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**From:** Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov>  
**Sent:** Sunday, February 24, 2019 2:07 PM  
**To:** Barbara Byrne - NOAA Federal  
**Cc:** Howard.Brown; Garwin Yip - NOAA Federal; Evan Sawyer - NOAA Affiliate; Sarah Gallagher - NOAA Federal; Maria Rea  
**Subject:** Re: Anderson 2017

I'd also like to point out that the top of the attachment includes the disclaimer that this preprint was NOT peer reviewed. This disclaimer is also on the website for the article on this online archive of preprinted publications. <https://www.biorxiv.org/content/10.1101/257154v2>

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To me this factors into our "certainty" characterization.

On Wed, Feb 20, 2019 at 12:54 PM Barbara Byrne - NOAA Federal <[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)> wrote:  
Subject paper attached.

I think Reclamation is likely using "Model II" (beginning on p. 4). Note that on p. 5, it says "Model II only allows mortality at a single critical DOY and age, which are characterized by the lag (4). In reality, temperature-dependent mortality might occur on any day, as is assumed in model I, but studies considered in the discussion suggest mortality occurs in a limited range of days about a mean critical age or over several distinct developmental stages, e.g. egg hatch and maximum total dry mass (MTDM) (Rombough 1994, Rombough 2007)."

I think this means that the Anderson model is completely insensitive to temps outside the critical age window. In the real world, eggs can die outside the critical age window, especially if temps are high outside that window, and the Anderson model may be significantly underestimating survival.

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**Barb Byrne**  
Fish Biologist  
NOAA Fisheries West Coast Region  
U.S. Department of Commerce  
Office: 916-930-5612  
[barbara.byrne@noaa.gov](mailto:barbara.byrne@noaa.gov)  
California Central Valley Office  
650 Capitol Mall, Suite 5-100  
Sacramento, CA 95814



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