

WSIP Data and Information Summary Table: Water Quality Priority 7 (Delta Tributary Flows)			
<p>Priority 7: Achieve Delta tributary stream flows that resemble natural hydrograph patterns or other flow regimes that have been demonstrated to improve conditions for aquatic life.</p> <p>Instructions: This table must be used for projects claiming water quality priority 7. Descriptions and clarifying information should provide the rationale for the claimed improvements (e.g., how the values were determined, etc.). Attach up to three (3) additional pages if more space is needed.</p>			
<p>Describe how the project would be designed and operated in a manner that resembles natural (unimpaired) hydrographs patterns or other flow regimes that have been demonstrated to improve conditions for aquatic life (e.g., native species and their habitats).</p>			
<p>The Cache Slough area receives water from the Yolo Bypass. It is the only place in the Delta estuary where the Delta smelt population has recently increased. The goal for this operation of the Sites Reservoir Project is to benefit Delta smelt in the lower Cache Slough and lower Sacramento River areas by delivering water through the Yolo Bypass in the late summer and early fall. This flow regime is intended to increase the desirable food sources which should help improve Delta smelt growth and condition as they mature into adults, thereby increasing Delta smelt abundance over time. The key is to push water with a high population of phytoplankton and zooplankton directly into an area of good Delta smelt habitat, where additional production may occur.</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 Operations under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB</p>	
<p>Applicable water quality standards* for Delta tributary flows that would be improved by the project:</p>			
Tributary to the Delta (by segment as appropriate)	Time Period (days/months in year when standard applies)	Water Quality Standard Value and Unit	Source Citation
Rio Vista	September – December (minimum monthly average)	3,000 – 4,500 cfs	
<p>*For the purpose of this table, water quality standards means the water quality objectives for river flows and Delta outflow in the California State Water Board’s Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (2006).</p>			
<p>REV 2: Magnitude</p>			
<p>Provide flow values (cfs) for each tributary to the Delta that would be improved by the project:</p>			
Tributary to the Delta (by segment as appropriate)	Current Condition**	Without-Project Flow Condition in 2030	With-Project Flow Condition in 2030
Yolo Bypass (August – October)	15 TAF	24 TAF	64 TAF
<p>**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.</p>			
<p>Provide additional clarifying information below, as needed.</p>			
<p>The concept is that 2 pulses of flow of at least 400 cfs each over a 2–3 week period would be made into the Yolo Bypass via the Colusa basin drain past the Wallace Weir and Ridge Cut into the Tule Drain and flow through the Toe drain and out to the Sacramento River. With losses, each flow pulse made into the Colusa basin Drain would total about 24 TAF over each 2–3 week period. The flow pulses would be adaptively managed, but it is initially projected as a late summer and early fall release, perhaps in August and September. The release would not occur every year, but in most years a release would be desirable.</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 Operations under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB</p>	
<p>REV 3: Spatial Scale</p>			
<p>Provide the geographical extent of the improvement for each tributary to the Delta that would be improved by the project. Attach a map of the improvement area.</p>			
Tributary to the Delta	Geographical Extent Improved in 2030		

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(by segment as appropriate)	(e.g., number of river miles improved)
Lower Sacramento River	
Provide additional clarifying information below, as needed.	
Benefits to food production would occur in the Cache Slough Complex and into the Lower Sacramento River a little upstream (tidal effects) and below where it enters the Sacramento. Benefits are anticipated at least to the confluence with the San Joaquin River at the tip of Sherman Island.	
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:
REV 4: Temporal Scale	
Provide the time period(s) during the year (days or months) when the improvement would occur for each tributary to the Delta improved by the project:	
Tributary to the Delta (by segment as appropriate)	Expected Time Period Provided by Project in 2030
Lower Sacramento River	August through October
Lower Sacramento River	
Provide additional clarifying information below, as needed.	
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 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.	
Would monitor the amount of water released, nutrients, and phytoplankton/zooplankton. Would rely on existing Delta smelt monitoring programs to track smelt benefits.	
The primary objectives and triggers would be the phytoplankton/zooplankton populations and the Delta smelt population response. Results in August through October time period should be highly reproducible.	
Adaptive measures would include changes in the timing of releases, the duration and magnitude of the pulse, and the magnitude of the pulse (in cfs).	
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_A2 Operations under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB. Emphasis on the Adaptive Management Framework section.
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 Delta tributary, as appropriate.	
Improvement is expected to begin in 2026 with initial pulse through the Colusa Basin Drain (48 months after grant encumbrance). Full scale operations expected in 2030.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference:

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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 Delta tributary, as appropriate.	
Baseline monitoring should begin in 2025. Full realization of improvement (as measured by phytoplankton/zooplankton populations) anticipated in 2030. Benefit occurring in Lower Sacramento River.	
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 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 Delta tributary, as appropriate.	
The duration of the improvement is expected to be 90 years (O&M period for the project per the planning horizon used in the application).	
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 9: Consistency	
Describe how the improvement(s) associated with the claimed priority would be consistent with water quality control plans, water quality control policies, and the Sustainable Groundwater Management Act. Include specifics by Delta tributary, as appropriate.	
Action is consistent with <i>Delta Smelt Resiliency Strategy</i> (California Natural Resources Agency, July, 2016)	
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 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.	
Not applicable	
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.	
The CalSim II model considered temperature change, sea level rise, and changing precipitation. The long-term average increase in flow is estimated at 42 TAF under current conditions, 40 TAF under 2030 conditions, and 38 TAF under 2070 conditions. Flows provided into the Yolo Bypass toe drain would be greatly reduced in critical years with flows of 9 TAF under current conditions, 5 TAF under 2030 conditions, and 13 TAF under 2070 conditions. Deliveries into the toe drain are proposed for above normal, below normal, and dry years.	
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_A12 Uncertainty under the BENEFIT CALCULATION, MONETIZATION, AND RESILIENCY TAB
REV 12: Undesirable Groundwater Results Corrected	
Describe, if applicable, the current groundwater conditions within the claimed project improvement area(s), including, but not limited to: the number of wells present, total pumping values for the basin, current land use, potential and existing beneficial uses, existing water quality values, soil information, geology of the area, and any applicable undesirable results listed at Water	

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Code section 10721(x)(1-6).	
Not applicable	
Describe, if applicable, the expected without-project groundwater conditions in 2030 within the claimed project improvement area, including the factors addressed for current conditions (above).	
Describe, if applicable, the expected with-project groundwater conditions (after project implementation) in 2030 within the claimed project improvement area, including: the factors addressed for current conditions (above); how the project would coordinate with the appropriate GSA; how the project complies with SGMA if a GSA has not yet been assigned; and how the project would improve conditions in a groundwater basin/subbasin where undesirable results (as defined in Water Code 10721(x)(1-6)) caused by extraction have occurred.	
Additional locations in the application where data and relevant supporting information, including attachments, are documented (document name, page number, table number, etc.).	Application Reference: