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**From:** Maria Rea - NOAA Federal <maria.rea@noaa.gov>  
**Sent:** Monday, May 27, 2019 9:32 PM  
**To:** Cathy Marcinkevage - NOAA Federal  
**Cc:** Howard Brown; Garwin Yip; Barbara Byrne  
**Subject:** Re: "More Water" in Shasta in PA

Thanks, Cathy. I think there are several lines of evidence that show that PA may not have more storage than current conditions. As we discussed today, I support drafting a separate administrative record memo and referring to it in the new Shasta analysis section.

- Maria

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On Fri, May 24, 2019 at 10:55 AM Cathy Marcinkevage - NOAA Federal <[cathy.marcinkevage@noaa.gov](mailto:cathy.marcinkevage@noaa.gov)> wrote:

All --

I'm sensitive to Paul's line that "the PA has more storage" or "the PA has more water to work with". The following tables are from (or calculated from) data in Appendix D of the BA. It is for Shasta storage. Top table shows storages for different months for COS. Bottom table shows the *percent change* in that exceedance storage level given PA ops. You will see that for May, the percent change is actually negative except for very low storage levels. A few percent change compared to 3500+ TAF seems within error of the planning model.

Thanks -  
Cathy

**Probability of  
Exceedance**

<b>COS</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>
10%	3,218	3,252	3,335	3,621	3,875	4,229	4,552	4,552	4,500	4,011
20%	3,036	2,926	3,309	3,539	3,744	4,127	4,544	4,552	4,402	3,789
30%	2,903	2,807	3,266	3,397	3,649	4,046	4,475	4,552	4,288	3,622
40%	2,771	2,709	3,027	3,318	3,529	3,980	4,389	4,486	4,101	3,466
50%	2,677	2,579	2,793	3,247	3,477	3,875	4,265	4,347	3,909	3,380
60%	2,547	2,500	2,656	3,032	3,358	3,724	4,144	4,225	3,800	3,149
70%	2,294	2,305	2,426	2,836	3,252	3,513	3,971	3,960	3,450	2,883
80%	2,033	2,102	2,233	2,544	2,948	3,348	3,619	3,344	2,986	2,509
90%	1,553	1,409	1,720	2,061	2,314	2,593	2,749	2,579	2,276	1,947

<b>% Difference (100*(PA-COS))</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>
10%	1	0	1	1	2	1	0	0	0	0
20%	7	11	1	2	2	1	0	0	0	0
30%	11	16	1	4	2	1	0	0	-1	0
40%	8	15	8	3	4	1	1	0	-1	-1
50%	3	12	16	3	3	2	1	0	-1	-3
60%	4	9	17	7	4	4	1	-2	-4	0
70%	10	14	15	5	1	4	3	-1	1	1
80%	11	8	8	7	6	2	6	9	6	9
90%	-1	2	5	3	13	4	0	14	12	10