From: Sarah Gallagher - NOAA Federal <sarah.gallagher@noaa.gov>
Sent: Monday, April 1, 2019 1:57 PM
To: Gard, Mark
Subject: Re: [EXTERNAL] Re: Interpretation of WUA

Ok, that is what I thought. I think that Table 6 in your report gives a good range of WUA for the species for range of population sizes. I will assume Reclamation's runs for spring-run spawning are low due to using curves pre injection gravel. I also think that critical year types have a higher chance for less habitat based on running 150 cfs iin those years. Thanks for your help as I work through effects section of biop.

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On Mon, Apr 1, 2019 at 1:46 PM Gard, Mark <mark_gard@fws.gov> wrote:

> No - only redid spring-run curves because initial values showed was below need. There's so much steelhead spawning habitat, since they also spawn in the lower alluvial reach, that wasn't an issue.

Mark Gard Ph.D., PE 40701
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On Mon, Apr 1, 2019 at 12:58 PM Sarah Gallagher - NOAA Federal <sarah.gallagher@noaa.gov> wrote:

> Thanks Mark, I think they using ft2. Did you redo the curves for steelhead spawing?

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On Mon, Apr 1, 2019 at 8:05 AM Gard, Mark <mark_gard@fws.gov> wrote:

> Yes I think that's what they are doing - either that or they are using some other units than ft2 - I had 10,739 ft2 at 200 cfs before gravel additions, and they have 7948. Units aren't m2, because that would be too much even with gravel additions.

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On Thu, Mar 28, 2019 at 12:31 PM Sarah Gallagher - NOAA Federal <sarah.gallagher@noaa.gov> wrote:

> Actually, now that I look at it, they may be running the spring run spawning before you redid the curves with increases spawning habitat from injection gravel? Only saying 8,000 or less WUA for spring run spawning.

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On Thu, Mar 28, 2019 at 12:17 PM Sarah Gallagher - NOAA Federal <sarah.gallagher@noaa.gov> wrote:

> Based on your sythesis report for Clear Creek, does it appear the proposed flows for clear creek (same as now 200cfs oct-june; 150 cfs june-Oct) would provide the habitat needs for steelhead nnd spring-run (see attached spreadsheet)? I think it looks llike it is more than recommended in the synthesis report, but would appreciate your interpretion or thoughts if you have a moment.

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