

From: [Sokolowski, Rosana](#)
To: [Bitterman, Deborah](#)
Subject: FW: Chelan River pump station operation for moderating Habitat Channel water temperatures
Date: Wednesday, June 03, 2015 11:57:38 AM

From: Osborn, Jeff
Sent: Tuesday, June 02, 2015 2:53 PM
To: 'Erich Gaedeke'; Smith, Michelle
Cc: Hays, Steve; Sokolowski, Rosana; Truscott, Keith; Hudson, Kirk; Smith, Jeff
Subject: RE: Chelan River pump station operation for moderating Habitat Channel water temperatures

Erich: Yes, it is getting pretty warm already, and the weather forecasts do not bode well. And you pose a very good question that was discussed at the May 21 Forum meeting. The Forum recommended only one pump, increasing flow from 80 cfs to ~ 135 cfs, for temperature moderation because adding more pumps may physically displace fry/parr due to higher flows. Three pumps are equal to ~ 200 cfs, and 4 pumps ~260 cfs. The Forum has questioned since initial construction of the Habitat Channel of why we haven't observed more steelhead fry/parr in the Habitat Channel in previous years when spawning has occurred: Is that observation due to high spill flows? Or is it due to high water temperatures? Or Both? We are not planning to spill this year for lake level control, which is a first since 2006, so the thought from the Forum is to keep flows low to gather additional information to maybe answer the question of flow versus temperature affects on steelhead fry/parr presence for our 10-year check in through the 401 water quality certification with Ecology. The 70° F value was recommended as a trigger to initiate pump operation, not as a temperature that we are trying to maintain. The intent is to use one pump, do the best we can, and observe the results.

Keep thinking. Appreciate the thoughts and suggestions.

Jeff

From: Erich Gaedeke [<mailto:Erich.Gaedeke@ferc.gov>]
Sent: Tuesday, June 02, 2015 2:26 PM
To: Smith, Michelle; Osborn, Jeff
Cc: Hays, Steve; Sokolowski, Rosana; Truscott, Keith; Hudson, Kirk; Smith, Jeff
Subject: Re: Chelan River pump station operation for moderating Habitat Channel water temperatures

Thanks Jeff for the update...and wow, already over 70! The 100 degree forecast this weekend definitely won't be helping! Is the PUD willing or will it be plausible for the operation of an additional pump if the one pump proves ineffective to maintain 70? Thanks again.

Erich

From: Smith, Michelle <michelle.smith@chelanpud.org>
Sent: Tuesday, June 2, 2015 12:28 PM
To: Osborn, Jeff; Erich Gaedeke

Cc: Hays, Steve; Sokolowski, Rosana; Truscott, Keith; Hudson, Kirk; Smith, Jeff
Subject: RE: Chelan River pump station operation for moderating Habitat Channel water temperatures

Good summary, Jeff. I'm sure Erich will appreciate the information.

Sent from my Verizon Wireless 4G LTE Smartphone

----- Original message -----

From: "Osborn, Jeff"

Date: 06/02/2015 12:12 PM (GMT-08:00)

To: Erich Gaedeke

Cc: "Hays, Steve" , "Smith, Michelle" , "Sokolowski, Rosana" , "Truscott, Keith" , "Hudson, Kirk" , "Smith, Jeff"

Subject: Chelan River pump station operation for moderating Habitat Channel water temperatures

Erich: This email is to let you know that we are implementing an adaptive measure this year for the first time to protect juvenile (fry/parr) steelhead, an ESA-listed species, currently emerging from redds constructed this spring in the Chelan River Habitat Channel.

As you know, the Lake Chelan Project license requires Chelan PUD to provide a minimum of 320 cfs, via pumped flow or spill, for steelhead spawning from March 15 through May 15 each year. This operation was implemented in 2015. From May 15 through July 15, the license requires a Chelan River flow of either 320 cfs (above average runoff volume years), 200 cfs (average years), or 80 cfs (below average years). This year is a below average runoff volume year in the Lake Chelan Basin, the first one that we have had since license issuance in 2006, so the flow requirement is 80 cfs. The 80 cfs flow has been provided since May 15. During a Chelan River Fishery Forum (CRFF) meeting held on May 21, representatives expressed concern regarding warm water temperatures that were expected to occur in the Chelan River and Habitat Channel, and whether Chelan PUD was willing to turn on one pump to moderate Habitat Channel water temperatures by pumping cooler water from the tailrace into the Habitat Channel. We said yes, because this idea and adaptive approach was contemplated in the Settlement Agreement, outlined specifically in Chapter 7: Chelan River Biological Evaluation and Implementation Plan, sections 3.3.6 (page 7-42) and 3.3.8 (page 7-43). The CRFF developed a recommendation that one pump be turned on when the daily maximum Chelan River water temperature exceeded 70° F (21.1° C) and let it run until such time as snorkel surveys, conducted monthly, determine that steelhead fry/parr are no longer present in the Habitat Channel, likely August or September. This recommendation is captured in the May 21 CRFF meeting minutes.

Temperature data from the Chelan River show that daily maximum water temperatures are exceeding 70° F already. We plan to initiate one pump operation later today or tomorrow, at the

latest. We will be documenting steelhead fry/parr presence through the snorkel surveys. Results from the operation and snorkel surveys will be reported to the CRFF during a future meeting and included in the 2017 Biological Objectives Status Report.

As always, please feel free to contact me if you have any questions regarding these activities. Thank you very much.

Jeff

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