA Comment or Issue #2:
"The description of the location of the project is inadequate."

Sponsor Response to #2:
Hancock Springs enters on the right bank of the Methow River at river mile 58.6, which is 8.5 river miles upstream to the Chewuch River confluence with the Methow River. Hancock Springs is located in Township 35 N, Range 21 E, in the SE Corner of Section 15.

ISRP or CBFWA Comment or Issue #3:
"They should consider potential impacts on native resident stocks if any are present above the culverts."

Sponsor Response to #3:
To my knowledge no inventory has ever been conducted in the springs above the culvert to know what other fish species, if any, reside in the upper 4,200 feet. The author has not been able to find any written or verbal information pertaining to what species in habitat the springs. Certainly a snorkel survey could be conducted this spring this by YN and WDFW staff present in the basin to address this data gap.