Appendix 9

Technical Report: Response to Comments on the "Combined CDFW/USFWS/FWN Recommendation" (HDR Engineering, Inc. and Stephen Grinnell, P.E.)

Response to Comments on the "Combined CDFW/USFWS/FWN Recommendation"

Yuba River Development Project
FERC Project No. 2246

Prepared by HDR Engineering, Inc. & Stephen Grinnell, P.E.

October 9, 2017

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RESPONSE TO COMMENTS ON THE "COMBINED CDFW/USFWS/FWN RECOMMENDATION"

The Yuba County Water Agency (YCWA), licensee for the Yuba River Development Project (YRDP), Federal Energy Regulatory Commission (FERC) Project No. 2246 ("Project"), has prepared this document in response to the comments, recommendations, and preliminary terms and conditions filed by the California Department of Fish and Wildlife (CDFW), the United States Fish and Wildlife Service (USFWS) and the Foothills Water Network (FWN). These entities have filed comments, recommendations, and preliminary terms and conditions on the suite of proposed actions on the lower Yuba River represented by: (1) YCWA's Proposed Condition AR3, Maintain Minimum Streamflows at Narrows 2 Powerhouse and Narrows 2 Full Bypass; and (2) YCWA's Proposed Condition AR9, Control Project Ramping and Flow Fluctuation Downstream of Englebright Dam, both of which are part of YCWA's Final License Application that was filed with the FERC on April 21, 2014, as amended on June 5, 2017. Numerous other actions have been proposed for the upper Yuba River Watershed that have the potential to affect flows and water temperatures in the lower Yuba River. For the combination of all proposed actions in both the upper watershed and the lower Yuba River, this response refers to the CDFW, USFWS, and FWN recommendations as the "Combined CDFW/USFWS/FWN Recommendation", and comparisons are made to the corresponding suite of YCWA proposed conditions referred to herein as the Amended Final License Application (AFLA).

The FERC should not include the CDFW and USFWS Section 10(j) flow conditions or the FWN's Section 10(a) Recommendation I(A), referred to in this report as the "Combined CDFW/USFWS/FWN Recommendation," in the new license for numerous compelling reasons. YCWA's reasons why FERC should not include CDFW, FWS, and FWN recommendations for individual components of Conditions AR3 and AR9 are provided in YCWA's responses to their recommended changes to Conditions AR3 and AR9. For comprehensiveness, those individual responses provided by YCWA are summarized herein and are fully described in YCWA's responses to recommendations for Conditions AR3 and AR9. To support the information and evaluations presented in this report, YCWA conducted modeling to identify redirected impacts resulting from the entire suite of CDFW, USFWS, and FWN recommendations, which is different from the individual recommendations corresponding with AR3 and AR9. Consequently, all pertinent modeling results (both physical habitat and water temperature suitabilities) associated with specific species/run lifestages for the "Combined CDFW/USFWS/FWN Recommendation are presented in this report.

At the request of YCWA, HDR Engineering, Inc. (HDR) and Stephen Grinnell, P.E. have prepared this technical report.

1. YCWA Proposed Condition

YCWA has not identified any individual proposed condition in its AFLA that corresponds directly to the "Combined Recommendation" provided by USFWS, CDFW, and FWN. However, many of the conditions that YCWA has proposed in its AFLA are similar to components of the "Combined CDFW/USFWS/FWN Recommendation".

For evaluation purposes in this report, scenarios for YCWA's AFLA and the "Combined CDFW/USFWS/FWN Recommendations" both contain the following same conditions from YCWA's AFLA:

- WR2 – Determine Water Year Types for Measures Pertaining to Our House Diversion Dam, Log Cabin Diversion Dam, and New Bullards Bar Dam
- WR5 – Maintain New Bullards Bar Reservoir Minimum Pool
- WR6 – Operate New Bullards Bar Reservoir for Flood Control
- AR1 – Maintain Minimum Streamflows below Our House Diversion Dam, Log Cabin Diversion Dam, and New Bullards Bar Dam
- AR2 – Control Project Spills at Our House Diversion Dam
- AR12 – Control Project Spills at Log Cabin Diversion Dam
- GS2 – Implement Our House and Log Cabin Diversion Dams Sediment Management Plan
- RR3 – Provide Whitewater Boating Below Our House Diversion Dam

Recommended changes to specific components of other YCWA Proposed Conditions that are proposed by CDFW, USFWS and FWN are described as part of the "Combined CDFW/USFWS/FWN Recommendation" in Section 1.2, below.

1.1 Combined CDFW/USFWS/FWN Recommendation

CDFW, USFWS and the FWN each have recommended a suite of conditions that are either identical, or very similar to each other. For this reason, the suite of recommendations provided by CDFW, USFWS and FWN are collectively referred to and evaluated in this YCWA response document as one "complete" or "combined" recommendation.

Although each specific component of CDFW, USFWS and FWN's recommended changes to YCWA's AFLA is described in each of their respective comment letters, the summary provided below, which was taken from the FWN Comment Letter, concisely describes the suite of conditions jointly recommended by CDFW, UFSWS and FWN.

The FWN's Section 10(a) Recommendation I(A) states that it recommends that FERC include the CDFW and USFWS 10(j) flow conditions that recommend changes to the required instream flows for the lower Yuba River as a license measure necessary to mitigate for impacts of the Project and to improve conditions for aquatic resources. The components of this recommendation are in several different CDFW and USFWS 10(j) recommendations, but for clarity the FWN references them collectively going forward, and the recommended condition consists of six components in

comparison to YCWA's Proposed Conditions AR3 and AR9 and the Lower Yuba River Accord (Yuba Accord) flows:

1) Increased minimum flows during March and April of Schedule 1 and 2 years (spring floodplain inundation).

2) A pulse flow during February of Schedule 5 and 6 years and Conference Years when flows in excess of 3,000 cfs have not previously occurred (winter pulse for steelhead attraction).

3) Increased minimum flows during early May of Schedule 5, 6 and Conference Years (spring pulse for salmon attraction).

4) Slightly increased minimum flows during early May in Schedule 2 and 3 years (smolt emigration).

5) Increase minimum flows in late April and May of Conference Years (water temperature protection).

6) Ramping rate for riparian recruitment from April 1 through September 30.

The specific details and rationale of each component are discussed in more detail in the CDFW, USFWS and FWN Comment Letters.

1.1.1 CDFW, USFWS, and FWN's Stated Biological Objectives

Minimum Streamflows and Pulse Flow Conditions (recommended changes to YCWA's Condition AR3)

CDFW's flow proposal in Recommended Condition 2.5 - Maintain Minimum Streamflows at Narrows Powerhouse and Narrows 2 Full Bypass, includes: (1) conditional winter pulses in the drier water years to trigger upstream migration of adult steelhead and provide a cue for outmigration of juvenile spring-run Chinook salmon; (2) spring floodplain inundation flows in wetter water years to enhance juvenile salmonid rearing, emigration, and survival, and to avoid a drop in flows prior to the end of the natural spring inundation period ('spring gap'); and (3) spring pulse flows in wet and dry water years to trigger upstream migration of adult spring-run Chinook salmon and further close the spring gap.

Although CDFW's stated objective of …"*spring pulse flows in wet and dry water years to trigger upstream migration of adult spring-run Chinook salmon…..*" is somewhat vague, the corresponding FWN objective is clearly stated as "*Increased minimum flows during early May of Schedule 5, 6 and Conference Years (spring pulse for salmon attraction)*". Because CDFW and FWN recommended minimum flow requirements are the same, there is no separate spring pulse flow recommended measure. Rather, the spring pulse flow component is embedded in the minimum flow requirement recommendation.

Stated objectives in the recommendations provided by USFWS and FWN are similar to those of CDFW described above.

Riparian Recession Rates (recommended changes to YCWA's Condition AR9)

The CDFW and USFWS flow proposals both state that YCWA's Proposed Condition AR9 would not apply past July 15, and thereby would put seedlings at risk of desiccation associated with rapid recession during the summer period. According to CDFW and USFWS, in many years YCWA decreases flows at the end of August or at the conclusion of a water transfer period and the demonstrated rate of decrease far exceeds what seedlings can survive. In CDFW's and USFWS's versions of this condition (see CDFW *Recommended Condition 2.12, USFWS Recommended Condition 17*) the ramping rate specified in YCWA's Proposed Condition AR9 is extended through September 30. The United States Department of the Interior (USDOI) Comment Letter also states that this condition, in addition to the USDOI's Condition 16, is necessary to avoid project impacts on riparian recruitment.

Stated objectives in the recommendations provided by FWN are similar to those of CDFW and USFWS described above.

Ramping Rates to Prevent Redd Dewatering and Juvenile Stranding (recommended changes to YCWA's Condition AR9)

The CDFW and USFWS flow proposals both state that ramping rates restrictions should be implemented year-round in a manner that will minimize risk of juvenile stranding and minimizes drastic fluctuations in flow related to water transfers or deliveries (Bradford et al. 1995, Bradford 1997). They also state that, when possible, decreases in flow should be made at night when juveniles are assumed to move out and forage (Bradford et al. 1995). In addition to riparian recession rates, CDFW *Recommended Condition 2.12 and USFWS Recommended Condition 16* include ramping rates (as proposed in YCWA's Proposed Condition AR9) designed to: 1) minimize the potential for spring-run Chinook salmon redd dewatering during the spawning and incubation period of September 2 through December 31; 2) minimize the potential for steelhead redd dewatering during the spawning and incubation period of January 1 through May 31; and 3) minimize the potential for salmonid fry and juvenile stranding year-round. CDFW and YCWA are in agreement regarding theses ramping rates.

Stated objectives in the recommendations provided by FWN are similar to those of CDFW and USFWS described above.

1.2 Response to Commenters' Recommended Changes in the "Combined CDFW/USFWS/FWN Recommendation"

The FERC should not include the CDFW and USFWS Section 10(j) flow conditions or the FWN's Section 10(a) Recommendation I(A), described in this report as the "Combined CDFW/USFWS/FWN Recommendation," in the new license for numerous reasons. YCWA's reasons why FERC should not include CDFW, USFWS, and FWN recommendations for their

complete suite of recommendations are provided in YCWA's responses to their recommended changes to Conditions AR3 and AR9. For comprehensiveness, those individual responses provided by YCWA are summarized here and are fully described in YCWA's responses to the commenters' recommendations for changes to Conditions AR3 and AR9. In addition, YCWA conducted modeling to identify whether the commenters' recommendations would provide substantive benefit to the aquatic resources or result in redirected adverse impacts from the entire suite of CDFW, USFWS and FWN recommendations, which is different from the individual recommendations for changes to Conditions AR3 and AR9. Consequently, all pertinent modeling results (both physical habitat and water temperature suitabilities) associated with specific species/run lifestages for the CDFW_USFWS_FWN_Complete scenario are presented in this report.

- The commenters' recommended changes would not accomplish their stated objective of enhanced juvenile salmonid rearing, emigration, and survival, resulting from increased spring floodplain inundation. This is because the recommended measure:

    1) Does not recognize the appropriate interactions between flow and physical habitat structure, or the fact that the resultant juvenile rearing habitat conditions are primarily due to factors that do not have a direct nexus to the Project (e.g., hydraulic mining legacy, channelization and reduction in meander, limited habitat diversity and complexity, channel relocation and reconfiguration).

    2) Is not based on substantial evidence regarding the need for different amounts of rearing habitat, and commenters have not demonstrated that current or proposed AFLA minimum instream flow requirements adversely affect anadromous salmonid populations.

    3) Would actually decrease, rather than increase, the magnitude or duration of floodplain inundation, relative to the Base Case or the AFLA.

    4) Would not substantially increase the amount of estimated juvenile salmonid rearing habitat (WUA) during the spring period, relative to the Base Case or the AFLA.

- The commenters' recommended changes would not accomplish the stated objective of attracting Chinook salmon into the lower Yuba River by increased minimum flows during early May of Schedule 5, 6 and Conference Years. This is because the recommended measure:

    5) Is not based on substantial evidence regarding the need for spring-run Chinook salmon attraction flows.

    6) Was developed without considering the scientific information demonstrating that spring-run Chinook salmon attraction to the lower Yuba River depends upon the difference in both flows and water temperatures between the Yuba and Feather rivers, by contrast to a simple static flow rate as recommended.

7) Does not demonstrate that attraction of Chinook salmon into the lower Yuba River would be substantively different with the commenters' recommended pulse flow requirement, relative to either the flows associated with the current (Base Case) or proposed AFLA minimum instream flow requirements.

8) Ignores the scientific evidence that attraction of Chinook salmon into the lower Yuba River is associated with strays, including hatchery strays, which would be contrary to NMFS' 2014 Recovery Plan for Anadromous Salmonids in the Central Valley.

- The commenters' recommended changes would not accomplish the stated objective of triggering upstream migration of adult steelhead by conditional winter pulses in the drier water years. This is because the recommended measure:

9) Is not based on substantial evidence regarding the need for pulse flows to facilitate adult steelhead upstream passage.

10) Is not based on any relationship between pulse flows of the specified magnitude and adult steelhead upstream passage rates.

11) Is not based on any substantial evidence demonstrating that passage would substantively differ with implementation of the commenters' recommendation, relative to the flows associated with the current requirements, or to the proposed AFLA minimum instream flow requirements.

12) commenterDoes not acknowledge or consider the potential for re-directed impacts to steelhead in the lower Yuba River.

- The commenters' recommended changes would not accomplish the stated objective of providing a cue for outmigration of juvenile spring-run Chinook salmon by conditional winter pulses in the drier water years. This is because the recommended measure:

13) Is not based on any substantial evidence regarding the need for pulse flows to facilitate outmigration of juvenile spring-run Chinook salmon.

14) Is not based on any substantial evidence regarding any relationship between pulse flows of the specified magnitude, and juvenile Chinook salmon outmigration rates.

15) Is not based on any substantial evidence demonstrating that passage would substantively differ with implementation of the commenters' recommendation, relative to the flows associated with the current requirements, or to the proposed AFLA minimum instream flow requirements.

16) Does not acknowledge or consider the potential for re-directed impacts to juvenile spring-run Chinook salmon associated with downstream displacement.

- The commenters' recommended changes would not accomplish the stated objective of expanded duration of riparian recession rates to reduce the risk of desiccation associated with rapid recession during the summer period. This is because the recommended measure:

  17) Is not based on any substantial evidence regarding the need for expanded duration of recession rate restrictions beyond those in YCWA's Proposed Condition AR9.

  18) Would not have a substantial benefit represented by increased riparian vegetation seedling establishment, relative to the Base Case or the AFLA.

  19) Would have redirected impacts not identified or addressed in the commenters' recommendation.

- The commenters' recommended changes would result in numerous unaccounted for redirected impacts to anadromous salmonid populations in the lower Yuba River. (See the Technical Report included in YCWA's submittal titled "Response to Comments on Project Ramping and Flow Fluctuation Downstream of Englebright Dam".)

- The commenters' recommended measure restricts late August ramp-down operations which are intended to achieve a stable flow by September 1 for spring-run Chinook salmon spawning.

  The recommended change to Condition AR9 to extend the period in which the recession rates of Table 3 in Condition AR9 from an ending date of July 15 to an ending date of September 30 would have a limiting effect on operations. During the recommended extended period of July 15 to September 30, Project operations in wetter water years are for storage management, and in drier years Project releases are made to comply with the Marysville Gage required flow plus irrigation diversion demand at Daguerre Point Dam (DPD). In the wetter years when spring runoff is plentiful and storage in New Bullards Bar Reservoir is relatively high, YCWA plans for releases of storage through the summer, including a ramp-down for the end of August to achieve a lower flow by September 1 to ensure a stable flow for spring run Chinook salmon spawning. Extending the recession rate limits to September 30 would result in the need for a longer ramp-down period, and less flexibility to adjust to changing irrigation diversion. A longer ramp-down period would require setting a higher flow during the summer to result in the same amount of storage release by September 1. This change in operations would have an impact on Project operations, and would limit Project operational flexibility to respond to changing runoff and diversion conditions.

- The commenter's recommended modifications to Condition AR3 would result in significant costs in terms of reduced operational flexibility, water transfers and revenue generation.

CDFW, FWS, FWN have recommended modifications to Condition AR3 that, if adopted by FERC, would require extreme Project operations in some years to maintain the required flows at the Marysville Gage, would result in water delivery shortages to local farmers in wetter water years and would significantly reduce water supply reliability for farmers and farm operations in some years. The recommended modifications to Condition AR3 would significantly reduce, and in some years would eliminate, YCWA water transfers and transfer revenue, and would impact power generation revenue. (See the Technical Report included in YCWA's submittal titled "Response to Comments on Flow Requirements for the Yuba River Downstream of Englebright Dam").

1.2.1 Analysis of the "Combined CDFW/USFWS/FWN Recommendation"

YCWA's analysis includes the following evaluated scenario:

- The scenario that includes the combined flow-related recommendations of USFWS, CDFW and the FWN is referred to as the "CDFW_USFWS_FWN _Complete" scenario.[1]

YCWA evaluated this scenario to determine whether, and to what degree, the commenters' recommendation would accomplish their stated objectives, whether the commenters' recommendation (CDFW_USFWS_FWN _Complete) would provide a substantive benefit to aquatic habitat conditions, and whether the commenters' recommendations would result in re-directed adverse impacts to aquatic resources the lower Yuba River. YCWA examined and evaluated numerous lifestages by comparing the commenters' recommendation, the AFLA and the Base Case. The results of these evaluations are provided below.

YCWA utilized daily flow and water temperature output from its 41-yr YRDP Operations Model to evaluate potential impacts. The species/run and lifestage-specific identified potential physical habitat impacts, as well as potential impacts to water temperature suitabilities, are described below. Water temperature exceedance probabilities, overlaid with lifestage-specific Water Temperature Index (WTI) values for spring-run Chinook salmon, fall-run Chinook salmon and steelhead are presented in **Attachment 1**.

1.2.1.1 Species and Lifestage Specific Analysis

Spring-run Chinook Salmon

Lifestage periodicities and associated upper optimum (UO) and upper tolerable (UT) WTI values for spring-run Chinook salmon are presented in **Table 1**.

[1] The scenario is available in Appendix 6 of YCWA's October 9, 2017, Response to Comments, Recommendations, Preliminary Terms and Conditions, and Preliminary Fishway Prescriptions.

Table 1. Lifestage-specific periodicities for spring-run Chinook salmon in the lower Yuba River.

Lifestage	UO WTI	UT WTI	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
Adult Migration	64°F	68°F							■	■	■	■	■	■	■	■	■	■	■	■						
Adult Holding	61°F	65°F							■	■	■	■	■	■	■	■	■	■	■	■						
Spawning	56°F	58°F																	■	■	■					
Embryo Incubation	56°F	58°F																	■	■	■	■	■	■	■	■
Fry Rearing	61°F	65°F	■	■	■																			■	■	■
Juvenile Rearing	61°F	65°F	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Juvenile Downstream Movement	61°F	65°F	■	■	■	■	■	■	■	■	■	■	■	■										■	■	■
Smolt (Yearling+) Emigration	63°F	68°F	■	■	■	■	■	■	■	■	■										■	■	■	■	■	■

Source: RMT 2013.

Note: EPA (2003) Criteria – salmon/trout migration (64°F); adult holding (61°F); spawning and incubation (55°F); salmon/trout core rearing (61°F); salmon/trout non-core rearing (64°F).

Adult Immigration and Holding

Because there are no known physical habitat barriers or impediments[2] to adult upstream migration and holding, analysis of the combined effects of the CDFW_USFWS_FWN_Complete scenario address differences in water temperature suitabilities relative to the Base Case and the AFLA for the adult immigration and holding lifestage.

Migration

The commenters' recommendations ("Combined") would result in less suitable water temperatures, exceeding the UO WTI value of 64°F about 8 percent more often during June at Marysville and would result in:

- Less suitable conditions, exceeding the EPA (2003) 7DADM value of 64°F about 5 percent more often during July at Marysville.
- Less suitable conditions during July, exceeding the UO WTI value of 64°F about 8 percent more often at Marysville, 5 percent more often exceeding the EPA (2003) 7DADM value of 64°F at Marysville, and 10 percent more often at DPD.
- Less suitable conditions during August, exceeding the UO WTI value of 64°F about 10 percent more often at Marysville, 5 percent more often exceeding the EPA (2003) 7DADM value of 64°F at Marysville, and 15 percent more often at DPD.

[2] It is recognized that Daguerre Point Dam may represent an impediment to the adult upstream (as well as juvenile downstream) migration of anadromous salmonids. However, Daguerre Point Dam is a USACE-owned facility and is not in the Project boundary and, therefore, is not included in YCWA's responses to commenters' recommendations for changes to YCWA's proposed AFLA.

- Less suitable conditions during September, exceeding the UO WTI value of 64°F about 5 percent more often at Marysville, and the EPA (2003) 7DADM value of 64°F nearly 15 percent more often at DPD.

Holding

The commenters' recommendations ("Combined") would result in less suitable water temperatures during June, exceeding the UO WTI value of 61°F about 5 percent more often, and exceeding the EPA (2003) 7DADM value of 64°F about 5 percent more often at Marysville, and would result in:

- Less suitable conditions during July, exceeding the UO WTI value of 61°F about 10 percent more often at DPD, the UT WTI value of 65°F about 10 percent more often at Marysville, and exceeding the EPA (2003) 7DADM value of 64°F about 10 percent more often at DPD.
- Less suitable conditions during August, exceeding the UO WTI value of 61°F nearly 15 percent more often at DPD, the UT WTI value of 65°F about 10 percent more often at Marysville, and the EPA (2003) 7DADM value of 64°F over 10 percent more often at DPD.
- Less suitable conditions during September, exceeding the UO WTI value of 61°F about 10 percent more often at DPD and 8 percent more often at Marysville, the UT WTI value of 65°F about 5 percent more often at Marysville, and the EPA (2003) 7DADM value of 64°F over 10 percent more often at DPD.

Spawning

YCWA compared spring-run Chinook salmon spawning habitat (WUA, as percent of maximum), using the agreed-upon Relicensing Participants Habitat Suitability Criteria (HSC) specified in TM 7.10, under the Base Case, the AFLA and the commenters' recommendation (CDFW_USFWS_FWN_Complete) scenarios (**Figure 1**). YCWA's analysis demonstrates that the commenters' recommendation (FWS_CDFW_FWN_Complete) scenario would result in the following.

- Essentially the same amount of spring-run Chinook salmon spawning habitat over the entire exceedance probability distribution under the commenters' recommendation, relative to the AFLA.

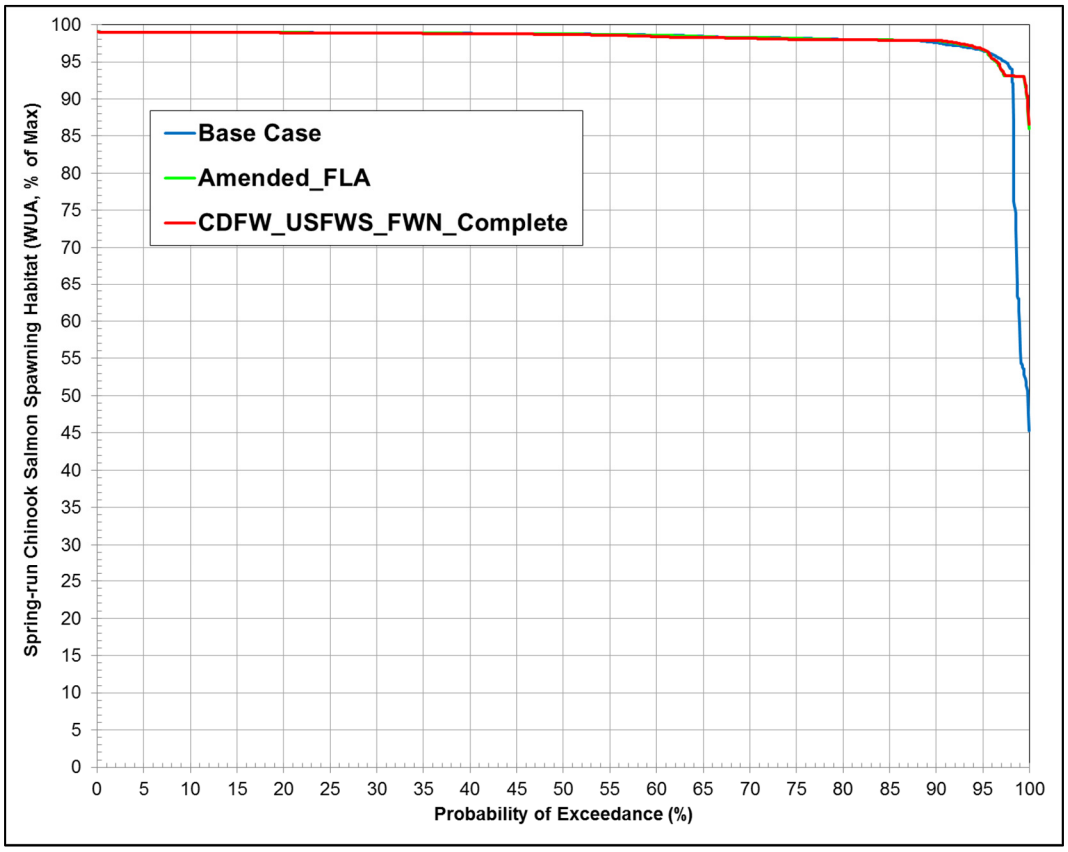

Figure 1. Comparison of spring-run Chinook salmon spawning habitat duration over the 41-year hydrologic period for the Base Case, the Amended FLA, and the CDFW_USFWS_FWN _Complete scenarios.

- Essentially equivalent amounts of spring-run Chinook salmon spawning habitat would be provided by the commenters' recommendation relative to the AFLA as a long-term average, and as an average by water year type (**Table 2**).

Table 2. Comparison of long-term and water year type average spring-run Chinook salmon spawning WUA (percent of maximum) under the Base Case, the Amended_FLA, and the CDFW_USFWS_FWN _Complete scenarios (using the Relicensing Participants' HSCs).

Scenario	Long-term Full Simulation Period[2]	WYTs[1]				
		Wet	Above Normal	Below Normal	Dry	Critical
CDFW_USFWS_FWN_Complete	98.3	98.2	98.6	98.5	98.4	98.0
Base Case	97.8	98.2	98.6	98.6	98.6	95.5
Differences	0.5	0.0	0.0	-0.1	-0.2	2.5

Scenario	Long-term Full Simulation Period[2]	WYTs[1]				
		Wet	Above Normal	Below Normal	Dry	Critical
CDFW_USFWS_FWN_Complete	98.3	98.2	98.6	98.5	98.4	98.0
Amended_FLA	98.3	98.2	98.6	98.6	98.5	98.0
Differences	0.0	0.0	0.0	-0.1	-0.1	0.0

1 As defined by the Yuba River Index (YRI) WY Hydrologic Classification.
2 Based on the WY 1970-2010 simulation period.

The commenters' recommendations ("Combined") would result in consistently less suitable water temperatures exceeding the UO WTI value of 56°F over nearly the entire range of the distributions during September at DPD relative to the AFLA or the Base Case, and would result in:

- Less suitable conditions during September, exceeding the UO WTI value of 56°F about 15 percent more often at Smartsville, the UT WTI value of 58°F about 5 percent more often at DPD, and the EPA (2003) 7DADM value of 55°F about 15 percent more often at Smartsville.

- Less suitable conditions during October, exceeding the UO WTI value of 56°F about 5 percent more often at both DPD and Smartsville, the UT WTI value of 58°F about 5 percent more often at DPD, and the EPA (2003) 7DADM value of 55°F about 10 percent more often at Smartsville.

Embryo Incubation

The commenters' recommendations ("Combined") would result in consistently less suitable water temperatures exceeding the UO WTI value of 56°F over nearly the entire range of the distributions during September at DPD relative to the AFLA or the Base Case, and would result in:

- Less suitable conditions during September, exceeding the UO WTI value of 56°F about 15 percent more often at Smartsville, the UT WTI value of 58°F about 5 percent more often at DPD, and the EPA (2003) 7DADM value of 55°F about 15 percent more often at Smartsville.

- Less suitable conditions during October, exceeding the UO WTI value of 56°F about 5 percent more often at both DPD and Smartsville, the UT WTI value of 58°F about 5 percent more often at DPD, and the EPA (2003) 7DADM value of 55°F about 10 percent more often at Smartsville.

Fry Rearing

- YCWA compared spring-run Chinook salmon fry rearing habitat (WUA in sq ft), using the agreed-upon Relicensing Participants HSC with cover specified in TM 7.10, under the Base Case, AFLA and commenters' recommendation ("Combined") scenarios for the mid-November through February fry rearing period (**Figure 2)**.

  Essentially identical amounts of habitat would be provided among the "Combined", AFLA and Base Case scenarios during the mid-November through February spring-run Chinook salmon fry rearing period. Thus, the "Combined" scenario would not provide any substantial benefit to spring-run Chinook salmon fry rearing.

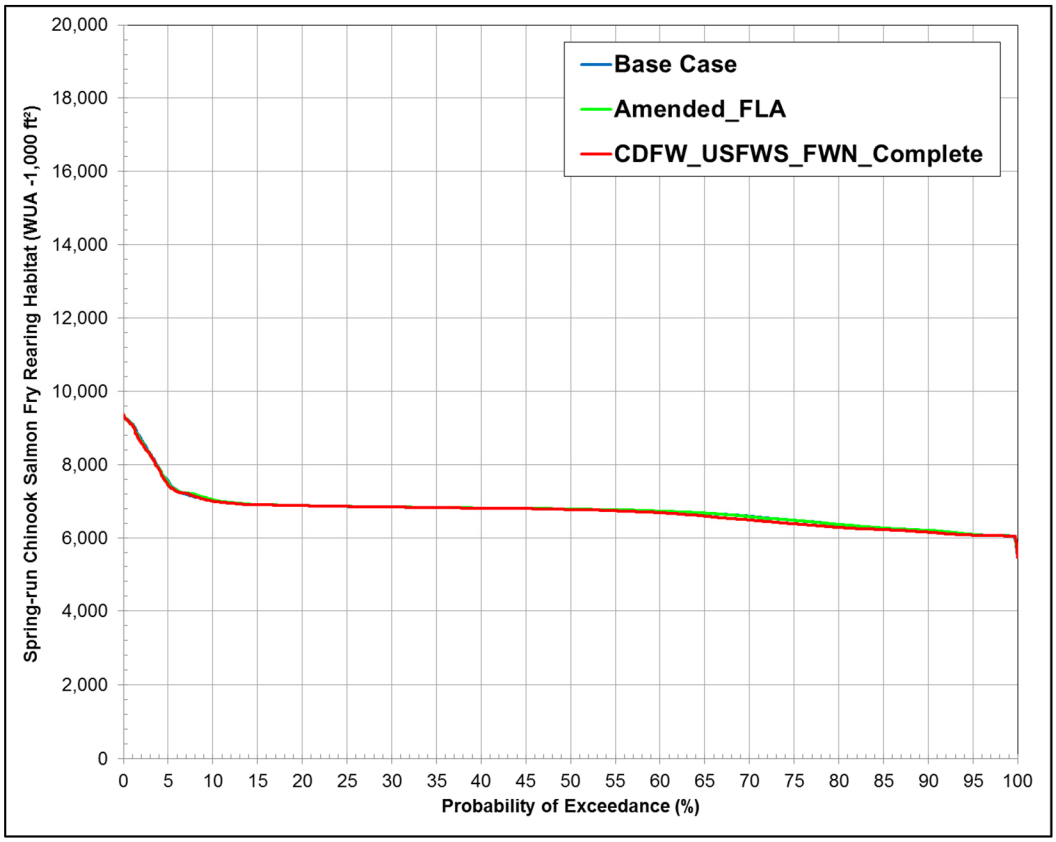

Figure 2. Spring-run Chinook salmon fry rearing habitat duration over the 41-year hydrologic period for the Base Case, Amended_FLA, and CDFW_USFWS_FWN _Complete scenarios.

Water temperatures under the commenters' recommendations ("Combined") and the AFLA and Base Case would generally remain below all WTIs during the spring-run Chinook salmon fry rearing period.

Juvenile Rearing

- Spring-run Chinook salmon juvenile rearing habitat (WUA in sq ft), using the agreed-upon Relicensing Participants HSC with cover specified in TM 7.10, under the Base Case, AFLA and commenters' recommendation ("Combined") scenarios for the year-round juvenile rearing period (**Figure 3**).

  Essentially identical amounts of habitat would be provided among the "Combined", AFLA and Base Case scenarios during the year-round spring-run Chinook salmon juvenile rearing period. Thus, the "Combined" scenario would not provide any substantial YCWA compared benefit to spring-run Chinook salmon juvenile rearing.

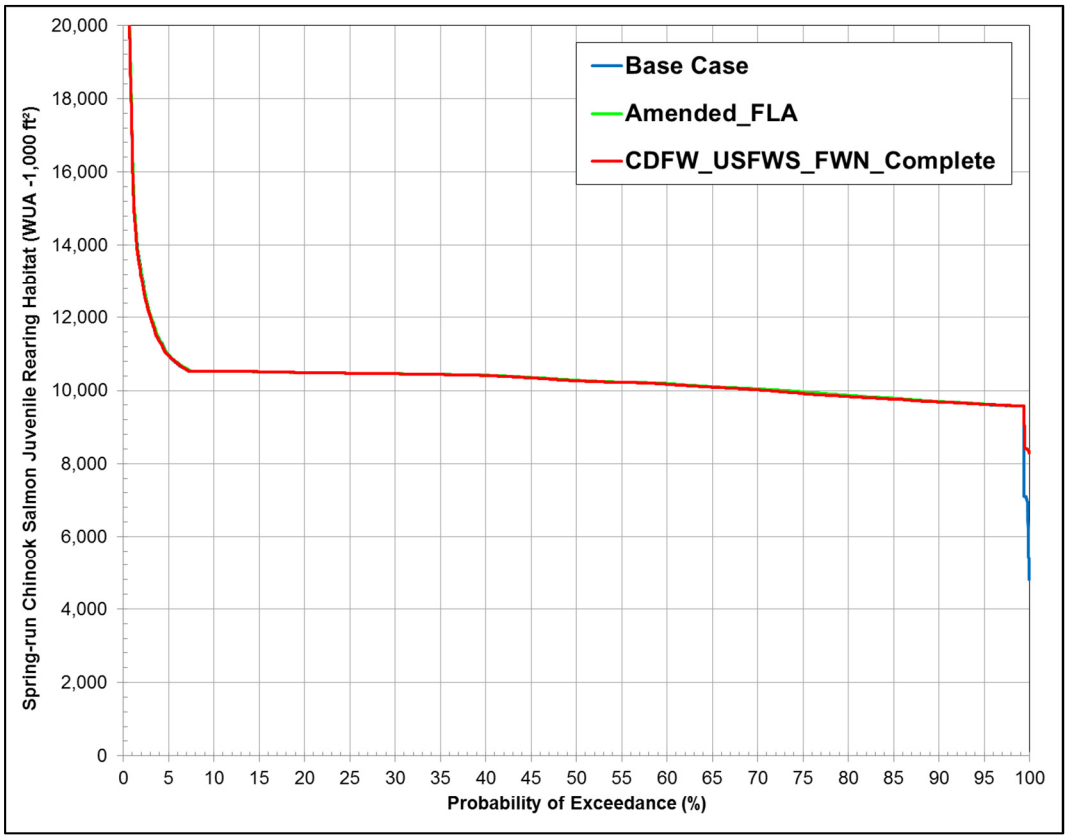

Figure 3. Spring-run Chinook salmon juvenile rearing habitat duration over the 41-year hydrologic period for the Base Case, Amended_FLA, and CDFW_USFWS_FWN_Complete scenarios.

Water temperatures under the commenters' recommendations ("Combined") and the AFLA and Base Case would generally remain below all WTIs during the November through March period of the year-round juvenile rearing lifestage periodicity.

The commenters' recommendations ("Combined") would result in more suitable conditions during April, remaining below the EPA (2003) 7DADM value of 61°F nearly 10 percent more often at Marysville.

The commenters' recommendations ("Combined") would result in less suitable conditions during June, exceeding the UO WTI value of 61°F about 5 percent more often at Marysville, and the EPA (2003) 7DADM value of 61°F about 5 percent more often at Marysville and DPD, and would result in:

- Less suitable conditions during July, exceeding the UO WTI value of 61°F about 10 percent more often at DPD, the UT WTI value of 65°F about 10 percent more often at Marysville, and exceeding the EPA (2003) 7DADM value of 61°F about 5 percent more often at DPD.

- Less suitable conditions during August, exceeding the UO WTI value of 61°F nearly 15 percent more often at DPD, the UT WTI value of 65°F about 10 percent more often at Marysville, and the EPA (2003) 7DADM value of 61°F about 5 percent more often at DPD.

- Less suitable conditions during September, exceeding the UO WTI value of 61°F about 10 percent more often at DPD and 8 percent more often at Marysville, and the UT WTI value of 65°F about 5 percent more often at Marysville. Also, the commenters' recommendations ("Combined") would result in consistently less suitable water temperatures exceeding the EPA (2003) 7DADM value of 61°F over nearly the entire range of the distributions at DPD and Marysville, relative to the AFLA or the Base Case.

- Less suitable conditions during October, exceeding the UO WTI value of 61°F about 5 percent more often at Marysville, and the EPA (2003) 7DADM value of 61°F about 5 percent more often at DPD and Marysville.

Juvenile Downstream Movement

Water temperatures under the commenters' recommendations ("Combined") and the AFLA and Base Case would generally remain below all WTIs during the November through March period of the November through June juvenile downstream movement lifestage periodicity.

The commenters' recommendations ("Combined") would result in more suitable conditions during April, remaining below the EPA (2003) 7DADM value of 61°F nearly 10 percent more often at Marysville.

The commenters' recommendations ("Combined") would result in less suitable conditions during June, exceeding the UO WTI value of 61°F about 5 percent more often at Marysville, and the EPA (2003) 7DADM value of 61°F about 5 percent more often at Marysville and DPD.

Smolt (yearling+) Emigration

Water temperatures under the commenters' recommendations ("Combined") and the AFLA and Base Case would generally remain below all WTIs during the October through mid-May smolt emigration period.

Fall-run Chinook Salmon

Lifestage periodicities and associated UO and UT WTI values for fall-run Chinook salmon are presented in **Table 3**.

Table 3. Lifestage-specific periodicities for fall-run Chinook salmon in the lower Yuba River.

Lifestage	UO WTI	UT WTI	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Adult Immigration & Staging	64°F	68°F												
Spawning	56°F	58°F												
Embryo Incubation	56°F	58°F												
Fry Rearing	61°F	65°F												
Juvenile Rearing	61°F	65°F												
Fry & Juvenile Downstream Movement	61°F	65°F												

Source: RMT 2013

Note: EPA (2003) Criteria – salmon/trout migration (64°F); adult holding (61°F); spawning and incubation (55°F); salmon/trout core rearing (61°F); salmon/trout non-core rearing (64°F).

Adult Immigration and Staging

The commenters' recommendations ("Combined") would result in less suitable conditions, exceeding the EPA (2003) 7DADM value of 64°F about 5 percent more often during July at Marysville, and would result in:

- Less suitable conditions during July, exceeding the UO WTI value of 64°F about 8 percent more often at Marysville, and exceeding the EPA (2003) 7DADM value of 64°F 5 percent more often at Marysville, and 10 percent more often at DPD.
- Less suitable conditions during August, exceeding the UO WTI value of 64°F about 10 percent more often at Marysville, and exceeding the EPA (2003) 7DADM value of 64°F 5 percent more often at Marysville, and 15 percent more often at DPD.
- Less suitable conditions during September, exceeding the UO WTI value of 64°F about 5 percent more often at Marysville, and exceeding the EPA (2003) 7DADM value of 64°F nearly 15 percent more often at DPD.

Spawning

- The commenters' recommendation ("Combined") provides less fall-run Chinook salmon spawning habitat over the highest 20 percent of the exceedance probability distribution relative to the Base Case and the AFLA, when spawning habitat is most limiting (**Figure 4**).

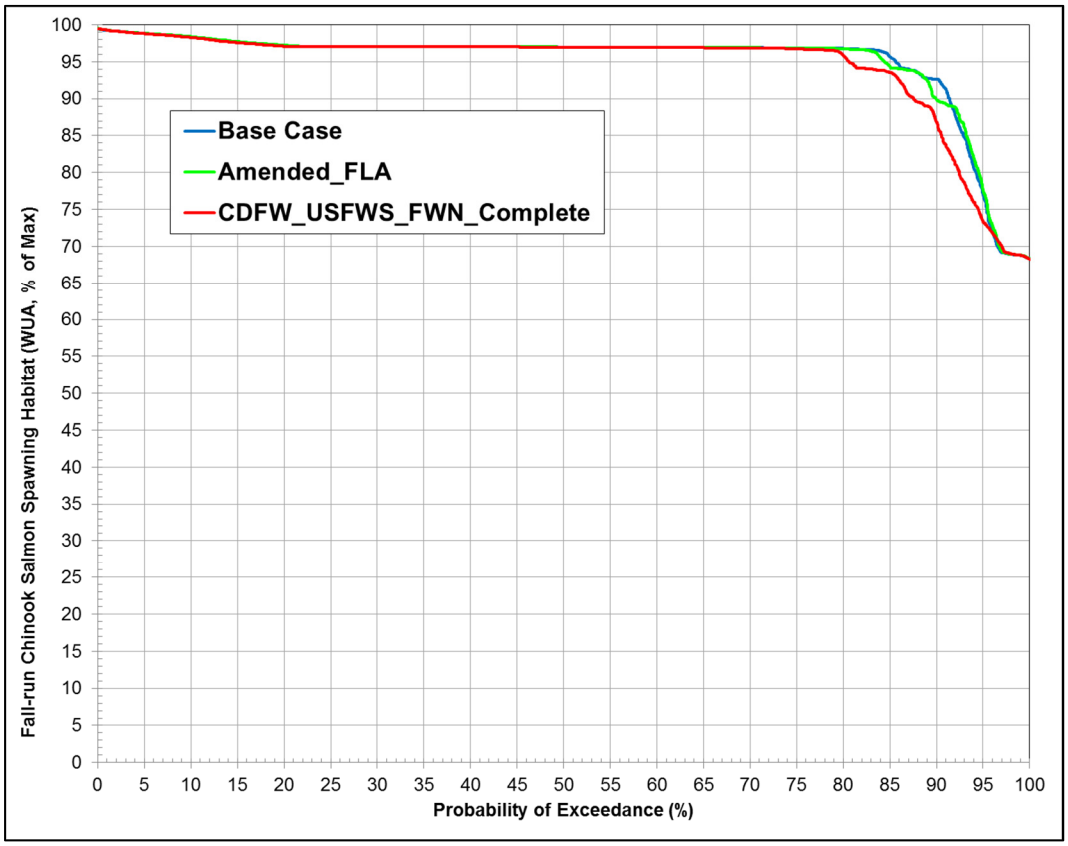

Figure 4. Comparison of fall-run Chinook salmon spawning habitat duration over the 41-year hydrologic period for the Base Case, the Amended_FLA and CDFW_USFWS_FWN_Complete scenarios.

Consistently less fall-run Chinook salmon spawning habitat would be provided by the commenters' recommendation ("Combined") relative to both the AFLA and Base Case as a long-term average, and as an average by water year type (**Table 4**).

Table 4. Comparison of long-term and water year type average fall-run Chinook salmon spawning WUA (percent of maximum) under the Base Case, the Amended_FLA, and the CDFW_USFWS_FWN _Complete scenarios.

Scenario	Long-term Full Simulation Period[2]	WYTs[1]				
		Wet	Above Normal	Below Normal	Dry	Critical
CDFW_USFWS_FWN_Complete	94.5	92.3	94.5	95.6	96.2	96.7
Base Case	95.2	93.1	95.4	95.9	96.9	97.1
Differences	-0.7	-0.8	-0.9	-0.3	-0.7	-0.4

Scenario	Long-term Full Simulation Period[2]	WYTs[1]				
		Wet	Above Normal	Below Normal	Dry	Critical
CDFW_USFWS_FWN_Complete	94.5	92.3	94.5	95.6	96.2	96.7
Amended_FLA	95.1	93.2	95.3	95.9	96.6	96.9
Differences	-0.6	-0.9	-0.8	-0.3	-0.4	-0.2

1 As defined by the Yuba River Index (YRI) WY Hydrologic Classification.
2 Based on the WY 1970-2010 simulation period.

The commenters' recommendations ("Combined") would result in less suitable water temperatures during October, exceeding the UO WTI value of 56°F about 5 percent more often at both DPD and Smartsville, the UT WTI value of 58°F about 5 percent more often at DPD, and the EPA (2003) 7DADM value of 55°F about 10 percent more often at Smartsville.

Embryo Incubation

- The commenters' recommendations ("Combined") would result in less suitable water temperatures during October, exceeding the UO WTI value of 56°F about 5 percent more often at both DPD and Smartsville, the UT WTI value of 58°F about 5 percent more often at DPD, and the EPA (2003) 7DADM value of 55°F about 10 percent more often at Smartsville.

Fry Rearing

Fall-run Chinook salmon fry rearing habitat (WUA in sq ft), using the agreed-upon Relicensing Participants HSC with cover specified in TM 7.10, was compared under the Base Case, AFLA and commenters' recommendation ("Combined") scenarios during the mid-December through April fry rearing period (**Figure 5**).

Essentially identical amounts of habitat would be provided by the "Combined", AFLA and Base Case scenarios during the mid-December through April fall-run Chinook salmon fry rearing period. Thus, the "Combined" scenario would not provide any substantial benefit to fall-run Chinook salmon fry rearing.

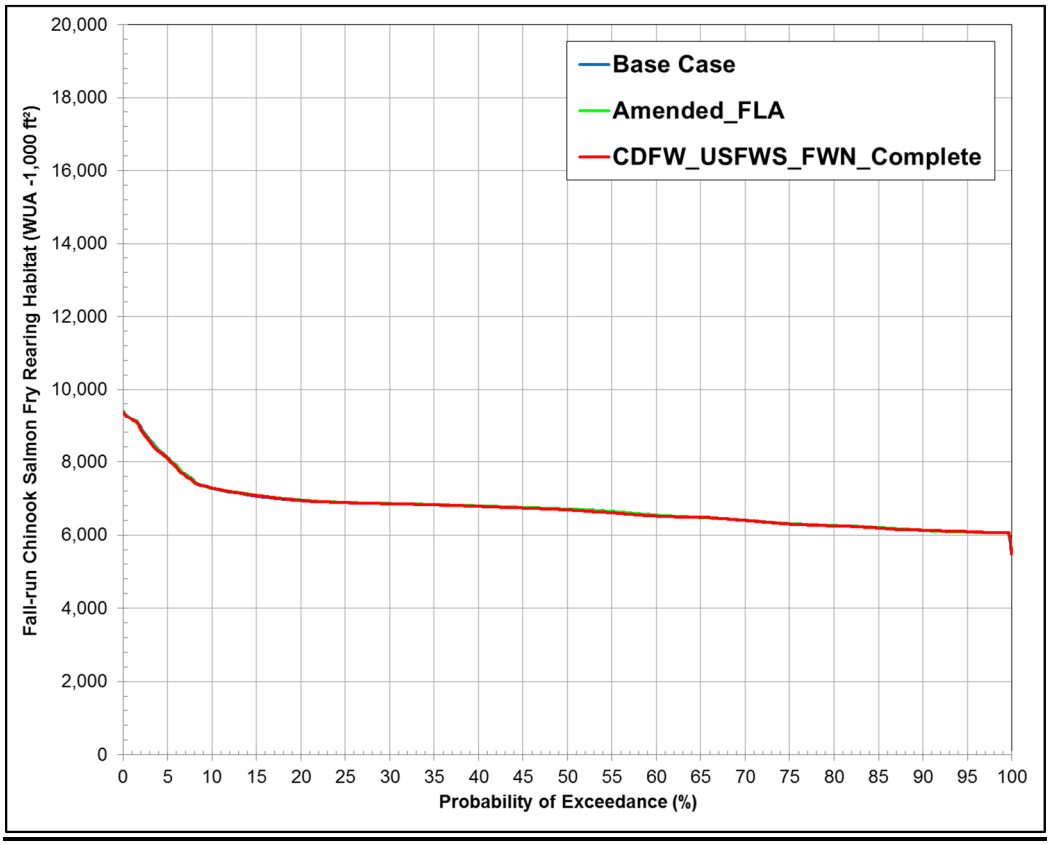

Figure 5. Fall-run Chinook salmon fry rearing habitat duration over the 41-year hydrologic period for the Base Case, Amended_FLA, and CDFW_USFWS_FWN_Complete scenarios.

Water temperatures under the commenters' recommendations ("Combined") and the AFLA and Base Case would generally remain below all WTIs during the December through March period of the fry rearing lifestage. Relative to the AFLA and the Base Case, the commenter's recommendations ("Combined") would be more suitable during April, remaining below the EPA (2003) 7DADM value of 61°F nearly 10 percent more often at Marysville.

Juvenile Rearing

YCWA compared fall-run Chinook salmon juvenile rearing habitat (WUA in sq ft), using the agreed-upon Relicensing Participants HSC with cover specified in TM 7.10, under the Base Case, AFLA and commenters' recommendation ("Combined") scenarios for the mid-January through June juvenile rearing period (**Figure 6**).

Essentially identical amounts of habitat would be provided among the "Combined", AFLA and Base Case scenarios during the mid-January through June fall-run Chinook salmon juvenile rearing period. Thus, the "Combined" scenario would not provide any substantial benefit to fall-run Chinook salmon juvenile rearing.

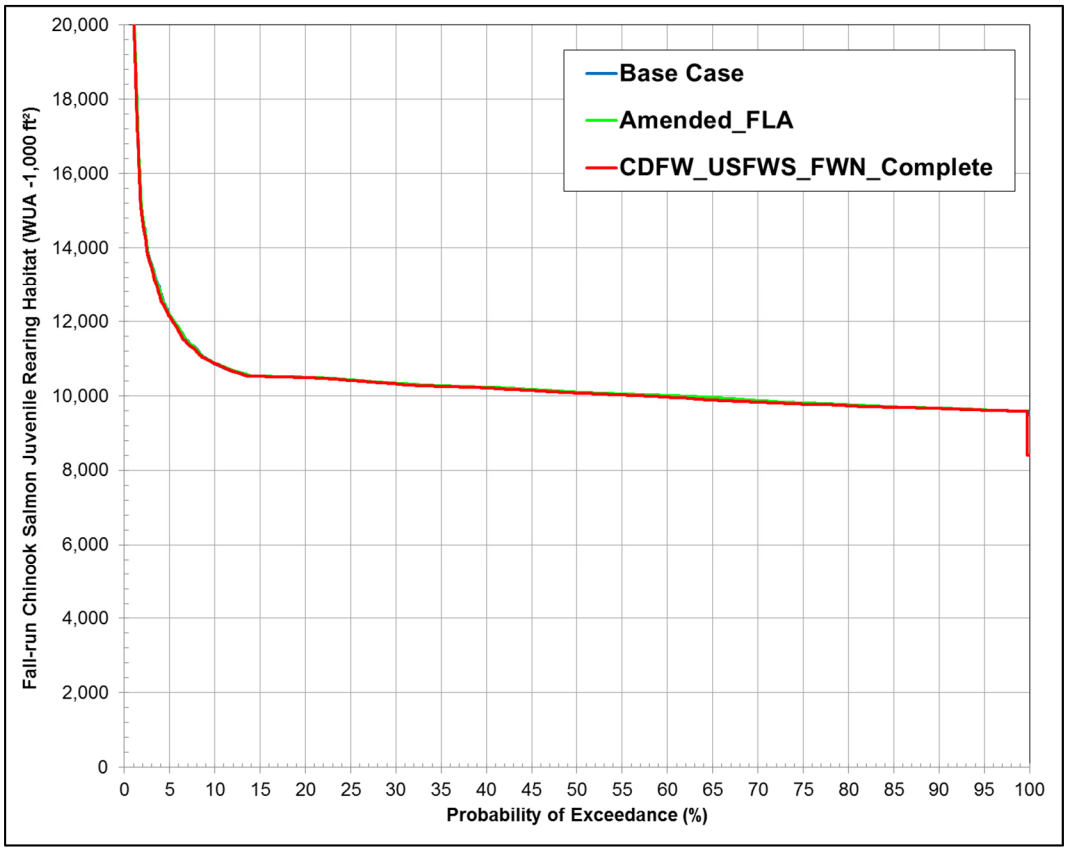

Figure 6. Fall-run Chinook salmon juvenile rearing habitat duration over the 41-year hydrologic period during the juvenile rearing lifestage for the Base Case, Amended_FLA, and CDFW_USFWS_FWN_Complete scenarios.

Water temperatures under the commenters' recommendations ("Combined"), the AFLA and the Base Case would generally remain below all WTIs during the January through March period of the January through June juvenile rearing lifestage periodicity.

The commenters' recommendations ("Combined") would result in more suitable conditions during April, remaining below the EPA (2003) 7DADM value of 61°F nearly 10 percent more often at Marysville.

The commenters' recommendations ("Combined") would result in less suitable conditions during June, exceeding the UO WTI value of 61°F about 5 percent more often at Marysville, and the EPA (2003) 7DADM value of 61°F about 5 percent more often at Marysville and DPD.

Juvenile Downstream Movement

Water temperatures under the commenters' recommendations ("Combined") and the AFLA and Base Case would generally remain below all WTIs during the December through March period of the December through June juvenile downstream movement lifestage periodicity.

The commenters' recommendations ("Combined") would result in more suitable water temperatures under the EPA (2003) criteria, remaining under the 7DADM value of 61°F about 8 percent more often than the AFLA or the Base Case during April at Marysville, and would result in:

- Less suitable water temperatures, exceeding the EPA (2003) 7DADM value of 61°F about 5 percent more often during June at Marysville and DPD.

Steelhead

Lifestage periodicities and associated UO and UT WTI values for steelhead are presented in **Table 5**.

Table 5. Lifestage-specific periodicities for steelhead in the lower Yuba River.

Lifestage	UO WTI	UT WTI	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Adult Migration	64°F	68°F	■	■	■					■	■	■	■	■
Adult Holding	61°F	65°F	■	■	■					■	■	■	■	■
Spawning	54°F	57°F	■	■	■	■								
Embryo Incubation	54°F	57°F	■	■	■	■	■							
Fry Rearing	65°F	68°F				■	■	■	■					
Juvenile Rearing	65°F	68°F	■	■	■	■	■	■	■	■	■	■	■	■
Fry & Juvenile Downstream Movement	65°F	68°F				■	■	■	■	■	■			
Smolt (Yearling+) Emigration	52°F	55°F	■	■	■	■						■	■	■

Source: RMT 2013

Note: EPA (2003) Criteria – salmon/trout migration (64°F); spawning and incubation (55°F); salmon/trout core rearing (61°F); salmon/trout non-core rearing (64°F); steelhead smoltification (57°F).

Adult Immigration and Holding

Migration

The commenters' recommendations ("Combined") would result in less suitable conditions during August, exceeding the UO WTI value of 64°F about 10 percent more often at Marysville,

exceeding the EPA (2003) 7DADM value of 64°F 5 percent more often at Marysville and 15 percent more often at DPD, and would result in:

- Less suitable conditions during September, exceeding the UO WTI value of 64°F about 5 percent more often at Marysville, and the EPA (2003) 7DADM value of 64°F nearly 15 percent more often at DPD.

Holding

The commenters' recommendations ("Combined") would result in less suitable conditions during August, exceeding the UO WTI value of 61°F nearly 15 percent more often at DPD, the UT WTI value of 65°F about 10 percent more often at Marysville, and the EPA (2003) 7DADM value of 64°F over 10 percent more often at DPD, and would result in:

- Less suitable conditions during September, exceeding the UO WTI value of 61°F about 10 percent more often at DPD and 8 percent more often at Marysville, the UT WTI value of 65°F about 5 percent more often at Marysville, and the EPA (2003) 7DADM value of 64°F over 10 percent more often at DPD.
- Less suitable conditions during October, exceeding the EPA (2003) 7DADM value of 64°F about 5 percent more often at Marysville.

Spawning

- The commenters' recommendation ("Combined") would provide slightly more steelhead spawning habitat during a portion of the exceedance distribution (**Figure 7**).

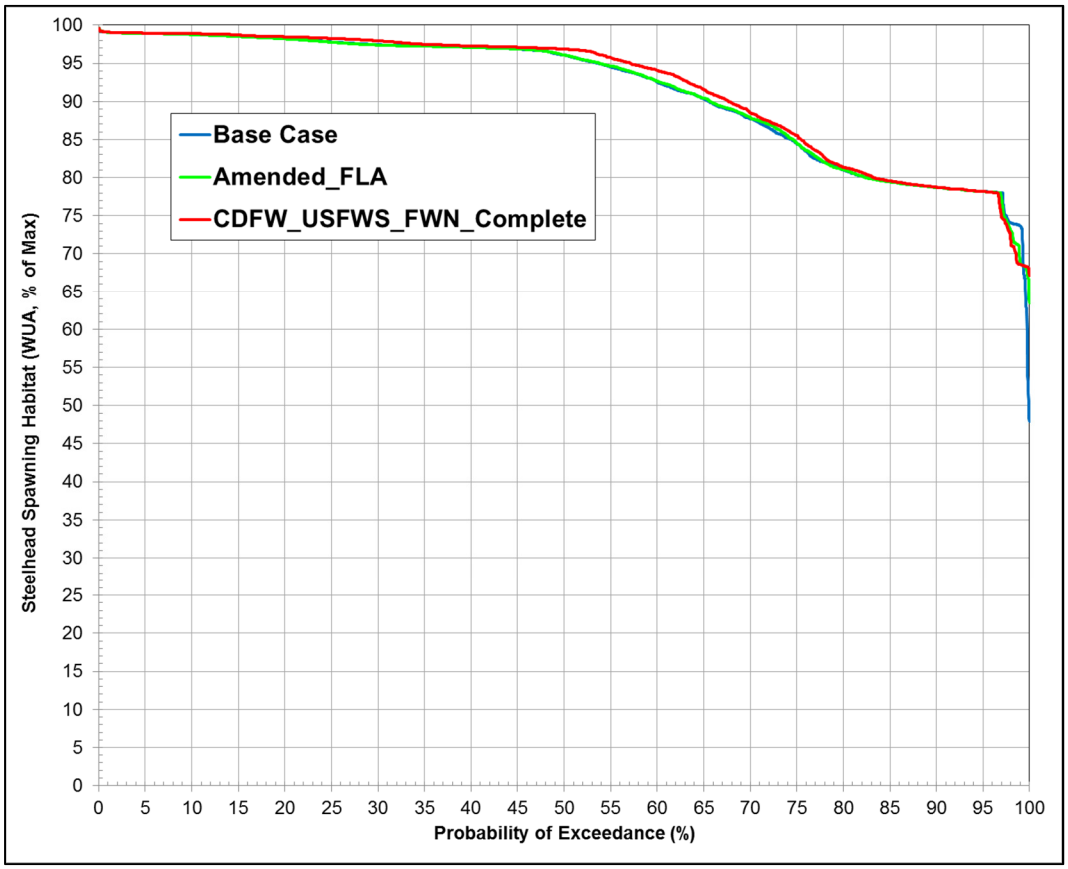

Figure 7. Comparison of steelhead spawning habitat duration over the 41-year hydrologic period for the Base Case, the Amended_FLA, and the CDFW_USFWS_FWN_Complete scenarios.

Slightly more steelhead spawning habitat would be provided by the commenter's recommendations ("Combined") relative to both the AFLA and Base Case as a long-term average, and as an average by water year type (**Table 6**).

Table 6. Comparison of long-term and water year type average steelhead spawning WUA (percent of maximum) under the Base Case, the Amended_FLA, and the CDFW_USFWS_FWN_Complete scenarios.

Scenario	Long-term Full Simulation Period[2]	WYTs[1]				
		Wet	Above Normal	Below Normal	Dry	Critical
CDFW_USFWS_FWN_Complete	91.9	96.6	94.9	93.0	92.7	84.4
Base Case	91.4	96.5	95.4	93.1	90.4	83.8
Differences	0.5	0.1	-0.5	-0.1	2.3	0.6

Scenario	Long-term Full Simulation Period[2]	WYTs[1]				
		Wet	Above Normal	Below Normal	Dry	Critical
CDFW_USFWS_FWN_Complete	91.9	96.6	94.9	93.0	92.7	84.4
Amended_FLA	91.4	96.4	95.4	93.0	91.0	83.8
Differences	0.5	0.2	-0.5	0.0	1.7	0.6

1 As defined by the Yuba River Index (YRI) WY Hydrologic Classification.
2 Based on the WY 1970-2010 simulation period.

The commenters' recommendations ("Combined") would result in more suitable water temperatures during April at DPD remaining under the UO WTI value of 54°F about 15 percent more often than the AFLA or the Base Case, under the UT WTI value of 57°F about 10 percent more often, and under the EPA (2003) 7DADM value of 55°F about 15 percent more often.

Embryo Incubation

The commenters' recommendations ("Combined") would result in more suitable conditions during April at DPD remaining under the UO WTI value of 54°F about 15 percent more often than the AFLA or the Base Case, under the UT WTI value of 57°F about 10 percent more often, and under the EPA (2003) 7DADM value of 55°F about 15 percent more often.

Fry Rearing

Steelhead fry rearing habitat (WUA in sq ft), using the agreed-upon Relicensing Participants HSC with cover specified in TM 7.10, was compared under the Base Case, AFLA and commenters' recommendation ("Combined") scenarios during the April through July fry rearing period (**Figure 8**).

Essentially identical amounts of habitat would be provided by the "Combined", AFLA and Base Case scenarios during the April through July steelhead fry rearing period. Thus, the "Combined" scenario would not provide any substantial benefit to steelhead fry rearing.

The commenters' recommendations ("Combined") would result in more suitable conditions under the EPA (2003) criteria, remaining under the 7DADM value of 61°F about 8 percent more often than the AFLA or the Base Case during April at Marysville, and would result in:

- Less suitable conditions, exceeding the EPA (2003) 7DADM value of 61°F about 5 percent more often during June at Marysville.
- Less suitable conditions, exceeding the UO WTI value of 65°F about 5 percent more often during July at Marysville.

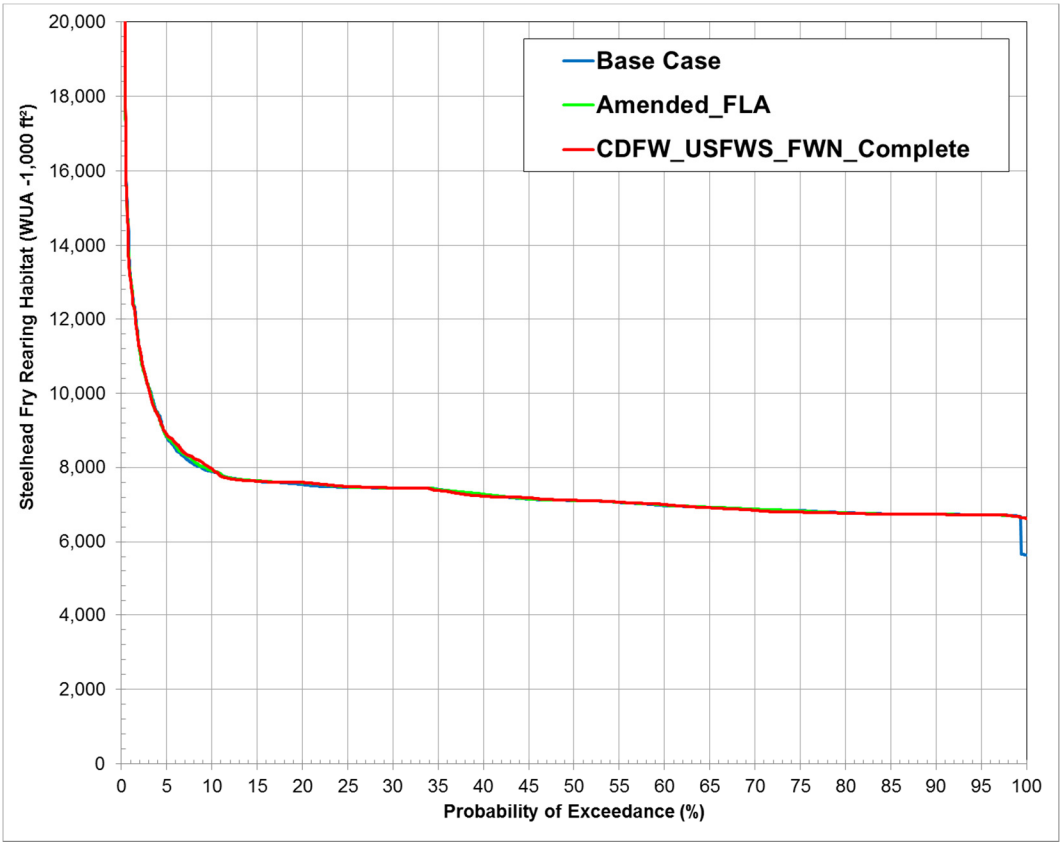

Figure 8. Steelhead fry rearing habitat duration over the 41-year hydrologic period for the Base Case, Amended_FLA, and CDFW_USFWS_FWN_Complete scenarios.

Juvenile Rearing

Steelhead juvenile rearing habitat (WUA in sq ft), using the agreed-upon Relicensing Participants HSC with cover as specified in TM 7.10, was compared under the Base Case, AFLA and commenters' recommendation ("Combined") scenarios during the year-round juvenile rearing period (**Figure 9**).

Essentially identical amounts of habitat would be provided by the "Combined", AFLA and Base Case scenarios during the year-round steelhead juvenile rearing period. Thus, the "Combined" scenario would not provide any substantial benefit to steelhead juvenile rearing.

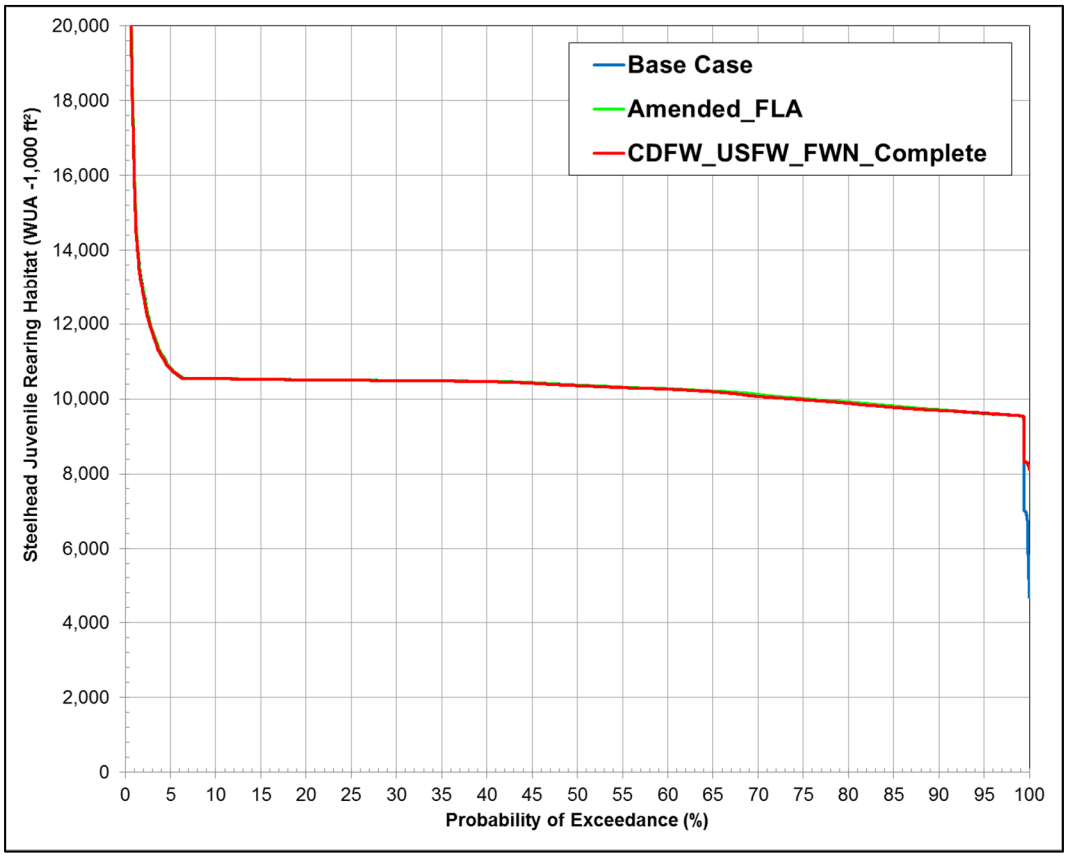

Figure 9. Steelhead juvenile rearing habitat duration over the 41-year hydrologic period for the Base Case, Amended_FLA, and CDFW_USFWS_FWN_Complete scenarios.

The commenters' recommendations ("Combined") would result in more suitable conditions under the EPA (2003) criteria, remaining under the 7DADM value of 61°F about 8 percent more often than the AFLA or the Base Case during April at Marysville, and would result in:

- Less suitable conditions, exceeding the EPA (2003) 7DADM value of 61°F about 5 percent more often during June at Marysville.
- Less suitable conditions, exceeding the UO WTI value of 65°F about 5 percent more often during July at Marysville.
- Less suitable conditions, exceeding the UO WTI value of 65°F about 10 percent more often during August at Marysville.

Juvenile Downstream Movement

The commenters' recommendations ("Combined") would result in more suitable water temperatures under the EPA (2003) criteria, remaining under the 7DADM value of 61°F about 8 percent more often than the AFLA or the Base Case during April at Marysville, and would result in:

- Less suitable conditions, exceeding the EPA (2003) 7DADM value of 61°F about 5 percent more often during June at Marysville and DPD.
- Less suitable conditions, exceeding the UO WTI value of 65°F nearly 10 percent more often during July at Marysville, and the EPA (2003) 7DADM value of 61°F about 5 percent more often at DPD.
- Less suitable conditions, exceeding the UO WTI value of 65°F about 10 percent more often during August at Marysville, and the EPA (2003) 7DADM value of 61°F about 5 percent more often at DPD.

Smolt (yearling+) Emigration

The commenters' recommendations ("Combined") would result in consistently less suitable water temperatures exceeding the UO WTI value of 52°F over nearly the entire range of the distributions during September at Smartsville, DPD and Marysville, relative to the AFLA or the Base Case, and would result in:

- Less suitable conditions during October, exceeding the UT WTI value of 55°F more than 10 percent more often, and exceeding the EPA (2003) 7DADM value of 57°F about 10 percent more often at Smartsville.
- More suitable conditions during April, remaining under the UO WTI value of 52°F about 10 percent more often at Marysville and about 15 percent more often at DPD, and the UT WTI value of 55°F about 15 percent more often at Marysville and 10 percent more often at DPD, and remaining under the EPA (2003) 7DADM value of 57°F about 15 percent more often at Marysville, and about 10 percent more often at DPD.

1.2.1.2 The commenter's recommendations ("Combined") would result in significant costs in terms of reduced operational flexibility, water transfers and revenue generation to support, in part, habitat enhancement and management actions.

The commenters' recommendations ("Combined") if adopted by FERC would require extreme Project operations in some years to comply with the required flows at Marysville Gage, would result in water delivery shortages to local farmers in wetter water years and would significantly reduce water supply reliability for farmers and farm operations in some years. The recommendations would significantly reduce and in some years, eliminate YCWA water transfers and transfer revenue and would impact power generation revenue. The significant impacts to YCWA's mission and YRDP operations that would result from the commentators' recommendations ("Combined") are:

- Extreme and unconventional YRDP operations would be required in some years because the release capacity of YCWA's Narrows 2 Powerhouse is about 3,400 cfs, 100 cfs less than the recommended required flow of 3,500 cfs at Marysville Gage from March 23 to April 30 of Schedule 1 years. YCWA has a coordinated operations agreement with PG&E for operations of the Narrows 1 Powerhouse, but that agreement does not mean that the Narrows 1 powerhouse would always be available when the 3,500 cfs flow would be

required. In addition, eight YCWA Member Units divert water upstream of Daguerre Point Dam which can reduce Narrows 2 releases by as much as 1,000 cfs in April (summation of diversion gage records USGS 11420750, USGS 11420770 and USGS 11420760 for April 2013). For example, if Member Units were to divert 1,000 cfs it would result in a net flow at Marysville of 2,400 cfs if Narrows 1 was not available. YCWA has contracts with the Member Units and YCWA could require some of the Member Units to stop diverting water, but three of those Member Units have their own water rights and could decide to divert under those rights. Limiting diversions to some or all of the Member Units would have large impacts to farmer operations and economics. Water Balance/Operations modeling results for scenario "CDFW_USFWS_FWN _Complete" show that in two of the years when these recommended flows result in irrigation diversion shortages that are not present in the Base Case, additional diversion shortages would occur if the Narrows 1 Powerhouse were not available. In April of 1970 and 2004 when 3,500 cfs is required, most all diversions in 1970 in the last week of the month and most all diversion in the second week in April of 2004 would have to cease to comply with the requirement. This type of shortage would occur in 7 additional Schedule 1 years for a total of 9 of 19 Schedule 1 years in April in the period of simulation. The only remaining option for YCWA would be to release enough water from New Bullards Bar Reservoir to force a spill at Englebright Dam to provide enough flow to meet the recommended Marysville required flow of 3,500 cfs. Releases would have to be made through the Colgate Powerhouse (3,400 cfs capacity) and if needed, augmented with either spills at New Bullards Bar Reservoir through the spillway gates, or through the New Bullards Bar Reservoir low level outlet. In either case, forcing spill at Englebright Dam by making releases from New Bullards Bar Reservoir, some 35 miles upstream of the Marysville Gage, would be required. Spilling of Englebright Dam would eliminate the peaking and ancillary services capacity of New Colgate Powerhouse during this operation due to AFLA proposed license flow fluctuation limitations. The operation would also result in the loss of power generation because some of the water from New Bullards Bar Reservoir would be released through non-generating outlet.

1.2.1.3 The commenters' recommendations ("Combined") would require more flow than the total natural runoff to the lower Yuba River that would occur without the project in the spring of some wetter years, and this large required flow would result in YCWA having to short irrigation deliveries in those years.

Water delivery shortages would occur in wetter years with the commenters' recommendations ("Combined"), where under Base Case and AFLA conditions shortages would only occur in dry years. Modeling results show that under Base Case and AFLA conditions, shortages would occur in one very dry year (1977). With the commenters' recommendations ("Combined"), additional years of water delivery shortages would occur in 1970, 1997, 2004 and 2007, which are Schedule 1, 1, 1, and 2 years, respectively. Each of these years is characterized by large winter runoff volume but lower than normal spring runoff with April to July unimpaired flows of less than 65 percent of average.

Although these water years are classified as Schedule 1 and 2 Water Year Types, this classification is based on annual inflow to New Bullards Bar Reservoir and was optimized for allocation of the Yuba Accord flows schedules as developed in 2004 and implemented in 2008. The much higher

commenters' recommended flows for Schedule 1 and 2 years would require significantly more water to be released in March (Schedule 1) and April (Schedule 1 and 2). The Base Case Accord required flow in Schedule 1 years has a total annual volume of just under 600,000 AF while the recommended modifications to the Accord flows would require just under 800,000 AF, a 33 percent increase in required flow. All of this additional required flow of just under 200,000 AF is focused on 2 months. Each of the years of 1970, 1997, 2004 and 2007 are years that have significant winter runoff but well below average spring runoff. Because of a required flood reservation space in the winter, much of the winter runoff cannot be stored for use in the spring and in these years the spring runoff is not sufficient to support this level of required flow without impacting other times of the year or water for other uses. A comparison of the required flow volume versus total runoff volume (without Project flow volume) in the month of April for these four years shows that on average the required flow is 132 percent of the total runoff volume. The maximum percentage would occur in 1970 when the required flow would be almost 200 percent of the total natural runoff volume.

Water supply shortages that would occur with the commenter's recommendations would have a significant cost to YCWA and to local farmers. YCWA has conjunctive use agreements with its Member Units. Those agreements include a provision that YCWA would pay the groundwater pumping costs to Member Units that had supplemental water supplies in their water supply agreements and who had to pump groundwater to replace shortages in surface water deliveries due to shortages. Any additional shortages in irrigation deliveries that were above the amounts of supplemental water supplies would be a direct cost of pumping groundwater to a Member Unit and individual farmer that would not be reimbursed. In the recent drought of 2015 YCWA reimbursed Member Units at the rate of $35/acre-ft for groundwater pumping to make up for surface water delivery shortages. This would be the cost to YCWA for the shortages. The results of model scenario "CDFW_FWS_FWN_Complete" which models the commenters recommendations, when compared to the Base Case results in an increase in the estimated average annual shortage of 5,000 acre-ft with an average annual cost of 175,000 per year and a maximum single year cost of just over $3 million.

Implementation of the commenters' recommendations ("Combined") would result in even more frequent shortages than shown in the modeling. Water supply allocations are made in April and use a 90 percent forecast of future runoff conditions to ensure sufficient water supply is available to farmers as decisions related to crop planting are made. An updated forecast of water supply is made in May, but this is usually too late for summer cropping decisions. An April forecast of water supply together with a forecast of 90 percent future runoff would result in forecasting more frequent and larger shortages than shown in the modeling results. The water supply planning implications of having shortages in wet years mean that for Yuba County farmers that depend on Yuba River diversions, no longer is drought planning associated with dry conditions - water supply shortages could occur in a wide range of hydrologic conditions, even during wet water years.

- The commenters' recommendations ("Combined") would result in significant reductions in, and in some years elimination of, Yuba Accord water transfers and associated revenue. The commenters' recommendations ("Combined") would have two types of impacts to Yuba Accord transfer flows. First, the recommended high spring flows would be larger than the Yuba Accord spring flow requirements from the end of March through April in

Schedule 1 years and April through May 15 in Schedule 2 years. The Yuba Accord flow requirement is the mechanism that produces transfer releases from the Yuba River in drier times of the year. Because the commenters' recommended flow requirements are higher than the Accord flow requirements, the resultant higher flows would override the transfer flows of the Yuba Accord. During the past 10 years, 6 percent and 9 percent of Accord surface water transfer releases have occurred during the months of April and May, respectively, and almost all of this water would no longer be available as a transfer release with the commenters' recommendations ("Combined"). Second, because these requirements would cause large amounts of water to be released during the spring, less water would be available for transfer releases during summer.

In about 60 percent of years, Accord transfer releases are made from storage in New Bullards Bar Reservoir during the summer, and are higher than the instream flow requirements of the Accord. Examination of the actual transfers that occurred in 2009, 2010, and 2016 indicate that the commenters' recommendations ("Combined") would have been implemented in those years, and the summertime transfer volumes in each of those years would have been reduced by from 20 to 50 TAF.

An example of the impact of commenters' recommendations ("Combined") on transfer flows can be demonstrated by examining what would have occurred in 2013 and 2014 if the recommended flows had been implemented. A comparison of the commenters' recommended flows versus the actual flows in spring 2013 is shown in the following **Figure 10**. The figure demonstrates that in 2013, the commenters' recommended flows would have overridden all of the surface water transfer flows for April and the first half of May, and would have required much larger releases during these months. In addition, if YCWA had been required to comply with the recommended flows:

- In 2013, there likely would have been water supply shortages in the irrigation season (whereas only fall rice field flooding shortages occurred in 2013). Surface water transfer volume would have been reduced by about 25,000 acre-ft. At prices from the YCWA-DWR Water Purchase Agreement the resulting loss of revenue would have been $2.5 million.

- In 2014, almost all of the surface water transfer and groundwater substitution transfer (that combined totaled 162,000 AF) would have been eliminated. Using the transfer water prices for transfer surface water from the YCWA-DWR Water purchase agreement and the groundwater substitution pricing from 2014 that was actually paid by DWR, the lost water transfer revenue that would have occurred due to lower transfer volumes in 2014 with the commenters recommended modifications to AR3 would be about $40 million

- In 2014, there would have been even greater water supply shortages than occurred and it would have been a Schedule 6 year instead of a Schedule 5 year.

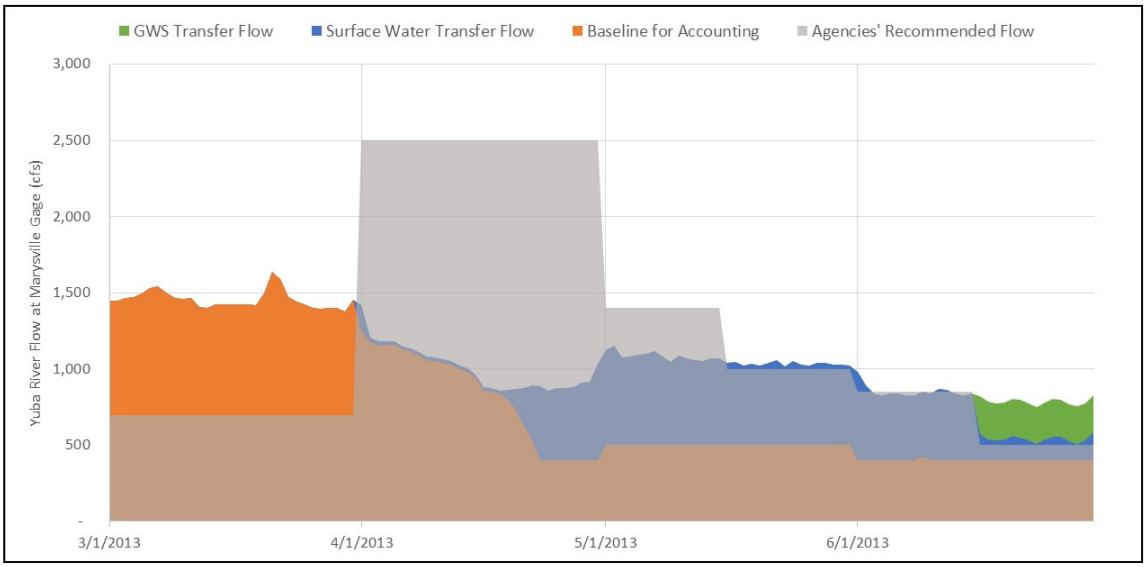

Figure 10. 2013 Yuba Accord water transfer flows with commenters' recommended flows superimposed in grey.

- The commenters' recommendations ("Combined") would result in a large reduction in power generation from the Project equaling 5.5 percent less average annual generation compared to the Base Case. Modeling results for single year and five-year average generation impacts show a maximum one year reduction of 341,873 MWh or a 17.7 percent reduction from the Base Case generation and a five year maximum annual average reduction of 154,598 MWh which is about an 8% average annual reduction.

- For expected revenue, large reductions would also occur with the commenters' recommendations compared to the Base Case. The commenters' recommendations would result in an average annual reduction in power generation revenue of $2,25 million which is a 4.4 percent reduction in the Project revenue compared to the Base Case and would equal a lose of $67.5 million over the term of a 30 year license. The greatest single year revenue decrease would occur in 2009, with just over a $7.6 million reduction in power revenue compared to the Base Case, a 13.2 percent reduction. In 4 of the 41 years of simulation, the reduction in annual generation revenue would be greater than 11 percent and every rolling 5-year period would have a reduced generation revenue of at least 1 percent. The greatest 5 year rolling average reduction in power revenue would be over $4 million a year which would be a 6.4 percent reduction from the Base Case, and more than half of the 5-year rolling average periods would have revenue reduced by more than 4 percent. Average, and the minimum average for a 5-year period for, revenue are important statistics because YCWA uses a 5-year revenue projection in its planning for reserves, project expenditures and planning for flood control activities. Significant reductions in the 5-year revenue forecast would have a negative impact on YCWA's ability to plan and engage in projects that require large, multi-year expenditures of project revenue. Changes in annual average power generation and power generation revenue are provided in the

Technical Report "Modeling Approach to Support Responses to Flow-Related Recommendations" attached to this report and filed under separate cover.

2. References Cited

Bradford, M. J., G.C. Taylor, J.A. Allan, and P.S. Higgins. 1995. An Experimental Study of the Stranding of Juvenile Coho Salmon and Rainbow Trout During Rapid Flow Decreases Under Winter Conditions. North American Journal of Fisheries Management 15:473-479.

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Attachment 1

Water Temperature Suitabilities

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Spring-run Chinook Salmon
Water Temperature Exceedance Curves

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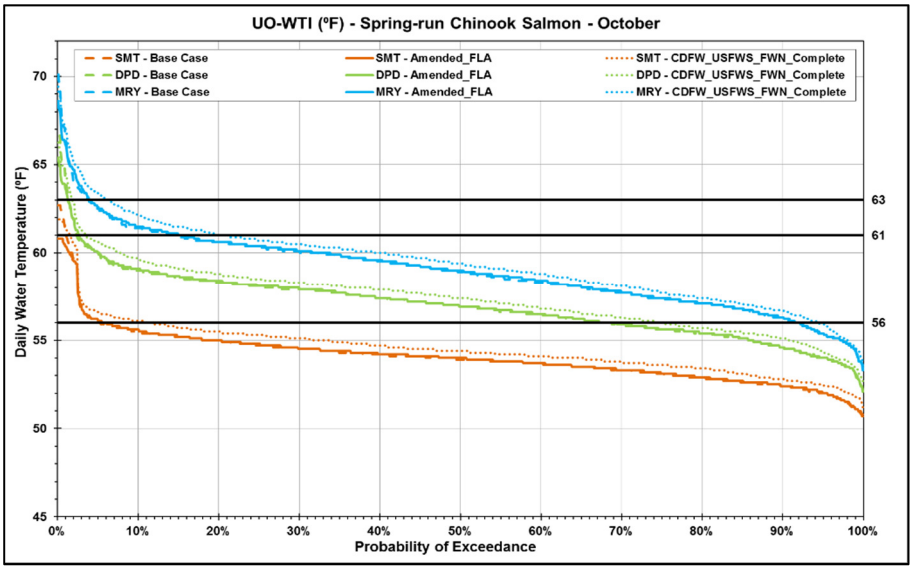
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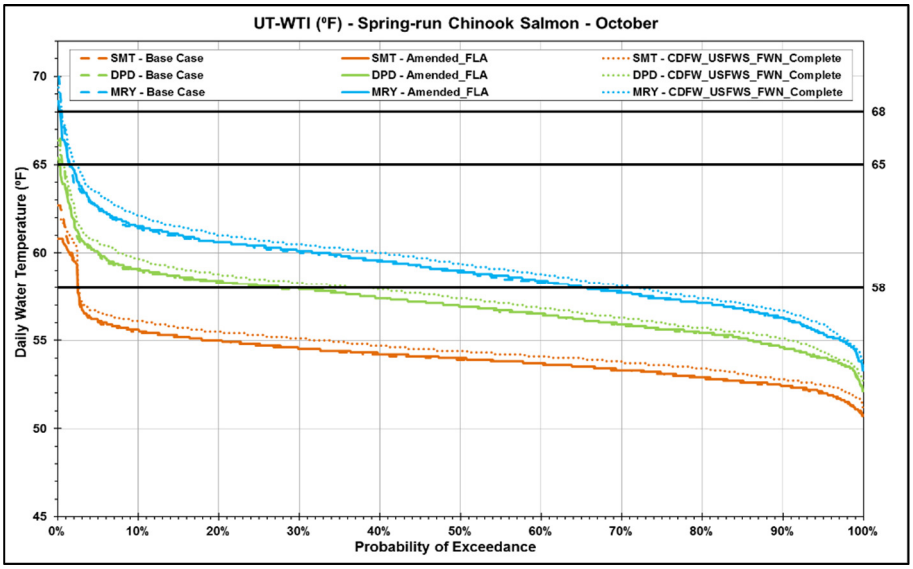
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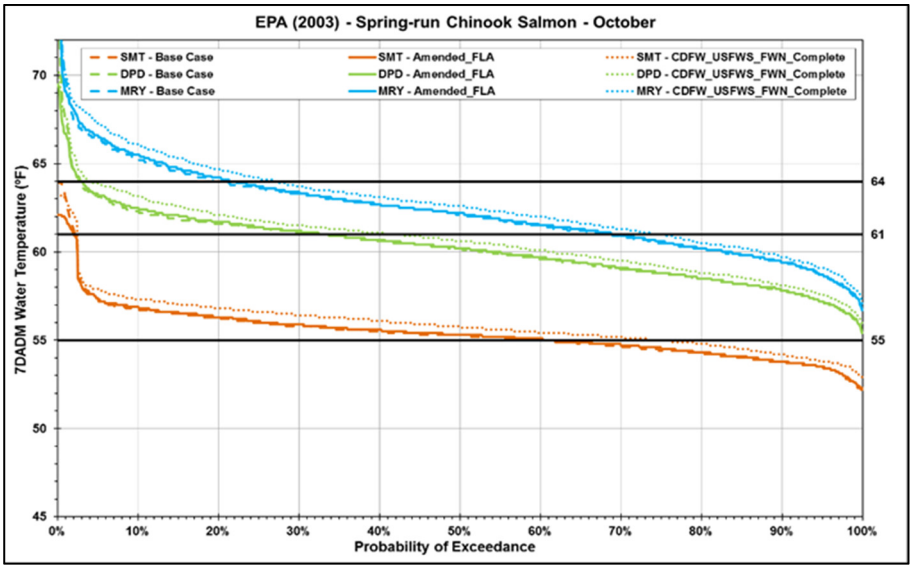
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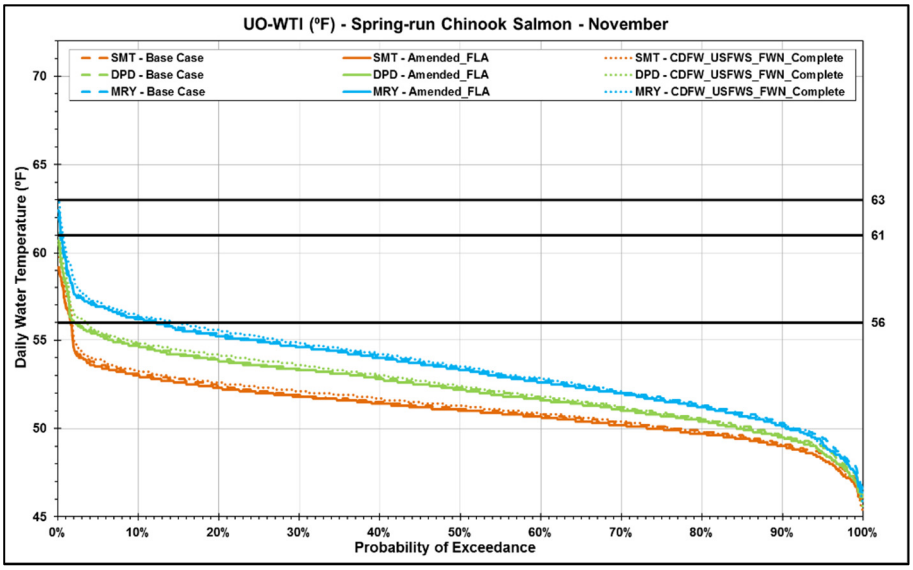
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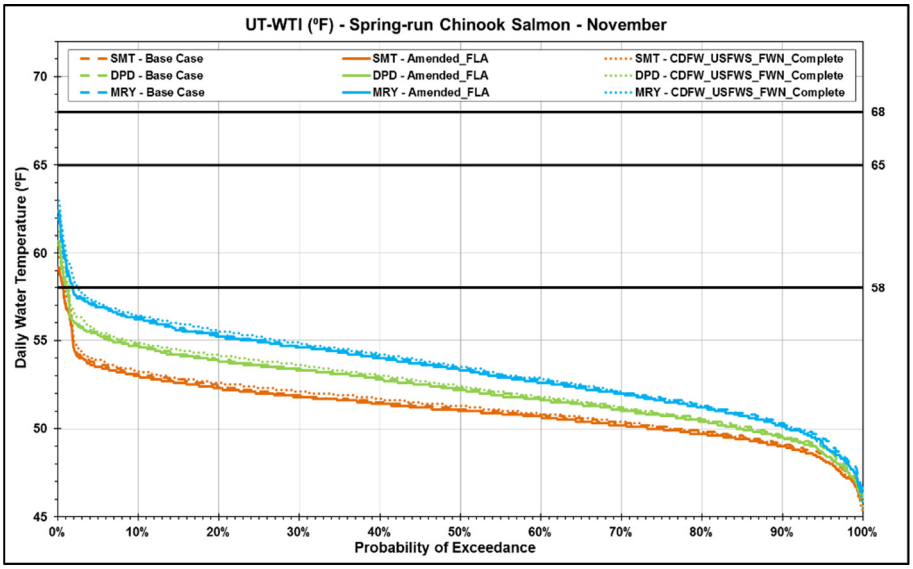
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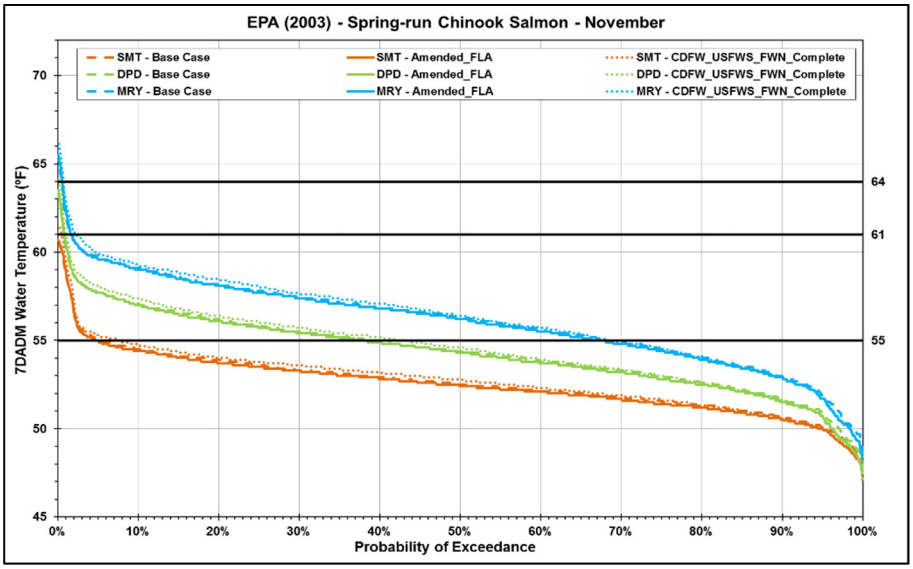
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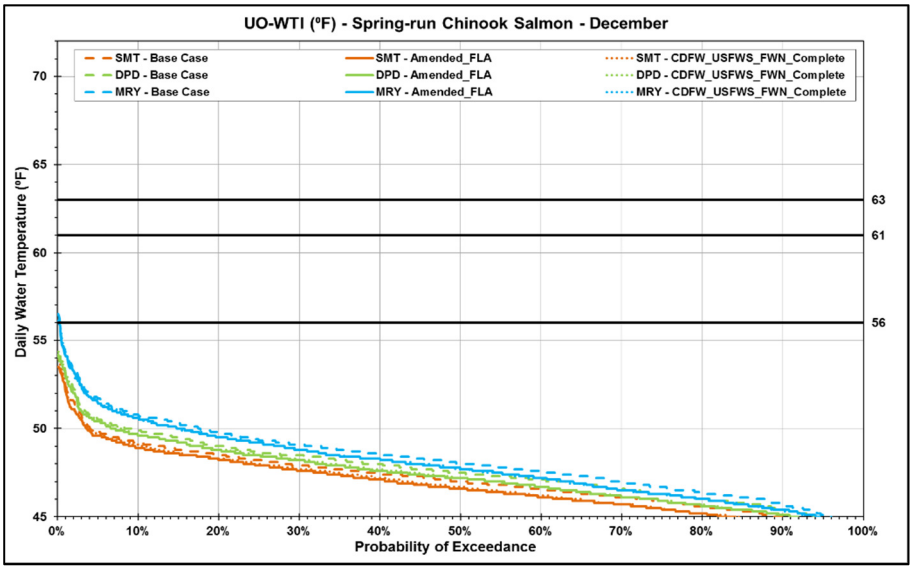
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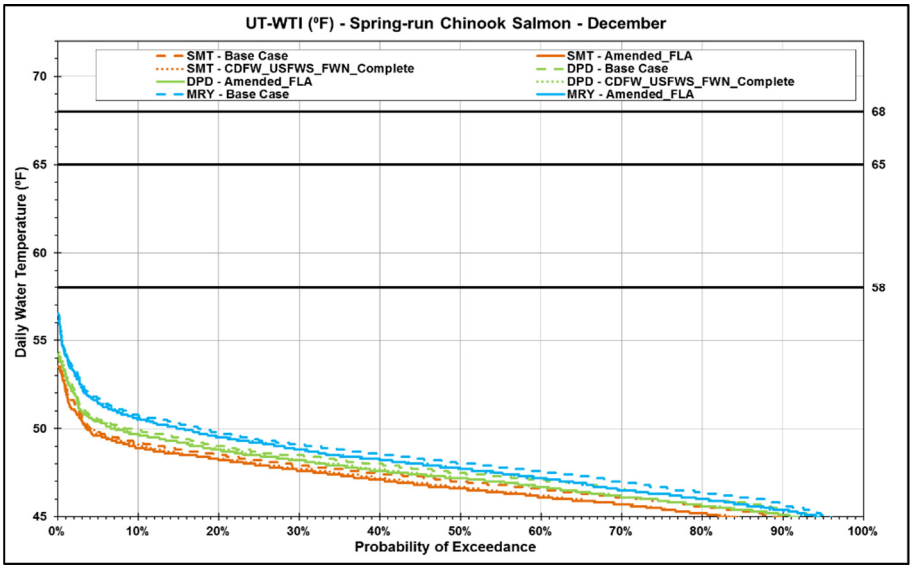
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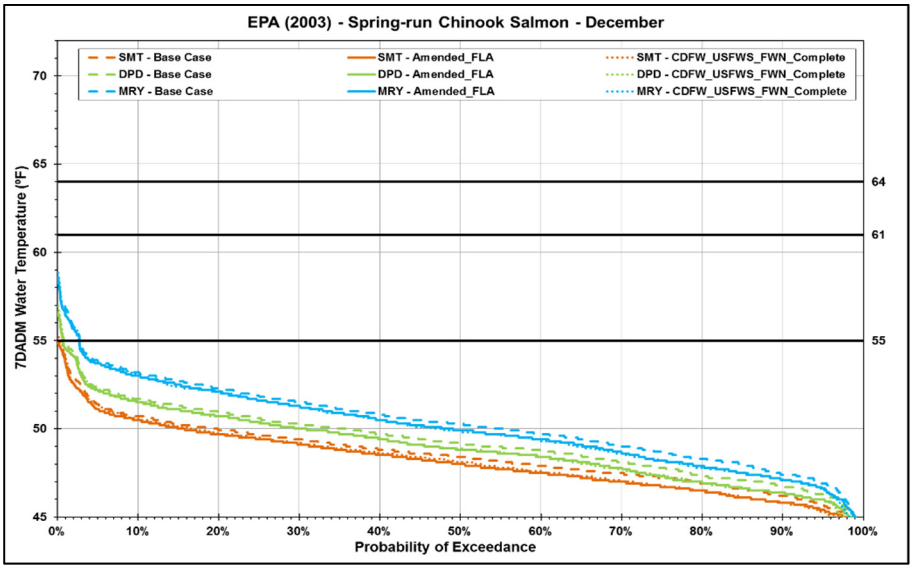
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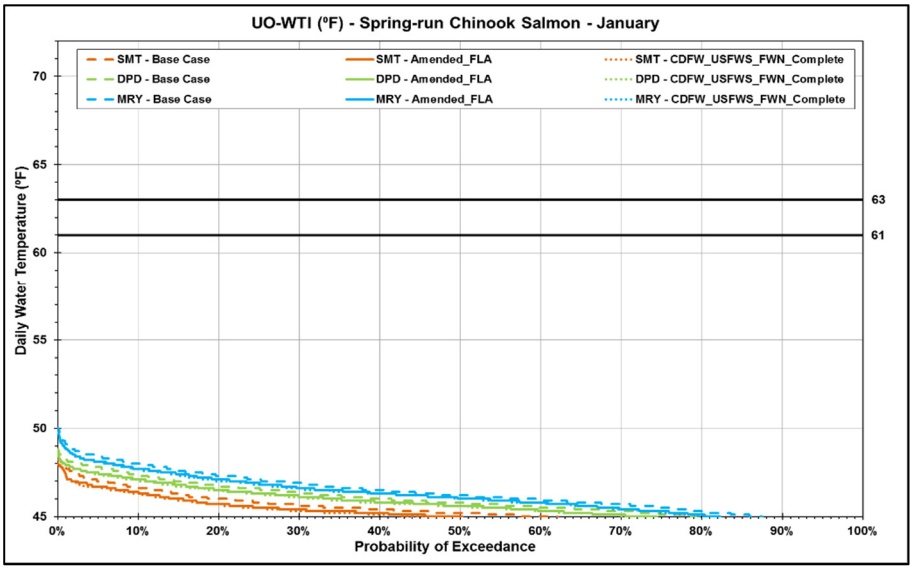
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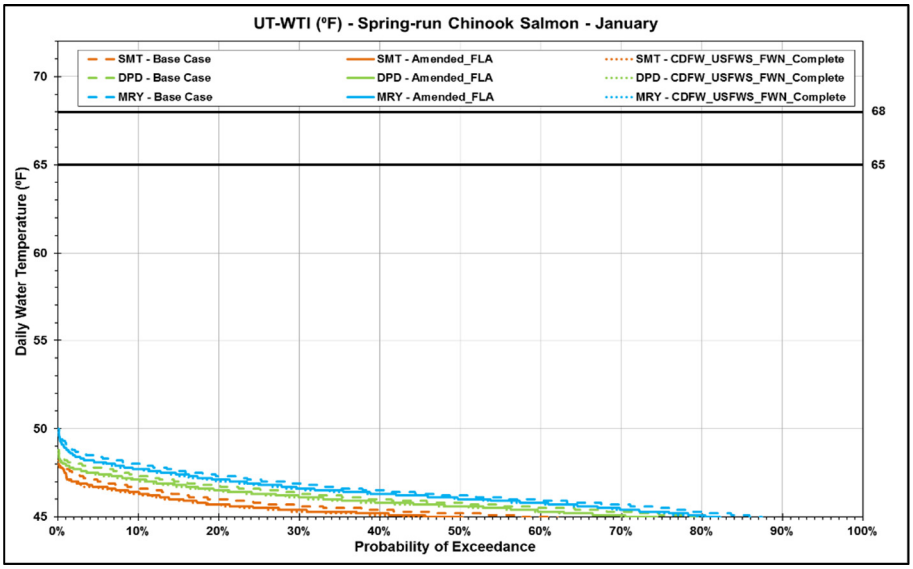
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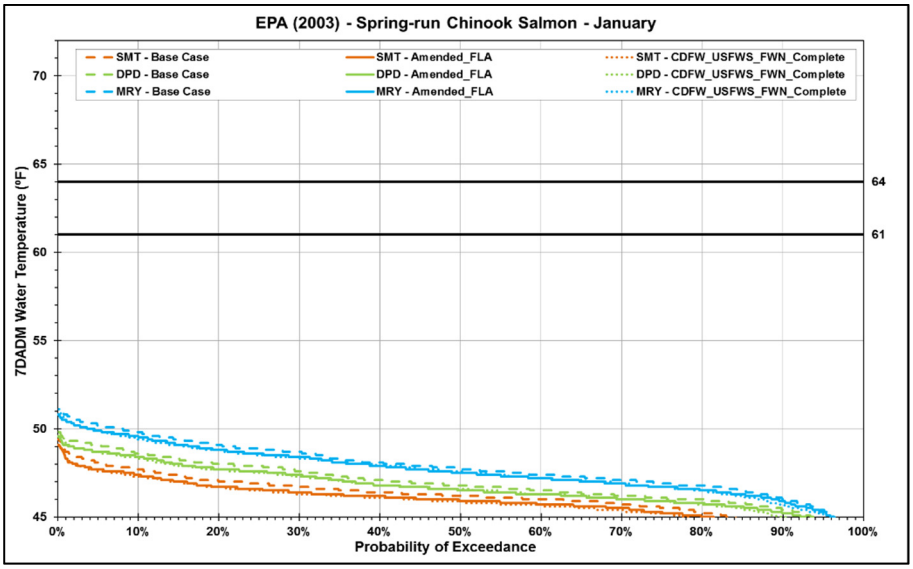
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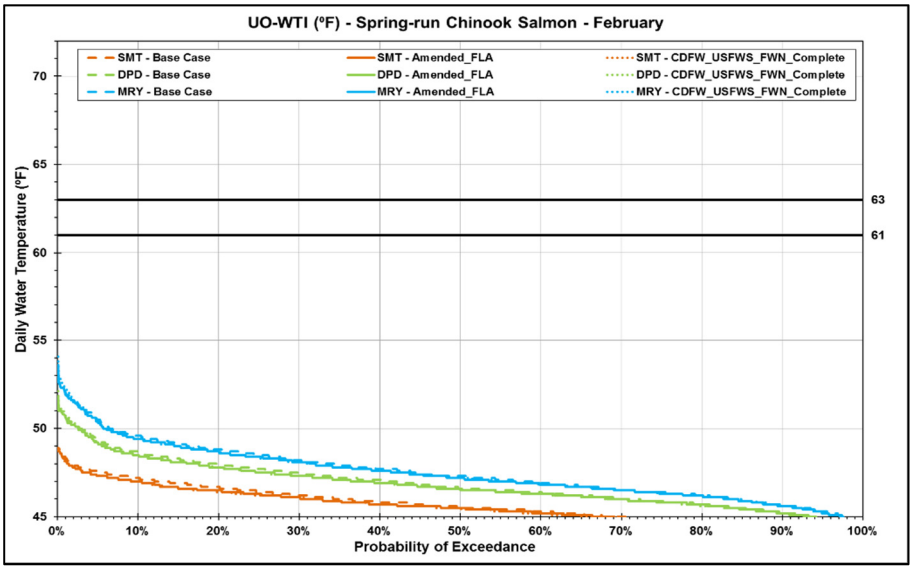
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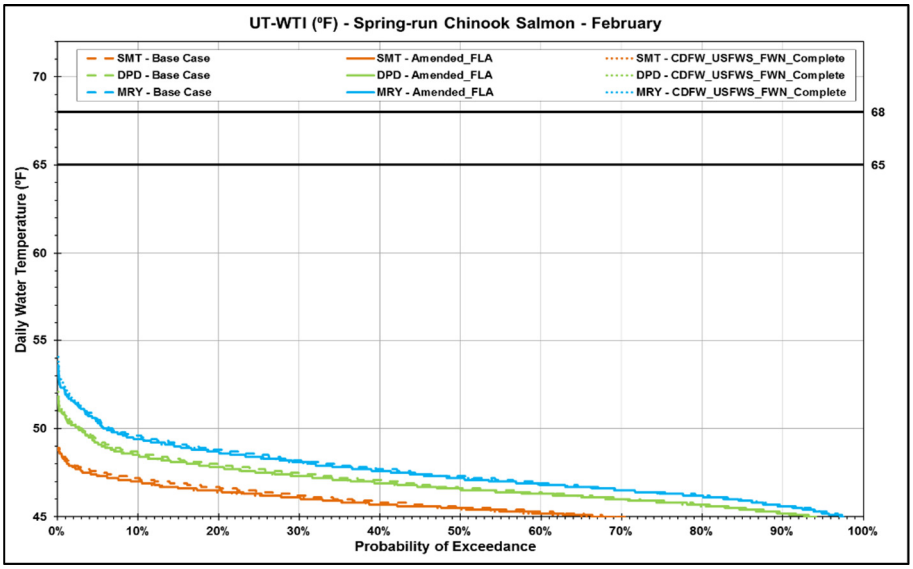
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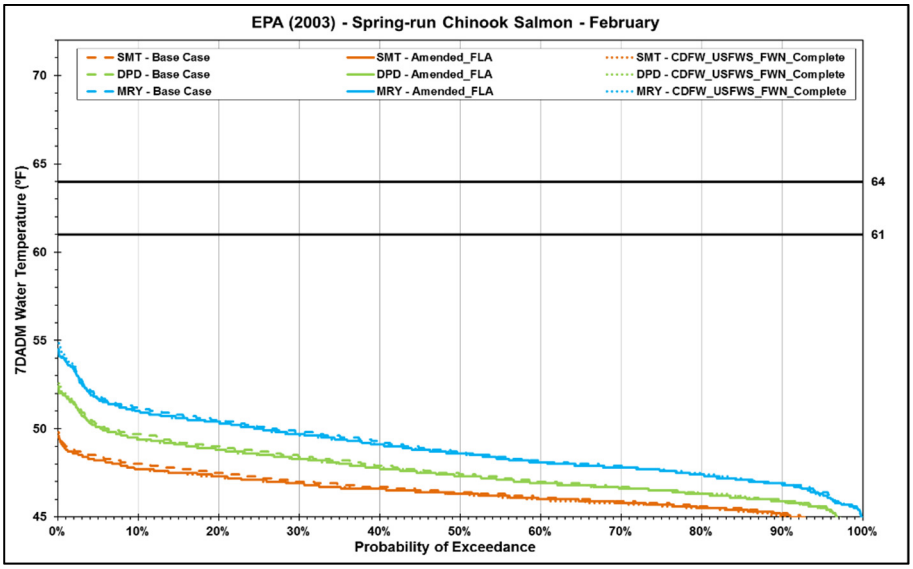
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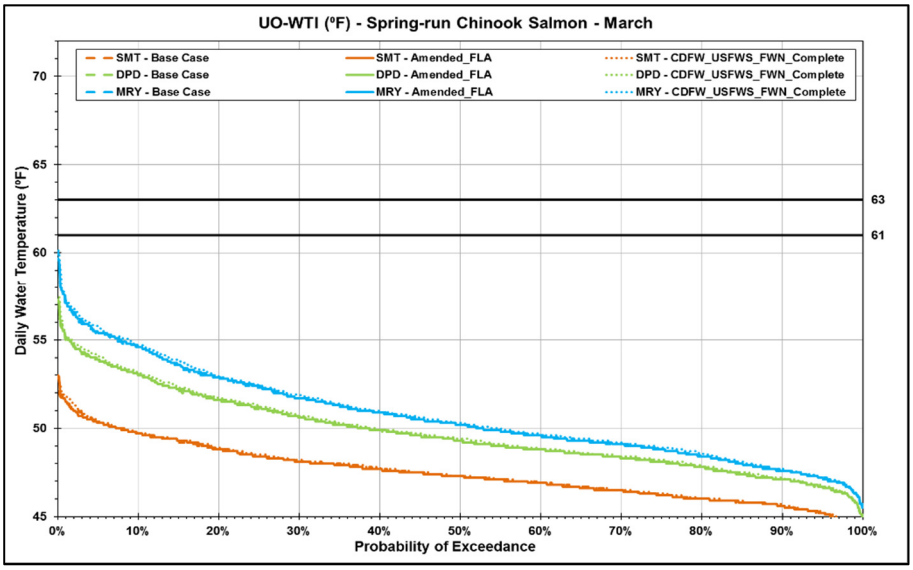
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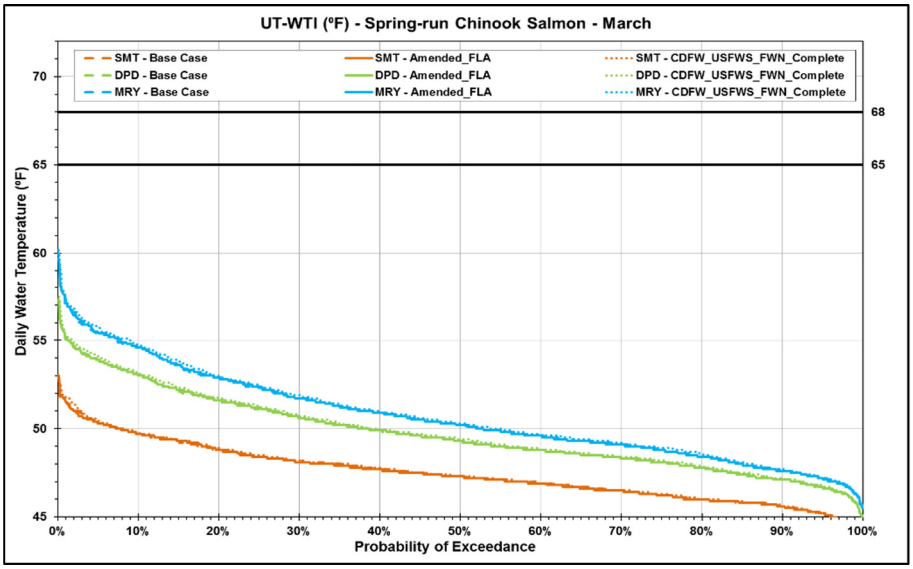
Probability of Exceedance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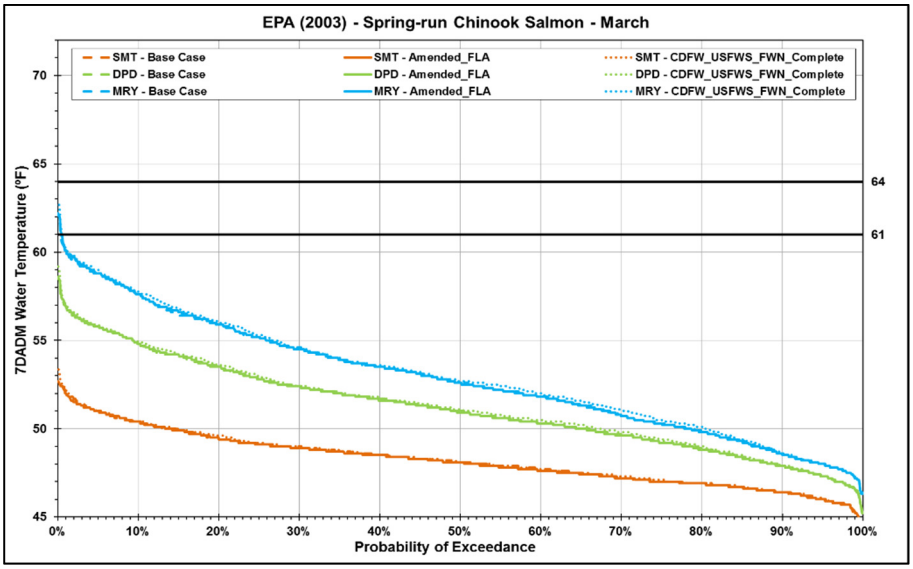
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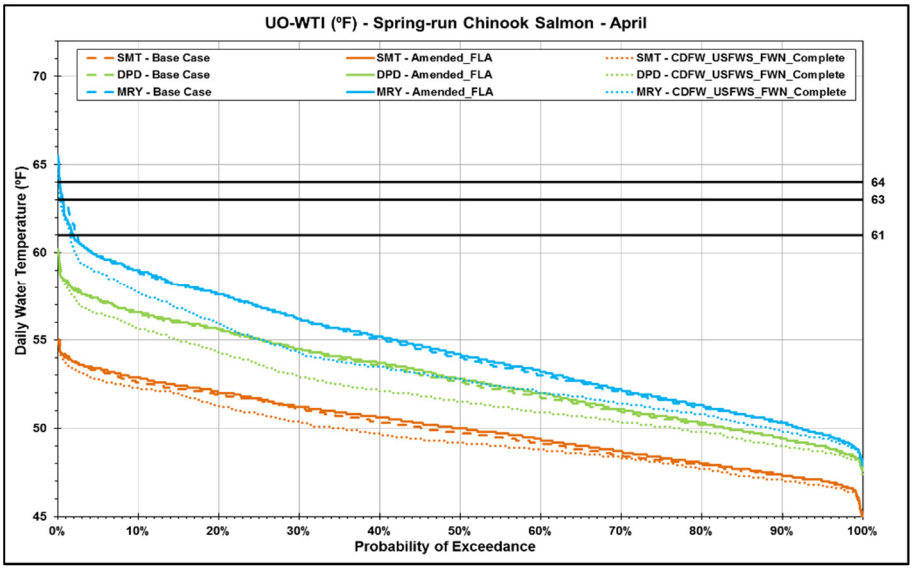
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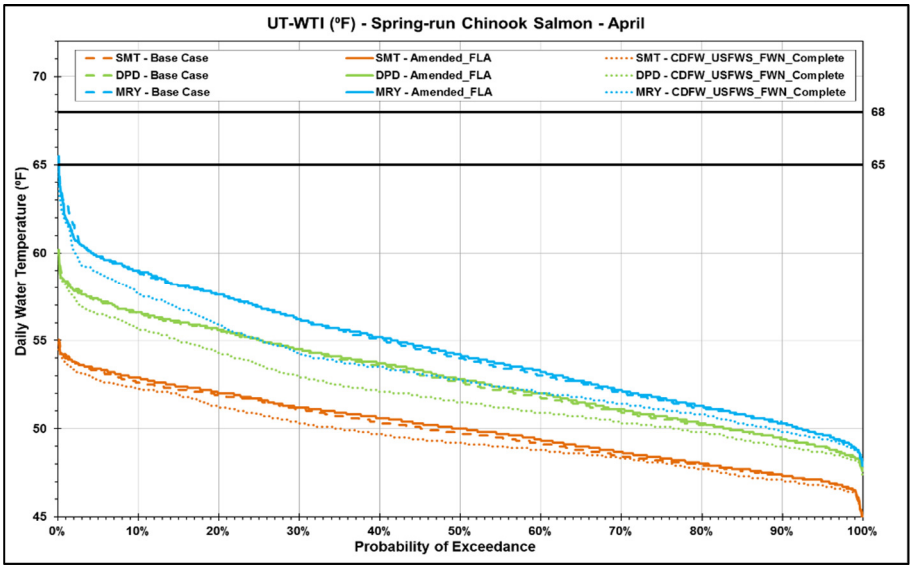
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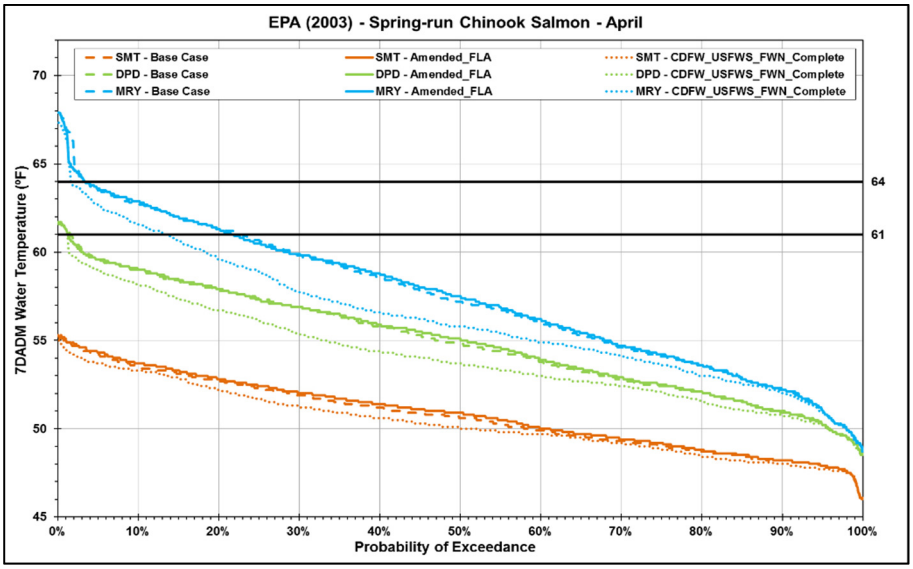
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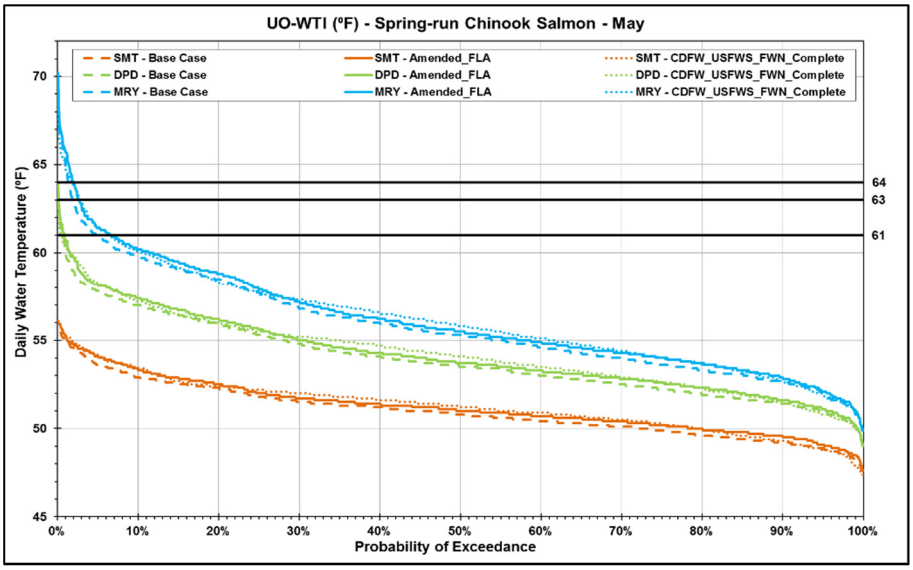
Probability of Exceedance


UO-WTI (°F) - Spring-run Chinook Salmon - May
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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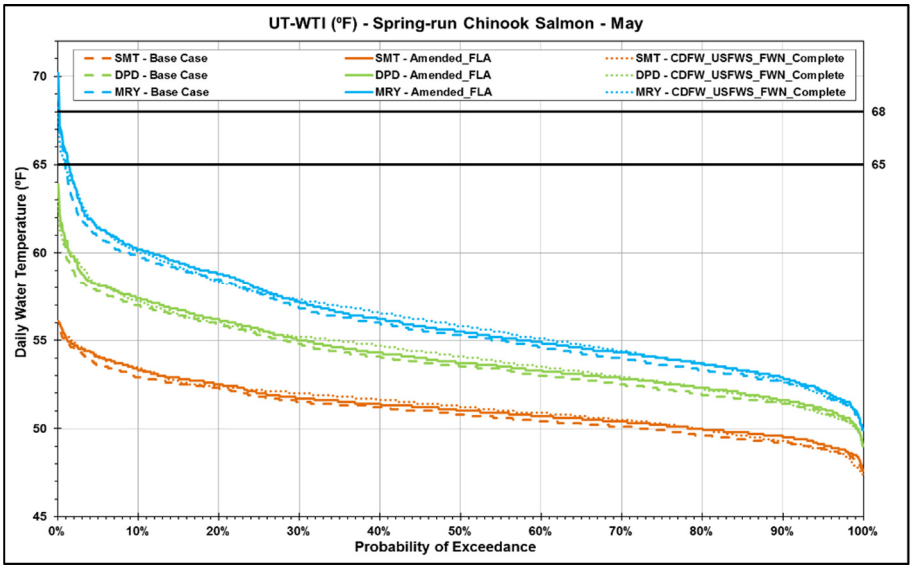
Probability of Exceedance


UT-WTI (°F) - Spring-run Chinook Salmon - May
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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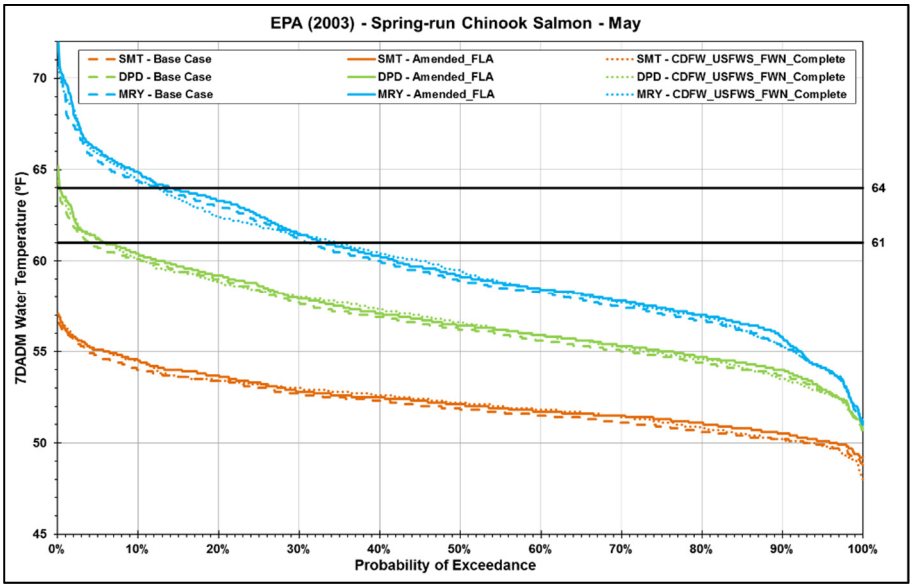
Probability of Exceedance


EPA (2003) - Spring-run Chinook Salmon - May
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (°F)
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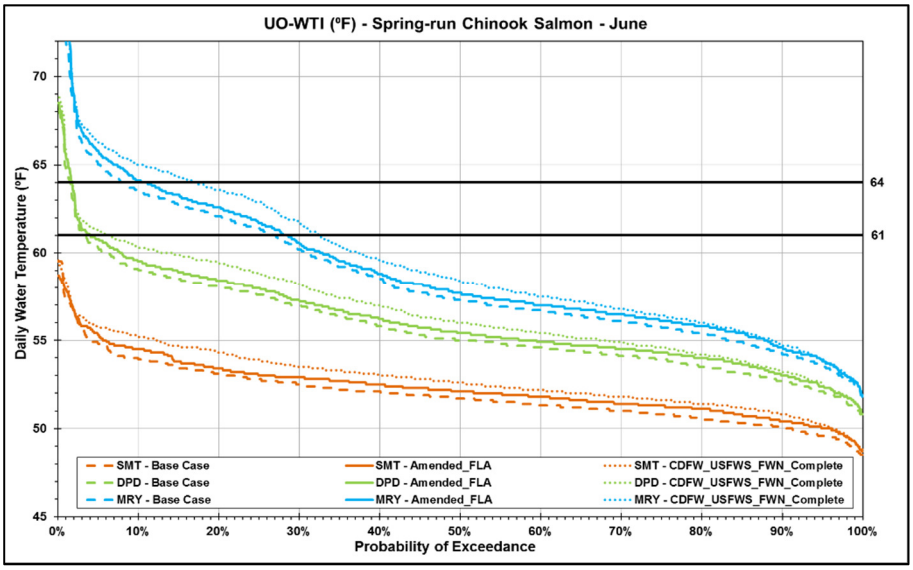
Probability of Exceedance


UO-WTI (ºF) - Spring-run Chinook Salmon - June
Daily Water Temperature (ºF)
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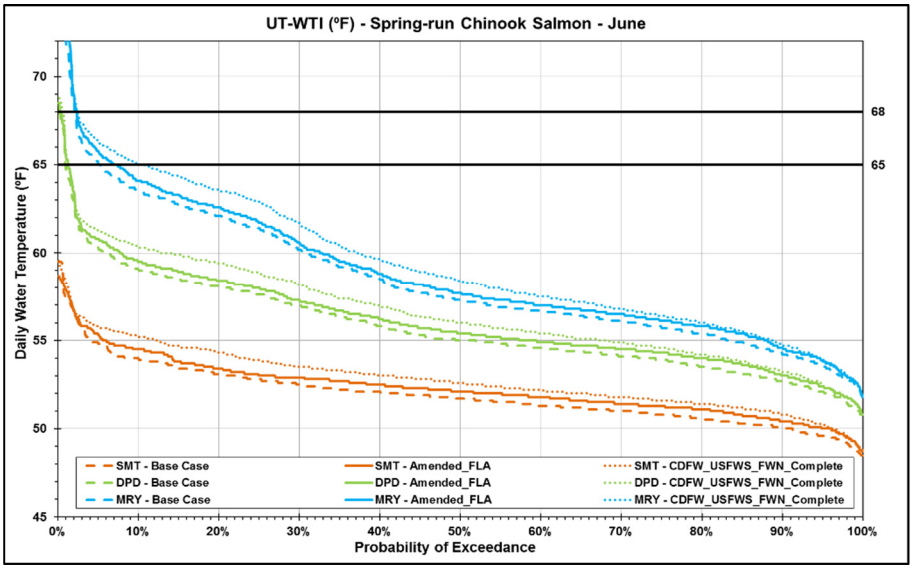
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (ºF) - Spring-run Chinook Salmon - June
Daily Water Temperature (ºF)
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Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
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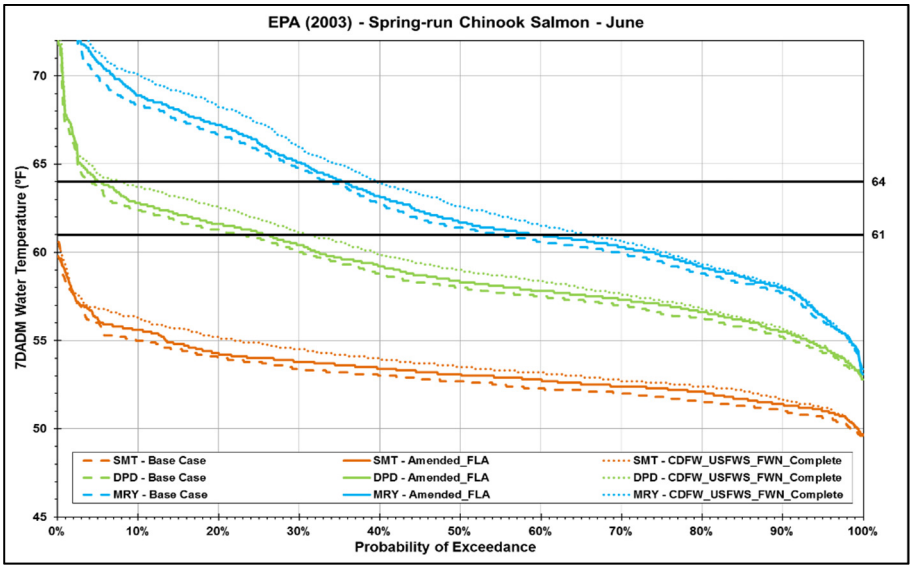
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Spring-run Chinook Salmon - June
7DADM Water Temperature (ºF)
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Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
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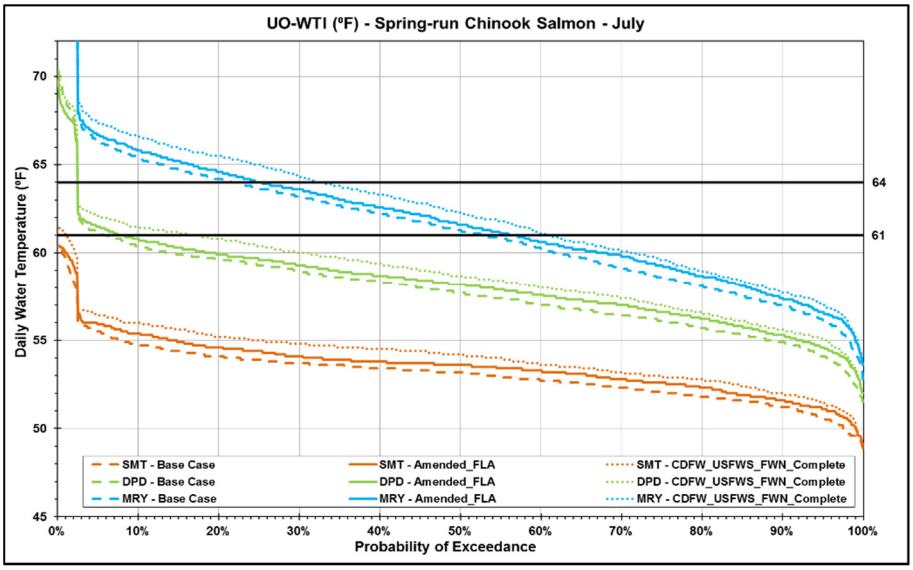
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UO-WTI (°F) - Spring-run Chinook Salmon - July
Daily Water Temperature (°F)
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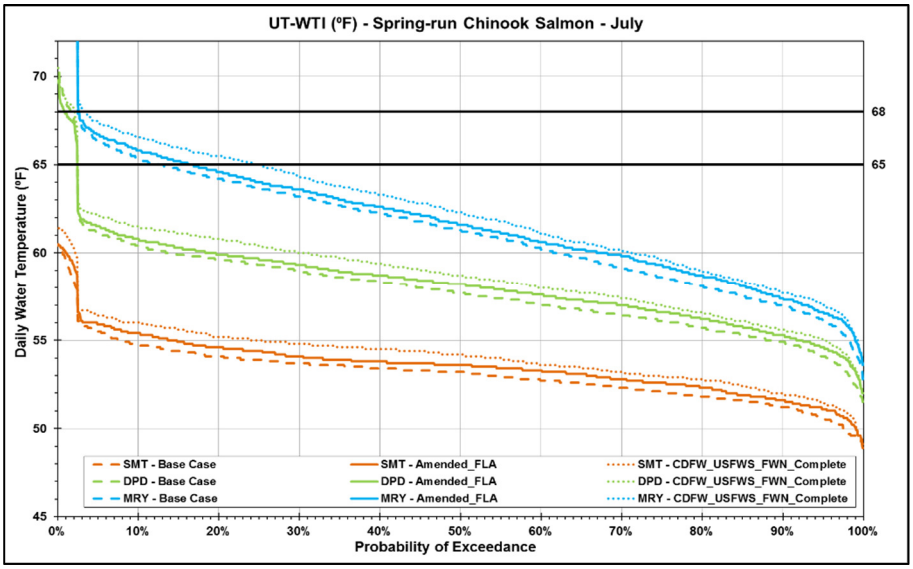
Probability of Exceedance
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (°F) - Spring-run Chinook Salmon - July
Daily Water Temperature (°F)
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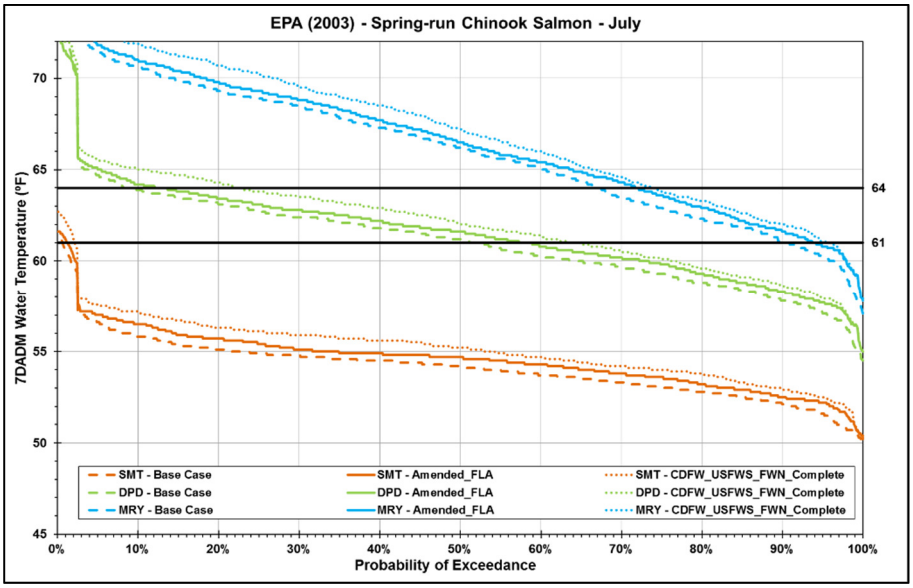
Probability of Exceedance
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Spring-run Chinook Salmon - July
7DADM Water Temperature (°F)
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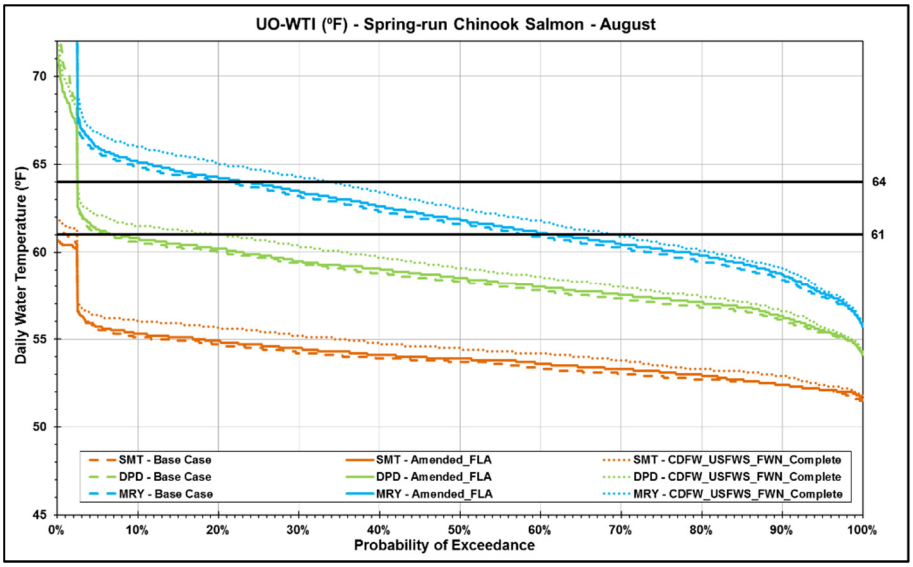
Probability of Exceedance
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete


UO-WTI (ºF) - Spring-run Chinook Salmon - August
Daily Water Temperature (ºF)
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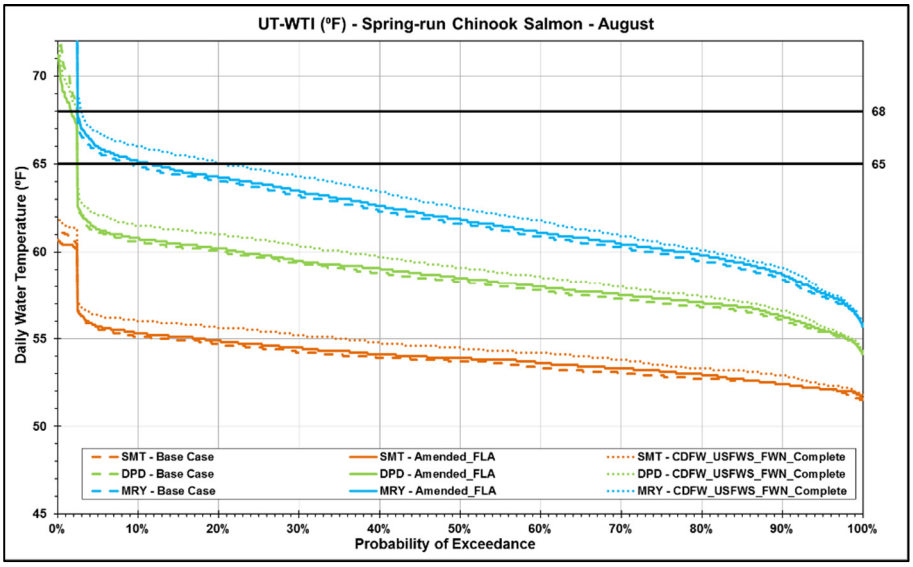
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (ºF) - Spring-run Chinook Salmon - August
Daily Water Temperature (ºF)
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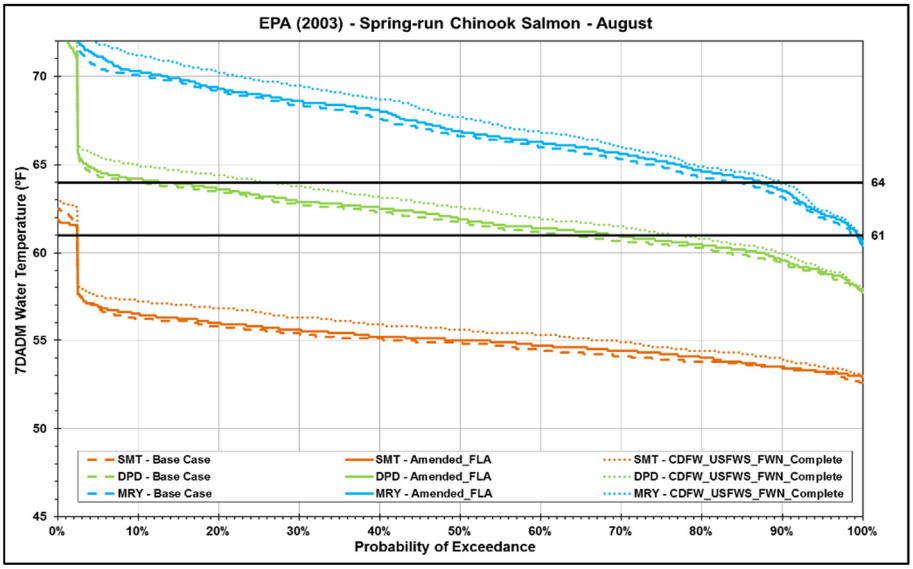
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Spring-run Chinook Salmon - August
7DADM Water Temperature (ºF)
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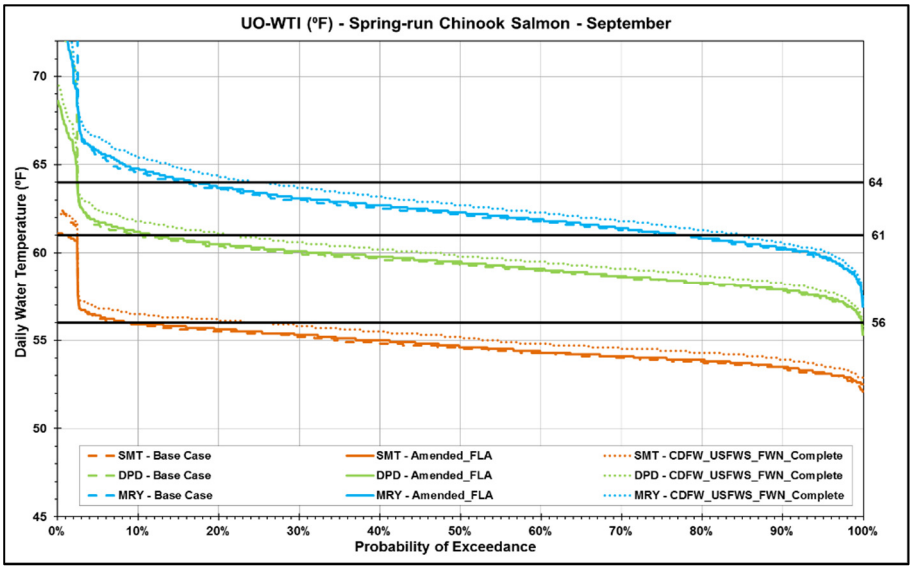
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UO-WTI (°F) - Spring-run Chinook Salmon - September
Daily Water Temperature (°F)
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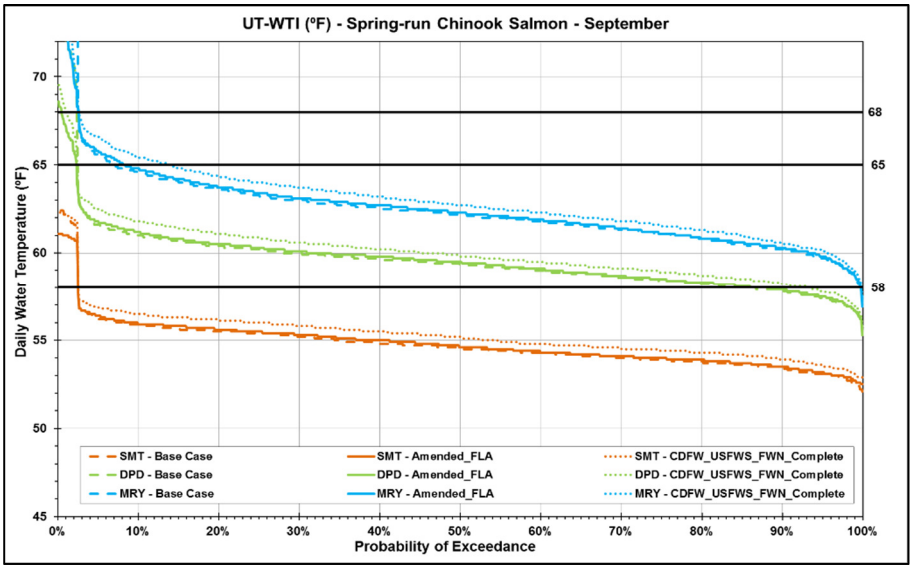
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (°F) - Spring-run Chinook Salmon - September
Daily Water Temperature (°F)
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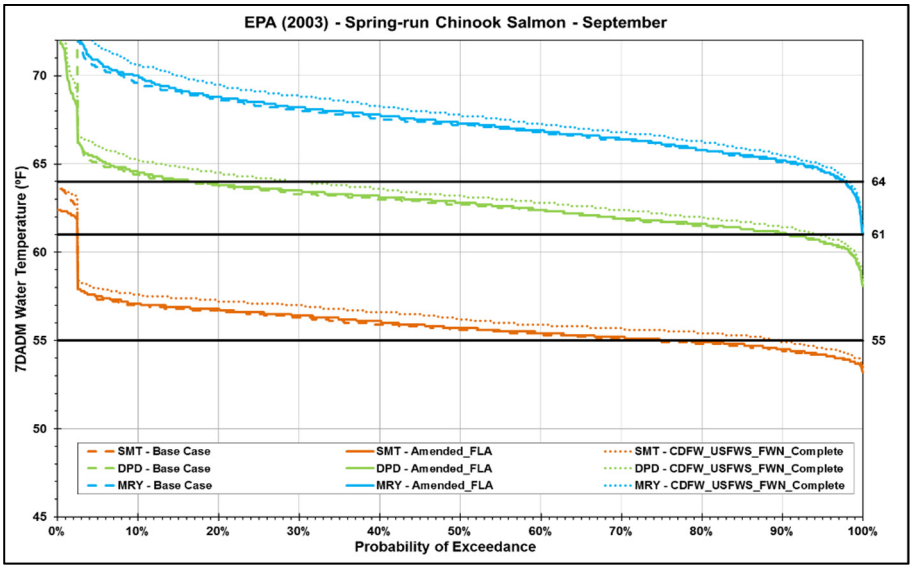
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Spring-run Chinook Salmon - September
7DADM Water Temperature (°F)
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Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete

Fall-run Chinook Salmon
Water Temperature Exceedance Curves

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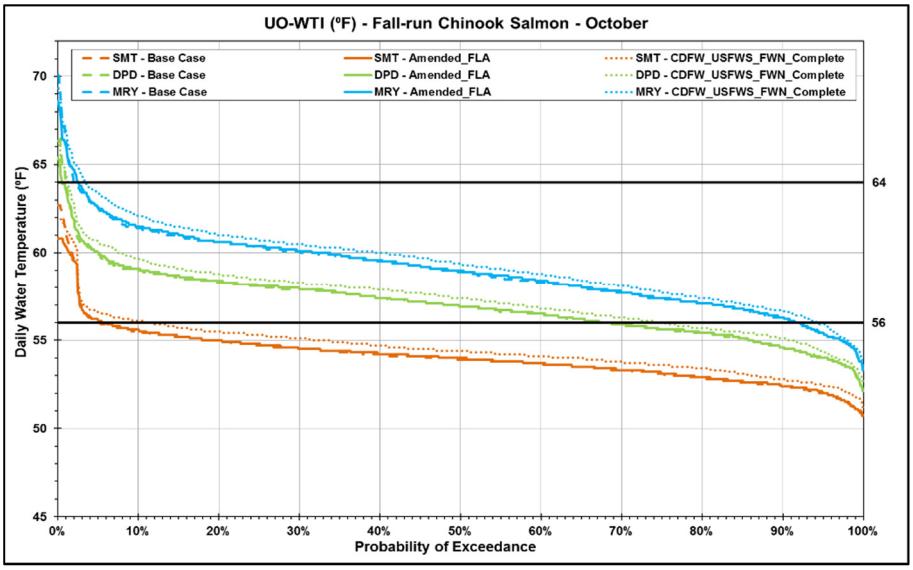
UO-WTI (°F) - Fall-run Chinook Salmon - October
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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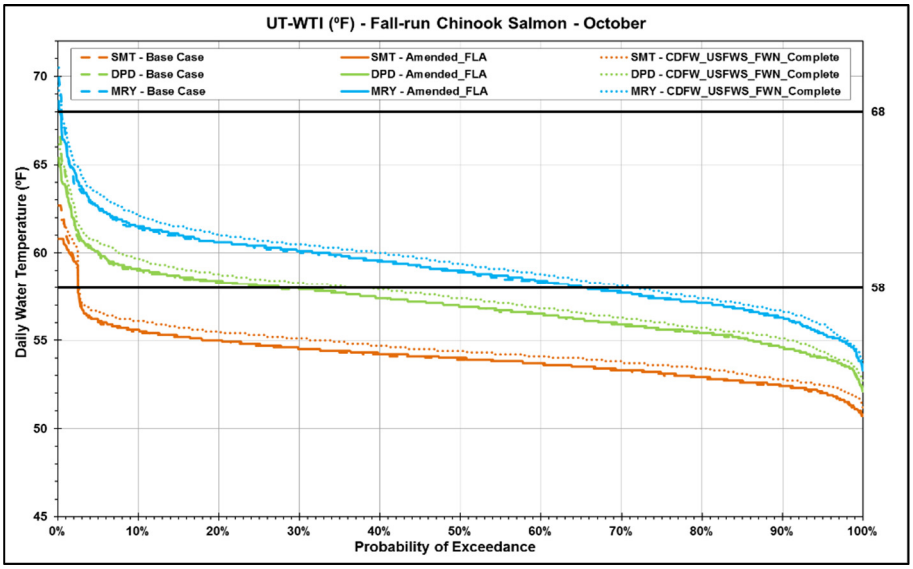
Probability of Exceedance


UT-WTI (°F) - Fall-run Chinook Salmon - October
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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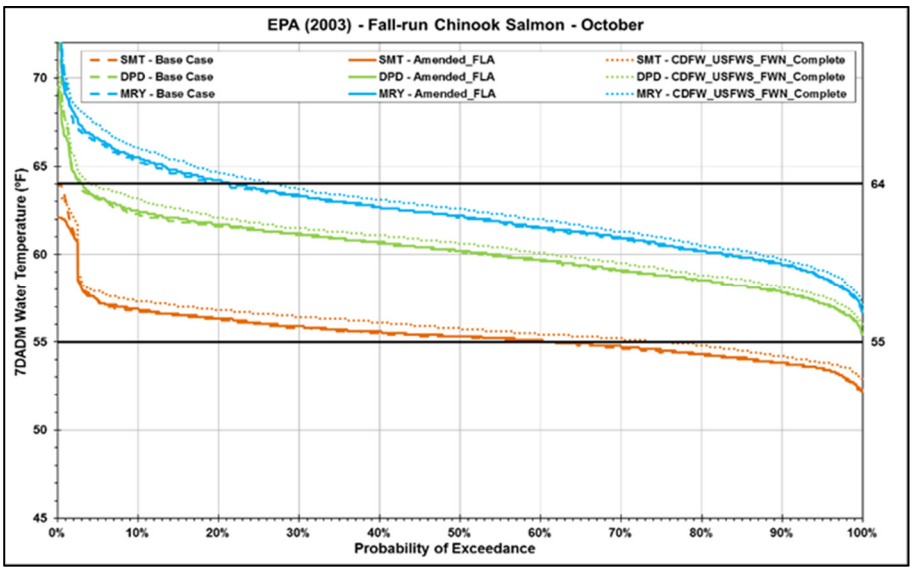
Probability of Exceedance


EPA (2003) - Fall-run Chinook Salmon - October
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (°F)
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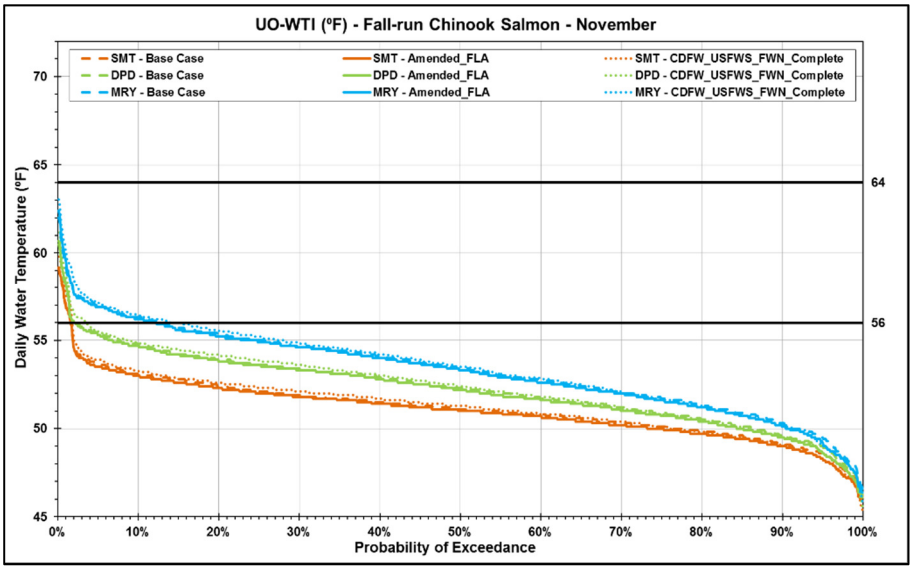
Probability of Exceedance


UO-WTI (ºF) - Fall-run Chinook Salmon - November
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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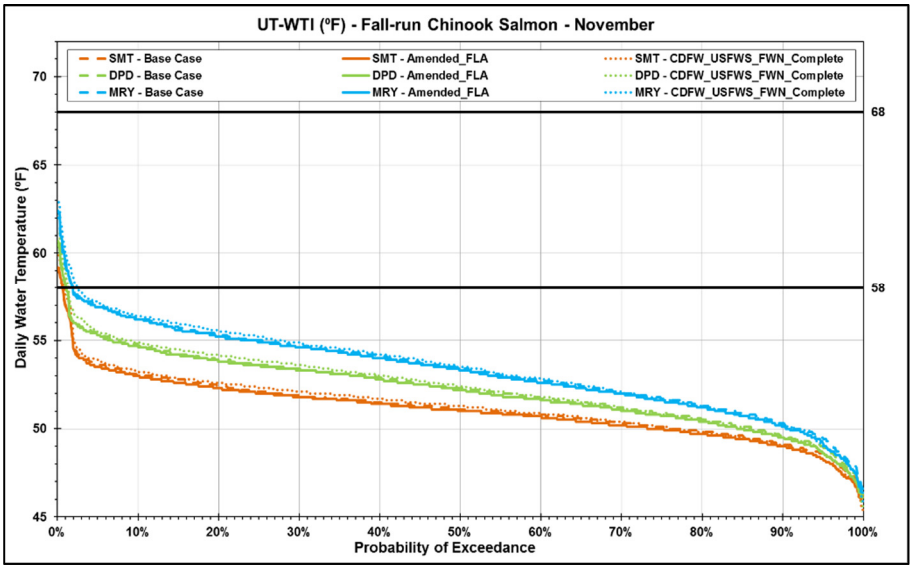
Probability of Exceedance


UT-WTI (ºF) - Fall-run Chinook Salmon - November
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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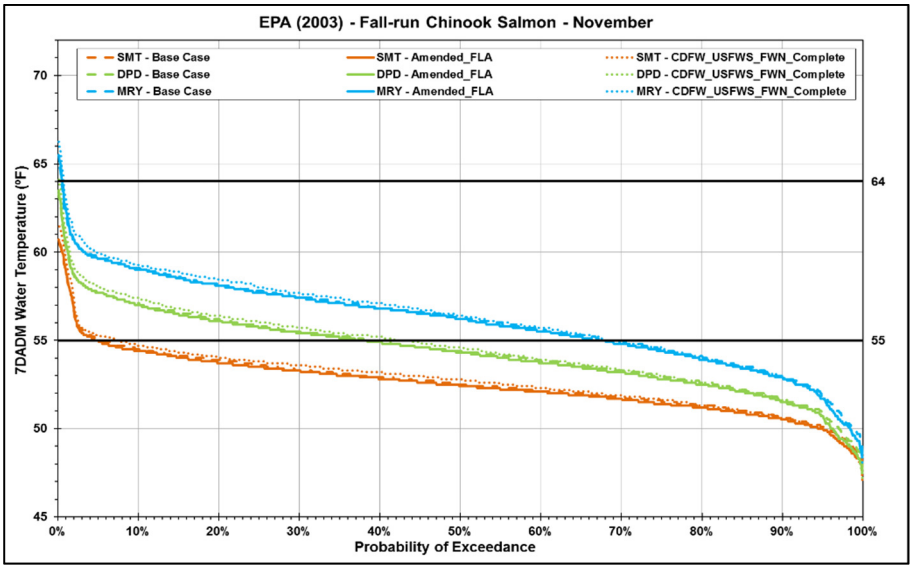
Probability of Exceedance


EPA (2003) - Fall-run Chinook Salmon - November
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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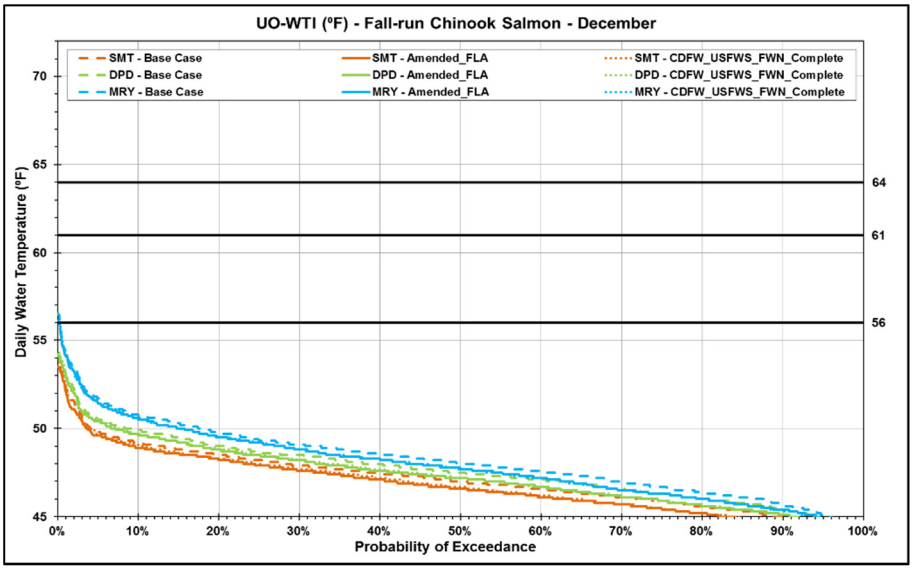
Probability of Exceedance


UO-WTI (ºF) - Fall-run Chinook Salmon - December
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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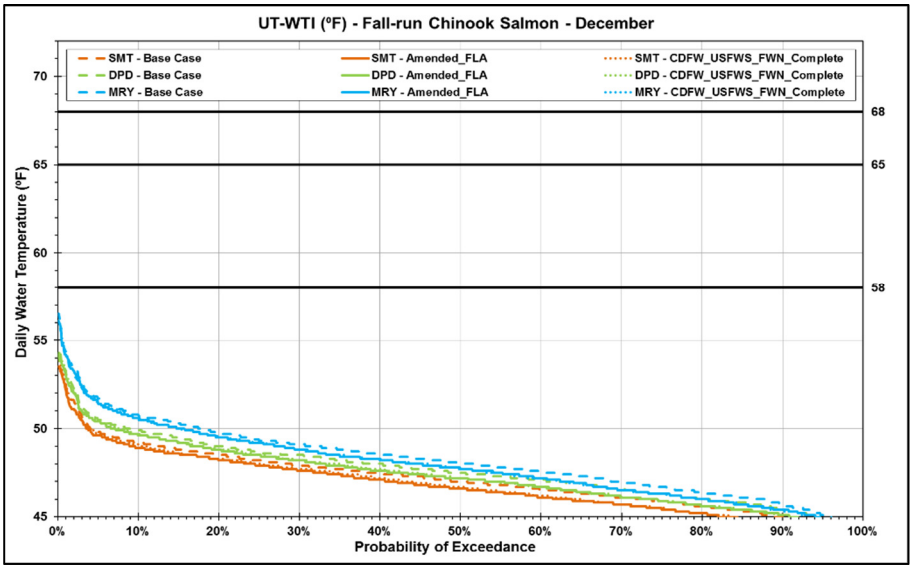
Probability of Exceedance


UT-WTI (ºF) - Fall-run Chinook Salmon - December
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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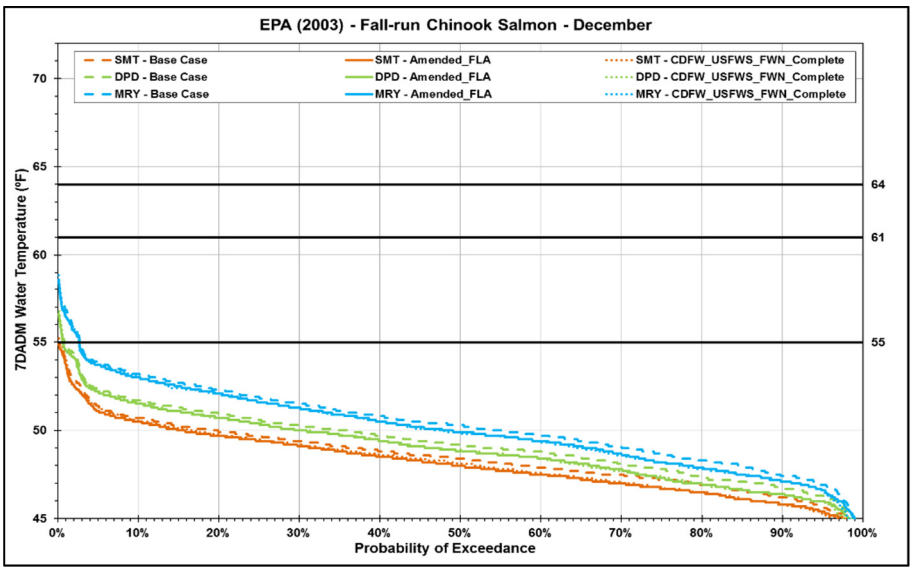
Probability of Exceedance


EPA (2003) - Fall-run Chinook Salmon - December
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DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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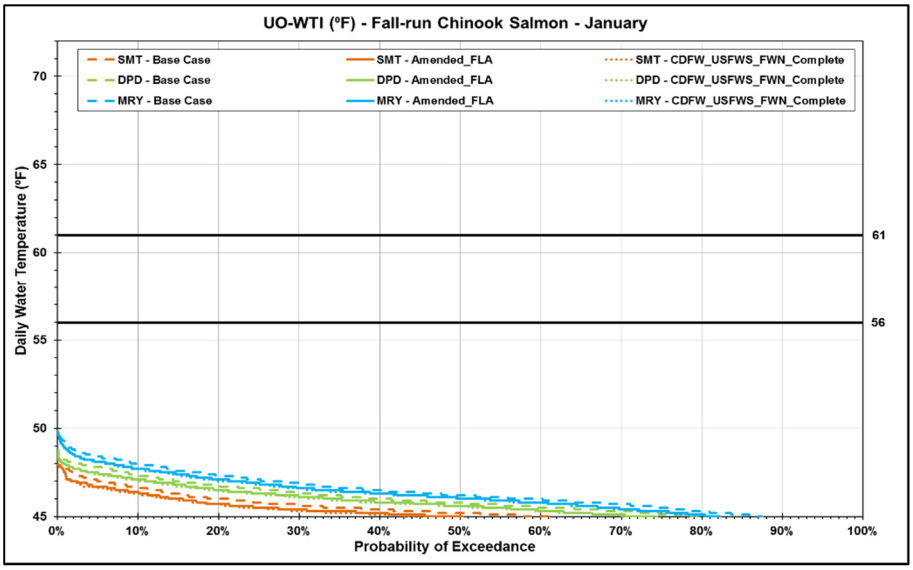
Probability of Exceedance


UO-WTI (ºF) - Fall-run Chinook Salmon - January
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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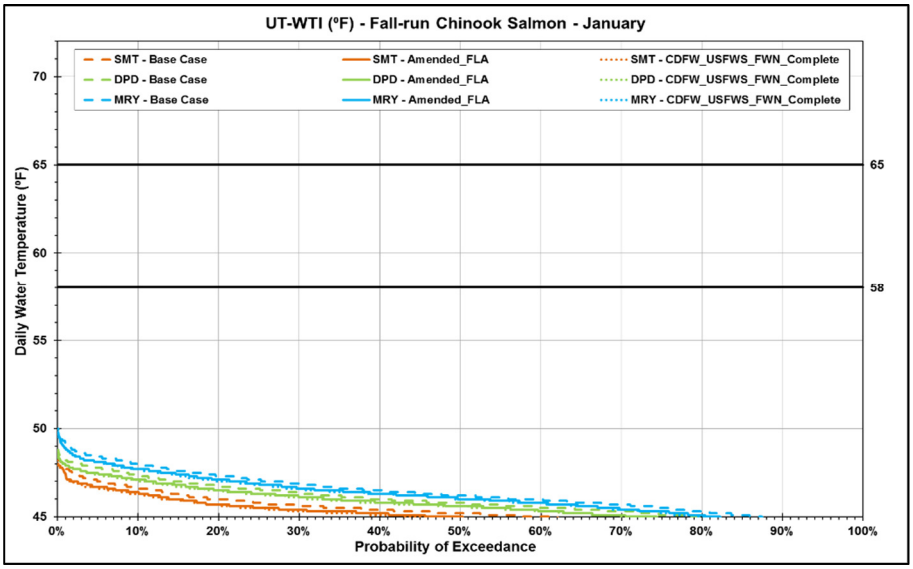
Probability of Exceedance


UT-WTI (ºF) - Fall-run Chinook Salmon - January
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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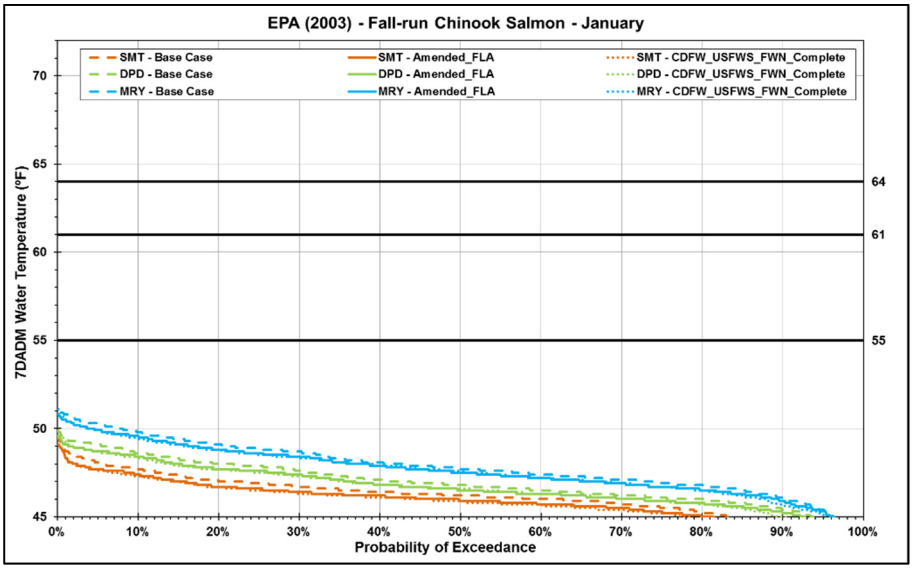
Probability of Exceedance


EPA (2003) - Fall-run Chinook Salmon - January
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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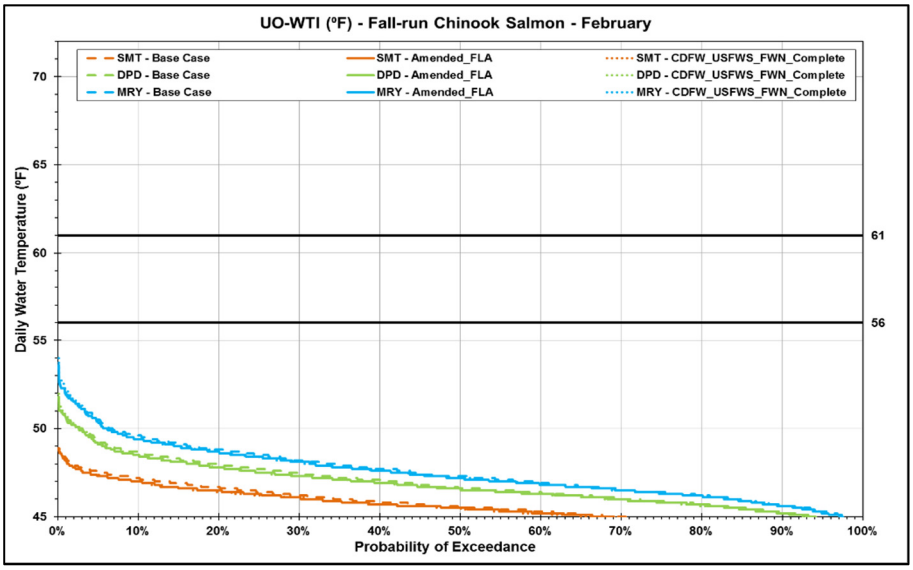
Probability of Exceedance


UO-WTI (ºF) - Fall-run Chinook Salmon - February
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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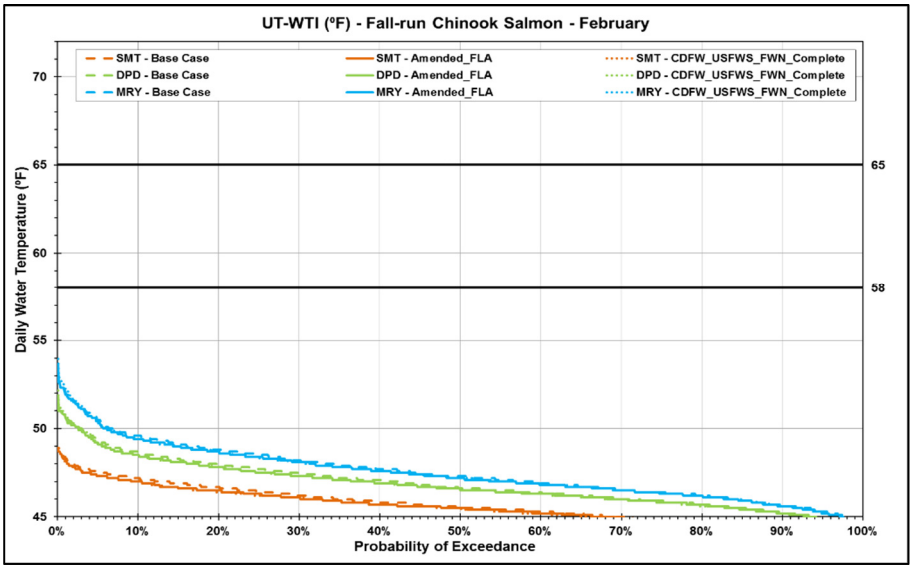
Probability of Exceedance


UT-WTI (ºF) - Fall-run Chinook Salmon - February
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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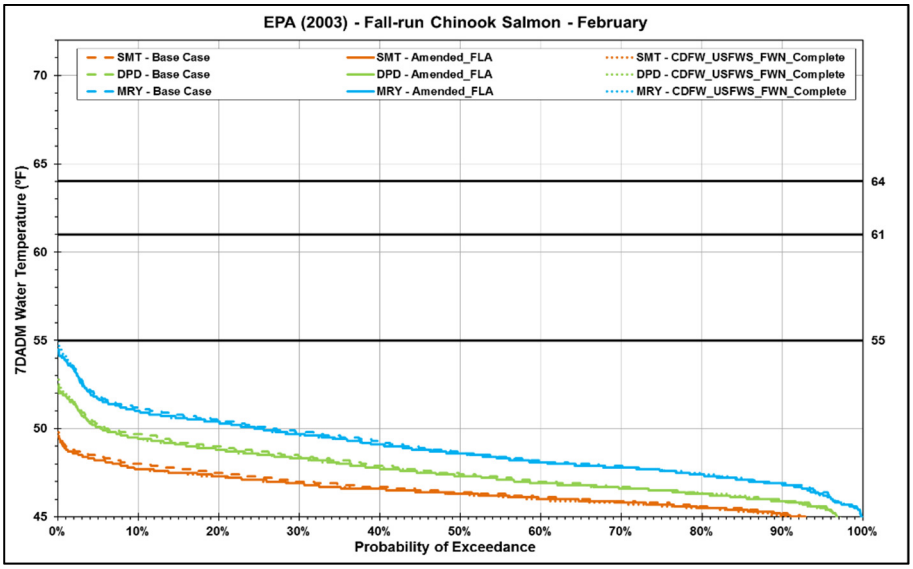
Probability of Exceedance


EPA (2003) - Fall-run Chinook Salmon - February
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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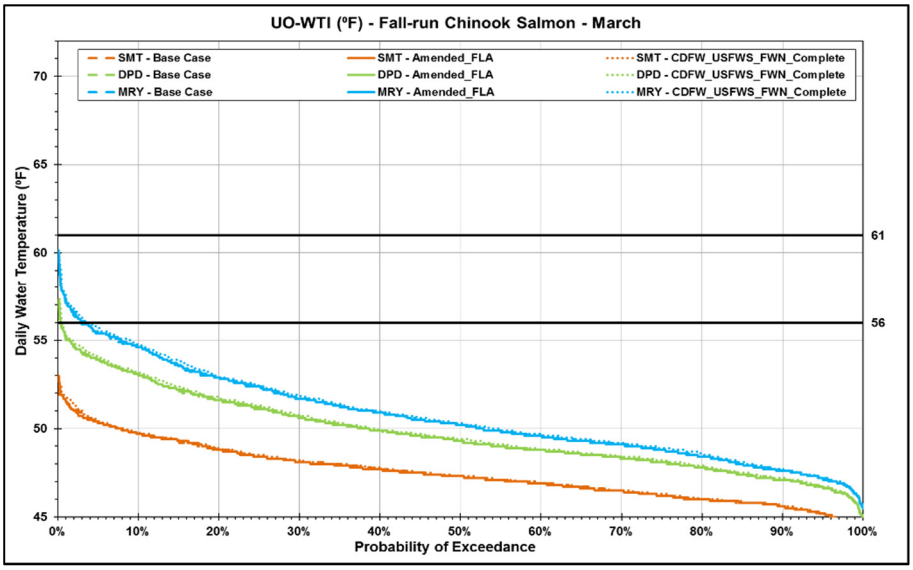
Probability of Exceedance


UO-WTI (ºF) - Fall-run Chinook Salmon - March
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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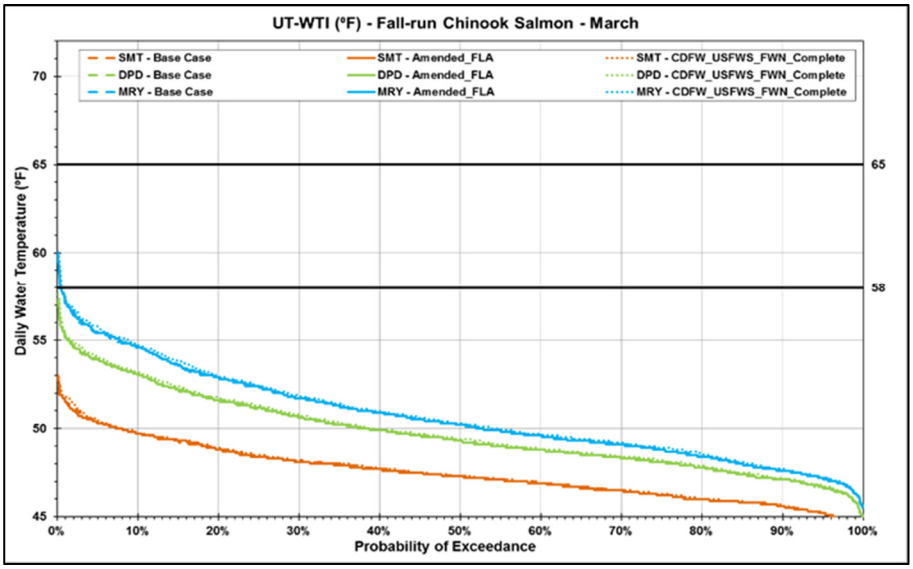
Probability of Exceedance


UT-WTI (ºF) - Fall-run Chinook Salmon - March
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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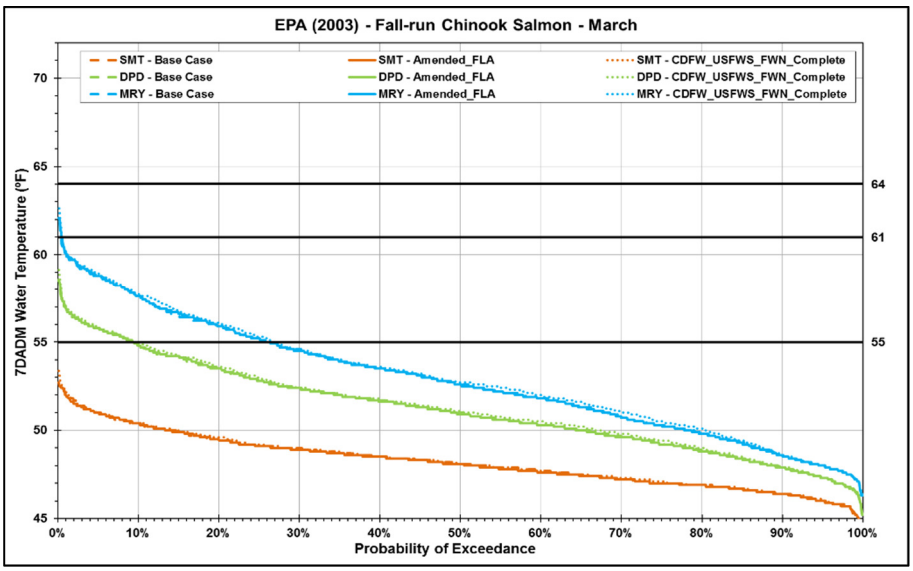
Probability of Exceedance


EPA (2003) - Fall-run Chinook Salmon - March
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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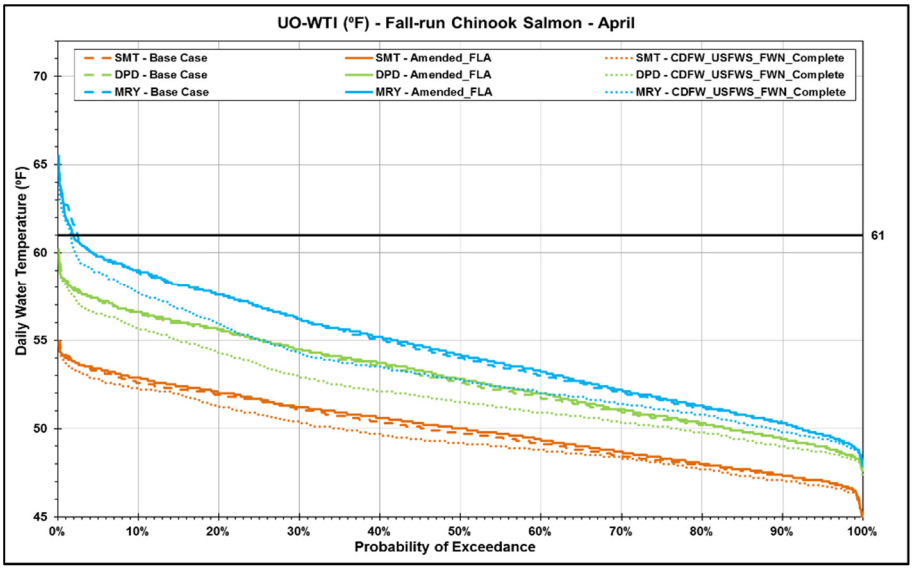
Probability of Exceedance


UO-WTI (ºF) - Fall-run Chinook Salmon - April
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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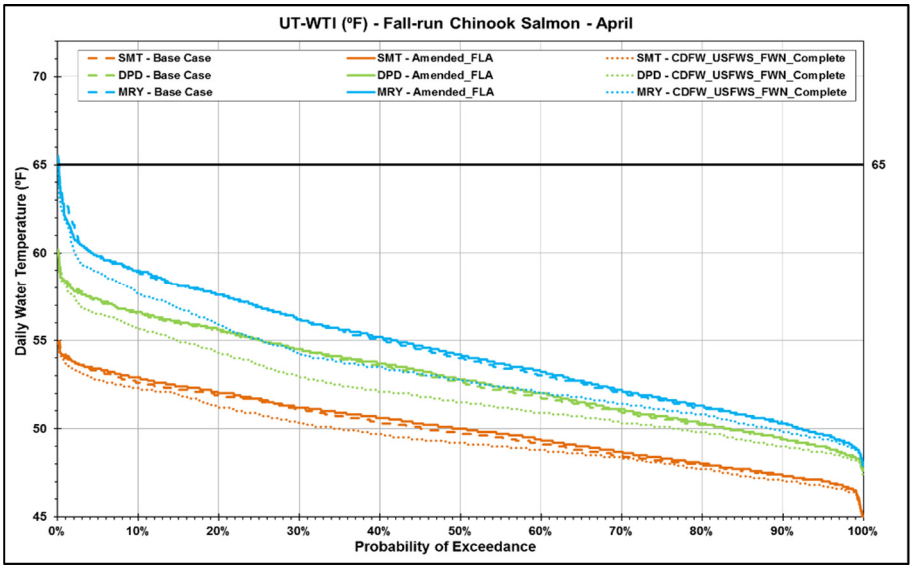
Probability of Exceedance


UT-WTI (ºF) - Fall-run Chinook Salmon - April
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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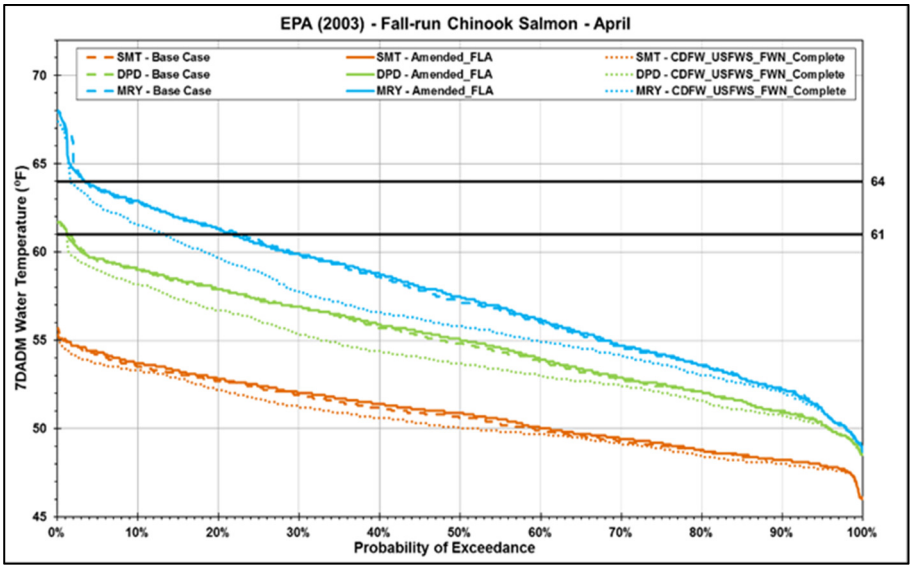
Probability of Exceedance


EPA (2003) - Fall-run Chinook Salmon - April
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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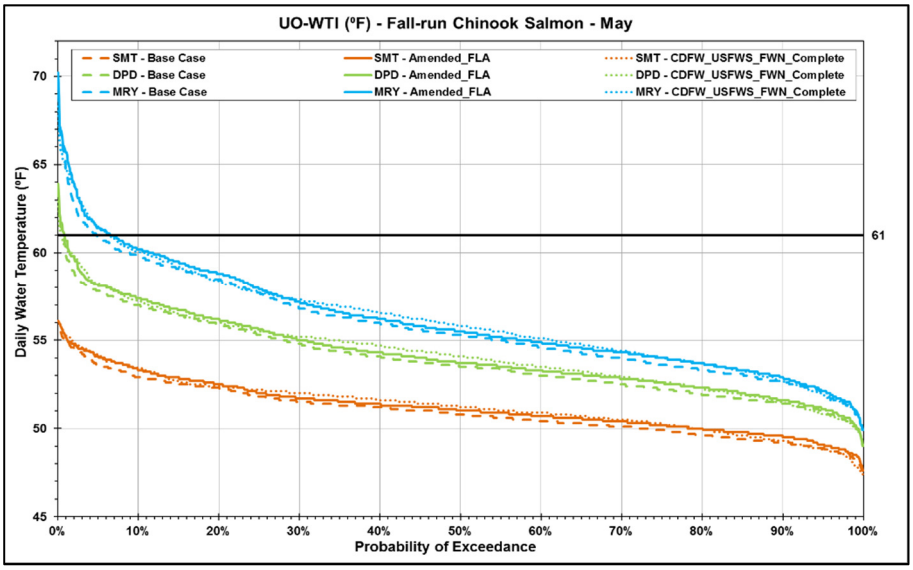
Probability of Exceedance


UO-WTI (°F) - Fall-run Chinook Salmon - May
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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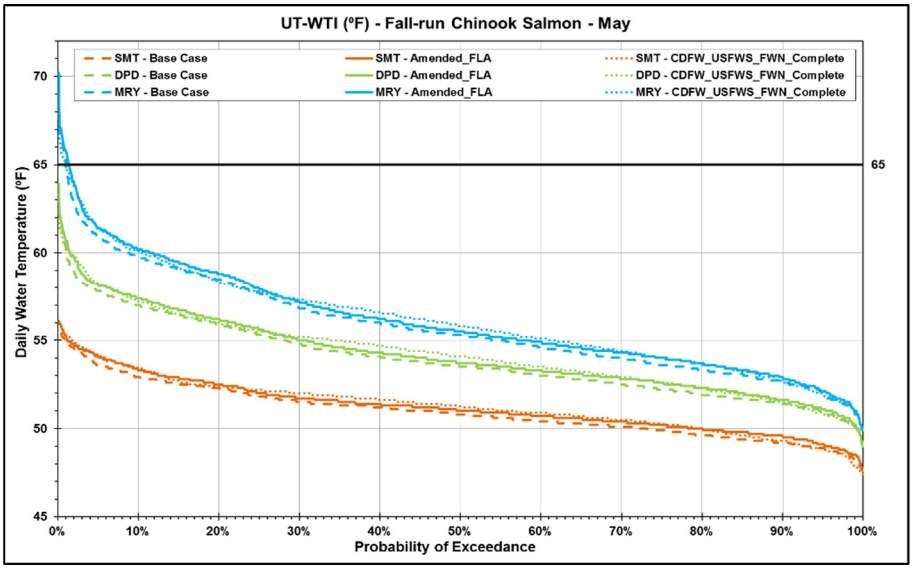
Probability of Exceedance


UT-WTI (°F) - Fall-run Chinook Salmon - May
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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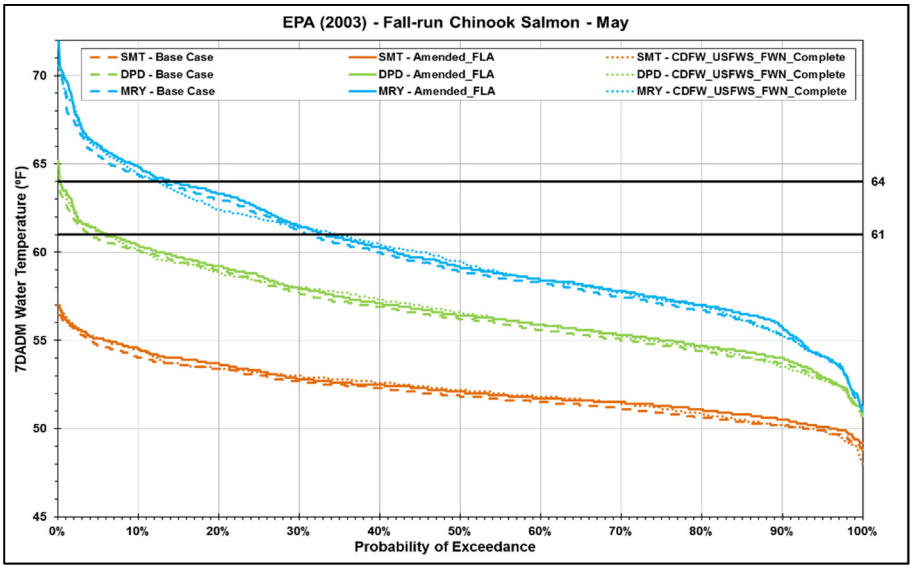
Probability of Exceedance


EPA (2003) - Fall-run Chinook Salmon - May
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (°F)
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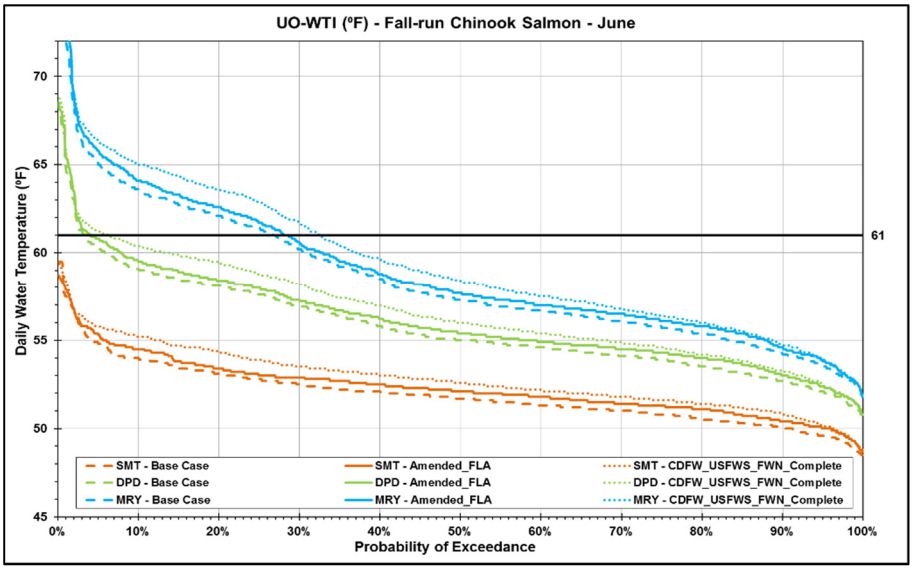
Probability of Exceedance


UO-WTI (ºF) - Fall-run Chinook Salmon - June
Daily Water Temperature (ºF)
70
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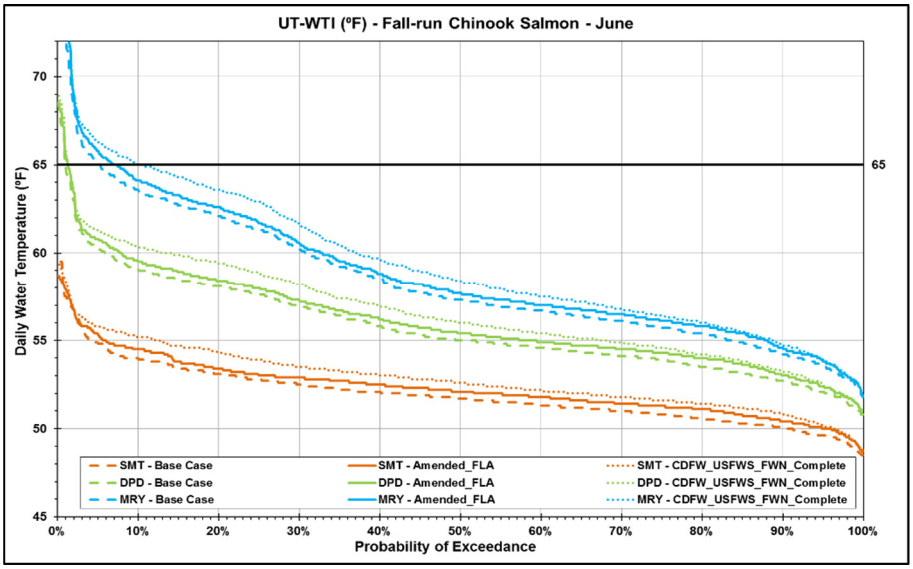
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (ºF) - Fall-run Chinook Salmon - June
Daily Water Temperature (ºF)
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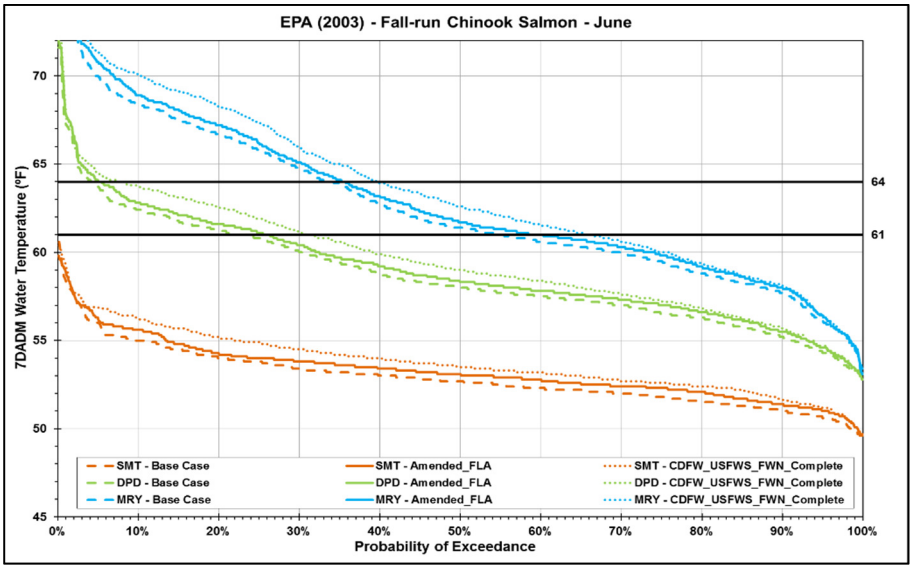
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Fall-run Chinook Salmon - June
7DADM Water Temperature (ºF)
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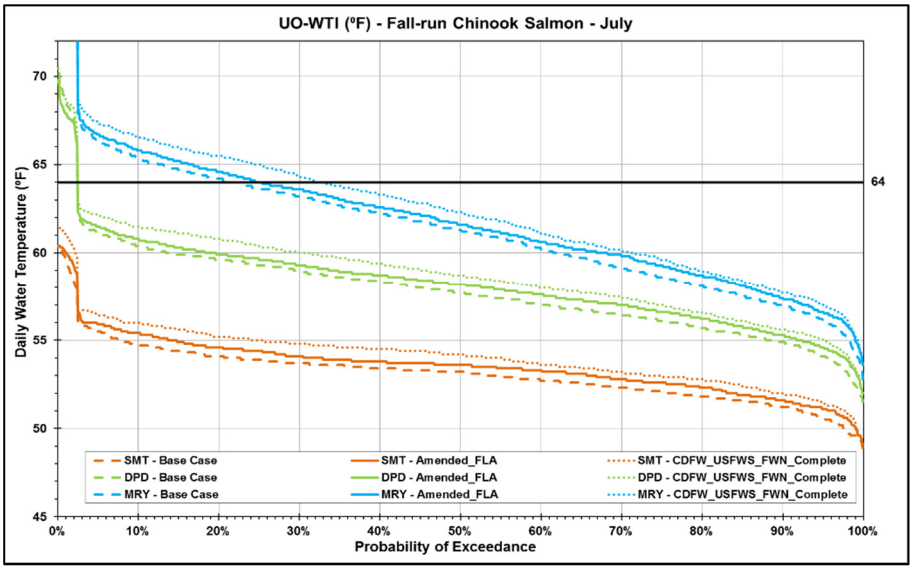
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UO-WTI (°F) - Fall-run Chinook Salmon - July
Daily Water Temperature (°F)
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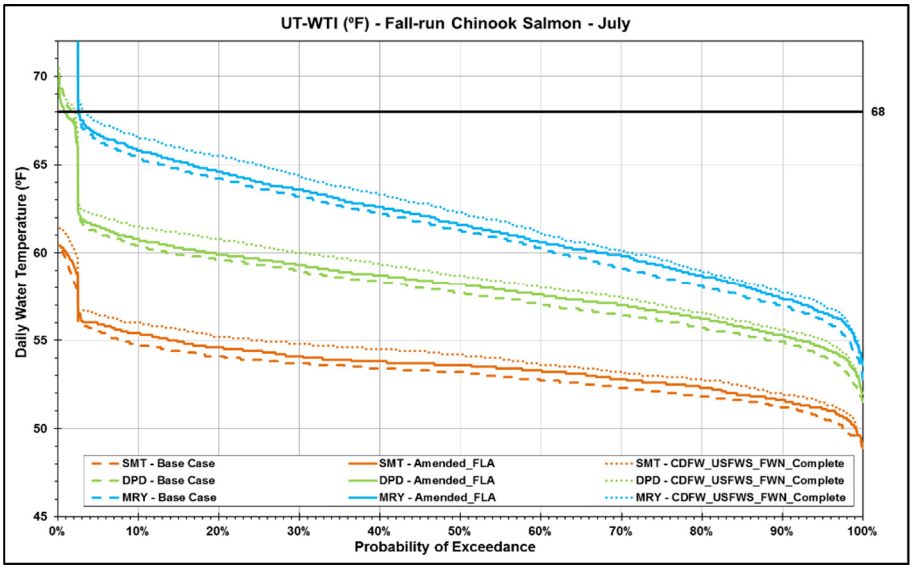
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (°F) - Fall-run Chinook Salmon - July
Daily Water Temperature (°F)
70
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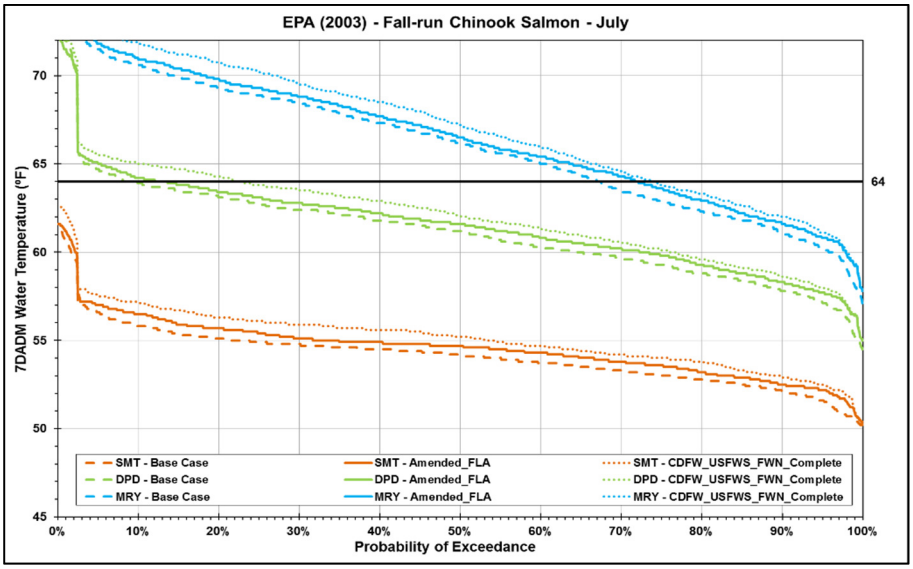
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Fall-run Chinook Salmon - July
7DADM Water Temperature (°F)
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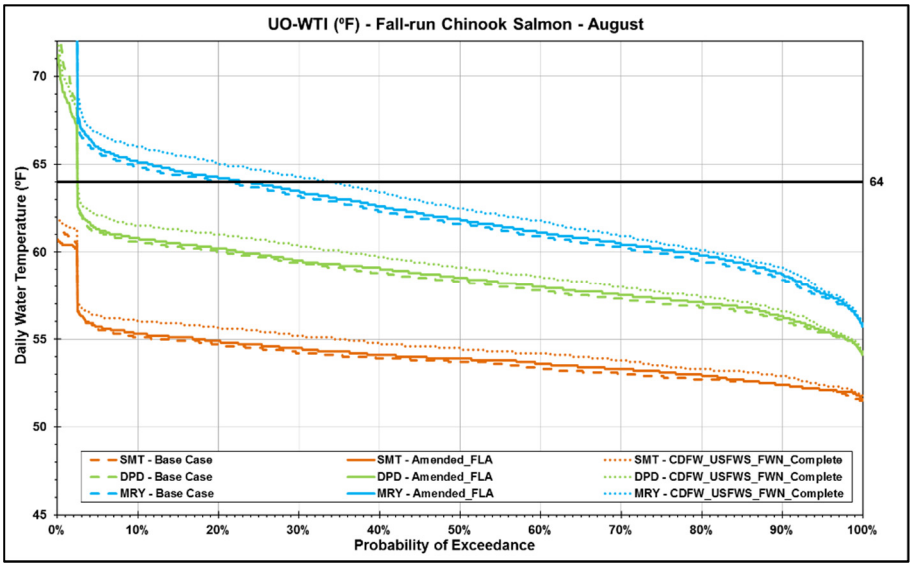
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UO-WTI (°F) - Fall-run Chinook Salmon - August
Daily Water Temperature (°F)
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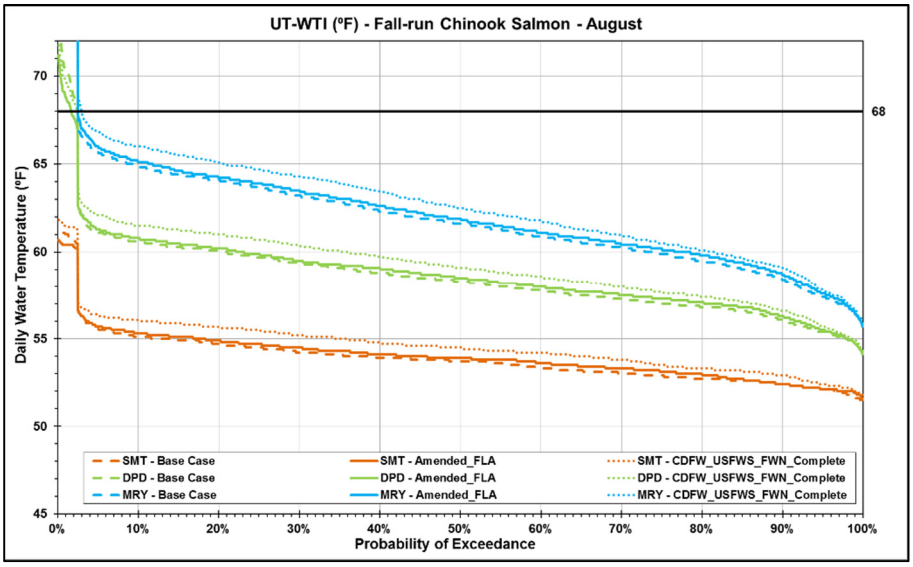
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (°F) - Fall-run Chinook Salmon - August
Daily Water Temperature (°F)
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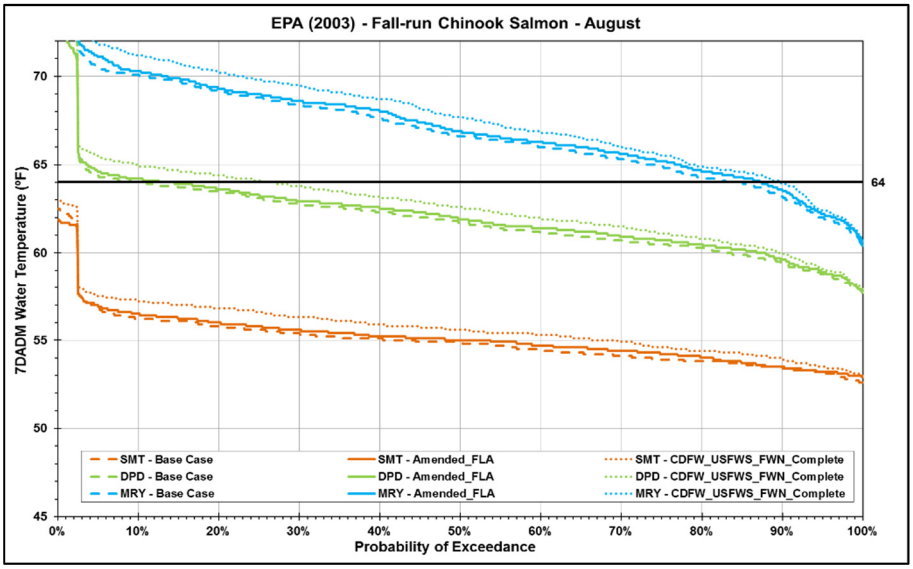
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Fall-run Chinook Salmon - August
7DADM Water Temperature (°F)
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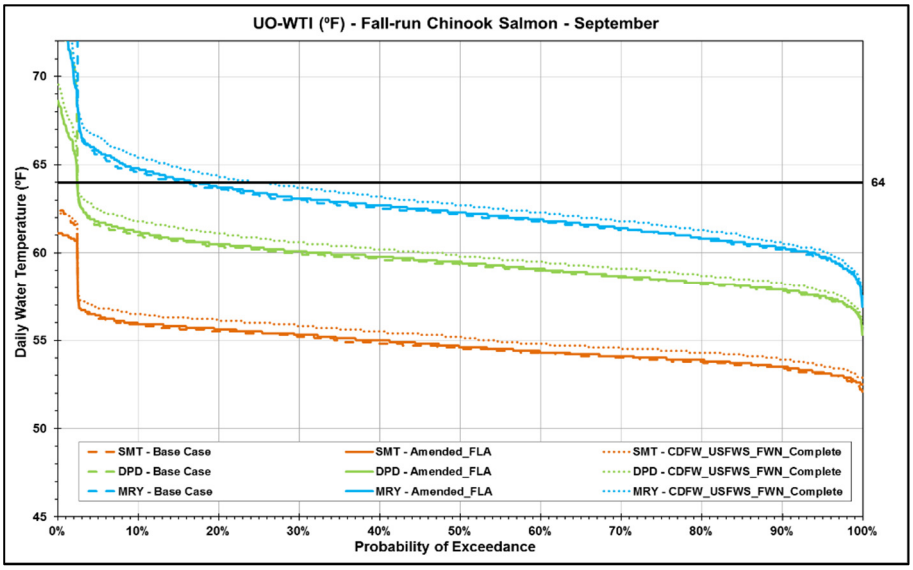
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UO-WTI (°F) - Fall-run Chinook Salmon - September
Daily Water Temperature (°F)
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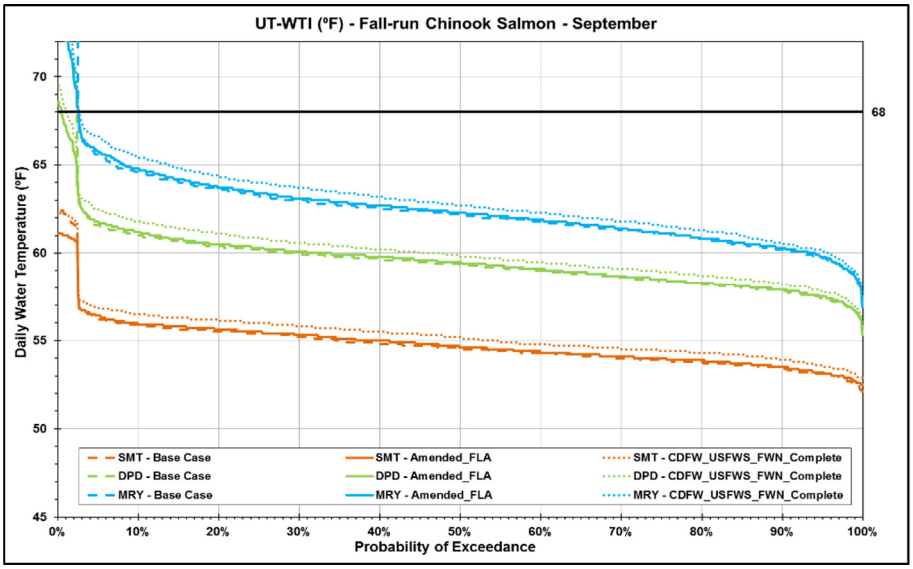
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (°F) - Fall-run Chinook Salmon - September
Daily Water Temperature (°F)
70
65
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45
68
0%
10%
20%
30%
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70%
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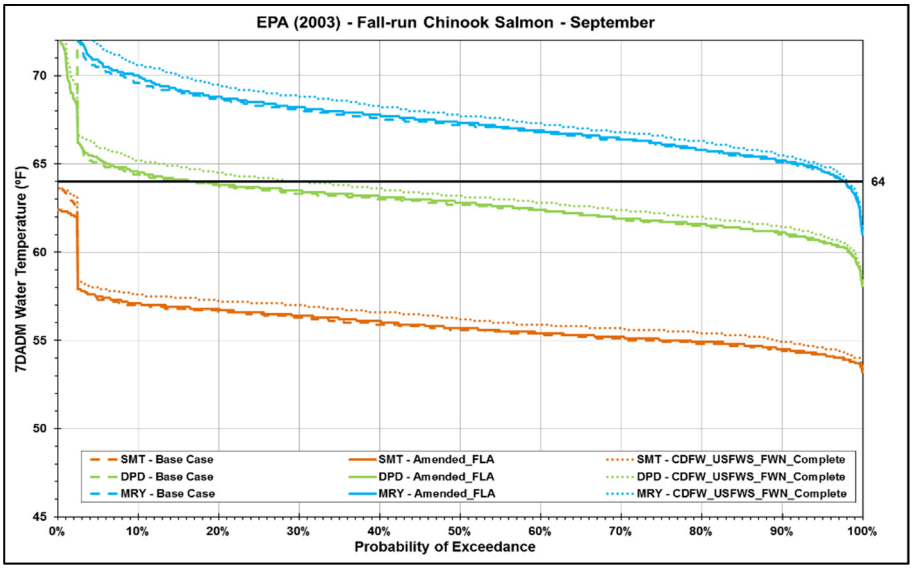
90%
100%
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Fall-run Chinook Salmon - September
7DADM Water Temperature (°F)
70
65
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100%
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete

Steelhead
Water Temperature Exceedance Curves

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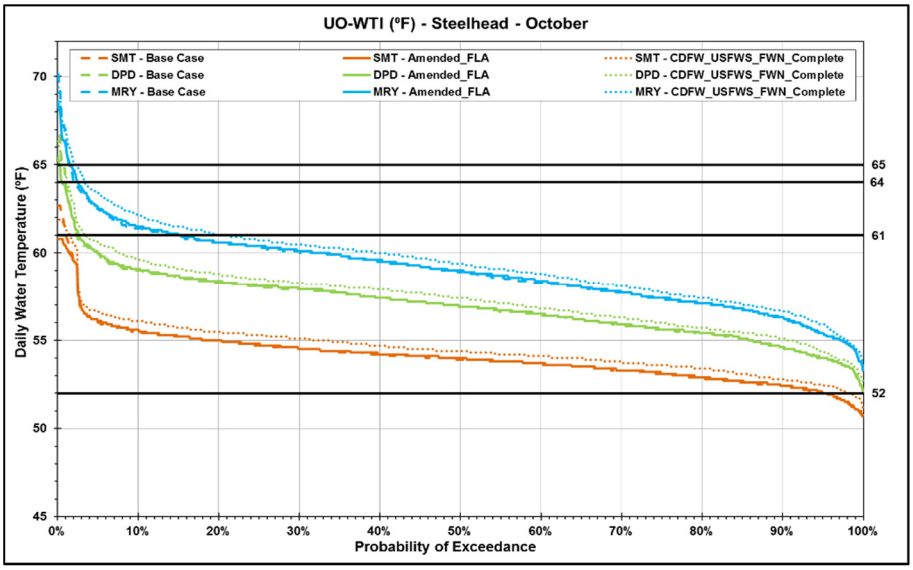
UO-WTI (°F) - Steelhead - October
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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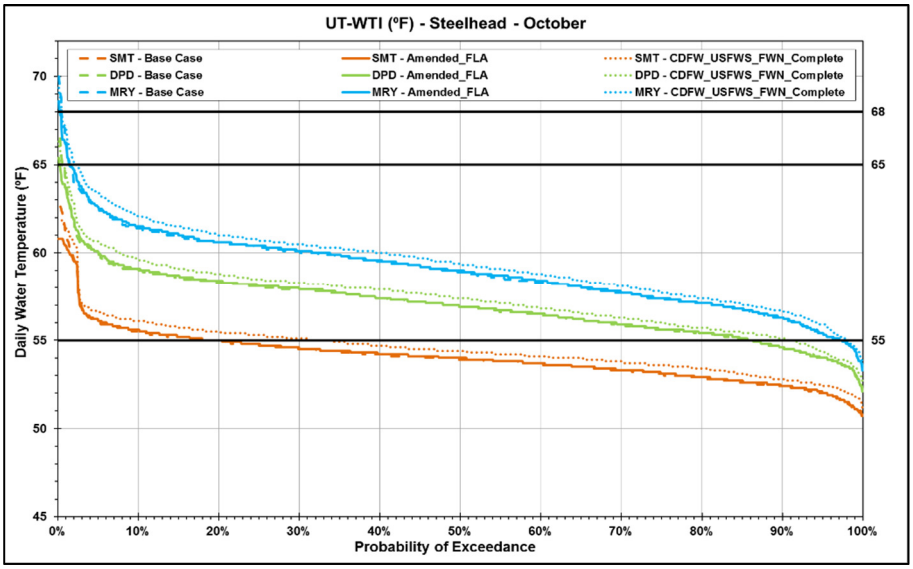
Probability of Exceedance


UT-WTI (°F) - Steelhead - October
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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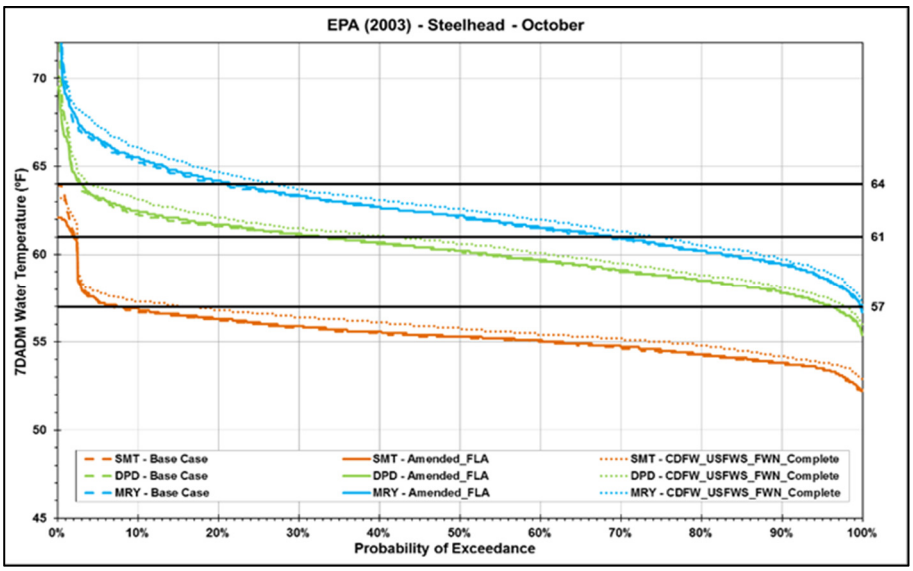
Probability of Exceedance


EPA (2003) - Steelhead - October
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (°F)
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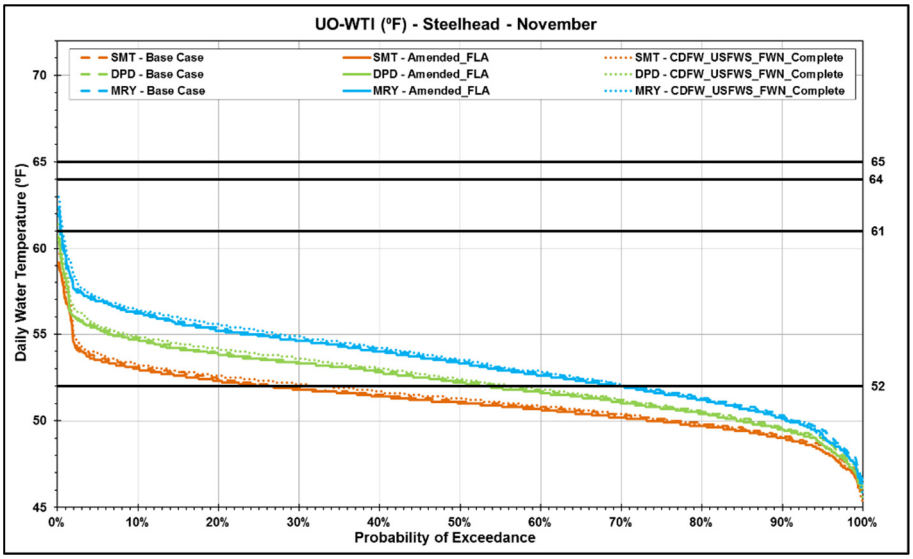
Probability of Exceedance


UO-WTI (ºF) - Steelhead - November
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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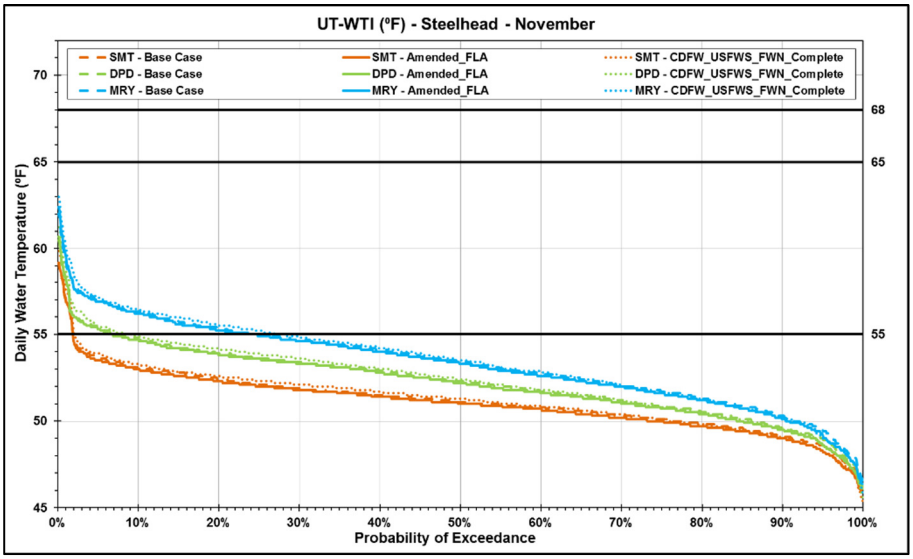
Probability of Exceedance


UT-WTI (ºF) - Steelhead - November
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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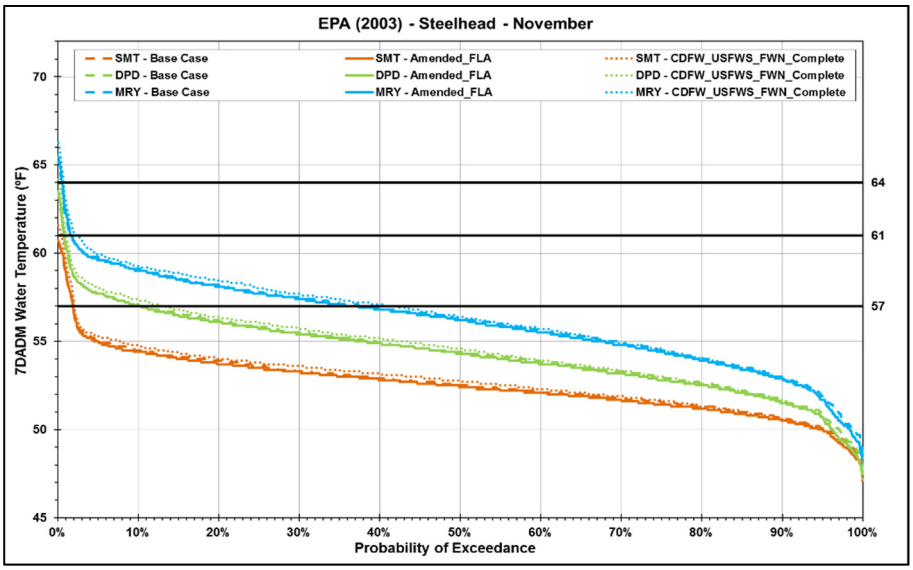
Probability of Exceedance


EPA (2003) - Steelhead - November
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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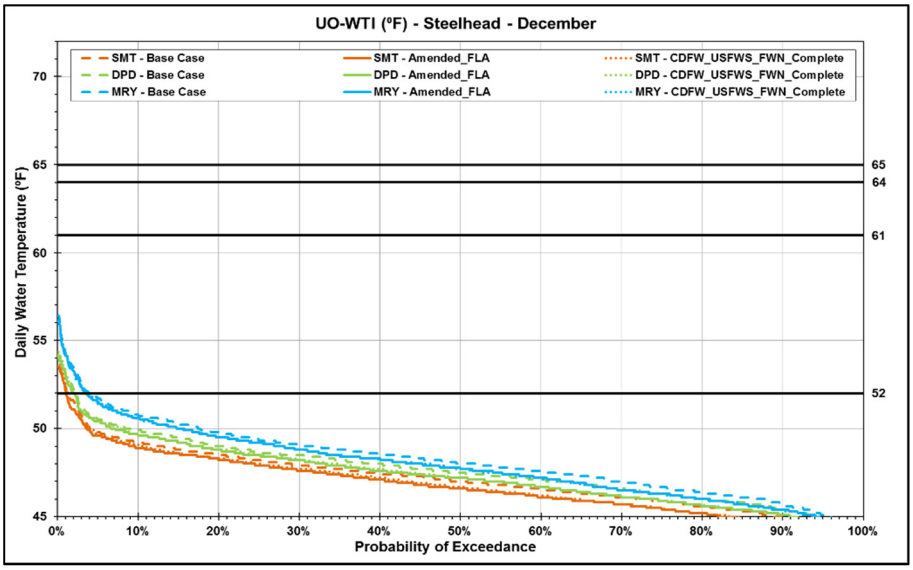
Probability of Exceedance


UO-WTI (ºF) - Steelhead - December
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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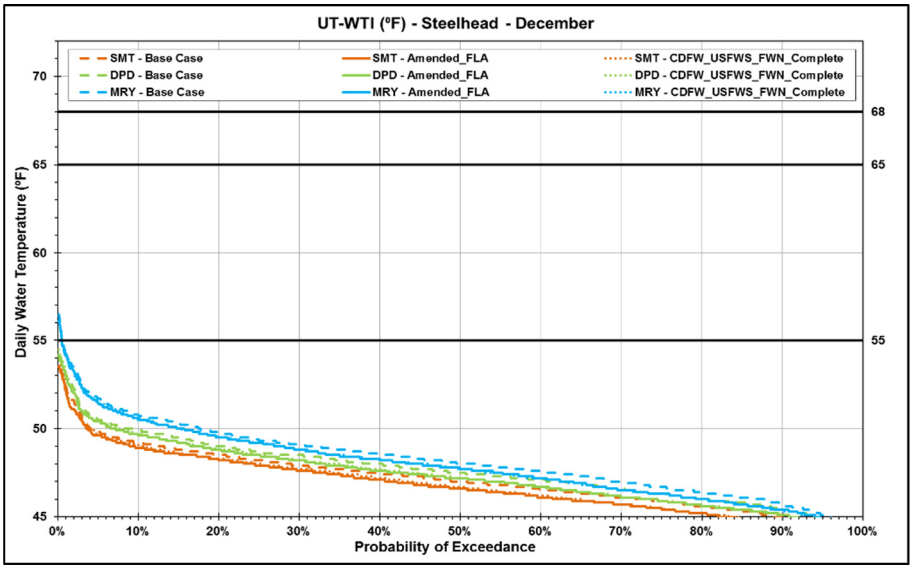
Probability of Exceedance


UT-WTI (ºF) - Steelhead - December
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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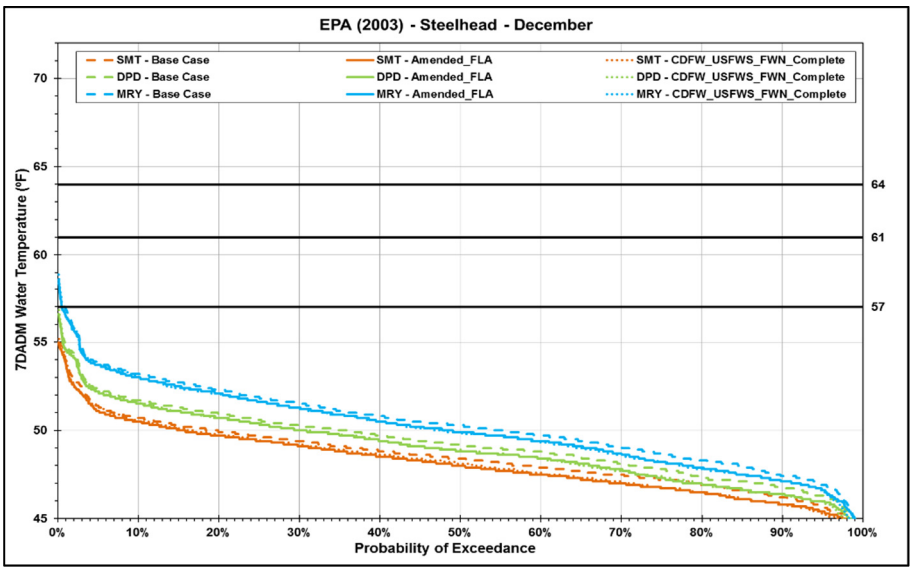
Probability of Exceedance


EPA (2003) - Steelhead - December
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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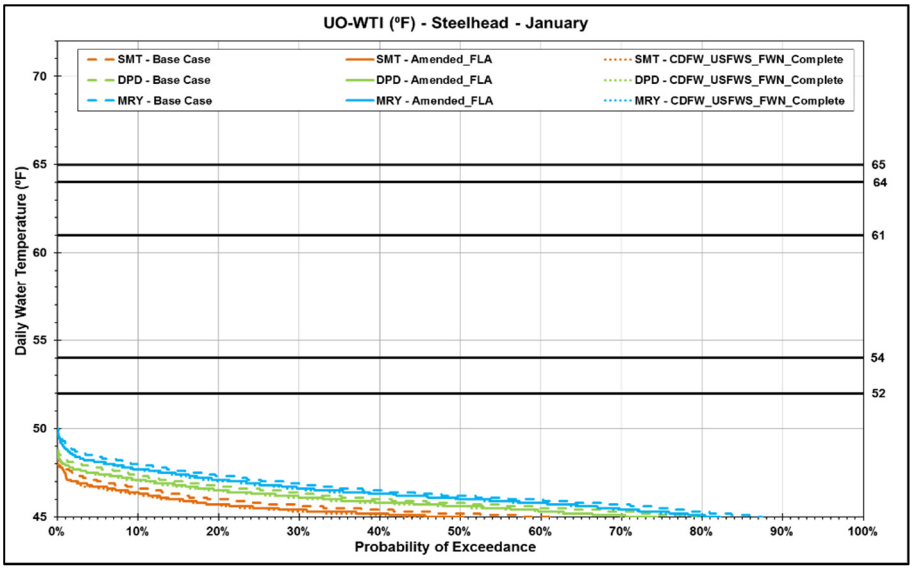
Probability of Exceedance


UO-WTI (ºF) - Steelhead - January
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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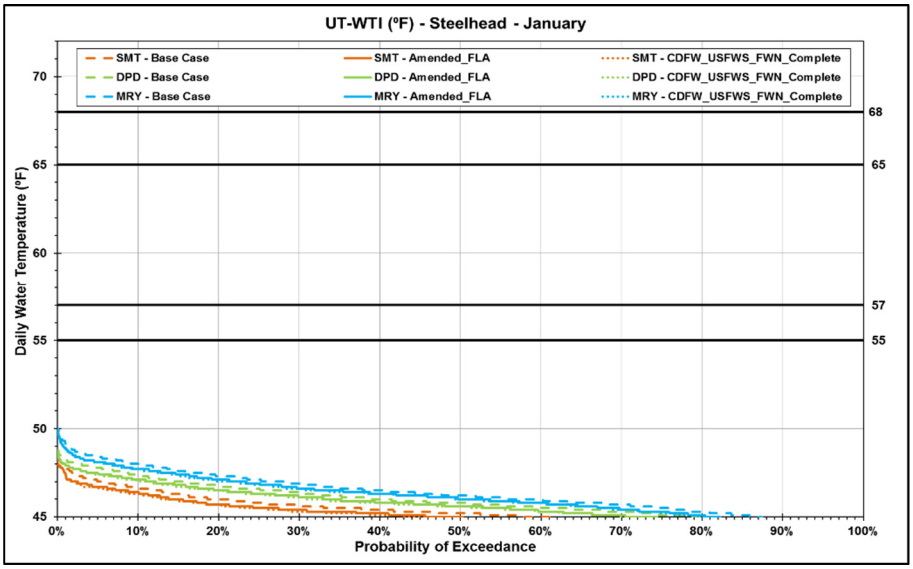
Probability of Exceedance


UT-WTI (ºF) - Steelhead - January
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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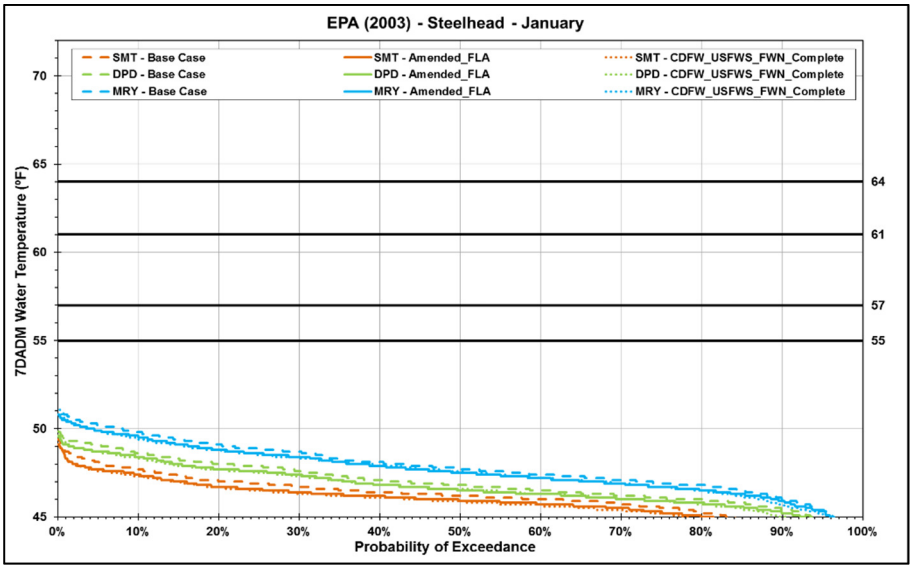
Probability of Exceedance


EPA (2003) - Steelhead - January
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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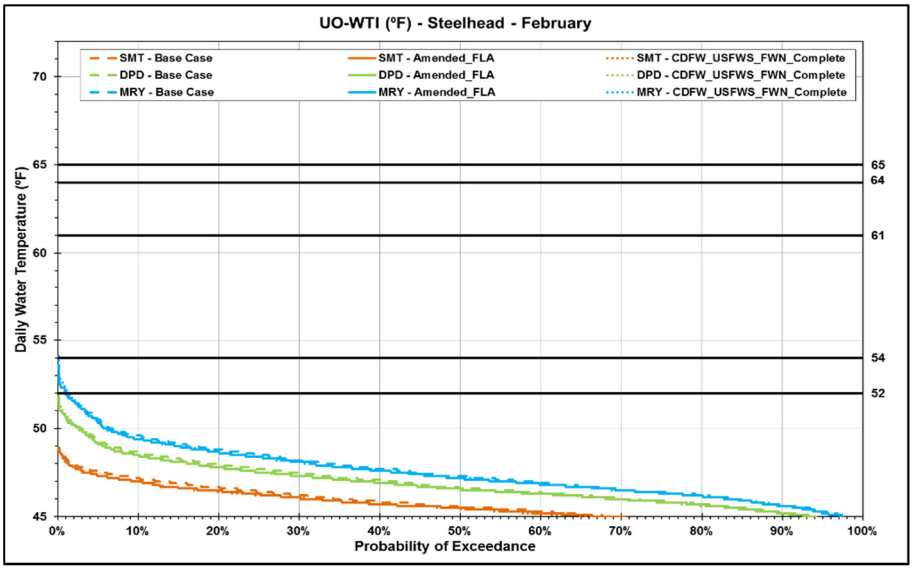
Probability of Exceedance


UO-WTI (ºF) - Steelhead - February
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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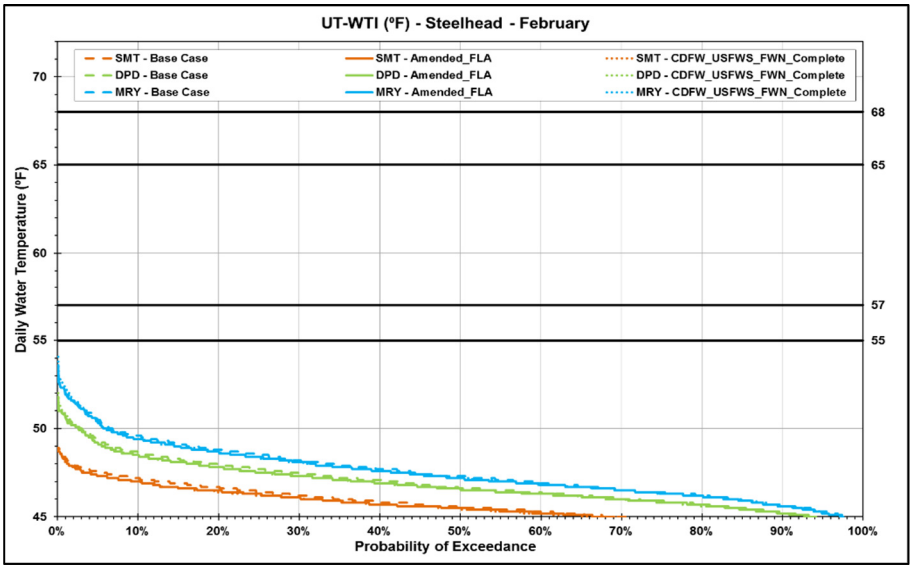
Probability of Exceedance


UT-WTI (ºF) - Steelhead - February
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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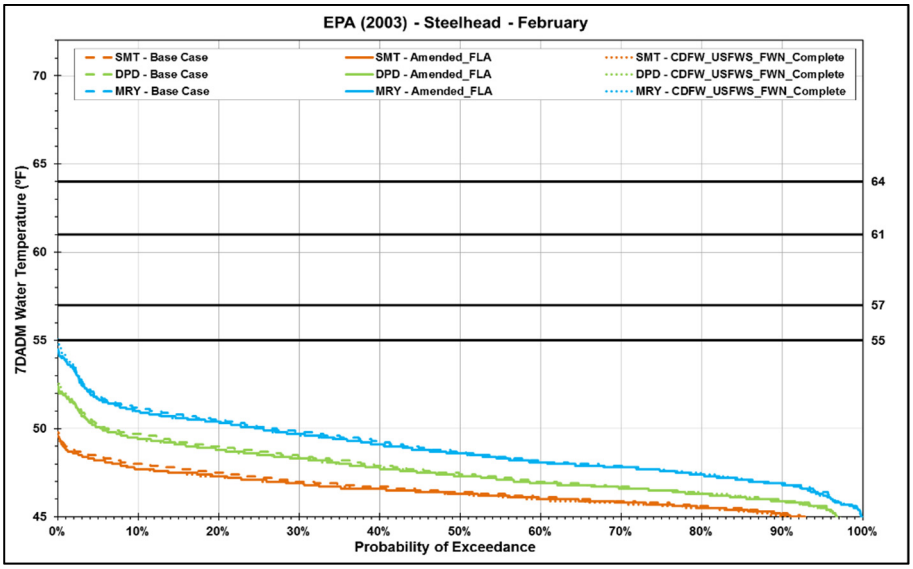
Probability of Exceedance


EPA (2003) - Steelhead - February
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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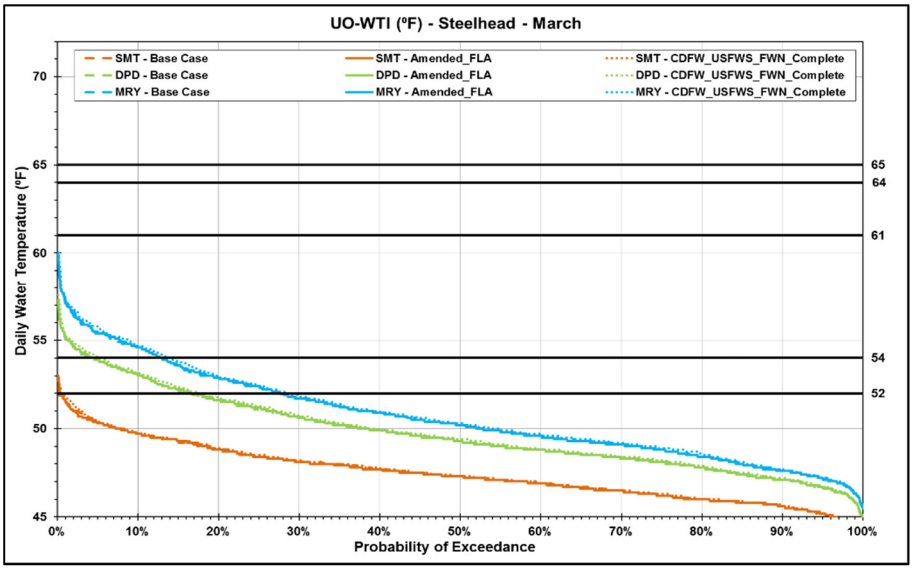
Probability of Exceedance


UO-WTI (ºF) - Steelhead - March
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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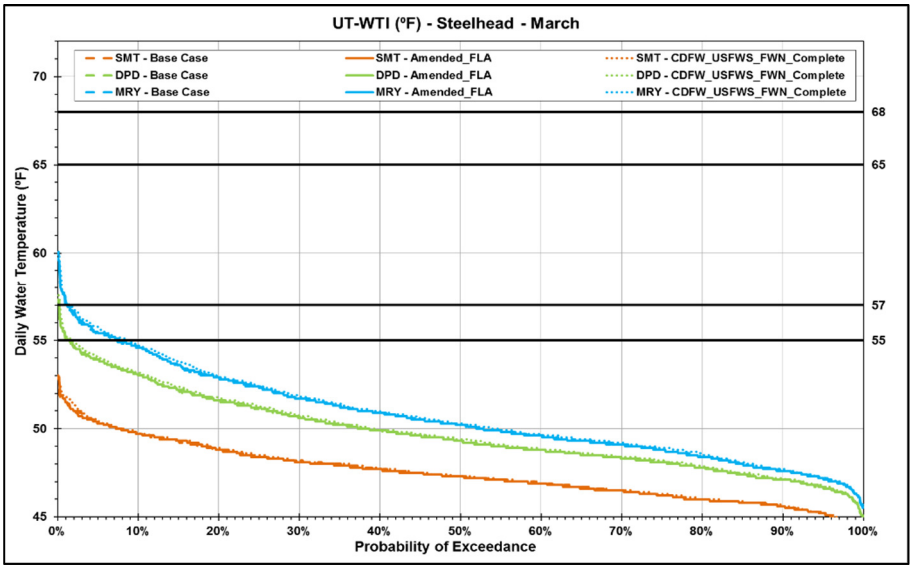
Probability of Exceedance


UT-WTI (ºF) - Steelhead - March
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (ºF)
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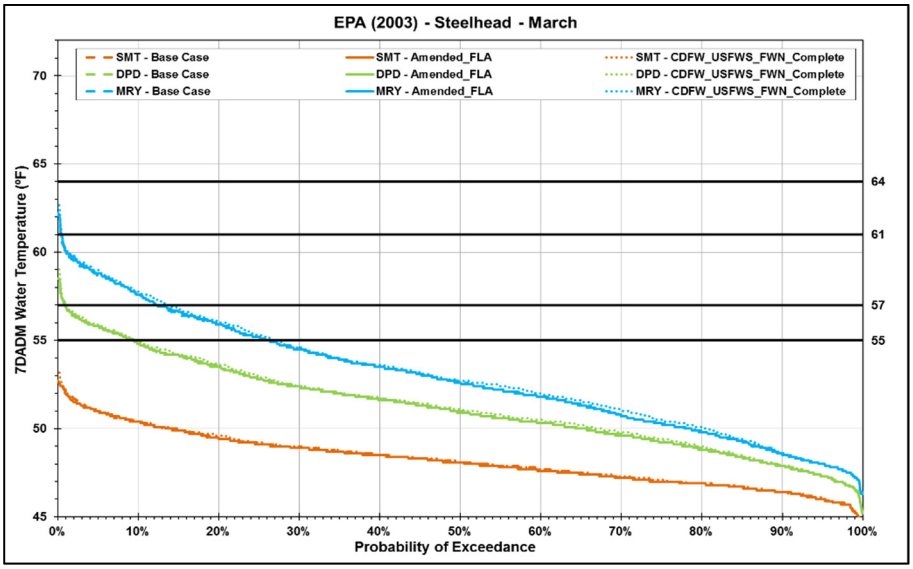
Probability of Exceedance


EPA (2003) - Steelhead - March
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (ºF)
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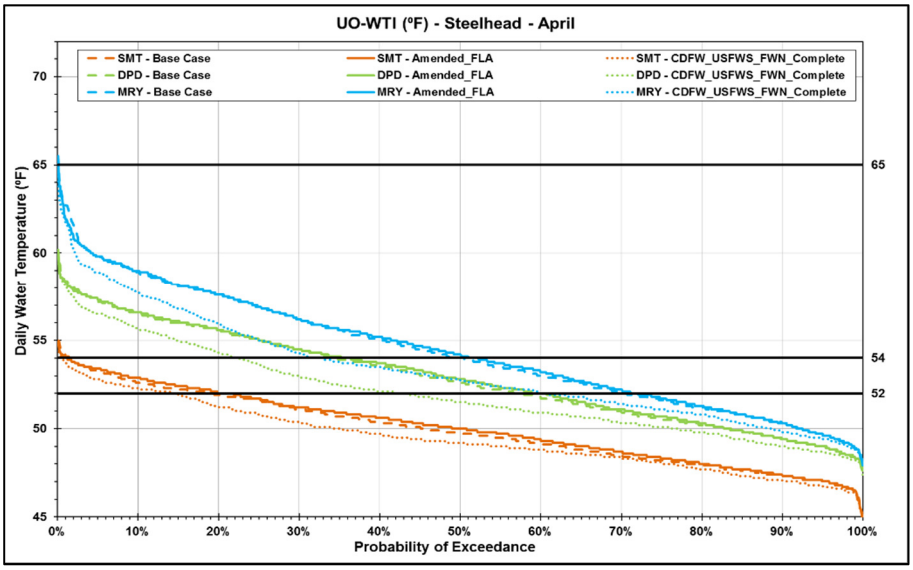
Probability of Exceedance


UO-WTI (°F) - Steelhead - April
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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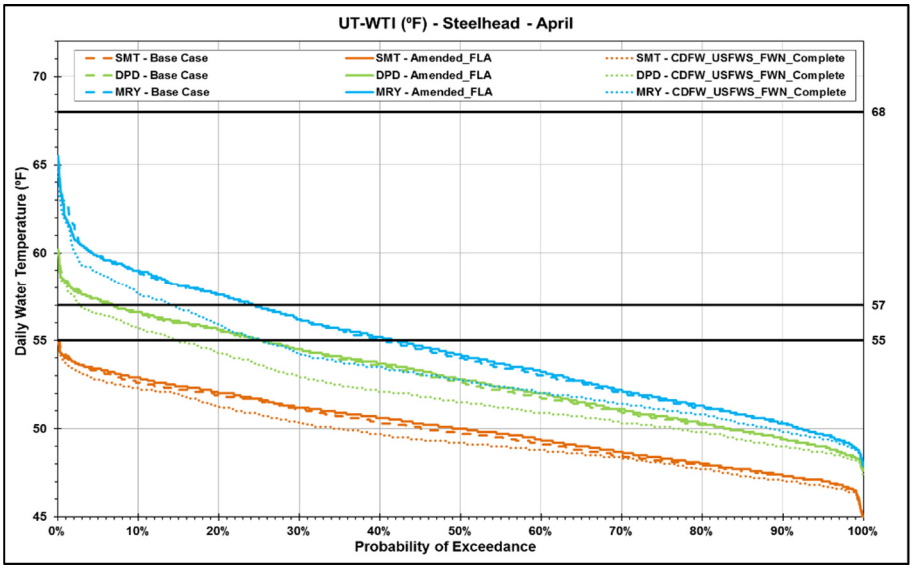
Probability of Exceedance


UT-WTI (°F) - Steelhead - April
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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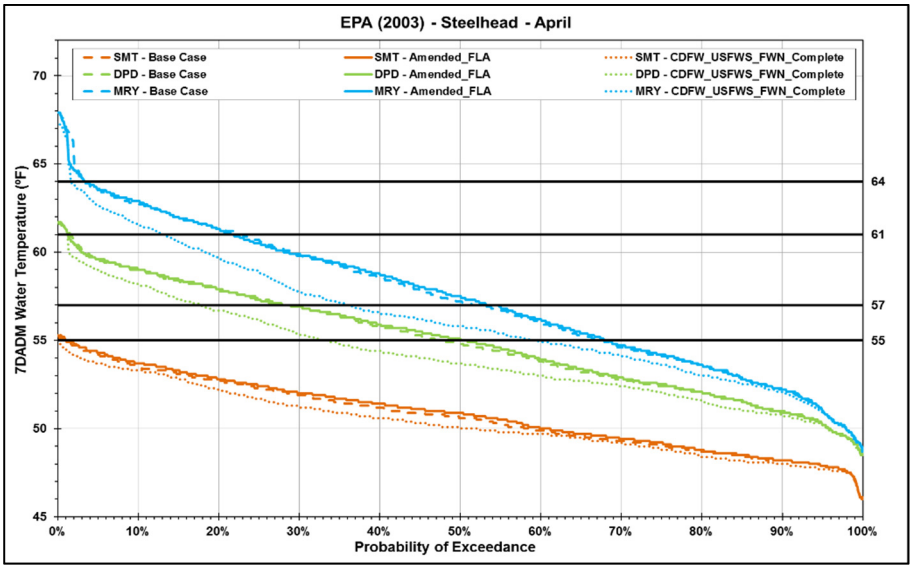
Probability of Exceedance


EPA (2003) - Steelhead - April
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (°F)
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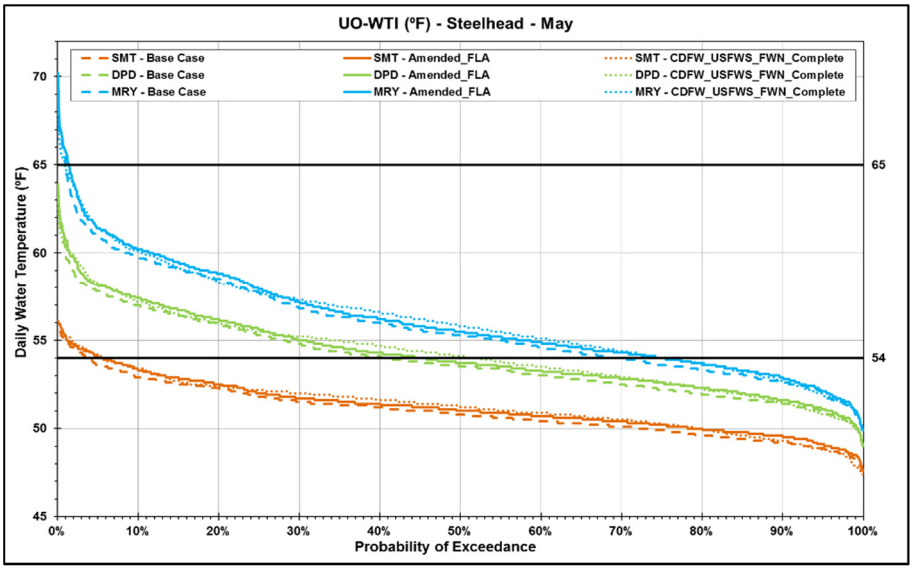
Probability of Exceedance


UO-WTI (°F) - Steelhead - May
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
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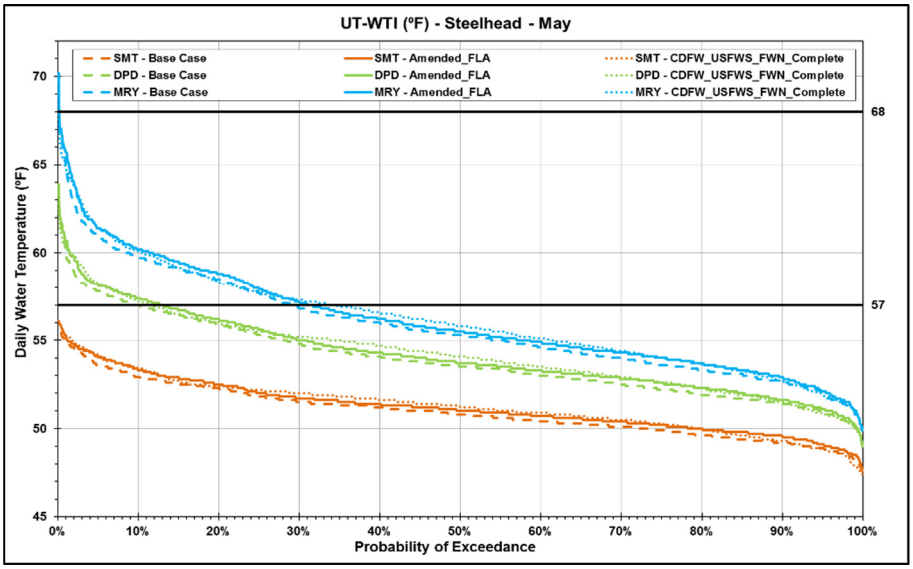
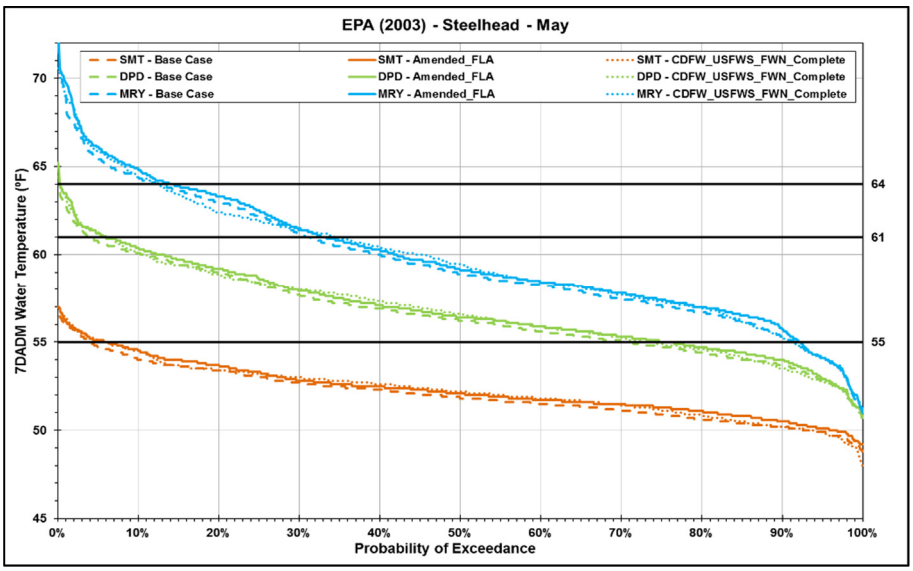
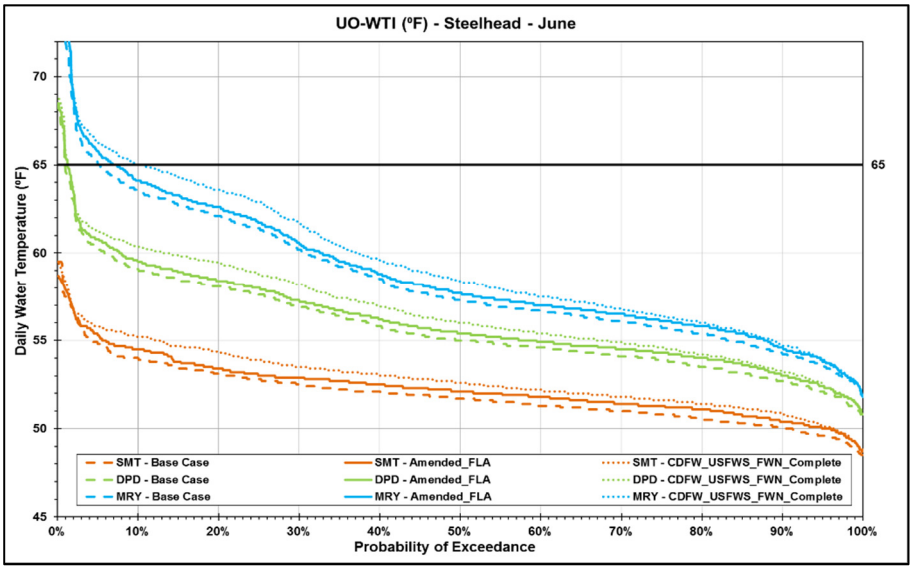
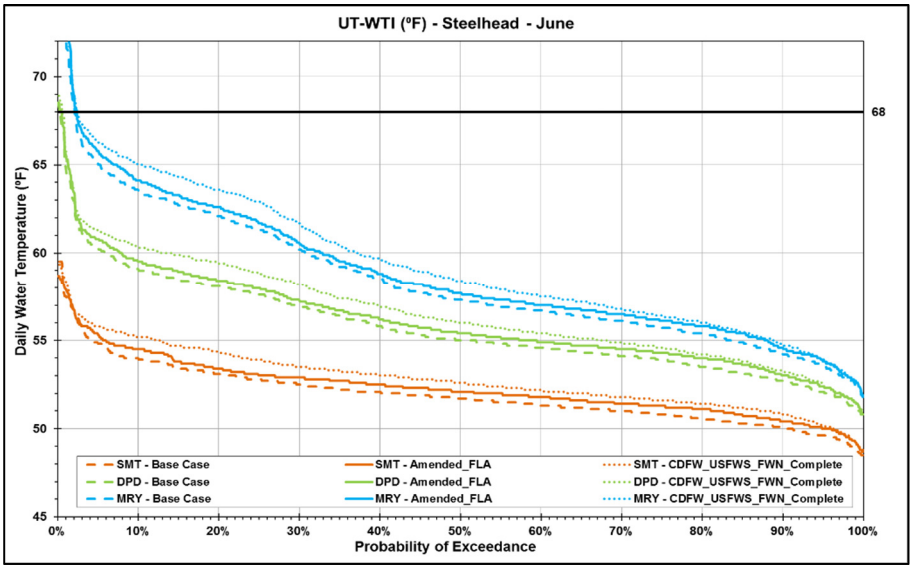
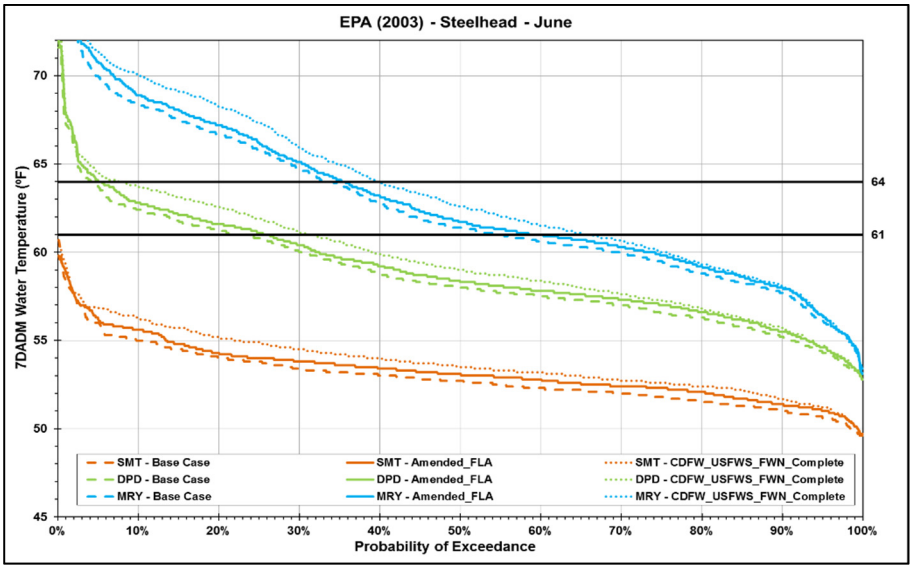
Probability of Exceedance

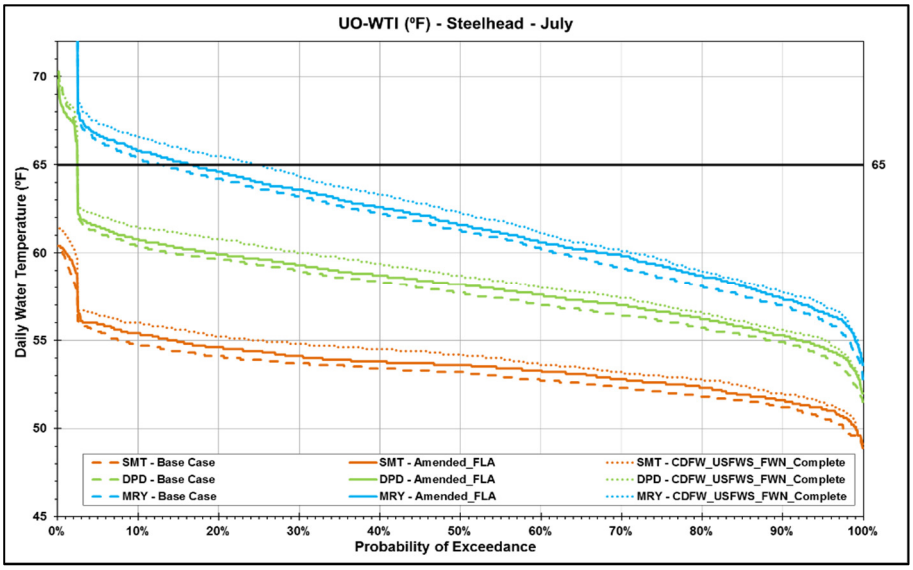

UT-WTI (°F) - Steelhead - May
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
Daily Water Temperature (°F)
70
65
60
55
50
45
68
57
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Probability of Exceedance

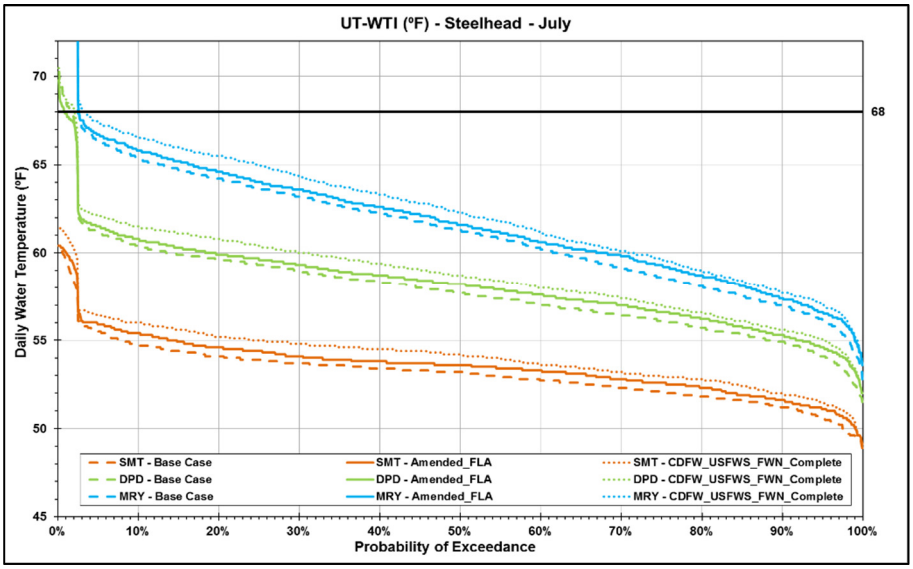

EPA (2003) - Steelhead - May
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete
7DADM Water Temperature (°F)
70
65
60
55
50
45
64
61
55
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Probability of Exceedance

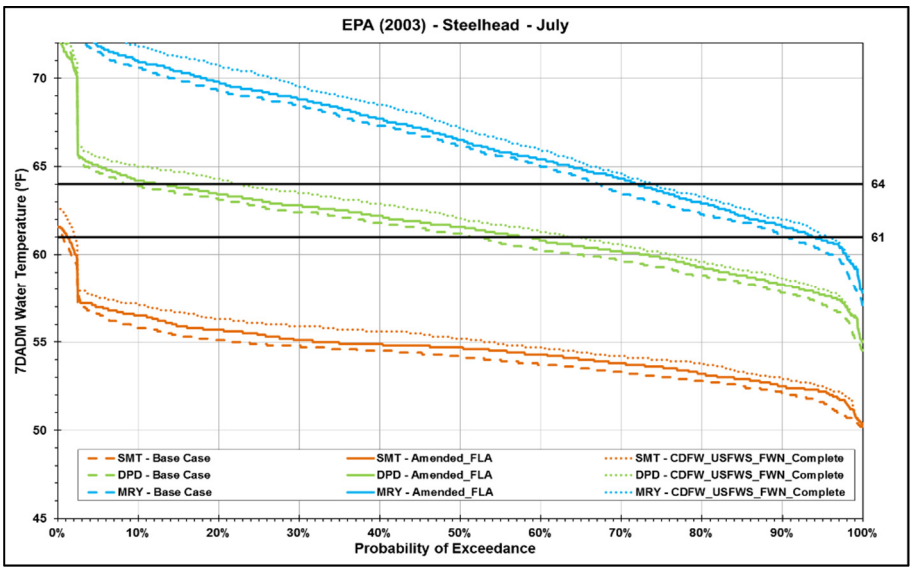

UO-WTI (°F) - Steelhead - June
Daily Water Temperature (°F)
70
65
60
55
50
45
65
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete

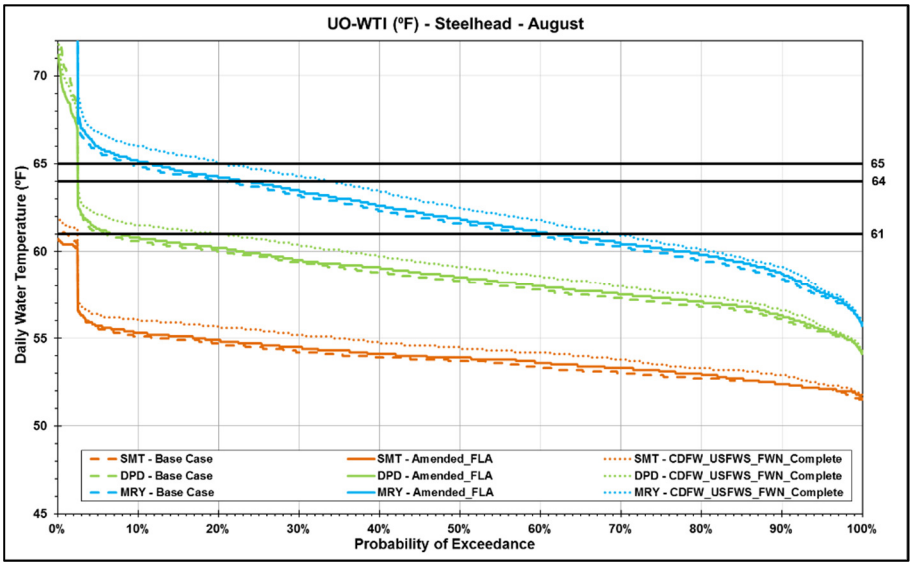

UT-WTI (°F) - Steelhead - June
Daily Water Temperature (°F)
70
65
60
55
50
45
68
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete

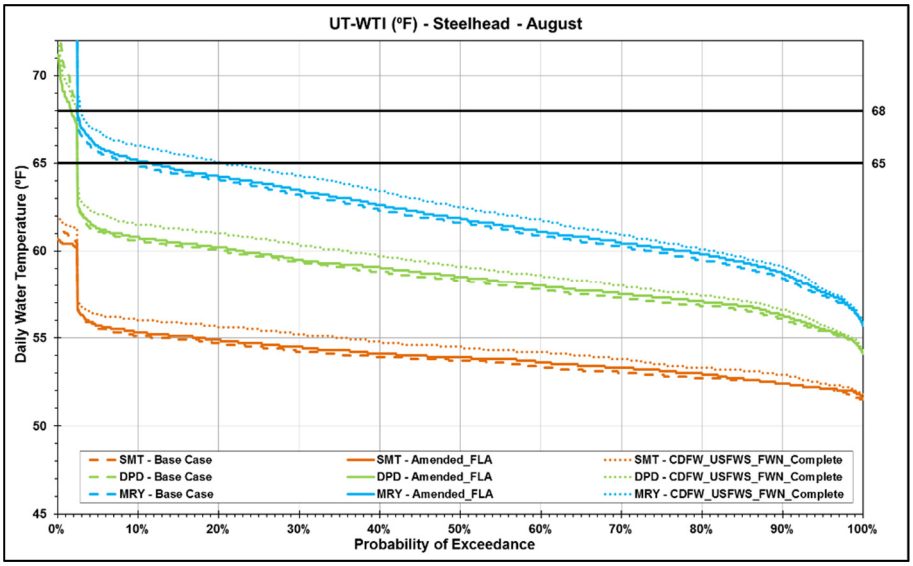

EPA (2003) - Steelhead - June
7DADM Water Temperature (°F)
70
65
60
55
50
45
64
61
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete

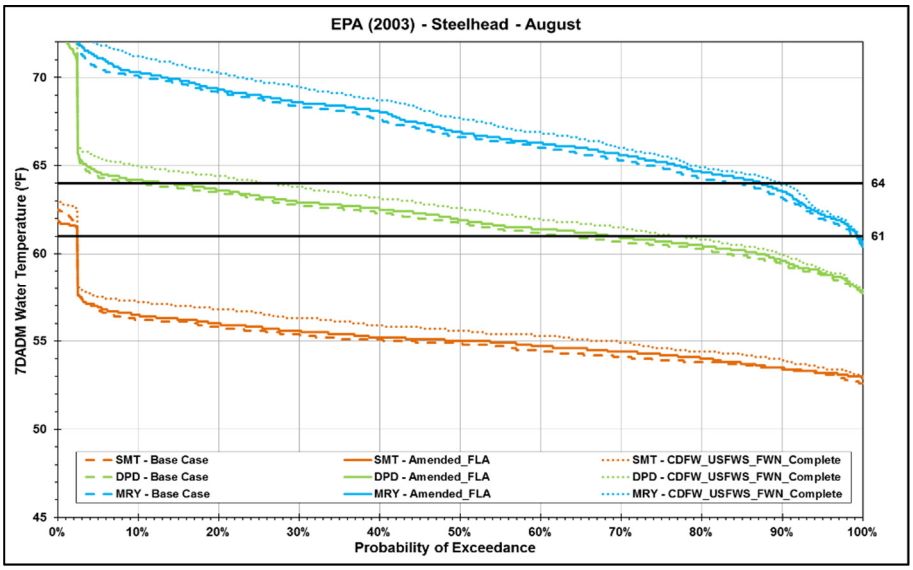

UO-WTI (°F) - Steelhead - July
Daily Water Temperature (°F)
70
65
60
55
50
45
65
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Probability of Exceedance
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete

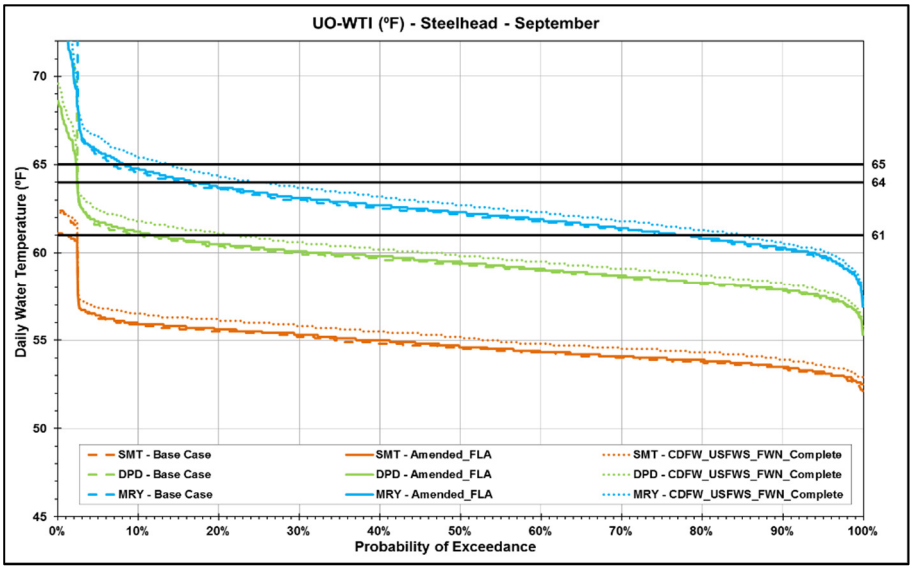

UT-WTI (°F) - Steelhead - July
Daily Water Temperature (°F)
70
65
60
55
50
45
68
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Probability of Exceedance
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Steelhead - July
7DADM Water Temperature (°F)
70
65
60
55
50
45
64
61
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Probability of Exceedance
SMT - Base Case
DPD - Base Case
MRY - Base Case
SMT - Amended_FLA
DPD - Amended_FLA
MRY - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - CDFW_USFWS_FWN_Complete
MRY - CDFW_USFWS_FWN_Complete


UO-WTI (ºF) - Steelhead - August
Daily Water Temperature (ºF)
Probability of Exceedance
65
64
61
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (ºF) - Steelhead - August
Daily Water Temperature (ºF)
Probability of Exceedance
68
65
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Steelhead - August
7DADM Water Temperature (ºF)
Probability of Exceedance
64
61
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UO-WTI (ºF) - Steelhead - September
Daily Water Temperature (ºF)
70
65
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50%
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80%
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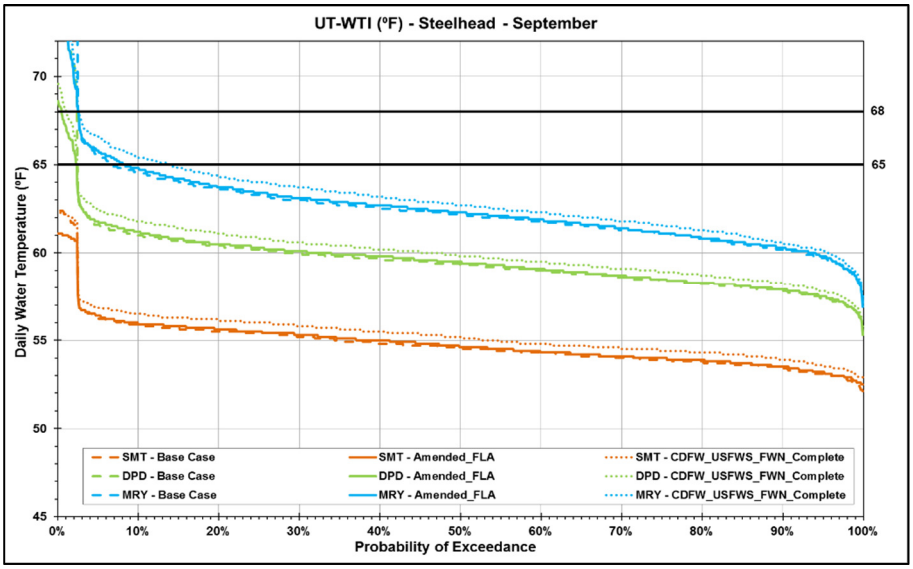
100%
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


UT-WTI (ºF) - Steelhead - September
Daily Water Temperature (ºF)
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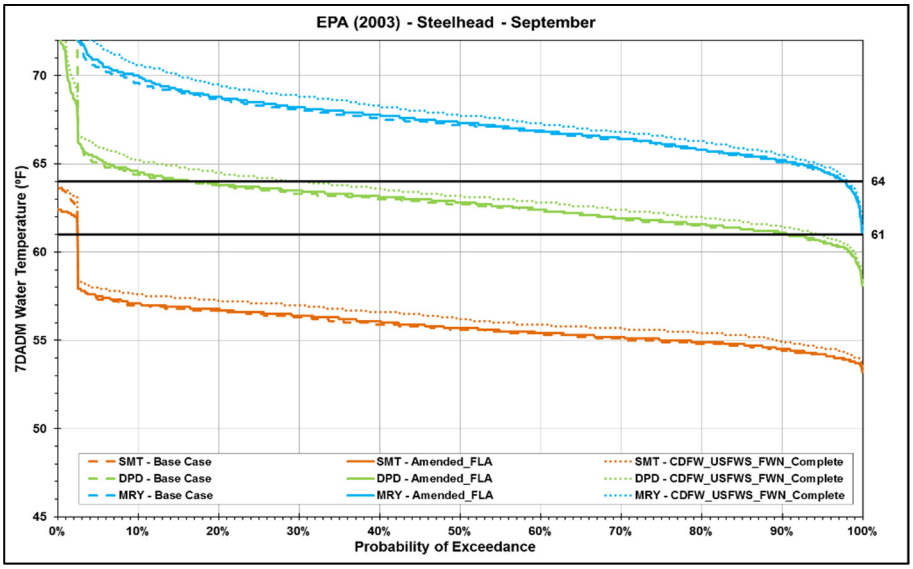
Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete


EPA (2003) - Steelhead - September
7DADM Water Temperature (ºF)
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Probability of Exceedance
SMT - Base Case
SMT - Amended_FLA
SMT - CDFW_USFWS_FWN_Complete
DPD - Base Case
DPD - Amended_FLA
DPD - CDFW_USFWS_FWN_Complete
MRY - Base Case
MRY - Amended_FLA
MRY - CDFW_USFWS_FWN_Complete