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**Sent:** Monday, June 17, 2019 1:07 PM  
**To:** Brian Ellrott; Evan Sawyer - NOAA Affiliate  
**Subject:** WR TDM Consistency

## Background

Recs Performance Metrics for TDM:

- Tier 1 – Maximum (39%); Average (6%); Median (2%); Minimum (0.4%); Std. Dev (+/-9%)
- Tier 2 - Maximum (46%); Average (15%); Median (9%); Minimum (1%); Std. Dev (+/-16%)
- Tier 3 - Maximum (77%); Average (34%); Median (24%); Minimum (6%); Std. Dev (+/-31%)
- Tier 4 – Appropriate performance metrics will be addressed under “Drought and Dry Year Actions” consistent with the “Governance” section of this Proposed Action

Our Effects Analysis (example for Tier 1):

- Reduced survival probability (mean temperature dependent mortality of 5 percent (Anderson) and 6 percent (Martin); widest range of 25 and 75 percentiles for 2 different models is 0 to 6 percent).

I&S (example for Tier 1, showing the mean):

5% - 6% temperature dependent mortality

ITS (example for Tier 1):

Temperatures higher than 53.5°F would result in reduced survival (mean temperature- dependent mortality of 5 percent [Anderson] and 6 percent [Martin]; widest range of 25 and 75 percentiles for 2 different models is 0 to 6 percent).

Shasta operations remain consistent with performance metrics described in in Section 2.5.2... (Performance Metrics)

So you see the mix of things. I propose the following to address this (changes in **bold**):

Recs Performance Metrics for TDM (**nothing to change here**):

- Tier 1 – Maximum (39%); Average (6%); Median (2%); Minimum (0.4%); Std. Dev (+/-9%)
- Tier 2 - Maximum (46%); Average (15%); Median (9%); Minimum (1%); Std. Dev (+/-16%)
- Tier 3 - Maximum (77%); Average (34%); Median (24%); Minimum (6%); Std. Dev (+/-31%)
- Tier 4 – Appropriate performance metrics will be addressed under “Drought and Dry Year Actions” consistent with the “Governance” section of this Proposed Action

Our Effects Analysis (example for Tier 1):

- Reduced survival probability (mean temperature dependent mortality of 5 percent (Anderson) and 6 percent (Martin); **the standard deviations are +/-Y and +/-Z**).

I&S (example for Tier 1, showing the mean):

5% - 6% temperature dependent mortality **with the standard deviations are +/-Y and +/-Z**.

ITS (example for Tier 1):

Temperatures higher than 53.5°F would result in reduced survival (mean temperature- dependent mortality of 5 percent [Anderson] and 6 percent [Martin]; **the standard deviations are +/-Y and +/-Z**). Shasta operations remain consistent with performance metrics described in **BA Section 4.10.1.3.3 (Upper Sacramento Performance Metrics)**.

Whaddya think?

I can make many of these changes if you agree.

Slightly related....I guess we need to make new rows for SR, STH, and GS that reflect the PA revisions, as I did for WR, right?