

WSIP Data and Information Summary Table: Water Quality Priorities 1-5 (Water Bodies Not Meeting Standards)				
<p>Priorities 1-5 (summarized): Improve conditions in surface water bodies that are not meeting water quality standards for: (1) temperature; (2) dissolved oxygen; (3) nutrients; (4) mercury; and/or (5) salinity conditions (as described in Priority 5).</p> <p>Instructions: This table must be used for projects claiming water quality priorities 1-5 (identified below). Please check the claimed priority and provide REV responses (data and information) below, as appropriate. Descriptions and clarifying information should provide the rationale for the claimed improvements (e.g., how the values were determined, etc.).</p> <p><i>If the project claims more than one of the priorities below, please complete this table separately for each claimed priority.</i></p>				
Check (x) the claimed priority being addressed by this table (check only one per table):				
Priority 1: Temperature	Priority 2: Dissolved Oxygen	Priority 3: Nutrients	Priority 4: Mercury	Priority 5: Salinity
X				
<p>For the priority checked above, please respond to the following requests for data and information by filling in the fields below. Attach up to three (3) additional pages if more space is needed.</p>				
<p>Describe how the project would improve conditions in surface water bodies or surface water body segments that are not meeting water quality standards for the parameter or constituent selected above.</p>				
<p>The project would increase coldwater pool storage in Shasta Lake, Lake Oroville, and Folsom Lake and improve temperatures in the Sacramento and American Rivers during certain months at specific compliance points, particularly in Below Normal, Dry, and Critical water years. Temperature benefits provided with the project would assist to achieve compliance with 56°F water quality standard in September during critical water years for the Sacramento River below Keswick and Sacramento River at Red Bluff, in August during critical water years in the Sacramento River at Bonny view, and in August during dry water years at Balls Ferry.</p> <p>Refer to Sites_A2 Documentation WQ Priority 1 “WSIP Data and Information Summary Table: Water Quality Priorities 1 – Temperature” for a summary of temperatures modeling results, uploaded under the PHYSICAL PUBLIC BENEFITS TAB.</p>				
<p>Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).</p>			<p>Application Reference: Sites_A2 Documentation WQ Priority 1, “WSIP Data and Information Summary Table: Water Quality Priorities 1 – Temperature” uploaded under the PHYSICAL PUBLIC BENEFITS TAB.</p>	
<p>Applicable water quality standards* for surface water bodies that would be improved by the project:</p>				
Surface Water Body Name (by segment as applicable)	Time Period (days/months in year when standard applies)	Water Quality Standard Value and Unit	Source Citation	
Sacramento River – Shasta Dam	Daily	56°F	SWRCB Orders 90-5 and 91-1	
Keswick Dam to Hamilton City	Daily	56°F	Central Valley Regional Water Quality Control Board Basin Plan	
Hamilton City to the I Street Bridge	Daily	68°F	Central Valley Regional Water Quality Control Board Basin Plan	
Sacramento River at Clear Creek		57°F	2015 Final Sacramento River Temperature Management Plan	
Sacramento River - Balls Ferry Bridge to Bend Bridge	May 15 – October 31	56°F	2009 NMFS BO	
Sacramento River – Red Bluff Diversion Dam	-	56°F	SWRCB Orders 90-5 and 91-1	
Trinity River – Lewiston Dam to Douglas City Bridge	July 1 – September 14	60°F	North Coast Regional Water Quality Control Board Basin Plan	
Trinity River – Lewiston Dam to Douglas City Bridge	September 15 – October 1	56°F	North Coast Regional Water Quality Control Board Basin Plan	
Trinity River – Lewiston Dam to Douglas City Bridge	October 1 – December 31	56°F	North Coast Regional Water Quality Control Board Basin Plan	
American River – Watt Ave	Daily	68°F	2009 NMFS BO	
<p>*For the purpose of this table, water quality standards means numeric or narrative water quality objectives in water quality control plans adopted by the California State and Regional Water Boards, and water quality criteria promulgated by the USEPA for California under Clean Water Act section 303(c) (e.g., California Toxics Rule).</p>				

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REV 2: Magnitude			
Provide the parameter or constituent values (including units) for each surface water body or surface water body segment that would be improved by the project in the following table. Indicate any time periods associated with applicable water quality standards.			
Surface Water Body Name (by segment as applicable)	Current Condition**	Expected Without- Project Condition 2030	Expected With- Project Condition 2030
Trinity River below Lewiston (July-Sept Avg.) - Critical	53.7°F	53.8°F	53.5°F
Sacramento River – Below Keswick (July-Sept Avg.) - Dry	52.0°F	53.3°F	53.2°F
Sacramento River – Below Keswick (July-Sept Avg.) - Critical	54.1°F	55.6°F	54.9°F
Sacramento River – Bonnyview (July-Sept Avg.)***	52.5°F	53.6°F	53.6°F
Sacramento River – Bonnyview (July-Sept Avg.) - Dry	52.9°F	54.3°F	54.1°F
Sacramento River – Bonnyview (July-Sept Avg.) - Critical	55.1°F	56.5°F	55.9°F
Sacramento River – Balls Ferry (July-Sept Avg.)***	54.1°F	55.2°F	55.2°F
Sacramento River – Balls Ferry (July-Sept Avg.) - Dry	54.5°F	56.0°F	55.7°F
Sacramento River – Balls Ferry (July-Sept Avg.) - Critical	56.6°F	58.1°F	57.5°F
Sacramento River – Jelly’s Ferry (July-Sept Avg.)***	55.4°F	56.6°F	56.5°F
Sacramento River – Jelly’s Ferry (July-Sept Avg.) - Dry	55.8°F	57.3°F	57.0°F
Sacramento River – Jelly’s Ferry (July-Sept Avg.) - Critical	57.9°F	59.4°F	58.8°F
Sacramento River – Bend Bridge (July-Sept Avg.)***	56.5°F	57.6°F	57.6°F
Sacramento River – Bend Bridge (July-Sept Avg.) - Dry	56.9°F	58.5°F	58.1°F
Sacramento River – Bend Bridge (July-Sept Avg.) - Critical	58.9°F	60.3°F	59.7°F
Sacramento River – Red Bluff (July-Sept Avg.)***	58.1°F	59.3°F	59.1°F
Sacramento River – Red Bluff (July-Sept Avg.) - Dry	58.5°F	59.3°F	59.1°F
Sacramento River – Red Bluff (July-Sept Avg.) - Critical	60.5°F	60.2°F	59.8°F
American River at Nimbus (July-Sept Avg.)***	62.4°F	67.1°F	66.3°F
American River at Nimbus (July-Sept Avg.) - Dry	63.6°F	67.0°F	66.6°F
American River at Nimbus (July-Sept Avg.) - Critical	65.8°F	68.9°F	68.5°F
American River at Watt Ave (July-Sept Avg.)***	68.0°F	70.6°F	69.9°F
American River at Watt Ave (July-Sept Avg.) - Dry	68.1°F	70.7°F	69.9°F
American River at Watt Ave (July-Sept Avg.) - Critical	70.7°F	73.6°F	73.1°F
American River at Mouth (July-Sept Avg.)***	68.4°F	73.1°F	72.6°F
American River at Mouth (July-Sept Avg.) - Dry	70.0°F	73.5°F	73.4°F
American River at Mouth (July-Sept Avg.) - Critical	73.3°F	77.0°F	76.5°F
**For the purpose of this table, “current condition” means conditions measured or estimated at the year of the CEQA Notice of Preparation (NOP) for the project or subsequently revised information used to describe existing conditions.			
***Results presented are a long-term average over the full 82-year simulation period for all water year types.			
Provide additional clarifying information below, as needed.			
See Sites_A1 WQ Priority 1, “WSIP Data and Information Summary Table: Water Quality Priorities 1 –Temperature” for a summary of temperatures modeling results.			
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: Sites_A1 WQ Priority 1, “WSIP Data and Information Summary for Water Quality Priorities 1 – Temperature” uploaded under the ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB. Sites_A6.D Modeling Results Compendium, “Temperature Results WSIP 2030 with Project vs without Project” uploaded under the ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB. Sites_A6.D Modeling Results Compendium, “Performance Measures Scorecard for Sites Reservoir Potential Beneficiaries” uploaded under the ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB. Sites_A6.D Modeling Results Compendium, “Temperature Results DCR 2015 with Project vs DCR 2015 without Project” uploaded under ELIGIBILITY AND GENERAL PROJECT INFORMATION TAB.		

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REV 3: Spatial Scale	
Provide the geographical extent of the improvement for each surface water body or water body segment that would be improved by the project. Attach a map of the improvement area.	
Surface Water Body Name (by segment as applicable)	Geographical Extent Improved in 2030 (e.g., number of river miles improved)
Sacramento River	Approximately 59 river miles of the Sacramento River would be improved with the implementation of the Sites Reservoir Project downstream from Keswick Dam (River Mile 302) to the Red Bluff Diversion Dam (River Mile 243). Figure Water Quality P-1a shows the improvement area for the Sacramento River.
American River	Approximately 30 river miles of the American River would be improved with the implementation of the Sites Reservoir Project downstream from Folsom Dam to the mouth of the American River. Figure Water Quality P-1c shows the improvement area for the American River.
Provide additional clarifying information below, as needed.	
See Sites_A2 WQ Maps, Figures P-1a and P-1b for temperature maps depicting the potential area of improvement.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, map number, etc.).	Application Reference: See Sites_A1 WQ Priority 1, "WSIP Data and Information Summary Table: Water Quality Priorities 1 –Temperature" uploaded under the PHYSICAL PUBLIC BENEFITS TAB.
REV 4: Temporal Scale	
Provide the time period(s) during the year (days or months) when the water quality improvement would occur for each surface water body or water body segment that would be improved by the project:	
Surface Water Body Name (by segment as applicable)	Expected Time Period Provided by Project in 2030
Sacramento River – Below Keswick	July through September
Sacramento River – Bonnyview	July through November
Sacramento River – Balls Ferry	July through November
Sacramento River – Jelly's Ferry	July through November
Sacramento River – Bend Bridge	July through November
Sacramento River – Red Bluff	August through November
Trinity River below Lewiston	July through September
American River at Nimbus	April through September
American River at Watt Ave	April through September
American River at Mouth	April through September
The expected time period provided by Project in 2030 is dependent upon water year type. See Sites_A1 WQ Priority 1, "WSIP Data and Information Summary Table: Water Quality Priorities 1 –Temperature" for a summary of temperatures modeling results.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: See Sites_A1 WQ Priority 1, "WSIP Data and Information Summary Table: Water Quality Priorities 1 –Temperature" uploaded under the PHYSICAL PUBLIC BENEFITS TAB.
REV 5: Adaptive Management	
Describe the adaptive management and monitoring strategies for the claimed priority (e.g., potential management or corrective actions that could be taken if monitoring results fall outside of the range of expected values or if claimed improvements are not being achieved by the project). Include the potential measurable objectives, performance measures, thresholds, and triggers to monitor project performance and achievement of improvements.	
The Adaptive Management and Monitoring Framework for the project has been developed to identify measurable objectives, performance measures, thresholds, and triggers to meet operational objectives and desired ecosystem benefits. A monitoring program would also be implemented to collect data necessary to operate and evaluate the Project's success. As part of proposed monitoring, temperature data would be collected. Monitoring efforts would be guided by the specific Sites Project objectives and desired outcomes and would focus on the most informative, efficient, and cost-effective indicators and methods. Temperature operational triggers would be developed to assist with real-time diversion and release operations. A preliminary Adaptive Management Framework is included as part of Sites_A6.D Modeling Results Compendium uploaded under the ELEGIBILITY AND GENERAL PROJECT INFORMATION TAB. A more detailed plan and decision-making process, including the establishment of temperature specific operational triggers, and performance standards will be developed in future phases of the Sites Project.	
Additional locations in the application where data and relevant supporting	Application Reference:

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information, including attachments, are documented (document name, page number, table number, etc.).	Operations Plan provided in Sites_A2 Operations, uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB. Adaptive Management Framework provided in Sites_A2 Operations uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB.
REV 6: Immediacy of Improvement Action	
Describe when the project would begin implementing actions toward achieving the improvement(s) associated with the claimed priority. Include the number of months expected to elapse between grant encumbrance and project implementation (i.e., completed projected construction and start-up of project element(s) that are expected to achieve the claimed priority). Include specifics by surface water body or water body segment, as appropriate.	
Initial benefits are expected in year 2028 (6 years after grant encumbrance for construction) at a lower level than when the project is complete. Full benefits are expected in 2030 (8 years after grant encumbrance).	
See Sites_A6.D Modeling Results Compendium, "Temperature Results WSIP 2030 With Project vs Without Project" uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB for temperature modeling results.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: See Sites_A6.D Modeling Results Compendium, "Temperature Results WSIP 2030 With Project vs Without Project" uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB.
REV 7: Immediacy of the Realization of Benefits	
Describe when the improvement(s) associated with the claimed priority would be realized by the project. Include the number of months expected to elapse from grant encumbrance to full realization of the improvement (i.e., improvement achieves the claimed magnitude at 2030). Include specifics by surface water body or water body segment, as appropriate.	
Initial benefits are expected in year 2028 (6 years after grant encumbrance for construction) at a lower level than when the project is complete. Full benefits are expected in 2030 (8 years after grant encumbrance).	
See Sites_A6.D Modeling Results Compendium, "Temperature Results WSIP 2030 With Project vs Without Project" uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB for temperature modeling results.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: See Sites_A6.D Modeling Results Compendium, "Temperature Results WSIP 2030 With Project vs Without Project" uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB.
REV 8: Duration	
Describe the duration of the improvement(s) associated with the claimed priority. Include the number of years that the project would deliver the full realization of the improvement (i.e., the claimed magnitude at 2030). Include specifics by surface water body or water body segment, as appropriate.	
The anticipated duration of the improvements is 100 years. Full benefits are expected in 2030. To determine the duration of potential benefits, additional temperatures modeling with and without the project for 2070 was performed. In most instances, the same magnitude and duration of benefits would be provided by the project in 2070; however, without the project temperatures would continue to warm thereby creating a need for increased coldwater releases to meet temperature water quality objectives The temporal scale of benefits in the Sacramento River shifts to June through October in critical water years. In some instances, the temperature benefits provided by coldwater pool conservation increase by 2070. For example, there are additional temperature benefits provided in 2070 for the reach of the Sacramento River above Keswick during August and September in below normal years and in the American River reach from Nimbus to the mouth in November. Additional incidental temperature benefits on the Trinity River below Lewiston would also be realized by 2070.	
See Sites_A6.D Modeling Results Compendium, "Temperature Results WSIP 2070 With Project vs Without Project" uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB for temperature modeling results.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: See Sites_A6.D Modeling Results Compendium, "Temperature Results WSIP 2070 With Project vs Without Project" uploaded under the BENEFIT CALCULATION,

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MONETIZATION, AND RESILIENCY TAB.	
REV 9: Consistency	
Describe how the improvement(s) associated with the claimed priority would be consistent with water quality control plans and water quality control policies. Include specifics by surface water body or water body segment, as appropriate.	
Sites Project reservoir operations providing temperature benefits would be consistent with applicable water quality control plans and policies. In certain months and water year types, Sites operations would also assist in achieving with water quality temperature standards in reaches of the Sacramento River that currently exceed standards in summer months during dry and critically dry water years.	
As discussed in the Operations Plan, the Sites JPA will work with Reclamation and DWR to account for its water within the CVP and SWP conveyance systems and coordinate its releases from reservoirs to meet Sites water user allocations while providing claimed benefits. Reclamation in cooperation with the Sites JPA will also work with the NMFS, USFWS and CDFW to allow Sites project water to be conveyed in the later summer and fall to Sites project customers, potentially across the Delta, under the current Biological Opinions as has been done for early summer water held for cold water pool purposes in the past. The effects of the conveyance of Sites water across the Delta would also be included in the project description in any SWP/CVP re-consultation process under the Federal Endangered Species Act.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: Operations Plan provided in See Sites_A2 Operations, uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB
REV 10: Connectivity	
Describe, if applicable, how the project would restore or create a hydrologic connection, as a result of water quality improvement(s), to areas that support beneficial uses of water or are being managed for water quality. If multiple connections are restored or created, include specifics by location.	
N/A	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference:
REV 11: Resilience to Climate Change at 2030	
Describe how the climate risk factors, identified in the General Application Questions for water quality priorities, were considered as part of the project siting and design for the claimed priority. Explain why any identified risk factors are not applicable.	
Various modeling scenarios were run to allow evaluation of how the benefits of the project can be sustained under potential future climate risk factors, including temperature changes. Results demonstrate that Sites Reservoir will provide operational flexibility to sustain both public and private temperature benefits under a range of climate change scenarios, including severe extended droughts. See Sites_A1 WQ Priority 1, "WSIP Data and Information Summary Table: Water Quality Priorities 1 – Temperature" and "Sites Reservoir Project Sources of Uncertainty Analysis," Sites_A12 Uncertainty, uploaded under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: See Sites_A1 WQ Priority 1, "WSIP Data and Information Summary for Water Quality Priorities 1 –Temperature" uploaded under the PHYSICAL PUBLIC BENEFITS TAB.
REV 12: Undesirable Groundwater Results Corrected	
Not applicable because Priorities 1-5 only apply to surface water bodies.	