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**From:** Garwin Yip - NOAA Federal <garwin.yip@noaa.gov>  
**Sent:** Monday, May 13, 2019 4:58 PM  
**To:** Cathy Marcinkevage  
**Subject:** Fwd: GS I&S

Sent from my iPhone

Begin forwarded message:

**From:** Joe Heublein - NOAA Federal <[joe.heublein@noaa.gov](mailto:joe.heublein@noaa.gov)>  
**Date:** May 13, 2019 at 9:53:10 AM PDT  
**To:** Evan Sawyer - NOAA Federal <[evan.sawyer@noaa.gov](mailto:evan.sawyer@noaa.gov)>, "Yip', 'Garwin"  
<[Garwin.Yip@noaa.gov](mailto:Garwin.Yip@noaa.gov)>  
**Subject:** GS I&S

Hi Evan and Garwin,

Just wanted to check if we touch upon the green sturgeon passage barrier at ACID in the Shasta effects section. ACID is assumed to be impassable year-round and listed as a major effect to green sturgeon in the I&S. This is what we include in summary of effects in the I&S-

"ACID dam, approximately 5 miles below Keswick Dam (RM 302), remains a potential passage barrier to spawning green sturgeon on the Sacramento River. The percentage of the sDPS green sturgeon spawning run that would utilize the uppermost 5 miles of the Sacramento River between ACID dam and Keswick Dam is unknown, but is currently estimated to be small based on the lack of acoustic tag detections in this reach. However, the proportion of sDPS green sturgeon spawning impeded by the ACID Dam may increase with potential spawning habitat expansion, or warmer water releases at Keswick Dam."

Thanks

Joe

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