

**TABLE S-2: KEY PHASE I PRIORITIZATION AND OPTIMIZATION STUDY MILESTONES**

<b>Implementation Schedule</b>	<b>Milestone/Deliverable</b>	<b>Minimum Requirements</b>
6 months from Notice to Comply	Phase I Workplan	<p><i>Workplan to include:</i></p> <ul style="list-style-type: none"> <li>• Detailed P&amp;O Study task descriptions</li> <li>• Cost estimate for each task</li> <li>• Task completion schedule</li> <li>• Stakeholder participation elements</li> </ul>
Within 12 months from Notice to Comply	Phase I Funding & Governance Plan	<p><i>Complete Phase I implementation planning:</i></p> <ul style="list-style-type: none"> <li>• Establish the entity and procedures for governance of the P&amp;O Study</li> <li>• Develop funding plan to complete the P&amp;O Study</li> </ul>
Per Workplan	Special Studies	<p><i>Special Studies to include:</i></p> <ul style="list-style-type: none"> <li>• Groundwater Quality Trace Constituent Study</li> <li>• Recycled Water Imports Study</li> <li>• Stormwater Recharge Master Plan Study</li> <li>• Emerging Technical Updates (every 5 years)</li> </ul>
12 months from Workplan approval and annually thereafter	Annual Progress Report	<p><i>Annual Report to summarize:</i></p> <ul style="list-style-type: none"> <li>• Progress on Workplan execution</li> <li>• Status of Phase I funding and expenditures</li> <li>• Stakeholder participation</li> </ul>
5 years from Notice to Comply	Interim Project Report	<p><i>By Central Valley Hydrologic Region, identify:</i></p> <ul style="list-style-type: none"> <li>• Recommended preferred physical projects with recommended next steps for development</li> <li>• Recommended non-physical projects and a schedule for implementation</li> </ul>
9 years from Notice to Comply	Long-term Governance Plan for Phases II and III	<p><i>Governance Plan that establishes:</i></p> <ul style="list-style-type: none"> <li>• Describes planned implementation approach for Phases II &amp; III</li> <li>• Governance structure including: <ul style="list-style-type: none"> <li>– Stakeholder roles and responsibilities</li> <li>– Committees responsible for development of policies, technical documents, BMPs and funding</li> </ul> </li> </ul>
	Long-term Funding Plan for Phases II and III	<p><i>Funding Plan that establishes:</i></p> <ul style="list-style-type: none"> <li>• Financial approach for long-term funding including sources and funding types (grants, bonds, loans, etc.)</li> <li>• Approach for the equitable management and funding of long-term, large-scale salinity management projects</li> </ul>
	Basin Plan Amendment Recommendations	<p><i>As needed, recommended amendments to Basin Plans to:</i></p> <ul style="list-style-type: none"> <li>• Facilitate implementation of Phase II of the Salt Control Program</li> <li>• Consider extension of salinity variance and revision of salinity exception policies</li> <li>• As appropriate, modify the Salinity Permitting Approaches;</li> </ul>
10 years from Notice to Comply	Final Phase I Project Report	<ul style="list-style-type: none"> <li>• <i>For preferred physical projects:</i> <ul style="list-style-type: none"> <li>– Conceptual designs</li> <li>– Assessment of environmental permitting requirements</li> </ul> </li> <li>• Status of implementation of non-physical projects per Interim Project Report with recommendations for modifications, as needed</li> </ul>

**Figure S-2: General Schedule of Key Phase I Prioritization and Optimization Study Activities and Milestones**

Category	Year of Implementation (From Notice to Comply)									
	1	2	3	4	5	6	7	8	9	10
Stakeholder Coordination	Stakeholder Coordination Meetings (as needed frequency)									
	SGMA GSA Coordination Meetings (as needed frequency)									
Phase I Workplan	Phase I Work-plan									
Governance	Phase I Governance Plan	Long-term Governance Plan for Phases II & III								
Funding	Phase I Funding Plan	Long-term Funding Plan for Phases II & III								
Preferred Physical/Non-Physical Salt Management Projects	Development of Recommended Preferred Physical and Non-Physical Projects			Interim Project Report						
					Conceptual Design and Assessment of Environmental Permitting Requirements for Preferred Physical Projects				Final Project Report	
Special Studies				Groundwater Quality Trace Constituent Study						
					Recycled Water Imports Study					
							Stormwater Recharge Master Plan Study			
					Emerging Tech Update No. 1				Emerging Tech Update No. 2	
Basin Planning								Phase II Recommendations		
Reports	Progress Reports at Key Milestones (Years 1; 5; and 10 with documentation (electronic or otherwise) of participation)									

## P&O Study Work Plan Elements – Programmatic Tasks

Task (Based on BPA)	Basin Plan Deliverable Date	General Purpose	Key Elements for Consideration in Work Plan Development
Stakeholder Coordination	As needed frequency	Provide opportunities for active participation in the P&O Study	<ul style="list-style-type: none"> <li>• Incorporate stakeholder coordination process for implementation during Study, e.g.,               <ul style="list-style-type: none"> <li>– Coordination with CV-SALTS Executive and Technical Advisory Committees;</li> <li>– Determine frequency and venues for interaction with stakeholders (e.g., regular meetings vs. longer workshops to review specific study findings); and</li> <li>– Other coordination needs.</li> </ul> </li> </ul>
SGMA/GSA Coordination	As needed frequency	Coordination with Groundwater Sustainability Agencies (GSAs) and adoption/implementation of Groundwater Sustainability Plans (GSPs)	<ul style="list-style-type: none"> <li>• Incorporate mechanism for coordination with the SGMA program in general and GSAs, specifically.</li> <li>• Establish mechanism to consider outcomes of GSP development and implementation with regards to the management of salt during the P&amp;O Study.</li> </ul>
Phase I Governance Plan	Within 12 months of the NTC	Establish the entity and procedures for governance of the P&O Study	<ul style="list-style-type: none"> <li>• Recognize that the CVSC is currently serving as the lead entity for the P&amp;O Study.</li> <li>• Formalize the roles and responsibilities of the lead entity moving forward to ensure that the P&amp;O Study milestones established by the BPA are met.</li> </ul>
Phase I Funding Plan	Within 12 months of the NTC	Establish the procedures for assigning and collecting fees to fund the P&O Study	<ul style="list-style-type: none"> <li>• The CVSC is currently developing a fee schedule for participation in the P&amp;O Study. The adopted fee schedule along with the procedures for its implementation, including future review and evaluation, would be formalized in this Work Plan deliverable.</li> <li>• Consider establishing mechanism for pursuing state and federal funding for Phase I.</li> </ul>
Phases II & III Governance Plan	9 years from NTC	Establish long-term Governance Plan for implementation of Phases II and III of the Salt Control Program	<ul style="list-style-type: none"> <li>• Establish a Governance Plan that addresses elements such as the following:               <ul style="list-style-type: none"> <li>– Establishes an organizational structure for implementation of Phases II and III.</li> <li>– Defines the roles and responsibilities of key organizational positions and participating entities and identifies committees that will be responsible for and have the authority to implement the key functions of the organization.</li> <li>– Determines the types of governance agreements required to implement the plan (e.g., memorandums of agreement or understanding, joint powers authority, etc.) and the process that will be implemented to formalize such agreements.</li> <li>– Establishes the procedures for the routine operation of the governing organization.</li> </ul> </li> </ul>

**P&O Study Work Plan Elements – Programmatic Tasks**

Task (Based on BPA)	Basin Plan Deliverable Date	General Purpose	Key Elements for Consideration in Work Plan Development
Phase II & III Funding Plan	9 years from NTC	Establish long-term Funding Plan for implementation of Phases II and III of the Salt Control Program	<ul style="list-style-type: none"> <li>• Establish a Funding Plan that addresses elements such as the following:               <ul style="list-style-type: none"> <li>– Incorporates a financial strategy, including funding goals, to fund Phases II and III of the Salt Control Program and ensure funds are used in an equitable manner across region.</li> <li>– Identifies potential funding sources (e.g., federal/state/local funds, grants, bonds, low-interest loans, etc.) and the process for seeking or requesting those funds.</li> <li>– Establishes administration procedures for the acquisition and use of funds for capital and operation/maintenance costs.</li> <li>– Creates a mechanism for periodic program audits.</li> </ul> </li> <li>• Create linkages, where needed, with the governance plan, e.g., within the governance plan, establish a finance committee with responsibility to implement the funding plan.</li> <li>• Consider including mechanisms in the Work Plan to begin efforts to secure Phase II funding prior to initiation of Phase II.</li> </ul>
Phase II Recommendations	9 years from NTC	Provide recommendations to the Central Valley Water Board to support re-evaluation of Salt Control Program prior to initiation of Phase II	<ul style="list-style-type: none"> <li>• Work Plan will include a task to develop Phase II recommendations for consideration by the Central Valley Water Board. Recommendations will be based on findings from P&amp;O Study and other Salt Control Program-related activities including findings from the ongoing surveillance and monitoring program, Phase I permitting approach and progress being made towards meeting the goals of the Salt Control Program.</li> </ul>
Reporting <sup>2</sup>	Years 1, 5 and 10 from NTC <sup>2</sup>	Provide periodic assessment of P&O Study	<ul style="list-style-type: none"> <li>• Work Plan will identify the process to prepare periodic P&amp;O Study progress reports that include:               <ul style="list-style-type: none"> <li>– Summary of key findings to date from project tasks.</li> <li>– Progress on execution of the tasks established by the approved Work Plan.</li> <li>– Status of Phase I funding to support continued execution of the Study and a summary of expenditures during the reporting period.</li> <li>– Summary of stakeholder participation</li> </ul> </li> </ul>

## P&O Study Work Plan Elements – Preferred Physical Projects

Basin Plan Deliverable Date	General Purpose	Key Elements for Consideration in Work Plan Development
5 years from NTC - Interim Project Report	Identify recommended preferred physical projects for further development during second five years of P&O Study	<ul style="list-style-type: none"> <li>• Characterize baseline salinity conditions by hydrologic region (Sacramento River Basin; San Joaquin River Basin; Tulare Lake Basin):               <ul style="list-style-type: none"> <li>– Update water quality conditions in surface waters and groundwater basins/sub-basins (consider existing CV-SALTS technical work, e.g., Initial Conceptual Model and High-Resolution Groundwater Analysis for groundwater; and Antidegradation Analysis for surface water, but supplement as needed to bring information up to date).</li> <li>– Evaluate sources of salinity within each hydrologic region and their contribution to salt build up.</li> <li>– Identify sensitive/non-sensitive areas to (a) establish priority areas for salt management (e.g., by hydrologic region in general and within groundwater basins/sub-basins specifically); and (b) provide basis for establishment of Salt Management Areas.<sup>1</sup></li> </ul> </li> <li>• Develop preliminary list of salt management projects (e.g., regulated brine line(s), including alignment, feasibility study and concept design, salt sinks, regional/sub-regional de-salters, recharge areas, deep well injection, transport of brine to a treatment plant by trucking or rail, treatment systems, etc.) by hydrologic region and establish process to select projects, including Salt Management Areas, for inclusion in the Program as “preferred physical projects.”               <ul style="list-style-type: none"> <li>– Develop tools to evaluate the effectiveness of the candidate projects and then use tools to evaluate and select preferred physical projects. Factors used to evaluate candidate projects may include, but may not be limited to:                   <ul style="list-style-type: none"> <li>– Findings from engineering feasibility assessments</li> <li>– Consideration of currently available treatment technologies</li> <li>– Outcome of analyses to optimize the siting of salt management infrastructure (e.g., desalter or Salt Management Area locations, pipeline alignments, etc.)</li> <li>– Consideration of regulatory and/or institutional hurdles</li> <li>– Linkage with other water management requirements, e.g., area GSPs</li> <li>– Other factors that may influence the viability of a project, e.g., energy costs, operation and maintenance costs, etc.</li> </ul> </li> </ul> </li> <li>• Select preferred physical projects for further development.</li> <li>• Prepare Interim Project Report that identifies the preferred physical projects for additional development under the P&amp;O Study (report to be coordinated with development of preferred non-physical projects).</li> </ul>
10 years from NTC - Final Phase I Project Report	Final deliverable for the P&O Study – Sets the stage for the implementation of Phase II effort to complete the engineering design and permitting of each preferred physical project	<ul style="list-style-type: none"> <li>• For each preferred physical project:               <ul style="list-style-type: none"> <li>– Develop conceptual design (approximately 10% design)</li> <li>– Assessment of permitting requirements</li> </ul> </li> <li>• Prepare Final Project Report that identifies the preferred physical projects for additional development under the P&amp;O Study (Note: This report is prepared in conjunction with Final Phase I Report for non-preferred physical projects – see below).</li> </ul>

## P&O Study Work Plan Elements – Preferred Non-Physical Projects

Basin Plan Deliverable Date	General Purpose	Key Elements for Consideration in Work Plan Development
5 years from NTC - Interim Project Report	Identify recommended non-preferred physical projects and schedule for implementation during second five years of P&O Study	<ul style="list-style-type: none"> <li>• Identify potential non-physical projects that will support long-term salinity management goals. Example projects may include:               <ul style="list-style-type: none"> <li>– Development of guidelines to protect salt-sensitive crops (this work could build upon the SNMP AGR Policy [Attachment A-5] that recommended further evaluation of options to translate the existing AGR narrative water quality objective to support management of salt through permits).</li> <li>– Evaluation of existing water management policies and requirements (local, state or federal) that could impact implementation of long-term salinity management strategies.</li> <li>– Development of a long-term salt management strategy consistent with the principles of Management Zones being established for nitrate management.</li> <li>– Others as determined during Work Plan development (e.g., see potential additional tasks described below).</li> </ul> </li> <li>• Select recommended non-physical projects for implementation, including next steps and a schedule for completion (Note: Work Plan could include schedule for initiation of work on selected non-physical projects prior to Interim Project Report deliverable).</li> </ul>
10 years from NTC - Final Phase I Project Report	Final deliverable for the P&O Study – Documents status of implementation of non-physical projects with recommendations for modifications to projects, as needed	<ul style="list-style-type: none"> <li>• Prepare Final Project Report that provides the status of implementation of non-physical projects identified in the Interim Project Report (Note: This report is prepared in conjunction with Final Phase I Report for preferred physical projects).</li> <li>• For projects not complete, this report will make recommendations for modifications to the project and/or its schedule, if needed.</li> </ul>

## P&O Study Work Plan Elements – Special Studies

Task (Based on BPA)	Basin Plan Deliverable Date	General Purpose	Key Elements for Consideration in Work Plan Development
Groundwater Quality Trace Constituent Study	Schedule to be identified in the Work Plan (Timing will be linked to need for information to facilitate development of Interim and Final Phase I Reports)	Characterize groundwater basins/sub-basins to identify constituents of concern other than salt that may impact the salt management strategy	<ul style="list-style-type: none"> <li>• Identify areas with groundwater basins/sub-basins with other water quality concerns that could impact implementation of a salt management project or siting of a Salt Management Area. Example constituents of concern may include, but not be limited to: Arsenic, uranium, and selenium.</li> <li>• Consider how trace constituents may play a role in the permitting of an ocean disposal(s) through the California Coastal Commission and the State Water Board’s Ocean Plan.</li> </ul>
Recycled Water Imports Study		Evaluate role and management of recycled water as a component of a long-term salinity management strategy	<ul style="list-style-type: none"> <li>• Characterize recycled water use in the Central Valley - current vs. planned.</li> <li>• Evaluate implications of increased recycled water use on quality of water in permitted discharges and potential impact on salinity in surface waters and groundwater through the use of tools or an approach developed as part of this study.</li> <li>• Evaluate implications of findings on establishment of a long-term salt management program, including selection of preferred physical and non-physical projects.</li> </ul>
Stormwater Recharge Master Plan Study		Evaluate role of stormwater recharge as a component of a long-term salinity management strategy	<ul style="list-style-type: none"> <li>• Develop a comprehensive assessment of stormwater recharge in the Central Valley – current vs. planned.</li> <li>• Evaluate potential to enhance the capture and recharge of stormwater as an element in a long-term salinity management program.</li> <li>• Coordination with SGMA GSAs where stormwater capture will be a portion of the water supply portfolio. To the extent possible, glean pertinent information from GSPs due in 2020 and 2022.</li> </ul>
Emerging Technology Updates		Ongoing review of maturing and emerging technologies that may facilitate long-term salt management	<ul style="list-style-type: none"> <li>• Work Plan will establish an approach for evaluating technologies and the process for conducting this periodic review of salt treatment options. Evaluation of technologies may consider, but not be limited to:               <ul style="list-style-type: none"> <li>– Effectiveness of the treatment</li> <li>– Cost/benefits of implementation</li> <li>– Potential application of the technology within the context of the overall long-term salinity management plan</li> </ul> </li> </ul>

## P&O Study Workplan – Other Potential Work Plan Elements

This table summarizes other potential study elements that were not explicitly included in Staff Report Table S-2 (Key Phase I Prioritization and Optimization Study Milestones) or Figure S-2 (General Schedule of Key Phase I Prioritization and Optimization Study Activities and Milestones). This list is based on Staff Report text suggesting potential inclusion of the item in the P&O Study and comments noted during the CV-SALTS process.

### Potential Task for Inclusion in Work Plan

- Incorporate as directed by CV-SALTS stakeholders during development of the Work Plan. Tasks and schedule for completion of these studies would be aligned with other Work Plan Tasks. Potential studies may include, but not be limited to:
  - Extend the method/process used in the LSJR BPA for setting agricultural supply EC water quality objectives and effluent limits to other areas of the Central Valley.
  - Further develop Drought and Conservation policy based on work completed under the P&O Study.
  - Establish an NPDES permitting policy/process to adjust EC water quality objectives and effluent limits under drought/post-drought conditions for all of the Central Valley.
  - Extend the Offsets Policy to include surface waters.
  - Consider establishment of a salt management program similar to the Nitrate Control Program, i.e., consider allowing the use of management zones to manage salt.
  - Conduct treatment-related studies and/or modeling to understand the cost effectiveness of reverse osmosis by NPDES dischargers and major controls on other sources in meeting a range of EC water quality objectives.
- Conduct studies on other salinity-related constituents, e.g., boron and chlorides, to provide the technical basis for their management under the Salt Control Program.