supplies that replace pumping of groundwater. Surface water or groundwater conjunctive use increases recharge with surface water supplies, which in turn improves groundwater levels as well as dry-year water supplies.

Project construction could temporarily change the availability of water supplies by temporarily affecting water quality to the degree that supplies could be unusable, or it could result in a temporary loss of access to manually operated agricultural intakes. In addition, dewatering activities during construction could temporarily affect groundwater elevations, which could limit the ability of some water users to access groundwater. Furthermore, operation of projects could result in changes to water supply as a result of changes in flow volume and timing.

Construction activities such as paving, soil compacting, and grading of land slopes could increase the imperviousness of the soils. This change would result in relatively localized decreases in infiltration rates and associated increases in the amount of land and rate of surface runoff on-site and immediately downstream (or downslope) of the site, which could persist at any of the facilities that have permanent changes in land cover. These changes in the rate of surface runoff could exceed the capacity of existing or planned stormwater drainage systems and/or result in localized flooding.

As described above, these significant effects could be both temporary (e.g., construction dewatering activities) and permanent (e.g., new or expanded storage or conveyance). These changes associated with past, present, and planned future projects would result in a cumulatively significant impact on water resources.

Restoration projects permitted under the Order could result in the release of pollutants into surface water and/or groundwater. Such a release could substantially degrade water quality as a result of project construction (e.g., localized degradation of surface water and groundwater quality from the discharge of hazardous materials during construction) and project operations (e.g., localized degradation of surface water and groundwater quality from a release of pollutants during operation). (These potential adverse effects are addressed in Impact 3.11-1.)

Projects permitted under the Order could deplete groundwater supplies or interfere substantially with groundwater recharge during project construction (e.g., changes in groundwater recharge from altered drainage patterns during construction when land grading, stockpiling dredged or other in-water material before disposal, stockpiling construction materials, or constructing structures). (These potential adverse effects are addressed in Impact 3.11-2.)

In addition, projects permitted under the Order could substantially alter the existing drainage pattern through the alteration of the course of a stream or river; create or contribute to runoff water which could exceed the capacity of existing or planned stormwater drainage systems; or impede or redirect flood flows (e.g., installation of constructed structures such as fish screens could change drainage patterns during construction). (These potential adverse effects are addressed in Impact 3.11-3.)

Therefore, individual restoration projects permitted under the Order could result in a cumulatively considerable incremental contribution to a significant cumulative impact related to hydrology and water quality.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with the general protection measures listed below would be required as applicable to a given project. As described in Section 3.11, *Hydrology and Water Quality,* the appropriate project proponents would be required to incorporate several general protection measures: GPM-10, GPM-11, GPM-12, WQHM-1, WQHM-2, WQHM-3, WQHM-4, WQHM-5, WQHM-6, IWW-1, IWW-2, IWW-3, IWW-4, IWW-6, IWW-10, IWW-11, IWW-12, IWW-13, VHDR-2, VHDR-3, VHDR-4, VHDR-6, VHDR-7, and VHDR-8. Incorporating these general protection measures would reduce adverse effects of project construction and operation on hydrology and water quality. If necessary, impacts of individual restoration projects would be addressed in future environmental analyses that would be conducted by the appropriate project proponents.

Implementation of the general protection measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency. Restoration projects permitted under the Order could result in significant hydrology and water quality impacts.

However, construction-related impacts would be minimal and temporary. Furthermore, many of the long-term effects on hydrology and water quality of restoration projects permitted under the Order would be expected to be beneficial or, in some cases, neutral (i.e., fish screens or ladders), because the specific purpose of these projects would be to correct existing conditions that contribute to resource degradation. For example, restoration projects (i.e., bioengineered bank stabilization and removal of pilings and other in-water structures) would reduce the input of fine sediment and remove potential contaminant sources and hazards (i.e., untreated and chemically treated wood pilings, piers, and vessels), which would improve water quality. In addition, restoration projects could establish, restore, and enhance tidal, subtidal, and freshwater wetlands (i.e., floodplain restoration), which would act as natural filters by removing excess sediment and nutrients.

Restoration projects (i.e., stream, floodplain, and riparian projects) are also expected to have beneficial impacts on groundwater recharge. Large-scale floodplain restoration projects may provide for containment of reservoir releases in preparation for large storm events, which would also be beneficial. Although restoration projects could alter current conditions, such projects would be expected to have relatively localized effects on-site and immediately downstream (or downslope) of the individual restoration project site.

In addition, the general protection measures discussed above would reduce the contribution of permitted restoration projects to less than cumulatively considerable. Therefore, cumulative impacts would be **less than significant.**

4.6.11 Land Use and Planning

Construction, constructed facilities (natural or artificial infrastructure), and O&M for the projects listed in Table 4-2 would introduce new physical features, such as culverts, bridges, fish screens, ladders, or pilings. They would also involve removal of small dams, tide gates, flood gates, or legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams.

These facilities, features, and actions could conflict with land use plans, policies, or regulations or physically divide an established community, which could result in significant temporary or permanent adverse effects related to land use. For example, stockpiling of materials and new intakes/diversions associated with subsidence reversal programs would be nonlinear and localized, and therefore would not physically divide an established community. These changes associated with past, present, and planned future projects would result in a cumulatively significant impact on land use and planning.

Restoration projects permitted under the Order could result in conflicts with land use plans, policies, and regulations adopted to avoid or mitigate an environmental impact or result in the division of an established community. (These potential adverse effects are addressed in Impacts 3.12-1 and 3.12-2.) This could result in significant temporary or permanent adverse effects on land use in the project area. Therefore, restoration projects permitted under the Order could result in a cumulatively considerable incremental contribution to a significant cumulative impact related to the substantial impact on land use and planning.

As part of the State Water Board or Regional board's issuance of a NOA for a restoration project under the Order, compliance with applicable city and county general plans and other local policies and ordinances would be required. If necessary, impacts of individual restoration projects would be addressed in future environmental analyses that would be conducted by the appropriate project proponents. Construction activities for restoration projects could temporarily physically divide a community; however, these conversions would most likely take place on the periphery of a community, rather than through the community, and would be temporary.

Implementation of the city and county general plans and other local policies and ordinances would be the responsibility of the project proponent(s) under jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency. In most cases, implementation of the city and county general plans and other local policies and ordinances would reduce the contribution of permitted restoration projects to less than cumulatively considerable. However, because the extent and location of restoration projects permitted under the Order are yet to be determined, it is not possible to conclude that restoration projects would not physically divide an established community. Therefore, cumulative impacts could remain **significant and unavoidable**.

4.6.12 Mineral Resources

Construction, constructed facilities (natural or artificial infrastructure), and O&M for the projects listed in Table 4-2 would introduce new physical features, such as culverts, bridges, fish screens, ladders, or pilings. They would also involve removal of small dams, tide gates, flood gates, or legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams.

These facilities, features, and actions could affect mineral resources designated by the California Geological Survey as resources of regional and statewide importance (MRZ-2). Active, permitted mines are present and development of the proposed restoration projects could substantially deplete already inadequate aggregate resources. Restoration projects permitted under the Order could also result in the loss of availability of a locally important mineral recovery site, if work would occur on or near mineral recovery sites that have been identified in local general plans, specific plans, or other land use plans. Many producing natural gas wells lie within delineated natural gas fields and a permitted mining operations are present in the study area. These significant impacts could be both temporary during construction and permanent from placement of new infrastructure (natural and artificial). The effect on mineral resources that would result from these changes could be a cumulatively significant impact.

Restoration projects permitted under the Order could result in the loss of availability of a known mineral resource. (This potential adverse effect is addressed in Impact 3.13-1.) For example, constructing infrastructure such as setback levees and widening floodplains would require large quantities of construction aggregate, which could limit the ability of other aggregate users in the area to obtain and use aggregate.

Projects could result in the loss of availability of locally important mineral resource recovery site. (This potential adverse effect is addressed in Impact 3.13-2.) For example, constructing setback levees and widening floodways could temporarily or permanently affect mining operations if the projects were constructed at the locations of these existing resource recovery sites. Therefore, restoration projects permitted under the Order could result in a cumulatively considerable incremental contribution to a significant cumulative impact related to mineral resources.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measures MIN-1 and MIN-2 would be required when applicable to a given project as required by Section 15092 of the State CEQA Guidelines. Mitigation Measure MIN-1 would minimize impacts related to the loss of a known mineral resource. Mitigation Measure MIN-2 would minimize impacts related to the loss of a locally important mineral recovery site.

If necessary, impacts of individual restoration projects would be addressed in future environmental analyses that would be conducted by the appropriate project proponents. Mitigation Measures MIN-1 and MIN-2 would continue to be implemented as part of the restoration projects permitted under the Order.

Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing agency. In addition, Mitigation Measures MIN-1 and MIN-2 would reduce the contribution of permitted restoration projects to less than cumulatively considerable. Therefore, cumulative impacts would be **less than significant**.

4.6.13 Noise

Construction, constructed facilities (natural or artificial infrastructure), and O&M for the projects listed in Table 4-2 would introduce new physical features, such as culverts, bridges, fish screens, ladders, or pilings. They would also involve removal of small dams, tide gates, flood gates, or legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams.

These facilities, features, and actions could expose people to noise levels in excess of standards established in applicable plans and ordinances, cause a substantial increase in ambient noise levels, and expose sensitive receptors to excessive groundborne vibrations. Restoration projects permitted under the Order could be located within 2 miles of a public airport or public use airport, within the vicinity of a private airstrip, or within an airport land use plan, or where such a plan has not been adopted, could expose people residents or workers to excessive noise levels. These significant effects could be both temporary or long-term during construction and operation and permanent during operation.

For example, some restoration projects permitted under the Order could require the use of haul trucks and heavy equipment that could expose people to elevated noise levels and groundborne vibrations, creating noise that may exceed ambient noise levels. Activities also could occur at night and close to receptors in populated areas. Actual exposure levels would depend on the intensity of the construction activity, the distance of sensitive receptors to the noise or vibration source, and any intervening structures or topography that might affect noise or vibration attenuation. These changes associated with past, present, and planned future projects would result in a cumulatively significant noise impact.

Restoration projects permitted under the Order could expose people to elevated noise levels and could result in substantial temporary or permanent increases in ambient noise levels and/or excessive groundborne noise levels. (These potential adverse effects are addressed in Impacts 3.14-1 and 3.14-3.) Projects also could expose sensitive receptors to excessive groundborne vibrations. (This potential adverse effect is addressed in Impact 3.14-2.)

Restoration projects could be located within the vicinity of a private airstrip or an airport land use plan, or where such plan has not been adopted, within 2 miles of a public airport or public use airport, and could expose people residing or working to excessive noise levels. (This potential adverse effect is addressed in Impact 3.14-4.)

For example, restoration projects involving levee deconstruction and construction may use heavy equipment during site preparation, restoration-related grading and excavation, and deconstruction. In such a case, construction activities could influence noise levels at and near the project site. These noise levels would fluctuate depending on the particular type, number, and duration of equipment used (e.g., small power tools, generators, dump trucks, graders). If, for example, the construction activity was located near single-family and multifamily residential and transient lodging, restoration activities could expose these sensitive receptors to increased noise levels.

Typical vibration levels tend to dissipate rapidly with increasing distance from the vibration source. For example, stockpiling of materials may require constructing piers for barge landings, and pier construction may use pile drivers that could generate 1.518 inches per second peak particle velocity and 112 vibration decibels at 25 feet. Applying the Federal Transit Administration's recommended procedure for determining vibration levels at various distances from the source, the predicted most-conservative ground vibration levels would exceed the threshold of 80 vibration decibels for human disturbance for pile driving at distances within 290 feet. With regard to structural damage, the threshold of 0.2 inch per second peak particle velocity would be exceeded for pile driving at distances within 96 feet.

Furthermore, restoration projects permitted under the Order could be located within 2 miles of a public airport and, depending on the location, could expose people working in the project area to excessive noise levels. However, routine O&M activities (e.g., vegetation clearing, debris removal, monitoring) would be limited and temporary, occurring yearly, monthly, weekly, or as needed. Therefore, projects permitted under the Order could result in a cumulatively considerable incremental contribution to a significant cumulative impact related to the substantial increase in noise levels and groundborne vibration.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measures NOISE-1, NOISE-2, and NOISE-3 would be required when applicable to a given project as required by Section 15092 of the State CEQA Guidelines. Mitigation Measures NOISE-1 and NOISE-2 would minimize impacts from construction-related and operational noise conflicts. Mitigation Measure NOISE-3 would minimize impacts on noise levels within the vicinity of an airport.

If necessary, impacts of individual restoration projects would be addressed in future environmental analyses that would be conducted by the appropriate project proponents. Mitigation Measures NOISE-1, NOISE-2, and NOISE-3 would continue to be implemented as part of the restoration projects permitted under the Order.

In addition, as discussed in Section 3.14, *Noise,* restoration projects permitted under the Order would incorporate several general protection measures: GPM-2, GPM-3, GPM-6, and IWW-9. Incorporating these general protection measures would further reduce adverse effects of project construction and O&M related to noise.

Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional

Board, or other authorizing regulatory agency. Mitigation Measures NOISE-1, NOISE-2, and NOISE-3 and the applicable general protection measures would reduce the contribution of permitted restoration projects to less than cumulatively considerable in most cases.

Although cumulative impacts would be less than significant in most cases, the extent and location of such actions are yet to be determined, and for construction impacts on ambient noise levels and groundborne vibration and noise levels, it is not possible to conclude that the mitigation measures would reduce significant impacts to less than cumulatively considerable in all cases. Therefore, cumulative impacts would remain **significant and unavoidable.**

4.6.14 Population and Housing

Construction, constructed facilities (natural or artificial infrastructure), and O&M for the projects listed in Table 4-2 would introduce new physical features, such as culverts, bridges, fish screens, ladders, or pilings. They would also involve removal of small dams, tide gates, flood gates, or legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams.

These facilities, features, and actions would include construction activities for large projects such as removing levees, constructing new setback levees, and widening floodways. Projects could require workers to move to the area to support construction and O&M activities such as vegetation removal and monitoring, potentially resulting in significant population growth and increased demand for housing. Projects may also include the need for more specialized construction workers and could require construction workers to relocate to the construction area. Construction activities could also remove or relocate existing infrastructure such as boat docks, boat haul-out locations, campgrounds and campsites, day-use sites, roads/trails, and off-highway/off-road vehicle routes that could eliminate housing or displace a substantial number of people or housing, necessitating the construction of replacement housing elsewhere.

For example, fish screens, water conveyance pipelines, and the widening of floodplains could include excavation and grading activities that could result in the elimination of housing. These effects could be both temporary or long-term during construction and permanent during operation. These changes associated with past, present, and planned future projects would result in a cumulatively significant impact on population, employment, and housing.

Restoration projects permitted under the Order could require relocation by construction and operation crew members, resulting in population growth and increased demand for housing. (This potential adverse effect is addressed in Impact 3.15-1.) For example, large projects could include construction activities such as removing levees, constructing new setback levees, and widening floodways. These projects might require some more specialized construction workers who potentially would relocate to the construction area. However, impacts would be negligible because none of the restoration projects permitted under the Order would involve constructing new homes,

businesses, or other infrastructure that would provide new long-term employment opportunities or result in population growth and demand for housing.

Routine O&M of restoration projects permitted by the Order could include maintenance and cleaning of fish screens, removal of debris and sediment from stream crossings, and maintenance and operation of fishways. These O&M activities could require additional staff. However, it is anticipated that these activities would be similar to those in the project area located near a waterway. Furthermore, although temporary or longer term population increases could occur, the potential presence of existing vacant units in and around the project area would help absorb the population increases, which would be negligible and temporary.

None of the restoration projects permitted under the Order would eliminate housing. (This potential adverse effect is addressed in Impact 3.15-2.) Some construction activities (such as for projects to establish, restore, and enhance stream and riparian habitats and upslope watershed sites) could involve removing or relocating existing infrastructure such as boat docks, boat haul-out locations, campgrounds and campsites, day-use sites, roads/trails, and off-highway/off-road vehicle routes. However, as mentioned above, none of these activities for restoration projects permitted under the Order are expected to eliminate housing or displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. Most, if not all, projects that would be constructed and operated under the Order would be located in or near waterways. Water conservation projects could involve constructing new infrastructure (e.g., fish screens, fishways, pumps and piping, screens and head gates); however, these projects would most likely be in less urbanized or rural environments in areas with minimal housing.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with the general protection measures and mitigation measures would be required when applicable to a given project as required by Section 15092 of the State CEQA Guidelines.

Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency. Restoration projects permitted under the Order could result in some population and housing effects, given that the location and extent of individual restoration projects are yet to be determined. However, even though these factors are not known, these impacts would be expected to be negligible because projects would typically occur in low-density population regions near waterways, limiting the potential for the displacement of people or housing. Furthermore, none of the restoration projects permitted under the Order are expected to remove or relocate housing. Therefore, projects permitted under the Order would not result in a cumulatively considerable incremental contribution to a significant cumulative impact related to population, employment, and housing, and this cumulative impact would be **less than significant**.

4.6.15 Recreation

Construction, constructed facilities (natural or artificial infrastructure), and O&M would introduce new physical features, such as culverts, bridges, fish screens, ladders, or pilings. They would also involve removal of small dams, tide gates, flood gates, or legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams.

These facilities, features, and actions could significantly alter, impair, degrade, or eliminate recreational resources, facilities, and opportunities, and may include the construction or expansion of recreational facilities that could result in significant environmental impacts. Construction and operation of the projects also could increase the use of existing recreational resources and facilities such that substantial physical deterioration would occur or be accelerated.

For example, work to remove small dams, tide gates, flood gates, and legacy structures could temporarily impair, degrade, or eliminate recreational resources, facilities, and opportunities with the installation of site fencing and signage, removal of soil and vegetation, excavation and grading activities, dust abatement, staging and storage of equipment and materials, vehicle parking, and construction operations. These activities also may cause recreational users to be displaced to other resources or facilities temporarily, over the long term, or permanently. Such displacement may increase the use of other existing recreational resources or facilities, potentially causing their physical condition to substantially deteriorate. Noise from construction activities also may directly detract from nearby recreational experiences and deter wildlife, thus temporarily impairing wildlife viewing opportunities. These changes associated with past, present, and planned future projects would result in a cumulatively significant impact on recreational resources.

Restoration projects permitted under the Order could result in temporary or long-term impairment, degradation, and elimination of recreational resources, facilities, and opportunities in the project area because of the presence of work sites and other construction and O&M maintenance activities. (This potential adverse effect is addressed in Impact 3.16-1.) For example, work to remove small dams, tide gates, flood gates, and legacy structures could temporarily block boaters' access to boat launches and other river access areas and adversely impair recreational opportunities for trail users. Infrastructure may be removed or relocated along streams and in riparian areas. In addition, establishing, restoring, or enhancing stream, riparian, or tidal habitats may require permanently relocating or decommissioning existing trails or roads, which could increase the use of other recreational facilities. Widening a floodway may also preclude the use of recreational facilities that could be periodically inundated.

Construction activities and constructed facilities for restoration projects permitted under the Order could alter or result in the construction or expansion of existing recreational resources, with resulting environmental impacts. (This potential adverse effect is addressed in Impact 3.16-2.) For example, constructing a floodplain restoration project could generate noise that would impair the use of a nearby recreation area.

Restoration projects permitted under the Order could temporarily or permanently impede recreational use, which could increase the use of existing recreational resources and facilities, potentially resulting in the substantial physical deterioration or the acceleration of deterioration of resources and facilities. (This potential adverse effect is addressed in Impact 3.16-3.) For example, establishing, restoring, or enhancing stream, riparian, or tidal habitats may require permanently relocating or decommissioning existing trails or roads. Recreationists who use the trails and/or roads would need to use other facilities while the trails or roads are closed. This displacement may increase the use of other existing recreational resources or facilities, potentially leading to their substantial physical deterioration. Therefore, restoration projects permitted under the Order could result in a cumulatively considerable incremental contribution to a significant cumulative impact related to the substantial impairment, degradation, and elimination of recreational resources.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measure REC-1 would be required when applicable to a given project as required by Section 15092 of the State CEQA. If necessary, impacts of individual restoration projects would be addressed in future environmental analyses that would be conducted by the appropriate project proponents. Mitigation Measure REC-1 would continue to be implemented as part of the individual restoration projects permitted under the Order.

As discussed in Section 3.16, *Recreation*, restoration projects permitted under the Order would incorporate several general protection measures: GPM-8, GPM-9, GPM-14, GPM-15, GPM-15, GPM-16, GPM-17, GPM-18, GPM-19, GPM-20, WQHM-1, WQHM-2, WQHM-3, WQHM-4, WQHM-5, WQHM-6, IWW-1, IWW-2, IWW-3, IWW-5, IWW-6, IWW-8, IWW-13, VHDR-1, VHDR-2, VHDR-3, VHDR-4, and VHDR-6. Incorporating these general protection measures would further reduce adverse effects of project construction and operation on recreational resources.

Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency. The mitigation measure and general protection measures listed above would reduce impacts on recreation to less than cumulatively significant levels. Therefore, cumulative impacts would be **less than significant**.

4.6.16 Transportation

Construction, constructed facilities (natural or artificial infrastructure), and O&M would introduce new physical features, such as culverts, bridges, fish screens, ladders, or pilings. They would also involve removal of small dams, tide gates, flood gates, or legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams.

These facilities, features, and actions could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system; substantially increase hazards due to a design feature or incompatible uses; result in inadequate emergency access; and conflict with adopted policies, plans, or

programs supporting alternative transportation. These significant effects could be temporary or long-term during construction or operation, and could be permanent during operation.

For example, several project types could affect the use of roads, highways, bridges, railroads, navigable waterways, and transit, bicycle, and pedestrian facilities if temporary, long-term, or permanent closures were necessary to accommodate the transport and use of materials and equipment, and the installation or operation of facilities. These project types include the construction and operation of culverts, fish screens, ladders, and pilings; removal of small dams, tide gates, and legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams. Depending on the project design, roads may need to be relocated, potentially resulting in the presence of new and/or rerouted traffic at intersections or road segments that are not designed to accommodate the additional traffic. Operations and construction activities such as the import and export of materials may require an increase in the numbers of trucks at intersections and on road segments, which could lead to a substantial increase in traffic congestion in those locations. These activities also may reduce emergency access and increase emergency response times. Large vehicles entering roadways from construction and operation activities could pose a hazard to oncoming vehicles, bicyclists, and pedestrians. Project facility designs could affect navigation in waterways and cause an increase in potential hazards: They could expose boaters to additional channel hazards, such as debris or collisions when multiple vessels are present in the area at the same time. These changes associated with past, present, and planned future projects could result in a cumulatively significant impact on transportation.

Restoration projects permitted under the Order could result in significant temporary, long-term, or permanent adverse effects on transportation by conflicting with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system including transit, roadways, bicycle, and pedestrian facilities. Such effects could include road closures or relocation, potentially by increasing traffic congestion from an increase in the numbers of trucks at intersections and on road segments. (These potential adverse effects are addressed in Impact 3.17-1.)

In addition, projects could conflict with or be inconsistent with State CEQA Guidelines Section 15064.3(b) and result in a significant amount and distance of automobile travel attributed to a restoration project. (This potential adverse effect is addressed in Impact 3.17-2.) Construction and operation activities associated with restoration projects permitted under the Order could substantially increase hazards due to a geometric design feature or incompatible uses. (This potential adverse effect is addressed in Impact 3.17-3.)

Therefore, projects permitted under the Order could result in a cumulatively considerable incremental contribution to a significant cumulative impact related to transportation.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measures TRA-1, TRA-2, TRA-3, TRA-4, TRA-5, TRA-6, TRA-7, and TRA-8 would be required when applicable to a given project as required by Section 15092 of State CEQA Guidelines. Mitigation Measures TRA-1, TRA-2, TRA-3, TRA-4, and TRA-5 would minimize impacts related to a conflict with a plan, ordinance, or policy addressing the circulation system. Mitigation Measure TRA-6 would minimize impacts associated with increased vehicle miles traveled. Mitigation Measures TRA-7 and TRA-8 would minimize hazards due to a geometric design feature or incompatible use.

If necessary, impacts of individual restoration projects would be addressed in future environmental analyses that would be conducted by the appropriate project proponents. Mitigation Measures TRA-1, TRA-2, TRA-3, TRA-4, TRA-5, TRA-6, TRA-7, and TRA-8 would continue to be implemented as part of the restoration projects permitted under the Order.

In addition, as discussed in Section 3.17, *Transportation,* restoration projects permitted under the Order would incorporate several general protection measures: GPM-6, GPM-10, and WQHM-1. Incorporating these general protection measures would further reduce adverse effects of project construction and O&M on transportation.

Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency. In addition, Mitigation Measures TRA-1, TRA-2, TRA-3, TRA-4, TRA-5, TRA-6, TRA-7, and TRA-8 and the applicable general protection measures would reduce the contribution of permitted restoration projects to less than cumulatively considerable in most cases.

Although cumulative impacts would be less than significant in most cases, the extent and location of such actions are not yet to be determined, and because the potential exists for a restoration project to conflict or be inconsistent with State CEQA Guidelines Section 15064.3(b), it is not possible to conclude that the mitigation measures would reduce significant impacts to less than cumulatively considerable in all cases. Therefore, cumulative impacts could remain **significant and unavoidable**.

4.6.17 Tribal Cultural Resources

Construction, constructed facilities (natural or artificial infrastructure), and O&M would introduce new physical features, such as culverts, bridges, fish screens, ladders, or pilings. They would also involve removal of small dams, tide gates, flood gates, or legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams.

These facilities, features, and actions could require the use of heavy equipment and ground disturbance, such as grading of levees for erosion control and inundation of land as part of water storage projects. Construction and operational activities could result in the disturbance or destruction of surficial and subsurface tribal cultural resources, which could result in significant permanent adverse effects on these resources. Operational

activities also may limit tribal access to sacred locations or gathering sites. Activities occurring in areas with denser concentrations of tribal cultural resources would have a higher potential to affect eligible resources. These changes associated with past, present, and planned future projects would result in a cumulatively significant impact on tribal cultural resources.

Restoration projects permitted under the Order could result in significant permanent adverse effects on tribal cultural resources, by damaging or destroying such resources through the use of heavy equipment or inundation of land as part of water storage projects. Thus, projects may disturb surficial and subsurface tribal cultural resources or limit tribal access to sacred locations or gathering sites in the project area. (This potential adverse effect is addressed in Impact 3.18-1.) Therefore, restoration projects permitted under the Order could result in a cumulatively considerable incremental contribution to a significant cumulative impact on tribal cultural resources.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measures CUL-2, CUL-3, and CUL-4 would be required when applicable to a given project as required by Section 15092 of the State CEQA Guidelines. Mitigation Measures CUL-2, CUL-3, and CUL-4 would minimize impacts on tribal cultural resources.

If necessary, impacts of individual restoration projects would be addressed in future environmental analyses that would be conducted by the appropriate project proponents. Mitigation Measures CUL-2, CUL-3, and CUL-4 would continue to be implemented as part of restoration projects permitted under the Order.

Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency. In addition, Mitigation Measures CUL-2, CUL-4, and CUL-4 would reduce the contribution of permitted restoration projects to less than cumulatively considerable in most cases.

However, because the extent and location of such actions are not yet determined, it is not possible to conclude that mitigation measures would reduce the contribution of permitted projects to less than cumulatively considerable in all cases. Therefore, cumulative impacts could remain **significant and unavoidable**.

4.6.18 Utilities and Service Systems and Public Services

Construction, constructed facilities (natural or artificial infrastructure), and O&M would introduce new physical features, such as culverts, bridges, fish screens, ladders, or pilings. They would also involve removal of small dams, tide gates, flood gates, or legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams.

Construction of new water systems (e.g., diversion, treatment, and distribution facilities) or expansion of existing systems is prompted by increased customer demand, typically as a result of new land development (such as development that transitions land use from rural to more urban use) or population growth. As described in Section 3.14,

Population and Housing, and Section 5.1, Growth-Inducing Impacts, restoration projects permitted under the Order would not include new land development or induce substantial population growth that would add new water customer demands or increase long-term water demand from water systems.

Implementation of the restoration projects listed in Table 4-2 are not anticipated to require the relocation of new water or expanded water facilities due to the extensive cost of relocation and potential environmental impacts from the relocation. However, future restoration projects could require the relocation of stormwater outfalls or utilities (e.g., electric power, natural gas, or telecommunication facilities) that would cause significant environmental effects.

Population changes could occur resulting in reasonably foreseeable future development (e.g., new housing or commercial development). These future development projects may require surface water during normal, dry and multiple dry years. below, these projects are not anticipated to result in insufficient water supplies by meeting existing regulatory requirements (e.g., existing Biological Opinions on the Long-Term Operations of the Central Valley Project and State Water Project). Future restoration projects would need to comply with relevant federal, state, and local regulations and ordinances (including demonstrating there are sufficient water supplies, if needed), as would reasonably foreseeable future development projects.

Constructed facilities, including expansion or modification of floodplains and fish passage improvements, could have effects on water supply availability if water levels are reduced near diversion intakes. However, anticipated changes in water levels resulting from constructed facilities would need to comply with relevant federal, state, and local regulations and ordinances and would not impede operations of existing diversion facilities or substantially change water supply availability to water users.

Implementation of the restoration projects listed in Table 4-2 would generate solid waste from construction and O&M, but the projects could be served by a landfill that has insufficient permitted capacity for the demand. Construction and O&M activities could result in adverse physical impacts by requiring the construction of new or modified fire protection and police protection facilities, schools, and other public facilities if such activities cause the population to increase. Adverse impacts would also occur if additional public facilities would be required to maintain acceptable service ratios, response times, or other performance objectives for the public services in response to the projects. These significant effects could be temporary or long-term during construction and permanent during operations. These changes associated with past, present, and planned future projects would result in a cumulatively significant impact on utilities and public service systems.

Most projects permitted under the Order that would involve earthmoving activities would not generate large amounts of construction waste (e.g., organic materials from borrow areas and restoration construction sites, excavated material, and soil not suitable for earthen structures) that would require disposal at a landfill. (This potential adverse effect is addressed in Impact 3.19-2.) Constructed facilities and O&M could also produce solid waste; however, the magnitude of waste created would be less than that

produced during construction activities and would most likely be very small relative to landfill capacity.

Restoration projects permitted under the Order could result in substantial adverse physical impacts associated with construction of new or modified fire protection, police protection, schools, and other public facilities. (This potential adverse effect is addressed in Impact 3.19-3.) However, construction activities for restoration projects permitted under the Order would not include new land development or occupied structures that would increase population and add new public service demands. Furthermore, any increases in demand for law enforcement, fire protection, and medical services related to this small change in population in any one county are expected to be negligible.

Therefore, restoration projects permitted under the Order could result in a cumulatively considerable incremental contribution to a significant cumulative impact related to the substantial degradation or destruction of utilities and public services.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with general protection measures and mitigation measures would be required when applicable to a given project as required by Section 15092 of the State CEQA Guidelines. Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency.

The extent and location of restoration projects permitted under the Order are not known at this time; however, for the reasons discussed above, projects could result in significant and unavoidable impacts resulting from relocation of stormwater outfalls or utilities (e.g., electric power, natural gas, or telecommunication facilities). Therefore, cumulative impacts could remain **significant and unavoidable**.

The extent and location of restoration projects permitted under the Order are not known at this time; however, for the reasons discussed above, projects are not anticipated to result in insufficient water supplies available to serve the project during normal, dry, or multiple dry years; result in insufficient permitted capacity of the local landfill to accommodate the project's solid wastes; or result in the construction of new or modified fire protection, police protection, schools, and other public facilities. Therefore, cumulative impacts could remain **less than significant**.

4.6.19 Wildfire

Construction, constructed facilities (natural or artificial infrastructure), and O&M would introduce new physical features, such as culverts, bridges, fish screens, ladders, or pilings. They would also involve removal of small dams, tide gates, flood gates, or legacy structures; placement of bioengineered stabilization materials; grading and excavation to reconnect, set back, or breach levees; reconnection of stream and river channels; creation of depressions, berms, and drainage features; and installation of cofferdams.

These facilities, features, and actions could result in the temporary, long-term, or permanent increases in risk for fire exacerbation or result in downslope or downstream risks due to runoff, post-fire slope instability, or drainage changes. These significant effects could be temporary or long-term during construction and permanent during

O&M. These changes associated with past, present, and planned future projects would result in a cumulatively significant wildfire impact.

Restoration projects permitted under the Order could exacerbate fire risk if located in a High or Very High Fire Hazard Severity area. (This potential adverse effect is addressed in Impact 3.20-1.) For example, heavy construction equipment and passenger vehicles could drive on vegetated areas before clearing and grading, which could increase the fire danger. Construction equipment or heated mufflers could throw sparks, or oils, lubricants, and other combustible materials could accidentally ignite, resulting in a fire. Construction activities such as steel cutting and welding, while typically used only for unanticipated equipment maintenance during most individual restoration project types, are also potential sources of ignition.

In addition, increased surface runoff and erosion is possible in a post-fire environment where surface vegetation has been removed and steep slopes can increase the velocity of runoff flows. (This potential adverse effect is addressed in Impact 3.20-2.) For example, restoration projects involving the removal of nonnative terrestrial and aquatic invasive species and revegetation with native plants could lead to unstable soil conditions or increased runoff. Therefore, restoration projects permitted under the Order could result in a cumulatively considerable incremental contribution to a significant cumulative impact related to wildfire.

As part of the State Water Board or Regional Board's issuance of a NOA for a restoration project under the Order, compliance with Mitigation Measure FIRE-1 would be required when applicable to a given project as required by Section 15092 of the State CEQA Guidelines. Mitigation Measure FIRE-1 requires restoration projects in areas designated as Very High or High Fire Hazard Safety Zones to prepare and submit a project-specific fire prevention plan for project construction and operation to the CEQA lead agency for review before the start of construction. Mitigation Measure FIRE-1 also requires that a draft of the fire prevention plant be distributed to each fire agencies (e.g., the California Department of Forestry and Fire Protection and county or local municipal fire agencies) before the start of any construction activities in areas designated as Very High or High Fire Hazard Severity Zones. Furthermore, Mitigation Measure FIRE-1 requires that the final plan be approved by these agencies before the start of construction activities and that the CEQA lead agency implement the plan during all construction and maintenance activities.

If necessary, impacts of individual restoration projects would be addressed in future environmental analyses that would be conducted by the appropriate project proponents. Mitigation Measure FIRE-1 would continue to be implemented as part of the restoration projects that would be permitted under the Order.

Implementation of the mitigation measures would be the responsibility of the project proponent(s) under the jurisdiction of the State Water Board, appropriate Regional Board, or other authorizing regulatory agency. Mitigation Measure FIRE-1 would reduce the contribution of permitted restoration projects to less than considerable in most cases.

Furthermore, in some cases, restoration projects permitted under the Order are expected to result in beneficial or neutral impacts because the specific purpose of these

projects would be to correct existing conditions that contribute to resource degradation. For example, restoration projects (i.e., bioengineered bank stabilization and removal of pilins and other in-water structures, and removal of nonnative invasive species and revegetation with native plants) would reduce the input of fine sediment and remove potential contaminant sources and hazards, which would improve water quality and fire resilience, increase bank stability, and improve overall hydrologic connection. In addition, Mitigation Measure FIRE-1 would reduce the contribution of permitted projects to less than cumulatively considerable in all cases. Therefore, cumulative impacts would be **less than significant**.