Table 1-1. Impact and Mitigation Measure Summary—Proposed Plan Amendments [1,2]

Impact	Impact Conclusions	Proposed Mitigation
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	**Potentially Significant**	
	Reservoir level changes may result in exposure of more unvegetated ground or "bathtub rings" Agriculture land conversion could affect aesthetic resources if properties are developed or neglected	**MM-AES-a–c: Mitigate impacts of the project that could have a substantial adverse effect on a scenic vista or could substantially damage a scenic resource or degrade the existing visual character or quality of the site and its surroundings** 1. Reservoir Management (MM-AQUA-a,d: 1) 2. Measures to Mitigate Conversion of Agricultural Land (MM-AG-a,e)
	Less than Significant	
	Altered streamflows could affect water levels and appearance Reduced Sacramento/Delta supply to municipalities could affect the visual quality of the urban environment Reduced Sacramento/Delta supplies to wildlife refuges could result in slight changes to the visual character of these areas Municipal water conservation measures could cause a change in the visual character of localized settings	—
Impact AES-d: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area	**No Impact**	
	—	—
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	**Potentially Significant**	
	Reduced Sacramento/Delta supply to agriculture could lead to changes in distribution of crop types and acreage and conversion of farmland to nonagricultural use Increased use of water transfers could further incentivize	**MM-AG-a,e: Mitigate impacts related to the conversion of Prime and Unique Farmland and Farmland of Statewide Importance (important farmland) to**

Impact	Impact Conclusions	Proposed Mitigation
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	farmland conversion, particularly in rapidly urbanizing areas Lower groundwater levels could reduce groundwater available for agricultural use Reduced streamflow and water levels at some locations could affect the ability of existing diversion intakes to divert water for agricultural use Increased inundation in the Sutter and Yolo Bypasses during the planting season could affect crop acreage	**nonagricultural use** 1. Voluntary Implementation Plans 3. Diversify Water Portfolios 4. Increase Efficiency of Agricultural Water Use 5. Impose Conditions on Land Use Changes or Other Discretionary Approvals 6. Reduce Impacts on Groundwater (MM-GW-b) 7. Oversight and Approval of Water Transfers 8. Ensure Effectiveness of Diversion Intakes 9. Minimize Disruptions to Agriculture in the Sutter and Yolo Bypasses from Increased Floodplain Inundation
Impact AG-b: Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract	**No Impact**	
	—	—
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 Production (as defined by Government Code Section 51104(g))	**No Impact**	
	—	—
Impact AG-d: Result in the loss of forest land or conversion of forest land to non-forest use	**No Impact**	
	—	—
AIR QUALITY		
Impact AQ-a: Conflict with or obstruct implementation of the applicable air quality plan	**Potentially Significant**	
	Increased groundwater pumping using diesel pumps and generators could result in emissions	**MM-AQ-a–c: Mitigate impacts from criteria air pollutant emissions from**

Impact	Impact Conclusions	Proposed Mitigation
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)		**groundwater pumping**
	Less than Significant	
	Lower streamflows and reservoir levels could result in exposure to increased windblown dust emissions Agricultural land fallowing could result in exposure to increased fugitive dust Post-harvest rice burning could result in exposure to air pollutant emissions	—
	Beneficial	
	Water conservation could result in a reduction in emissions	—
Impact AQ-d: Expose sensitive receptors to substantial pollutant concentrations	**Less than Significant**	
	Lower reservoir levels could result in exposure to increased windblown dust emissions Agricultural land fallowing could result in exposure to increased fugitive dust on lands where soil is exposed Post-harvest rice burning, groundwater pumping, and the use of other water management actions could result in exposure to pollutant emissions	—
Impact AQ-e: Create objectionable odors affecting a substantial number of people	**Less than Significant**	
	Formation of harmful algal blooms from reduced flows and reservoir levels could produce odor compounds Reductions in overall wastewater flow and increased use of recycled water could result in increases in odors Increases in odors from increased groundwater pumping and other water management actions	—
BIOLOGICAL RESOURCES—TERRESTRIAL		
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	**Potentially Significant**	
	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 Reduced Sacramento/Delta supply to wildlife refuges and agricultural lands could affect habitat for special-status	**MM-TER-a: Mitigate impacts on special-status species** 1. Minimize Impacts on Sutter and Yolo Bypass Agricultural Lands (MM-AG-a,e: 4, MM-AG-a,e: 8)

Impact	Impact Conclusions	Proposed Mitigation
regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service	species, including giant gartersnake, Swainson's hawk, greater sandhill crane, tricolored blackbird, and California black rail Reduced Sacramento/Delta supply to municipal and agricultural use could affect special-status plant and wildlife species Capturing flood flows for groundwater storage and recovery could diminish instream ecological benefits of high-flow events* Water transfers based on cropland idling could affect special-status species that use agricultural fields 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*	10. Habitat Protection and Restoration Actions 11. Voluntary Implementation Plans 12. Special-Status Species Management Measures 13. Diversify Water Portfolios 14. Regulation of Waste Discharges to Streams (MM-SW-a,f: 1) 15. Support and Approval of Water Recycling 16. Support and Approval of Groundwater Storage and Recovery 17. Oversight and Approval of Water Transfers
	Less than Significant	
	Increased winter flows on the Sacramento and Feather Rivers could affect bank swallow habitat Changes in reservoir water levels could affect habitat for bald eagle, American white pelican, western pond turtle, and amphibians Changes in streamflow below export reservoirs could affect habitat for special-status terrestrial species Lower groundwater levels could affect natural communities that are dependent on groundwater and sensitive species that are reliant on groundwater-dependent ecosystems	—
	Beneficial	
	Restoration and maintenance of natural flow would improve conditions for special-status plants and wildlife A more natural flow regime could contribute to the control of invasive species in combination with invasive species control efforts Increased frequency and duration of floodplain inundation would improve habitat for wintering waterfowl and other	—

Impact	Impact Conclusions	Proposed Mitigation
	wildlife species Changes in Delta inflows and Delta outflows would improve 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	**Potentially Significant**	
	Changes in reservoir levels and streamflow below reservoirs could affect associated riparian and wetland habitat Reduced Sacramento/Delta supply to wildlife refuges could decrease wetland area over time Reduced Sacramento/Delta supply could affect water quality in managed wetlands Reduced Sacramento/Delta supply to municipal and agricultural use could affect sensitive riparian and wetland habitat, and other natural communities Lower groundwater levels could affect riparian and wetland habitat, and sensitive groundwater-dependent natural communities and wetlands Capturing flood flows for groundwater storage and recovery could diminish the instream ecological benefits of high-flow events* 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 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*	**MM-TER-b,c: Mitigate impacts on riparian habitats or other sensitive natural communities, including wetlands** 1. Reservoir Management (MM-AQUA-a,d: 1) 18. Reduce Impacts on Groundwater-Dependent Ecosystems (MM-GW-b: 1–7) 19. Agricultural Drainage Control (MM-SW-a,f: 7) 20. Implement Mitigation Measure MM-TER-a elements to reduce impacts on riparian habitats and other sensitive natural communities, including wetlands: • Habitat Protection and Restoration Actions (MM-TER-a: 2) • Regulation of Waste Discharges to Streams (MM-TER-a: 6) • Support and Approval of Water Recycling (MM-TER-a: 7) • Support and Approval of Groundwater Storage and Recovery (MM-TER-a: 8) • Oversight and Approval of Water Transfers (MM-TER-a: 9)
	Less than Significant	
	Reduced streamflows below export reservoirs could affect riparian and wetland habitat Reduced agricultural and municipal discharges could affect	—

Impact	Impact Conclusions	Proposed Mitigation
	some wetland communities and native vegetation	
	Beneficial	
	A more natural flow regime would restore and maintain natural processes, such as sediment deposition, marsh accretion, nutrient transport, seed dispersal, and flow-related disturbance, which would benefit riverine and associated wetland and riparian habitat Increased frequency and duration of floodplain inundation would benefit riparian and wetland habitat and associated natural communities Changes in Delta inflows and Delta outflows would benefit 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	—
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	**Potentially Significant**	
	Reduced Sacramento/Delta supply for wildlife refuges and agriculture could decrease the amount of habitat available for resident and migratory waterfowl and shorebirds Increased use of water transfers could result in conversion of crop types that provide foraging habitat for migratory waterfowl and shorebirds	1. MM-TER-d: Mitigate impacts on wildlife movement wildlife nurseries 21. Implement Mitigation Measure MM-TER-a and Mitigation Measure MM-TER-b,c elements to mitigate impacts on the movement of native resident or migratory fish or wildlife species, migratory wildlife corridors, and native wildlife nursery sites. • Habitat Protection and Restoration Actions (MM-TER-a: 2) • Voluntary Implementation Plans (MM-TER-a: 3) • Oversight and Approval of Water Transfers (MM-TER-a: 9) • Reduce Impacts on Groundwater-Dependent Ecosystems (MM-TER-b,c: 2)

Impact	Impact Conclusions	Proposed Mitigation
	Less than Significant	
	Changes in reservoir levels could affect the amount of breeding habitat for resident or migratory waterfowl populations	—
	Beneficial	
	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	—
Impact TER-e: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	**No Impact**	
	—	—
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	**Less than Significant**	
	Reduced Sacramento/Delta supply could affect habitat goals of some habitat conservation plans	—
	Beneficial	
	Changes in Sacramento/Delta tributary flows, Delta inflows, and Delta outflows would complement actions identified in some habitat conservation plans	—
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	**Potentially Significant**	
	Changes in reservoir levels could affect downstream flows and water temperatures below some reservoirs 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) Lower groundwater levels could affect stream-aquifer interactions and streamflows in some locations Diversion of surface water for groundwater storage and recovery could reduce peak flows that provide ecological and habitat functions (e.g., floodplain inundation)* Water transfers could alter hydrologic patterns and affect	MM-AQUA-a,d: Mitigate impacts on aquatic special-status species and wildlife movement or wildlife nurseries 1. Temperature Control and Reservoir Management 22. Voluntary Implementation Plans 23. Habitat Protection and Restoration Actions 24. Special-Status Species Management Measures 25. Regulation of Waste Discharges to

Impact	Impact Conclusions	Proposed Mitigation
native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites	aquatic biological resources in some locations Increased water recycling could decrease the volume of treated wastewater effluent discharge into water bodies that are migratory corridors for fish*	Streams (MM-SW-a,f: 1) 26. Support and Approval of Recycled Water 27. Reduce Impacts on Groundwater (MM-GW-b: 1–7) 28. Diversify Water Portfolios 29. Support and Approval of Groundwater Storage and Recovery 30. Oversight and Approval of Water Transfers
	Less than Significant	
	Changes in interior Delta flows 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 Changes in reservoir levels could affect native reservoir fish species, such as minnows and suckers	—
	Beneficial	
	A more natural flow regime would support a connected and functioning ecosystem and benefit native fish in the Sacramento/Delta Changes in Delta inflows and outflows would benefit native anadromous, estuarine, and resident fish species Increased frequency and duration of floodplain inundation in Feather River and Yolo Bypass would benefit 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	**Less than Significant**	
	Reduced Sacramento/Delta supply could frustrate certain conservation plan management actions	—

Impact	Impact Conclusions	Proposed Mitigation
CULTURAL RESOURCES		
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	**Potentially Significant**	
	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	**MM-CUL-a,b: Mitigate impacts of project that could cause a substantial adverse change in the significance of a historical or archaeological resource** 1. Reservoir Management (MM-AQUA-a,d: 1) 31. Implement or Adhere to Cultural Resource Management Measures for Lands Surrounding Reservoirs 32. Unanticipated Discoveries
	Less than Significant	
	Changes in streamflows could result in inundation and exposure of historic or archaeological resources	—
Impact CUL-c: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	**No Impact**	
	—	—
Impact CUL-d: Disturb any human remains, including those interred outside of dedicated cemeteries	**Potentially Significant**	
	Changes in reservoir levels could expose previously inundated land containing human burials, which could result in disturbance of the burial and impacts from human activity	1. **MM-CUL-d: Mitigate impacts of project that could disturb any human remains, including those interred outside of dedicated cemeteries** 33. Implement MM-CUL-a,b
	Less than Significant	
	Changes in river flows could alter the baseline conditions of human burials interred within or outside of dedicated cemeteries	—

Impact	Impact Conclusions	Proposed Mitigation
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	**Potentially Significant**	
	Changes in hydrology would result in a decrease in hydropower generation in the summer which could be significant for an individual project or community 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	**MM-EN-a–e: Mitigate the project effects on energy resources** 1. Voluntary Implementation Plans 34. Temperature Control and Reservoir Management in the Sacramento/Delta 35. Coordination with Existing Requirements 36. Diversify Water Portfolios 37. Increase Water Efficiency 38. Promote the Use of Renewable Energy 39. Implement Greenhouse Gas Emissions Mitigation (MM-GHG-a and MM-GHG-b)
	Beneficial	
	Changes in water supply could result in a reduction in the energy used to export water from the Delta Water conservation could result in a reduction in energy use	—
Impact EN-f: The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives	**Less than Significant**	
	Reduction in agricultural production could increase energy use for transportation	—
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	**No Impact**	
	—	—

Impact	Impact Conclusions	Proposed Mitigation
Impact GEO-b: Result in substantial soil erosion or the loss of topsoil	**Less than Significant**	
	Agriculture fallowing could temporarily increase erosion and sedimentation	—
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	**Potentially Significant**	
	Lower groundwater levels could exacerbate existing problems associated with ground subsidence	**MM-GEO-c: Mitigate impacts associated with unstable soils and steep slopes (landslide, lateral spreading, subsidence, liquefaction, or collapse)** 1. Actions to Reduce Subsidence 40. Reduce Impacts on Groundwater (MM-GW-b)
I**mpact 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	**No Impact**	
	—	—
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	**No Impact**	
	—	—
GREENHOUSE GAS EMISSIONS		
Impact GHG-a: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	**Potentially Significant**	
	Increased groundwater pumping from wells with diesel-powered pumps could generate additional greenhouse gas emissions Groundwater storage and recovery, water transfers, and water recycling could result in emissions associated with energy use	**MM-GHG-a: Mitigate impacts from greenhouse gas emissions** 1. Water Use Efficiency 41. Water Conservation 42. Energy Efficiency 43. Irrigation Systems 44. Restoration, Pricing Strategies, and Mitigation Credits 45. Implement Energy Mitigation

Impact	Impact Conclusions	Proposed Mitigation
		(Mitigation Measure MM-EN-a–e: 1–6) 46. Implement Mitigation Measure MM-GHG-b, Comply with applicable greenhouse gas emissions reduction plans, policies, or regulations
	Less than Significant	
	Reductions in hydropower generation could result in additional energy generation at fossil-fuel facilities Increased groundwater pumping from wells with electric fuel pumps could generate additional greenhouse gas emissions	—
	Beneficial	
	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 Water conservation could result in a reduction in energy use and greenhouse gas emissions	—
Impact GHG-b: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	**Potentially Significant**	
	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	**MM-GHG-b: Comply with applicable greenhouse gas emission reduction plans, policies, or regulations** 1. Implement Air Quality Plans and Programs 47. Renewable Energy 48. Implement Mitigation Measure (MM-GHG-a): 1–6, Mitigate impacts from greenhouse gas emissions
	Beneficial	
	Water use efficiency, water recycling, and reuse of urban runoff would be beneficial in meeting other state and local GHG goals	—

Impact	Impact Conclusions	Proposed Mitigation
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	**No Impact**	
	—	—
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	**No Impact**	
	—	—
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	**No Impact**	
	—	—
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	**No Impact**	
	—	—
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	**No Impact**	
	—	—

Impact	Impact Conclusions	Proposed Mitigation
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	**No Impact**	
	—	—
Impact HAZ-g: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	**No Impact**	
	—	—
Impact HAZ-h: Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands	**Less than Significant**	
	Changes in reservoir levels in areas likely to continue experiencing forest fires could affect wildland fire suppression practices	—
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	**Potentially Significant**	
	Reduced streamflows of smaller streams below some reservoirs could result in less dilution and increased concentration of contaminants Increased flows could result in increased input of mercury and methylmercury production downstream, including in areas such as the Yolo Bypass Increases in water level fluctuation at some reservoirs could result in increased bioaccumulation of methylmercury in fish Changes in reservoir levels and lowered streamflows below reservoirs could result in increased water temperature in some locations and times of year, particularly while specific cold water habitat implementation measures are refined Changes in reservoir levels could result in increased production of harmful algal blooms (HABs) in some locations Lower summer and fall flows in some Delta channels could	**MM-SW-a,f: Avoid or reduce violations of water quality standards or waste discharge requirements, and/or degradations of water quality** 1. Water Quality Contaminants and Regulation of Waste Discharges 49. Minimize Mercury Impacts 50. Temperature Control and Reservoir Management (MM-AQUA-a,d: 1) 51. Avoid or Reduce Harmful Algal Blooms and Invasive Aquatic Weeds 52. Protect Municipal Water Quality 53. Reduce Impacts on Groundwater (MM-GW-b) 54. Agricultural Drainage Control 55. Diversify Water Portfolios

Impact	Impact Conclusions	Proposed Mitigation
	result in incremental increased production of HABs and invasive aquatic plants Changes in water supply could result in temporary exceedances of maximum contaminant levels in municipal water supply Changes in water supply and indoor water conservation could result in site-specific exceedances of waste discharge requirements due to changes in wastewater treatment plant (WWTP) influent and effluent quality and quantity Reductions in delivery of higher quality Sacramento/Delta supplies to wildlife refuges and managed wetlands could affect water quality Reductions in groundwater accretions could cause decreases in water quality associated 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* Increased use of water transfers could affect water quality in some locations Increased water recycling could reduce instream flows, which could reduce dilution of local sources of contaminants*	56. Support and Approval of Groundwater Storage and Recovery 57. Oversight and Approval of Water Transfers 58. Support and Approval of Water Recycling
	Less than Significant	
	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 Increased Delta outflow would result in little change or beneficial reductions in electrical conductivity (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 Increased floodplain inundation could affect nutrients, organic material, invasive aquatic plants, and HABs	—

Impact	Impact Conclusions	Proposed Mitigation
	Beneficial	
	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 Increased flows would enhance water quality for fish Increased flows could dilute certain constituents in waterbodies that would provide a water quality benefit Changes in Delta outflows could reduce HABs 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	**Potentially Significant**	
	Increases in Clear Creek flow downstream of Whiskeytown Lake could increase risk of erosion and flooding in this area*	**MM-SW-i: Avoid or reduce exposure of people or structures to flood risk on Clear Creek**
	Beneficial	
	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) Changes in Delta inflows would provide for floodplain inundation to benefit 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	**No Impact**	
	—	—

Impact	Impact Conclusions	Proposed Mitigation
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	**No Impact**	
	—	—
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	**Potentially Significant**	
	Increases in Clear Creek flow downstream of Whiskeytown Lake could increase the risk of downstream flooding in this area*	**MM-SW-i: Avoid or reduce exposure of people or structures to flood risk on Clear Creek**
Impact SW-j: Inundation by seiche, tsunami, or mudflow	**No Impact**	
	—	—
HYDROLOGY AND WATER QUALITY—GROUNDWATER		
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)	**Potentially Significant**	
	Increased groundwater pumping and reductions in incidental groundwater recharge from applied irrigation could lower groundwater levels and contribute to groundwater overdraft 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 Reduced Sacramento/Delta supplies could have localized impacts on groundwater storage in areas where Sacramento/Delta supplies are used for groundwater banking Surface water transfers through groundwater substitution could result in lower groundwater levels in basin of origin Agricultural conservation measures could reduce incidental groundwater recharge that would lower groundwater levels	**MM-GW-b: Mitigate the substantial depletion of groundwater supplies or the substantial interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level** 1. Implement the Sustainable Groundwater Management Act (SGMA) 2. SGMA Oversight 3. Diversify Water Portfolios 4. Support and Approval of Groundwater Storage and Recovery 5. Support and Approval of Water Recycling Projects 6. Oversight and Approval of Water Transfers

Impact	Impact Conclusions	Proposed Mitigation
		7. Voluntary Implementation Plans
	Less than Significant	
	Reduced flows downstream of reservoirs could affect stream-aquifer interactions Increased water recycling could have effects on groundwater levels Municipal water conservation measures could reduce incidental groundwater recharge from urban runoff	—
	Beneficial	
	Groundwater storage and recovery could enhance groundwater levels 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	—
Impact GW-a: Violate any water quality standards or waste discharge requirements **Impact GW-f:** Otherwise substantially degrade water quality	**Potentially Significant**	
	Lower groundwater levels can result in changes in groundwater flow direction and gradients in localized areas, which could exacerbate the migration of contaminants In some locations, lower groundwater levels may concentrate salts and nutrients in groundwater over time through evaporative enrichment Lower groundwater levels could affect groundwater quality and potentially affect drinking water wells in some areas, including economically disadvantaged communities Lower groundwater levels could have localized effects on groundwater quality by 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* Other water management actions (water transfers through groundwater substitution and agriculture water	**MM-GW-a,f: Mitigate impacts to groundwater quality from depletion of groundwater supplies or the substantial interference with groundwater recharge** 1. Drinking Water Programs 59. Implement the State and Regional Board's Irrigated Lands Regulatory Program 60. Reduce Impacts on Groundwater (MM-GW-b)

Impact	Impact Conclusions	Proposed Mitigation
	conservation) could result in lower groundwater levels, which could exacerbate groundwater quality impairments or contribute to contaminant loading in localized areas	
	Less than Significant	
	Recycled water may percolate into the underlying groundwater basin, and could affect groundwater quality	—
	Beneficial	
	Increased infiltration from stream-aquifer interactions from increased flows in the Sacramento/Delta could improve 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	—
LAND USE AND PLANNING		
Impact LU-a: Physically divide an established community	**No Impact**	
	—	—
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	**No Impact**	
	—	—
Impact LU-c: Conflict with any applicable habitat conservation plan or natural community conservation plan	**Less than Significant**	
	See Section 7.6.1, *Terrestrial Biological Resources,* Impact TER-f	—
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	**No Impact**	
	—	—

Impact	Impact Conclusions	Proposed Mitigation
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	**No Impact**	
	—	—
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	**Potentially Significant**	
	Increased groundwater pumping for replacement water supply, groundwater storage and recovery, or groundwater substitution transfers could result in higher noise levels	**MM-NOI-a,c,d: Mitigate exposure of persons to or generation of noise levels in excess of established standards and to substantial permanent or temporary increases in ambient noise levels in the project vicinity** 1. Applicable Policies and Regulations 61. Noise-Reduction Consideration in Operations
Impact NOI-b: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	**Less than Significant**	
	Increased groundwater pumping could result in localized and intermittent perceptible vibration	—
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	**No Impact**	
	—	—
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	**No Impact**	
	—	—

Impact	Impact Conclusions	Proposed Mitigation
excessive noise levels		
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)	**No Impact**	
	—	—
Impact POP-b: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere	**No Impact**	
	—	—
Impact POP-c: Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere	**No Impact**	
	—	—
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	**No Impact**	
	—	—

Impact	Impact Conclusions	Proposed Mitigation
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	**Potentially Significant**	
	Changes in reservoir levels could affect boat ramp accessibility affecting recreation opportunities at some reservoirs	**MM-REC-a: Mitigate recreation impacts associated with reservoir level changes** 1. Reservoir Management (MM-AQUA-a–d: 1) 62. Recreation Management Measures
	Less than Significant	
	Reduced summer flows could affect the boating difficulty of rapids for rafting and kayaking at some locations Increased spring and early summer flows could reduce opportunities for swimming or wading in rivers at some locations Incremental increase in potential harmful algal blooms could cause closures to recreation in some waterbodies Changes in reservoir water surface area and elevation could affect sportfish populations and reduce fishing opportunities at some locations Reduced deliveries to wildlife refuges could affect recreational opportunities (e.g., wildlife viewing) Reduced municipal water supply could affect municipal recreational opportunities at parks, playfields, and swimming pools	—
	Beneficial	
	Changes in flow could improve recreational opportunities	—
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	**Potentially Significant**	
	Changes in reservoir levels could affect boat ramp accessibility and lead to modification of existing or development of new boat ramps in some locations	**MM-REC-b: Mitigate impacts from construction or expansion of recreational facilities (boat ramps)** 1. Implement MM-REC-a 63. If construction of new or modified boat ramps is necessary, implement mitigation measures described in

Impact	Impact Conclusions	Proposed Mitigation
		Section 7.22, *New or Modified Facilities*
TRANSPORTATION/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	**Less than Significant**	
	Increased intermittent inundation of floodplains bounded by levees where roads and pedestrian and bicycle paths exist could affect transportation Increased closures of the Delta Cross Channel (DCC) gates could affect recreational boat navigation Changes in agricultural land use or fallowing could lead to changes in agricultural product-related transportation	—
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	**No Impact**	
	—	—
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	**No Impact**	
	—	—
Impact TRA-d: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses	**No Impact**	
	—	—

Impact	Impact Conclusions	Proposed Mitigation
(e.g., farm equipment)		
Impact TRA-e: Result in inadequate emergency access	**No Impact**	
	—	—
UTILITIES AND SERVICE SYSTEMS		
Impact UT-a: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	**Potentially Significant**	
	Changes in hydrology and water supply could alter the assimilative capacity of some streams where treated wastewater is discharged Changes in water supply could result in the use of other lower quality water supply sources that affect WWTP influent and effluent Reduced municipal supply and increased indoor water conservation could lead to a decrease in the production of wastewater 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	**MM-UT-a: Avoid or reduce potential to exceed wastewater treatment requirements** 1. Water Quality Contaminants and Regulation of Waste Discharges 64. Protect Municipal Water Quality 65. Increased Coordination between Water Suppliers and Wastewater Agencies 66. Minimize Surface Water Quality Effects on Wastewater Treatment Plants (MM-SW-a,f) 67. Minimize Groundwater Quality Effects on Wastewater Treatment Plants (MM-GW-a,f)
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	**Potentially Significant**	
	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	**MM-UT-b: Avoid or reduce impacts from the construction of new water or wastewater treatment facilities or expansion of existing facilities** 1. Implement MM-UT-a 68. If construction of new water or wastewater treatment facilities or expansion of existing facilities is necessary, implement mitigation measures described in Section 7.22, *New or Modified Facilities*

Impact	Impact Conclusions	Proposed Mitigation
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	**No Impact**	
	—	—
Impact UT-d: Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed	**Potentially Significant**	
	Reduced Sacramento/Delta supply to municipal use could affect municipal water supplies Reduced groundwater levels could affect water supplies for communities that rely on groundwater as their primary municipal water source, including economically disadvantaged communities 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	**MM-UT-d: Avoid or reduce impacts on municipal supplies** 1. Voluntary Implementation Plans 69. Diversify Water Portfolios 70. Increase Water Use Efficiency 71. Implement Municipal Water Shortage Policy 72. Prioritize Water Supplies for Health and Safety 73. Reduce Impacts on Groundwater (MM-GW-b) 74. Protect Municipal Water Supplies 75. Ensure Effectiveness of Diversion Intakes (MM-AG-a,e: 7)
	Beneficial	
	Other water management actions (groundwater storage and recovery, water transfers, water recycling, water conservation) could contribute to meeting water demands for municipal use	—
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	**No Impact**	
	—	—

Impact	Impact Conclusions	Proposed Mitigation
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	**Less than Significant**	
	Changes to agricultural crop type or production resulting from changes in water supply could generate solid waste Increased water recycling could lead to an increase in solid waste byproducts	—

Note:

[1] Table 1-1 is the same Impact and Mitigation Measure Summary Table presented in Section 7.1, *Introduction, Project Description, and Approach to Environmental Analysis* (see Table 7.1-2).

[2] Additional impacts and mitigation measures associated with habitat restoration and other ecosystem projects, as well as new and modified facilities, are presented in Section 7.21, *Habitat Restoration and Other Ecosystem Projects* (Table 7.21-1) and Section 7.22, *New and Modified Facilities* (Table 7.22-1).