

From: Evan Sawyer - NOAA Federal <evan.sawyer@noaa.gov>
Sent: Monday, June 17, 2019 3:17 PM
To: Cathy Marcinkevage - NOAA Federal
Cc: Brian Ellrott
Subject: Re: WR TDM Consistency

OK use these number (because of rounding)

| PA_Anderson_TDM Tier 1 | | PA_Martin_TDM Tier 1 | |
|-------------------------------|-----|-----------------------------|-----|
| Mean | 5% | Mean | 6% |
| Median | 2% | Median | 2% |
| Standard Deviation | 8% | Standard Deviation | 9% |
| PA_Anderson_TDM Tier 2 | | PA_Martin_TDM Tier 2 | |
| Mean | 12% | Mean | 15% |
| Median | 7% | Median | 9% |
| Standard Deviation | 13% | Standard Deviation | 16% |
| PA_Anderson_TDM Tier 3 | | PA_Martin_TDM Tier 3 | |
| Mean | 28% | Mean | 34% |
| Median | 21% | Median | 24% |
| Standard Deviation | 25% | Standard Deviation | 31% |
| PA_Anderson_TDM Tier 4 | | PA_Martin_TDM Tier 4 | |
| Mean | 79% | Mean | 81% |
| Median | 79% | Median | 84% |
| Standard Deviation | 14% | Standard Deviation | 16% |

Evan

On Mon, Jun 17, 2019 at 3:11 PM Evan Sawyer - NOAA Federal <evan.sawyer@noaa.gov> wrote:
 Sharing these number with you just in case I fail to transcribe them through all sections:

| PA_Anderson_TDM Tier 1 | | PA_Martin_TDM Tier 1 | |
|-------------------------------|-------|-----------------------------|-------|
| Mean | 4.7% | Mean | 5.8% |
| Median | 2.0% | Median | 2.0% |
| Standard Deviation | 7.9% | Standard Deviation | 9.5% |
| PA_Anderson_TDM Tier 2 | | PA_Martin_TDM Tier 2 | |
| Mean | 12.0% | Mean | 15.3% |
| Median | 7.4% | Median | 9.4% |
| Standard Deviation | 13.1% | Standard Deviation | 16.3% |
| PA_Anderson_TDM Tier 3 | | PA_Martin_TDM Tier 3 | |
| Mean | 27.8% | Mean | 34.1% |
| Median | 21.3% | Median | 24.4% |
| Standard Deviation | 25.2% | Standard Deviation | 31.3% |

| PA_Anderson_TDM Tier 4 | | PA_Martin_TDM Tier 4 | |
|------------------------|-------|----------------------|-------|
| Mean | 79.1% | Mean | 81.3% |
| Median | 78.8% | Median | 84.3% |
| Standard Deviation | 13.7% | Standard Deviation | 15.6% |

Evan

On Mon, Jun 17, 2019 at 1:06 PM Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov> wrote:

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?

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