

CONSOLIDATED FINAL RESTORATION PROJECTS STATEWIDE ORDER
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CHAPTER 3 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES
3.3 AGRICULTURE AND FORESTRY RESOURCES

3.3 Agriculture and Forestry Resources

3.3.1 Introduction

This section discusses agriculture and forestry resources in the study area and evaluates the potential impacts of the types of restoration projects that would be permitted under the Order. (See Section 2.6, *Categories of Restoration Projects in the Order*.)

The environmental setting and evaluation of impacts on agriculture and forestry resources is based on a review of existing published documents, including city and county general plans and land management plans, and information regarding example projects that are similar to those permitted under the Order. Data for the regional and local setting were compiled from publicly available sources published by state agencies, such as the California Department of Conservation and California Department of Forestry and Fire Protection. Additional information sources are listed in Chapter 8, *References*.

This section evaluates actions that could occupy, encroach onto, convert, or damage resources of farmlands, forestlands, or timber production zones. Impacts involving conversion of riparian and oak forest habitats are addressed in Section 3.5, *Biological Resources—Terrestrial*.

No comments specifically addressing agriculture and forestry resources were received in response to the notice of preparation (NOP). See Appendix B for NOP comment letters.

3.3.2 Environmental Setting

Definitions

Agricultural Land

The State of California established the Farmland Mapping and Monitoring Program (FMMP) in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Natural Resources Conservation Service (NRCS). The intent of NRCS (then named the Soil Conservation Service) was to produce maps of agricultural resources based on soil quality and land use across the nation. The California Department of Conservation sponsors the FMMP and is responsible for establishing agricultural easements in accordance with California Public Resources Code (PRC) Sections 10250–10255.

As part of the nationwide effort to map agricultural land uses, NRCS uses a series of definitions known as the Land Inventory and Monitoring criteria. These criteria classify the land's suitability for agricultural production. Suitability is determined based on the physical and chemical characteristics of soils, as well as the actual land use. Maps of Important Farmland are derived from the NRCS soil survey maps using the Land Inventory and Monitoring criteria and are available by county. The maps prepared by NRCS classify land into water and seven other categories:

- ◆ **Prime Farmland**—Land that has the best combination of features for producing agricultural crops. Prime Farmland must have been used for production of irrigated crops at some time during the 4 years before the FMMP's mapping date.

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- ◆ **Farmland of Statewide Importance**—Land, other than Prime Farmland, with a good combination of physical and chemical characteristics for producing crops. Farmland of Statewide Importance must have been used for production of irrigated crops at some time during the 4 years before the mapping date.
- ◆ **Unique Farmland**—Land that has been used to produce specific crops with high economic value but does not meet the criteria for Prime Farmland or Farmland of Statewide Importance. This land is usually irrigated, but it may include non-irrigated orchards or vineyards found in some climatic zones. Unique Farmland must have been used for crops at some time during the 4 years before the mapping date.
- ◆ **Farmland of Local Importance**—Land other than Prime Farmland, Farmland of Statewide Importance, and Unique Farmland that either is currently producing crops, has the capability to produce crops, or is used to produce confined livestock. This land includes farmland of potential local importance.
- ◆ **Grazing Land**—Land on which existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing by livestock.
- ◆ **Other Land**—Land that is not included in any of the other mapping categories. This land generally includes land in rural residential development; land not suitable for livestock grazing; government land; rights-of-way outside of urban and built-up areas; facilities for confined livestock or aquaculture; mines, borrow pits, or gravel pits; water bodies smaller than 40 acres; or other rural land uses not suitable for agricultural operations.
- ◆ **Urban and Built-Up Land**—Land occupied by structures with a density of at least one dwelling unit per 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public utility structures, and other developed purposes.

Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are collectively called “Special Designated Farmland” in this section.

Forestry Resources

The discussion of forestry resources uses the following terms:

- ◆ **Forestland**—Land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits (PRC Section 12220[g]).
- ◆ **Timberland**—Land, other than land owned by the federal government and land designated as experimental forestland, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees (PRC Section 4526). The criterion used to determine whether forestland qualifies as timberland is whether

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the land is capable of growing 20 cubic feet or more of industrial wood per acre per year (CAL FIRE 2010).

Study Area

According to the California Department of Conservation (DOC 2018), the patterns of land cover in the study area include agriculture, developed areas, natural habitat or open space, and water. Table 3.3-1 shows the Important Farmland in the study area.

**Table 3.3-1
Important Farmland in California, 2016 (Study Area)**

Category		Acres	Percent
Farmland (under CEQA)	Prime Farmland	5,031,474	10
	Farmland of Statewide Importance	2,544,481	5
	Unique Farmland	1,404,240	3
	<i>Subtotal</i>	<i>8,980,195</i>	<i>18</i>
Other Agricultural Land	Farmland of Local Importance	3,215,425	7
	Grazing Land	19,155,570	39
	<i>Subtotal</i>	<i>22,370,995</i>	<i>46</i>
Other Land and Water	Urban and Built-Up Land	3,738,337	8
	Other Land ¹	13,267,942	27
	Water	715,266	1
	<i>Subtotal</i>	<i>17,721,545</i>	<i>36</i>
Total^{2,3}		49,072,735	100

SOURCE: DOC 2018

NOTES: CEQA = California Environmental Quality Act

¹ Other Land in this table consists of the Other Land, Rural Residential, Vacant, or Disturbed Land.

² Totals may vary from actual acreage in the study area due to rounding.

³ The total acreage includes all Important Farmland in the study area; however, only a subset of the study area would include riparian and/or aquatic areas where restoration projects that would be permitted under the Order would occur. For example, restoration projects permitted under the Order would not occur in upland areas.

Agriculture

Agricultural Land Uses

Farmland Categories and Acreage

The FMMP, administered by the California Department of Conservation Division of Land Resource Protection, provides a consistent data source for analyzing the distribution of farmland and long-term urbanization trends based on soil type and the availability of

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water. Unlike the maps of existing land cover included in Section 3.12, *Land Use and Planning*, FMMP data do not illustrate areas of active agriculture, but can be used to analyze the potential for agricultural production. Table 3.3-1 presents the acreages of farmland in the study area by FMMP category.

Approximately 25 percent of the study area is made up of land that contains physical and chemical characteristics favorable for agriculture, or that meets other criteria for Farmland of Local Importance as determined by the county (i.e., all Farmland categories as defined under CEQA, as well as Farmland of Local Importance). In particular, the Central Valley is a contiguous stretch of farmland in the core of the state. In 2017, the value of agricultural production in the 19 Central Valley counties represented approximately 70 percent of the total gross value of California's agricultural production (CDFA n.d.:21). Seven of the top eight agriculture-producing counties in California (Tulare, Kern, Fresno, Merced, Stanislaus, San Joaquin, and Kings Counties) are located in the Central Valley. Outside of the Central Valley, land is mostly urban and built-up land, grazing land, non-timber, agricultural land, and federally managed lands (e.g., Bureau of Land Management, the National Park Service, and the Forest Service), with large areas of locally significant agricultural land interspersed. The state of California has approximately 100 million acres of which 45 million are administered as federal land (CRS 2020). Forest land covers 33 million acres of the state with 19 million of those acres being federally owned (USDA 2016). While significant portions of federal lands are given over to rangeland and timber production, the relative actual area given over to urban lands is much smaller than the area of the non-urban lands.

According to the DOC *2010–2012 California Farmland Conversion Report*, irrigated farmland in California decreased by approximately 58,587 acres between 2010 and 2012 with loss of Prime Farmland comprising 81 percent of the total loss (DOC 2015). Conversion to urban development was approximately 29,342 acres of the total reduction in irrigated farmland acreage, with natural vegetation or vacant lands accounting for the majority of the total reduction during this period. Losses of irrigated farmland have resulted in part from drought and salinity-related reductions in water supply and from reclassification of lands. In addition, the Public Policy Institute of California estimated that 500,000–780,000 acres would have to be fallowed for the state's natural aquifers to come back into balance in response to the Sustainable Groundwater Management Act (PPIC 2019a, 2019b).

Williamson Act

As of 2016, about 14.8 million acres of farmland in counties in the study area were enrolled in the Williamson Act program (DOC 2016). Approximately 866,355 additional acres of farmland were designated as Farmland Security Zone lands.

Agricultural Production

Agricultural land uses in the study area include farmlands that support a variety of crops. Based on the total value of production, some of the top crops and agricultural use in the study area are almonds, grapes, pistachios, berries, lettuce, hay, tomatoes, rice, pears, and various vegetables (CDFA n.d.). Livestock products produced in the study

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area include milk and cream, and cattle and calves. Significant acreage is also given over to forage production (e.g., hay and alfalfa) for livestock.

Forest Resources

Forestland and Timber Resources

Almost one-third of California is forested. The total land area in the study area is about 100 million acres, of which 33 million are forested acres (USDA 2016).

Timber Production

Of the 33 million forested acres in the study area, almost 17 million acres can be considered timberland (USDA 2016).

3.3.3 Regulatory Setting

This section discusses federal, state, and regional and local plans, policies, regulations, and laws, and ordinances pertaining to agricultural and forestry resources.

Future permitted restoration projects that would be implemented under the Order may be subject to the laws and regulations listed below, as well as other local or individual restoration projects requirements, depending on the project location.

Federal

Farmland Protection Policy Act

NRCS is the agency primarily responsible for implementing the federal Farmland Protection Policy Act (FPPA). The purpose of the FPPA is to minimize federal contributions to the conversion of farmland to nonagricultural uses by ensuring that federal programs are administered in a manner compatible with state, local, and private programs to protect farmland.

NRCS administers the FPPA through a voluntary program that provides funds to help purchase development rights to keep productive farmland in agricultural use. The program provides matching funds to state, local, or tribal government entities and nongovernmental organizations with existing farmland protection programs to purchase conservation easements. Participating landowners agree not to convert the land to nonagricultural uses and retain all rights to the property for future agriculture. A minimum 30-year term is required for conservation easements, and priority is given to applications with perpetual easements (NRCS 2017a).

The FPPA established the Farmland Protection Program and the Land Evaluation and Site Assessment system. The system is a tool used to rank lands for suitability and inclusion in the Farmland Protection Program. The land evaluation involves rating soils and placing them into groups ranging from the best to the least suited for a specific agricultural use, such as for cropland, forestland, or rangeland. The site assessment involves three major areas: non-soil factors related to agricultural use of a site, factors related to development pressures, and other public values of a site. Each factor selected is assigned a range of possible values according to local needs and objectives (NRCS 2017b).

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Central Valley Project Improvement Act

The Central Valley Project Improvement Act (CVPIA) is discussed in Section 3.11.3, *Regulatory Setting*, in Section 3.11, *Hydrology and Water Quality*. The U.S. Bureau of Reclamation and U.S. Fish and Wildlife Service, in coordination with the State of California, participating CALFED Bay-Delta Program agencies, and other partners, have implemented numerous programs, projects, and actions to meet the goals of the CVPIA, many of which have affected land use and agriculture throughout the Central Valley, especially in the Sacramento–San Joaquin Delta watershed.

To achieve the CVPIA's purposes and the identified goals and objectives, numerous provisions for agriculture were incorporated into the statute. Specific programs, measures, and operational and management directives address water, habitat, and land management. Among these are directives for the retirement of drainage-impaired farmlands through the Land Retirement Program and implementation of an "Agricultural Waterfowl Incentives Program." The goal of the Land Retirement Program is to retire 15,000 acres of agricultural lands (Reclamation and USFWS 2014:ES-9). As of 2013, the program had acquired more than 9,300 acres of farmland in the Sacramento–San Joaquin Delta and completed restoration on more than 6,800 acres (Reclamation and USFWS 2014:73). In the Agricultural Waterfowl Incentives Program, farmers are paid to keep private agricultural fields flooded during the winter months when doing so would increase the amount of habitat and the availability of food for waterfowl.

Z'berg-Nejedly Forest Practice Act of 1973

Logging on private and corporate nonfederal land in California is regulated by the 1973 Z'berg-Nejedly Forest Practice Act. This law established the Forest Practice Rules and a politically appointed Board of Forestry to oversee their implementation. The California Department of Forestry and Fire Protection (CAL FIRE) works under the direction of the Board of Forestry and is the lead government agency responsible for approving logging plans and enforcing the Forest Practice Rules.

To log on private or corporate land, a Registered Professional Forester must prepare a Timber Harvest Plan (TMP), which outlines the proposed logging operations and submit this to the state. CAL FIRE considers recommendations from reviewing agencies such as CDFW and the Water Boards, and conducts final review and approval of all timber harvest plans. The Forest Practice Rules describe timber harvest plans as having two functions: to provide information for the CAL FIRE director to determine whether the proposed logging conforms to the rules; and to provide direction to logging operators who carry out the timber harvest plan. These documents are certified as the "functional equivalent" of an EIR to comply with CEQA. THPs are required to evaluate all potential direct and cumulative impacts of the logging plan and to implement any feasible measures that would reduce this impact to a less-than-significant level.

CALFIRE also plays a significant statewide role in regulating and assisting with fuels hazard reduction, as well as firefighting activities.

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Regional and Local

The study area encompasses all counties and cities throughout California. Each county and city has local regulations, ordinances, and a general plan containing unique goals and policies intended to preserve agriculture and forestry resources, guide development of lands within its local jurisdiction, and reduce environmental impacts. Cities and counties in the study area that include agricultural and timber lands provide regulations, goals, and/or policies that promote the preservation and protection of areas of identified high agricultural or timberland value. For example, special protection is provided for prime and important farmlands, lands under Williamson Act contract, and lands zoned for timber production.

3.3.4 Impacts and Mitigation Measures

Methods of Analysis

Agriculture and forestry impacts from the types of restoration projects permitted under the Order are evaluated in terms of how typical construction and operation of project components could cause conversion of Special Designation Farmland and forestland and other related impacts. However, the precise locations and detailed characteristics of potential future permitted restoration projects are yet to be determined. Therefore, this impact analysis focuses on reasonably foreseeable changes from implementation of the types of projects and actions that might be taken in the future consistent with the level of detail appropriate for a program-level analysis.

Permanent impacts are considered those that would result from environmental conditions created indefinitely in one location as a result of the restoration projects permitted under the Order (e.g., individual restoration projects that may result in the removal of agricultural land from a facility's footprint). Temporary impacts are considered those that would be temporary in nature (e.g., construction-related activities).

The approach to assessing agriculture and forestry impacts was to identify and review existing environmental studies, data, model results, and other information for projects that are consistent with those identified in Section 2.6, *Categories of Restoration Projects in the Order*, and Section 2.7, *Typical Construction, Operation, and Maintenance Activities and Methods*.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, an impact related to agriculture and forestry is considered significant if the types of projects that would be permitted under the Order would do any of the following:

- ◆ Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (referred to in this section as "Special Designation Farmland"), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use
- ◆ Conflict with existing zoning for agricultural use, or a Williamson Act contract
- ◆ Conflict with existing zoning for, or cause rezoning of, forestland (as defined in PRC Section 12220[g]), timberland (as defined by PRC Section 4526), or

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timberland zoned Timberland Production (as defined by Government Code Section 51104[g])

- ◆ Result in the loss of forestland or conversion of forestland to non-forest use
- ◆ Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Special Designation Farmland, to non-agricultural use or conversion of forestland to non-forest use

Impacts and Mitigation Measures

Table 3.3-2 summarizes the impact conclusions presented in this section for easy reference.

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 listed below would be required when applicable to a given project. Not all general protection measures and mitigation measures would apply to all restoration projects. The applicability of the general protection measures and mitigation measures would depend on the individual restoration activities, project location, and the potentially significant impacts of the individual restoration project. 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.

**Table 3.3-2
Summary of Impact Conclusions—Agriculture and Forestry Resources**

Impact Statement	Construction Activities	Constructed Facilities and Operations and Maintenance
3.3-1: Restoration projects permitted under the Order could convert Special Designation Farmland to nonagricultural use or conflict with a Williamson Act contract or zoning for agricultural use.	LTS	SU
3.3-2: Restoration projects permitted under the Order could conflict with existing zoning for forestland, timberland, or timberland zoned Timberland Production, or could result in the loss of forestland from conversion of land to non-forest use.	LTS	LTS
3.3-3: Restoration projects permitted under the Order could involve other changes in the existing environment that, because of their location or nature, could indirectly result in the conversion of Special Designation Farmland to nonagricultural use or conversion of forestland to non-forest use.	LTSG	LTSG

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SOURCE: Data compiled by Environmental Science Associates in 2019 and 2020

NOTE: LTS = less than significant; LTSG = less than significant with general protection measures; SU = significant and unavoidable

Impact 3.3-1: Restoration projects permitted under the Order could convert Special Designation Farmland to nonagricultural use or conflict with a Williamson Act contract or zoning for agricultural use.

Effects of Project Construction Activities

Construction activities for restoration projects permitted under the Order (e.g., culverts, bridges, fish screens, ladders, or pilings; 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; installation of cofferdams during construction) could occur on Special Designation Farmland or lands zoned for agricultural use, or lands under a Williamson Act contract. Approximately 18 percent of the study area is Prime Farmland, Farmland of Statewide Importance, or Unique Farmland (collectively called “Farmland” in State CEQA Guidelines Appendix G, and referred to here in this section as “Special Designation Farmland”) (see Table 3.3-1).

Project construction work could require grading and excavation; use of staging areas, access routes, and haul routes; site preparation; preparation of borrow sites; site restoration and demobilization; stockpiling of construction materials; and disposal of excess materials. These activities could result in temporary conversion of Special Designation Farmland or a conflict with agricultural zoning or Williamson Act contracts if they would occur on such lands. For example, restoring and enhancing off-channel/side-channel habitat would involve reconnecting and creating side-channel, alcove, oxbow, pond, off-channel, floodplain, and other habitats, and potentially removing off-channel fill and plugs. Work may include removing or breaching levees, berms, and dikes; excavating channels; constructing wood or rock tailwater control structures; and constructing large wood habitat features. Excess earthen materials, such as organic soils, vegetation, and excavated material, may be temporarily stockpiled before being re-spread at the project site or used to reclaim borrow sites. Stockpiling on agricultural lands may result in the temporary conversion of Special Designation Farmland or a conflict with agricultural zoning or Williamson Act contracts.

In addition, the time to construct restoration projects could be as short as a few days, in the case of minor projects, to as long as several years for major projects (e.g., for projects that can be constructed only during certain months of the year). Therefore, construction of these projects could affect Special Designation Farmland, lands under Williamson Act contract, or zoning for agricultural use.

Construction of some types of restoration projects permitted under the Order is not anticipated to affect Special Designation Farmland, agricultural zoning, or land under Williamson Act contracts. For example, some projects—stream crossing and fish passage improvements; removal of small dams, tide gates, flood gates, and legacy structures; bioengineered bank stabilization; and removal of pilings and other in-water

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structures—would occur in existing water channels and may not extend to agricultural lands. Therefore, these actions would not likely result in the conversion of Special Designation Farmland or a conflict with agricultural zoning or Williamson Act contracts. Additionally, some projects—including establishing, restoring, and enhancing stream and riparian habitats—would reduce soil erosion from associated activities such as bank stabilization and erosion control work. In some cases, they would also help to recharge groundwater, provide buffers to protect water quality, and create opportunities for natural pest control. Therefore, these actions would be beneficial for existing Special Designation Farmland, agricultural zoning areas, or land under Williamson Act contracts.

Some construction work may take place outside of existing water channels. For example, some projects would establish temporary work areas and staging and equipment storage areas off-stream. However, temporary conversion of Special Designation Farmland and conflicts with agricultural zoning or Williamson Act contracts would not be substantial, because construction would be temporary and would likely not extend very far beyond the margins of agricultural land. In addition, as described under *Site Restoration and Demobilization* in Chapter 2, Section 2.7.1, *Construction Activities and Methods*, topsoil removed from temporarily disturbed areas would be replaced after construction is complete. In addition, noncommercial borrow sites would be restored or reclaimed by replacing topsoil that has been set aside and regraded to allow continued uses such as farming, or may be converted to other uses such as other restoration sites.

Construction for restoration projects permitted under the Order could temporarily convert Special Designation Farmland to nonagricultural use, or could conflict with a Williamson Act contract or zoning for agricultural use. However, these conversions would be temporary, and the land is expected to be returned to agricultural use after construction. Therefore, this impact would be **less than significant**. The Order does not include any general protection measures applicable to this impact.

Effects of Constructed Facilities (Natural or Artificial Infrastructure) and Operations and Maintenance of those Facilities

Restoration projects permitted under the Order could result in new long-term or permanent features that could result in permanent conversion of Special Designation Farmland to nonagricultural use or conflicts with agricultural zoning or Williamson Act contracts. For example:

- ◆ Some types of projects—restoration of off-channel/side-channel habitat, floodplain restoration, and establishment, restoration, and enhancement of tidal, subtidal, and freshwater wetlands—could result in long-term or permanent changes to land use that would convert Special Designation Farmland to nonagricultural uses, conflict with agricultural zoning, or conflict with Williamson Act contracts.
- ◆ Water conservation projects that would include off-stream storage tanks and ponds could result in long-term or permanent conversion of Special Designation Farmland to nonagricultural use or conflicts with agricultural zoning or Williamson Act contracts. For these projects, agricultural land within the alignment of a proposed storage tank or pond and associated off-channel infrastructure would

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have to be removed. Alternatively, off-stream storage tanks may provide more reliable water for agricultural uses.

- ◆ Restoration projects that would construct surface impoundments could affect adjacent agricultural resources (e.g., by seepage of nuisance water onto adjacent lands affecting the root zone of crops; see Section 3.9, *Geology and Soils*) and could result in long-term or permanent changes to land use that would convert Special Designation Farmland to nonagricultural uses, conflict with agricultural zoning, or conflict with Williamson Act contracts.

Long-term effects on groundwater recharge from some of the restoration projects permitted under the Order are expected to be neutral or beneficial, as restoration projects may improve hydrology and connectivity to the water table. Projects such as fish screens, fishways, and bioengineered bank stabilization would have minimal operational impacts because they would be located along streambanks or riverbanks, or in the river itself, and would not affect agricultural land. Additionally, some projects—including bank stabilization, restoration and enhancement of off-channel and side-channel habitat, floodplain restoration, water conservation, and removal of nonnative terrestrial and aquatic invasive species and revegetating with native plants—would reduce soil erosion, recharge groundwater, use off-stream water storage during the dry season, provide natural pest control, and provide water quality buffers. Therefore, these actions would be beneficial for existing Special Designation Farmland, agricultural zoning areas, or land under Williamson Act contracts.

Restoration projects permitted under the Order could result in short-term, long-term, or permanent conversion of Special Designation Farmland to nonagricultural uses; conflicts with agricultural zoning; and conflicts with Williamson Act contracts. Therefore, this impact would be **potentially significant**. The Order does not include any general protection measures applicable to this impact.

As part of the State Water Board or Regional Board's issuance of an NOA for a restoration project under the Order, compliance with Mitigation Measure AG-1 and AG-2 and Mitigation Measure GEO-6 would be required when applicable to a given project. Implementation of this mitigation measure 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 AG-1: Minimize and Avoid Loss of Special Designation Farmland

The following measures shall be implemented before and during construction of restoration projects permitted under the Order to minimize and avoid loss of Special Designation Farmland, as applicable.

- ◆ Restoration projects shall be designed to minimize, to the greatest extent feasible, the loss of agricultural land with the highest values.
- ◆ Restoration projects that will result in permanent conversion of Special Designated Farmland shall preserve other Special Designation Farmland in perpetuity by acquiring an agricultural conservation easement, or by contributing

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funds to a land trust or other entity qualified to preserve Special Designation Farmland in perpetuity (at a target ratio of 1:1, depending on the nature of the conversion and the characteristics of the Special Designated Farmland to be converted, to compensate for the permanent loss).

Based upon the cost and availability of farmland, whether the landowner is sponsoring the project, recent (within 5 years) and ongoing farmland viability, and other factors, the CEQA lead agency for the individual restoration project should consider whether a 1:1 ratio is appropriate and feasible on a case-by-case basis. For example, contributions to a program such as the California Farmland Conservancy Program, which establishes conservation easements to preserve existing farmland in California, may be prohibitively expensive at a 1:1 ratio where there is a significant amount of affected Special Designated Farmland because it is based on a farm real estate average value per acre. For example, the farm real estate average value per acre in 2019 was \$10,000 [USDA 2019].

- ◆ Restoration project features shall be designed to minimize fragmentation or isolation of Special Designation Farmland. Where a project involves acquiring land or easements, the remaining nonproject area shall be of a size sufficient to allow viable farming operations. The project proponents shall be responsible for acquiring easements, making lot line adjustments, and merging affected land parcels into units suitable for continued commercial agricultural management.
- ◆ Any utility or infrastructure serving agricultural uses shall be reconnected if it is disturbed by project construction. If a project temporarily or permanently cuts off roadway access or removes utility lines, irrigation features, or other infrastructure, the project proponents shall be responsible for restoring access as necessary to ensure that economically viable farming operations are not interrupted.
- ◆ Where applicable to a project site, buffer areas shall be established between restoration projects and adjacent agricultural land. The buffers shall be sufficient to protect and maintain land capability and flexibility in agricultural operations. Buffers shall be designed to protect the feasibility of ongoing agricultural operations and reduce the effects of construction-related or operational activities (including the potential to introduce special-status species in the agricultural areas) on adjacent or nearby properties. Buffers shall also serve to protect restoration areas from noise, dust, and the application of agricultural chemicals. The width of each buffer shall be determined on a project-by-project basis to account for variations in prevailing winds, crop types, agricultural practices, ecological restoration, or infrastructure. Buffers can function as drainage swales, trails, roads, linear parkways, or other uses compatible with ongoing agricultural operations.

Mitigation Measure AG-2: Minimize Impacts on Lands Protected by Agricultural Zoning or Williamson Act Contract

Restoration projects shall be designed to minimize, to the greatest extent feasible, conflicts and inconsistencies with land protected by agricultural zoning or a Williamson Act contract and the terms of the applicable zoning/contract.

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Mitigation Measure GEO-6: Implement Measures for Waterway Construction Activities

See Section 3.9.4, *Impacts and Mitigation Measures*, in Section 3.9, *Geology and Soils*.

Mitigation Measures AG-1, AG-2, and GEO-6 would be implemented to reduce the impacts of restoration projects under the Order. However, because the extent and location of such actions are not known at this time, it is not possible to conclude that the mitigation measure or equally effective mitigation measures, would reduce significant impacts to a less-than-significant level in all cases. Therefore, this impact would be **significant and unavoidable**.

Impact 3.3-2: Restoration projects permitted under the Order could conflict with existing zoning for forestland, timberland, or timberland zoned Timberland Production, or could result in the loss of forestland from conversion of land to non-forest use.

Effects of Project Construction Activities

Approximately 33 percent (33 million acres) of the study area is forested. Construction activities for restoration projects permitted under the Order could occur on forestland or land zoned for forestland, timberland, or timberland zoned Timberland Production. Project construction work could require grading and excavation; the use of staging areas, access routes, and haul routes; site preparation; preparation of borrow sites; site restoration and demobilization; stockpiling of construction materials; and disposal of excess materials. These construction activities could result in temporary conversion of forestland or land zoned for forestland, timberland, or timberland zoned Timberland Production if they would occur on such lands. For example, water conservation projects could include off-stream storage tanks and ponds and associated off-channel infrastructure, requiring site preparation. Preparing a project site typically involves clearing the ground of structures, woody and herbaceous vegetation, and debris using heavy equipment such as backhoes, excavators, dozers, mowers, and dump trucks. Site preparation on forestland or timberland may result in the conversion of forestland or timberland. Some construction activities could also be located on grazing lands that could result in the potential loss of rangeland available for livestock. However, restoration projects can generally allow for managed grazing. Meadow restoration may involve reconnecting down-cut channels to their floodplains to restore hydrologic processes to restore hydrologic processes and meadow health; filling incised, entrenched channels; creating new stream channels; regrading floodplains; or realigning channels or installing stabilization structures. Meadow restoration may result in the conversion of timberland.

In addition, the time to construct restoration projects could be as short as a few days, in the case of minor projects, to as long as several years for major projects (e.g., projects that can be constructed only during certain months of the year). Therefore, these projects could result in temporary conversion of forestland or timberland that would persist throughout the construction period.

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Construction of some types of restoration projects permitted under the Order would not affect forestland or timberland. For example, some projects—stream crossing and fish passage improvements; removal of small dams, tide gates, flood gates, and legacy structures; bioengineered bank stabilization; and removal of pilings and other in-water structures—would occur in existing water channels and would not extend to forestland or timberland. Therefore, these actions would not likely conflict with existing zoning for forestland or land zoned for forestland, timberland, or timberland zoned Timberland Production. Additionally, some projects—including establishing, restoring, and enhancing stream and riparian habitats—would reduce soil erosion from associated activities such as bank stabilization and erosion control work. Therefore, these actions would be beneficial for existing zoning for forestland, timberland, or timberland zoned Timberland Production.

Construction for restoration projects permitted under the Order could temporarily convert forestland or land zoned for forestland, timberland, or timberland zoned Timberland Production. However, these conversions would be temporary, and the land is expected to be returned to forestland and/or timberland use after construction. Therefore, this impact would be **less than significant**. The Order does not include any general protection measures applicable to this impact.

Effects of Constructed Facilities (Natural or Artificial Infrastructure) and Operations and Maintenance of those Facilities

Some types of restoration projects permitted under the Order would have beneficial impacts on forestland or land zoned for forestland, timberland, and timberland zoned timberland production (e.g., enhancement of meadow production/meadow restoration). Other restoration projects—fish screens, fishways, and bioengineered bank stabilization—would have minimal operational impacts because they would be located along streambanks or riverbanks, or in the river and would not be expected to affect forestland or timberland. Additionally, some projects—including bank stabilization, restoration and enhancement of off-channel and side-channel habitat, floodplain restoration, water conservation, and removal of nonnative terrestrial and aquatic invasive species and revegetating with native plants—would reduce soil erosion, recharge groundwater, use off-stream water storage for dry season use, provide natural pest control, and provide water quality buffers. Therefore, these actions would be beneficial for existing zoning for forestland, timberland, or timberland zoned Timberland Production. Water conservation projects (e.g., off-stream storage tanks and ponds) could be located in forestland or land zoned for forestland, timberland, or timberland zoned Timberland Production. However, water conservation projects would not be expected to remove forestland creating less than 10 percent native tree cover or substantially lessen the ability to grow crops associated with Timberlands. Some restoration sites could also be located on grazing lands that would result in the potential loss of rangeland available for livestock. However, restoration projects can generally allow for managed grazing. Therefore, this impact would be **less than significant**. The Order does not include any general protection measures applicable to this impact.

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Impact 3.3-3: Restoration projects permitted under the Order could involve other changes in the existing environment that, because of their location or nature, could indirectly result in the conversion of Special Designation Farmland to nonagricultural use or conversion of forestland to non-forest use.

Effects of Project Construction Activities

Construction activities for restoration projects permitted under the Order could negatively affect the viability of surrounding agricultural or forest uses, impede access to agricultural areas, or disrupt agricultural infrastructure. For example, restoration and enhancement of off-channel/side-channel habitat would involve reconnecting and creating side-channel, alcove, oxbow, pond, off-channel, floodplain, and other habitats, and potentially removing off-channel fill and plugs. Work may include removing or breaching levees, berms, and dikes; excavating channels; constructing wood or rock tailwater control structures; and constructing large wood habitat features. Excess earthen materials, such as organic soils, vegetation, and excavated material, may be temporarily stockpiled before being re-spread at the project site or used to reclaim borrow sites. Stockpiling on agricultural lands may result in the temporary conversion of Special Designation Farmland to nonagricultural use or conversion of forestland to non-forest use.

Project construction could temporarily restrict access to Special Designation Farmland or forestland. For example, storing construction materials could block access points. Other short-term disturbances of agricultural lands could also occur during construction. Irrigation systems could be disrupted and soil compaction could affect drainage, indirectly reducing or removing the ability of an area of Special Designation Farmland to provide the agricultural use or level of productivity that lead to the designation. Ground disturbance, vegetation removal, and operation of construction equipment near Special Designation Farmland or forestlands adjacent to waterways, levees, or floodways could generate dust that may affect crop growth or promote the spread of invasive species to new areas. (See Section 3.4, *Air Quality and Greenhouse Gas Emissions*, and Section 3.5, *Biological Resources—Terrestrial*.)

Some projects—including establishing, restoring, and enhancing stream and riparian habitats—would reduce soil erosion from associated activities such as bank stabilization and erosion control work. Therefore, these actions would be beneficial for existing Special Designation Farmland or forestland.

Construction activities for restoration projects permitted under the Order have the potential to negatively affect the viability of surrounding agricultural or forest uses, impede access to agricultural areas, or disrupt agricultural infrastructure. This impact would be **potentially significant**.

Projects implementing applicable general protection measures (see Appendix E) included in the Order would further reduce impacts to agricultural and forestry resources. The following general protection measures may apply to agricultural and forestry resources:

- ◆ GPM-8: Prevent Spread of Invasive Exotic Plants
- ◆ GPM-10: Equipment Maintenance and Materials Storage

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- ◆ GPM-11: Material Disposal
- ◆ GPM-12: Fugitive Dust Reduction
- ◆ GPM-15: Revegetate Disturbed Areas
- ◆ IWW-14: Dredging Operations and Dredging Materials Reuse Plan
- ◆ VHDR-1: Avoidance of Vegetation Disturbance
- ◆ VHDR-2: Native and Invasive Vegetation Removal Materials and Methods
- ◆ VHDR-3: Revegetation Materials and Methods
- ◆ VHDR-4: Revegetation Erosion Control Materials and Methods
- ◆ VHDR-5: Revegetation Monitoring and Reporting
- ◆ VHDR-6: Herbicide Use

Implementing these general protection measures would reduce the impacts of project construction related to indirect conversion of Special Designation Farmland to nonagricultural use or conversion of forestland to non-forest use to a **less-than-significant** level.

Effects of Constructed Facilities (Natural or Artificial Infrastructure) and Operations and Maintenance of those Facilities

Operations and maintenance (O&M) activities would be limited to the footprint created during construction of restoration projects permitted by the Order. This work would be unlikely to result in indirect conversion of forestland to non-forest use, or of Special Designation Farmland to nonagricultural use. For example, periodic maintenance could include monitoring, vegetation or debris removal, and exclusion fencing adjustments that would occur within the project footprint, and would likely not be of sufficient scale or duration to indirectly convert Special Designation Farmland or forestland. Additionally, some projects—including bank stabilization, restoration and enhancement of off-channel and side-channel habitat, floodplain restoration, water conservation, and removal nonnative terrestrial and aquatic invasive species and revegetating with native plants—would reduce soil erosion, recharge groundwater, use off-stream water storage during the dry season, provide natural pest control, and provide water quality buffers. Therefore, these actions would be beneficial for existing Special Designation Farmland or forestland. Therefore, this impact would be **less than significant**. The general protection measures listed for this impact above under *Effects of Project Construction* would be followed to further reduce the less-than-significant impacts associated with O&M activities.