

Appendix H4

Impact Summary Table for Alternatives

This appendix presents a summary table for the potential environmental impacts of the proposed Plan amendments, Low Flow Alternative (Alternative 2), High Flow Alternative (Alternative 3), proposed Voluntary Agreements (Alternative 6), and No Project Alternative (Alternative 1) compared to the revised proposed Plan amendments. The environmental resource areas presented in Table H4-1 are those evaluated in the Staff Report in support of the Sacramento/Delta updates to the Bay-Delta Plan.

Chapter 13, *Revised Proposed Plan Amendments*, describes and evaluates the revised proposed Plan amendments, including a regulatory pathway based on the proposed Plan amendments with modifications and a voluntary agreement (VA) pathway which are evaluated as separate implementation pathways and together as co-occurring pathways. The proposed Plan amendments are described and evaluated in Chapter 7, *Environmental Analysis*; Alternatives 1, 2, and 3 are described and evaluated in Section 7.2, *Description of Alternatives*, and Section 7.24, *Alternatives Analysis*, respectively, and a comparison of the potential environmental impacts of Alternatives 1, 2, and 3 to the proposed Plan amendments is provided in Appendix F, *Impact Summary Tables for Alternatives 1, 2, and 3*. The proposed VAs (Alternative 6) are described and evaluated in Chapter 9, *Proposed Voluntary Agreements*.

The impact determinations presented in Table H4-1 reflect the highest level of potential impact for the alternative or pathway presented, including consideration of the effect of mitigation measures as necessary and appropriate. The comparison of alternatives to the revised proposed Plan amendments is to the highest impact determination between the regulatory pathway or VA pathway. For example, if the impact determination for the regulatory pathway is potentially significant (PS) and the impact determination for the VA pathway is less than significant (LTS), the comparison of the alternative is to the PS determination. Where an alternative has the same impact determination (e.g., PS or LTS) as the revised proposed Plan amendments, the table further indicates whether the level of the impact would be the “Same” “Reduced” or “Increased” by comparison. No additional indication of the level of impact is required when the impact determination is no impact (NI).

Mitigation measures that could reduce potentially significant impacts are identified in Chapter 13, Table 13.7.22-1, *Impact and Mitigation Measure Summary—Changes to Hydrology and Supply*, and details of each mitigation measure are presented in Sections 7.3 through 7.20 and in Appendix H3, *Mitigation Measures for the Revised Proposed Plan Amendments*. Some potentially significant impacts can be mitigated to less-than-significant levels. Because the State Water Board has authority to ensure that mitigation is implemented for certain actions, these impacts could be reduced to less-than-significant levels with mitigation incorporated. These impact topics are listed in Table H4-1 and the impact conclusions followed by an asterisk (*).

One of the State Water Board’s primary responsibilities and top priorities is protection of the Bay-Delta watershed and its many beneficial uses of water. The Sacramento/Delta updates to the Bay-Delta Plan are intended to provide for the reasonable protection of native fish and wildlife beneficial uses. Therefore, although CEQA does not require an evaluation of beneficial impacts but instead focuses on identification and mitigation of significant, avoidable environmental harm, the Staff

Report environmental analysis chapters (Chapters 7, 9, and 13) identify and discuss the potential beneficial effects that could occur with implementation of the Plan amendments, including under the VA pathway. More detailed analyses of project benefits are summarized in Section 13.5, *Beneficial Environmental Effects*. The impact and mitigation measure summary tables throughout the Staff Report identify these beneficial effects, which are included in Table H4-1 comparison of alternatives. For some impact topics, the regulatory pathway may have a beneficial effect (B), and the VA pathway may result in a less-than-significant (LTS) adverse impact. For these impact topics, the comparison across alternatives is to the beneficial effect, and where needed, a brief explanation of the differences between alternatives is provided. For some beneficial effects, the conditions under the No Project Alternative would not have a beneficial outcome for the impact topic and resources and the comparison indicates “NI/No Benefit.”

The environmental impacts, mitigation measures, and comparison to alternatives presented in Table H4-1 and Table 13.7.22-1 reflect the final version of the revised proposed Plan amendments and alternatives. As described in Chapter 13, the revised proposed Plan amendments have been modified since the 2025 limited recirculation. Section 13.7.1.2, *Summary of Revisions*, summarizes the primary revisions of the environmental analyses in Chapters 7 and 9. Footnotes to Table H4-1 explain substantive revisions to impact topics or impact significance determinations. Some impact topics that were evaluated in Chapters 7 and 9 but inadvertently omitted from the impact and mitigation measure summary tables are included in Table 13.7.22-1 and Table H4-1. Because those changes do not alter the impact conclusions, no corresponding revisions were made in Chapters 7 and 9 or in Appendix F, *Impact Summary Tables for Alternatives 1, 2, and 3*.

Table H4-1. Alternatives Impact Summary Comparison

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
AESTHETICS								
Impact AES-a: Have a substantial adverse effect on a scenic vista Impact AES-b: Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway Impact AES-c: Substantially degrade the existing visual character or quality of the site and its surroundings	Reservoir level changes may result in exposure of more unvegetated ground or “bathtub rings”	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Agriculture land conversion could affect aesthetic resources if properties are developed or neglected	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	LTS - Reduced
	Altered streamflows could affect water levels and appearance	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Reduced Sacramento/Delta supply to municipalities could affect the visual quality of the urban environment	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Reduced Sacramento/Delta supplies to wildlife refuges could result in slight changes to the visual character of these areas	LTS	NI	LTS – Same	NI	LTS – Reduced	LTS – Increased	LTS – Reduced
	Municipal water conservation measures could cause a change in the visual character of localized settings	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
Impact AES-d: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area	————	NI	NI	NI	NI	NI	NI	NI
AGRICULTURE AND FOREST RESOURCES								
Impact AG-a: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use Impact AG-e: Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Important Farmland to nonagricultural use	Reduced Sacramento/Delta supply to agriculture could lead to changes in distribution of crop types and acreage and conversion of farmland to nonagricultural use	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	LTS
	Increased use of water transfers could further incentivize farmland conversion, particularly in rapidly urbanizing areas	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Lower groundwater levels could reduce groundwater available for agricultural use	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Reduced streamflow and water levels at some locations could affect the ability of existing diversion intakes to divert water for agricultural use	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	PS – Reduced
	Increased inundation in the Sutter and Yolo Bypasses during the planting season could affect crop acreage	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	NI
Impact AG-b: Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract	————	NI	NI	NI	NI	NI	NI	NI
Impact AG-c: Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland	————	NI	NI	NI	NI	NI	NI	NI

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Production (as defined by Government Code Section 51104(g))								
Impact AG-d: Result in the loss of forest land or conversion of forest land to non-forest use	—	NI	NI	NI	NI	NI	NI	NI
AIR QUALITY								
Impact AQ-a: Conflict with or obstruct implementation of the applicable air quality plan Impact AQ-b: Violate any air quality standard or contribute substantially to an existing or projected air quality violation Impact AQ-c: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)	Increased groundwater pumping using diesel pumps and generators could result in emissions	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Lower streamflows and reservoir levels could result in exposure to increased windblown dust emissions	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Agricultural land fallowing could result in exposure to increased fugitive dust	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Post-harvest rice burning could result in exposure to air pollutant emissions	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Water conservation could result in a reduction in emissions	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	B – Reduced
Impact AQ-d: Expose sensitive receptors to substantial pollutant concentrations	Lower reservoir levels could result in exposure to increased windblown dust emissions	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Agricultural land fallowing could result in exposure to increased fugitive dust on lands where soil is exposed	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Post-harvest rice burning, groundwater pumping, and the use of other water management actions could result in exposure to pollutant emissions	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
Impact AQ-e: Create objectionable odors affecting a substantial number of people	Formation of harmful algal blooms from reduced flows and reservoir levels could produce odor compounds	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Reductions in overall wastewater flow and increased use of recycled water could result in increases in odors	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Increases in odors from increased groundwater pumping and other water management actions	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
BIOLOGICAL RESOURCES—TERRESTRIAL								
Confirm Impact TER-a: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service	Increased inundation in flood bypasses during the planting season could affect crop acreage, which could affect special-status wildlife species that use croplands as habitat	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	NI
	Reduced Sacramento/Delta supply to agricultural lands could affect habitat for special-status species, including giant gartersnake, Swainson’s hawk, greater sandhill crane, tricolored blackbird, and California black rail ^b	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	LTS
	Reduced Sacramento/Delta supply to wildlife refuges could affect habitat for	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	LTS

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		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	special-status species, including giant gartersnake, Swainson’s hawk, greater sandhill crane, tricolored blackbird, and California black rail ^b							
	Reduced Sacramento/Delta supply to municipal use could affect special-status plant and wildlife species	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	LTS
	Capturing flood flows for groundwater storage and recovery could diminish instream ecological benefits of high flow events	PS*	PS*	PS* – Same	PS* – Reduced	PS* – Reduced	PS* – Increased	PS* – Reduced
	Water transfers based on cropland idling could affect special-status species that use agricultural fields	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Increased use of recycled water that would otherwise discharge to streams could diminish ecological benefits of instream flows, especially in dry seasons and in low flow conditions where streamflow is dependent on wastewater discharges	PS*	PS*	PS* – Same	PS* – Reduced	PS* – Reduced	PS* – Increased	PS* – Reduced
	Increased winter flows on the Sacramento and Feather Rivers could affect bank swallow habitat	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	NI
	Changes in reservoir water levels could affect habitat for bald eagle, American white pelican, western pond turtle, and amphibians	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Changes in streamflow below export reservoirs could affect habitat for special-status terrestrial species	LTS	NI	LTS – Same	LTS – Reduced	NI	LTS – Increased	LTS – Reduced
	Lower groundwater levels could affect natural communities that are dependent on groundwater, and sensitive species that are reliant on groundwater dependent ecosystems	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced ^c
	Restoration and maintenance of natural flow would improve conditions for special-status plants and wildlife	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS A less natural flow regime could affect conditions for special-status plants and wildlife
	Increased frequency and duration of floodplain inundation would improve habitat for wintering waterfowl and other wildlife species	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Reduced frequency and duration of floodplain inundation could affect habitat for wintering waterfowl and other wildlife species

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		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	Changes in Delta inflows and Delta outflows would improve habitat conditions for freshwater and tidal marsh species in the Delta and Suisun Marsh	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Changes in Delta inflows and Delta outflows could affect habitat conditions for freshwater and tidal marsh species in the Delta and Suisun Marsh
Impact TER-b: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service Impact TER-c: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means	Changes in Sacramento/Delta reservoir levels could affect associated riparian and wetland habitat	PS	PS ^d	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Reduced Sacramento/Delta supply to wildlife refuges could decrease wetland areas over time	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	LTS
	Reduced Sacramento/Delta supply could affect water quality in managed wetlands	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	LTS
	Reduced Sacramento/Delta supply to municipal and agricultural use could affect sensitive riparian and wetland habitat, and other natural communities	PS	LTS	PS – Same	NI	PS – Reduced	PS – Increased	NI
	Lower groundwater levels could affect riparian and wetland habitat, and sensitive groundwater-dependent natural communities and wetlands	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Capturing flood flows for groundwater storage and recovery could diminish the instream ecological benefits of high flow events	PS*	PS*	PS* – Same	PS* – Reduced	PS* – Reduced	PS* – Increased	PS* – Reduced
	Increased use of water transfers could affect groundwater-dependent natural communities and some perennial wetlands in some areas, and could exacerbate effects from lower groundwater levels on riparian and wetland habitat and sensitive natural communities	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Increased use of water recycling could diminish riparian and wetland habitat, especially in dry seasons and in low-flow conditions where streamflow depends on wastewater discharges	PS*	PS*	PS* – Same	PS* – Reduced	PS* – Reduced	PS* – Increased	PS* – Reduced
	Reduced streamflows below export reservoirs could affect riparian and wetland habitat	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	A more natural flow regime and providing higher flows would restore and maintain natural processes, such as sediment deposition, marsh accretion, nutrient transport, seed dispersal, and flow-related	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS An impaired flow regime could affect natural processes, such as sediment deposition, marsh

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		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	disturbance, which would benefit riverine and associated wetland and riparian habitat							accretion, nutrient transport, seed dispersal, and flow-related disturbance, which could affect riverine and associated riparian habitat
	Increased frequency and duration of floodplain inundation would benefit riparian and wetland habitat and associated natural communities	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Reduced frequency and duration of floodplain inundation could affect riparian and wetland habitat and associated natural communities
	Changes in Delta inflows and Delta outflows would benefit freshwater marshes and tidal marshes	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Decreases in Delta inflows and Delta outflows could affect freshwater marshes and tidal marshes
	Increased use of water recycling and municipal water conservation measures could reduce municipal discharges and support conditions favorable to wetlands and sensitive natural communities adapted to the natural flow regime	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Reductions in water recycling and municipal water conservation measures could increase municipal discharges and result in conditions unfavorable to wetlands and sensitive natural communities adapted to the natural flow regime
Impact TER-d: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites	Reduced Sacramento/Delta supply for wildlife refuges and agriculture could decrease the amount of habitat available for resident and migratory waterfowl and shorebirds	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	LTS
	Increased use of water transfers could result in conversion of crop types that provide foraging habitat for migratory waterfowl and shorebirds	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced

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		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	Changes in reservoir levels could affect the amount of breeding habitat for resident or migratory waterfowl populations	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	A more natural flow regime would benefit native resident and migratory wildlife that use riverine and associated wetland and riparian habitat and natural communities as migratory corridors or nursery sites	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS A less natural flow regime could affect native resident and migratory wildlife that use riverine and associated wetland and riparian habitat and natural communities as migratory corridors or nursery sites
Impact TER-e: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	——	NI	NI	NI	NI	NI	NI	NI
Impact TER-f: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan	Reduced Sacramento/Delta supply could affect habitat goals of some habitat conservation plans	LTS	NI	LTS – Same	NI	LTS – Reduced	LTS – Increased	LTS – Reduced
	Changes in Sacramento/Delta tributary flows, Delta inflows, and Delta outflows would complement actions identified in some habitat conservation plans	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	NI/No Benefit
BIOLOGICAL RESOURCES—AQUATIC								
Impact AQUA-a: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service Impact AQUA-d: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites	Changes in reservoir levels could affect downstream flows and water temperatures below some reservoirs	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Changes in interior Delta flows could affect native anadromous and estuarine fish species residing in or migrating through the Delta ^e	PS	PS	LTS	PS – Same	LTS	LTS	PS – Same
	Reduced Sacramento/Delta supply to agriculture could affect habitat for special status species that depend in part on Sacramento/Delta water supply for habitat (i.e., irrigation runoff in agricultural drain for desert pupfish)	PS	NI	PS – Same	LTS	PS – Reduced	PS – Increased	LTS
	Changes in water supply could affect WWTP effluent discharge which could result in effects on water quality and flow that could affect special-status aquatic species occurring in these locations	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	NI
	Lower groundwater levels could affect stream-aquifer interactions and streamflows in some locations	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Diversion of surface water for groundwater storage and recovery could reduce peak	PS*	PS*	PS* – Same	PS* – Reduced	PS* – Reduced	PS* – Increased	PS* – Reduced

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		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	flows that provide ecological and habitat functions (e.g., floodplain inundation)							
	Water transfers could alter hydrologic patterns and affect aquatic biological resources in some locations	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Increased water recycling could decrease the volume of treated wastewater effluent discharge into water bodies that are migratory corridors for fish	PS*	PS*	PS* – Same	PS* – Reduced	PS* – Reduced	PS* – Increased	PS* – Reduced
	Reductions in Delta inflow and outflow during July–December could affect native anadromous, estuarine, and resident fish species ^f	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS –Reduced
	Changes in wet season flows (geomorphic flows) on regulated tributaries in the Sacramento /Delta regions could cause some erosion, but would also result in ecological benefits of floodplain inundation	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	NI
	Changes in reservoir levels could affect native reservoir fish species, such as minnows and suckers	LTS	NI	LTS – Same	NI	LTS – Reduced	LTS – Increased	LTS – Reduced
	A more natural flow regime would support a connected and functioning ecosystem and benefit native fish in the Sacramento/Delta	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS A less natural flow regime could affect native fish in the Sacramento/Delta
	Changes in Delta inflows and outflows during January–June would benefit native anadromous, estuarine, and resident fish species ^f	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Changes in Delta inflows and outflows could affect native anadromous, estuarine, and resident fish species
	Increased frequency and duration of floodplain inundation, including in the Bear River, Feather River, Mokelumne River, Yuba River, and Yolo Bypass would benefit aquatic species ^g	B	B	B – Same (Feather River and Yolo Bypass only)	B – Increased Potentially greater increased floodplain inundation except in the Yolo Bypass	B – Reduced	B – Increased	PS Reduced frequency and duration of floodplain inundation in Feather River and Yolo Bypass could affect aquatic species
	Impact AQUA-f: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan	LTS	NI	LTS – Same	NI	LTS – Reduced	LTS – Increased	LTS - Reduced
CULTURAL RESOURCES								

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		Regulatory Pathway ^a	Voluntary Agreement Pathway					
Impact CUL-a: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 Impact CUL-b: Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5	Changes in reservoir levels could expose previously inundated cultural resources and/or significant historic or archaeological resources to increased wave action, erosion, and human activity	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Changes in streamflows could result in inundation and exposure of historic or archaeological resources	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
Impact CUL-c: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	————	NI	NI	NI	NI	NI	NI	NI
Impact CUL-d: Disturb any human remains, including those interred outside of dedicated cemeteries	Changes in reservoir levels could expose previously inundated land containing human burials, which could result in the disturbance of the burial and impacts from human activity	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Changes in river flows could alter the baseline conditions of human burials interred within or outside of dedicated cemeteries	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
ENERGY								
Impact EN-a: The effects of the project on energy resources Impact EN-b: The effect of the project on peak and base period demands for electricity and other forms of energy Impact EN-c: The effects of the project on local and regional energy supplies and requirements for additional capacity Impact EN-d: The degree to which the project complies with existing energy standards Impact EN-e: Energy requirements and energy use efficiencies by amount and fuel type for each stage of the project	Changes in hydrology would result in a decrease in hydropower generation in the summer which could be significant for an individual project or community	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	LTS
	Changes in water supply could cause an increase in energy use to replace Sacramento/Delta supplies from actions such as increased groundwater pumping and other water management actions	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	LTS
	Changes in water supply could result in a reduction in the energy used to export water from the Delta	B	LTS	B Potentially greater reduction in the energy used to export water compared to revised proposed Plan amendments	LTS Potentially more energy would be used to export water compared to revised proposed Plan amendments	B Potentially similar reduction in the energy used to export water compared to revised proposed Plan amendments	B Potentially greater reduction in the energy used to export water compared to revised proposed Plan amendments	LTS Potentially more energy would be used to export water compared to revised proposed Plan amendments
	Water conservation could result in a reduction in energy use	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	B – Reduced
Impact EN-f: The project’s projected transportation energy use requirements and its overall use of efficient transportation alternatives	Reduction in agricultural production could increase energy use for transportation	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced

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GEOLOGY AND SOILS								
Impact GEO-a: Expose people or structures to potential substantial adverse effects including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure including liquefaction, or landslides	————	NI	NI	NI	NI	NI	NI	NI – Same
Impact GEO-b: Result in substantial soil erosion or the loss of topsoil	Agriculture fallowing could temporarily increase erosion and sedimentation	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
Impact GEO-c: Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse	Lower groundwater levels could exacerbate existing problems associated with ground subsidence	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
Impact GEO-d: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property	————	NI	NI	NI	NI	NI	NI	NI
Impact GEO-e: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater	————	NI	NI	NI	NI	NI	NI	NI
GREENHOUSE GAS EMISSIONS								
Impact GHG-a: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	Increased groundwater pumping from wells with diesel-powered pumps could generate additional greenhouse gas emissions	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Groundwater storage and recovery, water transfers, and water recycling could result in emissions associated with energy use	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	LTS – Reduced
	Reductions in hydropower generation could result in additional energy generation at fossil-fuel facilities	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Increased groundwater pumping from wells with electric fuel pumps could generate additional greenhouse gas emissions	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Changes in water supply could result in a reduction in the energy used to export water from the Delta and a corresponding reduction in greenhouse gas emissions	B	LTS	B Potentially greater reduction in the energy used to export water and corresponding reduction in GHG emissions compared to revised proposed Plan amendments	LTS Potentially more energy would be used to export water compared and a smaller corresponding reduction in GHG emissions compared to revised proposed Plan amendments	B Potentially similar reduction in the energy used to export water and corresponding reduction in GHG emissions compared to revised proposed Plan amendments	B Potentially greater reduction in the energy used to export water and corresponding reduction in GHG emissions compared to revised proposed Plan amendments	LTS Potentially more energy would be used to export water and a smaller corresponding reduction in GHG emissions compared to revised proposed Plan amendments

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	Water conservation could result in a reduction in energy use and greenhouse gas emissions	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	B – Reduced
Impact GHG-b: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases	Increased groundwater pumping from wells with diesel-powered pumps could result in emissions in excess of existing thresholds and could conflict with the state’s long-term emission reduction trajectory	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	LTS – Reduced
	Water use efficiency, water recycling, and reuse of urban runoff would be beneficial in meeting other state and local GHG goals	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	B – Reduced
HAZARDS AND HAZARDOUS MATERIALS								
Impact HAZ-a: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	—	NI	NI	NI	NI	NI	NI	NI
Impact HAZ-b: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	—	NI	NI	NI	NI	NI	NI	NI
Impact HAZ-c: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	—	NI	NI	NI	NI	NI	NI	NI
Impact HAZ-d: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment	—	NI	NI	NI	NI	NI	NI	NI
Impact HAZ-e: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area	—	NI	NI	NI	NI	NI	NI	NI
Impact HAZ-f: For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area	—	NI	NI	NI	NI	NI	NI	NI
Impact HAZ-g: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	—	NI	NI	NI	NI	NI	NI	NI
Impact HAZ-h: Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are	Changes in reservoir levels in areas likely to continue experiencing forest fires could affect wildland fire suppression practices	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
adjacent to urbanized areas or where residences are intermixed with wildlands								
HYDROLOGY AND WATER QUALITY – SURFACE WATER								
Impact SW-a: Violate any water quality standards or waste discharge requirements Impact SW-f: Otherwise substantially degrade water quality	Reduced streamflows could result in less dilution and increased concentration of contaminants	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	LTS
	Flow commitments could increase contaminant (e.g., boron, nitrate, and mercury) concentrations to harmful levels and could increase cyanobacteria, cyanotoxins, or HABs	NI	PS* (Putah Creek) ^h	NI	NI	NI	NI	NI
	Increased flows could result in increased input of mercury and methylmercury production downstream in some locations	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	LTS
	Increases in water level fluctuation at some reservoirs could result in increased bioaccumulation of methylmercury in fish	PS	PS ^d	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Changes in reservoir levels and lowered streamflows below reservoirs could result in increased water temperature in some locations and times of year	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Changes in reservoir levels could result in increased production of harmful algal blooms (HABs) in some locations	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Lower summer and fall flows in some Delta channels could result in incremental increased production of HABs and invasive aquatic plants	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	LTS
	Reduced streamflows could result in temporary exceedances of waste discharge requirements and/or water quality standards	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	LTS
	Changes in water supply could result in temporary exceedances of maximum contaminant levels in municipal water supply	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	LTS
	Changes in water supply, including use of alternative lower water quality sources in response to reduced Sacramento/Delta supply to municipal use could result in site-specific exceedances of waste discharge requirements due to changes in wastewater treatment plant (WWTP) influent and effluent quality and quantity	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	LTS - Reduced
	Reductions in delivery of higher quality Sacramento/Delta supplies to managed wetlands, including wildlife refuges could affect water quality	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	LTS
	Reductions in groundwater accretions could cause decreases in water quality associated	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	with lower streamflows or higher temperatures							
	Diversion of surface water for groundwater storage and recovery could limit the dilution effect of existing flows and exacerbate existing water quality impairments	PS*	PS*	PS* – Same	PS* – Reduced	PS* – Reduced	PS* – Increased	PS* – Reduced
	Increased use of water transfers could affect water quality in some locations	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Increased water recycling could reduce instream flows, which could reduce dilution of local sources of contaminants	PS*	PS*	PS* – Same	PS* – Reduced	PS* – Reduced	PS* – Increased	PS* – Reduced
	Changes in flows could result in moderately elevated turbidity and total suspended solids (TSS) levels in some locations, and reduced occurrence of the highest turbidity and TSS levels	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Increased Delta outflow would result in little change or beneficial reductions in electrical conductivity (EC) in the Delta	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	PS Changes in Delta outflow could affect EC in the Delta
	Increased Delta outflow would result in little change or beneficial reductions in chloride and bromide at municipal intakes in the Delta	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	PS Changes in Delta outflow could affect chloride and bromide at municipal intakes in the Delta
	Increased floodplain inundation could affect nutrients, organic material, invasive aquatic plants, and HABs	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Reduced seawater intrusion could result in water quality improvements in the Delta, including dilution and flushing of some contaminants and reductions in EC, bromide, and chloride	B	LTS	B Potentially greater benefit from reduction of seawater intrusion and water quality improvements compared to revised proposed Plan amendments	LTS Potentially little to no reduction of seawater intrusion due to lower flows and little to no water quality improvement compared to revised proposed Plan amendments	B Potentially similar or increased benefit from reduction of seawater intrusion and water quality improvements compared to the revised proposed Plan amendments	B Potentially greater benefit from reduction of seawater intrusion and water quality improvements compared to the revised proposed Plan amendments	PS Increased seawater intrusion could result in water quality changes in the Delta
	Increased flows would enhance water quality for fish	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Decreased flows could affect water quality for fish
	Increased flows could dilute certain constituents in waterbodies that would provide a water quality benefit	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Decreased flows could concentrate certain constituents in waterbodies and affect water quality

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	Increased Delta outflows could reduce HABs and invasive vegetation	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Reduced flushing flows in winter and spring could exacerbate harmful algal blooms and invasive vegetation
Impact SW-c: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site Impact SW-d: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site	Increases in Clear Creek flow downstream of Whiskeytown Lake could increase risk of erosion and flooding in this area	PS*	LTS	PS* – Same	LTS	PS* – Reduced	PS* – Increased	LTS Changes in flows could increase risk of erosion and flooding in some areas
	A more natural flow regime could contribute to the restoration of beneficial geomorphic processes (i.e., those that clean fine sediment from spawning gravels, maintain a diversity of bed forms, and help maintain functional floodplain and riparian habitats through floodplain inundation)	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS A less natural flow regime would reduce beneficial geomorphic processes
	Changes in Delta inflows would provide for floodplain inundation to benefit native species	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Reduced frequency and duration of floodplain inundation could affect native species
Impact SW-e: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	——	NI	NI	NI	NI	NI	NI	NI
Impact SW-g: Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map Impact SW-h: Place within a 100-year flood hazard area structures which would impede or redirect flood flows	——	NI	NI	NI	NI	NI	NI	NI
Impact SW-i: Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam	Increases in Clear Creek flow downstream of Whiskeytown Lake could increase the risk of downstream flooding in this area	PS*	LTS	PS* – Same	LTS	PS* – Reduced	PS* – Increased	LTS Changes in flows in some locations could increase the risk of downstream flooding in some areas
Impact SW-j: Inundation by seiche, tsunami, or mudflow	——	NI	NI	NI	NI	NI	NI	NI
HYDROLOGY AND WATER QUALITY – GROUNDWATER								

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
Impact GW-b: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)	Increased groundwater pumping and reductions in incidental groundwater recharge from applied irrigation could lower groundwater levels and contribute to groundwater overdraft	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Lower groundwater levels could result in an increase in frequency and severity of critical shortages or dry wells occurring in some areas for communities that rely on groundwater, including economically disadvantaged communities	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Reduced Sacramento/Delta supplies could have localized impacts on groundwater storage in areas where Sacramento/Delta supplies are used for groundwater banking	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	LTS – Reduced
	Surface water transfers through groundwater substitution could result in lower groundwater levels in basin of origin	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Agricultural conservation measures could reduce incidental groundwater recharge that would lower groundwater levels	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Reduced flows downstream of reservoirs could affect stream-aquifer interactions	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Increased water recycling could have effects on groundwater levels	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Municipal water conservation measures could reduce incidental groundwater recharge from urban runoff	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Groundwater storage and recovery could enhance groundwater levels	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	B – Reduced
	Water recycling could increase groundwater levels in some areas if a portion of the recycled water reaches the aquifer or if the recycled water offsets a use that previously was supplied by groundwater	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	NI/No Benefit
Impact GW-a: Violate any water quality standards or waste discharge requirements Impact GW-f: Otherwise substantially degrade water quality	Lower groundwater levels can result in changes in groundwater flow direction and gradients in localized areas, which could exacerbate the migration of contaminants	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	In some locations, lower groundwater levels may concentrate salts and nutrients in groundwater over time through evaporative enrichment	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Lower groundwater levels could affect groundwater quality and potentially affect drinking water wells in some areas, including economically disadvantaged communities	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Lower groundwater levels could have localized effects on groundwater quality by	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	concentrating pollutants where groundwater contamination already exists							
	Groundwater storage and recovery projects that use poor quality water to recharge groundwater basins could contribute to salt and nutrient loading or introduce contaminants to the underlying aquifer	PS*	PS*	PS* – Same	PS* – Reduced	PS* – Reduced	PS* – Increased	PS* – Reduced
	Other water management actions (water transfers through groundwater substitution and agriculture water conservation) could result in lower groundwater levels, which could exacerbate groundwater quality impairments or contribute to contaminant loading in localized areas	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Recycled water may percolate into the underlying groundwater basin, and could affect groundwater quality	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Increased infiltration from stream-aquifer interactions from increased flows in the Sacramento/Delta could improve groundwater quality	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS Decreased infiltration from stream-aquifer interactions from reduced flows in the Sacramento/Delta watershed could affect groundwater quality
	Groundwater storage and recovery projects that use high-quality water to recharge groundwater basins may provide an effective strategy to maintain or improve groundwater quality	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	B – Reduced
LAND USE								
Impact LU-a: Physically divide an established community	——	NI	NI	NI	NI	NI	NI	NI
Impact LU-b: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect	——	NI	NI	NI	NI	NI	NI	NI
Impact LU-c: Conflict with any applicable habitat conservation plan or natural community conservation plan	See also Section 7.6.1, <i>Terrestrial Biological Resources</i> , and Section 9.7.6.1, <i>Terrestrial Biological Resources</i> , Impact TER-f	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
MINERAL RESOURCES								
Impact MIN-a: Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	————	NI	NI	NI	NI	NI	NI	NI
Impact MIN-b: Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan	————	NI	NI	NI	NI	NI	NI	NI
NOISE								
Impact NOI-a: Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies Impact NOI-c: A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project Impact NOI-d: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project	Increased groundwater pumping for replacement water supply, groundwater storage and recovery, or groundwater substitution transfers could result in higher noise levels	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	LTS
Impact NOI-b: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	Increased groundwater pumping could result in localized and intermittent perceptible vibration	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
Impact NOI-e: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels	————	NI	NI	NI	NI	NI	NI	NI
Impact NOI-f: For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels	————	NI	NI	NI	NI	NI	NI	NI
POPULATION AND HOUSING								
Impact POP-a: Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)	————	NI	NI	NI	NI	NI	NI	NI
Impact POP-b: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere	————	NI	NI	NI	NI	NI	NI	NI
Impact POP-c: Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere	————	NI	NI	NI	NI	NI	NI	NI

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
PUBLIC SERVICES								
Impact PS-a: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: fire protection, police protection, schools, parks, or other public facilities	————	NI	NI	NI	NI	NI	NI	NI
RECREATION								
Impact REC-a: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated	Changes in reservoir levels could affect boat ramp accessibility affecting recreation opportunities at some reservoirs	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	PS – Reduced
	Incremental increase in potential harmful algal blooms could cause closures to recreation in some waterbodies ⁱ	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Reduced summer flows could affect the boating difficulty of rapids for rafting and kayaking at some locations	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	PS– Increased Reduced flows at some times and locations could affect recreational opportunities
	Increased spring and early summer flows could reduce opportunities for swimming or wading in rivers at some locations	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	B Reduced flows at some times and locations could benefit swimming or wading in rivers
	Changes in reservoir water surface area and elevation could affect sportfish populations and reduce fishing opportunities at some locations	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Reduced deliveries to wildlife refuges and agricultural lands could affect recreational opportunities (e.g., wildlife viewing)	LTS	LTS	LTS – Same	LTS	LTS – Reduced	LTS – Increased	LTS – Reduced
	Reduced municipal water supply could affect municipal recreational opportunities at parks, playfields, and swimming pools	LTS	NI	LTS – Same	NI – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
	Changes in flow could improve recreational opportunities	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	PS– Increased Changes in flow could affect recreational opportunities dependent on healthy rivers and a functioning watershed

Environmental Resource Area	Impact Topic	Revised Proposed Plan Amendments		Proposed Plan Amendments	Voluntary Agreements (Alternative 6)	Low Flow Alternative (Alternative 2)	High Flow Alternative (Alternative 3)	No Project Alternative (Alternative 1)
		Regulatory Pathway ^a	Voluntary Agreement Pathway					
Impact REC-b: Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment	Changes in reservoir levels could affect boat ramp accessibility and lead to modification of existing or development of new boat ramps in some locations	PS	NI	PS – Same	NI – Reduced	PS – Reduced	PS – Increased	PS – Reduced
TRANSPORTATION AND TRAFFIC								
Impact TRA-a: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit Impact TRA-f: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities	Increased intermittent inundation of floodplains bounded by levees where roads and pedestrian and bicycle paths exist could affect transportation	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	NI
	Increased closures of the Delta Cross Channel (DCC) gates could affect recreational boat navigation	LTS	NI	LTS – Same	NI	LTS – Reduced	LTS – Increased	NI
	Changes in agricultural land use or fallowing could lead to changes in agricultural product-related transportation	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced
Impact TRA-b: Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways	——	NI	NI	NI	NI	NI	NI	NI
Impact TRA-c: Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks	——	NI	NI	NI	NI	NI	NI	NI
Impact TRA-d: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	——	NI	NI	NI	NI	NI	NI	NI
Impact TRA-e: Result in inadequate emergency access	——	NI	NI	NI	NI	NI	NI	NI
UTILITIES AND SERVICE SYSTEMS								
Impact UT-a: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	Changes in hydrology and water supply could alter the assimilative capacity of some streams where treated wastewater is discharged	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	PS – Reduced
	Changes in water supply could result in the use of other lower quality water supply sources that affect WWTP influent and effluent	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	LTS
	Reduced municipal supply and increased indoor water conservation could lead to a decrease in the production of wastewater	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	LTS

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		Regulatory Pathway ^a	Voluntary Agreement Pathway					
	and increase chemical constituent concentrations in WWTP influent							
	Groundwater storage and recovery or water transfers could increase concentrations of some pollutants of concern in WWTP influent, if the source of the stored groundwater or transfer is of lower quality	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
Impact UT-b: Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	Changes in hydrology and water supply could result in construction to modify or expand existing treatment facilities in order to prevent or mitigate exceedances of drinking water standards and wastewater discharge water quality objectives	PS	NI	PS – Same	NI	PS – Reduced	PS – Increased	PS - Reduced
Impact UT-c: Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects	—	NI	NI	NI	NI	NI	NI	NI
Impact UT-d: Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed	Reduced Sacramento/Delta supply to municipal use could affect municipal water supplies	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	LTS
	Reduced groundwater levels could affect water supplies for communities that rely on groundwater as their primary municipal water source, including economically disadvantaged communities	PS	PS	PS – Same	PS – Reduced	PS – Reduced	PS – Increased	PS – Reduced
	Reduced streamflows and water levels at some locations could affect the ability of existing diversion intakes to divert water, which could affect municipal water supplies	PS	LTS	PS – Same	LTS	PS – Reduced	PS – Increased	PS – Reduced
	Other water management actions (groundwater storage and recovery, water transfers, water recycling, water conservation) could contribute to meeting water demands for municipal use	B	B	B – Same	B – Reduced	B – Reduced	B – Increased	B – Reduced
Impact UT-e: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments	—	NI	NI	NI	NI	NI	NI	NI
Impact UT-f: Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs Impact UT-g: Comply with federal, state, and local statutes and regulations related to solid waste	Changes to agricultural crop type or production resulting from changes in water supply could generate solid waste	LTS	NI	LTS – Same	NI	LTS – Reduced	LTS – Increased	LTS – Reduced
	Increased water recycling could lead to an increase in solid waste byproducts	LTS	LTS	LTS – Same	LTS – Reduced	LTS – Reduced	LTS – Increased	LTS – Reduced

DCC = Delta Cross Channel; EC = electrical conductivity; HAB = harmful algal bloom; HRL = Healthy Rivers and Landscapes; TSS = total suspended solids; WWTP = wastewater treatment plant

PS = Potentially Significant
LTS = Less than Significant
NI = No Impact
B = Beneficial Effect

Same = same impact/effect as the revised proposed Plan amendments (compared to highest significance determination)

Reduced = reduced level of impact/effect as the revised proposed Plan amendments (compared to highest significance determination)

Increased = increased level of impact/effect as the revised proposed Plan amendments (compared to the highest significance determination)

* Identified mitigation is within State Water Board’s authority and jurisdiction and the impacts of the revised proposed Plan amendments could be reduced to less-than-significant levels with mitigation incorporated.

a The impact determinations for the regulatory pathway presented reflect the highest potential impacts. Chapter 13, *Revised Proposed Plan Amendments*, compares the impacts of the regulatory pathway to those of the Low Flow Alternative (35 and 45 scenarios) and of the 55 scenario of the original proposed Plan amendments. Generally, effects of the starting point for the regulatory pathway (55 w/WSAs scenario) on changes in hydrology and water supply are more similar to the impacts of the Low Flow Alternative than those of the 55 scenario, due to the water supply adjustments that reduce water supply impacts and allow more water to be stored in reservoirs at the outset of Plan implementation. However, because the water supply adjustments could be modified after initial implementation and flows could be higher in the range of unimpaired flow in the future on some or all tributaries, impacts could also be as high as those identified for the 55 scenario in Chapter 7, *Environmental Analysis*.

b In the 2023 draft Staff Report Impact TER-a was a single impact concerning “Reduced Sacramento/Delta supply to wildlife refuges and agricultural lands that could affect habitat for special-status species.” To more clearly represent the difference between the regulatory pathway and the VA pathway, Chapter 13, *Revised Proposed Plan Amendments*, split this into two separate impact topics addressing (1) reduced supply to agricultural lands and (2) reduced supply to wildlife refuges.

c Appendix F, *Impact Summary Tables for Alternatives 1, 2,and 3*, Table F-1, *Impact Summary—No Project Alternative (Alternative 1)* incorrectly reports this impact determination as potentially significant. It is corrected here to less than significant. Valley oak woodlands are a groundwater-dependent community, but past land conversion has left them relatively uncommon in the regions where lowered groundwater levels could be of concern (Sacramento River watershed, Delta eastside tributaries, and San Joaquin Valley regions). Valley oak woodlands do not represent a major source of nesting habitat for special-status species; therefore, the impact on special-status species associated with this community would be less than significant, including for the No Project Alternative.

d As explained in Section 13.7.1.2, *Summary of Revisions*, two impact determinations for the VA pathway have been revised from less than to significant to potentially significant: TER-b,c, “Changes in Sacramento/Delta reservoir levels could affect associated riparian and wetland habitat,” and SW-a,f, “Increases in water level fluctuation at some reservoirs could result in increased bioaccumulation of methylmercury in fish.” were modified from less than significant to potentially significant to be consistent with the generally conservative approach to the impact analysis and other impact conclusions associated with changes in reservoir levels. The impact determination for the revised proposed Plan amendments as a whole remains potentially significant.

e As explained in Section 13.7.6.2, *Aquatic Biological Resources*, certain federal Endangered Species Act requirements changed between the release of the 2023 draft Staff Report, and the preparation of the 2025 partially recirculated draft Staff Report. The 2025 analyses revised the determinations regarding impacts on aquatic biological resources related changes in interior Delta flows for the revied proposed Plan amendments, and the Low Flow and High Flow Alternatives, shifting these conclusions to potentially significant as compared to project baseline

f The 2023 draft Staff Report concluded that under the proposed Plan amendments and the Low Flow and High Flow Alternatives changes in Delta inflows and outflows would have beneficial effects on aquatic biological resources. . That analysis considered the Delta flow changes on an annual basis because flow requirements would apply year-round. By contrast, most of the HRL flow commitments are expected during the January through June period, so Chapter 9, *Proposed Voluntary Agreements*, and 13, *Revised Proposed Plan Amendments*, provided separate analyses for January through June and July through December, with the results in those chapters and here. Applying the same half-year division to the proposed Plan amendments and the Low Flow and High Flow Alternatives, impacts would be beneficial January through June and less than significant July through December, as shown here.

g The 2023 draft Staff Report evaluated how the proposed Plan amendments and the Low Flow and High Flow Alternatives could impact aquatic species through increased floodplain inundation on the Feather River and Yolo Bypass. Under the revised proposed Plan amendments, HRL habitat commitments would likely cause increased floodplain inundation on the Mokelumne River and the Yuba River, under the VA pathway, while the regulatory pathway would likely lead to increased inundation on the Bear River. Section 13.7.6.2, *Aquatic Biological Resources*, and Section 13.5, *Beneficial Environmental Effects*, therefore add these tributaries to the analysis.

h The HRL flow commitments evaluated in Section 13.7.12.1, *Surface Water*, include the possible routing of surface water or banked groundwater from Cache Creek to Putah Creek. This could harm water quality in Putah Creek because Cache Creek can have worse water quality conditions than Putah Creek at times.

i In response to a substantial number of public comments received on the 2023 draft Staff Report from tribal and environmental justice communities stating that HABs may cause significant impacts to recreational users of water, the 2025 partially recirculated draft Staff Report determined in Chapter 13, *Revised Proposed Plan Amendments*, that this impact is potentially significant and identified a mitigation measure, Mitigation Measure MM-REC-a: 3, Protect Water Quality and Avoid or Reduce Harmful Algal Blooms and Invasive Aquatic Weeds. This change is reflected in this table and in Chapter 7, *Environmental Analysis*, and Chapter 9, *Proposed Voluntary Agreements*.