

# Appendix L, Shasta Coldwater Pool Management

## **Attachment L.2 Sacramento River Water Temperature Analysis**

### **L.2.1 Model Overview**

This analysis enumerates the frequency at which mean monthly HEC-5Q simulated water temperatures exceed water temperature index values or occur outside index ranges for multiple fish species in the Sacramento River upstream of the Sacramento–San Joaquin Delta (Delta). Index values and ranges were obtained from the scientific literature and agency reports for each species and life stage at multiple locations within the river. Frequencies were calculated for the baseline and each alternative at one or more locations of life stage presence in the river by month of presence and water year type and the incremental change between the baseline and each alternative was then calculated.

### **L.2.2 Model Development**

Water temperature was simulated in HEC-5Q for water years 1923 through 2021 for the Sacramento River. Outputs from HEC-5Q were used as inputs to the analysis.

Water temperature index values were compiled for the life stages present in the Sacramento River upstream of the Delta for following listed species: winter-run and spring-run Chinook salmon, steelhead, and green sturgeon (Table L.2-1). These index values were primarily taken from Appendix C, *Species Spatial and Temporal Domains*, and Appendix D, *Seasonal Operations Deconstruction*, of the Biological Assessment. Water temperature index values and ranges were compiled for the life stages present in the Sacramento River for following non-listed species: fall-/late fall-run Chinook salmon, white sturgeon, Pacific lamprey, river lamprey, hardhead, Sacramento hitch, Sacramento splittail, Striped Bass, American shad, and largemouth bass (Table L.2-2). These values and ranges were primarily taken from the 2017 Sites Reservoir Project Draft Environmental Impact Report/Environmental Impact Statement (EIS) (Sites Project Authority and Bureau of Reclamation 2017), Appendix 12D, *Water Temperature Index Value Selection Rationale*, with supplemental information taken from the scientific literature as necessary. Index values and index ranges used in this analysis typically characterize the suitable, optimal, acceptable, and observed temperature range needed for survival, growth, or presence.

The analysis calculates the frequency that modeled water temperatures under the baseline and each alternative would either exceed the temperature index value or occur outside the index range for a given species and life stage. The analysis uses a monthly time step, and the percent of months exceeding the index value or occurring outside the index range is computed over the

entire 98-water year simulation period for each month and water year type. Frequencies of exceedance for each alternative are compared to baseline conditions, in keeping with guidance on the proper use of model outputs, to calculate the incremental effect of the alternative. To best characterize potential differences, the analysis evaluates frequencies by water year type for each month of life stage presence and within the reach of river where the life stage is present.

For the EIS, pairwise comparisons of results were made between the No Action Alternative (NAA) and each alternative. For these comparisons, the value of 5% is used to assess whether the effect is biologically meaningful. Any difference below 5% was deemed to be within the noise of the model. This value was based on...

Table L.2-1. Water Temperature Index Values for Listed Fish Species in the Sacramento River.

| Species                   | Life Stage                        | Months of Presence | Model Output Locations  | Temperature Index Value/Range (°F) | Temperature Index References   |
|---------------------------|-----------------------------------|--------------------|---|------------------------------------|--|
| Winter-run Chinook salmon | Adult Migration                   | Jan-Jun            | Sacramento River at Keswick, RBDD, Hamilton City                                | 37.9-68                            | Successful migration range (Reiser and Bjornn 1979; Goniea et al. 2006)  |
| Winter-run Chinook salmon | Adult Migration                   | Jan-Jun            | Sacramento River at Keswick, RBDD, Hamilton City                                | 59.9                               | Pathogen virulence threshold (McCullough 1999)   |
| Winter-run Chinook salmon | Adult Holding and Spawning        | Jan-Jul            | Sacramento River at Keswick, below Clear Creek                                  | 42.1-55                            | Spawning initiation range (McCullough 1999)  |
| Winter-run Chinook salmon | Adult Holding and Spawning        | Jan-Jul            | Sacramento River at Keswick, below Clear Creek                                  | 59.9                               | Pathogen virulence threshold (McCullough 1999)   |
| Winter-run Chinook salmon | Egg Incubation and Fry Emergence  | May-Nov            | Sacramento River at Keswick, below Clear Creek                                  | 42.8-56 <sup>1</sup>               | Slater 1963; U.S. Fish and Wildlife Service 1999; Myrick and Cech 2004; Bratovich et al. 2012; Martin et al. 2017        |
| Winter-run Chinook salmon | Juvenile Rearing and Outmigration | Jul-Dec            | Sacramento River at Keswick, RBDD, Hamilton City                                | 55.4-68                            | Optimum temperature for growth, smoltification, and predation vulnerability (Myrick and Cech 2002; Marine and Cech 2004) |
| Winter-run Chinook salmon | Juvenile Rearing and Outmigration | Jul-Dec            | Sacramento River at Keswick, RBDD, Hamilton City                                | 75.2                               | UILT (Brett 1952; Brett et al. 1982; Myrick and Cech 2004)   |
| Spring-run Chinook salmon | Adult Migration                   | Mar-Sep            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 37.9-68                            | Successful migration range (Reiser and Bjornn 1979; Goniea et al. 2006)  |

---

<sup>1</sup> Exact endpoints fall somewhere between 53.6°F and 56°F, with recommended upper thermal optimum of 53.6°F to 55.9°F (Myrick and Cech 2004; Martin et al. 2017)

| Species                   | Life Stage                        | Months of Presence | Model Output Locations  | Temperature Index Value/Range (°F) | Temperature Index References   |
|---------------------------|-----------------------------------|--------------------|---|------------------------------------|--|
| Spring-run Chinook salmon | Adult Holding and Spawning        | Apr-Oct            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 42.1-55                            | Spawning initiation range (McCullough 1999)  |
| Spring-run Chinook salmon | Adult Holding and Spawning        | Apr-Oct            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 59.9                               | Pathogen virulence threshold (McCullough 1999)   |
| Spring-run Chinook salmon | Egg Incubation and Fry Emergence  | Sep-Mar            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 42.8-56 <sup>2</sup>               | Slater 1963; U.S. Fish and Wildlife Service 1999; Myrick and Cech 2004; Bratovich et al. 2012; Martin et al. 2017        |
| Spring-run Chinook salmon | Juvenile Rearing and Outmigration | Nov-Jun            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 55.4-68                            | Optimum temperature for growth, smoltification, and predation vulnerability (Myrick and Cech 2002; Marine and Cech 2004) |
| Spring-run Chinook salmon | Juvenile Rearing and Outmigration | Nov-Jun            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 75.2                               | UILT (Brett 1952; Brett et al. 1982; Myrick and Cech 2004)   |
| Spring-run Chinook salmon | Yearling Rearing                  | Apr-Dec            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 55.4-68                            | Optimum temperature without food limitation (Myrick and Cech 2002; Marine and Cech 2004)                                 |
| Spring-run Chinook salmon | Yearling Rearing                  | Apr-Dec            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 75.2                               | UILT (Brett 1952; Brett et al. 1982; Myrick and Cech 2004)   |
| Spring-run Chinook salmon | Yearling Outmigration             | Oct-Dec            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 55.4-68                            | Optimum temperature without food limitation (Myrick and Cech 2002; Marine and Cech 2004)                                 |

<sup>2</sup> Exact endpoints fall somewhere between 53.6°F and 56°F, with recommended upper thermal optimum of 53.6°F to 55.9°F (Myrick and Cech 2004; Martin et al. 2017)

| Species                   | Life Stage                  | Months of Presence | Model Output Locations  | Temperature Index Value/Range (°F) | Temperature Index References  |
|---------------------------|-----------------------------|--------------------|---|------------------------------------|---|
| Spring-run Chinook salmon | Yearling Outmigration       | Oct-Dec            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 75.2                               | UILT (Brett 1952; Brett et al. 1982; Myrick and Cech 2004)  |
| Steelhead                 | Adult Migration and Holding | Jul-Mar            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 41-66.2                            | Migration impairment (Keefer et al. 2009)   |
| Steelhead                 | Adult Migration and Holding | Jul-Mar            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 69.8                               | Lethal limit to adult migrants (Coutant 1970)   |
| Steelhead                 | Adult Migration and Holding | Jul-Mar            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 59.9                               | Pathogen virulence threshold (McCullough 1999)  |
| Steelhead                 | Spawning                    | Dec-May            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 45-55                              | Successful spawning range (Bell 1991; Federal Energy Regulatory Commission 1993; Richter and Kolmes 2005) |
| Steelhead                 | Spawning                    | Dec-May            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 59.9                               | Pathogen virulence threshold (McCullough 1999)  |
| Steelhead                 | Kelt Emigration             | Feb-Jun            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 66.2                               | Migration impairment (Keefer et al. 2009)   |
| Steelhead                 | Kelt Emigration             | Feb-Jun            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 69.8                               | Lethal to adult migrating steelhead (Coutant 1970)  |
| Steelhead                 | Kelt Emigration             | Feb-Jun            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 59.9                               | Pathogen virulence threshold (McCullough 1999)  |

| Species        | Life Stage                        | Months of Presence | Model Output Locations  | Temperature Index Value/Range (°F) | Temperature Index References  |
|----------------|-----------------------------------|--------------------|---|------------------------------------|---|
| Steelhead      | Egg Incubation and Fry Emergence  | Dec-Jun            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 42-52                              | Optimal incubation temperature (McCullough et al. 2001)   |
| Steelhead      | Egg Incubation and Fry Emergence  | Dec-Jun            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 59.9                               | Fry pathogen virulence threshold (McCullough 1999)  |
| Steelhead      | Juvenile Rearing                  | Year-round         | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 66.2                               | Upper limit of optimum temperatures for juvenile steelhead growth, assuming maximum ration levels (Myrick 1998; Myrick and Cech 2001) |
| Steelhead      | Juvenile Rearing and Outmigration | Year-round         | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 59.9                               | Pathogen virulence threshold (McCullough 1999)  |
| Steelhead      | Juvenile Outmigration             | Jan-May            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 55                                 | Upper limit of successful smoltification (Zaugg and Wagner 1973; Wedemeyer et al. 1980; U.S. Environmental Protection Agency 2003)    |
| Green Sturgeon | Adult Migration                   | Apr-May            | Sacramento River at Bend Bridge, Hamilton City                                  | 52-69.4                            | Range of observed migration (Kelly et al. 2007; Colborne et al. 2022)   |
| Green Sturgeon | Spawning                          | Apr-Jul            | Sacramento River at Bend Bridge, Hamilton City                                  | 49.3-63.7                          | Range of observed spawning (Poytress et al. 2015)   |
| Green Sturgeon | Adult Holding                     | Year-round         | Sacramento River at Bend Bridge, Hamilton City                                  | 59-73.4                            | Range of observed holding (Erickson et al. 2002)  |
| Green Sturgeon | Egg Incubation                    | Apr-Jul            | Sacramento River at Bend Bridge, Hamilton City                                  | 52.3-60.8                          | Range supporting egg incubation (Van Eenennaam et al. 2005; Brown 2007; Rodgers et al. 2019)  |
| Green Sturgeon | Larvae                            | May-Aug            | Sacramento River at Bend Bridge, Hamilton City                                  | 64.4                               | Upper limit for newly hatched larvae (Linares-Casenave et al. 2013; Rodgers et al. 2019)  |

| Species        | Life Stage | Months of Presence | Model Output Locations                         | Temperature Index Value/Range (°F) | Temperature Index References  |
|----------------|------------|--------------------|--|------------------------------------|---|
| Green Sturgeon | Juveniles  | Jun-Aug            | Sacramento River at Bend Bridge, Hamilton City | 59-66.2                            | Range of optimal bioenergetic performance (Mayfield and Cech 2004; Poletto et al. 2018) |

°F = degrees Fahrenheit; RBDD = Red Bluff Diversion Dam; UILT = upper incipient lethal temperature.

Table L.2-2. Water Temperature Index Values and Index Ranges for Non-Listed Fish Species in the Sacramento River.

| Species                 | Life Stage                       | Months of Presence | Model Output Locations  | Temperature Index Value/Range (°F) | Temperature Index References  |
|-------------------------|----------------------------------|--------------------|---|------------------------------------|---|
| Fall-run Chinook salmon | Adult Migration                  | Jul-Dec            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 37.9-68                            | Successful migration range (Reiser and Bjornn 1979; Goniea et al. 2006)   |
| Fall-run Chinook salmon | Adult Migration                  | Jul-Dec            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 59.9                               | Pathogen virulence threshold (McCullough 1999)  |
| Fall-run Chinook salmon | Adult Holding and Spawning       | Oct-Jan            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 42.1-55                            | Spawning initiation range (McCullough 1999)   |
| Fall-run Chinook salmon | Adult Holding and Spawning       | Oct-Jan            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 59.9                               | Pathogen virulence threshold (McCullough 1999)  |
| Fall-run Chinook salmon | Egg Incubation and Fry Emergence | Dec-Mar            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 42.8-56 <sup>3</sup>               | Slater 1963; U.S. Fish and Wildlife Service 1999; Myrick and Cech 2004; Bratovich et al. 2012; Martin et al. 2017 |

<sup>3</sup> Exact endpoints fall somewhere between 53.6°F and 56°F, with recommended upper thermal optimum of 53.6°F to 55.9°F (Myrick and Cech 2004; Martin et al. 2017)

| Species                      | Life Stage                        | Months of Presence | Model Output Locations  | Temperature Index Value/Range (°F) | Temperature Index References   |
|------------------------------|-----------------------------------|--------------------|---|------------------------------------|--|
| Fall-run Chinook salmon      | Egg Incubation and Fry Emergence  | Dec-Mar            | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown                | 59.9                               | Pathogen virulence threshold (McCullough 1999)   |
| Fall-run Chinook salmon      | Juvenile Rearing and Outmigration | Mar-Jun            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 55.4-68                            | Optimum temperature for growth, smoltification, and predation vulnerability (Myrick and Cech 2002; Marine and Cech 2004) |
| Fall-run Chinook salmon      | Juvenile Rearing and Outmigration | Mar-Jun            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 75.2                               | UILT (Brett 1952; Brett et al. 1982; Myrick and Cech 2004)   |
| Fall-run Chinook salmon      | Juvenile Rearing and Outmigration | Mar-Jun            | Sacramento River at Keswick, RBDD, Hamilton City; Clear Creek below Whiskeytown | 59.9                               | Pathogen virulence threshold (McCullough 1999)   |
| Late fall-run Chinook salmon | Adult Migration                   | Aug-Mar            | Sacramento River at Keswick, RBDD, Hamilton City                                | 37.9-68                            | Successful migration range (Reiser and Bjornn 1979; Goniea et al. 2006)  |
| Late fall-run Chinook salmon | Adult Migration                   | Aug-Mar            | Sacramento River at Keswick, RBDD, Hamilton City                                | 59.9                               | Pathogen virulence threshold (McCullough 1999)   |
| Late fall-run Chinook salmon | Adult Holding and Spawning        | Jan-Apr            | Sacramento River at Keswick, below Clear Creek                                  | 42.1-55                            | Spawning initiation range (McCullough 1999)  |
| Late fall-run Chinook salmon | Adult Holding and Spawning        | Jan-Apr            | Sacramento River at Keswick, below Clear Creek                                  | 59.9                               | Pathogen virulence threshold (McCullough 1999)   |
| Late fall-run Chinook salmon | Egg Incubation and Fry Emergence  | Mar-Jun            | Sacramento River at Keswick, below Clear Creek                                  | 42.8-56 <sup>4</sup>               | Slater 1963; U.S. Fish and Wildlife Service 1999; Myrick and Cech 2004; Bratovich et al. 2012; Martin et al. 2017        |

---

<sup>4</sup> Exact endpoints fall somewhere between 53.6°F and 56°F, with recommended upper thermal optimum of 53.6°F to 55.9°F (Myrick and Cech 2004; Martin et al. 2017)



| Species                      | Life Stage                        | Months of Presence | Model Output Locations   | Temperature Index Value/Range (°F) | Temperature Index References   |
|------------------------------|-----------------------------------|--------------------|--|------------------------------------|--|
| Late fall-run Chinook salmon | Egg Incubation and Fry Emergence  | Mar-Jun            | Sacramento River at Keswick, below Clear Creek                   | 59.9                               | Pathogen virulence threshold (McCullough 1999)   |
| Late fall-run Chinook salmon | Juvenile Rearing and Outmigration | Apr-Feb            | Sacramento River at Keswick, RBDD, Hamilton City                 | 55.4-68                            | Optimum temperature for growth, smoltification, and predation vulnerability (Myrick and Cech 2002; Marine and Cech 2004) |
| Late fall-run Chinook salmon | Juvenile Rearing and Outmigration | Apr-Feb            | Sacramento River at Keswick, RBDD, Hamilton City                 | 75.2                               | UILT (Brett 1952; Brett et al. 1982; Myrick and Cech 2004)   |
| Late fall-run Chinook salmon | Juvenile Rearing and Outmigration | Apr-Feb            | Sacramento River at Keswick, RBDD, Hamilton City                 | 59.9                               | Pathogen virulence threshold (McCullough 1999)   |
| White Sturgeon               | Spawning and Embryo Incubation    | Feb-May            | Sacramento River at Hamilton City                                | 61                                 | Optimal egg incubation range upper limit (Israel et al. 2009)  |
| White Sturgeon               | Spawning and Embryo Incubation    | Feb-May            | Sacramento River at Hamilton City                                | 68                                 | Embryo hatching upper limit (Israel et al. 2009)   |
| White Sturgeon               | Juvenile Rearing and Emigration   | Year-round         | Sacramento River at Hamilton City                                | 66                                 | Stress observed in juvenile white sturgeon above this temperature (Israel et al. 2009)                                   |
| White Sturgeon               | Adult Immigration and Holding     | Nov-May            | Sacramento River at Hamilton City                                | 77                                 | Upper limit of suitable water temperatures for adult white sturgeon (Israel et al. 2009)                                 |
| Pacific Lamprey              | Spawning and Egg Incubation       | April - August     | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown | 50-64                              | Observed range of high survival and low occurrence of embryonic developmental abnormalities (Meeuwig et al. 2003, 2005)  |
| Pacific Lamprey              | Ammocoete Rearing and Emigration  | Year-round         | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown | 72                                 | Upper limit for high survival and low occurrence of developmental abnormalities (Meeuwig et al. 2003, 2005)              |

| Species               | Life Stage                                       | Months of Presence | Model Output Locations   | Temperature Index Value/Range (°F) | Temperature Index References  |
|-----------------------|--|--------------------|--|------------------------------------|---|
| Western River Lamprey | Spawning and Egg Incubation                      | February - July    | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown         | 50-64                              | Observed range of high survival and low occurrence of embryonic developmental abnormalities (Meeuwig et al. 2003, 2005) |
| Western River Lamprey | Ammocoete Rearing and Emigration                 | Year-round         | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown Keswick | 72                                 | Upper limit for high survival and low developmental abnormalities (Meeuwig et al. 2003, 2005)                           |
| Sacramento Splittail  | Spawning   | Feb-May            | Sacramento River at Hamilton City  | 45-75                              | Observed range of suitable water temperatures (California Department of Water Resources 2004)                           |
| Sacramento Hitch      | Non-spawning Adults                              | Year-round         | Sacramento River at Keswick, RBDD, Hamilton City                         | 77-84.2                            | Preferred temperatures in lab and field observations (Moyle 2002; May and Brown 2002; Moyle et al. 2015).               |
| Hardhead              | Spawning   | Apr- Jun           | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown         | 59-64                              | Optimal range (Wang 1986)   |
| Hardhead              | Non-spawning Adults                              | Year-round         | Sacramento River at Keswick, RBDD; Clear Creek below Whiskeytown         | 57.2-78.8                          | Commonly observed range (Thompson et al. 2012)  |
| Striped Bass          | Spawning, Embryo Incubation, and Initial Rearing | Apr- Jun           | Sacramento River at Butte City   | 59-68                              | Optimal range (Moyle 2002)  |
| Striped Bass          | Larvae, Fry, and Juvenile Rearing and Emigration | Year-round         | Sacramento River at Butte City   | 61-71                              | Optimal range (Fay et al. 1983)   |
| American Shad         | Spawning and Larval Rearing                      | Apr- Jun           | Sacramento River at Knights Landing                                      | 62-75                              | Optimal range (Moyle 2002)  |
| American Shad         | Juvenile Rearing and Emigration                  | Jul-Nov            | Sacramento River at Knights Landing                                      | 63-77                              | Optimal range (Moyle 2002)  |

| Species         | Life Stage         | Months of Presence | Model Output Locations   | Temperature Index Value/Range (°F) | Temperature Index References                         |
|-----------------|--------------------|--------------------|--|------------------------------------|--|
| Threadfin Shad  | Spawning           | Apr– Aug           | Sacramento River at Knights Landing                              | 63-77                              | Optimal range (Moyle 2002)                           |
| Threadfin Shad  | Non-Spawning Adult | Year-round         | Sacramento River at Knights Landing                              | 63-77                              | Optimal range (Moyle 2002)                           |
| Largemouth Bass | Spawning           | Apr-Jun            | Sacramento River at Knights Landing                              | 55-79                              | Observed range (Stuber et al. 1982)                  |
| Largemouth Bass | Non-Spawning Adult | Year-round         | Sacramento River at Knights Landing                              | 77-86                              | Optimal range for growth (Moyle 2002)                |
| Smallmouth Bass | Spawning           | May-Jul            | Sacramento River at Hamilton City; Clear Creek below Whiskeytown | 55-70                              | Optimal range (Brown et al. 2009)                    |
| Smallmouth Bass | Non-Spawning Adult | Jun-Aug            | Sacramento River at Hamilton City; Clear Creek below Whiskeytown | >66                                | Lower end of observed summer-time range (Moyle 2002) |
| Smallmouth Bass | Non-Spawning Adult | Year-round         | Sacramento River at Hamilton City; Clear Creek below Whiskeytown | 77-80                              | Optimal range for growth (Moyle 2002)                |
| Spotted Bass    | Spawning           | Apr-Jun            | Sacramento River at Knights Landing                              | 59-64                              | Aasen and Henry 1981                                 |
| Spotted Bass    | Non-Spawning Adult | Jun-Aug            | Sacramento River at Knights Landing                              | 75-87                              | Preferred summer-time range (Moyle 2002)             |

°F = degrees Fahrenheit; RBDD = Red Bluff Diversion Dam; UILT = upper incipient lethal temperature.

### **L.2.2.1 Assumptions/Uncertainty**

A limitation of the analysis is that, due to model limitations, a monthly mean time step was the shortest time step available for water temperature model outputs. As a result, the intra-month variation around the monthly mean cannot be evaluated, which introduces uncertainty in the results.

Another limitation of the analysis is that it treats all exceedances above the temperature index value or occurrences outside the index range as equal because no magnitude of exceedance was calculated. A 0.1 degrees Celsius (°C) mean magnitude of exceedance could be very different to a steelhead than a 10°C mean magnitude of exceedance.

An assumption of this analysis is that all fish at and around the model output locations experience the same temperature as the model output. Small-scull differences in water temperature related to depth, shade, water movement, and a large number of other factors are common in streams (Poole et al. 2001), but this was not accounted for in the analysis. This introduced uncertainty in the results.

### **L.2.2.2 Code and Data Repository**

Code and analysis outputs can be found at:

[https://icfonline.sharepoint.com/:f:/r/sites/EP/USBR\\_2021LTO/Public%20Draft%20Alternatives/Appendix%20L.%20Shasta%20Cold%20Water%20Pool%20Attachments/L.%20Sacramento%20River%20Water%20Temperature%20Analysis/Code%20and%20Data?csf=1&web=1&e=kR2IhT](https://icfonline.sharepoint.com/:f:/r/sites/EP/USBR_2021LTO/Public%20Draft%20Alternatives/Appendix%20L.%20Shasta%20Cold%20Water%20Pool%20Attachments/L.%20Sacramento%20River%20Water%20Temperature%20Analysis/Code%20and%20Data?csf=1&web=1&e=kR2IhT)

## **L.2.3 Results**

### **L.2.3.1 Biological Assessment**

#### ***L.2.3.1.1 HEC 5Q Water Temperature Model Outputs***

HEC 5Q water temperature model outputs are provided in this attachment to aid the reader in visually interpreting the results of the analysis. By drawing or imagining a horizontal line that intersects the y-axis at each water temperature value listed in Table L.2-1 and Table L.2-2, the reader can determine the frequency above or below the value by viewing the resulting probability of exceedance along the x-axis for each model scenario.

Model outputs are presented by month for five locations in the Sacramento River: below Keswick, below Clear Creek, Bend Bridge, Red Bluff Diversion Dam, and Hamilton City; and in Clear Creek below Whiskeytown Reservoir.

### Sacramento River below Keswick

Figure L.2-1 presents exceedance curves of modeled monthly water temperatures in the Sacramento River at Keswick for all months and water year types combined for each model scenario. Figure L.2-2 through Figure L.2-13 present exceedance curves of modeled monthly water temperatures at Keswick for all water year types combined by month.

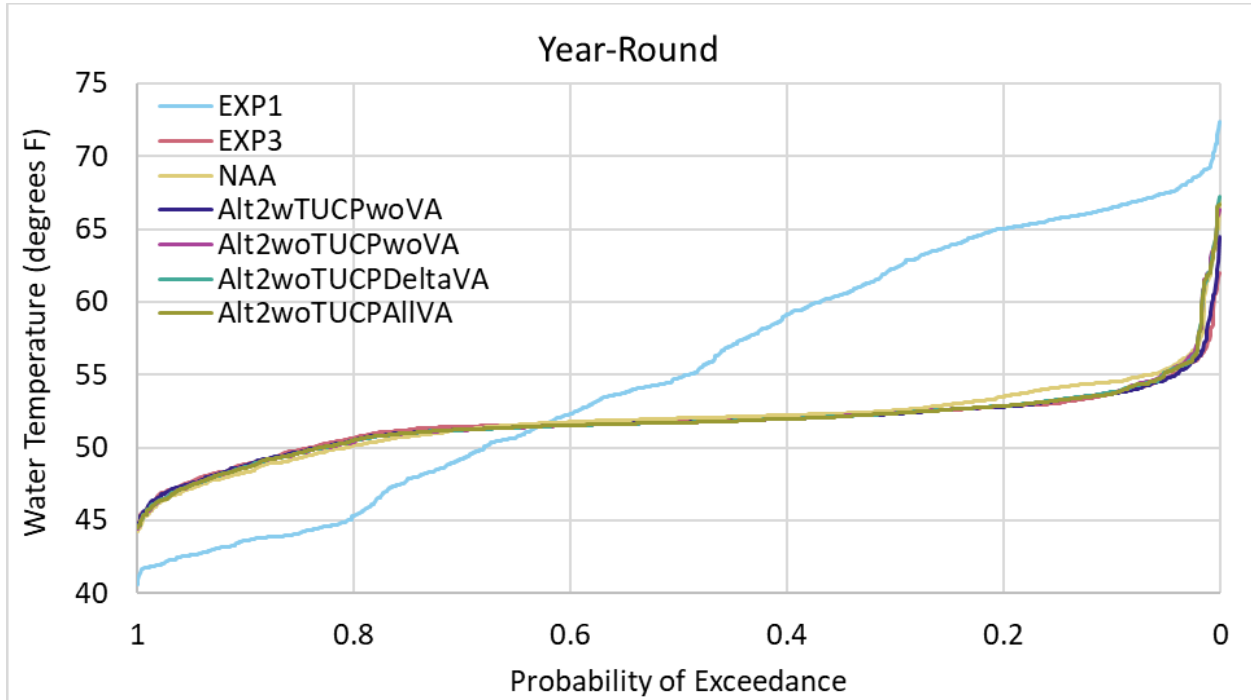


Figure L.2-1. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, year-round.

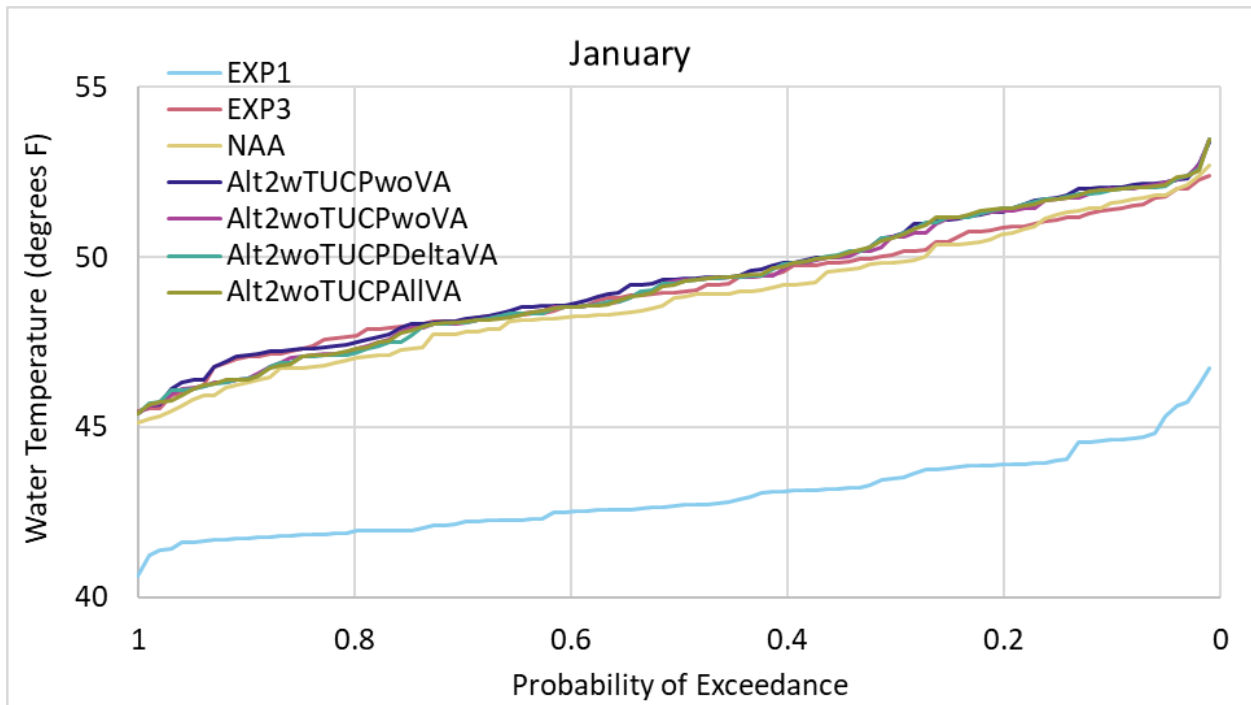


Figure L.2-2. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, January.

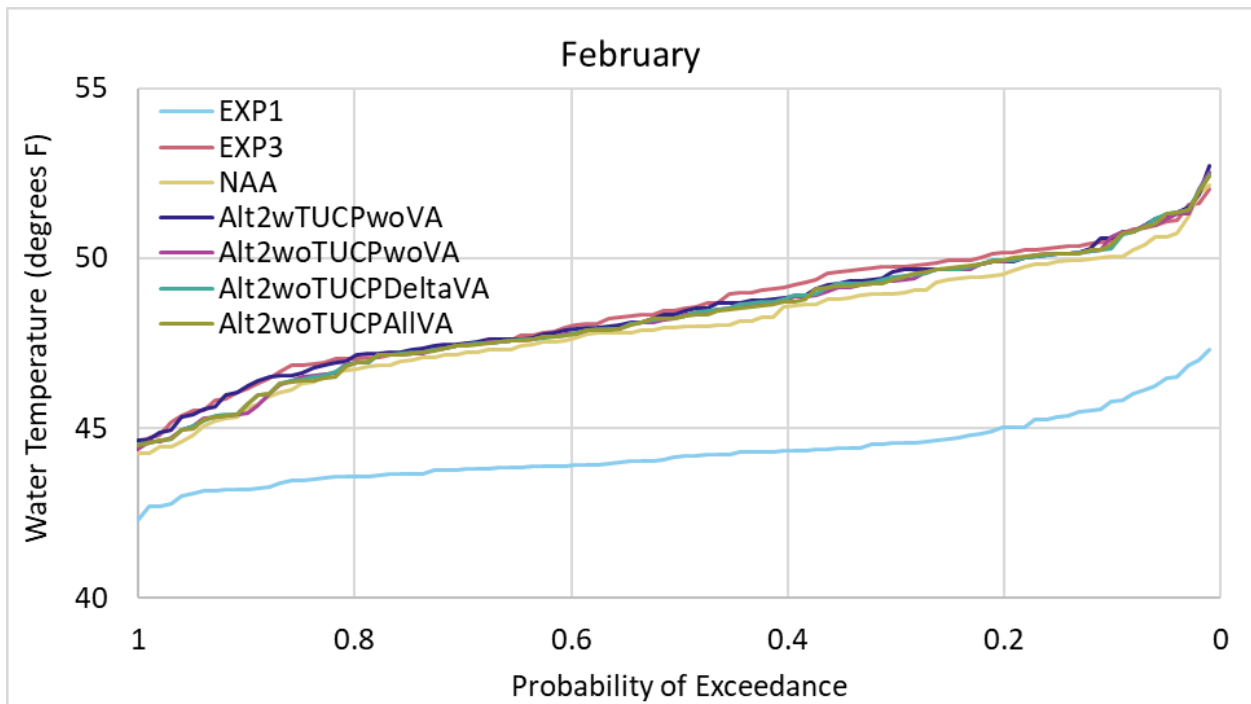


Figure L.2-3. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, February.

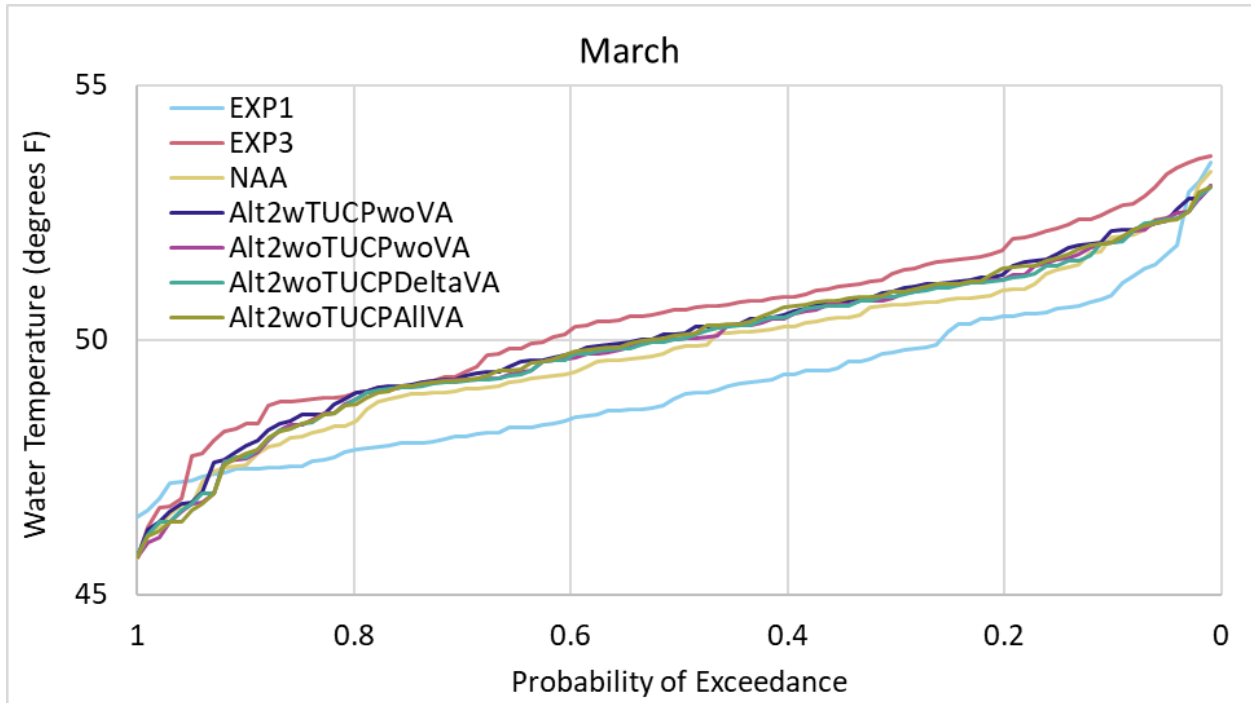


Figure L.2-4. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, March.

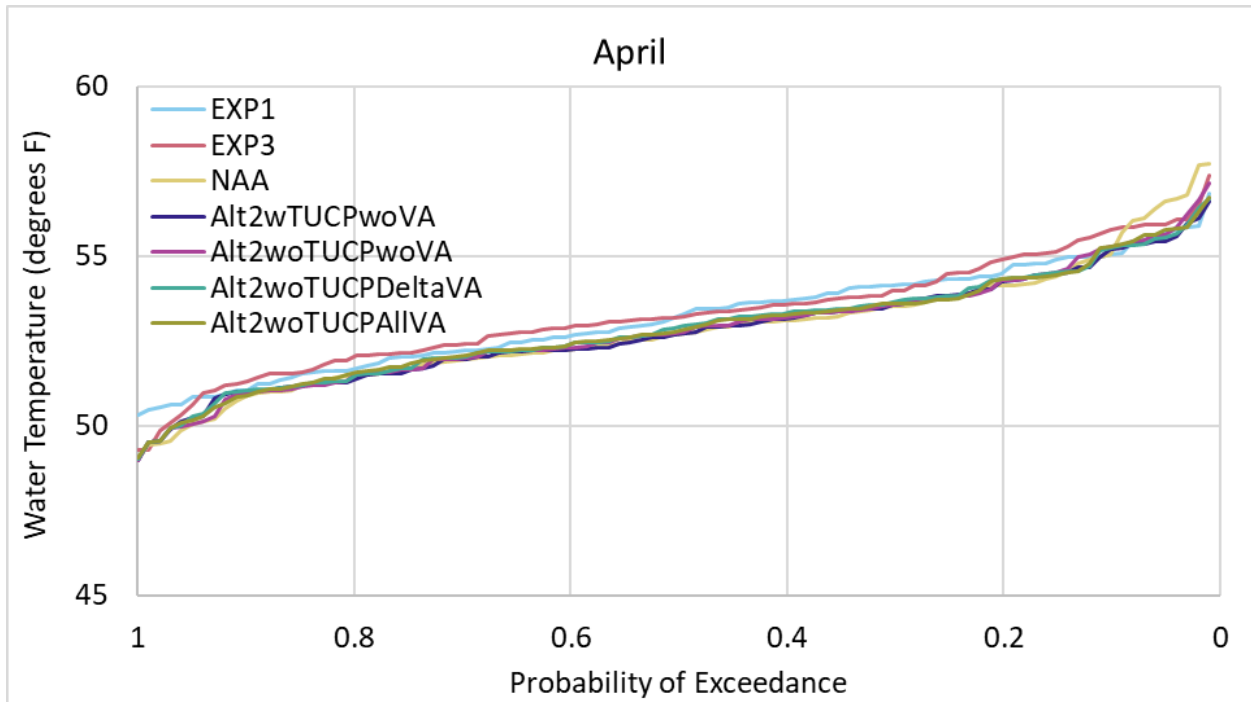


Figure L.2-5. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, April.

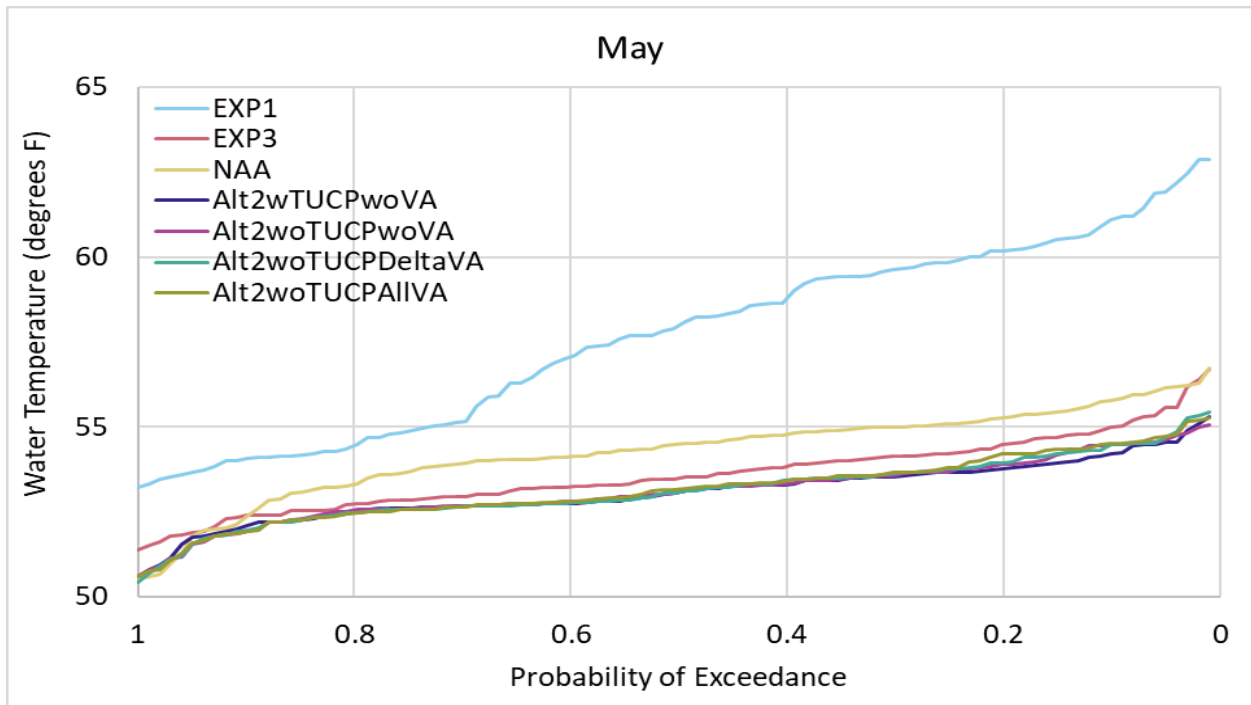


Figure L.2-6. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, May.

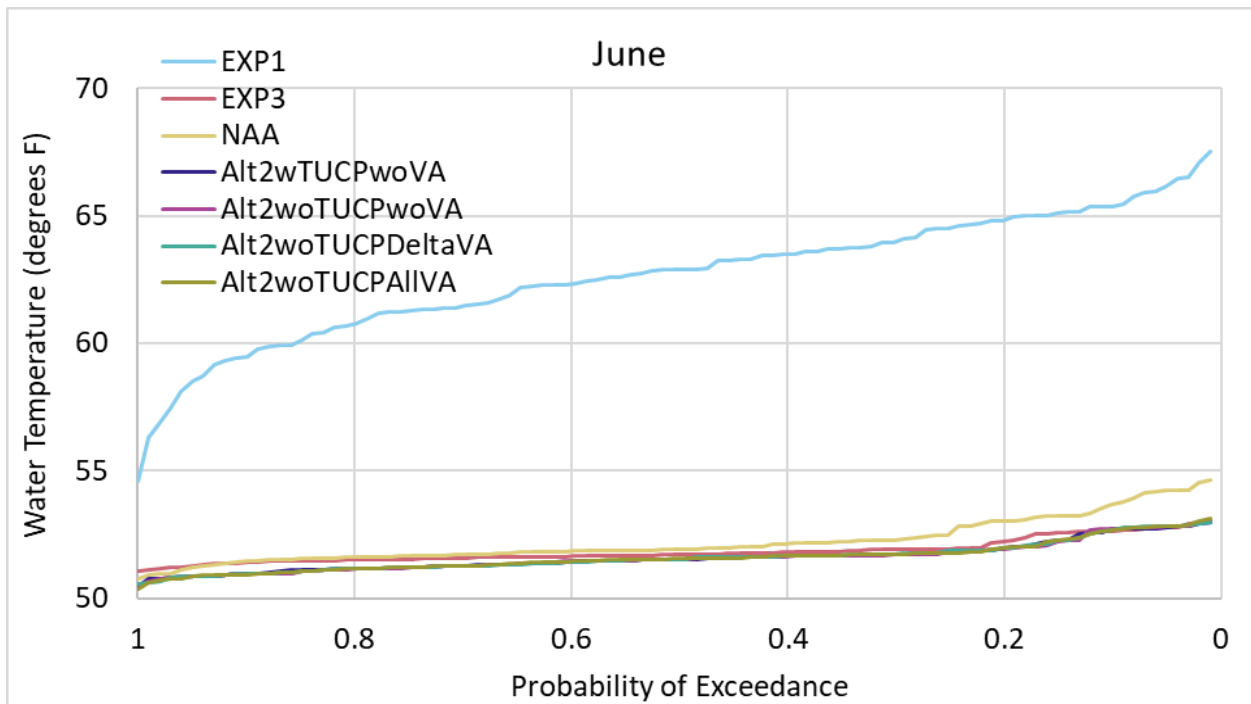


Figure L.2-7. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, June.



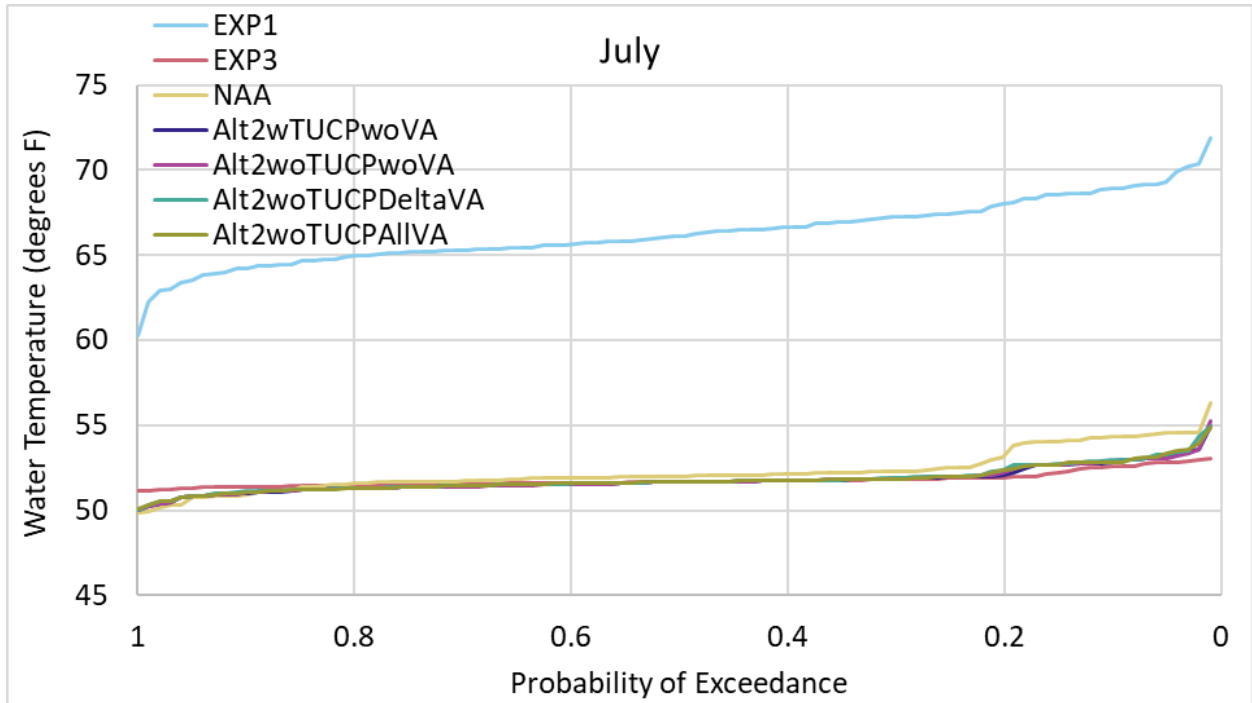


Figure L.2-8. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, July.

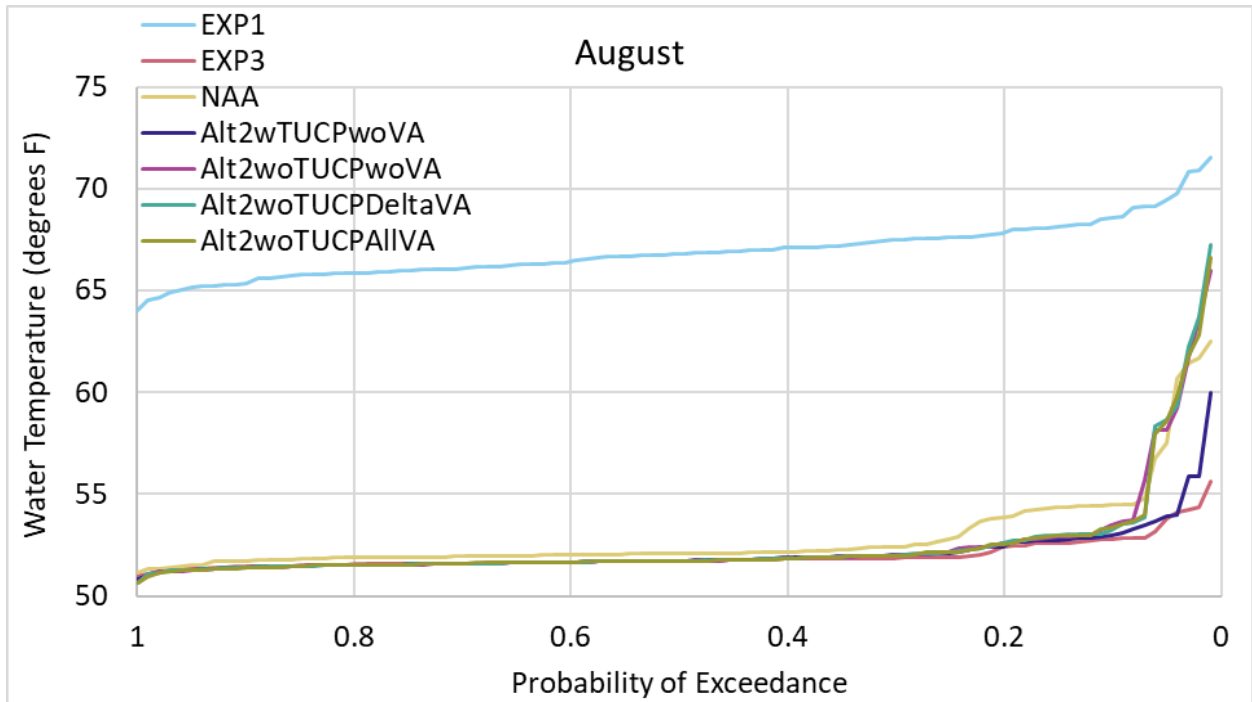


Figure L.2-9. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, August.

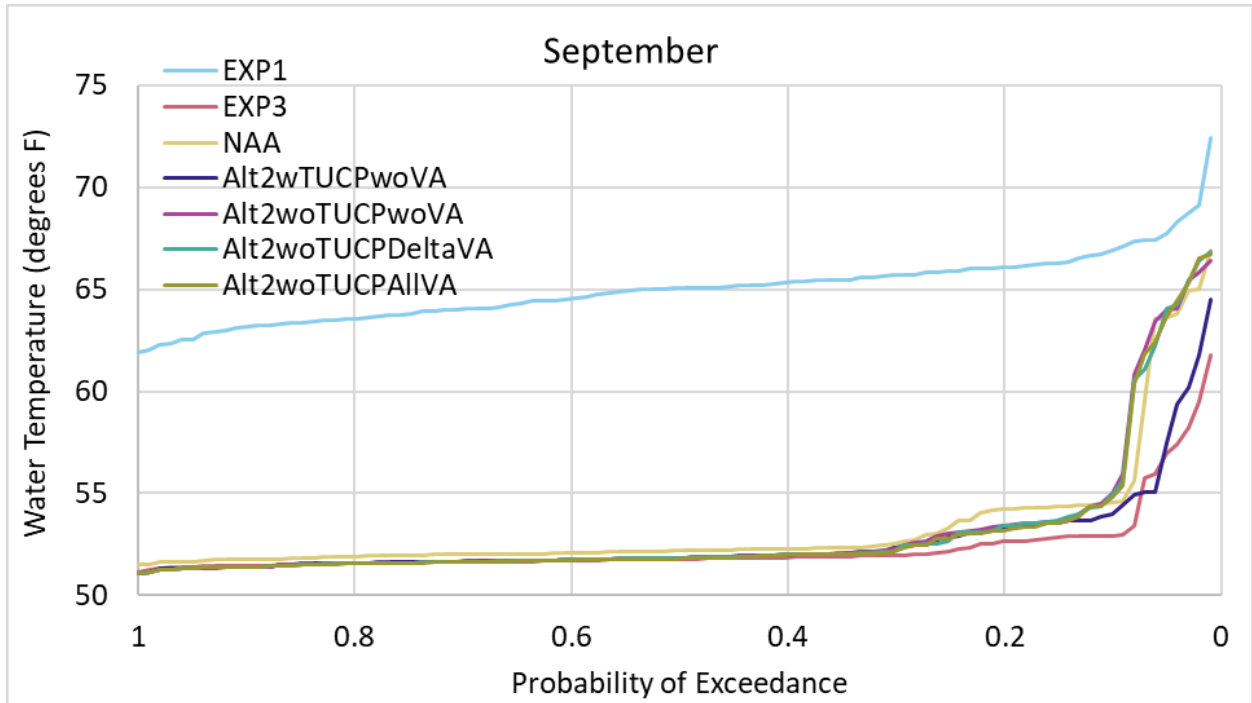


Figure L.2-10. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, September.

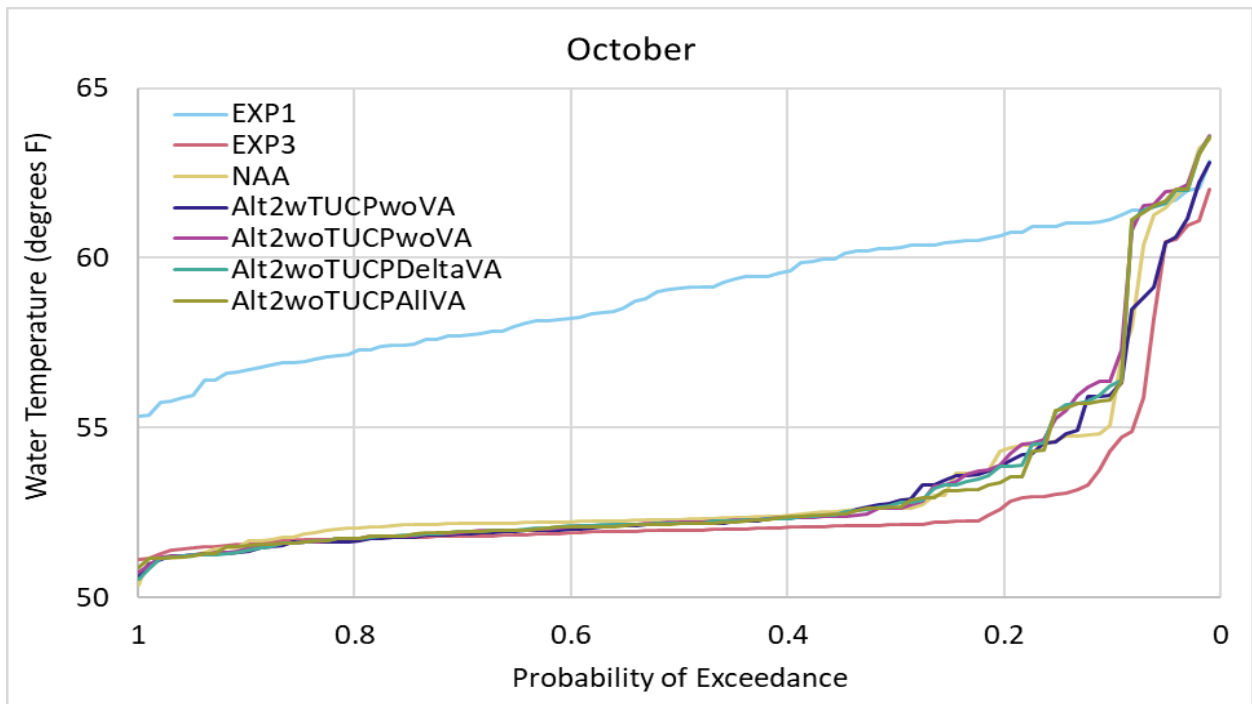


Figure L.2-11. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, October.

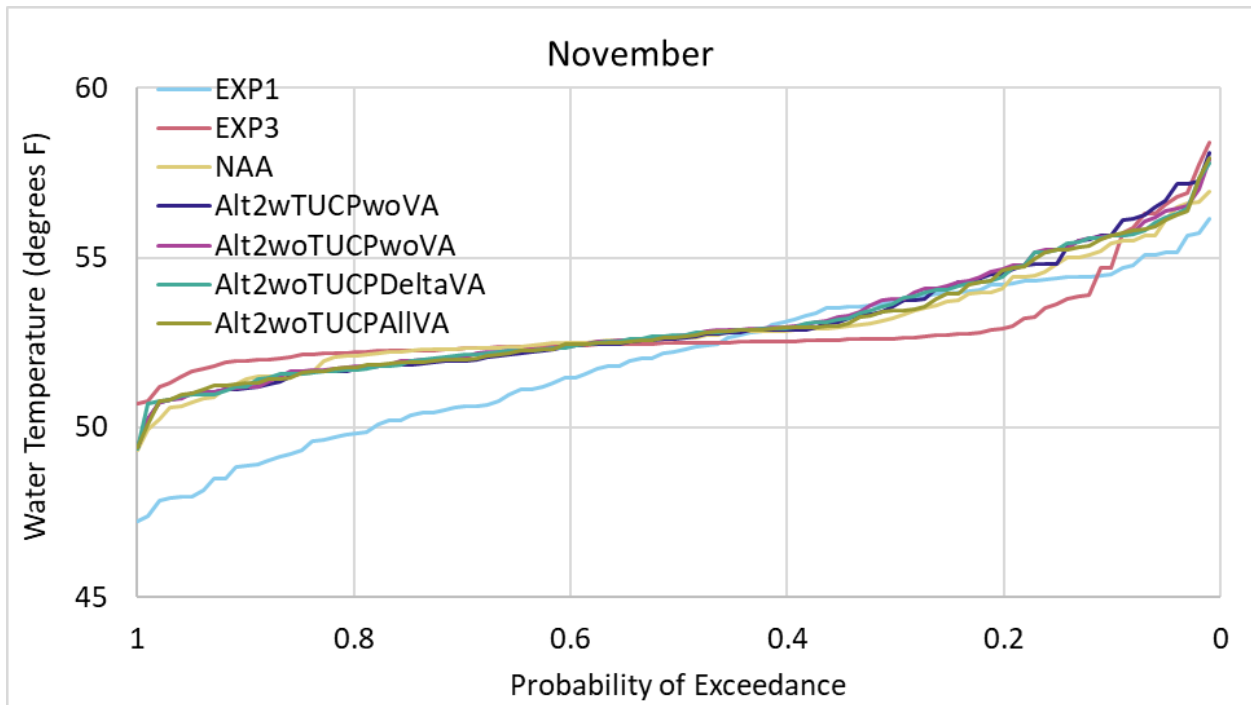


Figure L.2-12. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, November.

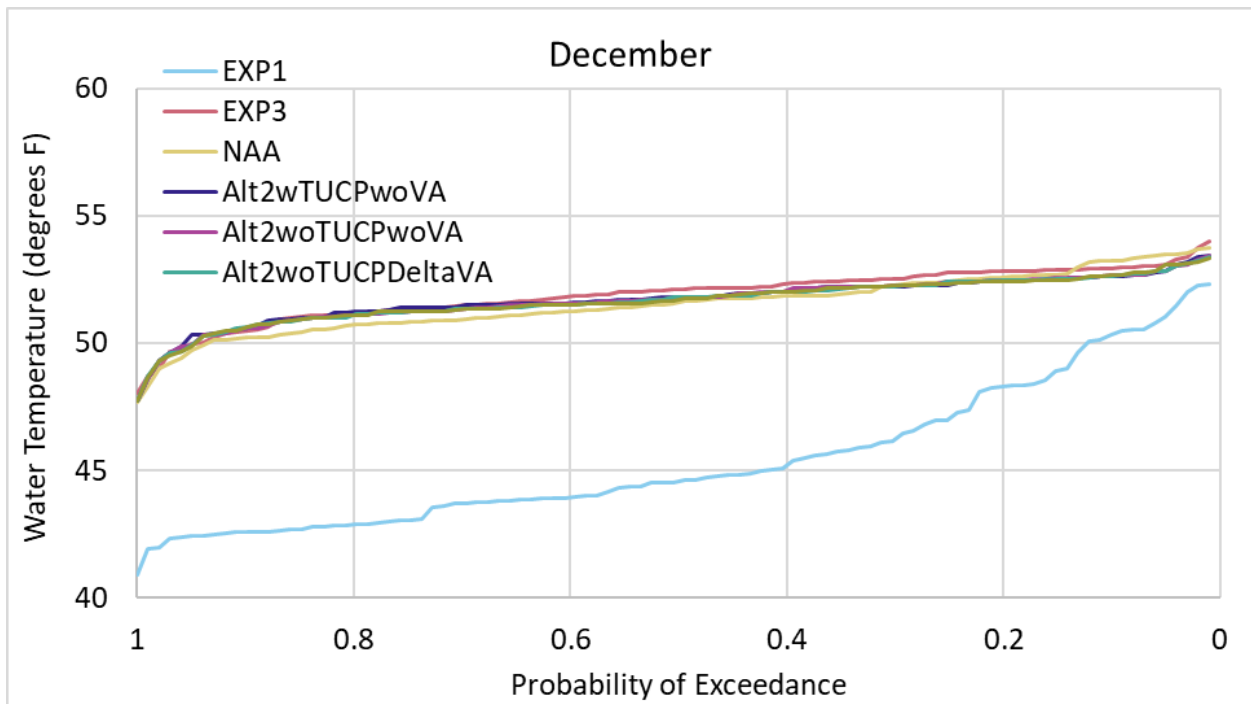


Figure L.2-13. Exceedance plot of modeled water temperatures, Sacramento River below Keswick, December.

### Sacramento River below Clear Creek

Figure L.2-14 presents exceedance curves of modeled monthly water temperatures in the Sacramento River below Clear Creek for all months combined for each model scenario. Figure L.2-15 through Figure L.2-26 present exceedance curves of modeled monthly water temperatures in the Sacramento River below Clear Creek for each month separately.

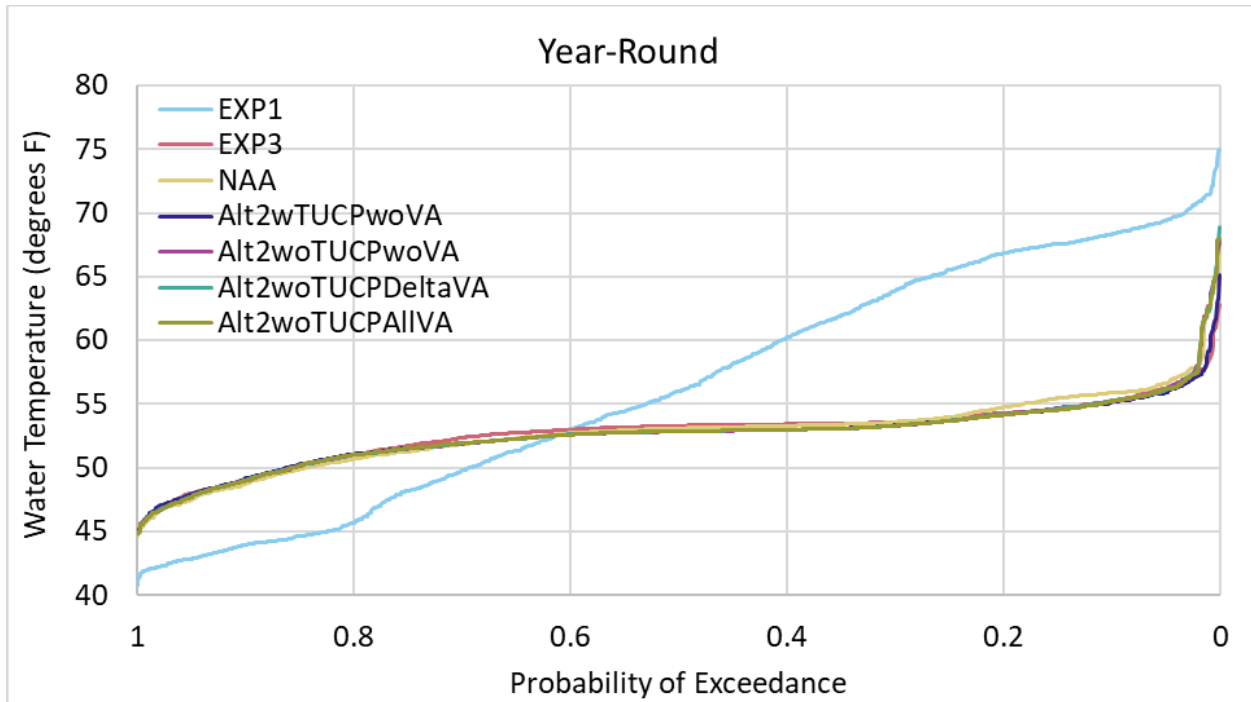


Figure L.2-14. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, year-round.

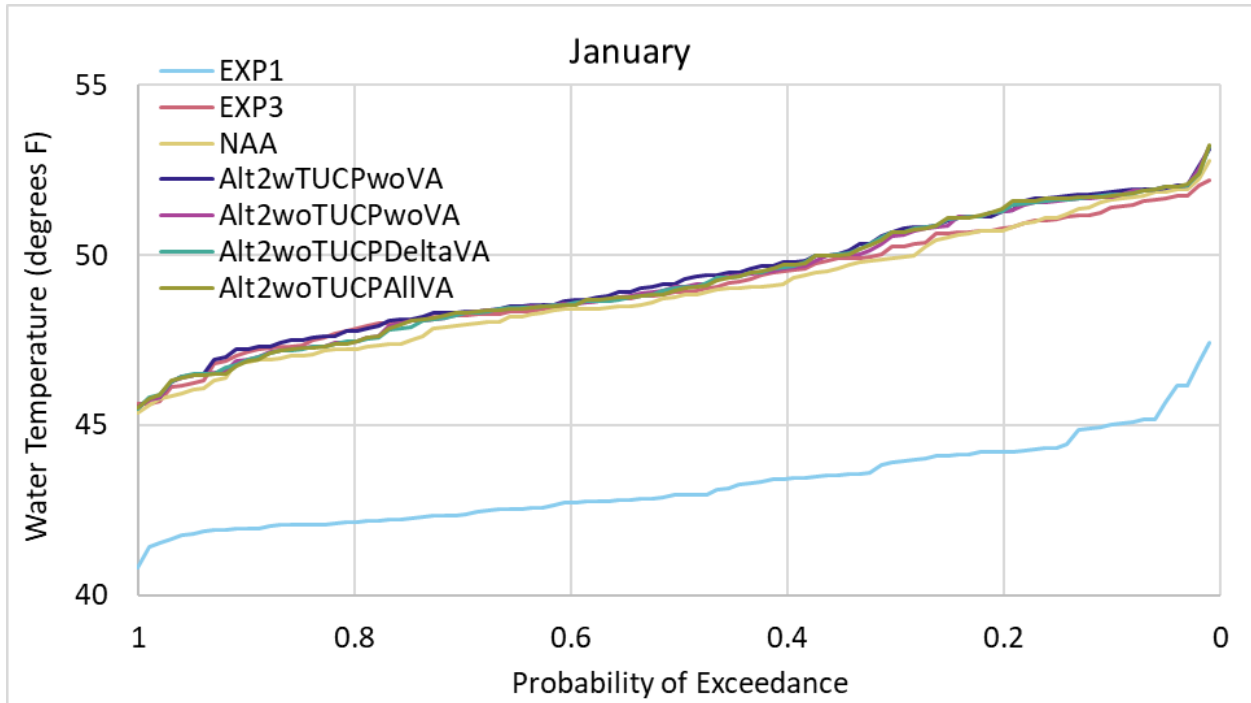


Figure L.2-15. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, January.

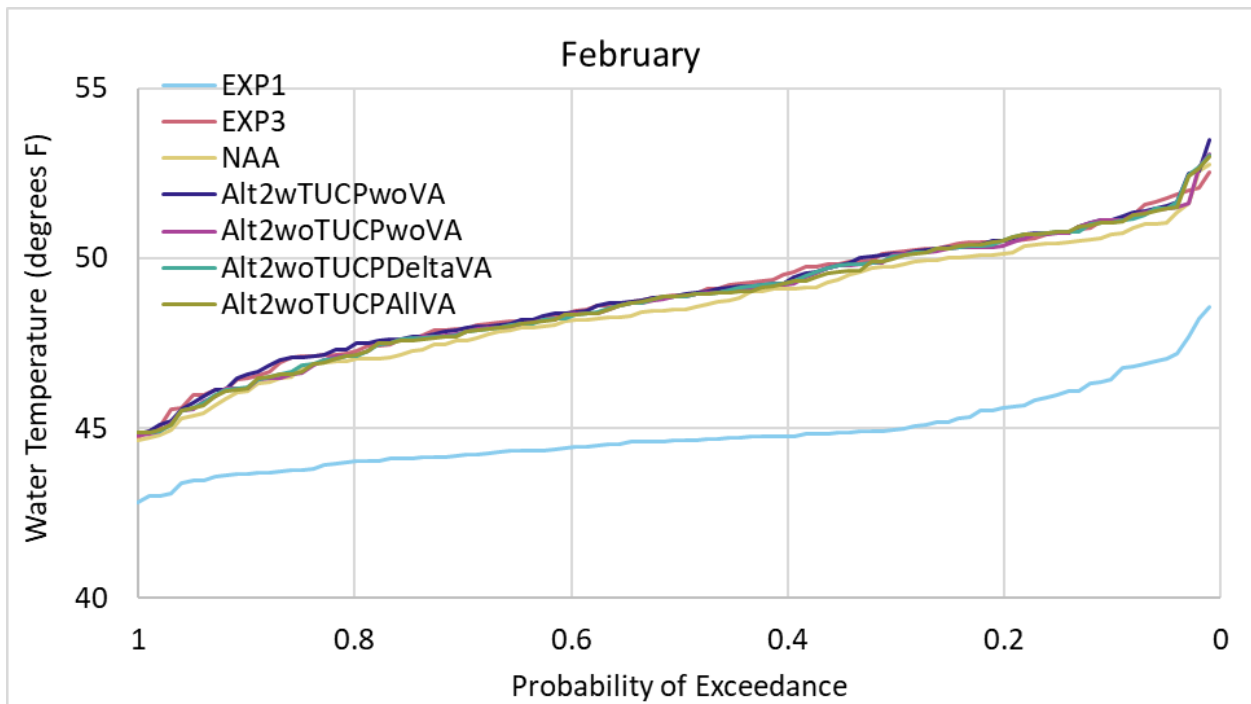


Figure L.2-16. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, February.

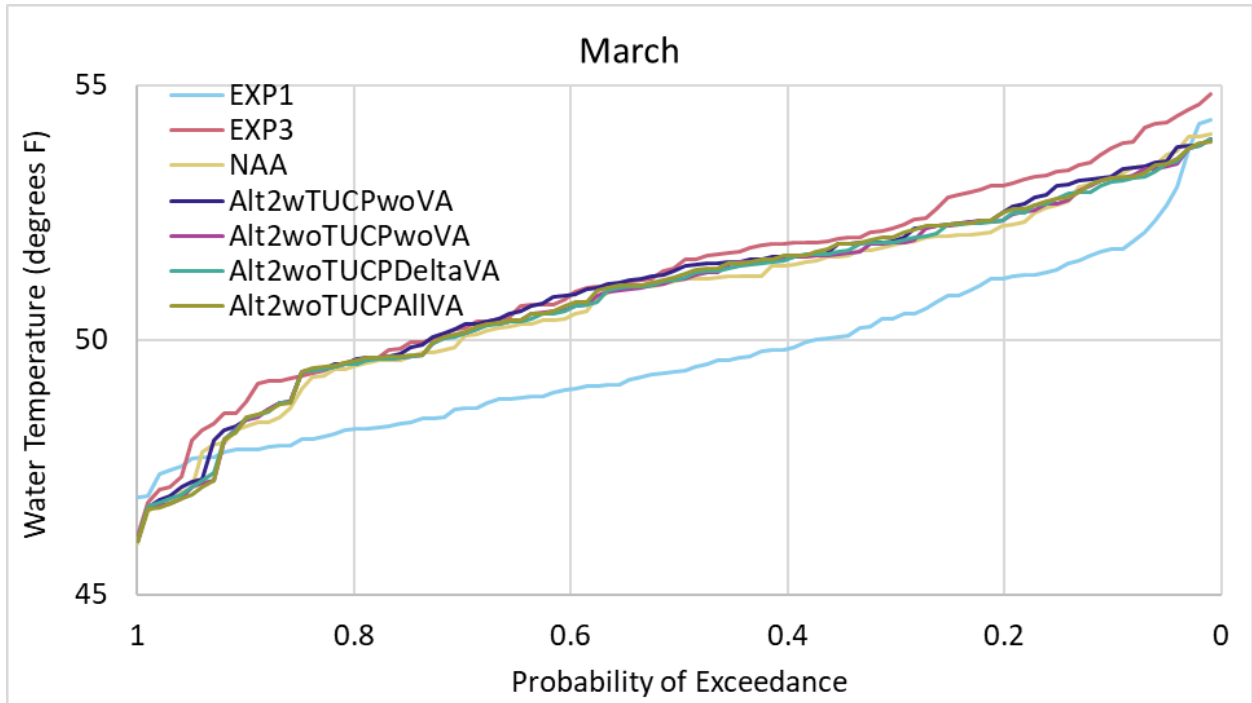


Figure L.2-17. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, March.

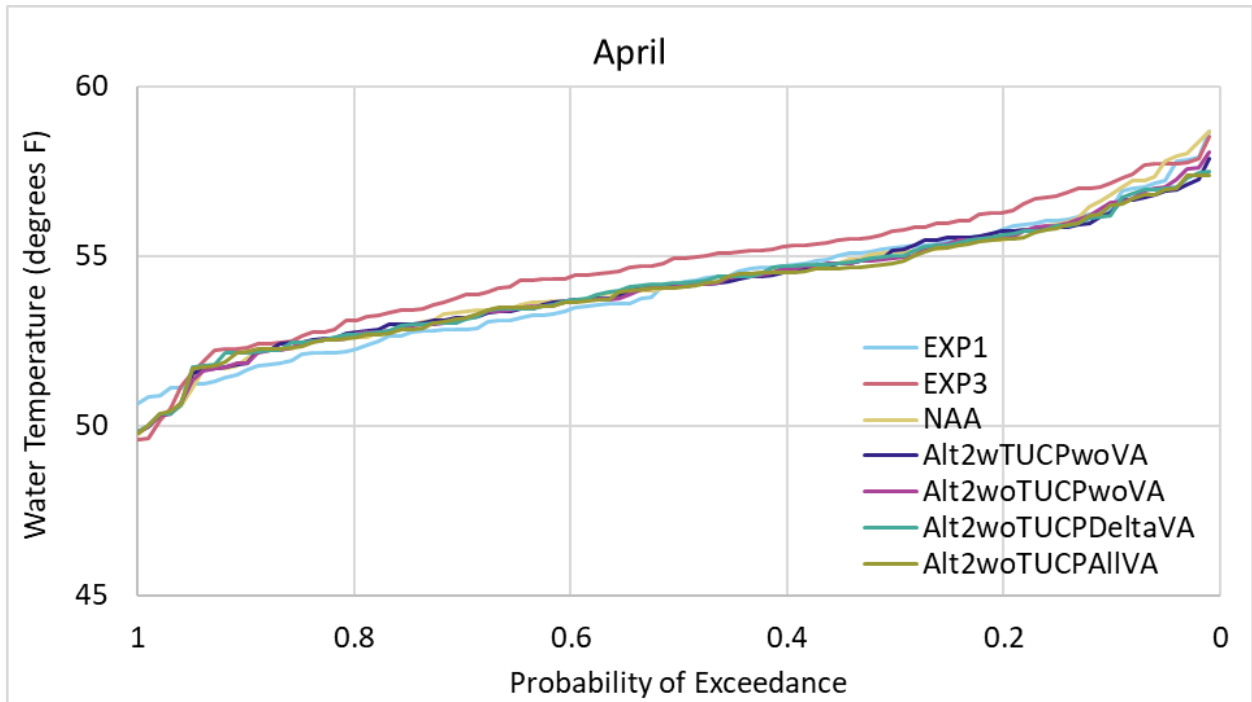


Figure L.2-18. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, April.

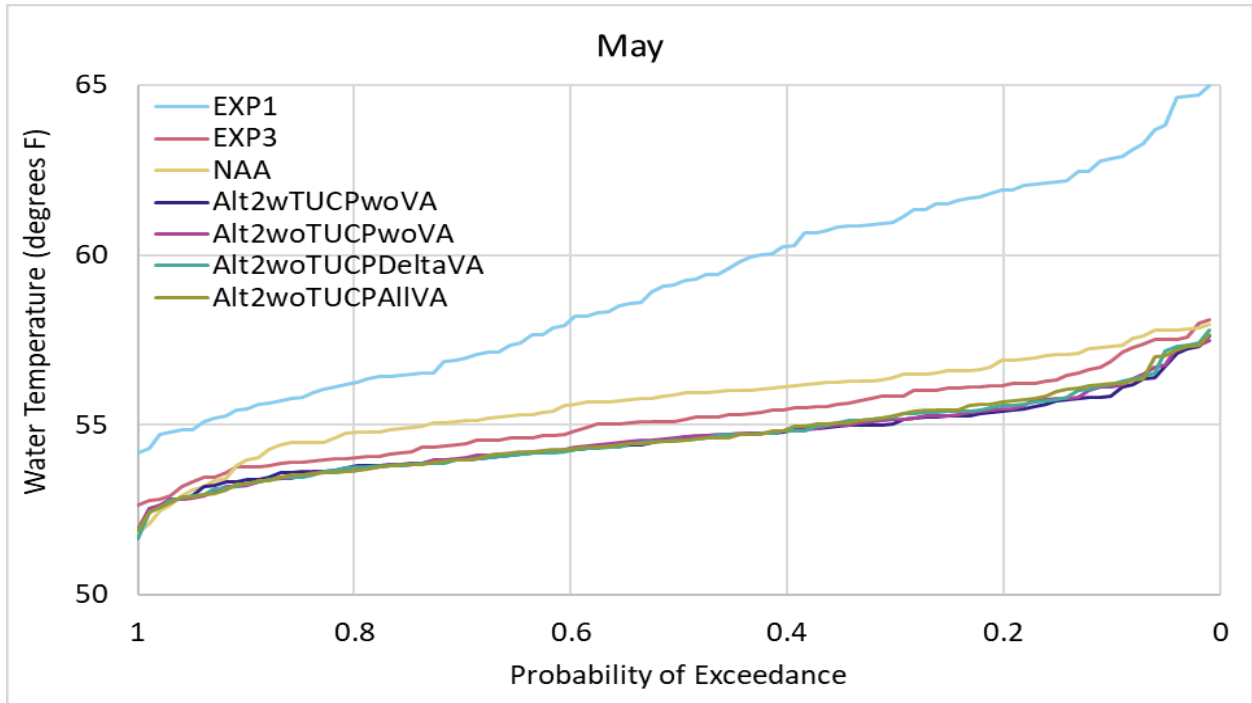


Figure L.2-19. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, May.

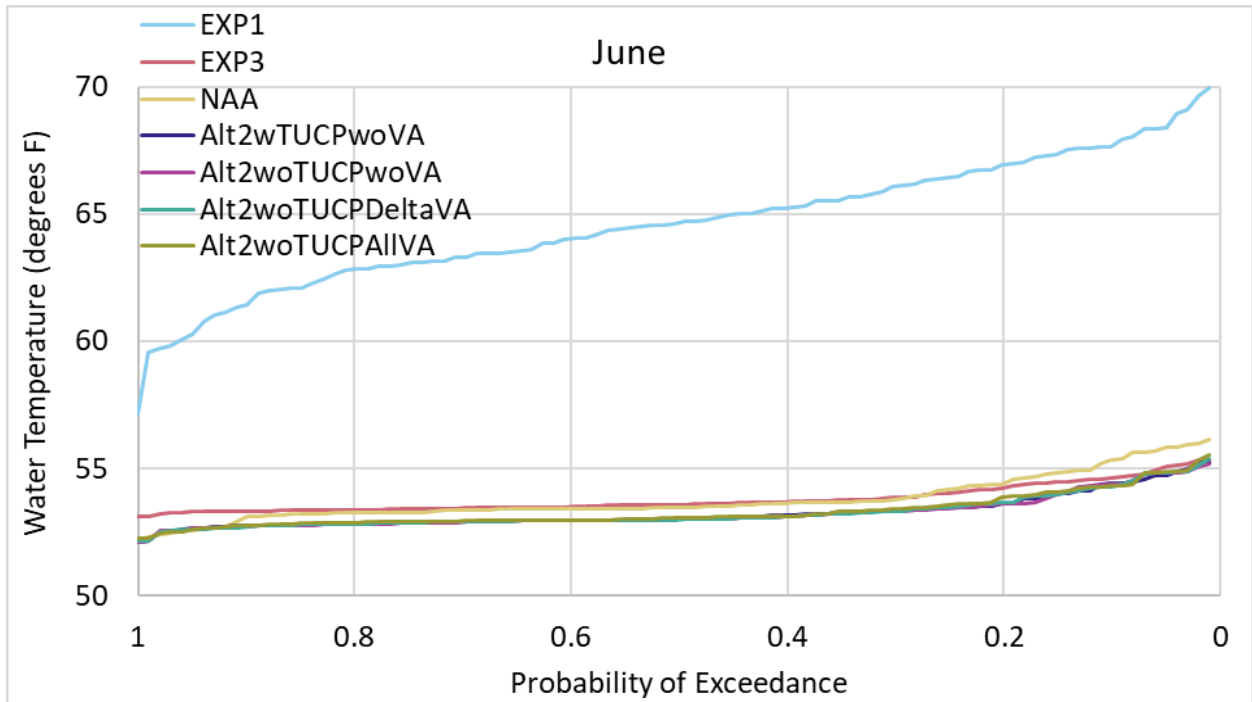


Figure L.2-20. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, June.

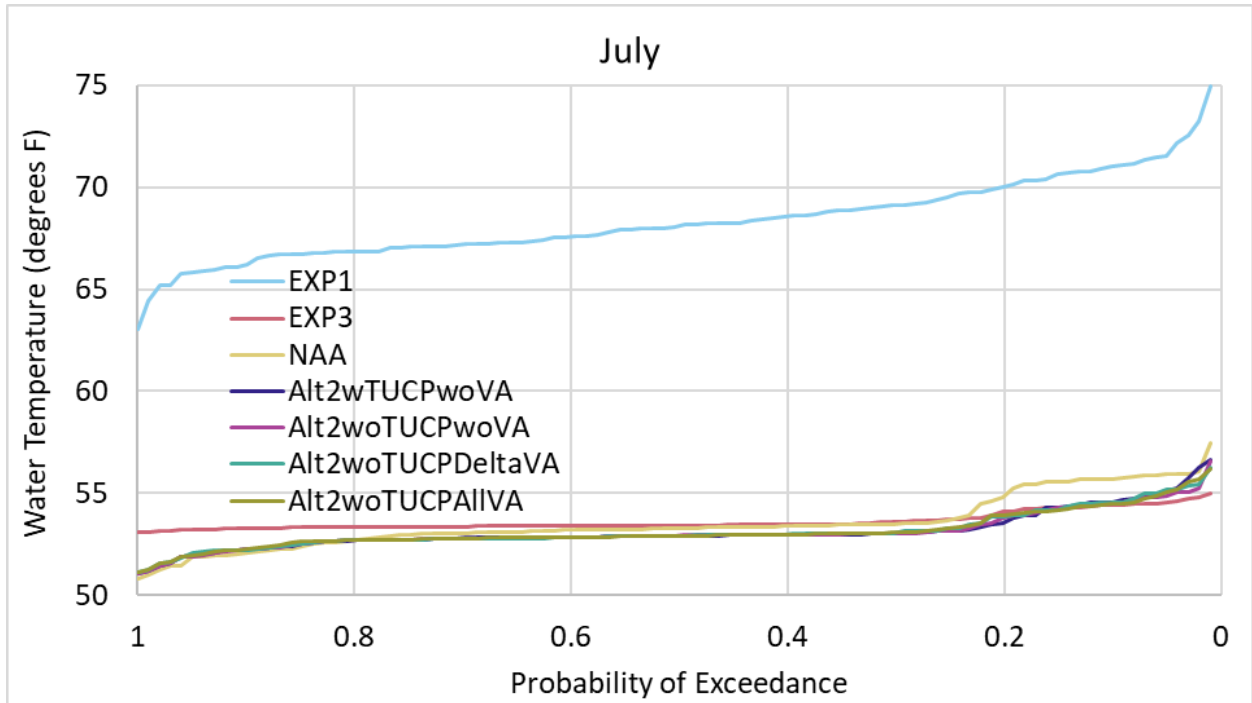


Figure L.2-21. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, July.

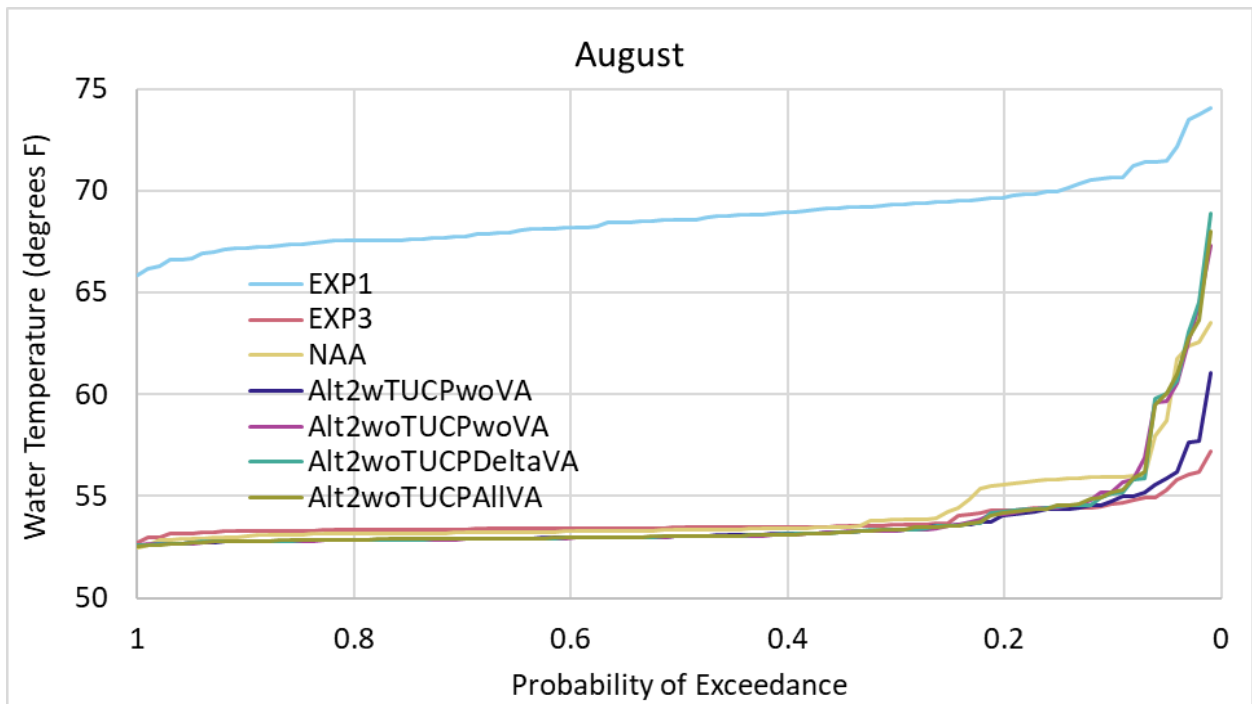


Figure L.2-22. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, August.



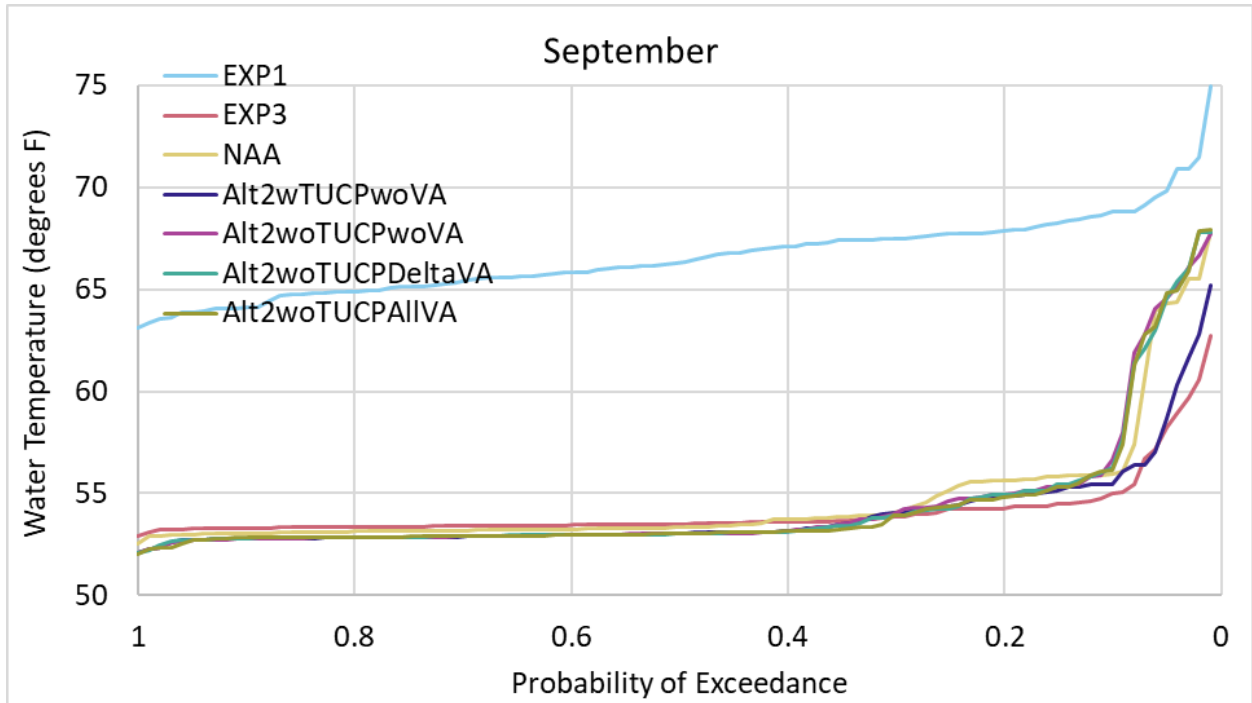


Figure L.2-23. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, September.

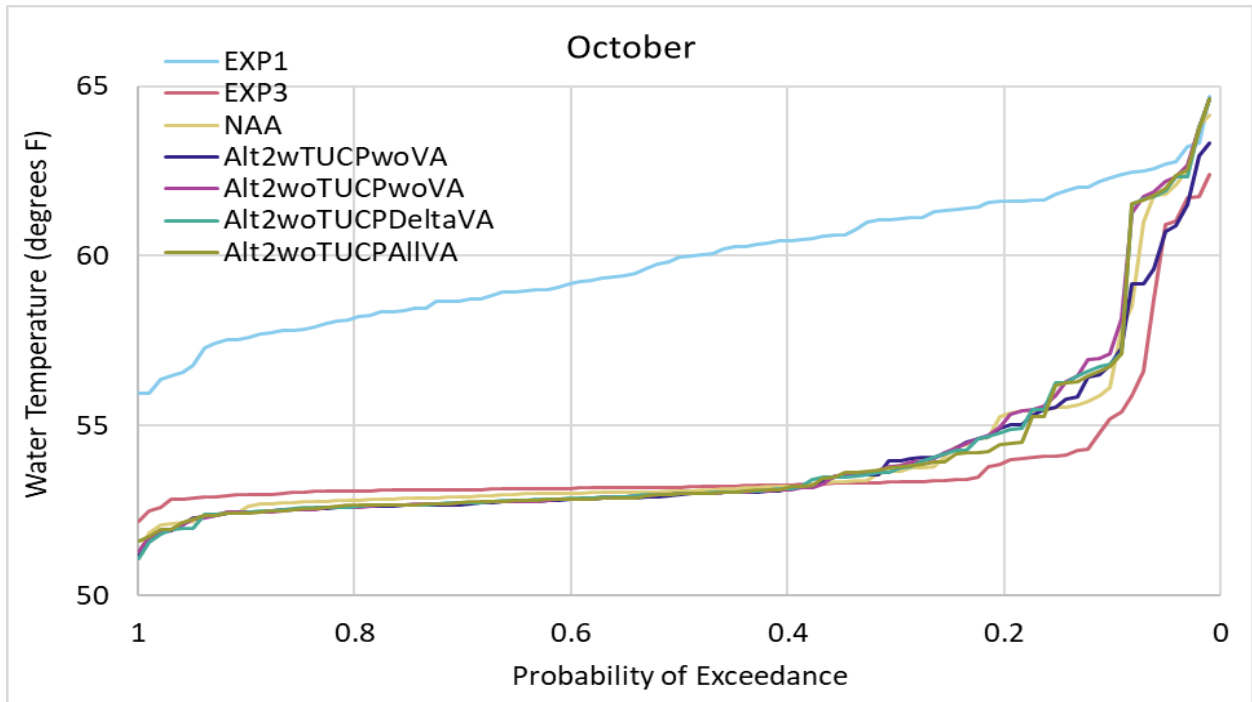


Figure L.2-24. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, October.

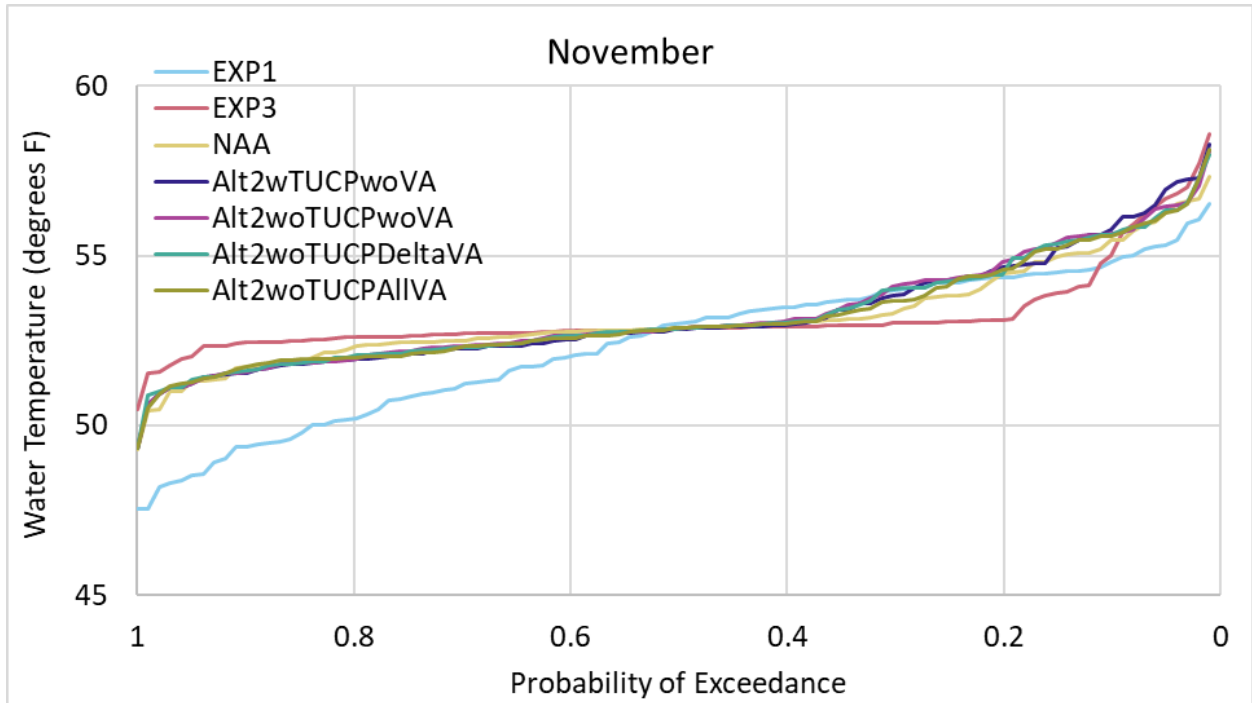


Figure L.2-25. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, November.

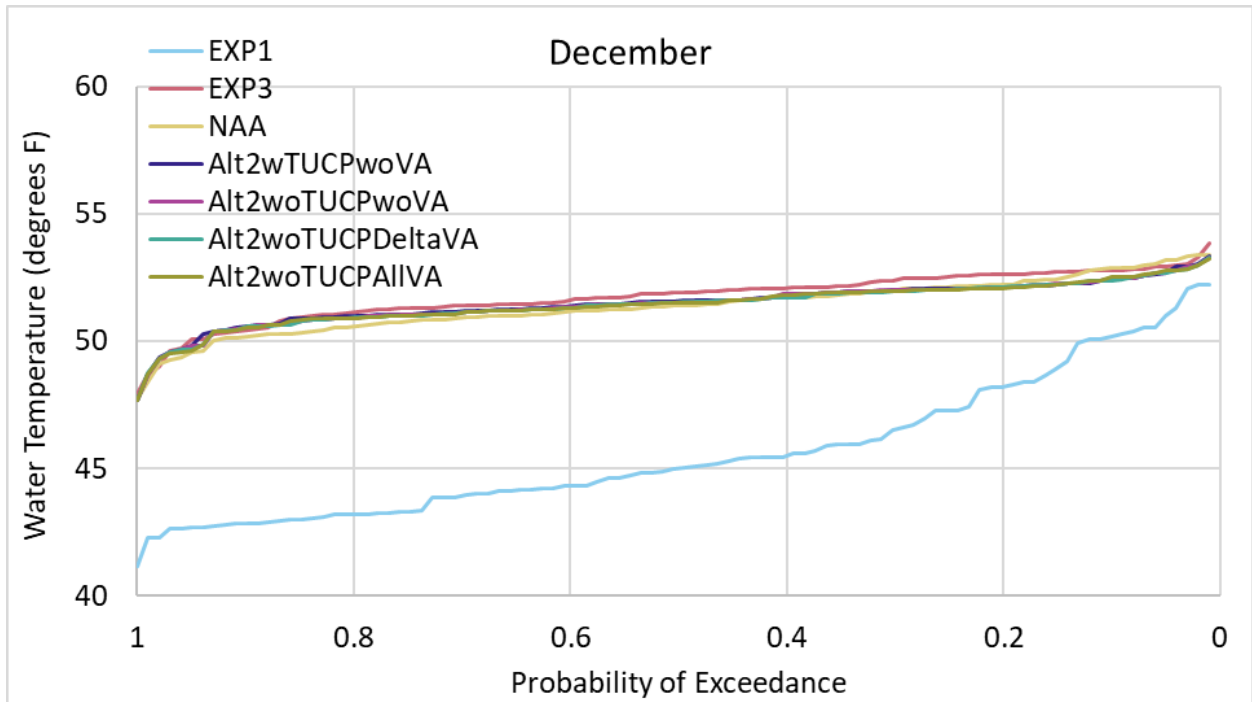


Figure L.2-26. Exceedance plot of modeled water temperatures, Sacramento River below Clear Creek, December.

### Sacramento River at Bend Bridge

Figure L.2-27 presents exceedance curves of modeled monthly water temperatures in the Sacramento River at Bend Bridge for all months combined for each model scenario. Figure L.2-28 through Figure L.2-39 present exceedance curves of modeled monthly water temperatures in the Sacramento River at Bend Bridge for each month separately.

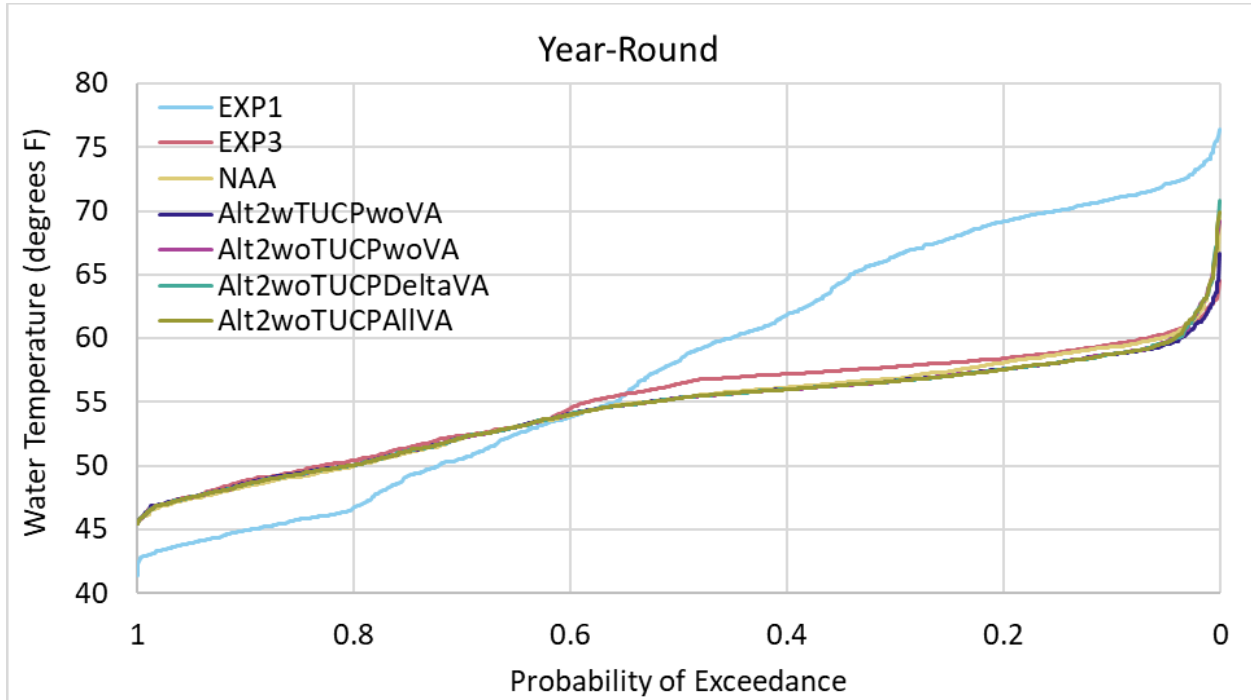


Figure L.2-27. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, year-round.

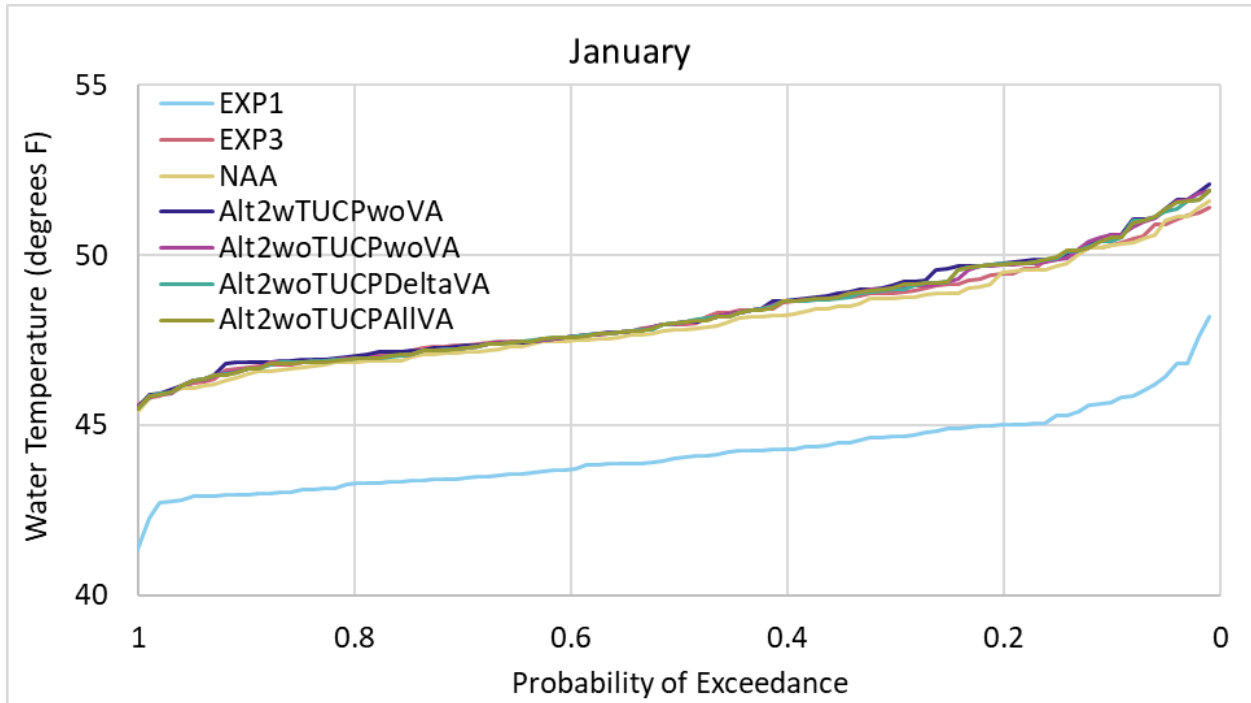


Figure L.2-28. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, January.

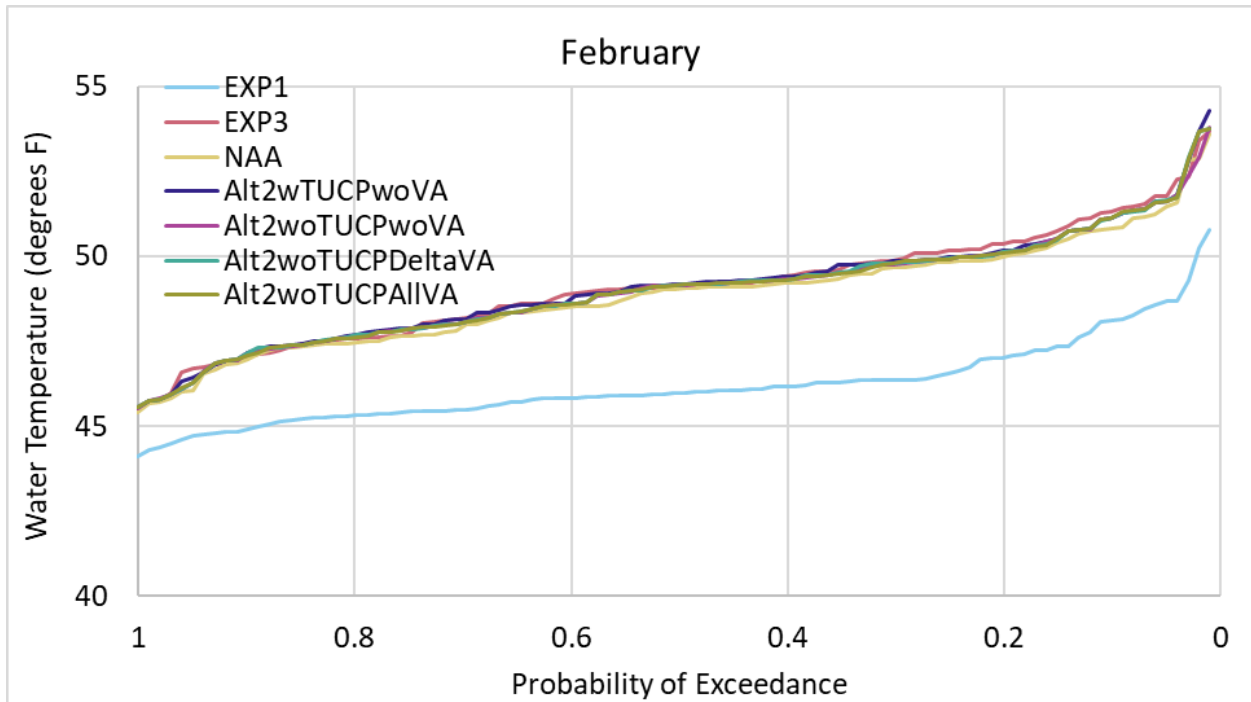


Figure L.2-29. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, February.

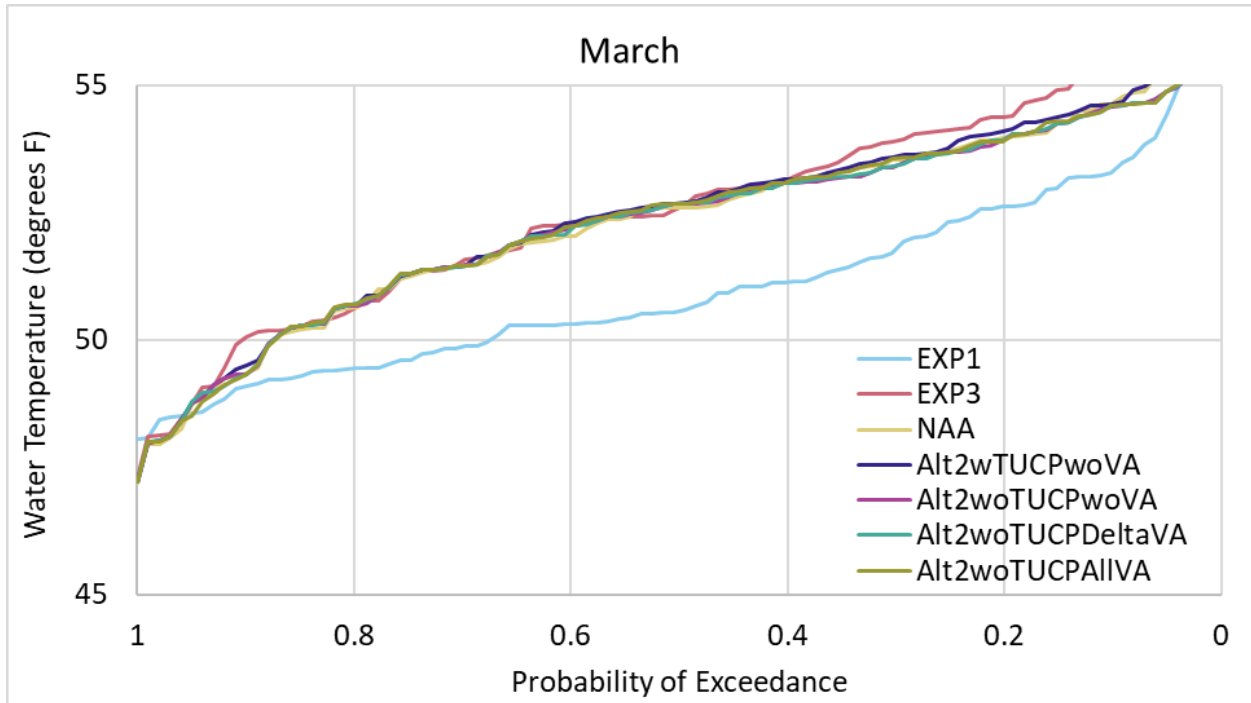


Figure L.2-30. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, March.

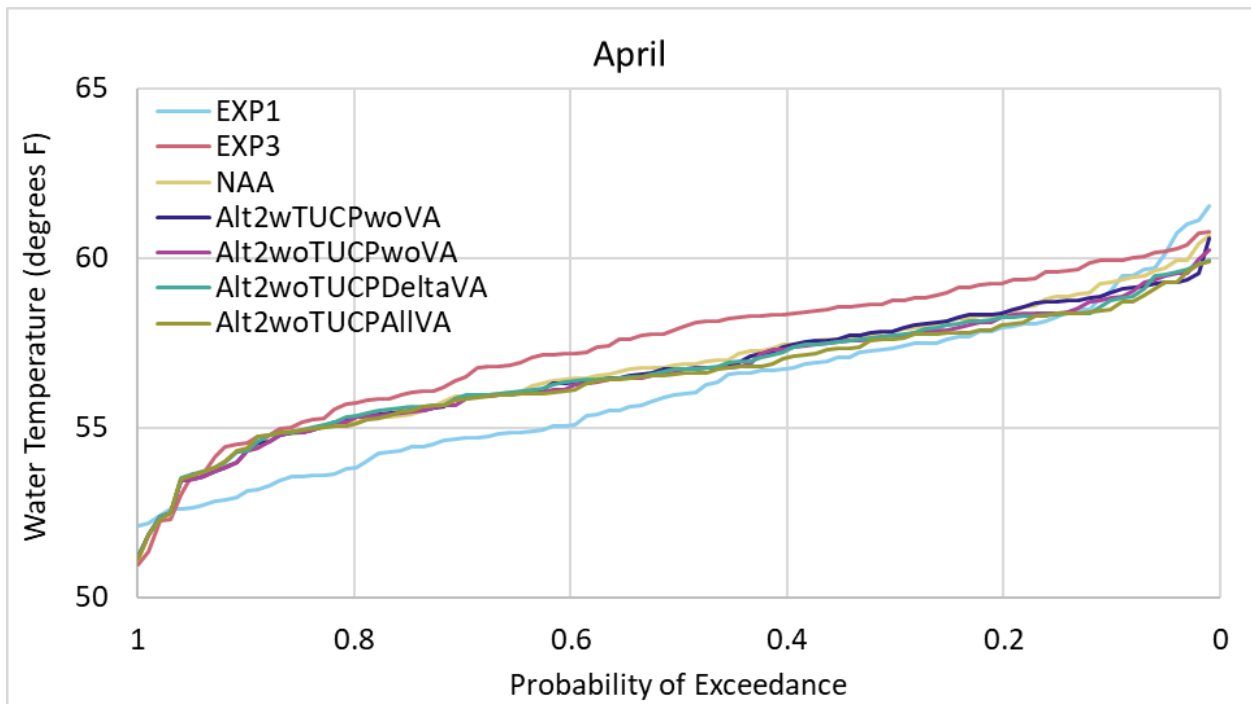


Figure L.2-31. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, April.

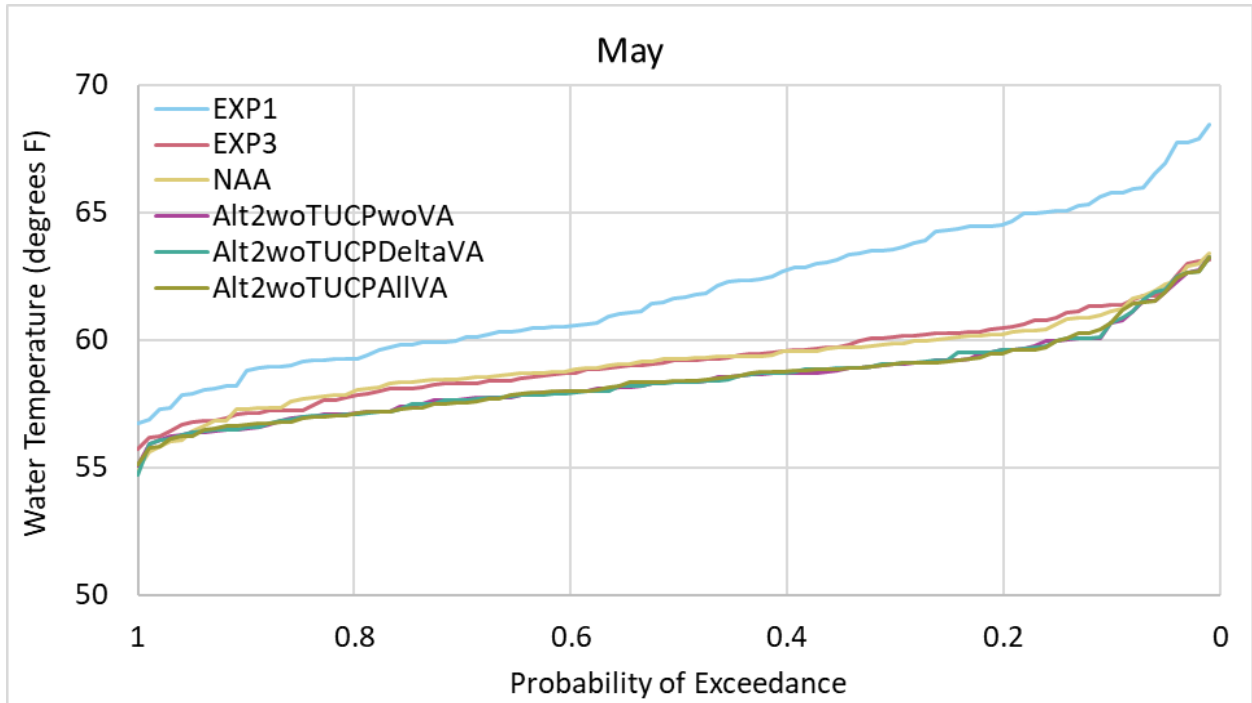


Figure L.2-32. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, May.

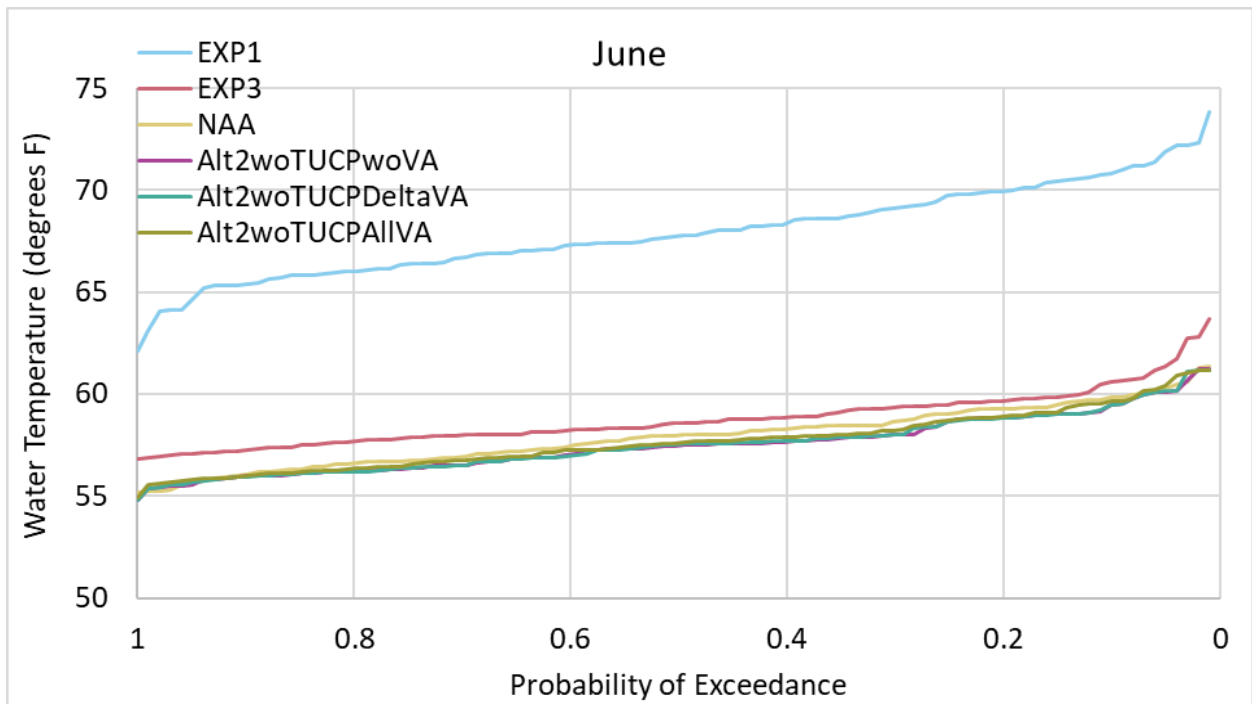


Figure L.2-33. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, June.

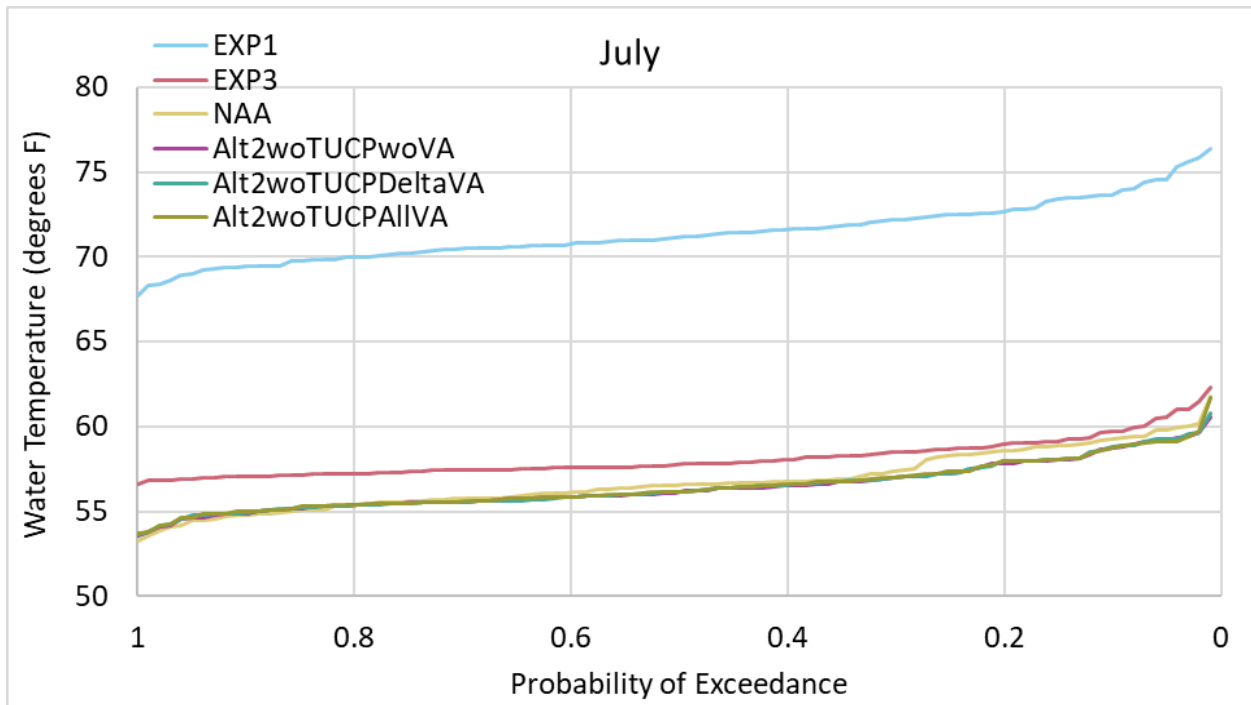


Figure L.2-34. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, July.

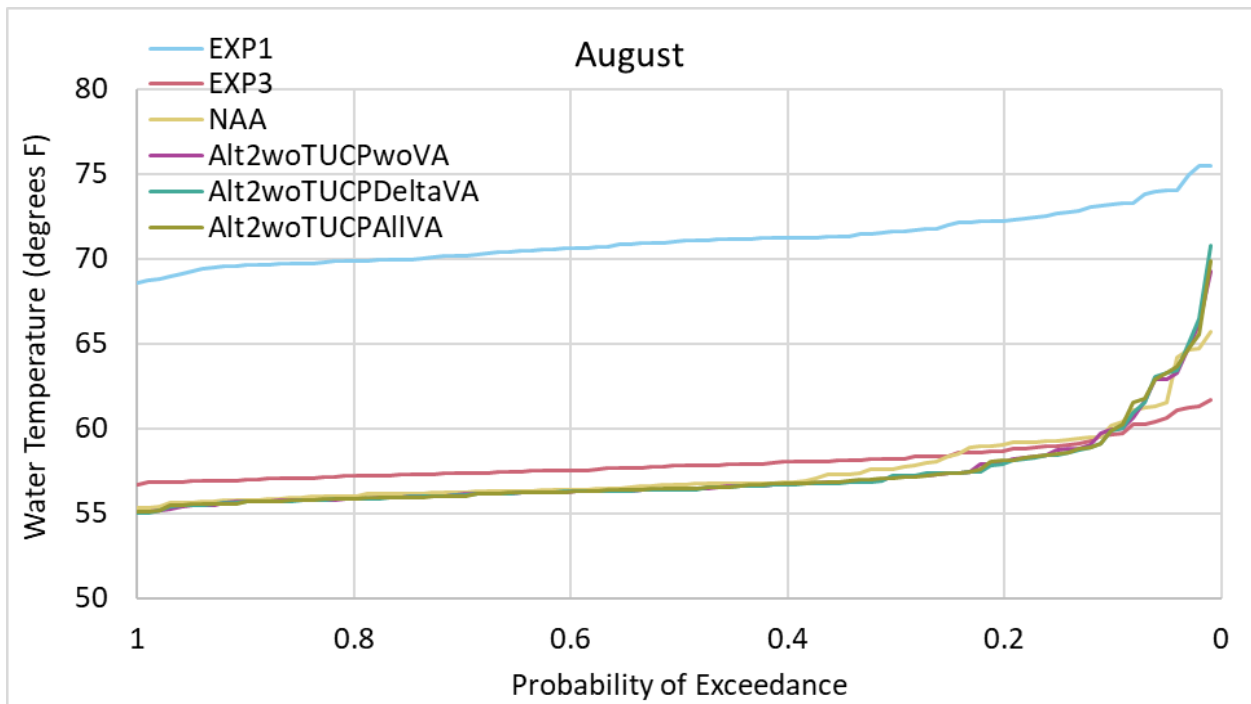


Figure L.2-35. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, August.

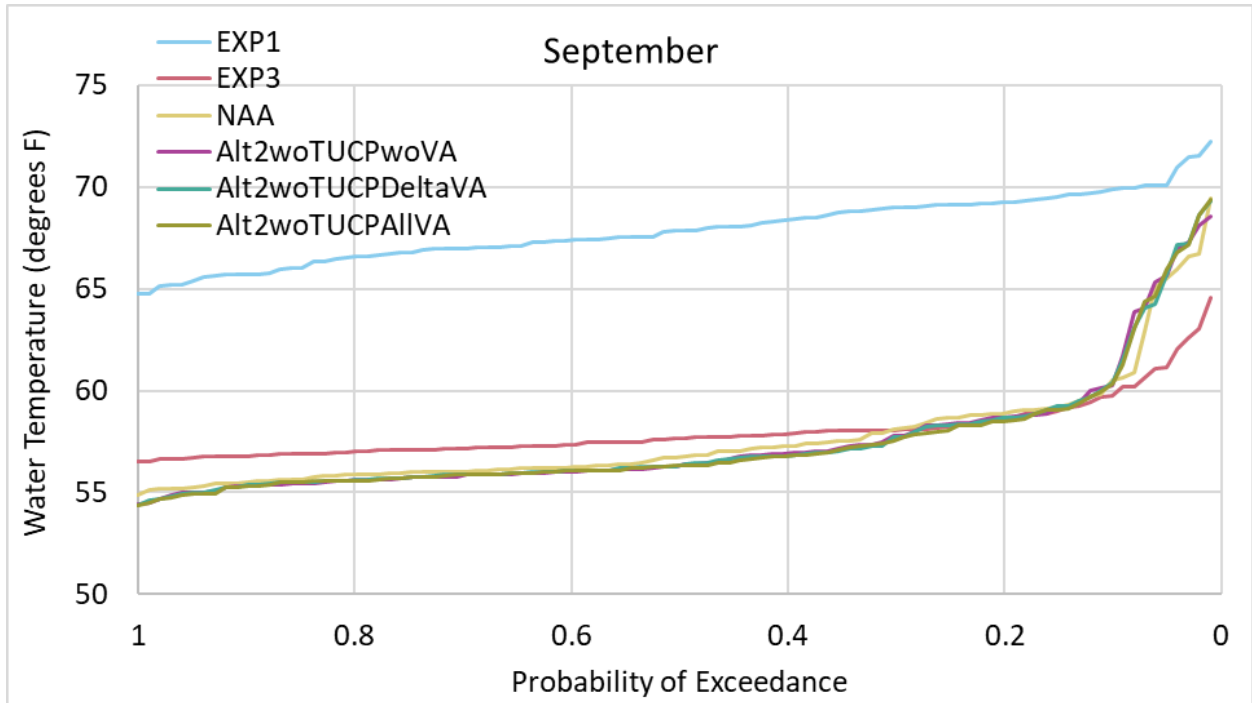


Figure L.2-36. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, September.

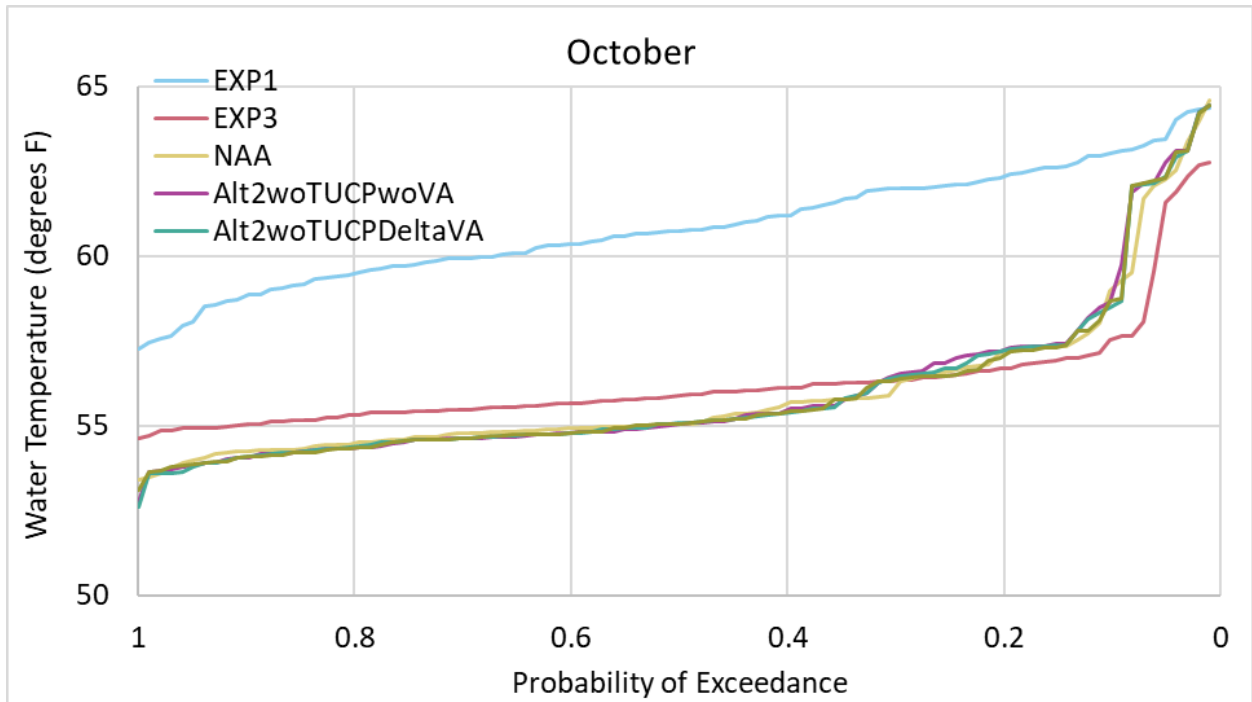


Figure L.2-37. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, October.



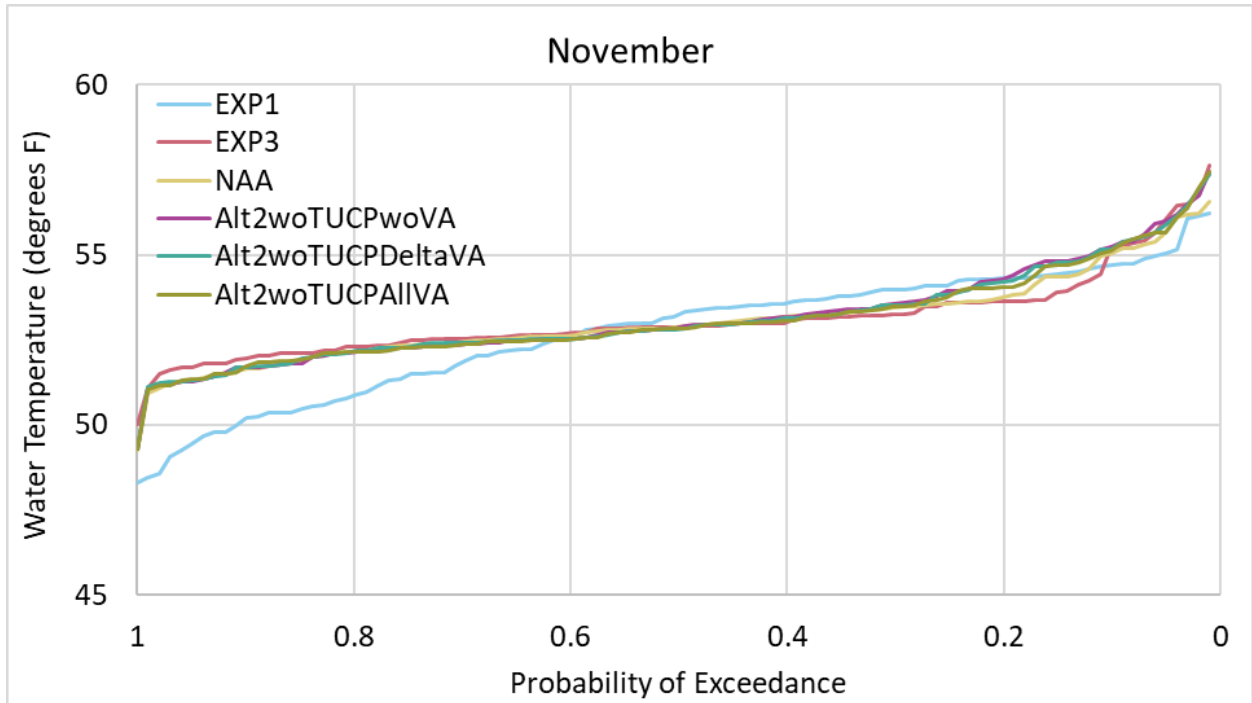


Figure L.2-38. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, November.

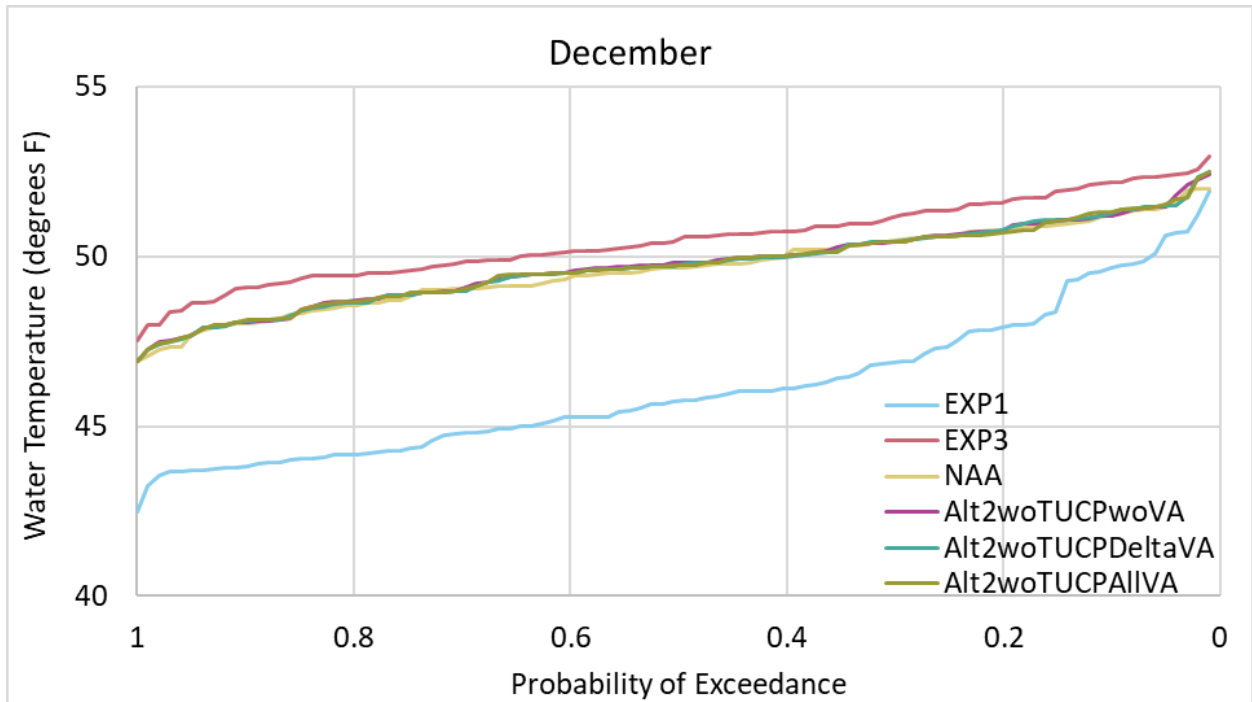


Figure L.2-39. Exceedance plot of modeled water temperatures, Sacramento River at Bend Bridge, December.

### Sacramento River at Red Bluff Diversion Dam

Figure L.2-40 presents exceedance curves of modeled monthly water temperatures in the Sacramento River at Red Bluff Diversion Dam for all months combined for each model scenario. Figure L.2-41 through Figure L.2-52 present exceedance curves of modeled monthly water temperatures in the Sacramento River at Red Bluff Diversion Dam for each month separately.

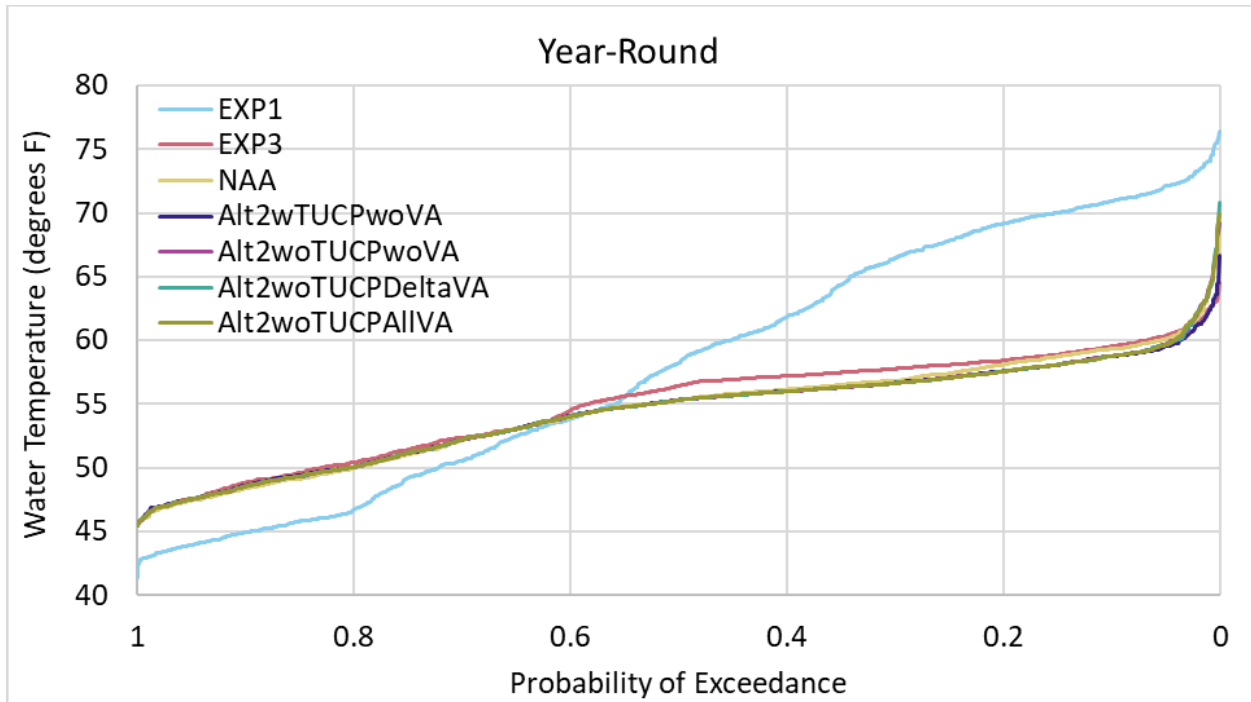


Figure L.2-40. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, year-round.

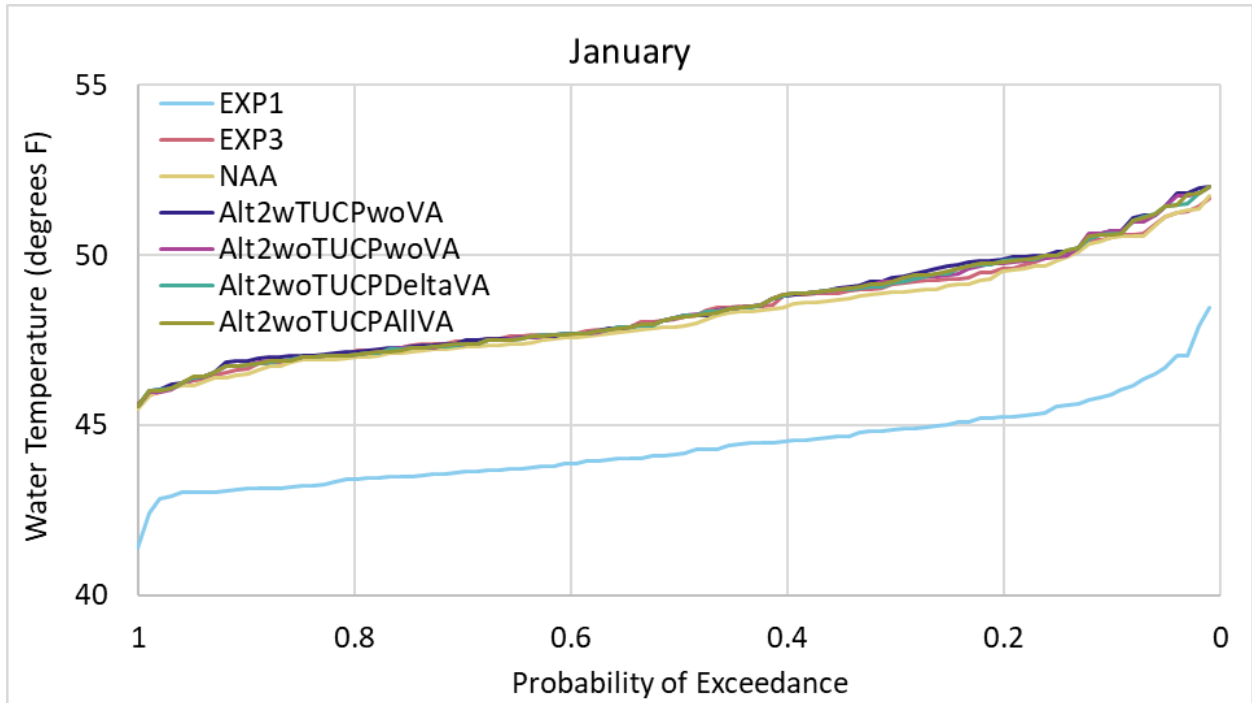


Figure L.2-41. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, January.

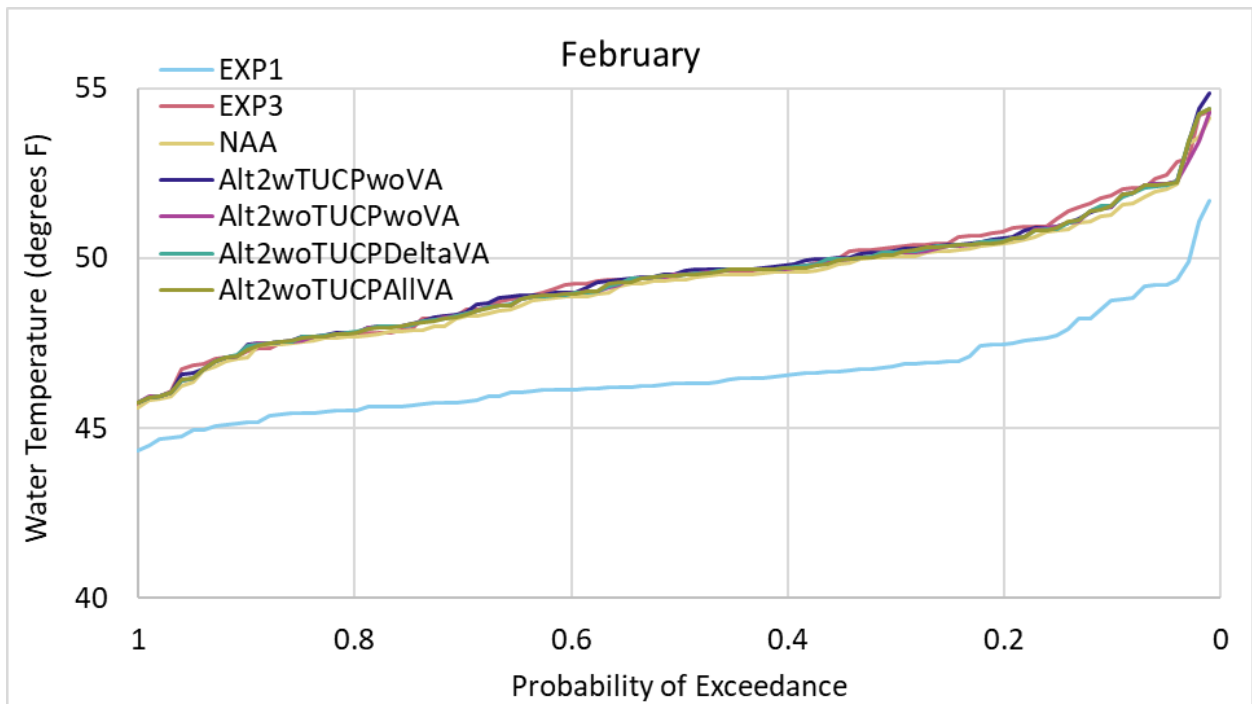


Figure L.2-42. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, February.

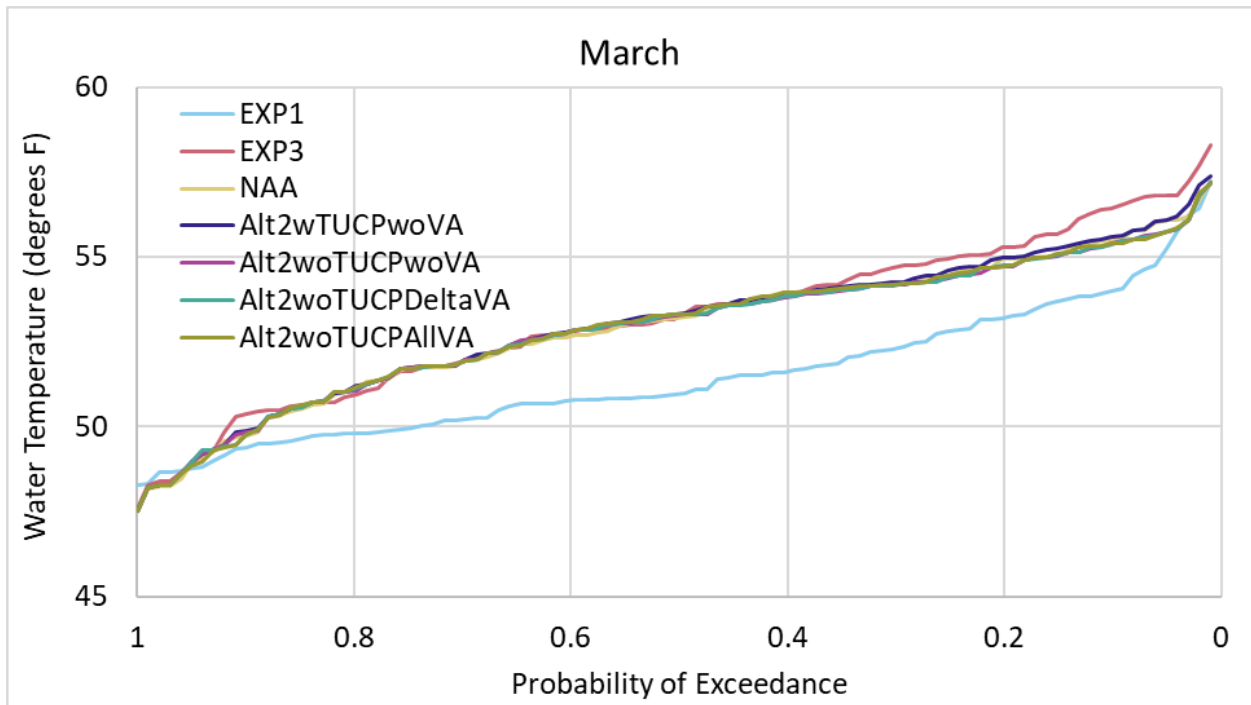


Figure L.2-43. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, March.

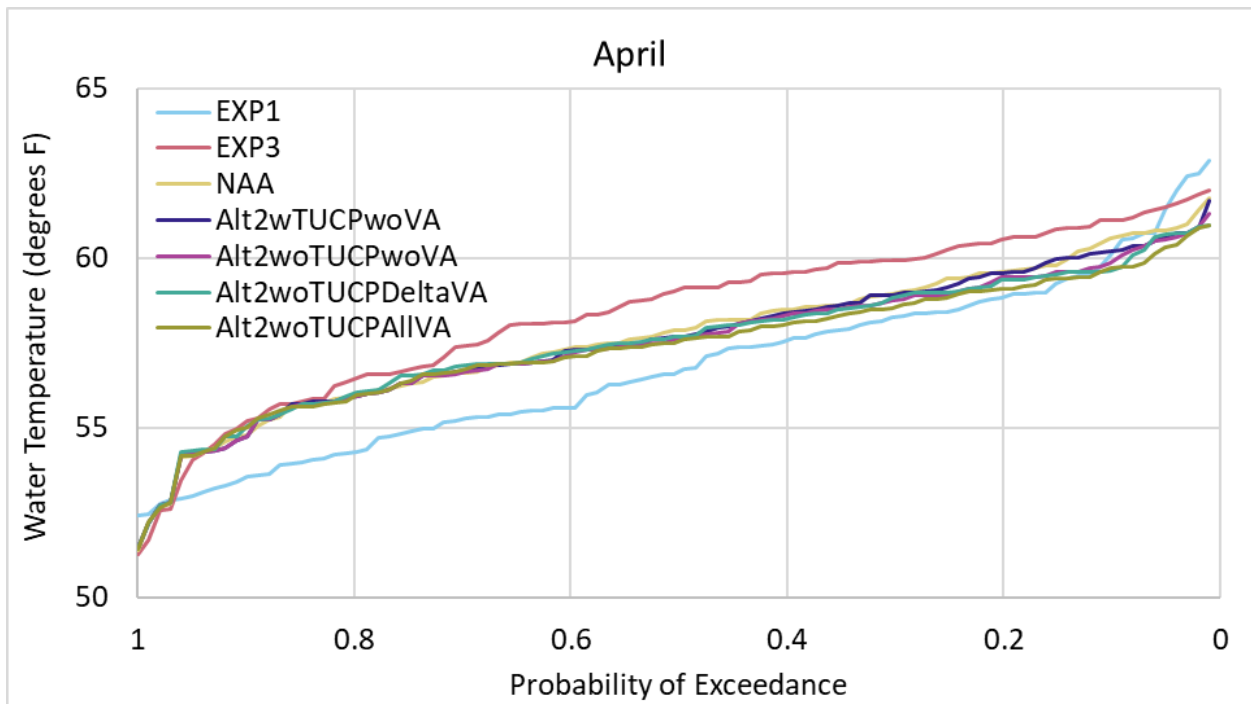


Figure L.2-44. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, April.

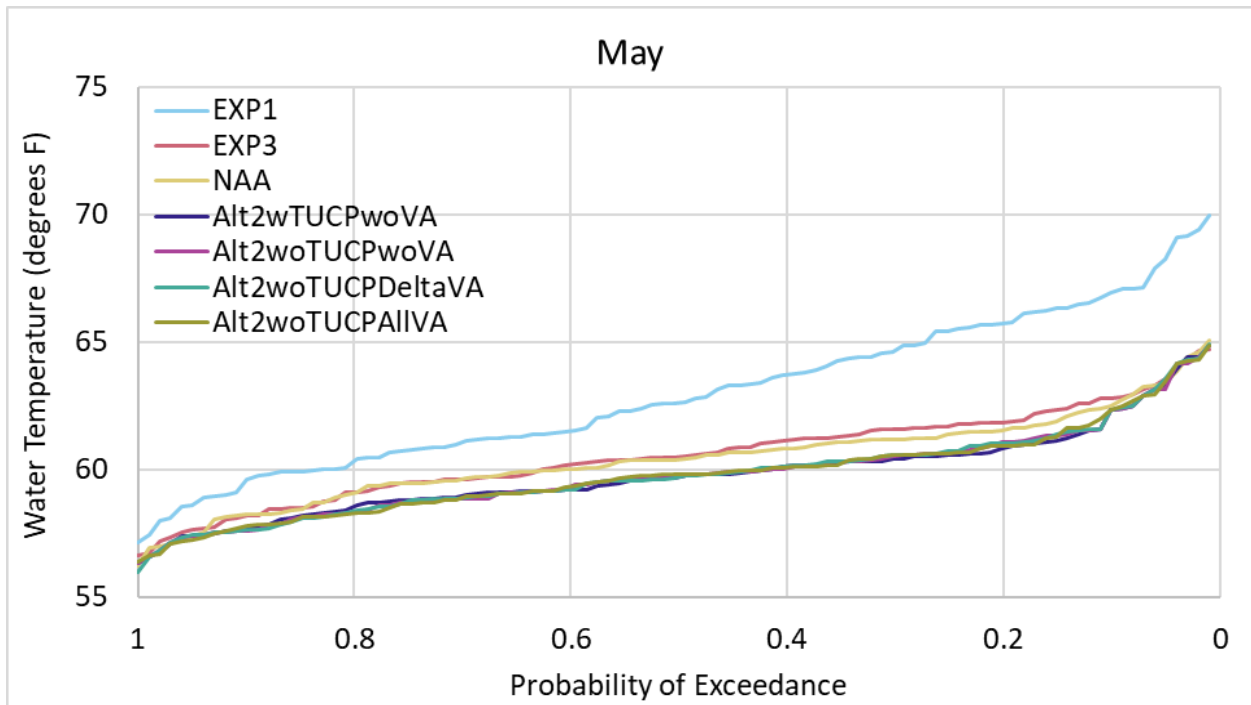


Figure L.2-45. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, May.

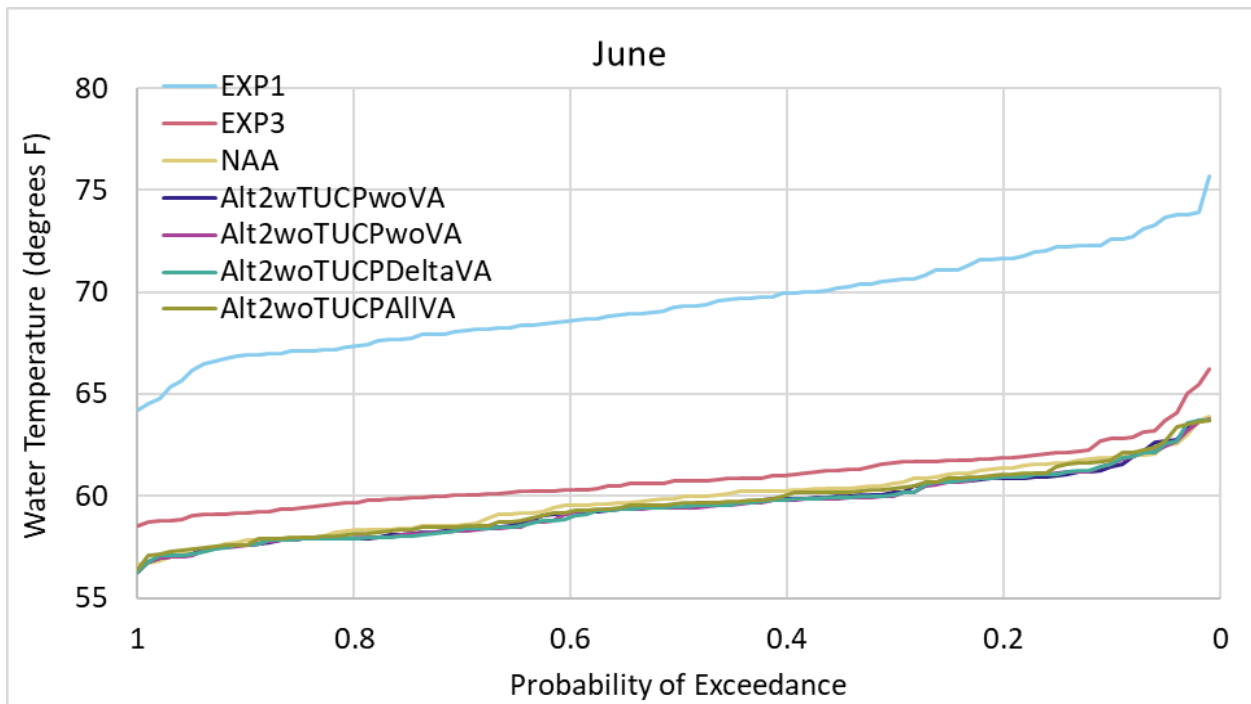


Figure L.2-46. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, June.

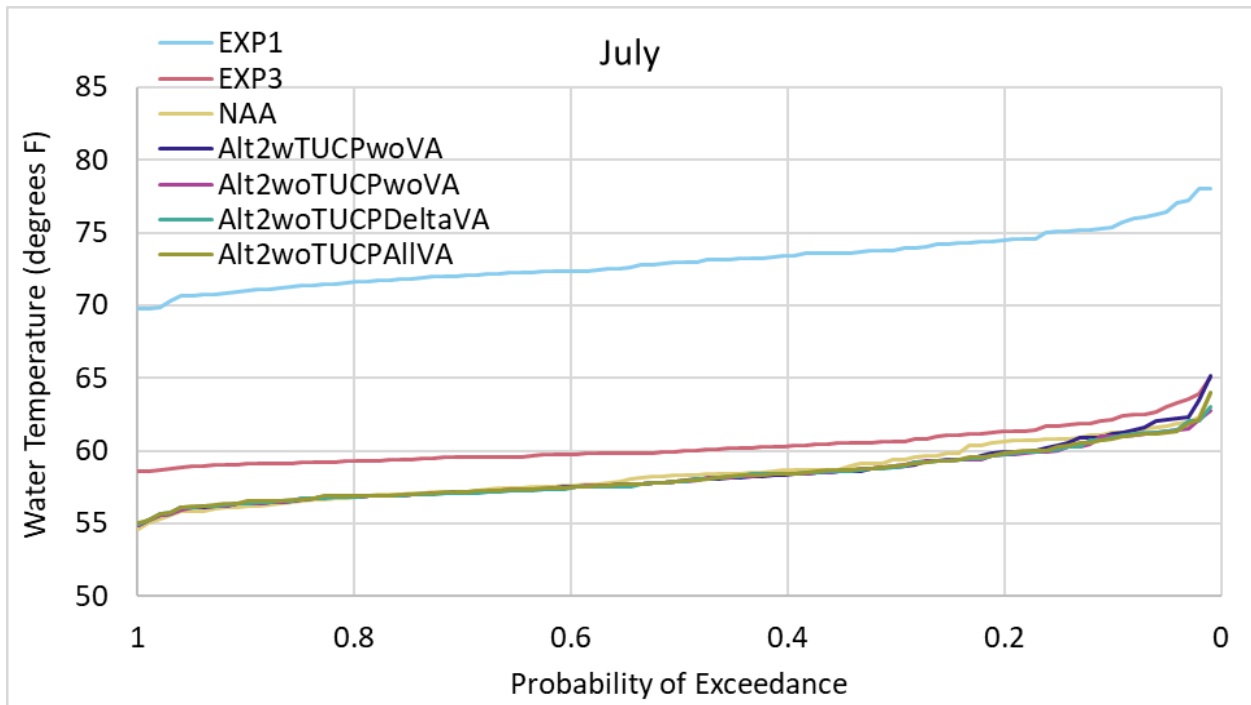


Figure L.2-47. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, July.

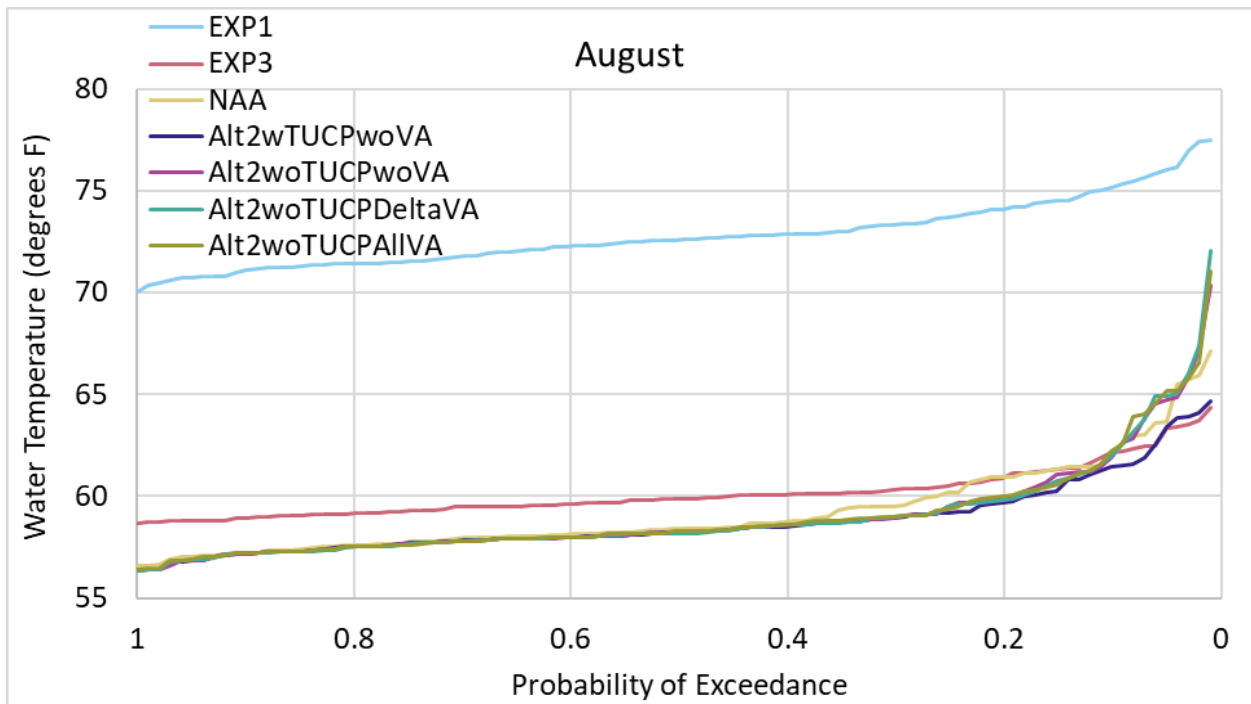


Figure L.2-48. Exceedance plot of modeled water temperatures, Sacramento River at Be Red Bluff Diversion Dam, August.

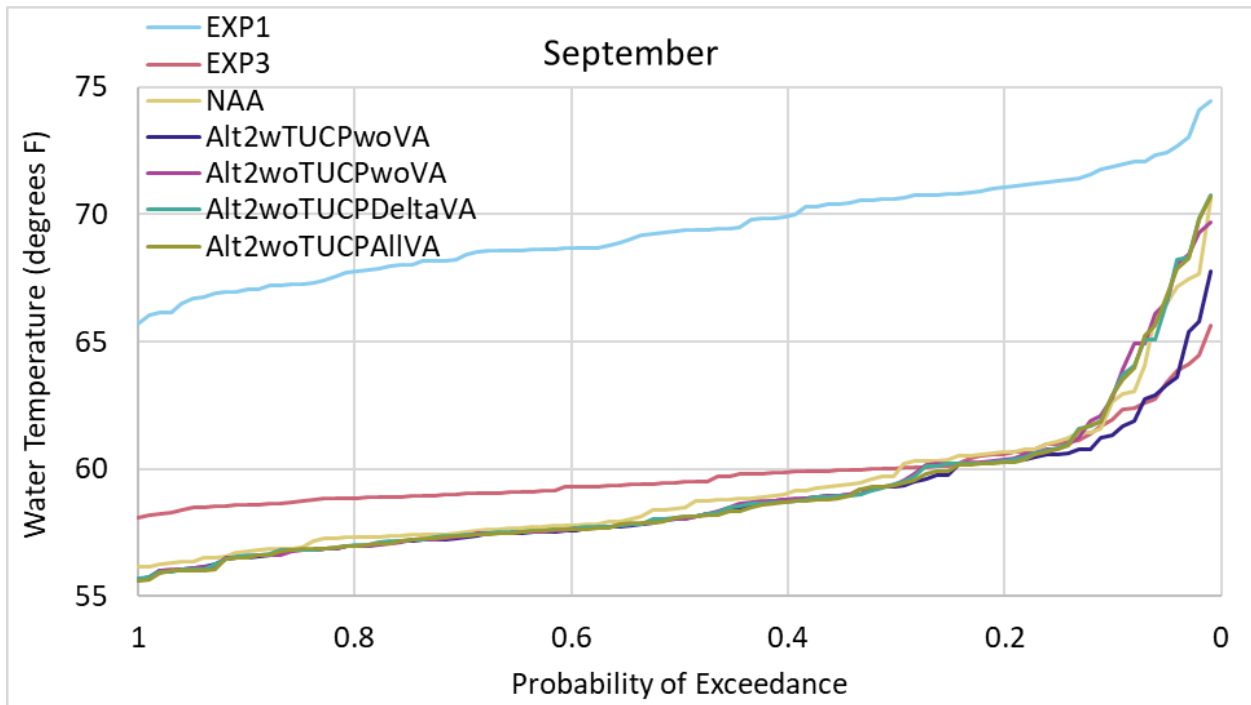


Figure L.2-49. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, September.

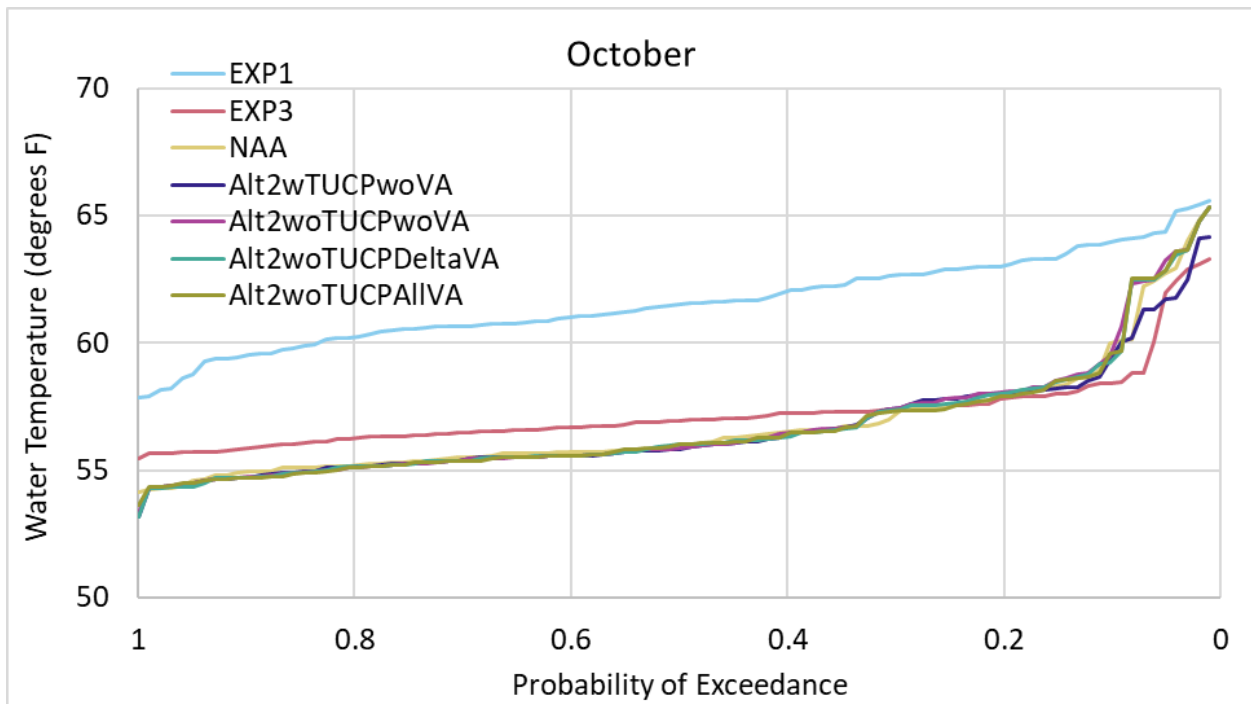


Figure L.2-50. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, October.

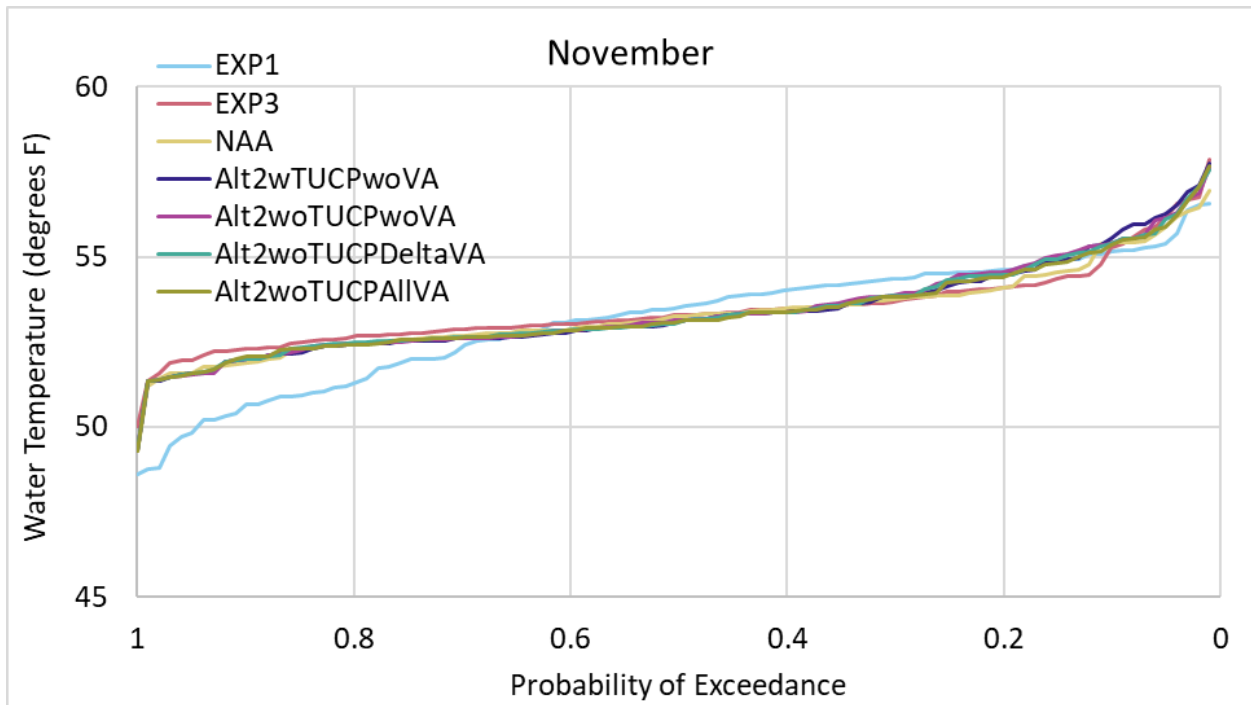


Figure L.2-51. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, November.

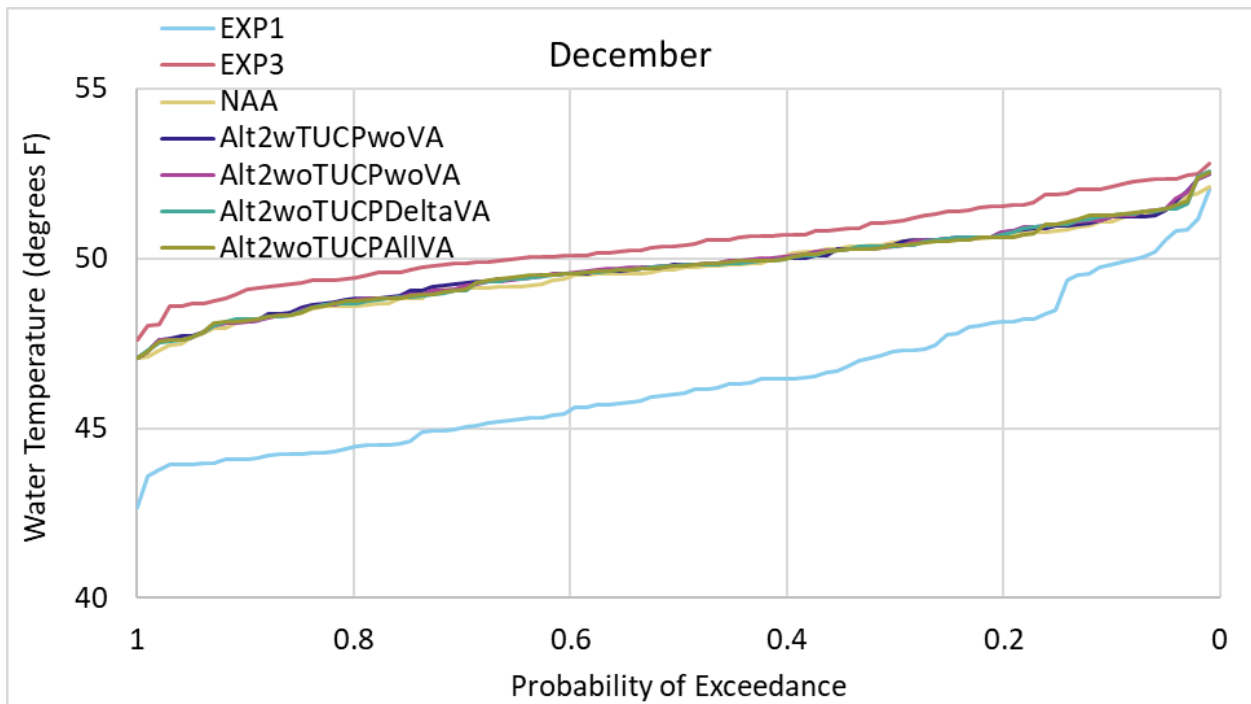


Figure L.2-52. Exceedance plot of modeled water temperatures, Sacramento River at Red Bluff Diversion Dam, December.



### Sacramento River at Hamilton City

Figure L.2-53 presents exceedance curves of modeled monthly water temperatures in the Sacramento River at Hamilton City for all months combined for each model scenario. Figure L.2-54 through Figure L.2-65 present exceedance curves of modeled monthly water temperatures in the Sacramento River at Hamilton City for each month separately.

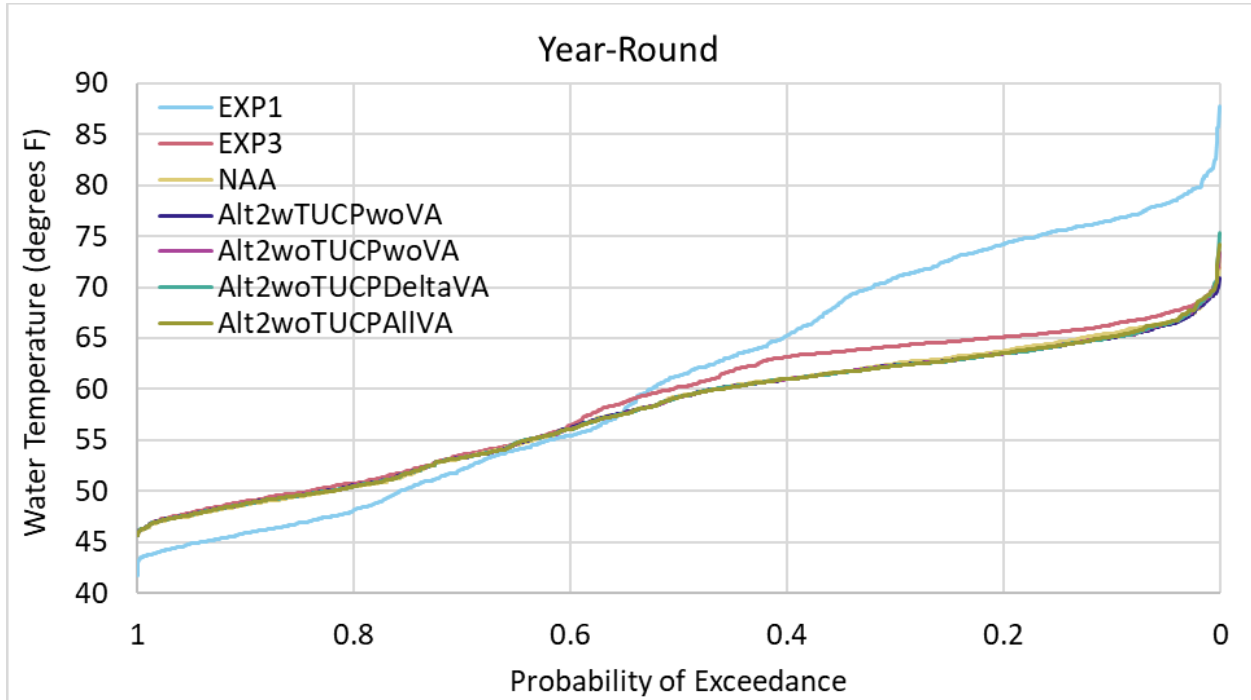


Figure L.2-53. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, year-round.

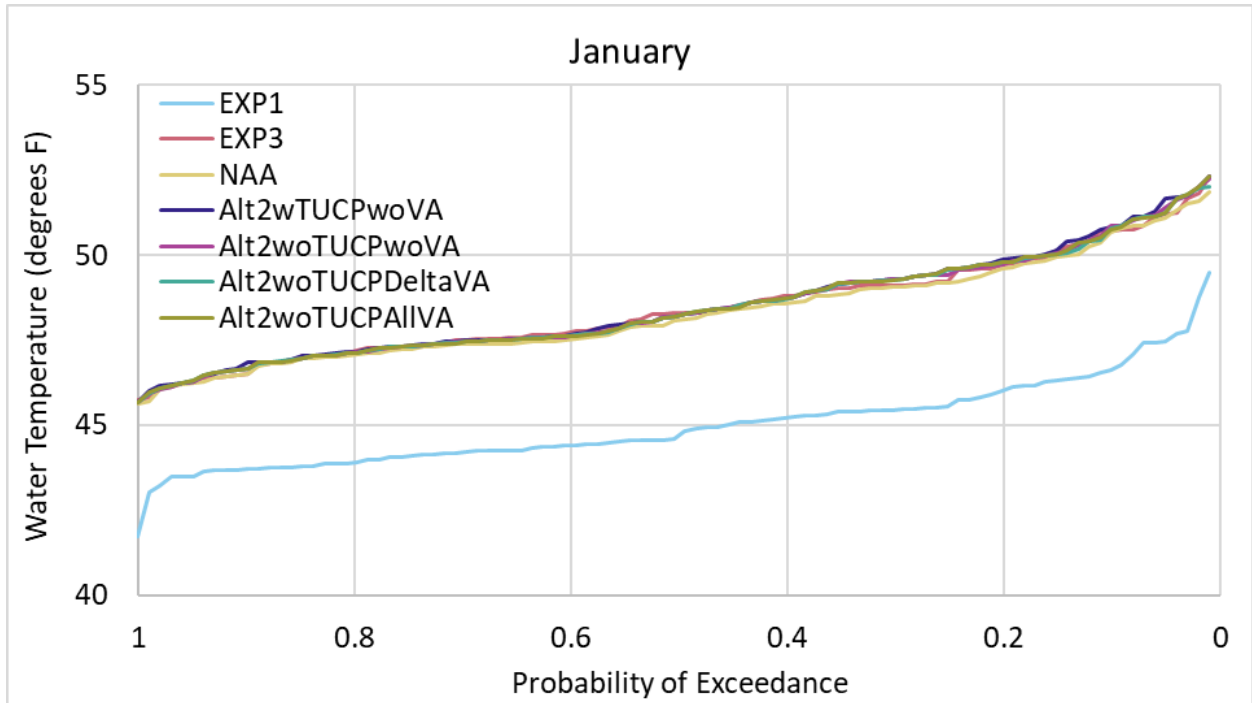


Figure L.2-54. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, January.

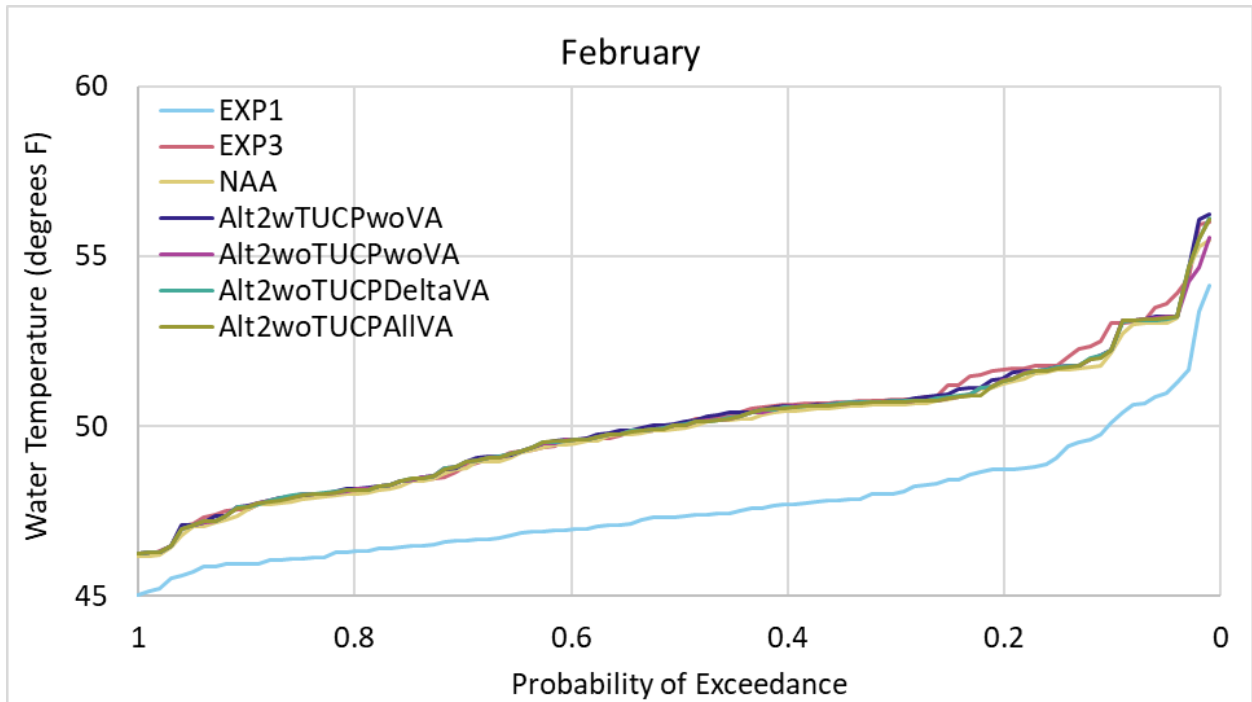


Figure L.2-55. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, February.

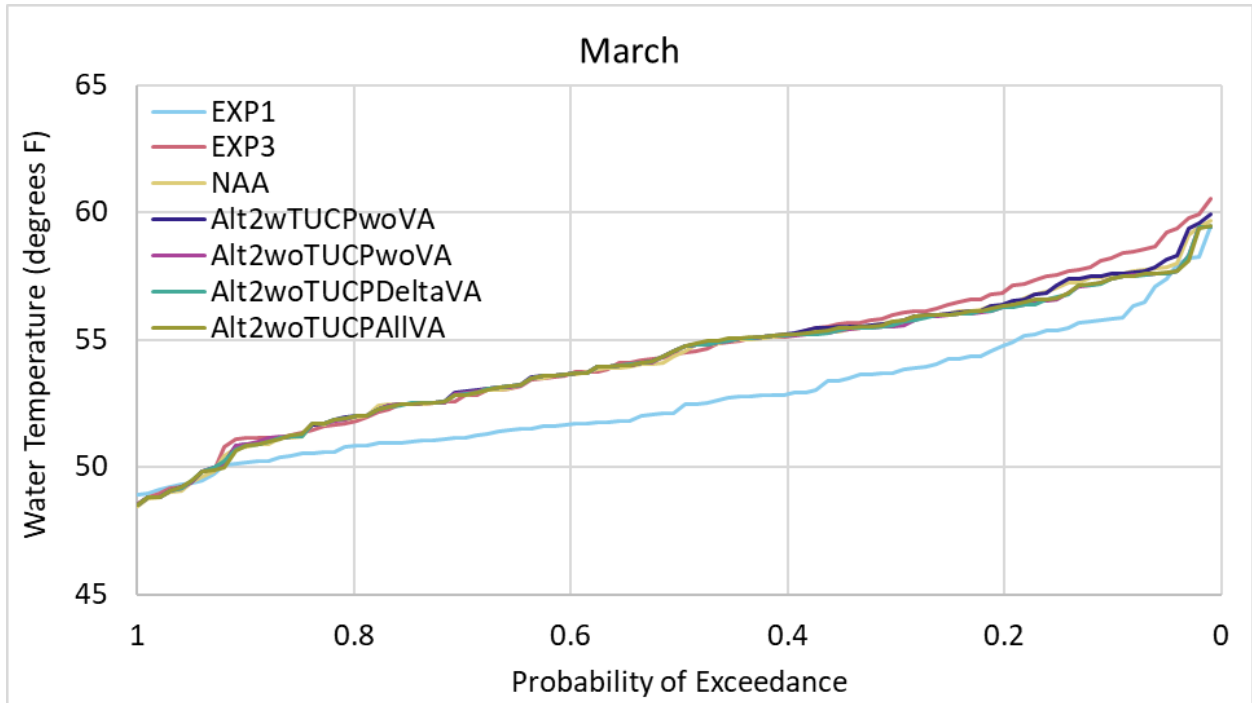


Figure L.2-56. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, March.

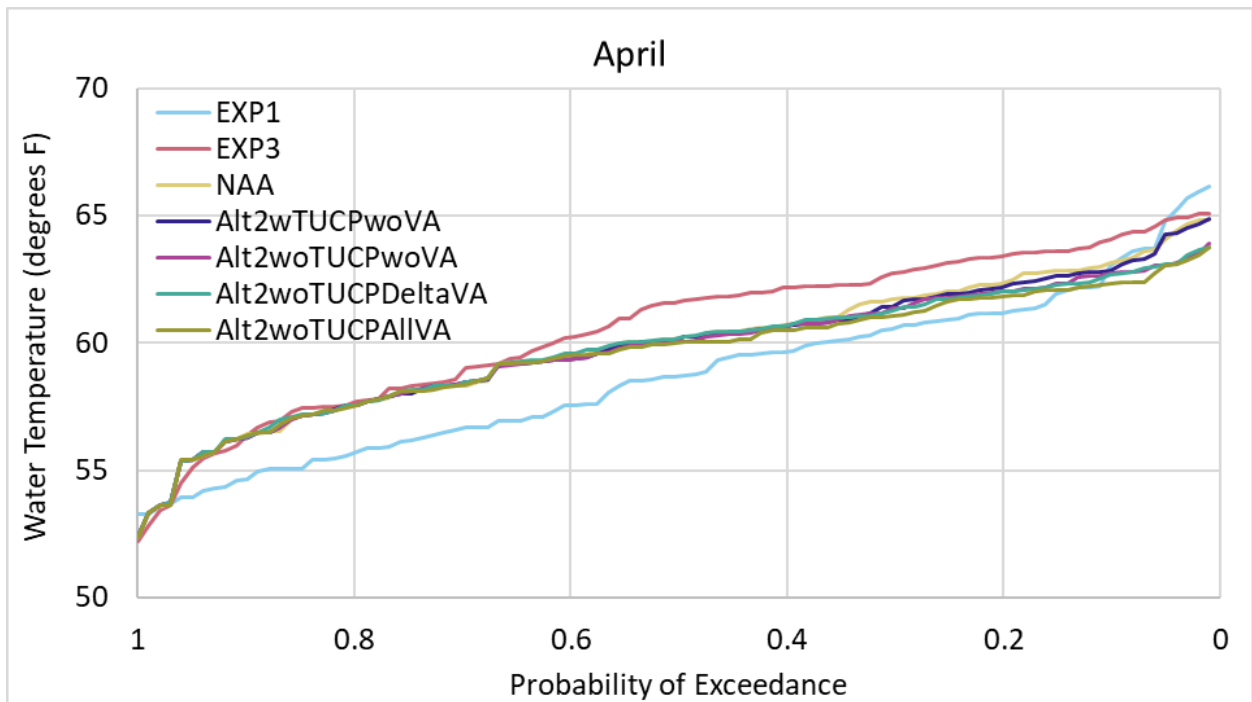


Figure L.2-57. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, April.

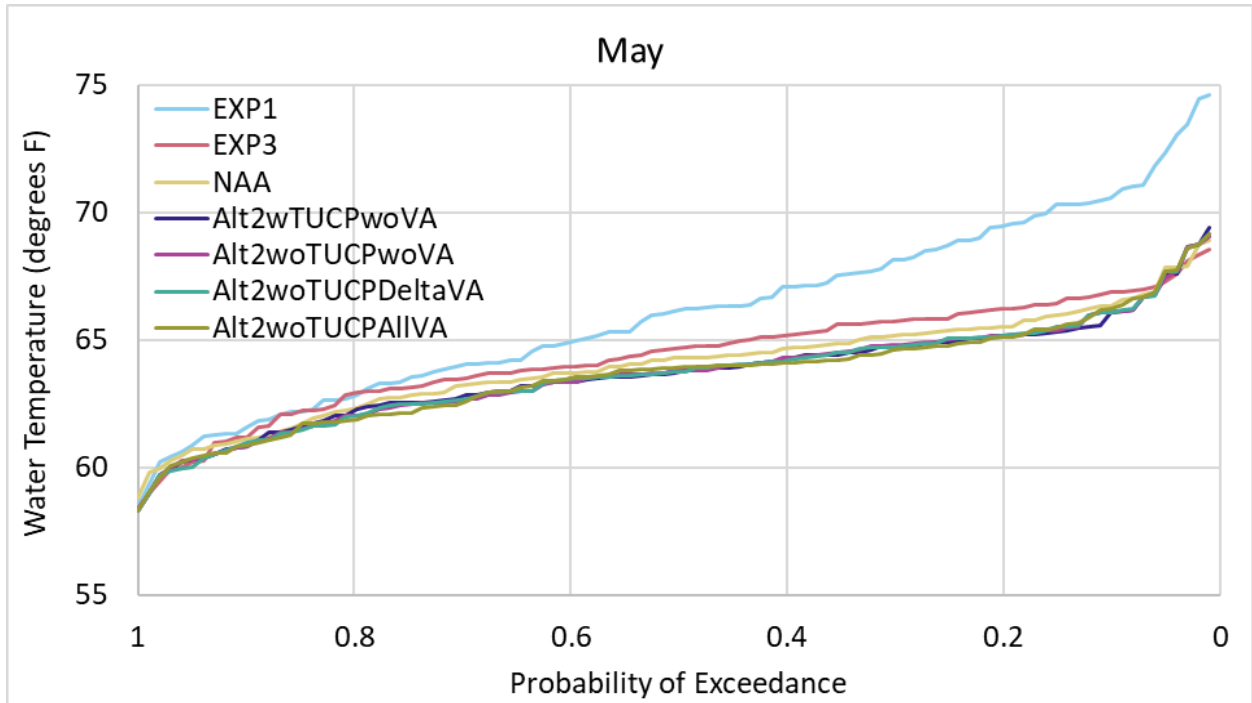


Figure L.2-58. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, May.

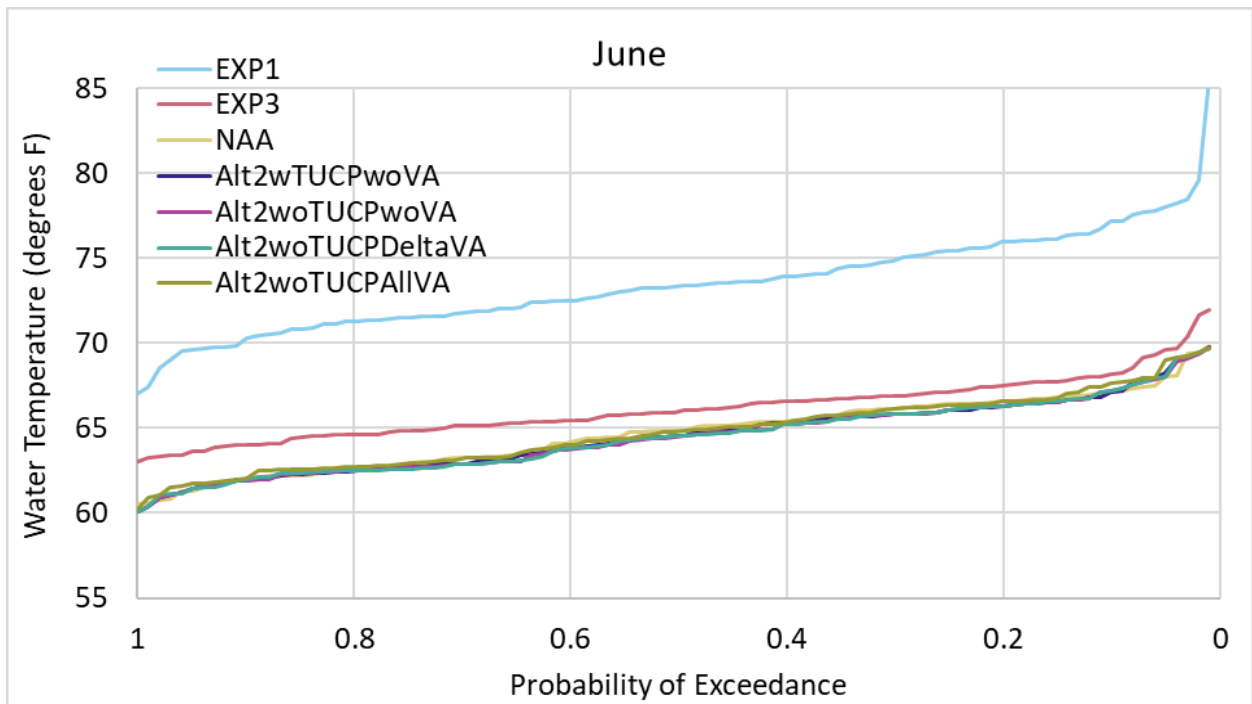


Figure L.2-59. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, June.

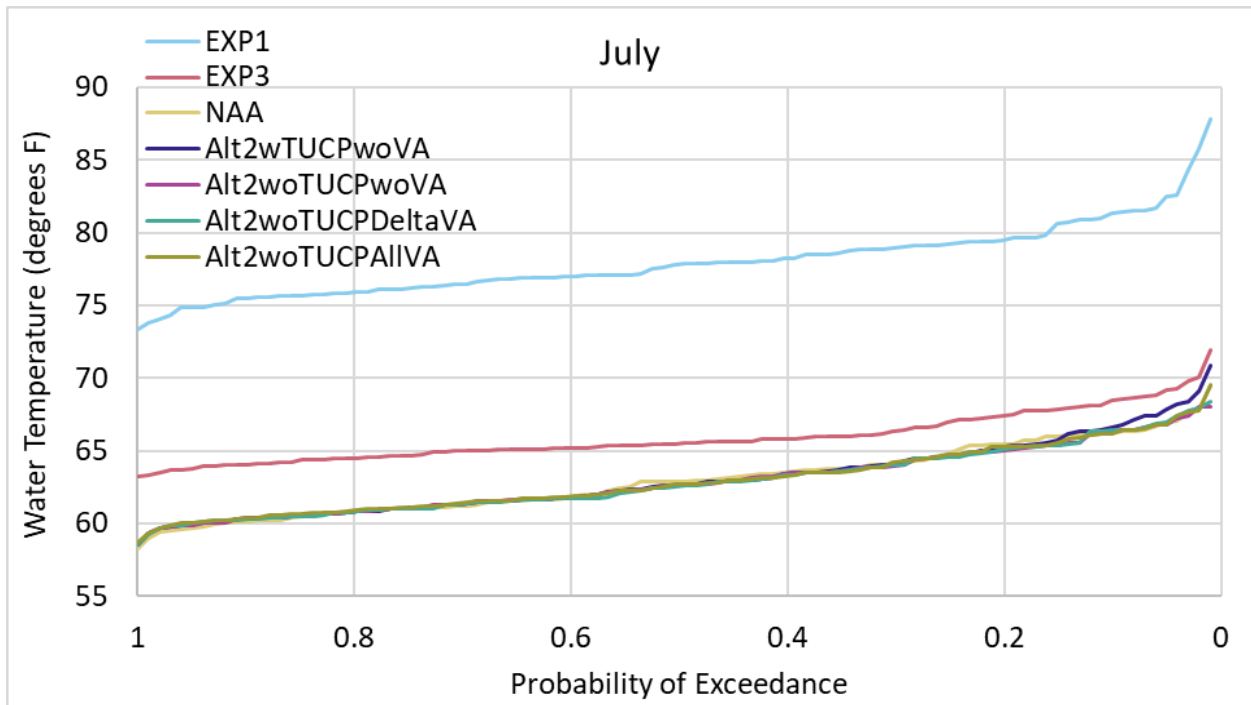


Figure L.2-60. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, July.

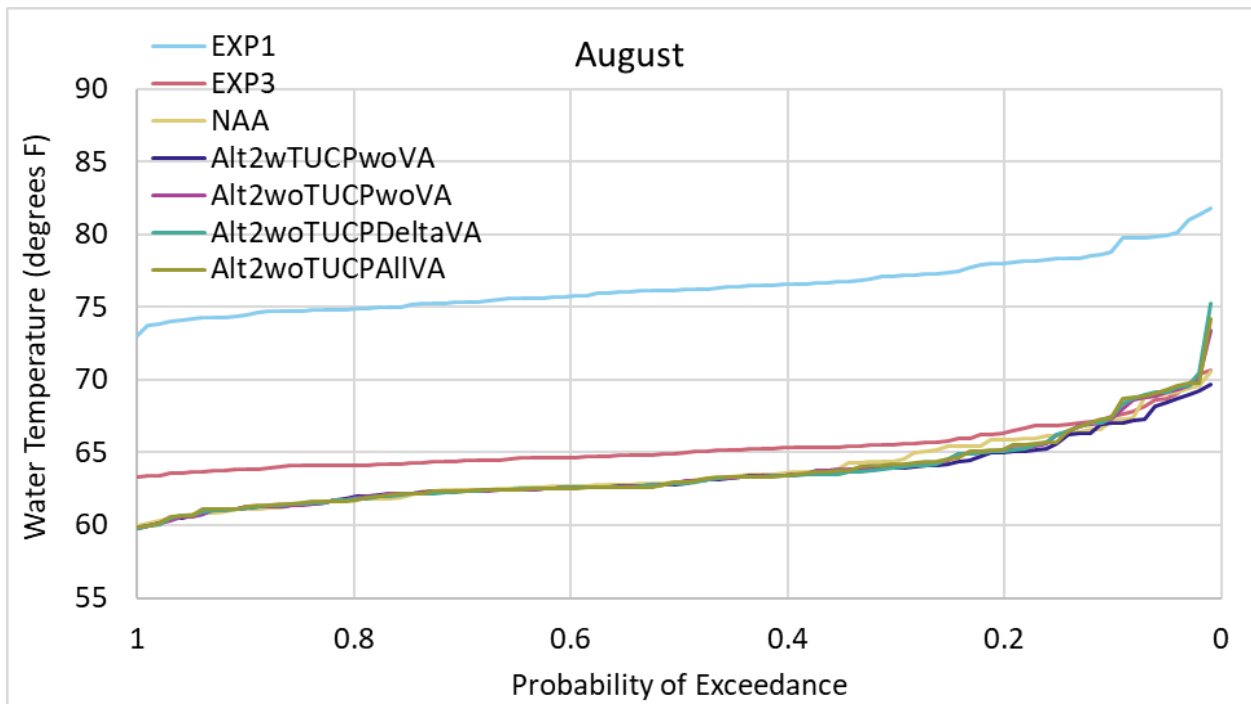


Figure L.2-61. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, August.

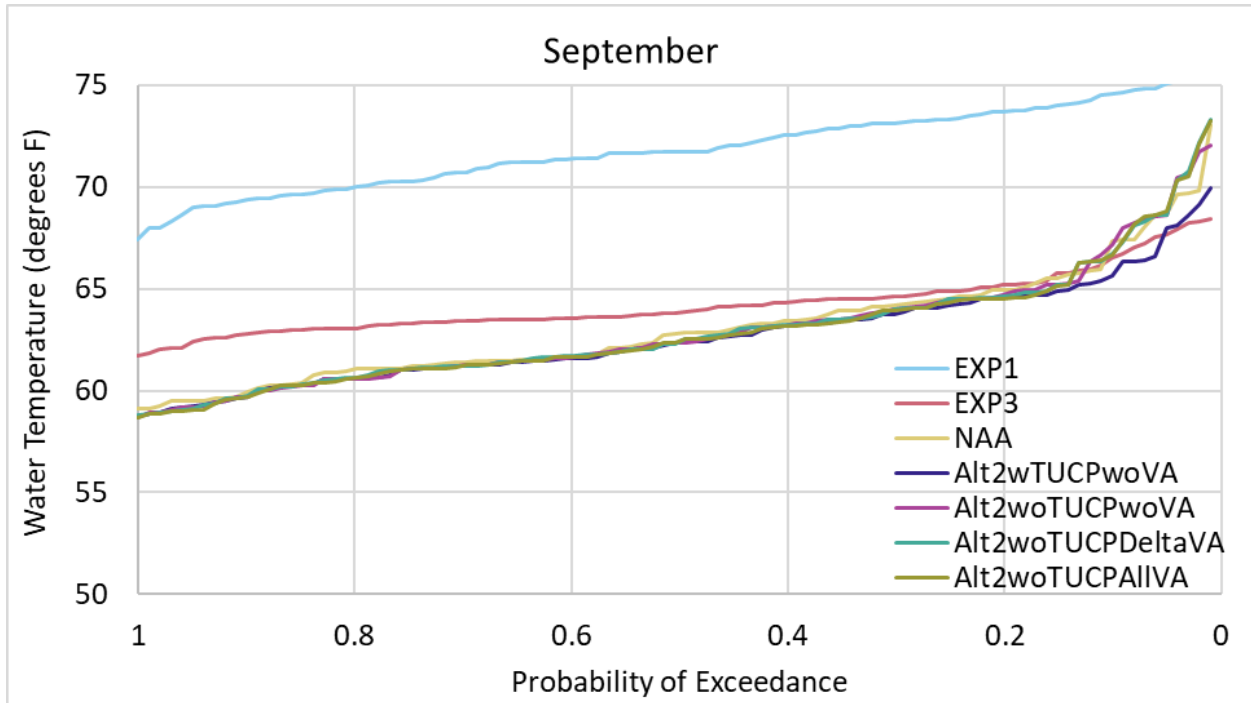


Figure L.2-62. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, September.

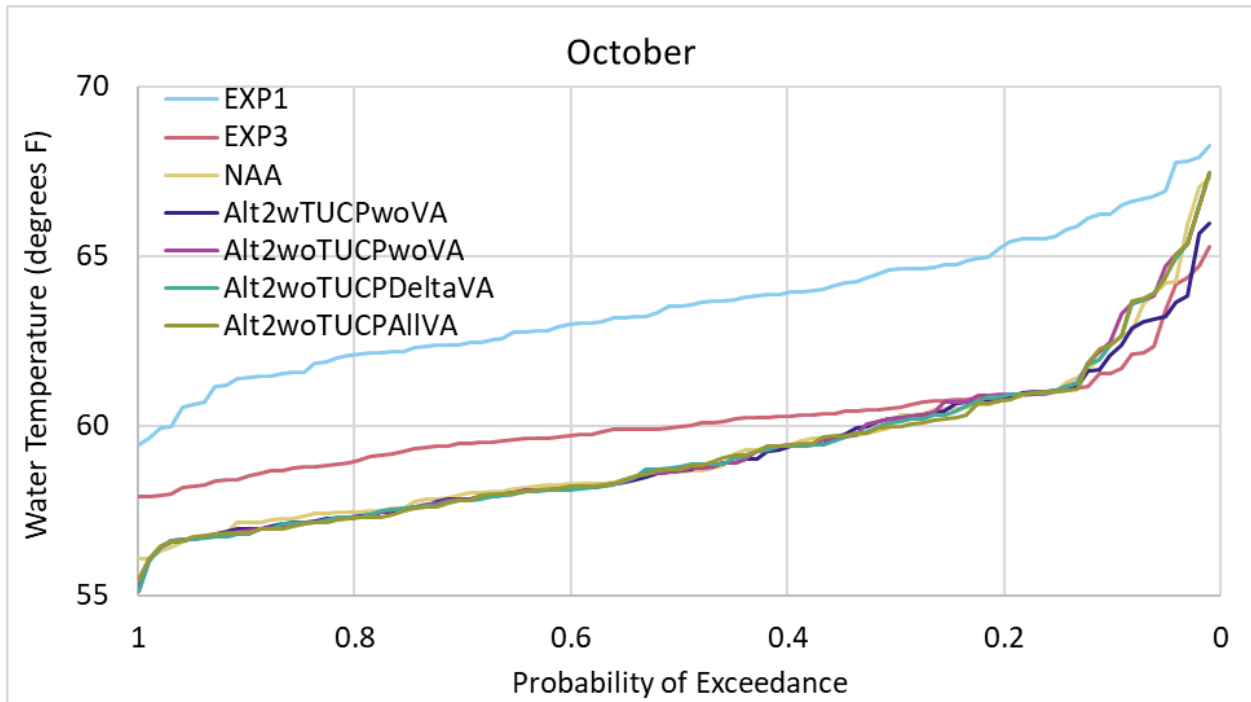


Figure L.2-63. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, October.

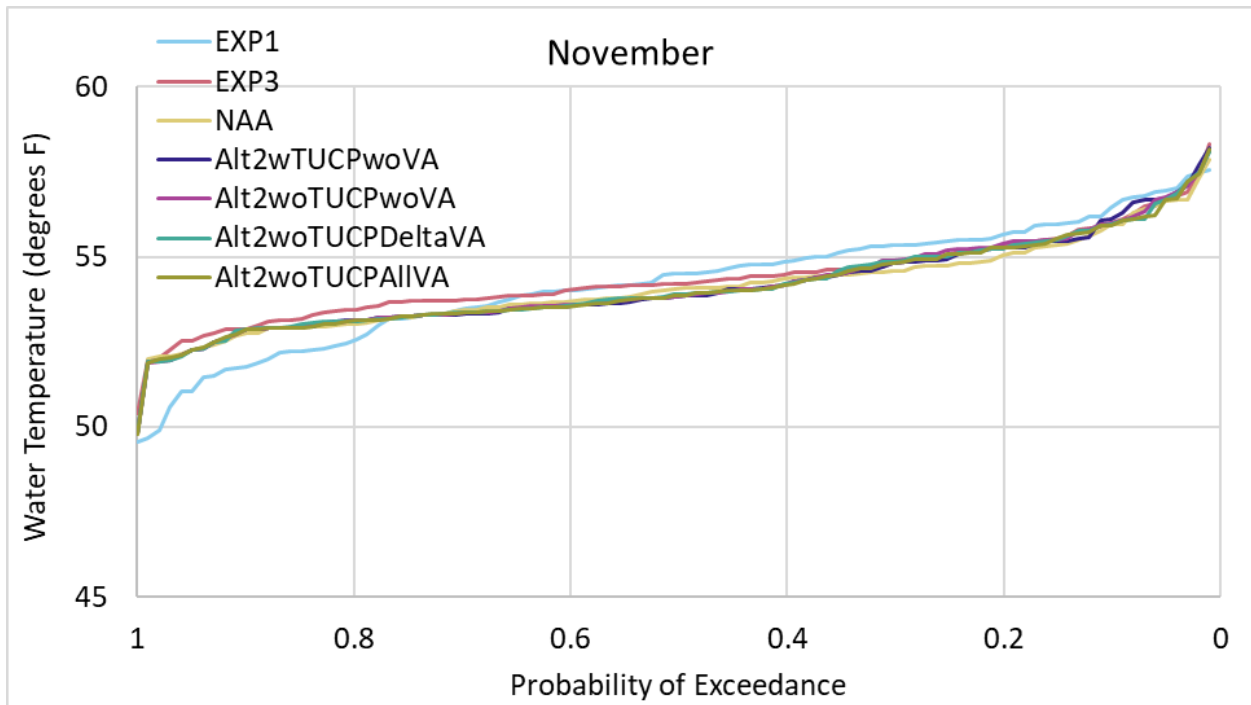


Figure L.2-64. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, November.

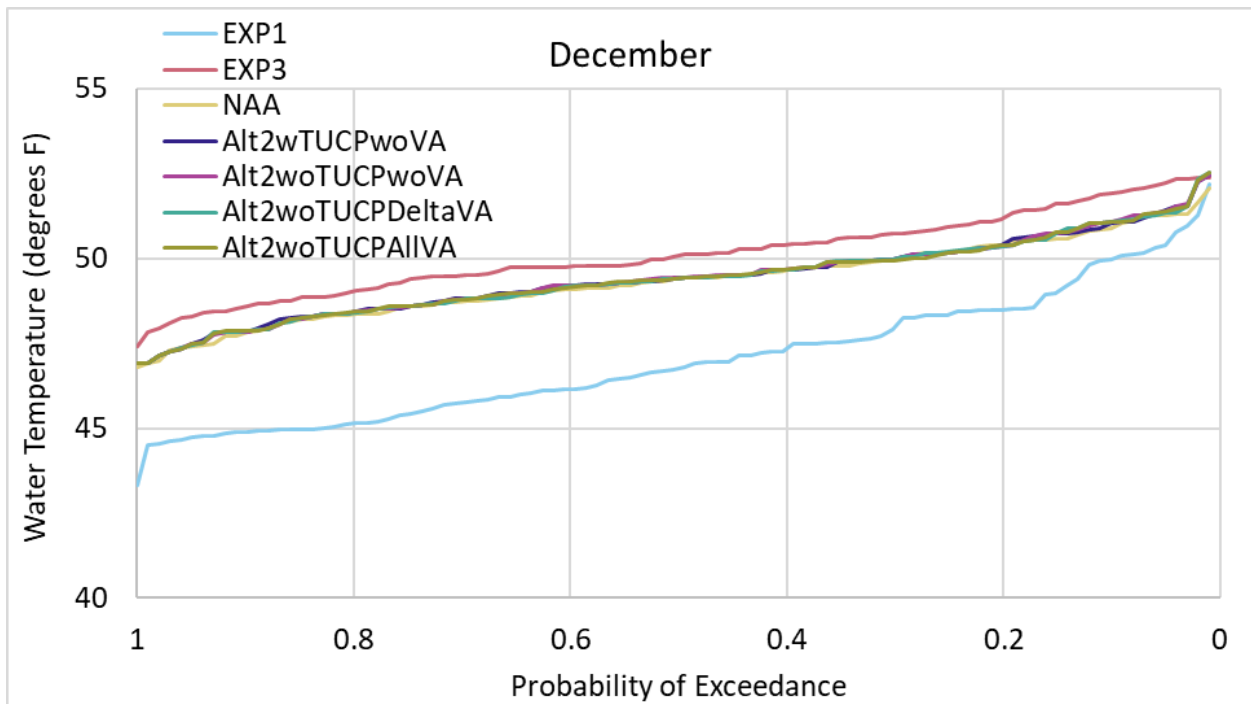


Figure L.2-65. Exceedance plot of modeled water temperatures, Sacramento River at Hamilton City, December.

### Clear Creek below Whiskeytown

Figure L.2-66 presents exceedance curves of modeled monthly water temperatures in Clear Creek below Whiskeytown for all months combined for each model scenario. Figure L.2-67 through Figure L.2-78 present exceedance curves of modeled monthly water temperatures in the Clear Creek below Whiskeytown for each month separately.

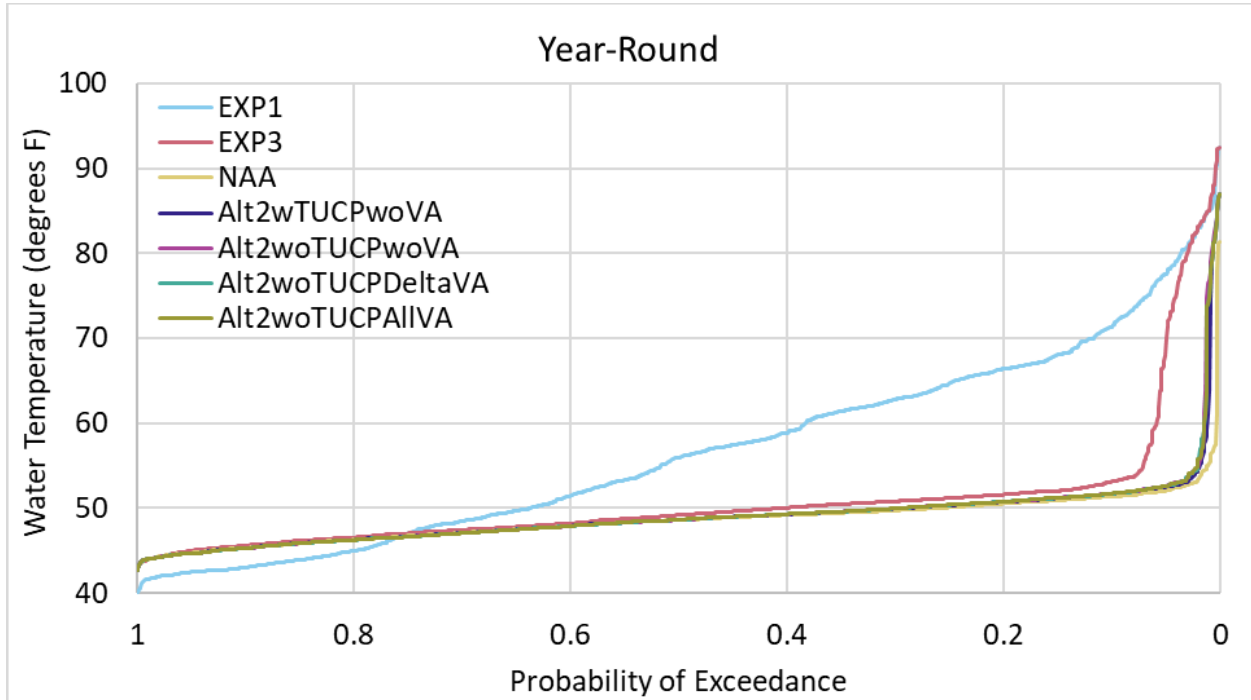


Figure L.2-66. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, year-round.



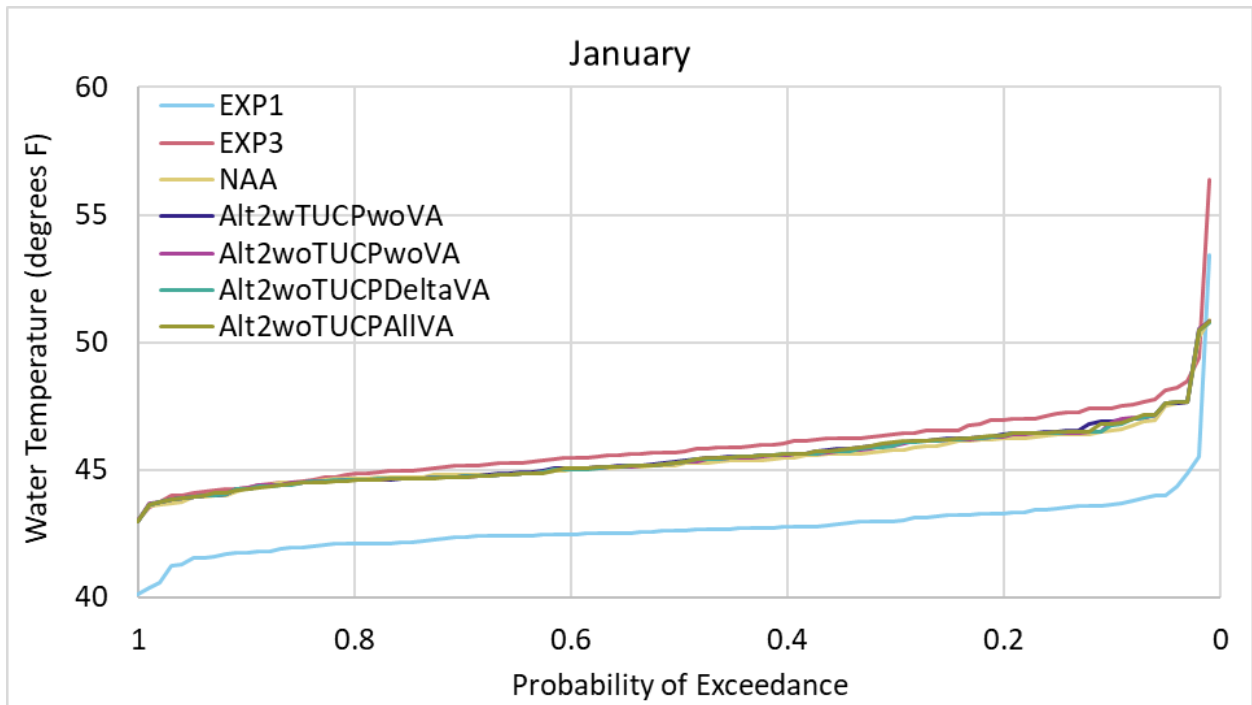


Figure L.2-67. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, January.

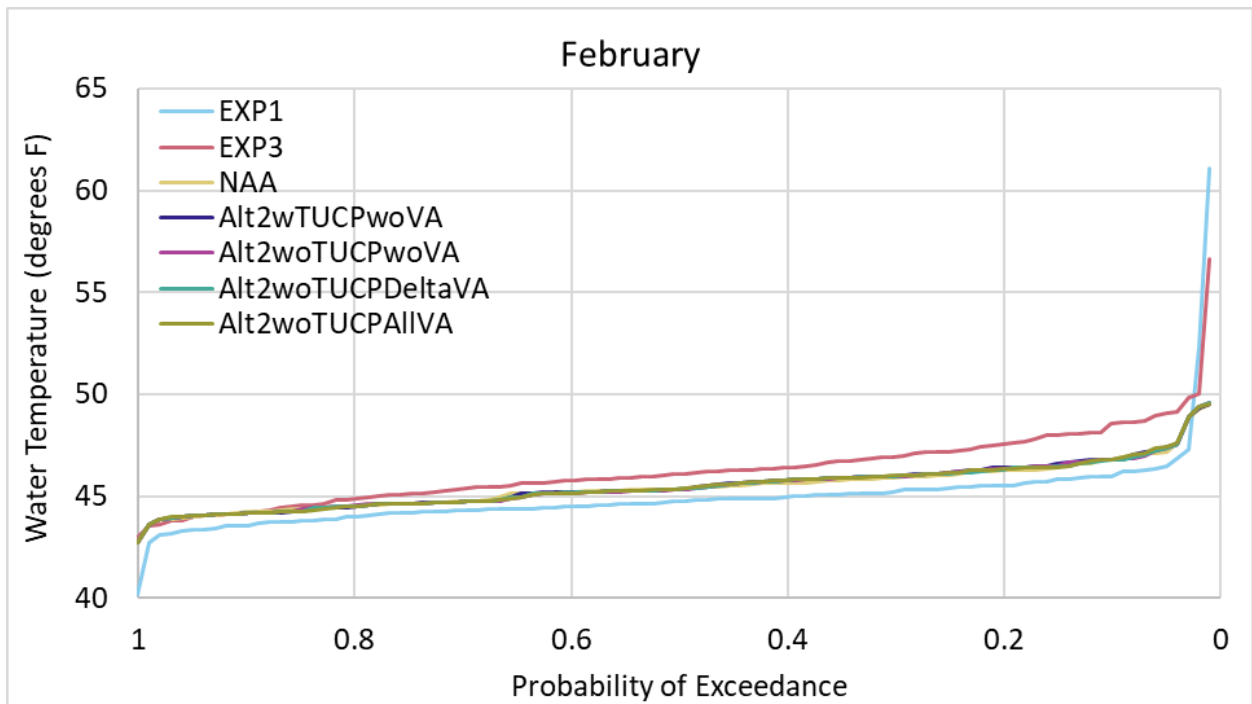


Figure L.2-68. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, February.

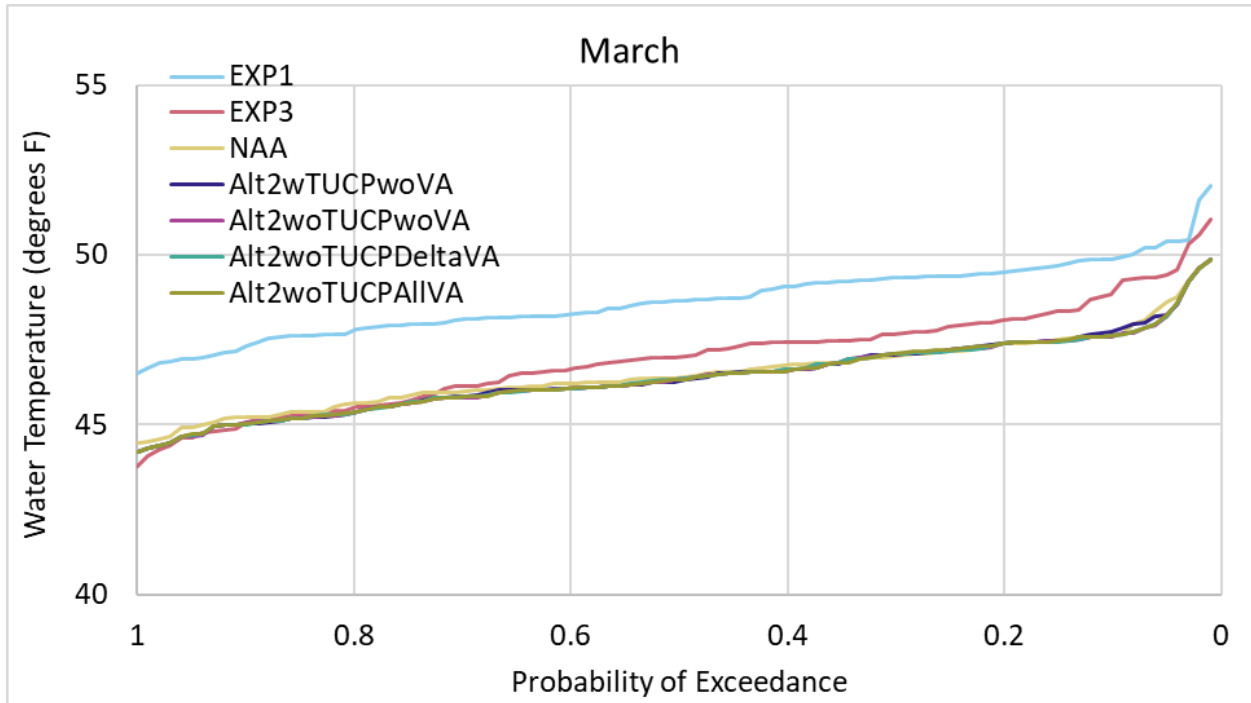


Figure L.2-69. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, March.

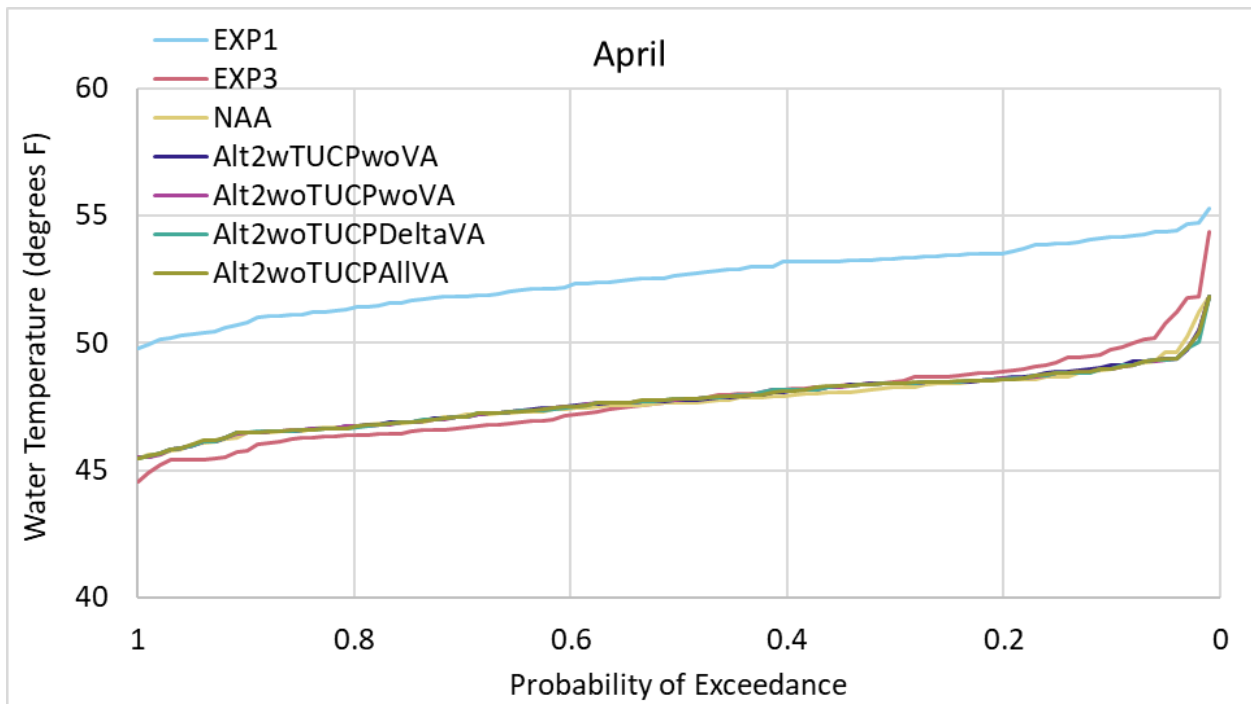


Figure L.2-70. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, April.

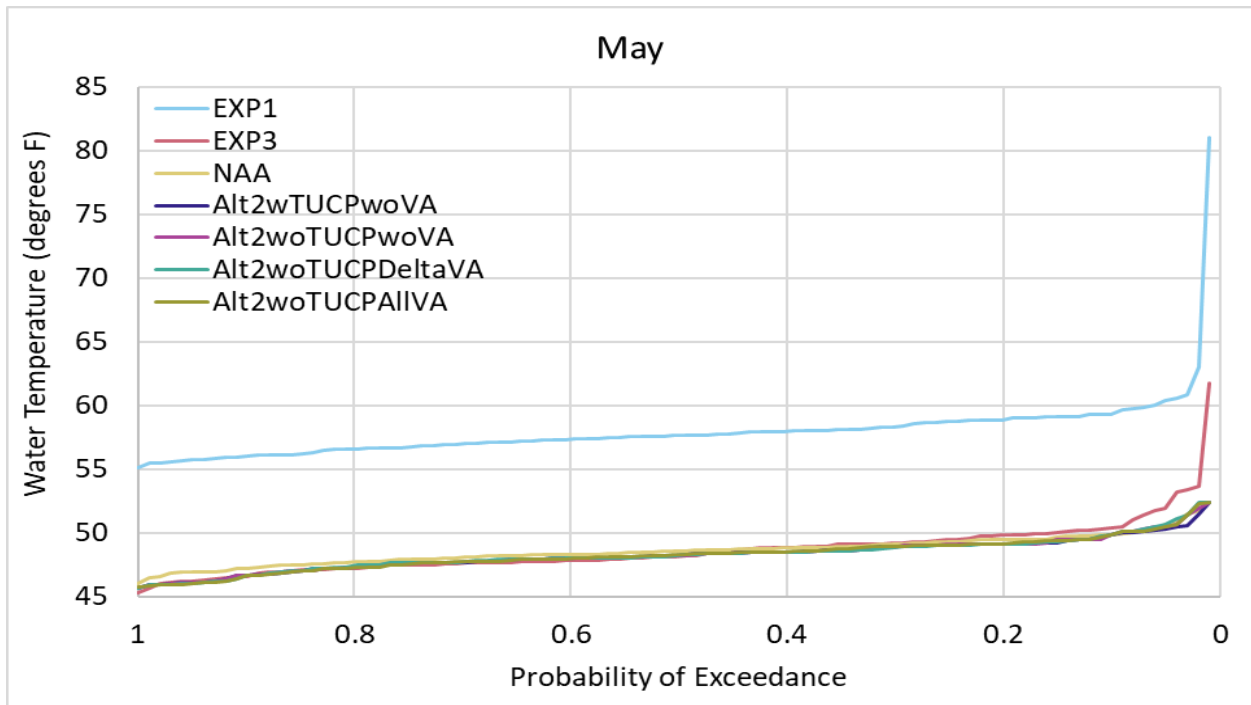


Figure L.2-71. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, May.

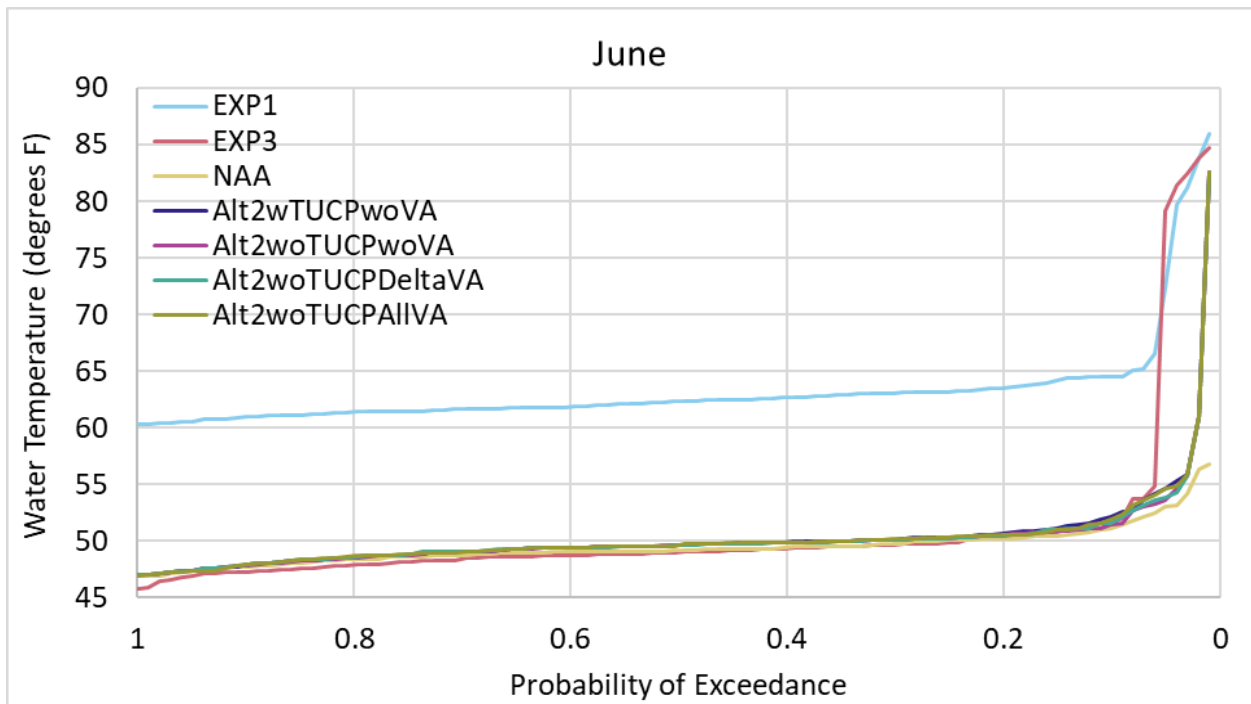


Figure L.2-72. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, June.

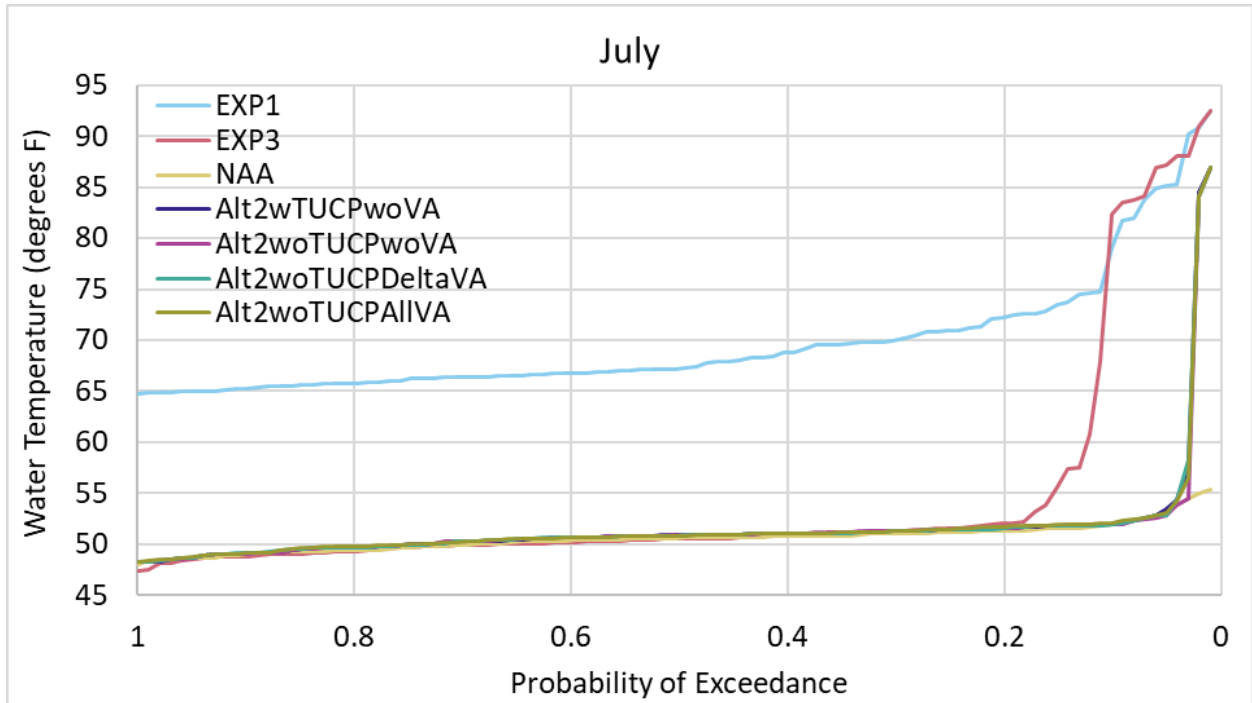


Figure L.2-73. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, July.

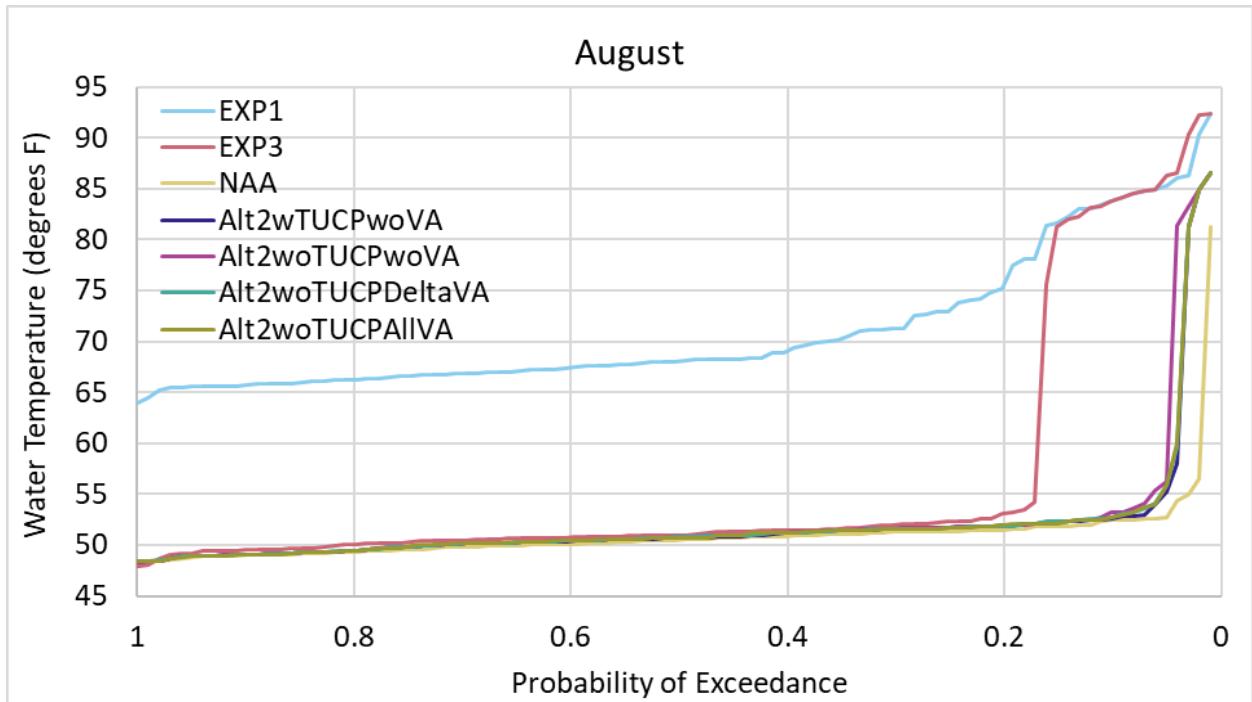


Figure L.2-74. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, August.

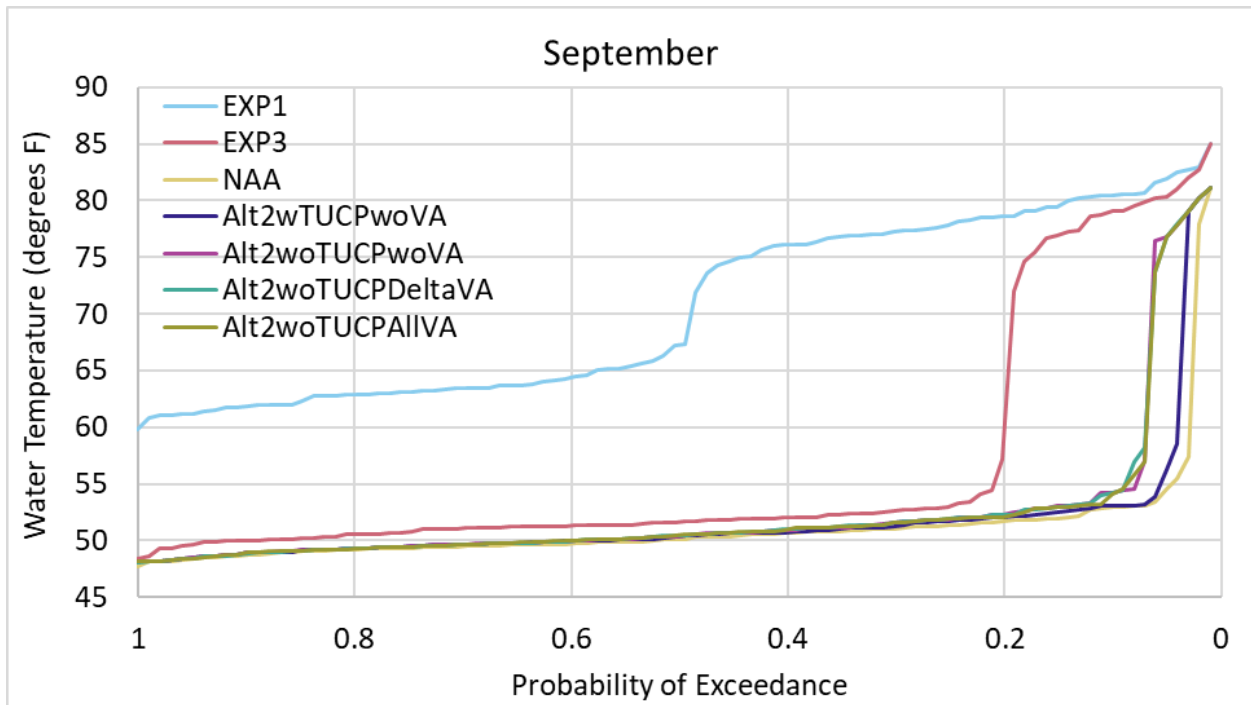


Figure L.2-75. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, September.

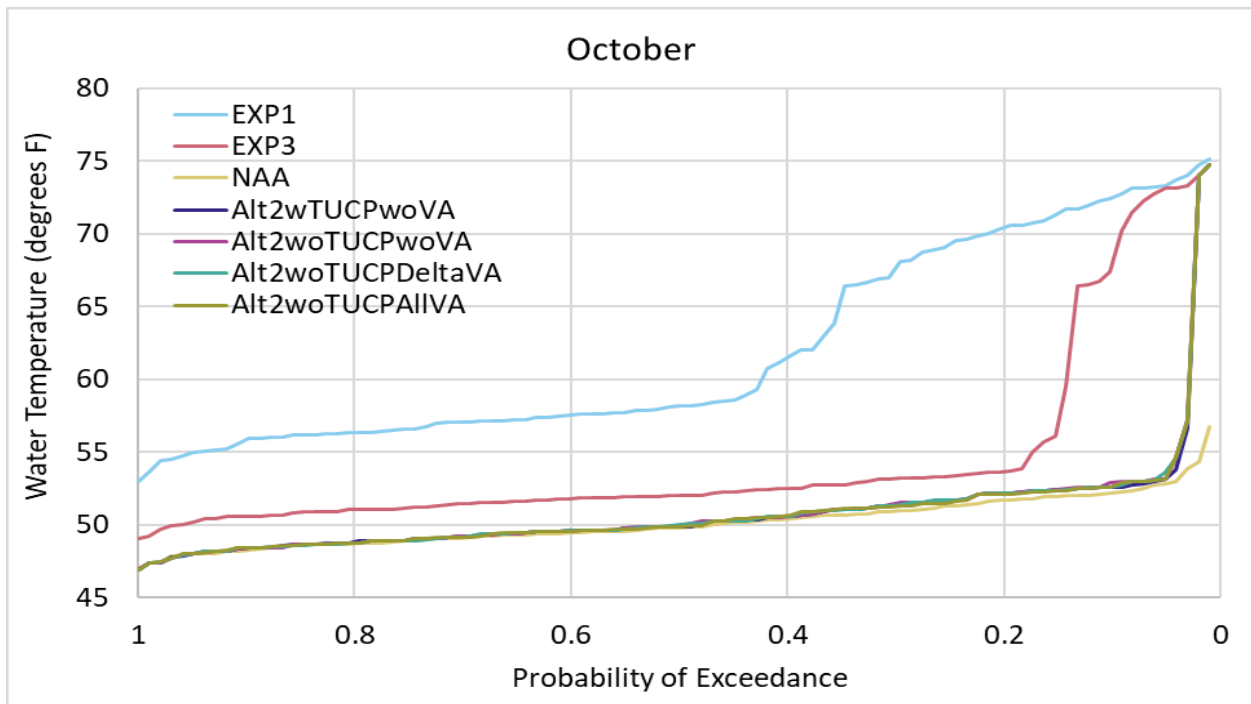


Figure L.2-76. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, October.

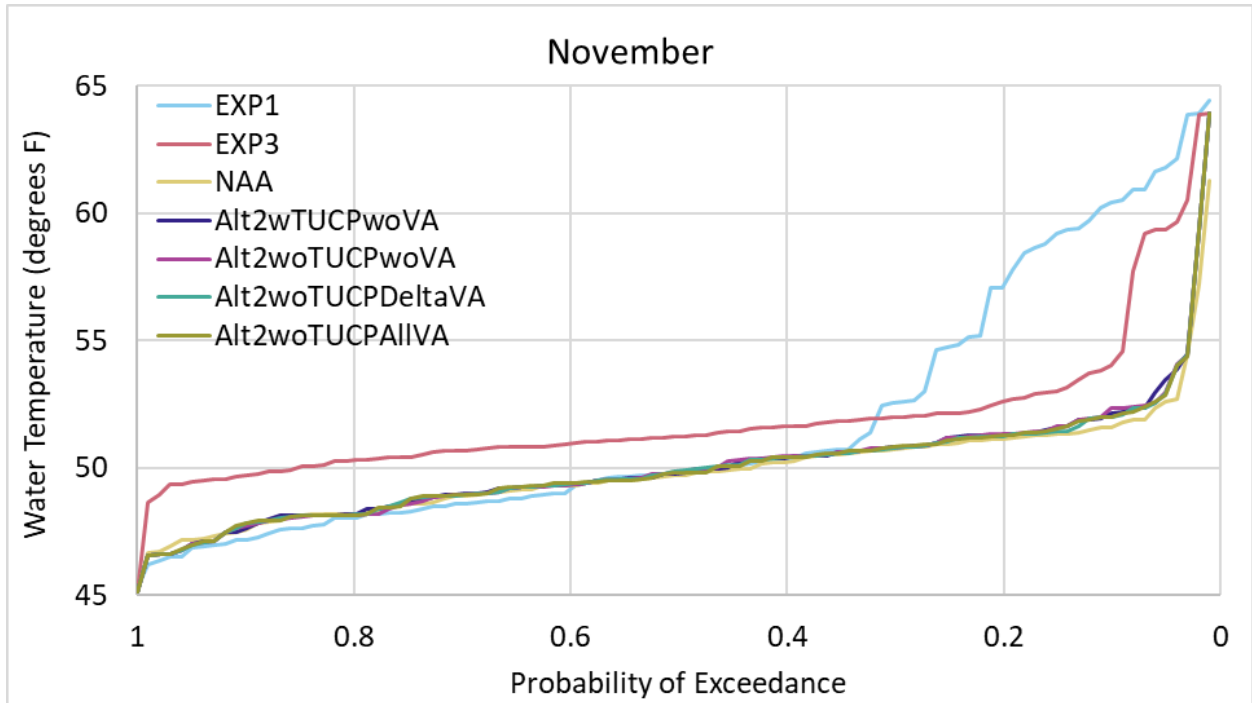


Figure L.2-77. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, November.

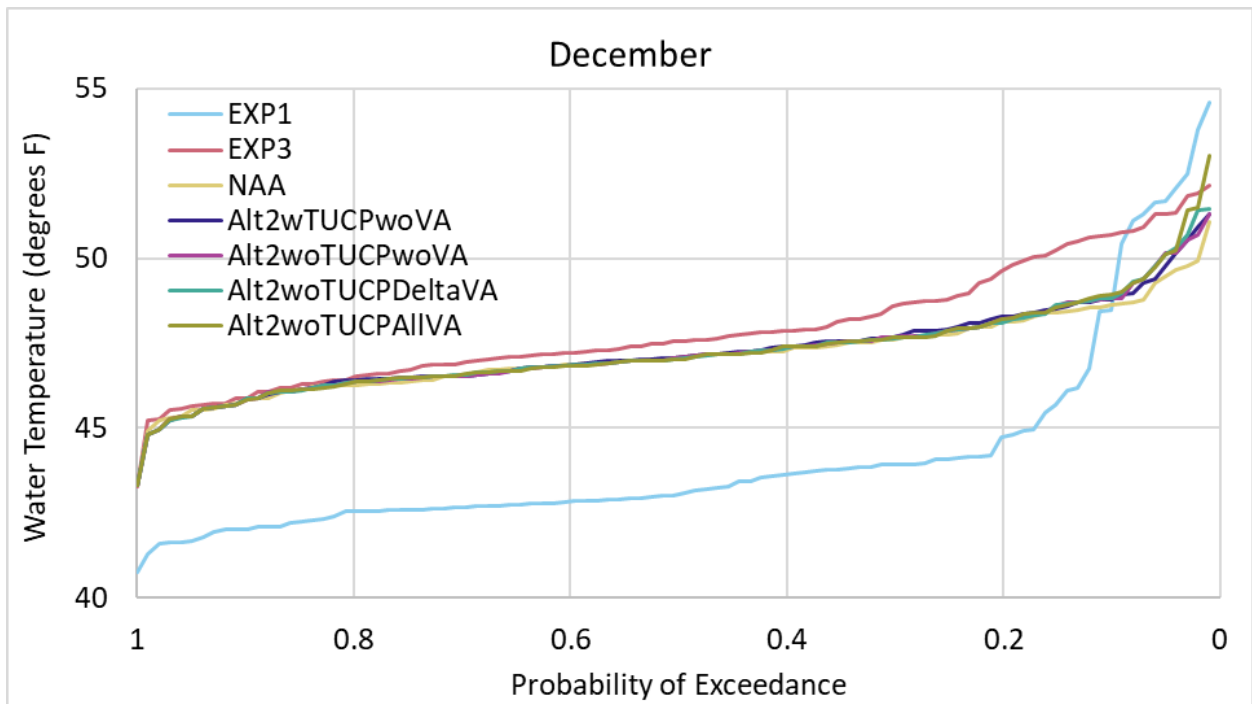


Figure L.2-78. Exceedance plot of modeled water temperatures, Clear Creek below Whiskeytown, December.

**L.2.3.1.2 Winter-run Chinook Salmon**

**Adult Migration**

Table L.2-3. Percent of months outside the 37.9°F to 68°F water temperature range for successful migration of adult winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Keswick, January through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-4. Percent of months outside the 37.9°F to 68°F water temperature range for successful migration of adult winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, January through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt1  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>PwoVA | Alt2woTUCP<br>PDeltaVA | Alt2woTUCP<br>PAIIVA |
|-----|-------|------|------|-----|-------|-------------------|---------------------|------------------------|----------------------|
| W   | 1     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| W   | 2     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| W   | 3     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| W   | 4     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| W   | 5     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| W   | 6     | 28.6 | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| AN  | 6     | 76.9 | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                 | 0.0                    | 0.0                  |



| WYT | Month | EXP1  | EXP3 | NAA | Alt1  | Alt2wTUCP<br>woVA | Alt2woTUC<br>PwoVA | Alt2woTUC<br>PDeltaVA | Alt2woTUC<br>PAIIVA |
|-----|-------|-------|------|-----|-------|-------------------|--------------------|-----------------------|---------------------|
| BN  | 6     | 88.9  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 12.5  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 83.3  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 12.5  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 5.1   | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 70.7  | 0.0  | 0.0 | 100.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-5. Percent of months outside the 37.9°F to 68°F water temperature range for successful migration of adult winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Hamilton City, January through June.

| WYT | Month | EXP1 | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 7.1  | 7.1  | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 6     | 96.4 | 21.4 | 14.3 | 10.7              | 10.7               | 10.7                  | 10.7                |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 7.7  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 92.3  | 23.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 5.6  | 5.6 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 45.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 62.5  | 0.0  | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 6     | 100.0 | 6.3  | 0.0 | 12.5              | 6.3                | 12.5                  | 12.5                |
| All | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 30.3  | 3.0  | 2.0 | 3.0               | 3.0                | 3.0                   | 3.0                 |
| All | 6     | 98.0  | 12.1 | 5.1 | 5.1               | 4.0                | 5.1                   | 5.1                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-6. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult winter-run Chinook salmon migration by water year type and month, and for all years combined, Sacramento River at Keswick, January through June.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 64.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 76.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 29.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 50.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 24.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 86.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-7. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult winter-run Chinook salmon migration by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, January through June.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 3.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 60.7  | 67.9 | 75.0 | 42.9              | 42.9               | 42.9                  | 42.9                |
| W   | 6     | 100.0 | 92.9 | 60.7 | 46.4              | 46.4               | 46.4                  | 46.4                |
| AN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 23.1 | 7.7  | 7.7               | 7.7                | 7.7                   | 0.0                 |
| AN  | 5     | 92.3  | 76.9 | 69.2 | 53.8              | 53.8               | 53.8                  | 46.2                |
| AN  | 6     | 100.0 | 69.2 | 46.2 | 30.8              | 30.8               | 30.8                  | 46.2                |
| BN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 33.3 | 11.1 | 11.1              | 11.1               | 11.1                  | 5.6                 |
| BN  | 5     | 94.4  | 44.4 | 44.4 | 16.7              | 27.8               | 27.8                  | 22.2                |
| BN  | 6     | 100.0 | 66.7 | 44.4 | 33.3              | 33.3               | 33.3                  | 44.4                |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 8.3   | 54.2 | 20.8 | 20.8              | 20.8               | 16.7                  | 16.7                |
| D   | 5     | 95.8  | 66.7 | 70.8 | 54.2              | 54.2               | 45.8                  | 58.3                |
| D   | 6     | 100.0 | 45.8 | 29.2 | 16.7              | 12.5               | 20.8                  | 25.0                |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 50.0  | 62.5 | 37.5 | 43.8              | 6.3                | 6.3                   | 6.3                 |
| C   | 5     | 100.0 | 56.3 | 56.3 | 43.8              | 50.0               | 50.0                  | 56.3                |
| C   | 6     | 100.0 | 93.8 | 68.8 | 62.5              | 50.0               | 50.0                  | 43.8                |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 10.1  | 33.3 | 14.1 | 15.2              | 9.1                | 8.1                   | 6.1                 |
| All | 5     | 85.9  | 62.6 | 64.6 | 42.4              | 45.5               | 43.4                  | 45.5                |
| All | 6     | 100.0 | 73.7 | 49.5 | 37.4              | 34.3               | 36.4                  | 40.4                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-8. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult winter-run Chinook salmon migration by water year type and month, and for all years combined, Sacramento River at Hamilton City, January through June.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 3.6   | 21.4  | 17.9  | 17.9              | 17.9               | 17.9                  | 14.3                |
| W   | 5     | 92.9  | 92.9  | 92.9  | 92.9              | 92.9               | 92.9                  | 92.9                |
| W   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| AN  | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 15.4  | 46.2  | 38.5  | 38.5              | 38.5               | 38.5                  | 38.5                |
| AN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 38.9  | 66.7  | 77.8  | 66.7              | 66.7               | 72.2                  | 61.1                |
| BN  | 5     | 100.0 | 94.4  | 100   | 94.4              | 94.4               | 94.4                  | 94.4                |
| BN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 4.2   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 58.3  | 87.5  | 66.7  | 66.7              | 66.7               | 75                    | 75                  |
| D   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 95.8                  | 100.0               |
| D   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 6.3   | 0.0   | 6.3               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 81.3  | 100   | 93.8  | 93.8              | 87.5               | 87.5                  | 87.5                |
| C   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 2.0   | 0.0   | 1.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 37.4  | 61.6  | 55.6  | 53.5              | 52.5               | 55.6                  | 52.5                |
| All | 5     | 98.0  | 97.0  | 98.0  | 97.0              | 97.0               | 96.0                  | 97.0                |
| All | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### Adult Holding and Spawning

Table L.2-9. Percent of months outside the 42.1°F to 55°F water temperature range for spawning initiation of winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Keswick, January through July.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 28.6  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 7.1  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 25.0  | 10.7 | 14.3 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 96.4  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 46.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 23.1 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 53.8  | 0.0  | 15.4 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 50.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 5.6   | 22.2 | 16.7 | 11.1              | 16.7               | 22.2                  | 16.7                |
| BN  | 5     | 100.0 | 5.6  | 33.3 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 20.8  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 12.5  | 20.8 | 20.8 | 29.2              | 33.3               | 25.0                  | 29.2                |
| D   | 5     | 100.0 | 8.3  | 58.3 | 4.2               | 0.0                | 8.3                   | 8.3                 |
| D   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 37.5  | 25.0 | 12.5 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 5     | 100.0 | 18.8 | 25.0 | 6.3               | 12.5               | 6.3                   | 6.3                 |
| C   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 6.3  | 0.0               | 6.3                | 0.0                   | 0.0                 |
| All | 1     | 28.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 10.1  | 18.2 | 10.1 | 10.1              | 12.1               | 11.1                  | 11.1                |
| All | 5     | 72.7  | 9.1  | 30.3 | 2.0               | 2.0                | 3.0                   | 3.0                 |
| All | 6     | 99.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 1.0  | 0.0               | 1.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-10. Percent of months outside the 42.1°F to 55°F water temperature range for spawning initiation of winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River below Clear Creek, January through July.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 17.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 17.9 | 7.1  | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 5     | 82.1  | 53.6 | 78.6 | 28.6              | 28.6               | 28.6                  | 28.6                |
| W   | 6     | 100.0 | 10.7 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 30.8  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 15.4  | 46.2 | 30.8 | 30.8              | 30.8               | 30.8                  | 30.8                |
| AN  | 5     | 92.3  | 76.9 | 84.6 | 38.5              | 38.5               | 38.5                  | 38.5                |



| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| AN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 33.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 44.4  | 55.6 | 44.4 | 38.9              | 38.9               | 38.9                  | 33.3                |
| BN  | 5     | 100.0 | 44.4 | 72.2 | 16.7              | 16.7               | 22.2                  | 27.8                |
| BN  | 6     | 100.0 | 0.0  | 5.6  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 11.1 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 12.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 50.0  | 75.0 | 45.8 | 54.2              | 50.0               | 50.0                  | 54.2                |
| D   | 5     | 100.0 | 70.8 | 75.0 | 41.7              | 45.8               | 50.0                  | 54.2                |
| D   | 6     | 100.0 | 8.3  | 4.2  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 20.8 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 81.3  | 50.0 | 43.8 | 25.0              | 18.8               | 25.0                  | 12.5                |
| C   | 5     | 100.0 | 43.8 | 50.0 | 31.3              | 37.5               | 37.5                  | 37.5                |
| C   | 6     | 100.0 | 0.0  | 56.3 | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 7     | 100.0 | 0.0  | 75.0 | 31.3              | 25.0               | 37.5                  | 31.3                |
| All | 1     | 18.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 35.4  | 47.5 | 32.3 | 30.3              | 28.3               | 29.3                  | 27.3                |
| All | 5     | 93.9  | 57.6 | 72.7 | 31.3              | 33.3               | 35.4                  | 37.4                |
| All | 6     | 100.0 | 5.1  | 11.1 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 7     | 100.0 | 0.0  | 19.2 | 5.1               | 4.0                | 6.1                   | 5.1                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-11. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult holding and spawning winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Keswick, January through July.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 64.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 76.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 29.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 50.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 24.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 86.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-12. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult holding and spawning winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River below Clear Creek, January through July.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 3.6   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 89.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 23.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 6     | 92.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 61.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 66.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 75.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 43.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 96.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### Egg Incubation and Fry Emergence

Table L.2-13. Percent of months outside the 42.8°F to 56°F water temperature range for winter-run Chinook salmon egg incubation and fry emergence by water year type and month, and for all years combined, Sacramento River at Keswick, May through November.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 17.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 96.4  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 92.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 3.6   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 38.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 92.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 94.4  | 0.0  | 5.6  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 94.4  | 0.0  | 0.0  | 0.0               | 5.6                | 5.6                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 5.6                | 5.6                   | 5.6                 |
| D   | 5     | 91.7  | 4.2  | 12.5 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 91.7  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 5     | 100.0 | 12.5 | 12.5 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 6.3  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 37.5 | 6.3               | 37.5               | 37.5                  | 37.5                |
| C   | 9     | 100.0 | 31.3 | 43.8 | 31.3              | 50.0               | 50.0                  | 50.0                |
| C   | 10    | 100.0 | 40.0 | 60.0 | 60.0              | 73.3               | 60.0                  | 60.0                |
| C   | 11    | 0.0   | 46.7 | 33.3 | 60.0              | 40.0               | 33.3                  | 26.7                |
| All | 5     | 65.7  | 3.0  | 6.1  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 99.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 1.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 0.0  | 6.1  | 1.0               | 6.1                | 6.1                   | 6.1                 |
| All | 9     | 100.0 | 5.1  | 7.1  | 5.1               | 8.1                | 8.1                   | 8.1                 |
| All | 10    | 93.9  | 6.1  | 9.2  | 9.2               | 12.2               | 10.2                  | 9.2                 |
| All | 11    | 1.0   | 7.1  | 5.1  | 9.1               | 7.1                | 6.1                   | 5.1                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-14. Percent of months outside the 42.8°F to 56°F water temperature range for winter-run Chinook salmon egg incubation and fry emergence by water year type and month, and for all years combined, Sacramento River below Clear Creek, May through November.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 42.9  | 28.6 | 42.9 | 17.9              | 17.9               | 17.9                  | 17.9                |
| W   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 7.1   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 92.3  | 15.4 | 38.5 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| AN  | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 100.0 | 22.2 | 44.4 | 0.0               | 5.6                | 5.6                   | 5.6                 |
| BN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 5.6  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 94.4  | 5.6  | 5.6  | 0.0               | 5.6                | 5.6                   | 5.6                 |
| BN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 5.6                | 5.6                   | 5.6                 |
| D   | 5     | 100.0 | 29.2 | 58.3 | 12.5              | 12.5               | 12.5                  | 20.8                |
| D   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 95.8  | 0.0  | 0.0  | 4.2               | 4.2                | 4.2                   | 4.2                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 100.0 | 37.5 | 37.5 | 6.3               | 18.8               | 25.0                  | 18.8                |
| C   | 6     | 100.0 | 0.0  | 6.3  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 12.5 | 12.5              | 6.3                | 6.3                   | 6.3                 |
| C   | 8     | 100.0 | 18.8 | 43.8 | 25.0              | 43.8               | 37.5                  | 43.8                |
| C   | 9     | 100.0 | 43.8 | 56.3 | 56.3              | 62.5               | 68.8                  | 68.8                |
| C   | 10    | 100.0 | 40.0 | 60.0 | 73.3              | 80.0               | 86.7                  | 86.7                |
| C   | 11    | 0.0   | 46.7 | 40.0 | 60.0              | 40.0               | 33.3                  | 33.3                |
| All | 5     | 82.8  | 27.3 | 45.5 | 9.1               | 12.1               | 13.1                  | 14.1                |
| All | 6     | 100.0 | 0.0  | 1.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 2.0  | 2.0               | 1.0                | 1.0                   | 1.0                 |
| All | 8     | 100.0 | 3.0  | 8.1  | 4.0               | 7.1                | 6.1                   | 7.1                 |
| All | 9     | 100.0 | 7.1  | 9.1  | 9.1               | 10.1               | 11.1                  | 11.1                |
| All | 10    | 98.0  | 7.1  | 10.2 | 12.2              | 14.3               | 15.3                  | 15.3                |
| All | 11    | 2.0   | 7.1  | 6.1  | 9.1               | 7.1                | 6.1                   | 6.1                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### Juvenile Rearing and Outmigration

Table L.2-15. Percent of months outside the 55.4°F to 68°F optimal water temperature range for winter-run Chinook salmon growth, smoltification, and predation vulnerability by water year type and month, and for all years combined, Sacramento River at Keswick, July through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 3.6   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 8     | 17.9  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 9     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 10    | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 11    | 89.3  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 7     | 7.7   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 8     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 9     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 10    | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 92.9              | 92.9               | 85.7                  | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 7     | 27.8  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 8     | 16.7  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 9     | 5.6   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 5.6   | 94.4  | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 11    | 100.0 | 94.4  | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 7     | 25.0  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 8     | 8.3   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 9     | 4.2   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 4.2   | 100.0 | 100.0 | 95.8              | 95.8               | 95.8                  | 95.8                |
| D   | 11    | 100.0 | 100.0 | 95.8  | 91.7              | 91.7               | 91.7                  | 95.8                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 7     | 43.8  | 100.0 | 93.8  | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 8     | 50.0  | 93.8  | 62.5  | 81.3              | 56.3               | 62.5                  | 62.5                |
| C   | 9     | 12.5  | 56.3  | 50.0  | 68.8              | 43.8               | 43.8                  | 50.0                |
| C   | 10    | 0.0   | 60.0  | 40.0  | 26.7              | 20.0               | 13.3                  | 13.3                |



| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| C   | 11    | 100.0 | 46.7  | 40.0  | 33.3              | 40.0               | 40.0                  | 40.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 7     | 20.2  | 100.0 | 99.0  | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 8     | 18.2  | 99.0  | 93.9  | 97.0              | 92.9               | 93.9                  | 93.9                |
| All | 9     | 4.0   | 92.9  | 91.9  | 94.9              | 90.9               | 90.9                  | 91.9                |
| All | 10    | 2.0   | 92.9  | 90.8  | 87.8              | 85.7               | 84.7                  | 84.7                |
| All | 11    | 97.0  | 90.9  | 89.9  | 86.9              | 86.9               | 85.9                  | 88.9                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-16. Percent of months outside the 55.4°F to 68°F optimal water temperature range for winter-run Chinook salmon growth, smoltification, and predation vulnerability by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, July through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 100.0 | 0.0   | 7.1   | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 53.6  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0   | 60.7  | 71.4              | 71.4               | 71.4                  | 71.4                |
| W   | 11    | 89.3  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 61.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0   | 30.8  | 38.5              | 38.5               | 38.5                  | 38.5                |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 7     | 100.0 | 0.0   | 5.6   | 5.6               | 5.6                | 5.6                   | 5.6                 |
| BN  | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 72.2  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0   | 16.7  | 11.1              | 11.1               | 16.7                  | 22.2                |
| BN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 95.8  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0   | 0.0   | 12.5  | 12.5              | 12.5               | 12.5                  | 12.5                |
| D   | 11    | 95.8  | 95.8  | 91.7  | 91.7              | 91.7               | 91.7                  | 91.7                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 6.3                | 6.3                   | 6.3                 |
| C   | 9     | 100.0 | 0.0   | 6.3   | 0.0               | 25.0               | 25.0                  | 18.8                |
| C   | 10    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 100.0 | 46.7  | 46.7  | 46.7              | 60.0               | 60.0                  | 60.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 7     | 100.0 | 0.0   | 3.0   | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 1.0                | 1.0                   | 1.0                 |
| All | 9     | 75.8  | 0.0   | 1.0   | 0.0               | 4.0                | 4.0                   | 3.0                 |
| All | 10    | 0.0   | 0.0   | 27.6  | 30.6              | 30.6               | 31.6                  | 32.7                |
| All | 11    | 96.0  | 90.9  | 89.9  | 89.9              | 90.9               | 90.9                  | 90.9                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-17. Percent of months outside the 55.4°F to 68°F optimal water temperature range for winter-run Chinook salmon growth, smoltification, and predation vulnerability by water year type and month, and for all years combined, Sacramento River at Hamilton City, July through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 100.0 | 25.0  | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 14.3  | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 92.9  | 3.6   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0   | 0.0   | 3.6               | 3.6                | 3.6                   | 0.0                 |
| W   | 11    | 71.4  | 89.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| AN  | 7     | 100.0 | 7.7   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 92.3  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 85.7  | 100.0 | 100.0 | 100.0             | 92.9               | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 7     | 100.0 | 11.1  | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 77.8  | 83.3  | 94.4  | 94.4              | 83.3               | 83.3                  | 83.3                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 4.2   | 4.2   | 4.2               | 4.2                | 4.2                   | 4.2                 |
| D   | 9     | 100.0 | 4.2   | 4.2   | 4.2               | 4.2                | 4.2                   | 4.2                 |
| D   | 10    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 70.8  | 83.3  | 83.3  | 79.2              | 75.0               | 79.2                  | 83.3                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 7     | 100.0 | 18.8  | 6.3   | 25.0              | 12.5               | 6.3                   | 6.3                 |
| C   | 8     | 100.0 | 12.5  | 37.5  | 31.3              | 43.8               | 50.0                  | 50.0                |
| C   | 9     | 100.0 | 6.3   | 37.5  | 25.0              | 43.8               | 43.8                  | 43.8                |
| C   | 10    | 6.7   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 60.0  | 40.0  | 46.7  | 33.3              | 40.0               | 40.0                  | 40.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 7     | 100.0 | 13.1  | 1.0   | 4.0               | 2.0                | 1.0                   | 1.0                 |
| All | 8     | 100.0 | 7.1   | 7.1   | 6.1               | 8.1                | 9.1                   | 9.1                 |
| All | 9     | 97.0  | 3.0   | 7.1   | 5.1               | 8.1                | 8.1                   | 8.1                 |
| All | 10    | 1.0   | 0.0   | 0.0   | 1.0               | 1.0                | 1.0                   | 0.0                 |
| All | 11    | 72.7  | 80.8  | 86.9  | 83.8              | 80.8               | 82.8                  | 83.8                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-18. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for juvenile winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Keswick, July through December.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| All | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-19. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for juvenile winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, July through December.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 3.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 7.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 11.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 11.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 8     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 37.5 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 25.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 11.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 9.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-20. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for juvenile winter-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Hamilton City, July through December.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 85.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 53.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 69.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 9     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 88.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 77.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 87.5  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 83.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 4.2   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 93.8  | 0.0  | 0.0 | 0.0               | 0.0                | 6.3                   | 0.0                 |
| C   | 9     | 12.5  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 90.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 73.7  | 0.0  | 0.0 | 0.0               | 0.0                | 1.0                   | 0.0                 |
| All | 9     | 3.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### L.2.3.1.3 Spring-run Chinook Salmon

#### Adult Migration

Table L.2-21. Percent of months outside the 37.9°F to 68°F water temperature range for successful migration of adult spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Keswick, March through September.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 3.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 17.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 27.8 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 16.7 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 5.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 25.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 8.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |



| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 43.8 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 50.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 9     | 12.5 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 20.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 18.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 9     | 4.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-22. Percent of months outside the 37.9°F to 68°F water temperature range for successful migration of adult spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, March through September.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 28.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 53.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 76.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 9     | 61.5  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 88.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 72.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 12.5  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 83.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 95.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 12.5  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 6.3                | 6.3                   | 6.3                 |
| C   | 9     | 100.0 | 0.0  | 6.3 | 0.0               | 25.0               | 25.0                  | 18.8                |
| C   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 5.1   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 70.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 1.0                | 1.0                   | 1.0                 |
| All | 9     | 75.8  | 0.0  | 1.0 | 0.0               | 4.0                | 4.0                   | 3.0                 |
| All | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-23. Percent of months outside the 37.9°F to 68°F water temperature range for successful migration of adult spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Hamilton City, March through September.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 0.0   | 7.1  | 7.1  | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 6     | 96.4  | 21.4 | 14.3 | 10.7              | 10.7               | 10.7                  | 10.7                |
| W   | 7     | 100.0 | 25.0 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 14.3 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 92.9  | 3.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 7.7  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 92.3  | 23.1 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 7.7  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 92.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 5.6  | 5.6  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 11.1 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 45.8  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 4.2  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 4.2  | 4.2  | 4.2               | 4.2                | 4.2                   | 4.2                 |
| D   | 9     | 100.0 | 4.2  | 4.2  | 4.2               | 4.2                | 4.2                   | 4.2                 |
| D   | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 62.5  | 0.0  | 0.0  | 6.3               | 6.3                | 6.3                   | 6.3                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 6     | 100.0 | 6.3  | 0.0  | 12.5              | 6.3                | 12.5                  | 12.5                |
| C   | 7     | 100.0 | 18.8 | 6.3  | 25.0              | 12.5               | 6.3                   | 6.3                 |
| C   | 8     | 100.0 | 12.5 | 37.5 | 31.3              | 43.8               | 50.0                  | 50.0                |
| C   | 9     | 100.0 | 6.3  | 37.5 | 25.0              | 43.8               | 43.8                  | 43.8                |
| C   | 10    | 6.7   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 30.3  | 3.0  | 2.0  | 3.0               | 3.0                | 3.0                   | 3.0                 |
| All | 6     | 98.0  | 12.1 | 5.1  | 5.1               | 4.0                | 5.1                   | 5.1                 |
| All | 7     | 100.0 | 13.1 | 1.0  | 4.0               | 2.0                | 1.0                   | 1.0                 |
| All | 8     | 100.0 | 7.1  | 7.1  | 6.1               | 8.1                | 9.1                   | 9.1                 |
| All | 9     | 97.0  | 3.0  | 7.1  | 5.1               | 8.1                | 8.1                   | 8.1                 |
| All | 10    | 1.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-24. Percent of months outside the 37.9°F to 68°F water temperature range for successful migration of adult spring-run Chinook salmon by water year type and month, and for all years combined, Clear Creek below Whiskeytown, March through September.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 25.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 32.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 17.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 7.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 30.8 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 10    | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 5.6  | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 38.9 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 61.1 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 61.1 | 16.7 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 38.9 | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 8.3  | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 62.5 | 16.7 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 62.5 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 70.8 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 37.5 | 12.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 6.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 12.5 | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 7     | 87.5 | 31.3 | 0.0 | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 8     | 75.0 | 37.5 | 6.3 | 18.8              | 25.0               | 18.8                  | 18.8                |
| C   | 9     | 87.5 | 43.8 | 6.3 | 18.8              | 25.0               | 25.0                  | 25.0                |
| C   | 10    | 66.7 | 26.7 | 0.0 | 13.3              | 13.3               | 13.3                  | 13.3                |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 5.1  | 5.1  | 0.0 | 1.0               | 1.0                | 1.0                   | 1.0                 |
| All | 7     | 44.4 | 10.1 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 51.5 | 16.2 | 1.0 | 3.0               | 4.0                | 3.0                   | 3.0                 |
| All | 9     | 48.5 | 19.2 | 2.0 | 3.0               | 6.1                | 6.1                   | 6.1                 |
| All | 10    | 29.6 | 9.2  | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### Adult Holding and Spawning

Table L.2-25. Percent of months outside the 42.1°F to 55°F water temperature range for spawning initiation of spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Keswick, April through October.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0   | 7.1  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 25.0  | 10.7 | 14.3 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 96.4  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 23.1 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 53.8  | 0.0  | 15.4 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 5.6   | 22.2 | 16.7 | 11.1              | 16.7               | 22.2                  | 16.7                |
| BN  | 5     | 100.0 | 5.6  | 33.3 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 100.0 | 5.6  | 0.0  | 0.0               | 5.6                | 5.6                   | 5.6                 |
| D   | 4     | 12.5  | 20.8 | 20.8 | 29.2              | 33.3               | 25.0                  | 29.2                |
| D   | 5     | 100.0 | 8.3  | 58.3 | 4.2               | 0.0                | 8.3                   | 8.3                 |
| D   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 100.0 | 0.0  | 0.0  | 4.2               | 4.2                | 4.2                   | 4.2                 |
| C   | 4     | 37.5  | 25.0 | 12.5 | 6.3               | 6.3                | 6.3                   | 6.3                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 5     | 100.0 | 18.8 | 25.0 | 6.3               | 12.5               | 6.3                   | 6.3                 |
| C   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 6.3  | 0.0               | 6.3                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 6.3  | 37.5 | 18.8              | 43.8               | 37.5                  | 37.5                |
| C   | 9     | 100.0 | 43.8 | 50.0 | 43.8              | 56.3               | 56.3                  | 56.3                |
| C   | 10    | 100.0 | 40.0 | 66.7 | 73.3              | 86.7               | 86.7                  | 86.7                |
| All | 4     | 10.1  | 18.2 | 10.1 | 10.1              | 12.1               | 11.1                  | 11.1                |
| All | 5     | 72.7  | 9.1  | 30.3 | 2.0               | 2.0                | 3.0                   | 3.0                 |
| All | 6     | 99.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 1.0  | 0.0               | 1.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 1.0  | 6.1  | 3.0               | 7.1                | 6.1                   | 6.1                 |
| All | 9     | 100.0 | 7.1  | 8.1  | 7.1               | 9.1                | 9.1                   | 9.1                 |
| All | 10    | 100.0 | 7.1  | 10.2 | 12.2              | 15.3               | 15.3                  | 15.3                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-26. Percent of months outside the 42.1°F to 55°F water temperature range for spawning initiation of spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, April through October.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 28.6  | 71.4  | 75.0  | 75.0              | 75.0               | 75.0                  | 75.0                |
| W   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 7     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 10    | 100.0 | 100.0 | 64.3  | 53.6              | 50.0               | 46.4                  | 50.0                |
| AN  | 4     | 76.9  | 92.3  | 92.3  | 92.3              | 92.3               | 92.3                  | 92.3                |
| AN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 7     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| AN  | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 10    | 100.0 | 100.0 | 84.6  | 84.6              | 84.6               | 84.6                  | 84.6                |
| BN  | 4     | 83.3  | 100.0 | 94.4  | 94.4              | 94.4               | 94.4                  | 94.4                |
| BN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 7     | 100.0 | 100.0 | 94.4  | 94.4              | 94.4               | 94.4                  | 100.0               |
| BN  | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 100.0 | 100.0 | 94.4  | 100.0             | 100.0              | 100.0                 | 94.4                |
| D   | 4     | 91.7  | 95.8  | 91.7  | 91.7              | 91.7               | 95.8                  | 95.8                |
| D   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 7     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 100.0 | 100.0 | 100.0 | 91.7              | 91.7               | 95.8                  | 95.8                |
| C   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 7     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 10    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 4     | 71.7  | 89.9  | 88.9  | 88.9              | 88.9               | 89.9                  | 89.9                |
| All | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 7     | 100.0 | 100.0 | 99.0  | 99.0              | 99.0               | 99.0                  | 100.0               |
| All | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 10    | 100.0 | 100.0 | 86.7  | 82.7              | 81.6               | 81.6                  | 81.6                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.



Table L.2-27. Percent of months outside the 42.1°F to 55°F water temperature range for spawning initiation of spring-run Chinook salmon by water year type and month, and for all years combined, Clear Creek below Whiskeytown, April through October.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 100.0 | 0.0  | 7.1 | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 7     | 100.0 | 0.0  | 3.6 | 3.6               | 0.0                | 3.6                   | 3.6                 |
| W   | 8     | 100.0 | 0.0  | 3.6 | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 9     | 100.0 | 0.0  | 3.6 | 3.6               | 0.0                | 3.6                   | 3.6                 |
| W   | 10    | 92.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 0.0  | 0.0 | 7.7               | 7.7                | 7.7                   | 7.7                 |
| AN  | 7     | 100.0 | 0.0  | 7.7 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 5.6   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 5.6  | 0.0 | 5.6               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 16.7 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 100.0 | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 29.2 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 87.5  | 33.3 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 6     | 100.0 | 18.8 | 0.0  | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 7     | 100.0 | 37.5 | 0.0  | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 8     | 100.0 | 37.5 | 6.3  | 25.0              | 31.3               | 25.0                  | 25.0                |
| C   | 9     | 100.0 | 50.0 | 12.5 | 25.0              | 31.3               | 31.3                  | 31.3                |
| C   | 10    | 100.0 | 40.0 | 6.7  | 20.0              | 20.0               | 20.0                  | 20.0                |
| All | 4     | 1.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 100.0 | 1.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 100.0 | 5.1  | 2.0  | 4.0               | 3.0                | 3.0                   | 3.0                 |
| All | 7     | 100.0 | 15.2 | 2.0  | 3.0               | 2.0                | 3.0                   | 3.0                 |
| All | 8     | 100.0 | 16.2 | 2.0  | 5.1               | 6.1                | 5.1                   | 5.1                 |
| All | 9     | 100.0 | 20.2 | 4.0  | 5.1               | 7.1                | 8.1                   | 8.1                 |
| All | 10    | 94.9  | 16.3 | 1.0  | 3.1               | 3.1                | 3.1                   | 3.1                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-28. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult holding and spawning spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Keswick, April through October.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 64.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 57.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 76.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| AN  | 10    | 38.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 33.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 29.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 12.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 50.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 25.0 | 6.3               | 18.8               | 18.8                  | 18.8                |
| C   | 9     | 100.0 | 6.3  | 37.5 | 18.8              | 50.0               | 50.0                  | 50.0                |
| C   | 10    | 46.7  | 33.3 | 46.7 | 33.3              | 53.3               | 53.3                  | 53.3                |
| All | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 24.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 86.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 0.0  | 4.0  | 1.0               | 3.0                | 3.0                   | 3.0                 |
| All | 9     | 100.0 | 1.0  | 6.1  | 3.0               | 8.1                | 8.1                   | 8.1                 |
| All | 10    | 37.8  | 5.1  | 7.1  | 5.1               | 8.2                | 8.2                   | 8.2                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-29. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult holding and spawning spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, April through October.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0   | 3.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 60.7  | 67.9 | 75.0 | 42.9              | 42.9               | 42.9                  | 42.9                |
| W   | 6     | 100.0 | 92.9 | 60.7 | 46.4              | 46.4               | 46.4                  | 46.4                |
| W   | 7     | 100.0 | 67.9 | 10.7 | 10.7              | 10.7               | 10.7                  | 10.7                |
| W   | 8     | 100.0 | 50.0 | 14.3 | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 9     | 100.0 | 42.9 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 89.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 23.1 | 7.7  | 7.7               | 7.7                | 7.7                   | 0.0                 |
| AN  | 5     | 92.3  | 76.9 | 69.2 | 53.8              | 53.8               | 53.8                  | 46.2                |
| AN  | 6     | 100.0 | 69.2 | 46.2 | 30.8              | 30.8               | 30.8                  | 46.2                |
| AN  | 7     | 100.0 | 30.8 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 46.2 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 23.1 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 84.6  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 33.3 | 11.1 | 11.1              | 11.1               | 11.1                  | 5.6                 |
| BN  | 5     | 94.4  | 44.4 | 44.4 | 16.7              | 27.8               | 27.8                  | 22.2                |
| BN  | 6     | 100.0 | 66.7 | 44.4 | 33.3              | 33.3               | 33.3                  | 44.4                |
| BN  | 7     | 100.0 | 33.3 | 16.7 | 16.7              | 11.1               | 16.7                  | 16.7                |
| BN  | 8     | 100.0 | 38.9 | 22.2 | 5.6               | 5.6                | 5.6                   | 16.7                |
| BN  | 9     | 100.0 | 38.9 | 33.3 | 22.2              | 22.2               | 22.2                  | 16.7                |
| BN  | 10    | 72.2  | 0.0  | 5.6  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 8.3   | 54.2 | 20.8 | 20.8              | 20.8               | 16.7                  | 16.7                |
| D   | 5     | 95.8  | 66.7 | 70.8 | 54.2              | 54.2               | 45.8                  | 58.3                |
| D   | 6     | 100.0 | 45.8 | 29.2 | 16.7              | 12.5               | 20.8                  | 25.0                |
| D   | 7     | 100.0 | 33.3 | 16.7 | 4.2               | 4.2                | 4.2                   | 8.3                 |
| D   | 8     | 100.0 | 20.8 | 25.0 | 8.3               | 8.3                | 8.3                   | 12.5                |
| D   | 9     | 100.0 | 20.8 | 33.3 | 33.3              | 33.3               | 33.3                  | 33.3                |
| D   | 10    | 75.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 50.0  | 62.5 | 37.5 | 43.8              | 6.3                | 6.3                   | 6.3                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 5     | 100.0 | 56.3 | 56.3 | 43.8              | 50.0               | 50.0                  | 56.3                |
| C   | 6     | 100.0 | 93.8 | 68.8 | 62.5              | 50.0               | 50.0                  | 43.8                |
| C   | 7     | 100.0 | 81.3 | 81.3 | 81.3              | 68.8               | 68.8                  | 62.5                |
| C   | 8     | 100.0 | 93.8 | 81.3 | 81.3              | 87.5               | 81.3                  | 81.3                |
| C   | 9     | 100.0 | 62.5 | 93.8 | 75.0              | 93.8               | 93.8                  | 87.5                |
| C   | 10    | 100.0 | 40.0 | 60.0 | 60.0              | 60.0               | 53.3                  | 53.3                |
| All | 4     | 10.1  | 33.3 | 14.1 | 15.2              | 9.1                | 8.1                   | 6.1                 |
| All | 5     | 85.9  | 62.6 | 64.6 | 42.4              | 45.5               | 43.4                  | 45.5                |
| All | 6     | 100.0 | 73.7 | 49.5 | 37.4              | 34.3               | 36.4                  | 40.4                |
| All | 7     | 100.0 | 50.5 | 23.2 | 20.2              | 17.2               | 18.2                  | 18.2                |
| All | 8     | 100.0 | 47.5 | 27.3 | 18.2              | 19.2               | 18.2                  | 21.2                |
| All | 9     | 100.0 | 37.4 | 29.3 | 24.2              | 27.3               | 27.3                  | 25.3                |
| All | 10    | 83.7  | 6.1  | 10.2 | 9.2               | 9.2                | 8.2                   | 8.2                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-30. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult holding and spawning spring-run Chinook salmon by water year type and month, and for all years combined, Clear Creek below Whiskeytown, April through October.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 100.0 | 0.0  | 0.0 | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 3.6                 |
| W   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 25.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 9     | 92.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 7.7   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 5.6   | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 16.7 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 50.0  | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 8.3   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 20.8 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 54.2  | 29.2 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 18.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 7     | 100.0 | 37.5 | 0.0 | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 8     | 100.0 | 37.5 | 6.3 | 18.8              | 25.0               | 18.8                  | 18.8                |
| C   | 9     | 100.0 | 43.8 | 6.3 | 18.8              | 25.0               | 25.0                  | 25.0                |
| C   | 10    | 73.3  | 26.7 | 0.0 | 13.3              | 13.3               | 13.3                  | 13.3                |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 6.1   | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 100.0 | 5.1  | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 7     | 100.0 | 12.1 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 100.0 | 16.2 | 1.0 | 3.0               | 4.0                | 3.0                   | 4.0                 |
| All | 9     | 99.0  | 19.2 | 2.0 | 3.0               | 6.1                | 6.1                   | 6.1                 |
| All | 10    | 41.8  | 13.3 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### Egg Incubation and Fry Emergence

Table L.2-31. Percent of months outside the 42.8°F to 56°F water temperature range for spring-run Chinook salmon egg incubation and fry emergence by water year type and month, and for all years combined, Sacramento River at Keswick, September through March.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 92.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 3.6   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 10.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 82.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 7.1   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 92.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 28.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 76.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 7.7   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 94.4  | 0.0  | 0.0 | 0.0               | 5.6                | 5.6                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 5.6                | 5.6                   | 5.6                 |
| BN  | 12    | 27.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 61.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 91.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 16.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 33.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 4.2   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 9     | 100.0 | 31.3 | 43.8 | 31.3              | 50.0               | 50.0                  | 50.0                |
| C   | 10    | 100.0 | 40.0 | 60.0 | 60.0              | 73.3               | 60.0                  | 60.0                |
| C   | 11    | 0.0   | 46.7 | 33.3 | 60.0              | 40.0               | 33.3                  | 26.7                |
| C   | 12    | 13.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 12.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 9     | 100.0 | 5.1  | 7.1  | 5.1               | 8.1                | 8.1                   | 8.1                 |
| All | 10    | 93.9  | 6.1  | 9.2  | 9.2               | 12.2               | 10.2                  | 9.2                 |
| All | 11    | 1.0   | 7.1  | 5.1  | 9.1               | 7.1                | 6.1                   | 5.1                 |
| All | 12    | 18.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 54.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 4.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-32. Percent of months outside the 42.8°F to 56°F water temperature range for spring-run Chinook salmon egg incubation and fry emergence by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, September through March.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 9     | 100.0 | 100.0 | 100.0 | 96.4              | 96.4               | 92.9                  | 85.7                |
| W   | 10    | 100.0 | 85.7  | 3.6   | 3.6               | 3.6                | 3.6                   | 7.1                 |
| W   | 11    | 10.7  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 3.6   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 100.0 | 100.0 | 92.3              | 92.3               | 84.6                  | 92.3                |
| AN  | 10    | 100.0 | 92.3  | 23.1  | 15.4              | 7.7                | 23.1                  | 23.1                |
| AN  | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |



| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| AN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 100.0 | 94.4  | 55.6  | 55.6              | 61.1               | 66.7                  | 61.1                |
| BN  | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 5.6   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 5.6   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 16.7  | 11.1  | 11.1              | 5.6                | 5.6                   | 5.6                 |
| D   | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 100.0 | 75.0  | 75.0  | 75.0              | 75.0               | 75.0                  | 75.0                |
| D   | 11    | 0.0   | 0.0   | 0.0   | 4.2               | 4.2                | 4.2                   | 0.0                 |
| D   | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 4.2   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 4.2   | 8.3   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 10    | 100.0 | 93.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 11    | 0.0   | 33.3  | 26.7  | 33.3              | 33.3               | 26.7                  | 26.7                |
| C   | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 12.5  | 43.8  | 25.0  | 25.0              | 12.5               | 12.5                  | 12.5                |
| All | 9     | 100.0 | 100.0 | 100.0 | 98.0              | 98.0               | 96.0                  | 94.9                |
| All | 10    | 100.0 | 86.7  | 48.0  | 46.9              | 46.9               | 50.0                  | 50.0                |
| All | 11    | 3.0   | 5.1   | 4.0   | 6.1               | 6.1                | 5.1                   | 4.0                 |
| All | 12    | 1.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 2.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 3.0   | 13.1  | 6.1   | 6.1               | 3.0                | 3.0                   | 3.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-33. Percent of months outside the 42.8°F to 56°F water temperature range for spring-run Chinook salmon egg incubation and fry emergence by water year type and month, and for all years combined, Clear Creek below Whiskeytown, September through March.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 9     | 100.0 | 0.0  | 3.6 | 3.6               | 0.0                | 3.6                   | 0.0                 |
| W   | 10    | 71.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 3.6   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 46.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 71.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 3.6   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 14.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 57.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 46.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 16.7 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 88.9  | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 22.2  | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 38.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 77.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 5.6   | 5.6  | 0.0 | 5.6               | 5.6                | 5.6                   | 5.6                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 83.3  | 33.3 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 29.2  | 12.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 25.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 58.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 9     | 100.0 | 50.0 | 6.3 | 25.0              | 31.3               | 31.3                  | 31.3                |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 10    | 100.0 | 33.3 | 6.7  | 20.0              | 20.0               | 20.0                  | 20.0                |
| C   | 11    | 46.7  | 26.7 | 13.3 | 13.3              | 13.3               | 13.3                  | 13.3                |
| C   | 12    | 33.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 56.3  | 6.3  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 6.3   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 9     | 100.0 | 20.2 | 3.0  | 5.1               | 7.1                | 8.1                   | 7.1                 |
| All | 10    | 85.7  | 15.3 | 1.0  | 3.1               | 3.1                | 3.1                   | 3.1                 |
| All | 11    | 21.2  | 8.1  | 2.0  | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 12    | 39.4  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 63.6  | 1.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 3.0   | 1.0  | 0.0  | 1.0               | 1.0                | 1.0                   | 1.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### Juvenile Rearing and Outmigration

Table L.2-34. Percent of months outside the 55.4°F to 68°F optimal water temperature range for spring-run Chinook salmon growth, smoltification, and predation vulnerability by water year type and month, and for all years combined, Sacramento River at Keswick, November through June.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 11    | 89.3  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 4     | 100.0 | 92.9  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 5     | 78.6  | 96.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 6     | 3.6   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 92.9              | 92.9               | 85.7                  | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| AN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 4     | 100.0 | 92.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 5     | 53.8  | 100.0 | 92.3  | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 11    | 100.0 | 94.4  | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 4     | 100.0 | 88.9  | 88.9  | 88.9              | 83.3               | 83.3                  | 83.3                |
| BN  | 5     | 5.6   | 100.0 | 83.3  | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 6     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 11    | 100.0 | 100.0 | 95.8  | 91.7              | 91.7               | 91.7                  | 95.8                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 4     | 91.7  | 83.3  | 79.2  | 87.5              | 83.3               | 91.7                  | 83.3                |
| D   | 5     | 4.2   | 91.7  | 70.8  | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 6     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 11    | 100.0 | 46.7  | 40.0  | 33.3              | 40.0               | 40.0                  | 40.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 4     | 62.5  | 75.0  | 87.5  | 93.8              | 93.8               | 93.8                  | 93.8                |
| C   | 5     | 0.0   | 87.5  | 75.0  | 100.0             | 100.0              | 93.8                  | 100.0               |
| C   | 6     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 11    | 97.0  | 90.9  | 89.9  | 86.9              | 86.9               | 85.9                  | 88.9                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1 | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| All | 4     | 91.9 | 86.9  | 90.9  | 93.9              | 91.9               | 93.9                  | 91.9                |
| All | 5     | 31.3 | 94.9  | 84.8  | 100.0             | 100.0              | 99.0                  | 100.0               |
| All | 6     | 1.0  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-35. Percent of months outside the 55.4°F to 68°F optimal water temperature range for spring-run Chinook salmon growth, smoltification, and predation vulnerability by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, November through June.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 11    | 89.3  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 3     | 100.0 | 92.9  | 92.9  | 92.9              | 92.9               | 92.9                  | 92.9                |
| W   | 4     | 75.0  | 32.1  | 32.1  | 32.1              | 32.1               | 32.1                  | 32.1                |
| W   | 5     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 28.6  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 4     | 46.2  | 7.7   | 7.7   | 7.7               | 7.7                | 7.7                   | 7.7                 |
| AN  | 5     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 76.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 3     | 100.0 | 83.3  | 88.9  | 83.3              | 88.9               | 88.9                  | 83.3                |
| BN  | 4     | 27.8  | 5.6   | 11.1  | 11.1              | 11.1               | 11.1                  | 11.1                |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| BN  | 5     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 88.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 95.8  | 95.8  | 91.7  | 91.7              | 91.7               | 91.7                  | 91.7                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 3     | 95.8  | 83.3  | 91.7  | 95.8              | 95.8               | 95.8                  | 95.8                |
| D   | 4     | 12.5  | 4.2   | 8.3   | 8.3               | 8.3                | 8.3                   | 4.2                 |
| D   | 5     | 12.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 83.3  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 100.0 | 46.7  | 46.7  | 46.7              | 60.0               | 60.0                  | 60.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 3     | 81.3  | 50.0  | 62.5  | 56.3              | 68.8               | 75.0                  | 75.0                |
| C   | 4     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 12.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 96.0  | 90.9  | 89.9  | 89.9              | 90.9               | 90.9                  | 90.9                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 3     | 96.0  | 82.8  | 87.9  | 86.9              | 89.9               | 90.9                  | 89.9                |
| All | 4     | 35.4  | 12.1  | 14.1  | 14.1              | 14.1               | 14.1                  | 13.1                |
| All | 5     | 5.1   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 70.7  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-36. Percent of months outside the 55.4°F to 68°F optimal water temperature range for spring-run Chinook salmon growth, smoltification, and predation vulnerability by water year type and month, and for all years combined, Sacramento River at Hamilton City, November through June.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 11    | 71.4  | 89.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 3     | 92.9  | 92.9  | 92.9  | 92.9              | 92.9               | 92.9                  | 92.9                |
| W   | 4     | 42.9  | 17.9  | 21.4  | 21.4              | 21.4               | 17.9                  | 17.9                |
| W   | 5     | 0.0   | 7.1   | 7.1   | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 6     | 96.4  | 21.4  | 14.3  | 10.7              | 10.7               | 10.7                  | 10.7                |
| AN  | 11    | 85.7  | 100.0 | 100.0 | 100.0             | 92.9               | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 3     | 100.0 | 84.6  | 84.6  | 84.6              | 84.6               | 84.6                  | 84.6                |
| AN  | 4     | 15.4  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 7.7   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 92.3  | 23.1  | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 77.8  | 83.3  | 94.4  | 94.4              | 83.3               | 83.3                  | 83.3                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 3     | 94.4  | 61.1  | 61.1  | 61.1              | 61.1               | 61.1                  | 61.1                |
| BN  | 4     | 5.6   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 5.6   | 5.6   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 70.8  | 83.3  | 83.3  | 79.2              | 75.0               | 79.2                  | 83.3                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 3     | 91.7  | 45.8  | 54.2  | 45.8              | 50.0               | 50.0                  | 45.8                |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| D   | 4     | 8.3   | 4.2   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 45.8  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 4.2   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 60.0  | 40.0  | 46.7  | 33.3              | 40.0               | 40.0                  | 40.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 2     | 100.0 | 87.5  | 93.8  | 87.5              | 93.8               | 87.5                  | 87.5                |
| C   | 3     | 43.8  | 18.8  | 25.0  | 18.8              | 31.3               | 31.3                  | 31.3                |
| C   | 4     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 62.5  | 0.0   | 0.0   | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 6     | 100.0 | 6.3   | 0.0   | 12.5              | 6.3                | 12.5                  | 12.5                |
| All | 11    | 72.7  | 80.8  | 86.9  | 83.8              | 80.8               | 82.8                  | 83.8                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 2     | 100.0 | 98.0  | 99.0  | 98.0              | 99.0               | 98.0                  | 98.0                |
| All | 3     | 85.9  | 62.6  | 65.7  | 62.6              | 65.7               | 65.7                  | 64.6                |
| All | 4     | 17.2  | 6.1   | 6.1   | 6.1               | 6.1                | 5.1                   | 5.1                 |
| All | 5     | 30.3  | 3.0   | 2.0   | 3.0               | 3.0                | 3.0                   | 3.0                 |
| All | 6     | 98.0  | 12.1  | 5.1   | 5.1               | 4.0                | 5.1                   | 5.1                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-37. Percent of months outside the 55.4°F to 68°F optimal water temperature range for spring-run Chinook salmon growth, smoltification, and predation vulnerability by water year type and month, and for all years combined, Clear Creek below Whiskeytown, November through June.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 11    | 96.4  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |



| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 6     | 0.0   | 100.0 | 92.9  | 96.4              | 96.4               | 96.4                  | 96.4                |
| AN  | 11    | 85.7  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 5     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 0.0   | 100.0 | 100.0 | 92.3              | 92.3               | 92.3                  | 92.3                |
| BN  | 11    | 77.8  | 94.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 2     | 100.0 | 94.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 5     | 5.6   | 94.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 6     | 5.6   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 11    | 70.8  | 87.5  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 5     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 6     | 8.3   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 11    | 53.3  | 73.3  | 86.7  | 86.7              | 86.7               | 86.7                  | 86.7                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 1     | 100.0 | 93.8  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 2     | 93.8  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 5     | 6.3   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 6     | 12.5  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| All | 11    | 78.8  | 91.9  | 98.0  | 98.0              | 98.0               | 98.0                  | 98.0                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 1     | 100.0 | 99.0  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 2     | 99.0  | 99.0  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 5     | 2.0   | 99.0  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 6     | 5.1   | 100.0 | 98.0  | 98.0              | 98.0               | 98.0                  | 98.0                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-38. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for juvenile spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Keswick, November through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-39. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for juvenile spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, November through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-40. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for juvenile spring-run Chinook salmon by water year type and month, and for all years combined, Sacramento River at Hamilton City, November through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 23.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 33.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 33.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 56.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 26.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-41. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for juvenile spring-run Chinook salmon by water year type and month, and for all years combined, Clear Creek below Whiskeytown, November through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 5.6  | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 8.3  | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 6.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 6.3  | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 4.0  | 5.1  | 0.0 | 1.0               | 1.0                | 1.0                   | 1.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.



## Yearling Rearing

Table L.2-42. Percent of months outside the 55.4°F to 68°F optimal water temperature range for rearing spring-run Chinook salmon yearlings without food limitation by water year type and month, and for all years combined, Sacramento River at Keswick, April through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 100.0 | 92.9  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 5     | 78.6  | 96.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 6     | 3.6   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 7     | 3.6   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 8     | 17.9  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 9     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 10    | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 11    | 89.3  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 4     | 100.0 | 92.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 5     | 53.8  | 100.0 | 92.3  | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 7     | 7.7   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 8     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 9     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 10    | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 92.9              | 92.9               | 85.7                  | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 4     | 100.0 | 88.9  | 88.9  | 88.9              | 83.3               | 83.3                  | 83.3                |
| BN  | 5     | 5.6   | 100.0 | 83.3  | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 6     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 7     | 27.8  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 8     | 16.7  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 9     | 5.6   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 5.6   | 94.4  | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 11    | 100.0 | 94.4  | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 4     | 91.7  | 83.3  | 79.2  | 87.5              | 83.3               | 91.7                  | 83.3                |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| D   | 5     | 4.2   | 91.7  | 70.8  | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 6     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 7     | 25.0  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 8     | 8.3   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 9     | 4.2   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 4.2   | 100.0 | 100.0 | 95.8              | 95.8               | 95.8                  | 95.8                |
| D   | 11    | 100.0 | 100.0 | 95.8  | 91.7              | 91.7               | 91.7                  | 95.8                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 4     | 62.5  | 75.0  | 87.5  | 93.8              | 93.8               | 93.8                  | 93.8                |
| C   | 5     | 0.0   | 87.5  | 75.0  | 100.0             | 100.0              | 93.8                  | 100.0               |
| C   | 6     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 7     | 43.8  | 100.0 | 93.8  | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 8     | 50.0  | 93.8  | 62.5  | 81.3              | 56.3               | 62.5                  | 62.5                |
| C   | 9     | 12.5  | 56.3  | 50.0  | 68.8              | 43.8               | 43.8                  | 50.0                |
| C   | 10    | 0.0   | 60.0  | 40.0  | 26.7              | 20.0               | 13.3                  | 13.3                |
| C   | 11    | 100.0 | 46.7  | 40.0  | 33.3              | 40.0               | 40.0                  | 40.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 4     | 91.9  | 86.9  | 90.9  | 93.9              | 91.9               | 93.9                  | 91.9                |
| All | 5     | 31.3  | 94.9  | 84.8  | 100.0             | 100.0              | 99.0                  | 100.0               |
| All | 6     | 1.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 7     | 20.2  | 100.0 | 99.0  | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 8     | 18.2  | 99.0  | 93.9  | 97.0              | 92.9               | 93.9                  | 93.9                |
| All | 9     | 4.0   | 92.9  | 91.9  | 94.9              | 90.9               | 90.9                  | 91.9                |
| All | 10    | 2.0   | 92.9  | 90.8  | 87.8              | 85.7               | 84.7                  | 84.7                |
| All | 11    | 97.0  | 90.9  | 89.9  | 86.9              | 86.9               | 85.9                  | 88.9                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-43. Percent of months outside the 55.4°F to 68°F optimal water temperature range for rearing spring-run Chinook salmon yearlings without food limitation by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, April through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 75.0  | 32.1  | 32.1  | 32.1              | 32.1               | 32.1                  | 32.1                |
| W   | 5     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 28.6  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0   | 7.1   | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 53.6  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0   | 60.7  | 71.4              | 71.4               | 71.4                  | 71.4                |
| W   | 11    | 89.3  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 4     | 46.2  | 7.7   | 7.7   | 7.7               | 7.7                | 7.7                   | 7.7                 |
| AN  | 5     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 76.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 61.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0   | 30.8  | 38.5              | 38.5               | 38.5                  | 38.5                |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 4     | 27.8  | 5.6   | 11.1  | 11.1              | 11.1               | 11.1                  | 11.1                |
| BN  | 5     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 88.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0   | 5.6   | 5.6               | 5.6                | 5.6                   | 5.6                 |
| BN  | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 72.2  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0   | 16.7  | 11.1              | 11.1               | 16.7                  | 22.2                |
| BN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 4     | 12.5  | 4.2   | 8.3   | 8.3               | 8.3                | 8.3                   | 4.2                 |
| D   | 5     | 12.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| D   | 6     | 83.3  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 95.8  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0   | 0.0   | 12.5  | 12.5              | 12.5               | 12.5                  | 12.5                |
| D   | 11    | 95.8  | 95.8  | 91.7  | 91.7              | 91.7               | 91.7                  | 91.7                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 4     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 12.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 6.3                | 6.3                   | 6.3                 |
| C   | 9     | 100.0 | 0.0   | 6.3   | 0.0               | 25.0               | 25.0                  | 18.8                |
| C   | 10    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 100.0 | 46.7  | 46.7  | 46.7              | 60.0               | 60.0                  | 60.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 4     | 35.4  | 12.1  | 14.1  | 14.1              | 14.1               | 14.1                  | 13.1                |
| All | 5     | 5.1   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 70.7  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0   | 3.0   | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 1.0                | 1.0                   | 1.0                 |
| All | 9     | 75.8  | 0.0   | 1.0   | 0.0               | 4.0                | 4.0                   | 3.0                 |
| All | 10    | 0.0   | 0.0   | 27.6  | 30.6              | 30.6               | 31.6                  | 32.7                |
| All | 11    | 96.0  | 90.9  | 89.9  | 89.9              | 90.9               | 90.9                  | 90.9                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-44. Percent of months outside the 55.4°F to 68°F optimal water temperature range for rearing spring-run Chinook salmon yearlings without food limitation by water year type and month, and for all years combined, Clear Creek below Whiskeytown, April through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 5     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 6     | 0.0   | 100.0 | 92.9  | 96.4              | 96.4               | 96.4                  | 96.4                |
| W   | 7     | 25.0  | 100.0 | 100.0 | 96.4              | 100.0              | 96.4                  | 96.4                |
| W   | 8     | 32.1  | 100.0 | 96.4  | 96.4              | 100.0              | 96.4                  | 96.4                |
| W   | 9     | 17.9  | 100.0 | 96.4  | 96.4              | 100.0              | 96.4                  | 96.4                |
| W   | 10    | 25.0  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 11    | 96.4  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 5     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 0.0   | 100.0 | 100.0 | 92.3              | 92.3               | 92.3                  | 92.3                |
| AN  | 7     | 7.7   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 8     | 30.8  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 9     | 7.7   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 10    | 7.7   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 11    | 85.7  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 5     | 5.6   | 94.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 6     | 5.6   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 7     | 38.9  | 94.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 8     | 61.1  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 9     | 61.1  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 44.4  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 11    | 77.8  | 94.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 5     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| D   | 6     | 8.3   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 7     | 62.5  | 87.5  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 8     | 62.5  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 9     | 70.8  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 50.0  | 79.2  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 11    | 70.8  | 87.5  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 5     | 6.3   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 6     | 12.5  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 7     | 87.5  | 93.8  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 8     | 75.0  | 100.0 | 100.0 | 100.0             | 93.8               | 93.8                  | 93.8                |
| C   | 9     | 87.5  | 93.8  | 93.8  | 93.8              | 93.8               | 93.8                  | 93.8                |
| C   | 10    | 66.7  | 86.7  | 93.3  | 93.3              | 93.3               | 93.3                  | 93.3                |
| C   | 11    | 53.3  | 73.3  | 86.7  | 86.7              | 86.7               | 86.7                  | 86.7                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 5     | 2.0   | 99.0  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 6     | 5.1   | 100.0 | 98.0  | 98.0              | 98.0               | 98.0                  | 98.0                |
| All | 7     | 44.4  | 94.9  | 100.0 | 99.0              | 100.0              | 99.0                  | 99.0                |
| All | 8     | 51.5  | 100.0 | 99.0  | 99.0              | 99.0               | 98.0                  | 98.0                |
| All | 9     | 48.5  | 99.0  | 98.0  | 98.0              | 99.0               | 98.0                  | 98.0                |
| All | 10    | 38.8  | 92.9  | 99.0  | 99.0              | 99.0               | 99.0                  | 99.0                |
| All | 11    | 78.8  | 91.9  | 98.0  | 98.0              | 98.0               | 98.0                  | 98.0                |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-45. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for rearing spring-run Chinook salmon yearlings by water year type and month, and for all years combined, Sacramento River at Keswick, April through December.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.



Table L.2-46. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for rearing spring-run Chinook salmon yearlings by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, April through December.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 3.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 7.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 11.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 11.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 6     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 37.5 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 25.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 11.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 9.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-47. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for rearing spring-run Chinook salmon yearlings by water year type and month, and for all years combined, Clear Creek below Whiskeytown, April through December.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 14.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 7.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 10.7 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 5.6  | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 16.7 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 22.2 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 55.6 | 11.1 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 8.3  | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 7     | 4.2  | 16.7 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 25.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 62.5 | 33.3 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 6.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 6.3  | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 7     | 12.5 | 31.3 | 0.0 | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 8     | 43.8 | 37.5 | 6.3 | 18.8              | 25.0               | 18.8                  | 18.8                |
| C   | 9     | 81.3 | 43.8 | 6.3 | 18.8              | 25.0               | 18.8                  | 18.8                |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 4.0  | 5.1  | 0.0 | 1.0               | 1.0                | 1.0                   | 1.0                 |
| All | 7     | 10.1 | 10.1 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 19.2 | 16.2 | 1.0 | 3.0               | 4.0                | 3.0                   | 3.0                 |
| All | 9     | 42.4 | 17.2 | 2.0 | 3.0               | 6.1                | 5.1                   | 5.1                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### Yearling Outmigration

Table L.2-48. Percent of months outside the 55.4°F to 68°F optimal water temperature range for outmigrating spring-run Chinook salmon yearlings without food limitation by water year type and month, and for all years combined, Sacramento River at Keswick, October through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 10    | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 11    | 89.3  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 10    | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 92.9              | 92.9               | 85.7                  | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 5.6   | 94.4  | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 11    | 100.0 | 94.4  | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 4.2   | 100.0 | 100.0 | 95.8              | 95.8               | 95.8                  | 95.8                |
| D   | 11    | 100.0 | 100.0 | 95.8  | 91.7              | 91.7               | 91.7                  | 95.8                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 10    | 0.0   | 60.0  | 40.0  | 26.7              | 20.0               | 13.3                  | 13.3                |
| C   | 11    | 100.0 | 46.7  | 40.0  | 33.3              | 40.0               | 40.0                  | 40.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 10    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-49. Percent of months outside the 55.4°F to 68°F optimal water temperature range for outmigrating spring-run Chinook salmon yearlings without food limitation by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, October through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 10    | 0.0   | 0.0   | 60.7  | 71.4              | 71.4               | 71.4                  | 71.4                |
| W   | 11    | 89.3  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 10    | 0.0   | 0.0   | 30.8  | 38.5              | 38.5               | 38.5                  | 38.5                |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 0.0   | 0.0   | 16.7  | 11.1              | 11.1               | 16.7                  | 22.2                |
| BN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 94.4               | 94.4                  | 94.4                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 0.0   | 0.0   | 12.5  | 12.5              | 12.5               | 12.5                  | 12.5                |
| D   | 11    | 95.8  | 95.8  | 91.7  | 91.7              | 91.7               | 91.7                  | 91.7                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 10    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 100.0 | 46.7  | 46.7  | 46.7              | 60.0               | 60.0                  | 60.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 10    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-50. Percent of months outside the 55.4°F to 68°F optimal water temperature range for outmigrating spring-run Chinook salmon yearlings without food limitation by water year type and month, and for all years combined, Sacramento River at Hamilton City, October through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 10    | 0.0   | 0.0   | 0.0   | 3.6               | 3.6                | 3.6                   | 0.0                 |
| W   | 11    | 71.4  | 89.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 10    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 85.7  | 100.0 | 100.0 | 100.0             | 92.9               | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 77.8  | 83.3  | 94.4  | 94.4              | 83.3               | 83.3                  | 83.3                |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 70.8  | 83.3  | 83.3  | 79.2              | 75.0               | 79.2                  | 83.3                |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 10    | 6.7   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 60.0  | 40.0  | 46.7  | 33.3              | 40.0               | 40.0                  | 40.0                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 10    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-51. Percent of months outside the 55.4°F to 68°F optimal water temperature range for outmigrating spring-run Chinook salmon yearlings without food limitation by water year type and month, and for all years combined, Clear Creek below Whiskeytown, October through December.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 10    | 25.0  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 11    | 96.4  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 10    | 7.7   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 11    | 85.7  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 44.4  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 11    | 77.8  | 94.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 50.0  | 79.2  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 11    | 70.8  | 87.5  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 10    | 66.7  | 86.7  | 93.3  | 93.3              | 93.3               | 93.3                  | 93.3                |
| C   | 11    | 53.3  | 73.3  | 86.7  | 86.7              | 86.7               | 86.7                  | 86.7                |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 10    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.



Table L.2-52. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for outmigrating spring-run Chinook salmon yearlings by water year type and month, and for all years combined, Sacramento River at Keswick, October through December.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-53. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for outmigrating spring-run Chinook salmon yearlings by water year type and month, and for all years combined, Sacramento River at Red Bluff Diversion Dam, October through December.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-54. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for outmigrating spring-run Chinook salmon yearlings by water year type and month, and for all years combined, Sacramento River at Hamilton City, October through December.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-55. Percent of months above the 75.2°F upper incipient lethal temperature (UILT) for outmigrating spring-run Chinook salmon yearlings by water year type and month, and for all years combined, Clear Creek below Whiskeytown, October through December.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

**L.2.3.1.4 Central Valley Steelhead**

**Adult Migration and Holding**

Table L.2-56. Percent of months outside the 41°F to 66.2°F water temperature range for minimal adult steelhead migration impairment by month and water year type and for all years combined, Sacramento River at Keswick, July through March.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 17.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 57.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 10.7 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 30.8 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 76.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 66.7 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 61.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 16.7 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 5.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 5.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 58.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 8     | 54.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 25.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 81.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 93.8 | 0.0  | 0.0 | 0.0               | 0.0                | 6.3                   | 6.3                 |
| C   | 9     | 31.3 | 0.0  | 6.3 | 0.0               | 6.3                | 12.5                  | 12.5                |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 48.5 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 65.7 | 0.0  | 0.0 | 0.0               | 0.0                | 1.0                   | 1.0                 |
| All | 9     | 17.2 | 0.0  | 1.0 | 0.0               | 1.0                | 2.0                   | 2.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-57. Percent of months outside the 41°F to 66.2°F water temperature range for minimal adult steelhead migration impairment by month and water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, July through March.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 92.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 84.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 6.3  | 0.0               | 12.5               | 12.5                  | 12.5                |
| C   | 9     | 100.0 | 0.0  | 31.3 | 6.3               | 31.3               | 31.3                  | 31.3                |
| C   | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 0.0  | 1.0  | 0.0               | 2.0                | 2.0                   | 2.0                 |
| All | 9     | 96.0  | 0.0  | 5.1  | 1.0               | 5.1                | 5.1                   | 5.1                 |
| All | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.



Table L.2-58. Percent of months outside the 41°F to 66.2°F water temperature range for minimal adult steelhead migration impairment by month and water year type and for all years combined, Sacramento River at Hamilton City, July through March.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 100.0 | 46.4 | 7.1 | 3.6               | 3.6                | 7.1                   | 7.1                 |
| W   | 8     | 100.0 | 28.6 | 7.1 | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 9     | 100.0 | 14.3 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 3.6   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 30.8 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 15.4 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 22.2 | 5.6 | 5.6               | 5.6                | 5.6                   | 5.6                 |
| BN  | 8     | 100.0 | 16.7 | 0.0 | 5.6               | 5.6                | 5.6                   | 5.6                 |
| BN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 11.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 16.7 | 0.0 | 4.2               | 4.2                | 4.2                   | 4.2                 |
| D   | 8     | 100.0 | 8.3  | 8.3 | 4.2               | 4.2                | 4.2                   | 4.2                 |
| D   | 9     | 100.0 | 8.3  | 8.3 | 8.3               | 8.3                | 12.5                  | 12.5                |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 8.3   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 31.3 | 50.0 | 62.5              | 50.0               | 50.0                  | 31.3                |
| C   | 8     | 100.0 | 43.8 | 62.5 | 62.5              | 68.8               | 68.8                  | 62.5                |
| C   | 9     | 100.0 | 25.0 | 50.0 | 43.8              | 62.5               | 62.5                  | 62.5                |
| C   | 10    | 40.0  | 0.0  | 13.3 | 0.0               | 13.3               | 13.3                  | 13.3                |
| C   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 30.3 | 11.1 | 13.1              | 11.1               | 12.1                  | 9.1                 |
| All | 8     | 100.0 | 22.2 | 14.1 | 14.1              | 15.2               | 15.2                  | 14.1                |
| All | 9     | 100.0 | 10.1 | 10.1 | 9.1               | 12.1               | 13.1                  | 13.1                |
| All | 10    | 11.2  | 0.0  | 2.0  | 0.0               | 2.0                | 2.0                   | 2.0                 |
| All | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-59. Percent of months outside the 41°F to 66.2°F water temperature range for minimal adult steelhead migration impairment by month and water year type and for all years combined, Clear Creek below Whiskeytown, July through March.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 57.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 67.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 21.4 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 7.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 3.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 69.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 69.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 72.2 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 83.3 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 66.7 | 16.7 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 44.4 | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 5.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 5.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 87.5 | 20.8 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 91.7 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 75.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 54.2 | 29.2 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 8.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 93.8 | 31.3 | 0.0 | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 8     | 87.5 | 37.5 | 6.3 | 18.8              | 25.0               | 18.8                  | 18.8                |
| C   | 9     | 87.5 | 43.8 | 6.3 | 18.8              | 25.0               | 25.0                  | 25.0                |
| C   | 10    | 66.7 | 26.7 | 0.0 | 13.3              | 13.3               | 13.3                  | 13.3                |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 74.7 | 11.1 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 79.8 | 16.2 | 1.0 | 3.0               | 4.0                | 3.0                   | 3.0                 |
| All | 9     | 51.5 | 19.2 | 2.0 | 3.0               | 6.1                | 6.1                   | 6.1                 |
| All | 10    | 34.7 | 13.3 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 3.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-60. Percent of months above the 69.8°F lethal water temperature limit for adult steelhead migration by water year type and for all years combined, Sacramento River at Keswick, July through March.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 5.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 5.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 12.5 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 6.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 4.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 3.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 9     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-61. Percent of months above the 69.8°F lethal water temperature limit for adult steelhead migration by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, July through March.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 96.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 10.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 44.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 95.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 70.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 6.3                | 6.3                   | 6.3                 |
| C   | 9     | 81.3  | 0.0  | 6.3 | 0.0               | 0.0                | 12.5                  | 12.5                |
| C   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 98.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 1.0                | 1.0                   | 1.0                 |
| All | 9     | 43.4  | 0.0  | 1.0 | 0.0               | 0.0                | 2.0                   | 2.0                 |
| All | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.



Table L.2-62. Percent of months above the 69.8°F lethal water temperature limit for adult steelhead migration by water year type and for all years combined, Sacramento River at Hamilton City, July through March.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 100.0 | 7.1  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 7.1  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 64.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 76.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 83.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 4.2                 |
| D   | 9     | 95.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0  | 6.3               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 6.3  | 0.0               | 12.5               | 12.5                  | 6.3                 |
| C   | 9     | 100.0 | 0.0  | 12.5 | 6.3               | 25.0               | 25.0                  | 25.0                |
| C   | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 2.0  | 0.0  | 1.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 2.0  | 1.0  | 0.0               | 2.0                | 2.0                   | 2.0                 |
| All | 9     | 82.8  | 0.0  | 2.0  | 1.0               | 4.0                | 4.0                   | 4.0                 |
| All | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-63. Percent of months above the 69.8°F lethal water temperature limit for adult steelhead migration by water year type and for all years combined, Clear Creek below Whiskeytown, July through March.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 17.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 14.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 17.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 33.3 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 50.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 61.1 | 16.7 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 33.3 | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 50.0 | 16.7 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 50.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 70.8 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 33.3 | 12.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 62.5 | 31.3 | 0.0 | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 8     | 68.8 | 37.5 | 6.3 | 18.8              | 25.0               | 18.8                  | 18.8                |
| C   | 9     | 87.5 | 43.8 | 6.3 | 18.8              | 25.0               | 25.0                  | 25.0                |
| C   | 10    | 53.3 | 26.7 | 0.0 | 13.3              | 13.3               | 13.3                  | 13.3                |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 33.3 | 10.1 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 37.4 | 16.2 | 1.0 | 3.0               | 4.0                | 3.0                   | 3.0                 |
| All | 9     | 48.5 | 19.2 | 2.0 | 3.0               | 6.1                | 6.1                   | 6.1                 |
| All | 10    | 22.4 | 9.2  | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-64. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult steelhead migration by water year type and for all years combined, Sacramento River at Keswick, July through March.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 57.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 38.5  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 33.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 12.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 25.0 | 6.3               | 18.8               | 18.8                  | 18.8                |
| C   | 9     | 100.0 | 6.3  | 37.5 | 18.8              | 50.0               | 50.0                  | 50.0                |
| C   | 10    | 46.7  | 33.3 | 46.7 | 33.3              | 53.3               | 53.3                  | 53.3                |
| C   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 0.0  | 4.0  | 1.0               | 3.0                | 3.0                   | 3.0                 |
| All | 9     | 100.0 | 1.0  | 6.1  | 3.0               | 8.1                | 8.1                   | 8.1                 |
| All | 10    | 37.8  | 5.1  | 7.1  | 5.1               | 8.2                | 8.2                   | 8.2                 |
| All | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-65. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult steelhead migration by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, July through March.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 100.0 | 67.9 | 10.7 | 10.7              | 10.7               | 10.7                  | 10.7                |
| W   | 8     | 100.0 | 50.0 | 14.3 | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 9     | 100.0 | 42.9 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 89.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 30.8 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 46.2 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 23.1 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 84.6  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 33.3 | 16.7 | 16.7              | 11.1               | 16.7                  | 16.7                |
| BN  | 8     | 100.0 | 38.9 | 22.2 | 5.6               | 5.6                | 5.6                   | 16.7                |
| BN  | 9     | 100.0 | 38.9 | 33.3 | 22.2              | 22.2               | 22.2                  | 16.7                |
| BN  | 10    | 72.2  | 0.0  | 5.6  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 33.3 | 16.7 | 4.2               | 4.2                | 4.2                   | 8.3                 |
| D   | 8     | 100.0 | 20.8 | 25.0 | 8.3               | 8.3                | 8.3                   | 12.5                |
| D   | 9     | 100.0 | 20.8 | 33.3 | 33.3              | 33.3               | 33.3                  | 33.3                |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 75.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 81.3 | 81.3 | 81.3              | 68.8               | 68.8                  | 62.5                |
| C   | 8     | 100.0 | 93.8 | 81.3 | 81.3              | 87.5               | 81.3                  | 81.3                |
| C   | 9     | 100.0 | 62.5 | 93.8 | 75.0              | 93.8               | 93.8                  | 87.5                |
| C   | 10    | 100.0 | 40.0 | 60.0 | 60.0              | 60.0               | 53.3                  | 53.3                |
| C   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 50.5 | 23.2 | 20.2              | 17.2               | 18.2                  | 18.2                |
| All | 8     | 100.0 | 47.5 | 27.3 | 18.2              | 19.2               | 18.2                  | 21.2                |
| All | 9     | 100.0 | 37.4 | 29.3 | 24.2              | 27.3               | 27.3                  | 25.3                |
| All | 10    | 83.7  | 6.1  | 10.2 | 9.2               | 9.2                | 8.2                   | 8.2                 |
| All | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.



Table L.2-66. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult steelhead migration by water year type and for all years combined, Sacramento River at Hamilton City, July through March.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 100.0 | 100.0 | 92.9  | 92.9              | 92.9               | 92.9                  | 92.9                |
| W   | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 9     | 100.0 | 100.0 | 75.0  | 71.4              | 71.4               | 71.4                  | 67.9                |
| W   | 10    | 100.0 | 35.7  | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 100.0 | 76.9  | 92.3              | 84.6               | 92.3                  | 92.3                |
| AN  | 8     | 100.0 | 100.0 | 100.0 | 92.3              | 92.3               | 92.3                  | 92.3                |
| AN  | 9     | 100.0 | 100.0 | 76.9  | 76.9              | 76.9               | 76.9                  | 76.9                |
| AN  | 10    | 100.0 | 53.8  | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 100.0 | 88.9  | 88.9              | 94.4               | 88.9                  | 94.4                |
| BN  | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 100.0 | 61.1  | 27.8  | 27.8              | 27.8               | 27.8                  | 27.8                |
| BN  | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 91.7  | 50.0  | 45.8  | 54.2              | 54.2               | 54.2                  | 54.2                |
| D   | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 4.2   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 10    | 100.0 | 80.0  | 93.3  | 100.0             | 93.3               | 86.7                  | 86.7                |
| C   | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 6.3   | 0.0   | 6.3               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 100.0 | 92.9  | 94.9              | 94.9               | 94.9                  | 96.0                |
| All | 8     | 100.0 | 100.0 | 100.0 | 99.0              | 99.0               | 99.0                  | 99.0                |
| All | 9     | 100.0 | 100.0 | 89.9  | 88.9              | 88.9               | 88.9                  | 87.9                |
| All | 10    | 98.0  | 53.1  | 30.6  | 33.7              | 32.7               | 31.6                  | 31.6                |
| All | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 2.0   | 0.0   | 1.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-67. Percent of months above the 59.9°F pathogen virulence water temperature threshold for adult steelhead migration by water year type and for all years combined, Clear Creek below Whiskeytown, July through March.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 3.6                 |
| W   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 25.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 92.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 7.7   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 7.1   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 16.7 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 50.0  | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 11.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 20.8 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 54.2  | 29.2 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 20.8  | 8.3  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 37.5 | 0.0 | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 8     | 100.0 | 37.5 | 6.3 | 18.8              | 25.0               | 18.8                  | 18.8                |
| C   | 9     | 100.0 | 43.8 | 6.3 | 18.8              | 25.0               | 25.0                  | 25.0                |
| C   | 10    | 73.3  | 26.7 | 0.0 | 13.3              | 13.3               | 13.3                  | 13.3                |
| C   | 11    | 20.0  | 6.7  | 6.7 | 6.7               | 6.7                | 6.7                   | 6.7                 |
| C   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 6.3   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 12.1 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 100.0 | 16.2 | 1.0 | 3.0               | 4.0                | 3.0                   | 4.0                 |
| All | 9     | 99.0  | 19.2 | 2.0 | 3.0               | 6.1                | 6.1                   | 6.1                 |
| All | 10    | 41.8  | 13.3 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 11    | 11.1  | 3.0  | 1.0 | 1.0               | 1.0                | 1.0                   | 1.0                 |
| All | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 1.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

## Spawning

Table L.2-68. Percent of months outside the 45°F to 55°F water temperature range for successful steelhead spawning by water year type and for all years combined, Sacramento River at Keswick, December through May.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 17.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 96.4  | 10.7 | 10.7 | 10.7              | 10.7               | 10.7                  | 10.7                |
| W   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 7.1  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 25.0  | 10.7 | 14.3 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 42.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 92.3  | 0.0  | 7.7  | 7.7               | 7.7                | 7.7                   | 7.7                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 23.1 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 53.8  | 0.0  | 15.4 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 88.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 94.4  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 66.7  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 5.6   | 22.2 | 16.7 | 11.1              | 16.7               | 22.2                  | 16.7                |
| BN  | 5     | 100.0 | 5.6  | 33.3 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 75.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 95.8  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 83.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 12.5  | 20.8 | 20.8 | 29.2              | 33.3               | 25.0                  | 29.2                |
| D   | 5     | 100.0 | 8.3  | 58.3 | 4.2               | 0.0                | 8.3                   | 8.3                 |
| C   | 12    | 86.7  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 81.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 50.0  | 0.0  | 12.5 | 0.0               | 6.3                | 6.3                   | 6.3                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 37.5  | 25.0 | 12.5 | 6.3               | 6.3                | 6.3                   | 6.3                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 5     | 100.0 | 18.8 | 25.0 | 6.3               | 12.5               | 6.3                   | 6.3                 |
| All | 12    | 58.6  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 94.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 79.8  | 3.0  | 6.1  | 4.0               | 5.1                | 5.1                   | 5.1                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 10.1  | 18.2 | 10.1 | 10.1              | 12.1               | 11.1                  | 11.1                |
| All | 5     | 72.7  | 9.1  | 30.3 | 2.0               | 2.0                | 3.0                   | 3.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-69. Percent of months outside the 45°F to 55°F water temperature range for successful steelhead spawning by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, December through May.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 10.7  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 92.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 17.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 7.1   | 7.1   | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 4     | 28.6  | 71.4  | 75.0  | 75.0              | 75.0               | 75.0                  | 75.0                |
| W   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 35.7  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 92.3  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 7.7   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 7.7   | 7.7   | 7.7               | 7.7                | 7.7                   | 7.7                 |
| AN  | 4     | 76.9  | 92.3  | 92.3  | 92.3              | 92.3               | 92.3                  | 92.3                |
| AN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 12    | 50.0  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 88.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 22.2  | 16.7  | 16.7              | 16.7               | 16.7                  | 16.7                |
| BN  | 4     | 83.3  | 100.0 | 94.4  | 94.4              | 94.4               | 94.4                  | 94.4                |
| BN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| D   | 12    | 29.2  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 62.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 4.2   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 4.2   | 29.2  | 8.3   | 12.5              | 12.5               | 12.5                  | 12.5                |
| D   | 4     | 91.7  | 95.8  | 91.7  | 91.7              | 91.7               | 95.8                  | 95.8                |
| D   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 12    | 40.0  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 31.3  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 25.0  | 62.5  | 50.0  | 56.3              | 37.5               | 37.5                  | 37.5                |
| C   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 12    | 30.3  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 74.7  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 7.1   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 5.1   | 24.2  | 16.2  | 18.2              | 15.2               | 15.2                  | 15.2                |
| All | 4     | 71.7  | 89.9  | 88.9  | 88.9              | 88.9               | 89.9                  | 89.9                |
| All | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-70. Percent of months outside the 45°F to 55°F water temperature range for successful steelhead spawning by water year type and for all years combined, Clear Creek below Whiskeytown, December through May.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 92.9  | 0.0  | 3.6  | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 1     | 100.0 | 14.3 | 53.6 | 53.6              | 57.1               | 57.1                  | 57.1                |
| W   | 2     | 67.9  | 35.7 | 57.1 | 57.1              | 60.7               | 60.7                  | 60.7                |
| W   | 3     | 0.0   | 25.0 | 21.4 | 21.4              | 21.4               | 21.4                  | 21.4                |
| W   | 4     | 0.0   | 7.1  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 100.0 | 7.1  | 7.1  | 7.1               | 7.1                | 7.1                   | 7.1                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| AN  | 1     | 100.0 | 15.4 | 23.1 | 38.5              | 38.5               | 38.5                  | 38.5                |
| AN  | 2     | 76.9  | 15.4 | 46.2 | 53.8              | 53.8               | 53.8                  | 53.8                |
| AN  | 3     | 0.0   | 7.7  | 0.0  | 7.7               | 0.0                | 7.7                   | 7.7                 |
| AN  | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 83.3  | 0.0  | 0.0  | 5.6               | 5.6                | 5.6                   | 5.6                 |
| BN  | 1     | 100.0 | 50.0 | 55.6 | 38.9              | 38.9               | 38.9                  | 38.9                |
| BN  | 2     | 55.6  | 38.9 | 44.4 | 38.9              | 38.9               | 38.9                  | 38.9                |
| BN  | 3     | 0.0   | 11.1 | 5.6  | 11.1              | 11.1               | 11.1                  | 11.1                |
| BN  | 4     | 5.6   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 100.0 | 5.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 75.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 95.8  | 41.7 | 37.5 | 33.3              | 33.3               | 33.3                  | 33.3                |
| D   | 2     | 62.5  | 12.5 | 12.5 | 12.5              | 12.5               | 12.5                  | 12.5                |
| D   | 3     | 0.0   | 0.0  | 0.0  | 4.2               | 4.2                | 4.2                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 66.7  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 93.8  | 18.8 | 18.8 | 18.8              | 18.8               | 18.8                  | 18.8                |
| C   | 2     | 56.3  | 12.5 | 6.3  | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 83.8  | 1.0  | 2.0  | 3.0               | 3.0                | 3.0                   | 3.0                 |
| All | 1     | 98.0  | 28.3 | 40.4 | 38.4              | 39.4               | 39.4                  | 39.4                |
| All | 2     | 63.6  | 24.2 | 34.3 | 35.4              | 36.4               | 36.4                  | 36.4                |
| All | 3     | 0.0   | 10.1 | 7.1  | 10.1              | 9.1                | 10.1                  | 9.1                 |
| All | 4     | 1.0   | 2.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 100.0 | 1.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.



Table L.2-71. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead spawning by water year type and for all years combined, Sacramento River at Keswick, December through May.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 29.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 50.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 24.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-72. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead spawning by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, December through May.

| WYT | Month | EXP1 | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 3.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 60.7 | 67.9 | 75.0 | 42.9              | 42.9               | 42.9                  | 42.9                |
| AN  | 12    | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 23.1 | 7.7  | 7.7               | 7.7                | 7.7                   | 0.0                 |
| AN  | 5     | 92.3 | 76.9 | 69.2 | 53.8              | 53.8               | 53.8                  | 46.2                |
| BN  | 12    | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 33.3 | 11.1 | 11.1              | 11.1               | 11.1                  | 5.6                 |
| BN  | 5     | 94.4 | 44.4 | 44.4 | 16.7              | 27.8               | 27.8                  | 22.2                |
| D   | 12    | 0.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 8.3   | 54.2 | 20.8 | 20.8              | 20.8               | 16.7                  | 16.7                |
| D   | 5     | 95.8  | 66.7 | 70.8 | 54.2              | 54.2               | 45.8                  | 58.3                |
| C   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 50.0  | 62.5 | 37.5 | 43.8              | 6.3                | 6.3                   | 6.3                 |
| C   | 5     | 100.0 | 56.3 | 56.3 | 43.8              | 50.0               | 50.0                  | 56.3                |
| All | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 10.1  | 33.3 | 14.1 | 15.2              | 9.1                | 8.1                   | 6.1                 |
| All | 5     | 85.9  | 62.6 | 64.6 | 42.4              | 45.5               | 43.4                  | 45.5                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-73. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead spawning by water year type and for all years combined, Clear Creek below Whiskeytown, December through May.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 5.6  | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 8.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 6.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 18.8 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 6.1  | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

## Kelt Emigration

Table L.2-74. Percent of months above the 66.2°F migration impairment water temperature limit for steelhead kelt emigration by water year type and for all years combined, Sacramento River at Keswick, February through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 12.5 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| All | 6     | 4.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-75. Percent of months above the 66.2°F migration impairment water temperature limit for steelhead kelt emigration by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, February through June.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 82.1  | 3.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 92.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 16.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 20.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 37.5  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| C   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 16.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 93.9  | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-76. Percent of months above the 66.2°F migration impairment water temperature limit for steelhead kelt emigration by water year type and for all years combined, Sacramento River at Hamilton City, February through June.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 10.7  | 25.0 | 21.4 | 14.3              | 14.3               | 14.3                  | 14.3                |
| W   | 6     | 100.0 | 67.9 | 35.7 | 32.1              | 32.1               | 32.1                  | 32.1                |
| AN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 38.5  | 30.8 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 53.8 | 23.1 | 7.7               | 7.7                | 15.4                  | 30.8                |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 72.2  | 5.6  | 5.6  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 33.3 | 33.3 | 22.2              | 22.2               | 22.2                  | 33.3                |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 66.7  | 25.0 | 8.3  | 8.3               | 8.3                | 12.5                  | 20.8                |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 6     | 100.0 | 29.2 | 12.5 | 8.3               | 8.3                | 8.3                   | 12.5                |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 75.0  | 12.5 | 18.8 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 6     | 100.0 | 37.5 | 37.5 | 31.3              | 37.5               | 37.5                  | 37.5                |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 49.5  | 20.2 | 12.1 | 7.1               | 7.1                | 8.1                   | 10.1                |
| All | 6     | 100.0 | 45.5 | 28.3 | 21.2              | 22.2               | 23.2                  | 28.3                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-77. Percent of months above the 66.2°F migration impairment water temperature limit for steelhead kelt emigration by water year type and for all years combined, Clear Creek below Whiskeytown, February through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |



| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| BN  | 6     | 5.6  | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 8.3  | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 6.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 18.8 | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 6.1  | 5.1  | 0.0 | 1.0               | 1.0                | 1.0                   | 1.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-78. Percent of months above the 69.8°F lethal water temperature limit for steelhead kelt emigration by water year type and for all years combined, Sacramento River at Keswick, February through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-79. Percent of months above the 69.8°F lethal water temperature limit for steelhead kelt emigration by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, February through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 6     | 3.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 38.5 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 50.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 50.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 6.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 81.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 40.4 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-80. Percent of months above the 69.8°F lethal water temperature limit for steelhead kelt emigration by water year type and for all years combined, Sacramento River at Hamilton City, February through June.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 78.6  | 10.7 | 3.6 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 84.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 16.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 94.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 20.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 43.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 17.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 90.9  | 3.0  | 1.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-81. Percent of months above the 69.8°F lethal water temperature limit for steelhead kelt emigration by water year type and for all years combined, Clear Creek below Whiskeytown, February through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 5.6  | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 8.3  | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 6.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 12.5 | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| All | 5     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 5.1  | 5.1  | 0.0 | 1.0               | 1.0                | 1.0                   | 1.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-82. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead kelt emigration by water year type and for all years combined, Sacramento River at Keswick, February through June.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 64.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 76.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 29.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| C   | 5     | 50.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 24.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 86.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-83. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead kelt emigration by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, February through June.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 3.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 60.7  | 67.9 | 75.0 | 42.9              | 42.9               | 42.9                  | 42.9                |
| W   | 6     | 100.0 | 92.9 | 60.7 | 46.4              | 46.4               | 46.4                  | 46.4                |
| AN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 23.1 | 7.7  | 7.7               | 7.7                | 7.7                   | 0.0                 |
| AN  | 5     | 92.3  | 76.9 | 69.2 | 53.8              | 53.8               | 53.8                  | 46.2                |
| AN  | 6     | 100.0 | 69.2 | 46.2 | 30.8              | 30.8               | 30.8                  | 46.2                |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 33.3 | 11.1 | 11.1              | 11.1               | 11.1                  | 5.6                 |
| BN  | 5     | 94.4  | 44.4 | 44.4 | 16.7              | 27.8               | 27.8                  | 22.2                |
| BN  | 6     | 100.0 | 66.7 | 44.4 | 33.3              | 33.3               | 33.3                  | 44.4                |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 8.3   | 54.2 | 20.8 | 20.8              | 20.8               | 16.7                  | 16.7                |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 5     | 95.8  | 66.7 | 70.8 | 54.2              | 54.2               | 45.8                  | 58.3                |
| D   | 6     | 100.0 | 45.8 | 29.2 | 16.7              | 12.5               | 20.8                  | 25.0                |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 50.0  | 62.5 | 37.5 | 43.8              | 6.3                | 6.3                   | 6.3                 |
| C   | 5     | 100.0 | 56.3 | 56.3 | 43.8              | 50.0               | 50.0                  | 56.3                |
| C   | 6     | 100.0 | 93.8 | 68.8 | 62.5              | 50.0               | 50.0                  | 43.8                |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 10.1  | 33.3 | 14.1 | 15.2              | 9.1                | 8.1                   | 6.1                 |
| All | 5     | 85.9  | 62.6 | 64.6 | 42.4              | 45.5               | 43.4                  | 45.5                |
| All | 6     | 100.0 | 73.7 | 49.5 | 37.4              | 34.3               | 36.4                  | 40.4                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-84. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead kelt emigration by water year type and for all years combined, Sacramento River at Hamilton City, February through June.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 3.6   | 21.4  | 17.9  | 17.9              | 17.9               | 17.9                  | 14.3                |
| W   | 5     | 92.9  | 92.9  | 92.9  | 92.9              | 92.9               | 92.9                  | 92.9                |
| W   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 15.4  | 46.2  | 38.5  | 38.5              | 38.5               | 38.5                  | 38.5                |
| AN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 38.9  | 66.7  | 77.8  | 66.7              | 66.7               | 72.2                  | 61.1                |



| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| BN  | 5     | 100.0 | 94.4  | 100.0 | 94.4              | 94.4               | 94.4                  | 94.4                |
| BN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 4.2   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 58.3  | 87.5  | 66.7  | 66.7              | 66.7               | 75.0                  | 75.0                |
| D   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 95.8                  | 100.0               |
| D   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 6.3   | 0.0   | 6.3               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 81.3  | 100.0 | 93.8  | 93.8              | 87.5               | 87.5                  | 87.5                |
| C   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 2.0   | 0.0   | 1.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 37.4  | 61.6  | 55.6  | 53.5              | 52.5               | 55.6                  | 52.5                |
| All | 5     | 98.0  | 97.0  | 98.0  | 97.0              | 97.0               | 96.0                  | 97.0                |
| All | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-85. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead kelt emigration by water year type and for all years combined, Clear Creek below Whiskeytown, February through June.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 100.0 | 0.0  | 0.0 | 3.6               | 3.6                | 3.6                   | 3.6                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 5.6   | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 8.3   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 6.3   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 18.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| All | 2     | 1.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 6.1   | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 100.0 | 5.1  | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### Egg Incubation and Fry Emergence

Table L.2-86. Percent of months outside the 45°F to 52°F optimal egg incubation water temperature range steelhead by water year type and for all years combined, Sacramento River at Keswick, December through June.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 28.6  | 57.1 | 17.9 | 46.4              | 46.4               | 46.4                  | 50.0                |
| W   | 1     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 96.4  | 10.7 | 10.7 | 10.7              | 10.7               | 10.7                  | 10.7                |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 3     | 0.0   | 3.6   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 42.9  | 75.0  | 57.1  | 64.3              | 64.3               | 60.7                  | 64.3                |
| W   | 5     | 100.0 | 92.9  | 100.0 | 89.3              | 92.9               | 92.9                  | 89.3                |
| W   | 6     | 100.0 | 10.7  | 10.7  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 42.9  | 64.3  | 35.7  | 21.4              | 28.6               | 14.3                  | 21.4                |
| AN  | 1     | 100.0 | 7.7   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 92.3  | 0.0   | 7.7   | 7.7               | 7.7                | 7.7                   | 7.7                 |
| AN  | 3     | 0.0   | 7.7   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 76.9  | 76.9  | 69.2  | 69.2              | 69.2               | 69.2                  | 69.2                |
| AN  | 5     | 100.0 | 100.0 | 100.0 | 92.3              | 92.3               | 92.3                  | 92.3                |
| AN  | 6     | 100.0 | 0.0   | 30.8  | 7.7               | 7.7                | 7.7                   | 0.0                 |
| BN  | 12    | 88.9  | 33.3  | 33.3  | 33.3              | 33.3               | 33.3                  | 38.9                |
| BN  | 1     | 94.4  | 5.6   | 5.6   | 16.7              | 11.1               | 11.1                  | 11.1                |
| BN  | 2     | 66.7  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 27.8  | 22.2  | 22.2              | 16.7               | 16.7                  | 16.7                |
| BN  | 4     | 88.9  | 77.8  | 83.3  | 83.3              | 83.3               | 83.3                  | 83.3                |
| BN  | 5     | 100.0 | 88.9  | 94.4  | 94.4              | 88.9               | 88.9                  | 88.9                |
| BN  | 6     | 100.0 | 5.6   | 55.6  | 11.1              | 16.7               | 11.1                  | 22.2                |
| D   | 12    | 75.0  | 41.7  | 37.5  | 45.8              | 54.2               | 50.0                  | 50.0                |
| D   | 1     | 95.8  | 4.2   | 0.0   | 20.8              | 16.7               | 8.3                   | 12.5                |
| D   | 2     | 83.3  | 4.2   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 4.2   | 29.2  | 12.5  | 16.7              | 12.5               | 12.5                  | 12.5                |
| D   | 4     | 91.7  | 95.8  | 79.2  | 79.2              | 79.2               | 83.3                  | 83.3                |
| D   | 5     | 100.0 | 100.0 | 87.5  | 87.5              | 87.5               | 87.5                  | 87.5                |
| D   | 6     | 100.0 | 12.5  | 54.2  | 8.3               | 8.3                | 12.5                  | 8.3                 |
| C   | 12    | 86.7  | 80.0  | 40.0  | 53.3              | 40.0               | 40.0                  | 33.3                |
| C   | 1     | 81.3  | 6.3   | 18.8  | 31.3              | 25.0               | 31.3                  | 25.0                |
| C   | 2     | 50.0  | 0.0   | 18.8  | 6.3               | 18.8               | 18.8                  | 12.5                |
| C   | 3     | 12.5  | 25.0  | 18.8  | 12.5              | 12.5               | 12.5                  | 18.8                |
| C   | 4     | 93.8  | 68.8  | 56.3  | 43.8              | 50.0               | 50.0                  | 50.0                |
| C   | 5     | 100.0 | 81.3  | 81.3  | 87.5              | 81.3               | 81.3                  | 81.3                |
| C   | 6     | 100.0 | 87.5  | 87.5  | 87.5              | 75.0               | 75.0                  | 75.0                |
| All | 12    | 61.6  | 53.5  | 31.3  | 41.4              | 42.4               | 39.4                  | 41.4                |
| All | 1     | 94.9  | 4.0   | 4.0   | 13.1              | 10.1               | 9.1                   | 9.1                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| All | 2     | 79.8  | 4.0  | 7.1  | 5.1               | 7.1                | 7.1                   | 6.1                 |
| All | 3     | 3.0   | 18.2 | 10.1 | 10.1              | 8.1                | 8.1                   | 9.1                 |
| All | 4     | 75.8  | 79.8 | 68.7 | 68.7              | 69.7               | 69.7                  | 70.7                |
| All | 5     | 100.0 | 92.9 | 92.9 | 89.9              | 88.9               | 88.9                  | 87.9                |
| All | 6     | 100.0 | 21.2 | 44.4 | 19.2              | 18.2               | 18.2                  | 18.2                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-87. Percent of months outside the 45°F to 52°F optimal egg incubation water temperature range steelhead by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, December through June.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 14.3  | 28.6  | 0.0   | 7.1               | 3.6                | 3.6                   | 3.6                 |
| W   | 1     | 92.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 17.9  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 10.7  | 35.7  | 35.7  | 35.7              | 35.7               | 35.7                  | 35.7                |
| W   | 4     | 100.0 | 92.9  | 96.4  | 96.4              | 96.4               | 96.4                  | 96.4                |
| W   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 35.7  | 28.6  | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 92.3  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 7.7   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 7.7   | 46.2  | 46.2  | 46.2              | 46.2               | 46.2                  | 46.2                |
| AN  | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 12    | 50.0  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 88.9  | 0.0   | 0.0   | 0.0               | 5.6                | 5.6                   | 5.6                 |
| BN  | 2     | 0.0   | 11.1  | 5.6   | 11.1              | 11.1               | 11.1                  | 11.1                |
| BN  | 3     | 33.3  | 83.3  | 77.8  | 83.3              | 77.8               | 77.8                  | 77.8                |
| BN  | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| BN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 12    | 29.2  | 0.0   | 4.2   | 4.2               | 4.2                | 4.2                   | 4.2                 |
| D   | 1     | 62.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 4.2   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 50.0  | 87.5  | 87.5  | 87.5              | 87.5               | 87.5                  | 87.5                |
| D   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 12    | 40.0  | 6.7   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 31.3  | 0.0   | 0.0   | 6.3               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 43.8  | 25.0  | 31.3              | 31.3               | 31.3                  | 31.3                |
| C   | 3     | 75.0  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 12    | 31.3  | 13.1  | 1.0   | 3.0               | 2.0                | 2.0                   | 2.0                 |
| All | 1     | 74.7  | 0.0   | 0.0   | 1.0               | 1.0                | 1.0                   | 1.0                 |
| All | 2     | 7.1   | 9.1   | 5.1   | 7.1               | 7.1                | 7.1                   | 7.1                 |
| All | 3     | 34.3  | 68.7  | 67.7  | 68.7              | 67.7               | 67.7                  | 67.7                |
| All | 4     | 100.0 | 98.0  | 99.0  | 99.0              | 99.0               | 99.0                  | 99.0                |
| All | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-88. Percent of months outside the 45°F to 52°F optimal egg incubation water temperature range steelhead by water year type and for all years combined, Clear Creek below Whiskeytown, December through June.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 92.9  | 0.0  | 3.6  | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 1     | 100.0 | 14.3 | 53.6 | 53.6              | 57.1               | 57.1                  | 57.1                |
| W   | 2     | 67.9  | 35.7 | 57.1 | 57.1              | 60.7               | 60.7                  | 60.7                |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 3     | 0.0   | 25.0 | 21.4 | 21.4              | 21.4               | 21.4                  | 21.4                |
| W   | 4     | 39.3  | 7.1  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 100.0 | 0.0  | 7.1  | 14.3              | 14.3               | 14.3                  | 14.3                |
| AN  | 12    | 100.0 | 7.1  | 7.1  | 7.1               | 7.1                | 7.1                   | 7.1                 |
| AN  | 1     | 100.0 | 15.4 | 23.1 | 38.5              | 38.5               | 38.5                  | 38.5                |
| AN  | 2     | 76.9  | 15.4 | 46.2 | 53.8              | 53.8               | 53.8                  | 53.8                |
| AN  | 3     | 0.0   | 7.7  | 0.0  | 7.7               | 0.0                | 7.7                   | 7.7                 |
| AN  | 4     | 61.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 0.0  | 15.4 | 7.7               | 7.7                | 7.7                   | 7.7                 |
| BN  | 12    | 94.4  | 5.6  | 0.0  | 5.6               | 5.6                | 5.6                   | 11.1                |
| BN  | 1     | 100.0 | 50.0 | 55.6 | 38.9              | 38.9               | 38.9                  | 38.9                |
| BN  | 2     | 61.1  | 38.9 | 44.4 | 38.9              | 38.9               | 38.9                  | 38.9                |
| BN  | 3     | 0.0   | 11.1 | 5.6  | 11.1              | 11.1               | 11.1                  | 11.1                |
| BN  | 4     | 72.2  | 5.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 100.0 | 5.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 11.1 | 5.6  | 5.6               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 83.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 95.8  | 41.7 | 37.5 | 33.3              | 33.3               | 33.3                  | 33.3                |
| D   | 2     | 62.5  | 12.5 | 12.5 | 12.5              | 12.5               | 12.5                  | 12.5                |
| D   | 3     | 0.0   | 0.0  | 0.0  | 4.2               | 4.2                | 4.2                   | 0.0                 |
| D   | 4     | 79.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 100.0 | 8.3  | 0.0  | 0.0               | 0.0                | 4.2                   | 4.2                 |
| D   | 6     | 100.0 | 12.5 | 0.0  | 4.2               | 4.2                | 8.3                   | 8.3                 |
| C   | 12    | 66.7  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 100.0 | 18.8 | 18.8 | 18.8              | 18.8               | 18.8                  | 18.8                |
| C   | 2     | 56.3  | 12.5 | 6.3  | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 3     | 6.3   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 87.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 100.0 | 12.5 | 6.3  | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 6     | 100.0 | 25.0 | 12.5 | 18.8              | 12.5               | 12.5                  | 12.5                |
| All | 12    | 87.9  | 2.0  | 2.0  | 3.0               | 3.0                | 3.0                   | 4.0                 |
| All | 1     | 99.0  | 28.3 | 40.4 | 38.4              | 39.4               | 39.4                  | 39.4                |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| All | 2     | 64.6  | 24.2 | 34.3 | 35.4              | 36.4               | 36.4                  | 36.4                |
| All | 3     | 1.0   | 10.1 | 7.1  | 10.1              | 9.1                | 10.1                  | 9.1                 |
| All | 4     | 65.7  | 3.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 100.0 | 5.1  | 1.0  | 1.0               | 1.0                | 2.0                   | 2.0                 |
| All | 6     | 100.0 | 9.1  | 7.1  | 10.1              | 8.1                | 9.1                   | 9.1                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-89. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead fry by water year type and for all years combined, Sacramento River at Keswick, December through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 64.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 76.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| BN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 29.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 50.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 24.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 86.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-90. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead fry by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, December through June.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |



| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 3.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 60.7  | 67.9 | 75.0 | 42.9              | 42.9               | 42.9                  | 42.9                |
| W   | 6     | 100.0 | 92.9 | 60.7 | 46.4              | 46.4               | 46.4                  | 46.4                |
| AN  | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 23.1 | 7.7  | 7.7               | 7.7                | 7.7                   | 0.0                 |
| AN  | 5     | 92.3  | 76.9 | 69.2 | 53.8              | 53.8               | 53.8                  | 46.2                |
| AN  | 6     | 100.0 | 69.2 | 46.2 | 30.8              | 30.8               | 30.8                  | 46.2                |
| BN  | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 33.3 | 11.1 | 11.1              | 11.1               | 11.1                  | 5.6                 |
| BN  | 5     | 94.4  | 44.4 | 44.4 | 16.7              | 27.8               | 27.8                  | 22.2                |
| BN  | 6     | 100.0 | 66.7 | 44.4 | 33.3              | 33.3               | 33.3                  | 44.4                |
| D   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 8.3   | 54.2 | 20.8 | 20.8              | 20.8               | 16.7                  | 16.7                |
| D   | 5     | 95.8  | 66.7 | 70.8 | 54.2              | 54.2               | 45.8                  | 58.3                |
| D   | 6     | 100.0 | 45.8 | 29.2 | 16.7              | 12.5               | 20.8                  | 25.0                |
| C   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 50.0  | 62.5 | 37.5 | 43.8              | 6.3                | 6.3                   | 6.3                 |
| C   | 5     | 100.0 | 56.3 | 56.3 | 43.8              | 50.0               | 50.0                  | 56.3                |
| C   | 6     | 100.0 | 93.8 | 68.8 | 62.5              | 50.0               | 50.0                  | 43.8                |
| All | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 10.1  | 33.3 | 14.1 | 15.2              | 9.1                | 8.1                   | 6.1                 |
| All | 5     | 85.9  | 62.6 | 64.6 | 42.4              | 45.5               | 43.4                  | 45.5                |
| All | 6     | 100.0 | 73.7 | 49.5 | 37.4              | 34.3               | 36.4                  | 40.4                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-91. Percent of months above the 59.9°F pathogen virulence water temperature threshold for steelhead fry by water year type and for all years combined, Clear Creek below Whiskeytown, December through June.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 100.0 | 0.0  | 0.0 | 3.6               | 3.6                | 3.6                   | 3.6                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 5.6   | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| BN  | 6     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 8.3   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 6.3   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 18.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| All | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 1.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 6.1   | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 100.0 | 5.1  | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### Juvenile Rearing and Outmigration

Table L.2-92. Percent of months above the 66.2°F upper optimal limit for rearing steelhead juveniles by water year type and for all years combined, Sacramento River at Keswick, Year-round.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 17.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 57.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 10.7 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 30.8 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 76.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| BN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 66.7 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 61.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 16.7 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 4.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 58.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 54.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 25.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 12.5 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 81.3 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 93.8 | 0.0  | 0.0 | 0.0               | 0.0                | 6.3                   | 6.3                 |
| C   | 9     | 31.3 | 0.0  | 6.3 | 0.0               | 6.3                | 12.5                  | 12.5                |
| C   | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 4.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 48.5 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 65.7 | 0.0  | 0.0 | 0.0               | 0.0                | 1.0                   | 1.0                 |
| All | 9     | 17.2 | 0.0  | 1.0 | 0.0               | 1.0                | 2.0                   | 2.0                 |
| All | 10    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-93. Percent of months above the 66.2°F upper optimal limit for rearing steelhead juveniles by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, Year-round.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 82.1  | 3.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 92.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 5     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 92.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 84.6  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 16.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 20.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 37.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 6.3  | 0.0               | 12.5               | 12.5                  | 12.5                |
| C   | 9     | 100.0 | 0.0  | 31.3 | 6.3               | 31.3               | 31.3                  | 31.3                |
| C   | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 16.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 93.9  | 1.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 0.0  | 1.0  | 0.0               | 2.0                | 2.0                   | 2.0                 |
| All | 9     | 96.0  | 0.0  | 5.1  | 1.0               | 5.1                | 5.1                   | 5.1                 |
| All | 10    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-94. Percent of months above the 66.2°F upper optimal growth limit for rearing steelhead juveniles by water year type and for all years combined, Clear Creek below Whiskeytown, Year-round.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |



| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 57.1 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 67.9 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 21.4 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 7.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 69.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 69.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 7.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 5.6  | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 72.2 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 83.3 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 66.7 | 16.7 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 44.4 | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 8.3  | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 87.5 | 20.8 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 91.7 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 75.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 54.2 | 29.2 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 6.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 18.8 | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 7     | 93.8 | 31.3 | 0.0 | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 8     | 87.5 | 37.5 | 6.3 | 18.8              | 25.0               | 18.8                  | 18.8                |
| C   | 9     | 87.5 | 43.8 | 6.3 | 18.8              | 25.0               | 25.0                  | 25.0                |
| C   | 10    | 66.7 | 26.7 | 0.0 | 13.3              | 13.3               | 13.3                  | 13.3                |
| C   | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 1.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 6.1  | 5.1  | 0.0 | 1.0               | 1.0                | 1.0                   | 1.0                 |
| All | 7     | 74.7 | 11.1 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 79.8 | 16.2 | 1.0 | 3.0               | 4.0                | 3.0                   | 3.0                 |
| All | 9     | 51.5 | 19.2 | 2.0 | 3.0               | 6.1                | 6.1                   | 6.1                 |
| All | 10    | 34.7 | 13.3 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 11    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| All | 12    | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-95. Percent of months above the 59.9°F pathogen virulence water temperature threshold for juvenile steelhead rearing and outmigration by water year type and for all years combined, Sacramento River at Keswick, Year-round.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 64.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 57.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 76.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 38.5  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| BN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 33.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 29.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 12.5  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 50.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 25.0 | 6.3               | 18.8               | 18.8                  | 18.8                |
| C   | 9     | 100.0 | 6.3  | 37.5 | 18.8              | 50.0               | 50.0                  | 50.0                |
| C   | 10    | 46.7  | 33.3 | 46.7 | 33.3              | 53.3               | 53.3                  | 53.3                |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| C   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 24.2  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 86.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 0.0  | 4.0 | 1.0               | 3.0                | 3.0                   | 3.0                 |
| All | 9     | 100.0 | 1.0  | 6.1 | 3.0               | 8.1                | 8.1                   | 8.1                 |
| All | 10    | 37.8  | 5.1  | 7.1 | 5.1               | 8.2                | 8.2                   | 8.2                 |
| All | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-96. Percent of months above the 59.9°F pathogen virulence water temperature threshold for juvenile steelhead rearing and outmigration by water year type and for all years combined, Sacramento River at Red Bluff Diversion Dam, Year-round.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 3.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 60.7  | 67.9 | 75.0 | 42.9              | 42.9               | 42.9                  | 42.9                |
| W   | 6     | 100.0 | 92.9 | 60.7 | 46.4              | 46.4               | 46.4                  | 46.4                |
| W   | 7     | 100.0 | 67.9 | 10.7 | 10.7              | 10.7               | 10.7                  | 10.7                |
| W   | 8     | 100.0 | 50.0 | 14.3 | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 9     | 100.0 | 42.9 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 89.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 23.1 | 7.7  | 7.7               | 7.7                | 7.7                   | 0.0                 |
| AN  | 5     | 92.3  | 76.9 | 69.2 | 53.8              | 53.8               | 53.8                  | 46.2                |
| AN  | 6     | 100.0 | 69.2 | 46.2 | 30.8              | 30.8               | 30.8                  | 46.2                |
| AN  | 7     | 100.0 | 30.8 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 46.2 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 100.0 | 23.1 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 84.6  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 33.3 | 11.1 | 11.1              | 11.1               | 11.1                  | 5.6                 |
| BN  | 5     | 94.4  | 44.4 | 44.4 | 16.7              | 27.8               | 27.8                  | 22.2                |
| BN  | 6     | 100.0 | 66.7 | 44.4 | 33.3              | 33.3               | 33.3                  | 44.4                |
| BN  | 7     | 100.0 | 33.3 | 16.7 | 16.7              | 11.1               | 16.7                  | 16.7                |
| BN  | 8     | 100.0 | 38.9 | 22.2 | 5.6               | 5.6                | 5.6                   | 16.7                |
| BN  | 9     | 100.0 | 38.9 | 33.3 | 22.2              | 22.2               | 22.2                  | 16.7                |
| BN  | 10    | 72.2  | 0.0  | 5.6  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 8.3   | 54.2 | 20.8 | 20.8              | 20.8               | 16.7                  | 16.7                |
| D   | 5     | 95.8  | 66.7 | 70.8 | 54.2              | 54.2               | 45.8                  | 58.3                |
| D   | 6     | 100.0 | 45.8 | 29.2 | 16.7              | 12.5               | 20.8                  | 25.0                |
| D   | 7     | 100.0 | 33.3 | 16.7 | 4.2               | 4.2                | 4.2                   | 8.3                 |
| D   | 8     | 100.0 | 20.8 | 25.0 | 8.3               | 8.3                | 8.3                   | 12.5                |
| D   | 9     | 100.0 | 20.8 | 33.3 | 33.3              | 33.3               | 33.3                  | 33.3                |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 75.0  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 50.0  | 62.5 | 37.5 | 43.8              | 6.3                | 6.3                   | 6.3                 |
| C   | 5     | 100.0 | 56.3 | 56.3 | 43.8              | 50.0               | 50.0                  | 56.3                |
| C   | 6     | 100.0 | 93.8 | 68.8 | 62.5              | 50.0               | 50.0                  | 43.8                |
| C   | 7     | 100.0 | 81.3 | 81.3 | 81.3              | 68.8               | 68.8                  | 62.5                |
| C   | 8     | 100.0 | 93.8 | 81.3 | 81.3              | 87.5               | 81.3                  | 81.3                |
| C   | 9     | 100.0 | 62.5 | 93.8 | 75.0              | 93.8               | 93.8                  | 87.5                |
| C   | 10    | 100.0 | 40.0 | 60.0 | 60.0              | 60.0               | 53.3                  | 53.3                |
| C   | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 10.1  | 33.3 | 14.1 | 15.2              | 9.1                | 8.1                   | 6.1                 |
| All | 5     | 85.9  | 62.6 | 64.6 | 42.4              | 45.5               | 43.4                  | 45.5                |
| All | 6     | 100.0 | 73.7 | 49.5 | 37.4              | 34.3               | 36.4                  | 40.4                |
| All | 7     | 100.0 | 50.5 | 23.2 | 20.2              | 17.2               | 18.2                  | 18.2                |
| All | 8     | 100.0 | 47.5 | 27.3 | 18.2              | 19.2               | 18.2                  | 21.2                |
| All | 9     | 100.0 | 37.4 | 29.3 | 24.2              | 27.3               | 27.3                  | 25.3                |
| All | 10    | 83.7  | 6.1  | 10.2 | 9.2               | 9.2                | 8.2                   | 8.2                 |
| All | 11    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-97. Percent of months above the 59.9°F pathogen virulence water temperature threshold for juvenile steelhead rearing and outmigration by water year type and for all years combined, Sacramento River at Hamilton City, Year-round.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 3.6   | 21.4  | 17.9  | 17.9              | 17.9               | 17.9                  | 14.3                |
| W   | 5     | 92.9  | 92.9  | 92.9  | 92.9              | 92.9               | 92.9                  | 92.9                |
| W   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 7     | 100.0 | 100.0 | 92.9  | 92.9              | 92.9               | 92.9                  | 92.9                |
| W   | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 9     | 100.0 | 100.0 | 75.0  | 71.4              | 71.4               | 71.4                  | 67.9                |
| W   | 10    | 100.0 | 35.7  | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 15.4  | 46.2  | 38.5  | 38.5              | 38.5               | 38.5                  | 38.5                |
| AN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 7     | 100.0 | 100.0 | 76.9  | 92.3              | 84.6               | 92.3                  | 92.3                |
| AN  | 8     | 100.0 | 100.0 | 100.0 | 92.3              | 92.3               | 92.3                  | 92.3                |
| AN  | 9     | 100.0 | 100.0 | 76.9  | 76.9              | 76.9               | 76.9                  | 76.9                |
| AN  | 10    | 100.0 | 53.8  | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 38.9  | 66.7  | 77.8  | 66.7              | 66.7               | 72.2                  | 61.1                |
| BN  | 5     | 100.0 | 94.4  | 100.0 | 94.4              | 94.4               | 94.4                  | 94.4                |
| BN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |



| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| BN  | 7     | 100.0 | 100.0 | 88.9  | 88.9              | 94.4               | 88.9                  | 94.4                |
| BN  | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 10    | 100.0 | 61.1  | 27.8  | 27.8              | 27.8               | 27.8                  | 27.8                |
| BN  | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 4.2   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 58.3  | 87.5  | 66.7  | 66.7              | 66.7               | 75.0                  | 75.0                |
| D   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 95.8                  | 100.0               |
| D   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 7     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 10    | 91.7  | 50.0  | 45.8  | 54.2              | 54.2               | 54.2                  | 54.2                |
| D   | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 6.3   | 0.0   | 6.3               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 81.3  | 100.0 | 93.8  | 93.8              | 87.5               | 87.5                  | 87.5                |
| C   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 7     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 9     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 10    | 100.0 | 80.0  | 93.3  | 100.0             | 93.3               | 86.7                  | 86.7                |
| C   | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 2.0   | 0.0   | 1.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 37.4  | 61.6  | 55.6  | 53.5              | 52.5               | 55.6                  | 52.5                |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| All | 5     | 98.0  | 97.0  | 98.0  | 97.0              | 97.0               | 96.0                  | 97.0                |
| All | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 7     | 100.0 | 100.0 | 92.9  | 94.9              | 94.9               | 94.9                  | 96.0                |
| All | 8     | 100.0 | 100.0 | 100.0 | 99.0              | 99.0               | 99.0                  | 99.0                |
| All | 9     | 100.0 | 100.0 | 89.9  | 88.9              | 88.9               | 88.9                  | 87.9                |
| All | 10    | 98.0  | 53.1  | 30.6  | 33.7              | 32.7               | 31.6                  | 31.6                |
| All | 11    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 12    | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-98. Percent of months above the 59.9°F pathogen virulence water temperature threshold for juvenile steelhead rearing and outmigration by water year type and for all years combined, Clear Creek below Whiskeytown, Year-round.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 100.0 | 0.0  | 0.0 | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 3.6                 |
| W   | 9     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 10    | 25.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 11    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| AN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 92.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 10    | 7.7   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 11    | 7.1   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 5.6   | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 100.0 | 16.7 | 5.6 | 0.0               | 11.1               | 11.1                  | 11.1                |
| BN  | 10    | 50.0  | 11.1 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 11    | 11.1  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 8.3   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 4.2  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 20.8 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 100.0 | 37.5 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 10    | 54.2  | 29.2 | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 11    | 20.8  | 8.3  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 6.3   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 18.8  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 18.8 | 0.0 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 7     | 100.0 | 37.5 | 0.0 | 12.5              | 12.5               | 12.5                  | 12.5                |
| C   | 8     | 100.0 | 37.5 | 6.3 | 18.8              | 25.0               | 18.8                  | 18.8                |
| C   | 9     | 100.0 | 43.8 | 6.3 | 18.8              | 25.0               | 25.0                  | 25.0                |
| C   | 10    | 73.3  | 26.7 | 0.0 | 13.3              | 13.3               | 13.3                  | 13.3                |
| C   | 11    | 20.0  | 6.7  | 6.7 | 6.7               | 6.7                | 6.7                   | 6.7                 |
| C   | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 1.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 6.1   | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 100.0 | 5.1  | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 7     | 100.0 | 12.1 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 8     | 100.0 | 16.2 | 1.0 | 3.0               | 4.0                | 3.0                   | 4.0                 |
| All | 9     | 99.0  | 19.2 | 2.0 | 3.0               | 6.1                | 6.1                   | 6.1                 |
| All | 10    | 41.8  | 13.3 | 0.0 | 2.0               | 2.0                | 2.0                   | 2.0                 |
| All | 11    | 11.1  | 3.0  | 1.0 | 1.0               | 1.0                | 1.0                   | 1.0                 |
| All | 12    | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-99. Percent of months above the 55°F successful smoltification water temperature limit for steelhead by water year type and for all years combined, Sacramento River at Keswick, January through May.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0  | 7.1  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 25.0  | 10.7 | 14.3 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 23.1 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 53.8  | 0.0  | 15.4 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 5.6   | 22.2 | 16.7 | 11.1              | 16.7               | 22.2                  | 16.7                |
| BN  | 5     | 100.0 | 5.6  | 33.3 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 12.5  | 20.8 | 20.8 | 29.2              | 33.3               | 25.0                  | 29.2                |
| D   | 5     | 100.0 | 8.3  | 58.3 | 4.2               | 0.0                | 8.3                   | 8.3                 |
| C   | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 37.5  | 25.0 | 12.5 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 5     | 100.0 | 18.8 | 25.0 | 6.3               | 12.5               | 6.3                   | 6.3                 |
| All | 1     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 10.1  | 18.2 | 10.1 | 10.1              | 12.1               | 11.1                  | 11.1                |
| All | 5     | 72.7  | 9.1  | 30.3 | 2.0               | 2.0                | 3.0                   | 3.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-100. Percent of months above the 55°F successful smoltification water temperature limit for steelhead by water year type for all years combined, Sacramento River at Red Bluff Diversion Dam, January through May.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 7.1   | 7.1   | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 4     | 28.6  | 71.4  | 75.0  | 75.0              | 75.0               | 75.0                  | 75.0                |
| W   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 7.7   | 7.7   | 7.7               | 7.7                | 7.7                   | 7.7                 |
| AN  | 4     | 76.9  | 92.3  | 92.3  | 92.3              | 92.3               | 92.3                  | 92.3                |
| AN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 22.2  | 16.7  | 16.7              | 16.7               | 16.7                  | 16.7                |
| BN  | 4     | 83.3  | 100.0 | 94.4  | 94.4              | 94.4               | 94.4                  | 94.4                |
| BN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 4.2   | 29.2  | 8.3   | 12.5              | 12.5               | 12.5                  | 12.5                |
| D   | 4     | 91.7  | 95.8  | 91.7  | 91.7              | 91.7               | 95.8                  | 95.8                |
| D   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 25.0  | 62.5  | 50.0  | 56.3              | 37.5               | 37.5                  | 37.5                |
| C   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 5.1   | 24.2  | 16.2  | 18.2              | 15.2               | 15.2                  | 15.2                |
| All | 4     | 71.7  | 89.9  | 88.9  | 88.9              | 88.9               | 89.9                  | 89.9                |
| All | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-101. Percent of months above the 55°F successful smoltification water temperature limit for steelhead by water year type for all years combined, Clear Creek below Whiskeytown, January through May.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 7.1   | 10.7  | 7.1   | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 4     | 64.3  | 85.7  | 85.7  | 85.7              | 85.7               | 85.7                  | 85.7                |
| W   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 23.1  | 23.1  | 23.1              | 23.1               | 23.1                  | 23.1                |
| AN  | 4     | 92.3  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 22.2  | 44.4  | 55.6  | 55.6              | 55.6               | 55.6                  | 55.6                |
| BN  | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 12.5  | 58.3  | 54.2  | 58.3              | 58.3               | 58.3                  | 62.5                |
| D   | 4     | 95.8  | 95.8  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 0.0   | 12.5  | 12.5  | 12.5              | 6.3                | 12.5                  | 12.5                |
| C   | 3     | 56.3  | 93.8  | 87.5  | 93.8              | 93.8               | 93.8                  | 93.8                |
| C   | 4     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 1     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 0.0   | 2.0   | 2.0   | 2.0               | 1.0                | 2.0                   | 2.0                 |
| All | 3     | 18.2  | 43.4  | 42.4  | 44.4              | 44.4               | 44.4                  | 45.5                |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| All | 4     | 87.9  | 94.9  | 96.0  | 96.0              | 96.0               | 96.0                  | 96.0                |
| All | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-102. Percent of months above the 55°F successful smoltification water temperature limit for steelhead by water year type for all years combined, Clear Creek below Whiskeytown, January through May.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 2     | 0.0   | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 5.6   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 100.0 | 5.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 1     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 2     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 1     | 0.0   | 6.3  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 2     | 6.3   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |



| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 1     | 0.0   | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 2     | 1.0   | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 3     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 1.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 100.0 | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### **L.2.3.1.5 Green Sturgeon**

#### **Adult Migration, River Spawning, and Holding**

Table L.2-103. Percent of months outside the 52°F to 69.4°F water temperature range of observed green sturgeon adult migration by month and water year type and for all years combined, Sacramento River at Bend Bridge, April through May.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2w TUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|------|------|-----|--------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0  | 7.1  | 7.1 | 7.1                | 7.1                | 7.1                   | 7.1                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 2.0  | 2.0 | 2.0                | 2.0                | 2.0                   | 2.0                 |
| All | 5     | 0.0  | 0.0  | 0.0 | 0.0                | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-104. Percent of months outside the 52°F to 69.4°F water temperature range of observed green sturgeon adult migration by month and water year type and for all years combined, Sacramento River at Hamilton City, April through May.

| WYT | Month | EXP1 | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 22.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 29.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 50.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 21.2 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-105. Percent of months outside the 49.3°F to 63.7°F water temperature range of observed green sturgeon spawning by month and water year type and for all years combined, Sacramento River at Bend Bridge, April through July.

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 96.4  | 3.6  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 92.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 38.9  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3 | NAA | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|-----|-------------------|--------------------|-----------------------|---------------------|
| D   | 5     | 41.7  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 56.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 4     | 0.0   | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 5     | 28.3  | 0.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 98.0  | 1.0  | 0.0 | 0.0               | 0.0                | 0.0                   | 0.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-106. Percent of months outside the 49.3°F to 63.7°F water temperature range of observed green sturgeon spawning by month and water year type and for all years combined, Sacramento River at Hamilton City, April through July.

| WYT | Month | EXP1  | EXP3  | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0   | 0.0   | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 5     | 39.3  | 71.4  | 60.7 | 50.0              | 50.0               | 50.0                  | 50.0                |
| W   | 6     | 100.0 | 96.4  | 82.1 | 82.1              | 82.1               | 82.1                  | 82.1                |
| AN  | 4     | 0.0   | 7.7   | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 69.2  | 76.9  | 69.2 | 61.5              | 61.5               | 61.5                  | 61.5                |
| AN  | 6     | 100.0 | 100.0 | 69.2 | 53.8              | 53.8               | 61.5                  | 69.2                |
| BN  | 4     | 0.0   | 11.1  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 83.3  | 55.6  | 44.4 | 22.2              | 22.2               | 27.8                  | 27.8                |
| BN  | 6     | 100.0 | 94.4  | 50.0 | 50.0              | 50.0               | 50.0                  | 55.6                |
| D   | 4     | 4.2   | 12.5  | 0.0  | 0.0               | 0.0                | 4.2                   | 4.2                 |
| D   | 5     | 95.8  | 66.7  | 66.7 | 50.0              | 54.2               | 45.8                  | 70.8                |
| D   | 6     | 100.0 | 83.3  | 37.5 | 37.5              | 37.5               | 37.5                  | 41.7                |
| C   | 4     | 31.3  | 37.5  | 31.3 | 31.3              | 6.3                | 0.0                   | 0.0                 |
| C   | 5     | 87.5  | 68.8  | 62.5 | 68.8              | 75.0               | 75.0                  | 68.8                |
| C   | 6     | 100.0 | 93.8  | 68.8 | 75.0              | 75.0               | 68.8                  | 62.5                |
| All | 4     | 6.1   | 12.1  | 5.1  | 5.1               | 1.0                | 1.0                   | 1.0                 |
| All | 5     | 72.7  | 67.7  | 60.6 | 49.5              | 51.5               | 50.5                  | 55.6                |

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| All | 6     | 100.0 | 92.9 | 61.6 | 60.6              | 60.6               | 60.6                  | 62.6                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-107. Percent of months outside the 59°F to 73.4°F water temperature range of observed green sturgeon holding by month and water year type and for all years combined, Sacramento River at Bend Bridge, Year-round.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 4     | 100.0 | 96.4  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 5     | 46.4  | 42.9  | 32.1  | 64.3              | 64.3               | 64.3                  | 64.3                |
| W   | 6     | 0.0   | 39.3  | 64.3  | 85.7              | 85.7               | 85.7                  | 85.7                |
| W   | 7     | 3.6   | 71.4  | 96.4  | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 8     | 3.6   | 82.1  | 96.4  | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 9     | 0.0   | 82.1  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 10    | 7.1   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 4     | 100.0 | 84.6  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 5     | 15.4  | 23.1  | 30.8  | 61.5              | 61.5               | 61.5                  | 69.2                |
| AN  | 6     | 0.0   | 61.5  | 84.6  | 92.3              | 92.3               | 92.3                  | 84.6                |
| AN  | 7     | 7.7   | 92.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 8     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 9     | 0.0   | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 10    | 15.4  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| BN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 4     | 100.0 | 72.2  | 88.9  | 94.4              | 88.9               | 88.9                  | 94.4                |
| BN  | 5     | 0.0   | 66.7  | 72.2  | 100.0             | 88.9               | 88.9                  | 88.9                |
| BN  | 6     | 0.0   | 66.7  | 77.8  | 83.3              | 83.3               | 83.3                  | 77.8                |
| BN  | 7     | 22.2  | 83.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 8     | 11.1  | 94.4  | 88.9  | 94.4              | 94.4               | 94.4                  | 94.4                |
| BN  | 9     | 0.0   | 94.4  | 83.3  | 88.9              | 88.9               | 94.4                  | 94.4                |
| BN  | 10    | 22.2  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 4     | 91.7  | 54.2  | 83.3  | 79.2              | 79.2               | 83.3                  | 83.3                |
| D   | 5     | 0.0   | 41.7  | 37.5  | 70.8              | 70.8               | 66.7                  | 58.3                |
| D   | 6     | 4.2   | 83.3  | 83.3  | 95.8              | 95.8               | 95.8                  | 95.8                |
| D   | 7     | 4.2   | 91.7  | 95.8  | 95.8              | 95.8               | 95.8                  | 95.8                |
| D   | 8     | 4.2   | 91.7  | 83.3  | 95.8              | 95.8               | 95.8                  | 95.8                |
| D   | 9     | 0.0   | 91.7  | 79.2  | 91.7              | 91.7               | 87.5                  | 87.5                |
| D   | 10    | 16.7  | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 4     | 50.0  | 68.8  | 68.8  | 81.3              | 93.8               | 93.8                  | 93.8                |
| C   | 5     | 0.0   | 56.3  | 50.0  | 62.5              | 62.5               | 62.5                  | 75.0                |
| C   | 6     | 0.0   | 75.0  | 62.5  | 75.0              | 62.5               | 62.5                  | 62.5                |
| C   | 7     | 43.8  | 68.8  | 37.5  | 50.0              | 62.5               | 62.5                  | 62.5                |
| C   | 8     | 18.8  | 62.5  | 18.8  | 56.3              | 37.5               | 43.8                  | 43.8                |
| C   | 9     | 0.0   | 56.3  | 31.3  | 43.8              | 31.3               | 25.0                  | 25.0                |
| C   | 10    | 0.0   | 60.0  | 40.0  | 40.0              | 40.0               | 46.7                  | 46.7                |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| C   | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 4     | 89.9  | 75.8  | 88.9  | 90.9              | 91.9               | 92.9                  | 93.9                |
| All | 5     | 15.2  | 46.5  | 43.4  | 71.7              | 69.7               | 68.7                  | 69.7                |
| All | 6     | 1.0   | 63.6  | 73.7  | 86.9              | 84.8               | 84.8                  | 82.8                |
| All | 7     | 14.1  | 80.8  | 87.9  | 90.9              | 92.9               | 92.9                  | 92.9                |
| All | 8     | 7.1   | 85.9  | 79.8  | 90.9              | 87.9               | 88.9                  | 88.9                |
| All | 9     | 0.0   | 84.8  | 80.8  | 86.9              | 84.8               | 83.8                  | 83.8                |
| All | 10    | 12.2  | 93.9  | 90.8  | 90.8              | 90.8               | 91.8                  | 91.8                |
| All | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-108. Percent of months outside the 59°F to 73.4°F water temperature range of observed green sturgeon holding by month and water year type and for all years combined, Sacramento River at Hamilton City, Year-round.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 4     | 96.4  | 71.4  | 75.0  | 75.0              | 75.0               | 75.0                  | 75.0                |
| W   | 5     | 3.6   | 3.6   | 3.6   | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 6     | 3.6   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 9     | 3.6   | 0.0   | 0.0   | 10.7              | 10.7               | 10.7                  | 14.3                |
| W   | 10    | 0.0   | 25.0  | 96.4  | 96.4              | 96.4               | 92.9                  | 92.9                |
| W   | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AIIVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 4     | 76.9  | 38.5  | 46.2  | 46.2              | 46.2               | 46.2                  | 46.2                |
| AN  | 5     | 0.0   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 53.8  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 92.3  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 9     | 7.7   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 7.7                 |
| AN  | 10    | 0.0   | 23.1  | 76.9  | 84.6              | 84.6               | 84.6                  | 84.6                |
| AN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 3     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 4     | 55.6  | 22.2  | 16.7  | 16.7              | 16.7               | 16.7                  | 16.7                |
| BN  | 5     | 0.0   | 0.0   | 0.0   | 5.6               | 5.6                | 0.0                   | 0.0                 |
| BN  | 6     | 55.6  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0   | 5.6   | 5.6               | 5.6                | 5.6                   | 5.6                 |
| BN  | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 9     | 27.8  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 10    | 0.0   | 16.7  | 50.0  | 44.4              | 44.4               | 44.4                  | 44.4                |
| BN  | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 3     | 100.0 | 95.8  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 4     | 12.5  | 8.3   | 12.5  | 12.5              | 12.5               | 12.5                  | 12.5                |
| D   | 5     | 8.3   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 62.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 95.8  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 9     | 37.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| D   | 10    | 0.0   | 29.2  | 29.2  | 37.5              | 37.5               | 37.5                  | 33.3                |
| D   | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 3     | 93.8  | 75.0  | 81.3  | 81.3              | 87.5               | 87.5                  | 87.5                |
| C   | 4     | 18.8  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 6.3   | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 87.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0   | 0.0   | 0.0               | 6.3                | 6.3                   | 6.3                 |
| C   | 9     | 43.8  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 10    | 0.0   | 6.7   | 6.7   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 1     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 2     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 3     | 99.0  | 94.9  | 97.0  | 97.0              | 98.0               | 98.0                  | 98.0                |
| All | 4     | 53.5  | 31.3  | 33.3  | 33.3              | 33.3               | 33.3                  | 33.3                |
| All | 5     | 4.0   | 1.0   | 1.0   | 2.0               | 2.0                | 1.0                   | 1.0                 |
| All | 6     | 47.5  | 0.0   | 0.0   | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 99.0  | 0.0   | 1.0   | 1.0               | 1.0                | 1.0                   | 1.0                 |
| All | 8     | 99.0  | 0.0   | 0.0   | 0.0               | 1.0                | 1.0                   | 1.0                 |
| All | 9     | 23.2  | 0.0   | 0.0   | 3.0               | 3.0                | 3.0                   | 5.1                 |
| All | 10    | 0.0   | 21.4  | 55.1  | 56.1              | 56.1               | 55.1                  | 54.1                |
| All | 11    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 12    | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.



### Egg Incubation

Table L.2-109. Percent of months outside the 52.3°F to 60.8°F water temperature range supporting green sturgeon egg incubation by month and water year type and for all years combined, Sacramento River at Bend Bridge, April through July.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 7.1   | 14.3 | 7.1  | 7.1               | 7.1                | 7.1                   | 10.7                |
| W   | 5     | 10.7  | 32.1 | 25.0 | 21.4              | 21.4               | 21.4                  | 21.4                |
| W   | 6     | 100.0 | 14.3 | 7.1  | 7.1               | 7.1                | 7.1                   | 7.1                 |
| W   | 7     | 100.0 | 10.7 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 46.2  | 7.7  | 7.7  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 100.0 | 7.7  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 83.3  | 5.6  | 5.6  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 5.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 4     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 75.0  | 8.3  | 12.5 | 4.2               | 4.2                | 8.3                   | 8.3                 |
| D   | 6     | 100.0 | 4.2  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 4     | 18.8  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 87.5  | 12.5 | 12.5 | 6.3               | 6.3                | 6.3                   | 6.3                 |
| C   | 6     | 100.0 | 0.0  | 0.0  | 6.3               | 0.0                | 6.3                   | 12.5                |
| C   | 7     | 100.0 | 6.3  | 6.3  | 12.5              | 0.0                | 6.3                   | 6.3                 |
| All | 4     | 5.1   | 4.0  | 2.0  | 2.0               | 2.0                | 2.0                   | 3.0                 |
| All | 5     | 56.6  | 15.2 | 14.1 | 8.1               | 8.1                | 9.1                   | 9.1                 |
| All | 6     | 100.0 | 7.1  | 2.0  | 3.0               | 2.0                | 3.0                   | 4.0                 |
| All | 7     | 100.0 | 4.0  | 1.0  | 2.0               | 0.0                | 1.0                   | 1.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-110. Percent of months outside the 52.3°F to 60.8°F water temperature range supporting green sturgeon egg incubation by month and water year type and for all years combined, Sacramento River at Hamilton City, April through July.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 4     | 0.0   | 17.9  | 3.6   | 3.6               | 3.6                | 3.6                   | 3.6                 |
| W   | 5     | 85.7  | 89.3  | 92.9  | 85.7              | 85.7               | 85.7                  | 85.7                |
| W   | 6     | 100.0 | 100.0 | 96.4  | 96.4              | 96.4               | 96.4                  | 96.4                |
| W   | 7     | 100.0 | 100.0 | 82.1  | 82.1              | 82.1               | 78.6                  | 78.6                |
| AN  | 4     | 7.7   | 38.5  | 30.8  | 30.8              | 30.8               | 30.8                  | 23.1                |
| AN  | 5     | 92.3  | 92.3  | 92.3  | 92.3              | 92.3               | 92.3                  | 92.3                |
| AN  | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 7     | 100.0 | 100.0 | 53.8  | 53.8              | 53.8               | 53.8                  | 53.8                |
| BN  | 4     | 22.2  | 61.1  | 27.8  | 27.8              | 27.8               | 38.9                  | 22.2                |
| BN  | 5     | 100.0 | 88.9  | 88.9  | 88.9              | 88.9               | 88.9                  | 88.9                |
| BN  | 6     | 100.0 | 100.0 | 94.4  | 94.4              | 94.4               | 94.4                  | 100.0               |
| BN  | 7     | 100.0 | 100.0 | 72.2  | 72.2              | 72.2               | 72.2                  | 77.8                |
| D   | 4     | 45.8  | 87.5  | 54.2  | 54.2              | 54.2               | 62.5                  | 62.5                |
| D   | 5     | 100.0 | 95.8  | 91.7  | 87.5              | 87.5               | 91.7                  | 91.7                |
| D   | 6     | 100.0 | 100.0 | 95.8  | 100.0             | 100.0              | 100.0                 | 100.0               |
| D   | 7     | 100.0 | 100.0 | 83.3  | 83.3              | 83.3               | 87.5                  | 87.5                |
| C   | 4     | 68.8  | 87.5  | 87.5  | 75.0              | 75.0               | 68.8                  | 62.5                |
| C   | 5     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 6     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| C   | 7     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| All | 4     | 27.3  | 56.6  | 37.4  | 35.4              | 35.4               | 38.4                  | 33.3                |
| All | 5     | 94.9  | 92.9  | 92.9  | 89.9              | 89.9               | 90.9                  | 90.9                |
| All | 6     | 100.0 | 100.0 | 97.0  | 98.0              | 98.0               | 98.0                  | 99.0                |
| All | 7     | 100.0 | 100.0 | 79.8  | 79.8              | 79.8               | 79.8                  | 80.8                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

**Larvae**

Table L.2-111. Percent of months above the 64.4°F upper water temperature limit for newly hatched green sturgeon larvae by month and water year type and for all years combined, Sacramento River at Bend Bridge, May through August.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 0.0   | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 6     | 85.7  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| W   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 5     | 15.4  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 6     | 92.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 5     | 27.8  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 5     | 29.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| D   | 8     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 5     | 56.3  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 6     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| C   | 8     | 100.0 | 0.0  | 18.8 | 0.0               | 18.8               | 18.8                  | 18.8                |
| All | 5     | 23.2  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 6     | 94.9  | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 7     | 100.0 | 0.0  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| All | 8     | 100.0 | 0.0  | 3.0  | 0.0               | 3.0                | 3.0                   | 3.0                 |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-112. Percent of months above the 64.4°F upper water temperature limit for newly hatched green sturgeon larvae by month and water year type and for all years combined, Sacramento River at Hamilton City, May through August.

| WYT | Month | EXP1  | EXP3  | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 5     | 17.9  | 50.0  | 50.0 | 35.7              | 32.1               | 32.1                  | 32.1                |
| W   | 6     | 100.0 | 92.9  | 75.0 | 71.4              | 71.4               | 67.9                  | 71.4                |
| W   | 7     | 100.0 | 100.0 | 21.4 | 21.4              | 21.4               | 21.4                  | 21.4                |
| W   | 8     | 100.0 | 75.0  | 17.9 | 17.9              | 17.9               | 17.9                  | 17.9                |
| AN  | 5     | 69.2  | 69.2  | 53.8 | 46.2              | 46.2               | 46.2                  | 30.8                |
| AN  | 6     | 100.0 | 100.0 | 53.8 | 53.8              | 53.8               | 53.8                  | 61.5                |
| AN  | 7     | 100.0 | 84.6  | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 61.5  | 7.7  | 7.7               | 7.7                | 7.7                   | 7.7                 |
| BN  | 5     | 83.3  | 44.4  | 22.2 | 16.7              | 22.2               | 22.2                  | 16.7                |
| BN  | 6     | 100.0 | 83.3  | 50.0 | 38.9              | 38.9               | 38.9                  | 44.4                |
| BN  | 7     | 100.0 | 72.2  | 16.7 | 22.2              | 27.8               | 33.3                  | 33.3                |
| BN  | 8     | 100.0 | 72.2  | 27.8 | 5.6               | 16.7               | 16.7                  | 16.7                |
| D   | 5     | 83.3  | 58.3  | 45.8 | 41.7              | 37.5               | 37.5                  | 41.7                |
| D   | 6     | 100.0 | 66.7  | 37.5 | 37.5              | 37.5               | 37.5                  | 37.5                |
| D   | 7     | 100.0 | 62.5  | 16.7 | 20.8              | 20.8               | 20.8                  | 20.8                |
| D   | 8     | 100.0 | 58.3  | 20.8 | 8.3               | 8.3                | 12.5                  | 16.7                |
| C   | 5     | 87.5  | 43.8  | 50.0 | 50.0              | 50.0               | 43.8                  | 31.3                |
| C   | 6     | 100.0 | 93.8  | 68.8 | 62.5              | 56.3               | 56.3                  | 50.0                |
| C   | 7     | 100.0 | 93.8  | 81.3 | 81.3              | 68.8               | 68.8                  | 62.5                |
| C   | 8     | 100.0 | 93.8  | 81.3 | 87.5              | 87.5               | 81.3                  | 81.3                |
| All | 5     | 63.6  | 52.5  | 44.4 | 37.4              | 36.4               | 35.4                  | 31.3                |
| All | 6     | 100.0 | 85.9  | 57.6 | 53.5              | 52.5               | 51.5                  | 53.5                |
| All | 7     | 100.0 | 82.8  | 26.3 | 28.3              | 27.3               | 28.3                  | 27.3                |
| All | 8     | 100.0 | 71.7  | 29.3 | 23.2              | 25.3               | 25.3                  | 26.3                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

## Juveniles

Table L.2-113. Percent of months outside the 59°F to 66.2°F water temperature range for optimal bioenergetic performance of green sturgeon juveniles by month and water year type and for all years combined, Sacramento River at Bend Bridge, June through August.

| WYT | Month | EXP1  | EXP3  | NAA   | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|-------|-------|-------------------|--------------------|-----------------------|---------------------|
| W   | 6     | 39.3  | 39.3  | 64.3  | 85.7              | 85.7               | 85.7                  | 85.7                |
| W   | 7     | 100.0 | 71.4  | 96.4  | 100.0             | 100.0              | 100.0                 | 100.0               |
| W   | 8     | 100.0 | 82.1  | 96.4  | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 6     | 76.9  | 61.5  | 84.6  | 92.3              | 92.3               | 92.3                  | 84.6                |
| AN  | 7     | 100.0 | 92.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| AN  | 8     | 100.0 | 100.0 | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 6     | 88.9  | 66.7  | 77.8  | 83.3              | 83.3               | 83.3                  | 77.8                |
| BN  | 7     | 100.0 | 83.3  | 100.0 | 100.0             | 100.0              | 100.0                 | 100.0               |
| BN  | 8     | 100.0 | 94.4  | 88.9  | 94.4              | 94.4               | 94.4                  | 94.4                |
| D   | 6     | 91.7  | 83.3  | 83.3  | 95.8              | 95.8               | 95.8                  | 95.8                |
| D   | 7     | 100.0 | 91.7  | 95.8  | 95.8              | 95.8               | 95.8                  | 95.8                |
| D   | 8     | 100.0 | 91.7  | 83.3  | 95.8              | 95.8               | 95.8                  | 95.8                |
| C   | 6     | 100.0 | 75.0  | 62.5  | 75.0              | 62.5               | 62.5                  | 62.5                |
| C   | 7     | 100.0 | 68.8  | 37.5  | 50.0              | 62.5               | 62.5                  | 62.5                |
| C   | 8     | 100.0 | 62.5  | 18.8  | 56.3              | 43.8               | 56.3                  | 50.0                |
| All | 6     | 75.8  | 63.6  | 73.7  | 86.9              | 84.8               | 84.8                  | 82.8                |
| All | 7     | 100.0 | 80.8  | 87.9  | 90.9              | 92.9               | 92.9                  | 92.9                |
| All | 8     | 100.0 | 85.9  | 79.8  | 90.9              | 88.9               | 90.9                  | 89.9                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

Table L.2-114. Percent of months outside the 59°F to 66.2°F water temperature range for optimal bioenergetic performance of green sturgeon juveniles by month and water year type and for all years combined, Sacramento River at Hamilton City, June through August.

| WYT | Month | EXP1  | EXP3 | NAA  | Alt2wTUCP<br>woVA | Alt2woTUCP<br>woVA | Alt2woTUCP<br>DeltaVA | Alt2woTUCP<br>AllVA |
|-----|-------|-------|------|------|-------------------|--------------------|-----------------------|---------------------|
| W   | 6     | 100.0 | 67.9 | 35.7 | 32.1              | 32.1               | 32.1                  | 32.1                |
| W   | 7     | 100.0 | 46.4 | 7.1  | 3.6               | 3.6                | 7.1                   | 7.1                 |
| W   | 8     | 100.0 | 28.6 | 7.1  | 7.1               | 7.1                | 7.1                   | 7.1                 |
| AN  | 6     | 100.0 | 53.8 | 23.1 | 7.7               | 7.7                | 15.4                  | 30.8                |
| AN  | 7     | 100.0 | 30.8 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| AN  | 8     | 100.0 | 15.4 | 0.0  | 0.0               | 0.0                | 0.0                   | 0.0                 |
| BN  | 6     | 100.0 | 33.3 | 33.3 | 22.2              | 22.2               | 22.2                  | 33.3                |
| BN  | 7     | 100.0 | 22.2 | 11.1 | 11.1              | 11.1               | 11.1                  | 11.1                |
| BN  | 8     | 100.0 | 16.7 | 0.0  | 5.6               | 5.6                | 5.6                   | 5.6                 |
| D   | 6     | 100.0 | 29.2 | 12.5 | 8.3               | 8.3                | 8.3                   | 12.5                |
| D   | 7     | 100.0 | 16.7 | 0.0  | 4.2               | 4.2                | 4.2                   | 4.2                 |
| D   | 8     | 100.0 | 8.3  | 8.3  | 4.2               | 4.2                | 4.2                   | 4.2                 |
| C   | 6     | 100.0 | 37.5 | 37.5 | 31.3              | 37.5               | 37.5                  | 37.5                |
| C   | 7     | 100.0 | 31.3 | 50.0 | 62.5              | 50.0               | 50.0                  | 31.3                |
| C   | 8     | 100.0 | 43.8 | 62.5 | 62.5              | 68.8               | 68.8                  | 62.5                |
| All | 6     | 100.0 | 45.5 | 28.3 | 21.2              | 22.2               | 23.2                  | 28.3                |
| All | 7     | 100.0 | 30.3 | 12.1 | 14.1              | 12.1               | 13.1                  | 10.1                |
| All | 8     | 100.0 | 22.2 | 14.1 | 14.1              | 15.2               | 15.2                  | 14.1                |

°F = degrees Fahrenheit; WYT = Water Year Type; W = Wet; AN = Above Normal; BN = Below Normal; D = Dry; C = Critical.

### **L.2.3.2 Environmental Impact Statement**

#### **L.2.3.2.1 HEC 5Q Water Temperature Model Outputs**

[TBD]

#### **L.2.3.2.2 Central Valley Steelhead**

[TBD]

## L.2.4 References

- Aasen, K. D., and F. D. Henry, Jr. 1981. Spawning behavior and requirements of Alabama spotted bass, *Micropterus punctulatus henshalli*, in Lake Perris, Riverside Country, California. California. *California Fish and Game* 67(1):118–125.
- Anderson, J. J., W. N. Beer, J. A. Israel, and S. Greene. 2022. Targeting river operations to the critical thermal window of fish incubation: Model and case study on Sacramento River winter-run Chinook salmon. *River Research and Applications* 38: 895–905, DOI: 10.1002/rra.3965.
- Bell, M. C. 1991. *Fisheries Handbook of Engineering Requirements & Biological Criteria*. Portland, OR.: Fish Passage Development and Evaluation Program, Corps of Engineers, North Pacific Division.
- Bratovich, P., C. Addley, D. Simodynes, and H. Bowen. 2012. *Water Temperature Considerations for Yuba River Basin Anadromous Salmonid Reintroduction Evaluations*. Prepared for Yuba Salmon Forum Technical Working Group.
- Brett, J. R. 1952. Temperature tolerance in young Pacific salmon, genus *Oncorhynchus*. *Journal of the Fisheries Board of Canada* 9(6):265–323.
- Brett, J. R., W. C. Clarke, and J. E. Shelbourn. 1982. Experiments on Thermal Requirements for Growth and Food Conversion Efficiency of Juvenile Chinook Salmon. *Canadian Technical Report of Fisheries and Aquatic Sciences* 1127.
- Brown, K. 2007. Evidence of spawning by green sturgeon, *Acipenser medirostris*, in the upper Sacramento River, California. *Environmental Biology of Fishes* 79(3–4):297–303.
- Brown, T. G., B. Runciman, S. Pollard, A. D. A. Grant, and M. J. Bradford. 2009. Biological synopsis of smallmouth bass (*Micropterus dolomieu*). *Canadian Manuscript Report of Fisheries and Aquatic Sciences* 2887(1):1–58.
- California Department of Water Resources. 2004. *Assessment of Potential Project Effects on Splittail Habitat*. SP-F3.2 Task 3B. Final Report. Oroville Facilities Relicensing, FERC Project No. 2100.
- Cech, J. J., S. J. Mitchell, D. T. Castleberry et al. 1990. Distribution of California stream fishes: influence of environmental temperature and hypoxia. *Environmental Biology of Fishes* 29:95–105.
- Colborne, S. F., L. W. Sheppard, D. R. O’Donnell, D. C. Reuman, J. A. Walter, G. P. Singer, J. T. Kelly, M. J. Thomas, and A. L. Rypel. 2022. Intraspecific variation in migration timing of green sturgeon in the Sacramento River system. *Ecosphere* 13:e4139. DOI: 10.1002/ecs2.4139.

- Coutant, C. C. 1970. *Thermal Resistance of Adult Coho (Oncorhynchus kisutch) and Jack Chinook (O. tshawytscha) Salmon, and Adult Steelhead Trout (Salmo gairdneri) from the Columbia River*. Richland, WA.
- Erickson, D. L., J. A. North, J. E. Hightower, J. Weber, and L. Lauck. 2002. *Movement and habitat use of green sturgeon Acipenser medirostris in the Rogue River, Oregon, USA*. *Journal of Applied Ichthyology* 188:565–569.
- Fay, C. W., R. J. Neves, and G. B. Pardue. 1983. *Species profiles: Life histories and environmental requirements of coastal fishes and invertebrates (Mid-Atlantic): Striped bass*. U. S. Fish and Wildlife Service, Division of Biological Services Report No. FWS/OBS-82/11.8, and U. S. Army Corps of Engineers Report No. TR EL-82-4, Washington, DC.
- Federal Energy Regulatory Commission. 1993. *Proposed modifications to the Lower Mokelumne River Project, California*: FERC Project No. 2916-004. Washington, DC.
- Gonia, T. M., M. L. Keefer, T. C. Bjornn, C. A. Peery, D. H. Bennett, and L. C. Stuehrenberg. 2006. Behavioral thermoregulation and slowed migration by adult fall Chinook salmon in response to high Columbia River water temperatures. *Transactions of the American Fisheries Society* 135(2):408–419.
- Israel, J., A. Drauch, M. Gingras et al. 2009. Life history conceptual model for white sturgeon (*Acipenser transmontanus*). Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=28423>. Accessed: January 23, 2023.
- Keefer, M. L., C. A. Peery, and B. High. 2009. Behavioral thermoregulation and associated mortality trade-offs in migrating adult steelhead (*Oncorhynchus mykiss*): variability among sympatric populations. *Canadian Journal of Fisheries and Aquatic Science* 66:1734–1747.
- Kelly et al. 2007
- Linares-Casenave, J., I. Werner, J. P. Van Eenennaam, and S. I. Doroshov. 2013. Temperature stress induces notochord abnormalities and heat shock proteins expression in larval green sturgeon (*Acipenser medirostris*, Ayres, 1854). *Journal of Applied Ichthyology* 29:958–967.
- Marine K. R., and J. J. Cech Jr. 2004. Effects of high water temperature on the growth, smoltification, and predator avoidance in juvenile Sacramento River Chinook Salmon. *North American Journal of Fisheries Management* 24:198–210.
- Martin, B. T., A. Pike, S. N. John, N. Hamda, J. Roberts, S. T. Lindley, and E. M. Danner. 2017. Phenomenological vs. biophysical models of thermal stress in aquatic eggs. *Ecology Letters* 20(1):50–59.
- May, J. T., and L. R. Brown. 2002. Fish communities of the Sacramento River Basin: implications for conservation of native fishes in the Central Valley, California. *Environmental Biology of Fishes* 63:373–388.



- Mayfield, R. B., and J. J. Cech. 2004. Temperature effects on green sturgeon bioenergetics. *Transactions of the American Fisheries Society* 133(4):961–970.
- McCullough D. A., S. Spalding, D. Sturdevant, and M. Hicks. 2001. *EPA Issue Paper 5: Summary of Technical Literature Examining the Physiological Effects of Temperature on Salmonids*. EPA-910-D-01-005.
- McCullough, D. A. 1999. *A review and synthesis of effects of alterations to the water temperature regime on freshwater life stages of salmonids, with special reference to Chinook Salmon*. Seattle, WA. U.S. Environmental Protection Agency, Region 10. 291p.
- Meeuwig, M. H., J. M. Bayer, and J. G. Seelye. 2005. Effects of temperature on survival and development of early life stage Pacific and western brook lampreys. *Transactions of the American Fisheries Society* 134(1):19–27.
- Meeuwig, M., J. Bayer, J. Seele, and R. Reiche. 2003. *Identification of Larval Pacific Lampreys (Lampetra tridentata), River Lampreys (L. ayresi) and Western Brook Lampreys (L. richardsoni) and Thermal Requirements of Early Life History Stages of Lampreys: Annual Report 2002*. doi:10.2172/821798.
- Moyle, P. B. 2002. *Inland Fishes of California*, 2<sup>nd</sup> Edition. Berkeley, CA: University of California Press.
- Moyle, P. B., R. M. Quiñones, J. V. Katz, and J. Weaver. 2015. *Fish Species of Special Concern in California*. Sacramento: California Department of Fish and Wildlife.
- Myrick, C. A. 1998. *Temperature, genetic, and ration effects on juvenile rainbow trout (Oncorhynchus mykiss) bioenergetics*. University of California, Davis.
- Myrick, C. A., and J. J. Cech Jr. 2001. *Temperature Effects on Chinook Salmon and Steelhead: a Review Focusing on California's Central Valley Populations*. Calif. Water Environ. Model. Forum.
- Myrick, C. A., and J. J. Cech Jr. 2002. Growth of American River fall-run Chinook salmon in California's Central Valley: temperature and ration effects. *California Fish and Game* 88(1):35–44.
- Myrick, C. A., and J. J. Cech Jr. 2004. Temperature effects on juvenile anadromous salmonids in California's central valley: what don't we know? *Reviews in Fish Biology and Fisheries* 14: 113–123.
- Painter, R. L., L. Wixom, and L. Meinz. 1980. *American Shad Management Plan for the Sacramento River Drainage*. Anadromous Fish Conservation Act Project AFS-17, Job 5. Sacramento, CA: California Department of Fish and Game.
- Poletto et al. 2018

- Poole, G. J. Risley, and M. Hicks. 2001. *Issue Paper 3: Spatial and temporal patterns of stream temperatures* (Revised). Prepared as part of the EPA Region 10 temperature water quality criteria guidance development project.
- Poytress, W. R., J. J. Gruber, J. P. Van Eenennaam, and M. Gard. 2015. Spatial and Temporal Distribution of Spawning Events and Habitat Characteristics of Sacramento River Green Sturgeon. *Transactions of the American Fisheries Society* 144(6):1129–1142. DOI: 10.1080/00028487.2015.1069213.
- Reiser, D. W., and T. C. Bjornn. 1979. *Influence of Forest and Rangeland Management on Anadromous Fish Habitat in the Western United States and Canada: Habitat Requirements of Anadromous Salmonids* (Vol. 1). Pacific Northwest Forest and Range Experiment Station, Forest Service, US Department of Agriculture.
- Richter A., and S. A. Kolmes. 2005. Maximum Temperature Limits for Chinook, Coho, and Chum Salmon, and Steelhead Trout in the Pacific Northwest. *Reviews in Fisheries Science* 13(1):23–49.
- Rodgers et al. 2019
- Sites Project Authority and Bureau of Reclamation 2017
- Slater, D. W. 1963. *Winter-run Chinook salmon in the Sacramento River, California, with notes on water temperature requirements at spawning*. U.S. Fish and Wildlife Service. Special Scientific Report—Fisheries no. 461.
- Southern California Edison Company. 2007. *Attachment H, Life History and Habitat Requirements of Fish Species in the Project Area*. February. Rosemead, CA.
- Stuber et al. 1982
- Thompson, L. C., N. A. Fangue, J. J. Cech, Jr., D. E. Cocherell, and R. C. Kaufman. 2012. *Juvenile and Adult Hardhead Thermal Tolerances and Preferences: Temperature Preference, Critical Thermal Limits, Active and Resting Metabolism, and Blood-Oxygen Equilibria*. Center for Aquatic Biology and Aquaculture Technical Report, University of California, Davis. Davis, CA.
- U. S. Fish and Wildlife Service. 1999. *Effect of temperature on early-life survival of Sacramento River fall- and winter-run Chinook salmon*. U. S. Fish and Wildlife Service Report, Northern Central Valley Fish and Wildlife Office Red Bluff, CA.
- U.S. Environmental Protection Agency. 2003. *EPA Region 10 Guidance For Pacific Northwest State and Tribal Temperature Water Quality Standards*.
- Van Eenennaam, J. P., J. Linares-Casenave. X. Deng, and S. I. Doroshov. 2005. Effect of incubation temperature on green sturgeon embryos, *Acipenser medirostris*. *Environmental Biology of Fishes* 72(2):145–154.

- Wang, J. C. 1986. *Fishes of the Sacramento-San Joaquin estuary and adjacent waters, California: A guide to the early life histories* (Vol. 9). U.S. Department of Interior, Bureau of Reclamation.
- Washington State Department of Ecology. 2002. *Evaluating Standards for Protecting Aquatic Life in Washington's Surface Water Quality Standards: Temperature Criteria*. Draft Discussion Paper and Literature Summary. Publication Number 00-10-070. 83pp.
- Wedemeyer G. A., R. L. Saunders, and W. C. Clarke. 1980. Environmental factors affecting smoltification and early marine survival of anadromous salmonids. *Marine Fisheries Review* 42(6):1–14.
- Zaugg, W. S., and H. H. Wagner. 1973. Gill ATPase activity related to parr-smolt transformation and migration in steelhead trout (*Salmo gairdneri*): Influence of photo-period and temperature. *Comparative Biochemistry and Physiology Part B: Comparative Biochemistry* 45:955–965.