

3.7 Biological and Aquatic Resources

Since publication of the Burbank to Los Angeles Project Section Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS), the following substantive changes have been made to this section:

- Two footnotes were added to Section 3.7.2.1 regarding the Federal Railroad Administration’s (FRA) new regulations implementing the National Environmental Policy Act (NEPA), which were adopted during the preparation of the Draft EIR/EIS, and updated Council on Environmental Quality regulations issued after release of the Draft EIR/EIS.
- In Section 3.7.2.1, the footnote under Clean Water Act (CWA) Section 404 was revised to include notes regarding the U.S. Army Corps of Engineers (USACE) Los Angeles District’s impact categorization of “temporary” for impacts on concrete-lined channels.
- In Section 3.7.2.1 under Migratory Bird Treaty Act (16 U.S. Code [U.S.C.] 703–712), the reference to U.S. Department of the Interior Solicitor’s Opinion M-37050 was removed pursuant to U.S. District Judge Valerie Caproni’s order to vacate the legal opinion in August 2020.
- Section 3.7.4.3 was updated to include a reference to the focused least Bell’s vireo (*Vireo bellii pusillus*) survey that took place on June 19, 2020.
- Section 3.7.5.5 was updated to include the 2020 survey results for least Bell’s vireo.
- In response to a comment from the USACE, clarifying text was added to the discussion of concrete-lined channels in Section 3.7.5.7, Wetlands and Other Aquatic Resources.
- Two new mitigation measures (BIO-MM#79 and BIO-MM#80) to address project impacts on least Bell’s vireo were added to Section 3.7.7, Mitigation Measures, as a result of the California High-Speed Rail Authority’s (Authority) Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS).
- Section 3.7.8, NEPA Impact Summary, was updated to describe the Authority’s Section 7 consultation process with the USFWS.
- Sections 3.7.5.5 and 3.7.6.3 have been updated to include discussions of two species that became candidates for listing under the California Endangered Species Act (CESA) and the Federal Endangered Species Act (FESA) after release of the Draft EIR/EIS: the Southern California/Central Coast evolutionarily significant unit of mountain lions (*Puma concolor*) and monarch butterfly (*Danaus plexippus*)

The revisions and clarifications provided in this section of the Final EIR/EIS do not change the impact conclusions pertaining to biological and aquatic resources presented in the Draft EIR/EIS.

3.7.1 Introduction

Section 3.7, Biological and Aquatic Resources, of the Burbank to Los Angeles Project Section EIR/EIS describes the regulatory setting and the affected environment for biological and aquatic resources, the potential impacts on these resources that would result from project implementation, and the measures that would avoid or reduce such impacts. The phrase “biological and aquatic resources” includes special-status plant and wildlife species, habitats of concern (including special-status natural communities, wetlands and other aquatic resources, critical habitat, conservation areas [i.e., recovery areas for federally listed species, conservation easements, conservation banks, and habitat conservation plans (HCP)], and protected trees), as well as wildlife movement corridors. This section summarizes detailed information contained in the *Burbank to Los Angeles*

Biological Resources

Construction of infrastructure projects can result in the loss of ecosystems and displacement of wildlife, even in urban settings. Many of these resources are protected by statutes, executive orders, and regulations. The purpose of this section is to evaluate impacts on biological resources, including wildlife, fish, and their habitats, and describe ways to avoid, minimize, and mitigate these effects.

Project Section: Biological and Aquatic Resources Technical Report (Authority and Federal Railroad Administration 2019b). Additional details on biological and aquatic resources are provided in Appendix 3.1-B, Regional and Local Policy Inventory, in Volume 2 of this EIR/EIS.

Five other resource sections in this EIR/EIS provide additional information related to biological and aquatic resources:

- **Section 3.4, Noise and Vibration**—Discusses noise and vibration that would occur in the project vicinity from the construction and operation of the project. Potential impacts on wildlife due to project noise and vibration are based on information provided in the *High-Speed Ground Transportation Noise and Vibration Impact Assessment Manual* (FRA 2012).
- **Section 3.8, Hydrology and Water Resources**—Discusses existing surface water hydrology, water quality, groundwater, and floodplains.
- **Section 3.10, Hazards Materials and Wastes**—Discusses existing hazardous materials and wastes that occur in the project vicinity and describes the potential for the project to expose workers, residents, and ecosystems to contaminants that may compromise their health.
- **Section 3.18, Regional Growth**—Includes a discussion of growth-inducing impacts.
- **Section 3.19, Cumulative Impacts**—Describes the cumulative impacts of this and other past, present, and reasonably foreseeable future projects.

Wetlands/Aquatic Resources

The protection of aquatic resources is critical for maintaining the physical, chemical, and biological integrity of all waterways. U.S. Congress and Executive Orders have identified aquatic resources as important, and some waterways and tributaries are termed Waters of the U.S. Impacts to some of these waters are regulated federally and at the state level.

The development of new linear transportation infrastructure projects has the potential to add to the loss of these waters unless appropriate avoidance, minimization, and/or mitigation measures are implemented. The purpose of this section is to evaluate impacts on aquatic resources and describe ways to avoid, minimize, and/or mitigate the impacts.

3.7.1.1 Definition of Resources

The following are definitions for the biological and aquatic resources analyzed in this EIR/EIS.

Special-Status Species

Special-status species are plants and animals that are legally protected under the federal Endangered Species Act of 1973 (FESA, 16 U.S.C. §1531 et seq.), the California Endangered Species Act (CESA, California Fish and Game Code, §§ 2050–2085), the California Native Plant Protection Act (California Fish and Game Code, §§ 1900–1913), the California Fully Protected Species statutes, and other regulations. These species include those that meet the definitions of rare, threatened, or endangered under California Environmental Quality Act (CEQA) Guidelines 15380 and 15125. As used in this chapter, the term “special-status species” does not include bird species protected under the federal Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. 703–712) or the corresponding California bird protection statutes (California Fish and Game Code 3503, 3513); however, impacts on these species are discussed in Section 3.7.6, Environmental Consequences, under Impact BIO #2 and Impact BIO #8.

Habitats of Concern

Habitats of concern consist of special-status natural communities, critical habitat, conservation areas, protected trees, riparian areas, essential fish habitat, and wildlife movement corridors, and are each described below:

- **Special-Status Natural Communities**—Special-status natural communities are determined to be significant or to represent rare vegetation types (California Natural Diversity Database [CNDDB] [California Department of Fish and Wildlife (CDFW) 2016a]) or to have limited distribution statewide or within a county or region. The CDFW maintains a list of special-status plant communities in California in its Vegetation Classification and Mapping Program—Natural Communities List (CDFG 2010). In addition, plant communities listed as important

plant communities within Los Angeles County according to the County's General Plan (Los Angeles County Regional Planning Department 2015) were considered special-status plant communities and addressed in this even if they were ranked as secure in California.

- **Critical Habitat**—Critical habitat includes areas identified under Section 4 of FESA. Designated critical habitats are described in Code of Federal Regulations (C.F.R.) Title 50, Parts 17 and 226. Specifically, critical habitat includes:
 - Areas for federally listed species consisting of the specific areas within the geographic area occupied by the species, at the time it is listed in accordance with the provisions of Section 4 of FESA, on which are found those physical or biological features (constituent elements) that are essential to the conservation of the species and that may require special management consideration or protection.
 - Specific areas outside of the geographical area occupied by the species at the time it is listed in accordance with the provisions of Section 4 of FESA, on a determination by the Secretaries of Interior or Commerce that such areas are essential for the conservation of the species.
- **Conservation Areas**—Conservation areas include areas that have been identified as part of HCPs (described below), natural community conservation plans (NCCP), or other approved local, regional, state, or federal HCPs. Conservation areas also include the following:
 - **Recovery Plan Areas:** Section 4(f) of FESA directs the Secretary of the Interior and the Secretary of Commerce to develop and implement recovery plans to promote the conservation of endangered or threatened species. The USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) are responsible for administering FESA. In some instances, recovery plans identify specific areas and describe what research and management actions are necessary to support recovery; however, they do not themselves commit manpower or funds. Recovery plans are used in setting funding priorities and provide direction to local, regional, and state planning efforts.
 - **Conservation Easements:** A conservation easement is a binding, legal agreement between a landowner and a land trust or government agency that limits uses of the land to protect its conservation values and achieve specific conservation objectives. A conservation easement allows landowners to continue to own and use their land. However, certain actions are prohibited, and the landowner agrees to conserve or restore habitat, open space, scenic, or other ecological resource values on the land covered by the easement.
 - **Conservation Banks:** Conservation banks are permanently protected lands that contain natural resource values. These lands are conserved and permanently managed for special-status species, jurisdictional waters, or other natural resources. Conservation banks function to offset adverse impacts on natural resources that occurred elsewhere; for this reason, these banks are sometimes referred to as off-site mitigation. In exchange for permanently protecting the land and managing it for natural resources, the natural resource regulatory agencies (e.g., USFWS, USACE, CDFW) approve a specified number of natural resource (habitat, species, or resource) credits that bank owners may sell.
 - **Public Lands:** Public lands are those owned and typically maintained by the government, including cities, counties, states, or the federal government.
 - **Habitat Conservation Plans:** HCPs are planning documents required as part of an application for an incidental take permit under Section 10 of FESA. As defined in this document, HCPs also include NCCPs, which identify measures necessary to conserve and manage natural biological diversity within the planning area while allowing compatible and appropriate economic development, growth, and other human uses. Each HCP describes the anticipated effects of the proposed taking, how those impacts will be minimized or mitigated, and how the HCP is to be funded.

- **Los Angeles County Significant Ecological Areas:** Significant ecological areas (SEA) are officially designated areas within Los Angeles County recognized for their irreplaceable biological resources. The SEA Program’s objective is to conserve genetic and physical diversity within Los Angeles County by designating biological resource areas that are capable of sustaining themselves into the future. The SEA Ordinance establishes the permitting framework, design standards, and review process for development within SEAs.
- **Protected Trees**—Protected trees are trees or tree communities that have special significance and are afforded protection by, and specifically identified in, county and city ordinances, codes, or general plans. The proposed project alignment would traverse the cities of Burbank, Glendale, and Los Angeles, all of which are in Los Angeles County. The types of trees and specific physical characteristics required to meet the local definitions typically vary by city and county.
- **Riparian Areas**—Riparian areas are regulated under the California Fish and Game Code (California Fish and Game Code § 1600 et seq., Streambed Alteration Agreement). A riparian area consists of the transitional habitat between terrestrial and aquatic ecosystems. For analysis purposes in this section of the EIR/EIS, riparian areas are the vegetated areas between a seasonal riverine feature and the outer drip line of the adjacent vegetation. Riparian vegetation supports a unique set of physical and biological processes, including temperature regulation and wildlife habitat, and provides valuable aquatic food web services (inputs for nutrient cycling and food availability) to adjacent aquatic ecosystems. As such, many riparian areas in California are also considered special-status natural communities.
- **Essential Fish Habitat**—Essential fish habitat is defined as those waters and substrates needed by fish for spawning, breeding, feeding, and growth to maturity (16 U.S.C. 1802(10)). Essential fish habitat is regulated under the Magnuson-Stevens Fishery Conservation and Management Act.

Wildlife Movement Corridors

Wildlife movement corridors are areas defined by wildlife use for movement events on varying scales (e.g., daily foraging, seasonal migration, or dispersal). The wildlife movement corridors referenced in this section refer to areas that have been modeled for specific species based on different physical and biological parameters published in statewide reports. For the purposes of this document, the term “habitat linkage” is used synonymously with “wildlife movement corridor.” Habitat linkages are areas of land used for a variety of purposes that potentially serve as a corridor for movement or migration of wildlife. Habitat linkages aid in the dispersal and distribution of wildlife and are crucial for maintaining healthy populations of multiple species.

Aquatic Resources

Wetlands and other waters in the project vicinity, including Waters of the U.S., waters of the state, and state streambeds and lakes, are regulated by the federal government (USACE and U.S. Environmental Protection Agency) and the State of California (State Water Resources Control Board [SWRCB] and CDFW). Wetlands, other waters, and areas subject to Fish and Game Code Section 1600 et seq. are collectively termed “aquatic resources.” Aquatic resources within the project section (see the *Burbank to Los Angeles Project Section Aquatic Resources Delineation Report* [Authority 2019a] and the *Burbank to Los Angeles Project Section Biological and Aquatic Resources Technical Report* [Authority 2019b]) are assumed to fall under the jurisdiction of the USACE, the SWRCB, and the CDFW for the purposes of this discussion. The Authority will confirm CDFW jurisdiction through the regulatory permitting process. A field verification survey of delineated features within the aquatic resources study area (RSA) was conducted with USACE, SWRCB, and CDFW personnel on February 14, 2018, and a Preliminary Jurisdictional Determination confirming the extent of mapped jurisdictional Waters of the U.S. was received for the project section from the USACE Los Angeles District in July 2018. SWRCB jurisdiction is congruent with USACE jurisdiction.

The categories presented in the aquatic resources sections were based on definitions from 1986, as modified in practice by the courts and guidance from USACE, the U.S. Environmental Protection Agency, and state law. The 2015 Waters of the United States Rule provided definitive categories for many situations where the agencies previously exercised discretion. However, on October 22, 2019, the U.S. Environmental Protection Agency and the USACE published a final rule (“Step One”) to repeal the 2015 Waters of the United States Rule defining “waters of the United States” and to recodify the regulatory text that existed prior to 2015 Waters of the United States Rule. With this rule, the U.S. Environmental Protection Agency and the USACE would implement the pre-2015 Waters of the United States Rule regulations nationwide as informed by applicable agency guidance documents and consistent with Supreme Court decisions. This final rule became effective December 23, 2019. On January 23, 2020, the U.S. Environmental Protection Agency and the USACE released a prepublication version of the final rule (Step 2) further defining “waters of the United States.” The final Navigable Waters Protection Rule was published in the *Federal Register* on April 21, 2020, and became effective on June 22, 2020. Definitions of the categories included in the aquatic resources sections are presented below:

- **Waters of the U.S.**—The definition of waters of the U.S. pursuant to the federal CWA (33 U.S.C. § 1251 et seq.) has been the subject of several court cases and rule-making efforts since 2001, and these are likely to be ongoing for the foreseeable future. Given the substantial changes in operable definitions that have occurred and may continue to occur, and considering the regulatory revisions and potential court actions, it is not possible to definitively predict the regulations that will be in place at the time of a particular jurisdictional determination or permit action by the USACE. However, any perennial or intermittent waterbody that is ultimately tributary to a traditional navigable water would still be considered a water of the U.S. under any conceivable scenario. Furthermore, the verified Preliminary Jurisdictional Determination focuses on identifying the boundaries of potentially jurisdictional waterbodies, using specific methods for determining the locations of ordinary high water mark and wetland boundaries. These methods for determining the boundaries of waterbodies in general have not substantially changed over the years and will not change under any anticipated regulatory framework. Therefore, the verified Preliminary Jurisdictional Determination issued by the USACE for the Burbank to Los Angeles Project Section is relied on for confirming the extent of jurisdictional waters of the U.S. Wetlands are a subclassification of waters of the U.S., as described below. The term “other waters of the U.S.” is used to describe waters of the U.S. exclusive of wetlands.
- **Wetlands**—According to the Corps of Engineers Wetland Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008), three criteria must be satisfied to classify an area as a wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology).
- **Waters of the State**—Waters of the state are broadly defined by the Porter-Cologne Water Quality Control Act (California Water Code § 13050(e)) to mean any surface water or groundwater, including saline waters within the boundaries of the state. Under this definition, isolated wetlands that may not be subject to regulations under federal law are considered waters of the state and regulated accordingly.

On April 2, 2019, the SWRCB adopted its proposed State Wetland Definition and Procedures for Discharges of Dredge or Fill Material to Waters of the State (“Procedures”), which went into effect on May 28, 2020. Among other provisions, the Procedures define certain “wetlands” as “waters of the State” under the Porter-Cologne Water Quality Control Act. The Procedures also provide a jurisdictional framework for the determination of aquatic features as “wetlands.” Such “wetland” features under the Procedures are identified and analyzed as “aquatic resources” throughout this document. Compliance with the SWRCB Procedures for the Burbank to Los Angeles Project Section will be achieved through adherence to the

provisions set forth in a memorandum of understanding between the SWRCB and the Authority (dated January 19, 2017; amended March 11, 2019).

- **Lakes, Rivers, and Streams**—Under California Fish and Game Code Section 1602, the CDFW takes jurisdiction over rivers, streams, and lakes. Section 1600 et seq. jurisdiction generally includes the streambed/lakebed to tops of bank. Although not specifically defined in California Fish and Game Code Section 1602, areas subject to the notice requirement in some instances may include adjacent riparian vegetation. The term “stream” is commonly understood as a watercourse having a source and terminus, banks, and a channel through which waters flow at least periodically. A “streambed” under Section 1602 includes the channel of a watercourse, which is generally defined as including the depression between the banks worn by the regular and usual flow of the water.

3.7.2 Laws, Regulations, and Orders

This section provides a summary of federal, state, and local laws, regulations, and agency jurisdiction and management guidance that apply to biological and aquatic resources.

3.7.2.1 Federal

Federal Railroad Administration, Procedures for Considering Environmental Impacts (64 Federal Register 28545)

On May 26, 1999, the FRA released *Procedures for Considering Environmental Impacts* (FRA 1999). These FRA procedures supplement the Council on Environmental Quality Regulations (40 C.F.R. Part 1500 et seq.) and describe FRA’s process for assessing the environmental impacts of actions and legislation proposed by the agency and for the preparation of associated documents (42 U.S.C. 4321 et seq.).^{1,2} The FRA *Procedures for Considering Environmental Impacts* states that “the EIS should identify any significant changes likely to occur in the natural environment and in the developed environment. The EIS should also discuss the consideration given to design quality, art, and architecture in project planning and development as required by U.S. Department of Transportation Order 5610.4.” These FRA procedures state that an EIS should consider possible impacts on ecological systems, wetlands, and endangered wildlife species.

Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)

FESA and its subsequent amendments provide requirements for conserving federally listed species and the ecosystems upon which they depend. The applicable sections of FESA are discussed below.

- Section 7 requires federal agencies to consult with USFWS or NOAA Fisheries, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered fish, wildlife, or plant species, or result in the destruction or adverse modification of designated critical habitat for any such species. As part of the consultation, USFWS and NOAA Fisheries may issue a concurrence letter with a “may affect, but not likely to adversely affect determination” or a biological opinion, and may include an incidental take statement in a biological opinion for wildlife species to exempt specified actions from the Section 9 take prohibition.
- Section 9 and its implementing regulations prohibit the take of any fish or wildlife species listed under FESA as endangered or threatened, unless otherwise authorized by federal regulations. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap,

¹ While this EIR/EIS was being prepared, FRA adopted new NEPA compliance regulations (23 C.F.R. 771). Those regulations only apply to actions initiated after November 28, 2018. See 23 C.F.R. 771.109(a)(4). Because this EIR/EIS was initiated prior to that date, it remains subject to FRA’s Environmental Procedures rather than the Part 771 regulations.

² The Council on Environmental Quality issued new regulations on July 14, 2020, effective September 14, 2020, updating the NEPA implementing procedures at 40 C.F.R. Parts 1500-1508. However, this project initiated NEPA before the effective date and is not subject to the new regulations, relying on the 1978 regulations as they existed prior to September 14, 2020. All subsequent citations to Council on Environmental Quality regulations in this environmental document refer to the 1978 regulations, pursuant to 40 C.F.R. 1506.13 (2020) and the preamble at 85 Fed. Reg. 43340.

capture, or collect, or to attempt to engage in any such conduct. Take may include the modification of a listed species' habitat under certain conditions. Section 9 also prohibits a number of specified activities with respect to endangered and threatened plants.

- Section 10 provides a process by which nonfederal entities may obtain an incidental take permit from USFWS or NOAA Fisheries for otherwise lawful activities that might incidentally result in "take" of endangered or threatened animal species, subject to specific conditions. The project is associated with a federal agency action and would therefore be addressed through Section 7 (if required) and not Section 10.

Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C 1801 et seq.)

The amended Magnuson-Stevens Fishery Conservation and Management Act, also known as the Sustainable Fisheries Act (Public Law 104-297), requires all federal agencies to consult with NOAA Fisheries on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect essential fish habitat of commercially managed marine and anadromous fish species.

Clean Water Act (33 U.S.C. 1251 et seq.)

The federal CWA serves as the primary federal law protecting the quality of the nation's surface waters, including wetlands. The applicable sections of the CWA are discussed below.

- Under Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain certification from the state in which the discharge would originate or from the interstate water pollution control agency with jurisdiction over affected waters. In circumstances where a proposed project crosses multiple Regional Water Quality Control Board (RWQCB) jurisdictional boundaries, SWRCB will generally assume regulatory responsibilities pursuant to CWA Section 401 and the Porter-Cologne Water Quality Control Act (discussed below in Section 3.7.2.2, State). In general, the SWRCB and RWQCB Section 401 jurisdiction is consistent with the jurisdictional boundaries identified under CWA Section 404 (discussed below), which the USACE administers. SWRCB or RWQCB(s), as delegated by the U.S. Environmental Protection Agency, have principal authority to issue a CWA Section 401 water quality certification or waiver.
- Under Section 402, all point-source discharges (including, but not limited to, construction-related stormwater discharges to surface waters) are regulated through the National Pollutant Discharge Elimination System program. Project sponsors must obtain a National Pollutant Discharge Elimination System permit from the SWRCB or RWQCB.
- Under CWA Section 404, the USACE and the U.S. Environmental Protection Agency regulate the discharge of dredged and fill materials into the waters of the U.S. Project sponsors must obtain a permit from the USACE for discharges of dredged or fill materials into waters of the U.S. Based on the Authority's analysis of permanent impacts on waters of the U.S. and coordination with the USACE, the Burbank to Los Angeles Project Section would qualify for coverage under the Nationwide Permit program under Nationwide Permit 14, Linear Transportation Projects.³ Specifically, the Authority expects to qualify for Nationwide Permit 14 for three project components that are considered "single and complete projects" in the

³ Nationwide Permit 14 covers activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the U.S. For linear transportation projects in nontidal waters, the discharge cannot cause the loss of greater than 0.5 acre of waters of the U.S. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project. This Nationwide Permit also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Further, it should be noted that the USACE Los Angeles District categorizes direct impacts on concrete-lined channels as "temporary impacts" rather than a permanent loss of waters of the U.S.

context of the Nationwide Permit program.⁴ Therefore, an individual CWA Section 404 permit is not anticipated to be required for the Burbank to Los Angeles Project Section.

Rivers and Harbors Act of 1899 (33 U.S.C. 401 et seq.)/General Bridge Act of 1946 (33 U.S.C. 525 et seq.)

The Rivers and Harbors Act is a primary federal law regulating activities that may affect navigation on the nation's waterways, including the following:

- Section 9 of the Rivers and Harbors Act and Section 9 of the General Bridge Act require a permit for the construction of bridges and causeways over certain navigable waters of the U.S. to ensure marine traffic is not adversely affected. Navigable waters are defined as those waterbodies subject to the ebb and flow of the tide and utilized currently, potentially, or historically in their natural condition, or by reasonable improvements, as means to transport interstate or foreign commerce. Section 9 bridge permits are only required for waters that are currently or potentially navigable for commerce; general recreational boating is typically not sufficient to establish jurisdiction. The U.S. Coast Guard issues Section 9 bridge permits.
- Section 10 of the Rivers and Harbors Act requires USACE authorization for the construction of any structure in or over designated navigable waters of the U.S.
- Section 14 of the Rivers and Harbors Act (codified in 33 U.S.C 408 [Section 408]), provides that the Secretary of the Army may, upon the recommendation of the Chief of Engineers, grant permission to other entities for the permanent or temporary alteration or use of any USACE Civil Works project. This requires a determination that that requested alteration is “not injurious to the public interest” and “will not affect the USACE project’s ability to meet its authorized purpose.” This means, that USACE has the authority to review, evaluate, and approve all alterations to federally authorized civil works projects to make sure they are not harmful to the public and still meet the project’s intended purposes mandated by congressional authorization.

United States Fish and Wildlife Coordination Act (16 U.S.C. 661–666c)

The U.S. Fish and Wildlife Coordination Act applies to any federal project where any body of water is impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with the USFWS and the appropriate state wildlife agency (CDFW).

Migratory Bird Treaty Act (16 U.S.C. 703–712)

The MBTA prohibits the take of the nests, eggs, birds, or any parts thereof (listed at 50 C.F.R. 10.13, as modified by *Federal Register*, Volume 75, Number 39, Page 9281). The MBTA and the Migratory Bird Treaty Reform Act of 2004 are implemented by the USFWS Division of Migratory Bird Management. Section 703 makes it unlawful to take any migratory bird.

The Migratory Bird Treaty Reform Act of 2004 amends Sections 703–712 such that 94 nonnative bird species that have been introduced by humans to the United States or its territories are excluded from protection. Only species considered native in 1918 are included.

Bald and Golden Eagle Protection Act (16 U.S.C. 668–668(d); 50 C.F.R. 22)

The Bald and Golden Eagle Protection Act prohibits anyone from taking, possessing, or transporting bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*), or the parts, nests, or eggs of such birds, without prior authorization. The Bald and Golden Eagle Protection Act regulations authorize issuance of incidental take permits for bald and golden eagles under limited circumstances.

⁴ The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership, or other association of owners/developers, that includes all crossings of a single water of the U.S. (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of Nationwide Permit authorization.

Protection of Wetlands (U.S. Presidential Executive Order 11990)

U.S. Presidential Executive Order 11990 aims to avoid direct or indirect impacts on wetlands from federal or federally approved projects when a practicable alternative is available. If wetland impacts cannot be avoided, all practicable measures to minimize harm must be included.

Protection of Migratory Bird Populations (U.S. Presidential Executive Order 13186)

U.S. Presidential Executive Order 13186 directs each federal agency taking actions that have or may have adverse impacts on migratory bird populations to work with the USFWS to develop a memorandum of understanding that will promote the conservation of migratory bird populations.

Invasive Species (U.S. Presidential Executive Order 13112)

U.S. Presidential Executive Order 13112 requires federal agencies to work cooperatively to prevent and control the introduction and spread of invasive plants and animals.

3.7.2.2 State

California Endangered Species Act (California Fish and Game Code, § 2050–2085)

CESA prohibits the take of any fish, wildlife, or plant species listed as endangered or threatened, or designated as candidates for listing, under CESA. Take refers to mortality or injury of the listed species itself, not to the modification of a listed species' habitat. CESA contains a procedure for the CDFW to issue a Section 2081 incidental take permit authorizing the take of listed and candidate species incidental to an otherwise lawful activity, subject to specified conditions, including that the impacts of the take are minimized and fully mitigated.

California Fish and Game Code

Other applicable elements of the California Fish and Game Code can be divided into three sections, described below. Fully Protected Species (Sections 3511, 4700, 5050, and 5515), Bird Protections (Sections 3503, 3503.5, and 3513), and Lake and Streambed Alterations (Section 1600 et seq.) are enforced by the CDFW.

- Sections 3511, 4700, 5050, and 5515 designate 37 fully protected species and prohibit the take or possession at any time of such species, with certain limited exceptions.
- Sections 3503, 3503.5, and 3513 protect birds. Section 3503 states that it is unlawful to take, possess, or destroy the nest or eggs of any bird, except as otherwise provided by code or any regulation made pursuant thereto. Section 3503.5 prohibits the take, possession, or destruction of any nests, eggs, or birds in the orders *Falconiformes* (New World vultures, hawks, eagles, ospreys, and falcons, among others) or *Strigiformes* (owls). Section 3513 prohibits the take or possession of any migratory nongame bird or part thereof, as designated in the MBTA.
- Section 1600 et seq. requires notifying CDFW prior to any project activity that might (1) substantially divert or obstruct the natural flow of any river, stream or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. If, after this notification, the CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will need to be obtained.

California Native Plant Protection Act (California Fish and Game Code, § 1900–1913)

The California Native Plant Protection Act requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. The act gives CDFW the power to designate native plants as “endangered” or “rare,” and prohibits the take of such plants, with certain exceptions.

Natural Community Conservation Planning Act (California Fish and Game Code, § 2800–2835)

The Natural Community Conservation Planning Act was enacted to encourage broad-based planning to provide for effective protection and conservation of the state's wildlife resources while

continuing to allow appropriate development and growth. NCCPs may be implemented that identify measures necessary to conserve and manage natural biological diversity within the planning area while allowing compatible and appropriate economic development, growth, and other human uses.

Porter-Cologne Water Quality Control Act (California Water Code § 13000 et seq.)

The Porter-Cologne Water Quality Control Act of the California Water Code established nine RWQCBs to oversee water quality on a day-to-day basis at the local and/or regional level. Their duties include preparing and updating water quality control plans and requirements, and issuing Section 401 water quality certifications. This act grants ultimate authority to SWRCB over state water rights and water quality policy. In circumstances where a proposed project crosses multiple RWQCB jurisdictional boundaries, SWRCB will generally assume regulatory responsibilities pursuant to CWA Section 401 and the Porter-Cologne Water Quality Control Act, and will issue National Pollutant Discharge Elimination System permits for point-source discharges and waste discharge requirements for nonpoint-source discharges. The definition of waters under the jurisdiction of the State of California is broad and includes any surface water or groundwater, including saline waters within the boundaries of the state. Isolated waters that may not be subject to regulations under federal law are considered to be waters of the state and regulated accordingly.

Issuance of a Section 401 Certification requires documenting compliance with state water quality standards, including watershed plans, designated beneficial uses, and the total maximum daily load program.

3.7.2.3 Regional and Local

Local and regional municipal plans pertaining to the preservation and protection of biological resources within the project section are addressed in the Los Angeles County Code of Ordinances, as well as the municipal codes and general plans of the Cities of Burbank, Glendale, and Los Angeles. These codes and plans address such issues as sensitive habitats, protection of wildlife, conservation of wetlands and riparian communities, and protected trees. Table 3.7-1 lists county and city general plan goals, policies, and ordinances relevant to the HSR Build Alternative.

Table 3.7-1 Regional and Local Plans and Policies

Title	Summary
Southern California	
Southern California Association of Governments 2008 Regional Comprehensive Plan (2008)	Southern California Association of Governments adopted the <i>2008 Regional Comprehensive Plan</i> in 2008. The plan includes the following policies: <ul style="list-style-type: none"> ▪ Open Space and Habitat – Natural Lands Goals: Ensure a sustainable ecology by protecting and enhancing the region’s open space infrastructure, and mitigate growth- and transportation-related impacts to natural lands by: <ul style="list-style-type: none"> – Conserving natural lands that are necessary to preserve the ecological function and value of the region’s ecosystems – Conserving wildlife linkages as critical components of the region’s open space infrastructure – Coordinating transportation and open space to reduce transportation impacts on natural lands ▪ Open Space and Habitat – Community Open Space Goals: Enhance the region’s parks, trails, and community open space infrastructure to support aesthetic, recreational, and quality-of-life needs, providing the highest level of service to the region by improving existing community open space through urban forestry and other programs that provide environmental benefits.

Title	Summary
Los Angeles County	
Los Angeles County General Plan 2035 (2015)	Los Angeles County adopted the <i>Los Angeles County General Plan 2035</i> on October 6, 2015. Policies set forth in the general plan are intended to protect significant agricultural resource areas, preserve SEAs, and protect the quality of the coastal environment. The general plan also protects watersheds, streams, and riparian vegetation and maintains natural watershed processes by regulating development in tributary watersheds.
General Plan Conservation and Natural Resources Element (2015)	<ul style="list-style-type: none"> ▪ Policy C/NR 1.2: Protect and conserve natural resources, natural areas, and available open spaces. ▪ Policy C/NR 3.1: Conserve and enhance the ecological function of diverse natural habitats and biological resources. ▪ Policy C/NR 3.7: Participate in inter-jurisdictional collaborative strategies that protect biological resources. ▪ Policy C/NR 3.10: Require environmentally superior mitigation for unavoidable impacts on biologically sensitive areas, and permanently preserve mitigation sites. ▪ Policy C/NR 5.6: Minimize point and nonpoint-source water pollution.
Oak Tree Ordinance (2017)	Los Angeles County adopted the most recent version of the Los Angeles County Code of Ordinances on April 11, 2017. The Los Angeles County Oak Tree Ordinance applies to all unincorporated areas of the county. Its goal is to create favorable conditions for the preservation and propagation of healthy oak trees. Under the ordinance, a person shall not cut, destroy, remove, relocate, inflict damage to, or encroach into the protected zone of any tree of the oak tree genus (<i>Quercus</i>) that is 8 inches or more in diameter (measured at 4.5 feet above mean natural grade) or—in the case of oaks with multiple trunks—a combined diameter of 12 inches or more of the two largest trunks, without first obtaining a permit.
Los Angeles County SEA Program	The Los Angeles County SEA Program was established as part of the Los Angeles County General Plan and additionally in the Hillside Management and Significant Ecological Areas Ordinance in 1982. SEA designation is given to land that contains irreplaceable biological resources. The SEA is intended to aid applicants and staff with implementation of the general plan goals and policies, zoning code regulations, and Department of Regional Planning procedures. The general plan establishes the locations of the SEAs, the description of the SEAs (habitat types, unique resources, etc.), and program policies. The SEA Ordinance, a component of the county zoning code (“Title 22”) is the implementation tool of the SEA Program, which establishes the permitting standards and process for development within SEAs.
Los Angeles County Code of Ordinances	<p>The applicable ordinances are stated below:</p> <ul style="list-style-type: none"> ▪ Section 12.28, Brush and Vegetation, Policy 12.28.030: No person shall remove or destroy, or cause the removal or destruction of, natural vegetation on sloping terrain within unincorporated territory of Los Angeles County. ▪ Section 12.28, Brush and Vegetation, Policy 17.04.340: A person shall not dig, remove, destroy, injure, mutilate, or cut any tree, plant, shrub, grass, fruit, or flower, or any portion thereof, growing in a park. Any removal of wood, turf, grass, soil, rock, sand, or gravel from any park is unlawful. ▪ Section 12.28, Brush and Vegetation, Policy 17.04.470: A person shall not molest, hunt, disturb, injure, shoot at, take, net, poison, wound, harm, kill, or remove from any park or riding and hiking trail any kind of animal. ▪ Section 22, Planning and Zoning, Policy 22.56.2060: No person shall cut, destroy, remove, relocate, inflict damage to, or encroach into a protected zone of any tree in the oak genus that is 8 inches in diameter or greater measured at 4.5 feet above mean natural grade.

Title	Summary
City of Burbank	
General Plan Open Space and Conservation Element (2013)	<ul style="list-style-type: none"> ▪ Policy 6.2: Protect the ecological integrity of open spaces and maintain and restore natural habitats and native plant communities. ▪ Policy 8.4: Naturalize disturbed areas and prevent the invasion of exotic plants.
City of Glendale	
General Plan Open Space and Conservation Element (1993)	<ul style="list-style-type: none"> ▪ Policy 1: Natural resources, including open spaces, biological habitats, and native plant communities, should be maintained and, where necessary, restored. ▪ Goal 2: Protect vital or sensitive open space areas including ridgelines, canyons, streams, geologic formations, watersheds and historic, cultural, aesthetic, and ecologically significant areas from the negative impacts of development and urbanization.
Comprehensive Design Guidelines (2011)	The intent of the Comprehensive Design Guidelines is to provide predictability for property owners and developers, as well as residents and other stakeholders in the Glendale community.
City of Los Angeles	
General Plan Conservation Element (2001)	The 2001 City of Los Angeles General Plan Conservation Element includes the provision, management, and conservation of the city's open space resources, including natural habitats and wildlife. This also includes the evaluation, avoidance, and minimization of potential significant impacts, as well as mitigation of unavoidable significant impacts on sensitive animal and plant species and their habitats and habitat corridors relative to land development activities. Habitat policies in the general plan seek to preserve, protect, restore, and enhance natural plant and wildlife diversity, endangered species, habitats, corridors, linkages, and wetlands.
General Plan Open Space Element (1973)	<p>Goals:</p> <ul style="list-style-type: none"> ▪ Ensure the preservation and conservation of sufficient open space to serve the recreational, environmental, health, and safety needs of the city. ▪ Conserve and/or preserve those open space areas containing the city's environmental resources, including air and water. <p>Policies:</p> <ul style="list-style-type: none"> ▪ The amount of earth moved in grading operations within desirable open space areas should be limited and closely controlled. Aesthetic consideration should be incorporated into the city's approval of grading plans in these areas. ▪ The designation of an area as either open space land or desirable open space is not intended to preclude the development of needed transportation facilities. Such transportation facilities traversing public park properties are subject to various laws controlling development.
General Plan Land Use Element (adoption dates vary)	The City of Los Angeles General Plan Land Use Element consists of 35 CPAs that are the official guide to future development in the city of Los Angeles. The Burbank to Los Angeles Project Section is located in the following CPAs: the Sunland-Tujunga-Lake View Terrace-Shadow Hills-East La Tuna Canyon CPA, the Northeast Los Angeles CPA, the Central City North CPA, and the Boyle Heights CPA.
Sunland-Tujunga-Lake View Terrace-Shadow Hills-East La Tuna Canyon CPA (1997)	<ul style="list-style-type: none"> ▪ Open Space Goal 5: A community with sufficient open space in balance with new development to serve the recreational, environmental, and health and safety needs of the community and to protect environmental and aesthetic resources. ▪ Open Space Policy 5-1.2: Protect significant environmental resources from environmental hazards.

Title	Summary
Northeast Los Angeles CPA (1999)	<ul style="list-style-type: none"> ▪ Open Space Goal 4: Sufficient open space, in balance with development, to serve the recreational, environmental, and health needs of the community and to protect environmental and aesthetic resources. ▪ Open Space Objective 4-2: To preserve existing open space resources and, where possible, encourage acquisition of new open space.
Central City North CPA (2000)	<ul style="list-style-type: none"> ▪ Open Space and Recreation Policy 4-2.1: To foster physical and visual links between a variety of open spaces and public spaces down town.
Boyle Heights CPA (2012)	<ul style="list-style-type: none"> ▪ Recreation Policy: Preserve and improve the existing recreation and park facilities and park space.
Alameda District Specific Plan Urban Design Guidelines (2000)	This is an ordinance establishing a specific plan, known as the Alameda District Specific Plan, for a portion of the Central City North CPA.
Los Angeles River Revitalization Master Plan (2007)	The <i>Los Angeles River Revitalization Master Plan</i> provides a framework for restoring the river's ecological function and for transforming it into an amenity for residents and visitors to the city.
City Center Redevelopment Plan Project Objectives (2002)	The plan's objectives are to further the development of downtown as the major center of the Los Angeles metropolitan region, within the context of the Los Angeles General Plan, as envisioned by the General Plan Framework, Concept Plan, City-wide Plan portions, the Central City Community Plan, and the Downtown Strategic Plan.
Municipal Code: Chapter VI: Public Works and Property Article 4.4: Stormwater and Urban Runoff Pollution Control (1998)	"Environmentally sensitive area" refers to any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments. Environmentally sensitive areas include, but are not limited to, areas designated as SEAs by Los Angeles County, areas designated as Significant Natural Areas by the CDFW Significant Natural Areas Program and field-verified by the CDFW, and areas listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species" beneficial use.
Municipal Code: Chapter I: General Provisions and Zoning Article 3: Specific Plan – Zoning Supplemental Use Districts Section 13.17: "Rio" River Improvement Overlay District (2013)	The purpose of the River Improvement Overlay District is to support the goals of the <i>Los Angeles River Revitalization Master Plan</i> and contribute to the environmental and ecological health of the city's watersheds by establishing a positive interface between river-adjacent property and river parks and/or greenways.
Municipal Code: Section 41.14i (1998)	Section 41.14i of the Los Angeles Municipal Code prohibits any person from cutting, breaking, destroying, removing, defacing, tampering with, marring, injuring, disfiguring, interfering with, damaging, tearing, or altering any tree, shrub, tree stake, or guard in any public street, or affixing or attaching in any manner any other thing whatsoever, including any guy wire or rope, to any tree, shrub, tree stake, or guard except for the purpose of protecting it.
Municipal Code: Chapter 4, Article 6, Preservation of Protected Trees; Ordinance 177404 (2006)	In addition to the protection of trees within public rights-of-way or on public lands, the Municipal Code (Chapter 4, Article 6, Preservation of Protected Trees; Ordinance 177404) provides protection of native trees of four types: (1) oaks other than scrub oak (<i>Quercus [dumosa] berberidifolia</i>), (2) Southern California black walnut (<i>Juglans californica</i> var. <i>californica</i>), (3) western sycamore (<i>Platanus racemosa</i>), and (4) California bay (<i>Umbellularia californica</i>).

Title	Summary
U.S. Army Corps of Engineers and City of Los Angeles	
Los Angeles River Ecosystem Restoration Project (2015)	The Los Angeles River Ecosystem Restoration Project would restore approximately 11 miles of the Los Angeles River from Griffith Park to downtown Los Angeles. The project would reestablish riparian strand, freshwater marsh, and aquatic habitat communities and reconnect the river to major tributaries, its historic floodplain, and the regional habitat zones of the Santa Monica, San Gabriel, and Verdugo Mountains while maintaining existing levels of flood risk management. The goals of the project are to restore valley foothill riparian strand and freshwater marsh habitat, increase habitat connectivity, and increase passive recreation.

C/NR = Conservation and Natural Resources

CDFW = California Department of Fish and Wildlife

CPA = community plan area

SEA = significant ecological area

3.7.3 Consistency with Plans and Laws

As indicated in Section 3.1, Introduction, CEQA and NEPA regulations⁵ require a discussion of inconsistencies or conflicts between a proposed action or undertaking and federal, state, regional, or local plans and laws. Several federal and state laws, listed in Section 3.7.2.1, Federal, and Section 3.7.2.2, State, pertain to biological and aquatic resources. The Authority, as the lead state and federal agency (the Authority is the lead federal agency pursuant to 23 U.S.C. 327 and the terms of the Memorandum of Understanding between the FRA and the State of California effective July 23, 2019) proposing to construct and operate the HSR system, is required to comply with all federal and state laws and regulations and to secure all applicable federal and state permits prior to initiating construction of the project. Therefore, there would be no inconsistencies between the HSR Build Alternative and these federal and state laws and regulations.

The Authority is a state agency and therefore is not required to comply with local land use and zoning regulations; however, it has endeavored to design and construct the HSR project so that it is consistent with land use and zoning regulations. A total of 15 plans and over 40 policies, goals, and objectives were reviewed. The HSR Build Alternative would be consistent with all identified plans and policies. Notably, the HSR Build Alternative would neither preclude nor conflict with the restoration activities proposed under the *Los Angeles River Revitalization Master Plan* or the Los Angeles River Ecosystem Restoration Final Feasibility Report and Environmental Impact Statement/Environmental Impact Report (USACE and City of Los Angeles 2015). For additional details, please see Volume 2, Appendix 3.1-B, Regional and Local Policy Inventory.

3.7.4 Methods for Evaluating Impacts

The following sections summarize the RSAs and the methods used to analyze impacts on biological and aquatic resources. As summarized in Section 3.7.1, Introduction, five other sections also provide additional information related to biological and aquatic resources: Section 3.4, Noise and Vibration; Section 3.8, Hydrology and Water Resources; Section 3.10, Hazardous Materials and Wastes; Section 3.18, Regional Growth; and Section 3.19, Cumulative Impacts.

⁵ NEPA regulations refer to the regulations issued by the Council for Environmental Quality located at 40 C.F.R. 1500.

3.7.4.1 Definition of Resource Study Areas

As defined in Section 3.1, Introduction, RSAs are the geographic boundaries in which the Authority conducted environmental investigations specific to each resource topic. Four distinct RSAs were used for environmental investigations specific to biological and aquatic resources, each with a fixed buffer extending beyond the potential area of disturbance, as shown on Figure 3.7-1. These distinct RSAs were used during record searches and focused surveys to address specific biological and aquatic resources within the overall study area. The varied buffer sizes for each RSA are based on the level of detail necessary to assess potential impacts on the specific biological and aquatic resources in and around the project footprint. The entire potential area of disturbance associated with the project footprint includes the proposed HSR right-of-way and associated facilities (switching and paralleling stations, grade separations, and interchanges), HSR stations, and all other construction areas (including laydown, storage, and similar areas). Potential indirect impacts (e.g., noise, vibration, and dust) would occur both within and outside of the project footprint. Table 3.7-2 provides general definitions and boundary descriptions for each RSA used to analyze biological and aquatic resources within the Burbank to Los Angeles Project Section.

Table 3.7-2 Definition of Resource Study Areas

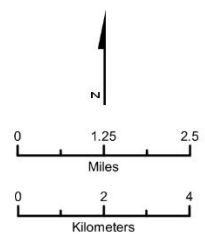
General Definition	Resource Study Area Boundary ¹
Botanical Resource Study Area	
Direct Effects	Project footprint (includes permanent and temporary effects)
Indirect Effects	Project footprint plus 100-foot buffer
Aquatic Resource Study Area	
Direct Effects	Project footprint (includes permanent and temporary effects)
Indirect Effects	Project footprint plus 250-foot buffer
Wildlife Resource Study Area	
Direct Effects	Project footprint (includes permanent and temporary effects)
Indirect Effects	Project footprint plus 1,000-foot buffer
Supplemental Habitat Study Area	
Records Search, Wildlife Movement Study, Indirect Effects	Project footprint plus 3-mile buffer

¹ Buffers are measured from the edge of all proposed permanent and temporary direct disturbance areas.



FILE: I:\ST11501\GIS\MAXDs\BIO\BART\Biological\StudyAreas.mxd (7/2/2021)

SOURCE: National Geographic/Esri (2018); CHSRA (6/2021)



- HSR Build Alternative Alignment
- Supplemental Habitat Study Area (project footprint plus 3 miles)
- Wildlife Resource Study Area (project footprint plus 1,000 feet)
- Aquatic Resource Study Area (project footprint plus 250 feet)
- Botanical Resource Study Area (project footprint plus 100 feet)
- HSR Stations

California High-Speed Rail Authority

Figure 3.7-1 Biological Resource Study Areas

Botanical Resource Study Area

The Botanical RSA consists of the project footprint plus a 100-foot buffer around project elements to evaluate direct and indirect impacts on special-status plant species. The Authority conducted records searches and identified species-specific habitats based on aerial photograph interpretation, documented occurrences of a species (e.g., CNDDB records), and field survey observations.

Aquatic Resource Study Area

The Aquatic RSA consists of the project footprint plus a 250-foot buffer around project elements to evaluate both direct and indirect impacts on aquatic resources and associated plant communities. The Authority reviewed the USFWS National Wetlands Inventory (NWI) to identify potential aquatic resources in the Aquatic RSA. These features were located on aerial imagery to assist with the identification of sites during desktop review and mapping. Reconnaissance-level field surveys were conducted to corroborate the conditions identified during desktop review.

Wildlife Resource Study Area

The Wildlife RSA consists of the project footprint plus a 1,000-foot buffer around project elements to evaluate direct and indirect impacts on special-status wildlife species and the habitat areas they may use. The Authority conducted project-specific vegetation mapping within this 1,000-foot buffer and identified species-specific habitats based on vegetation mapping, aerial photograph interpretation, documented species occurrences (e.g., CNDDB records), and field survey observations.

Supplemental Habitat Resource Study Area

The Supplemental Habitat Study Area extends up to 3 miles outward from the project footprint and was determined based on guidance from appropriate regulatory agencies, literature, and best professional judgment. The Authority conducted records searches based on the Supplemental Habitat Study Area and identified species-specific habitats based on aerial photograph interpretation, documented occurrences of a species (e.g., CNDDB records), and field observations of special-status species and their habitats. Wildlife movement corridors were analyzed within this large study area.

3.7.4.2 Pre-Field Investigation and Literature Review

Prior to initiating field surveys, the Authority reviewed existing background information to identify the locations of special-status plant and wildlife species, aquatic resources, special-status plant communities, federally designated or proposed critical habitat units, and wildlife movement areas recorded or potentially occurring in or near the Burbank to Los Angeles Project Section. This section summarizes the background information reviewed for each RSA.

Special-Status Species

A list of known or potentially occurring special-status plant and wildlife species and their designated and proposed critical habitat was reviewed based on existing federal, state, and private databases, and agency information. Database queries included all reported special-status plant and wildlife species occurrences within the Supplemental Habitat Study Area (3-mile buffer of the project footprint) based on the following data sources:

- **USFWS Information for Planning and Conservation (IPaC) Online System**—An IPaC Trust Resources Report listing the federal candidate, proposed, threatened, and endangered special-status plant and wildlife species, as well as their federally designated or proposed critical habitats, known or having the potential to occur within the general project vicinity was generated (USFWS 2016). An updated official species list was obtained from the Carlsbad Fish and Wildlife Office on February 19, 2020 (USFWS 2020). The Authority completed Section 7 FESA consultation with the USFWS in April 2021.
- **CNDDB/RareFind**—In August 2016, lists of special-status plant and wildlife species and special-status plant communities were prepared through a four-quad search using the

RareFind program (CDFW 2016a). This search was repeated in November 2019 and April 2021 to verify the latest occurrence records within the four-quad search area (CDFW 2021).

- **California Native Plant Society Online Inventory of Rare and Endangered Plants of California**—A list and map of the California Native Plant Society special-status plant species that may occur in the nine-quad search area were generated in August 2016 using the online inventory database (California Native Plant Society 2016). This search was repeated in November 2019 and April 2021 to verify the latest occurrence records within the nine-quad search area (California Native Plant Society 2021).
- **eBird (<http://ebird.org/content/ebird/>)**—eBird is a real-time, online checklist program launched in 2002 by the Cornell Lab of Ornithology and the National Audubon Society. It provides rich data sources for basic information on bird abundance and distribution at a variety of spatial and temporal scales. eBird occurrence records within the Supplemental Habitat Study Area were reviewed in September 2016, November 2019, October 2020, and May 2021.
- **Critical Habitat**—Proposed and designated critical habitat geographic information system (GIS) layers from the USFWS Carlsbad field office website (May 2012 and April 2015) and the USFWS Environmental Conservation Online System shapefiles (last updated October 24, 2019) were reviewed to determine whether any designated or proposed critical habitat occurs within the Wildlife RSA. In May 2017, the Carlsbad Fish and Wildlife Office provided an official USFWS species list containing information regarding designated critical habitat areas. The latest updated official species list was obtained on February 19, 2020.

Additionally, biologists familiar with the region and its biota used personal knowledge, published literature, and unpublished reports to complete the list of species potentially occurring within the RSAs.

Aquatic Resources

Pre-field survey investigations generally consisted of reviewing available background information (e.g., the NWI, online aerial photography, previous studies) to gather relevant data for aquatic resources within the Aquatic RSA. Refer to the *Burbank to Los Angeles Project Section Aquatic Resources Delineation Report* (Authority 2019a) for the specific background information reviewed for the delineation of waters of the U.S. The USACE provided a Preliminary Jurisdictional Determination confirming the extent of mapped jurisdictional waters of the U.S. for the project section in July 2018.

Special-Status Natural Communities and Vegetation Mapping

Special-status natural communities are plant communities of limited distribution statewide or within a county or region that are often vulnerable to the environmental impacts of projects. In addition to plant communities considered sensitive by the CDFW, plant communities listed as important plant communities within Los Angeles County according to the county's general plan (Los Angeles County Regional Planning Department 2015) were considered special-status plant communities and are addressed in this report even if they were ranked as secure in California.

In preparation for mapping of special-status plant communities, the CNDDDB (CDFW 2016a) was searched for occurrences of special-status communities in the Botanical and Wildlife RSAs (i.e., within 100 and 1,000 feet, respectively, of the project footprint). Aerial imagery and the *Manual of California Vegetation* (Sawyer et al. 2009) were also reviewed for potential plant communities present within each RSA. To identify the requirements for protected trees, the Authority reviewed county and city ordinances and codes, as well as available general plans and HCPs.

All vegetation mapping efforts would typically be based on the vegetation classification system developed by Sawyer and Keeler-Wolf from *A Manual of California Vegetation* (Sawyer et al. 2009). However, the RSAs are within a highly urbanized environment and therefore do not have any plant communities that strictly correspond to the classifications in that system. As such, plant communities identified within the RSAs were mapped and classified based on a combination of descriptions contained in *A Manual of California Vegetation* (Sawyer et al. 2009), the California

Wildlife Habitat Relationships System (CDFW 2016b), and riparian habitats mapped on the NWI Wetlands Mapper (USFWS 2017). These three sources were reviewed prior to field surveys.

Wildlife Movement Corridors

To identify potential wildlife movement corridors in the general project vicinity, the Authority reviewed previous studies, master plans, and published articles related to regional wildlife movement and opportunities to conserve or enhance linkages across the Los Angeles Basin. Specific literature reviewed during the pre-survey investigations included:

- Rim of the Valley Corridor Draft Special Resource Study and Environmental Assessment (National Park Service 2015)
- Los Angeles River Ecosystem Restoration Final Integrated Feasibility Report (USACE 2015)
- Common Ground: From the Mountains to the Sea, Watershed and Open Space Plan for the San Gabriel and Los Angeles Rivers (The California Resources Agency et al. 2001)
- Arroyo Seco Watershed Restoration Feasibility Study (North East Trees et al. 2002)
- The Arroyo Seco Master Plans (Hahamongna Watershed Park Master Plan, Central Arroyo Master Plan, and Lower Arroyo Master Plan) (City of Pasadena 2003)
- Arroyo Seco Watershed Ecosystem Restoration Study, Los Angeles County (USACE 2011)
- Los Angeles River Revitalization Master Plan (City of Los Angeles 2007)
- *Greater Los Angeles County Integrated Regional Water Management Plan* (Greater Los Angeles County Region Integrated Regional Water Management Group 2014)

In addition, Authority biologists interviewed City of Los Angeles Animal Control Officer Dinh Hoang in November 2016. Mr. Hoang provided input on his experiences and observations regarding wildlife movement throughout the general project vicinity.

3.7.4.3 Field Surveys

The potential for project impacts on biological resources depends largely on the presence of suitable habitat in and adjacent to areas that would be affected by the project. The Authority's biologists conducted field surveys to document the presence or absence of biological resources within the RSAs and to determine the potential of occurrence of special-status biological resources through habitat characterization and mapping, which was conducted throughout the Wildlife RSA in 2016 and 2017. Los Angeles County Department of Public Works and USACE granted permission to enter certain areas within the RSAs, including the Los Angeles River and flood control channels.

Limitations were encountered during the field surveys that resulted in limited access within certain areas of the RSAs, which may influence the results of the studies presented in this document. These limitations are beyond the Authority's control and are associated with the following issues:

- Lack of permission to enter private properties
- Appropriate timing for seasonal surveys/variable annual weather conditions

For areas where field access was limited (e.g., private properties), data could not be collected on the ground. Therefore, estimates and assumptions regarding the presence of aquatic resources, special-status species, and plant communities are based on assessments from adjacent areas, aerial photographic interpretation, or post-survey GIS analysis.⁶

⁶ Approximately 793 acres within the 4,980.64-acre Wildlife RSA were directly surveyed, including areas containing habitat potentially suitable for special-status plant and wildlife species (e.g., open space areas, vacant lots, city parks, flood control channels/culverts). Additional areas were assessed from within the public right-of-way and where permission to enter was granted. More than 90 percent of the Wildlife RSA consists of urban development and private properties. All exterior areas within the project footprint (approximately 592 acres), including areas within and adjacent to the existing railroad right-of-way, were thoroughly surveyed.

This section provides the survey dates, describes the survey types, and summarizes the methods used to complete the field surveys.

Reconnaissance Field Surveys

Authority biologists conducted reconnaissance-level field surveys for this assessment on February 25, March 24, August 9 and 22, September 13 and 27, October 4, and November 3 and 15, 2016, as well as on May 9 and 12, 2017. These field surveys were conducted to ascertain the presence or absence of potential biological or aquatic resources identified during the aerial imagery, data, and literature reviews. The biologists drove and walked the proposed alignment in the public right-of-way and areas where the Los Angeles County Department of Public Works and USACE granted permission to enter (e.g., the Los Angeles River and flood control channels).

Delineation of Aquatic Resources

On February 25, March 24, and August 22, 2016, a team of qualified biologists conducted field surveys to confirm the presence and extent of aquatic resources mapped by the NWI and to delineate all other aquatic features potentially under jurisdiction of USACE, SWRCB, and CDFW in the Aquatic RSA (250-foot buffer). The objective of the surveys was to characterize and map each of the aquatic resources in the Aquatic RSA that may potentially fall under federal or state regulatory jurisdiction.

Areas of potential jurisdiction in the Aquatic RSA were evaluated according to USACE criteria. The boundaries of the potential jurisdictional areas were observed in the field and mapped on a series of aerial photographs (each with a scale of 1 inch = approximately 300 feet), which together show the entire RSA. Areas that were inaccessible due to lack of permission to enter (e.g., private lots and properties) were visually assessed from the nearest accessible public right-of-way. Aerial photographs of inaccessible areas were also used to verify the presence or absence of potential jurisdictional areas. Measurements of federal and state jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photographs.

Refer to the *Burbank to Los Angeles Project Section: Aquatic Resources Delineation Report* (Authority 2019a) for further details on the methodology for determining the extent of jurisdiction using USACE definitions. Streambed and riparian areas potentially subject to CDFW jurisdiction were also mapped during the aquatic resources delineation surveys. A field verification survey of delineated features within the Aquatic RSA was conducted with USACE, SWRCB, and CDFW personnel on February 14, 2018. USACE provided a Preliminary Jurisdictional Determination confirming the extent of mapped jurisdictional waters of the U.S. in July 2018.

Special-Status Plant/Natural Communities Surveys and Vegetation Mapping

Initially, Authority biologists conducted a methodical examination of recent aerial photographic imagery to evaluate current site conditions and identify any potentially suitable habitat or conditions for special-status plant species and natural communities within the Wildlife RSA (1,000-foot buffer). Because most of the RSA is within a highly urbanized environment, areas lacking the potential to support special-status botanical resources (e.g., completely developed lots) were eliminated from further review. Locations identified within the Wildlife RSA to conduct focused vegetation surveys included various undeveloped lots, public parks, and greenways where permission to enter was granted.

On August 9, 2016, an Authority biologist surveyed these select areas from public rights-of-way to determine the potential for special-status plant species and to map plant communities. Additional surveys along select areas within the Wildlife RSA, including the Los Angeles River, Lockheed Channel, and Burbank Western Channel, were conducted on September 13 and 27, October 4, and November 3 and 15, 2016, as well as on May 9 and 12, 2017.

Wildlife Habitat Assessment

Authority biologists conducted reconnaissance-level field surveys for this assessment on February 25, March 24, August 9 and 22, September 13 and 27, October 4, and November 3 and

15, 2016, as well as on May 9 and 12, 2017, to assess the potential for the plant communities and structures within the Wildlife RSA to support wildlife species. A bat specialist and an Authority biologist conducted focused surveys for bats during multiple field visits that took place between September 13, 2016, and May 12, 2017.

Wildlife habitat assessment surveys were conducted by a combination of meandering pedestrian transect surveys, windshield surveys from existing public roads, and from individual parcels where permission to enter was granted. In areas where pedestrian or windshield surveys were prohibited, the wildlife habitat field assessment was augmented with aerial photographic interpretation and extrapolation of observations made from adjacent or nearby parcels.

Primary activities of the wildlife habitat assessment included the following:

- Investigating specific habitat elements (e.g., vegetated channels and lots, bridges, culverts, grade-separations) that may be suitable for special-status wildlife species
- Confirming, identifying, and describing known or previously unreported suitable wildlife habitat
- Identifying and mapping locations of observed special-status wildlife species

All wildlife species observed, regardless of listing status, were identified to the species level and recorded according to nomenclature found in *Complete List of Amphibian, Reptile, Bird, and Mammal Species in California* (California Department of Fish and Game 2008b). Observations included those species that were directly observed and those species whose presence can be inferred based on diagnostic signs such as burrows, fresh tracks, bird songs or calls, scat, or nests.

Because the Wildlife RSA passes through mostly urban settings consisting of residential, industrialized warehouse, and commercial business uses that run along the existing railroad right-of-way, the wildlife habitat assessment did not identify any areas within the project footprint that warranted protocol surveys for any special-status wildlife species. However, focused surveys for special-status bat species were conducted in areas within the Wildlife RSA identified as potentially supporting bat roosting sites (e.g., water crossings, bridges, culverts, channels) during the September, October, and November 2016 field surveys and the May 2017 field surveys.

Wildlife Movement and Migration Corridor Assessment

Potential wildlife movement corridors that were identified during the pre-survey investigations were confirmed during the reconnaissance-level field surveys as having the potential to allow wildlife to move through the Supplemental Habitat Study Area (3-mile buffer). The Authority biologists visited accessible features in an effort to ground-truth the background data, as well as record barriers or connectivity structures (e.g., culverts, underpasses, drainage features) identified within the Supplemental Habitat Study Area. Most of these features were along the Los Angeles River and associated culverts and drainage channels. Direct observations of wildlife, as well as signs of wildlife use (e.g., scat, tracks, fur, vegetation disturbance), were recorded at each survey location, where applicable.

Focused Least Bell's Vireo Survey

On June 19, 2020, an experienced ornithologist conducted a focused bird survey at Rio de Los Angeles State Park to corroborate multiple reported least Bell's vireo eBird occurrences documented in the area from March through June 2020. This is the only location where least Bell's vireo have been documented in close proximity to the HSR Build Alternative footprint, and is one of three locations where suitable habitat occurs within the Wildlife RSA.

3.7.4.4 Impact Avoidance and Minimization Features

The HSR Build Alternative incorporates standardized HSR features to avoid and minimize impacts. These features are referred to as IAMFs. The Authority would implement IAMFs during project design and construction. As such, the analysis of impacts of the HSR Build Alternative in this section factors in all applicable IAMFs. Appendix 2-B, Impact Avoidance and Minimization

Features, provides a detailed description of the IAMFs included as part of the HSR Build Alternative design. IAMFs applicable to biological and aquatic resources include:

- BIO-IAMF#1: Designate Project Biologist, Designated Biologists, Species-Specific Biological Monitors, and General Biological Monitors—Employ resource agency-approved biologists responsible for overseeing appropriate and timely implementation of biological resource mitigation features and permit conditions, overseeing regulatory compliance, and monitoring construction activities.
- BIO-IAMF#2: Facilitate Agency Access—Provide all involved resource agency staff with easy access to the construction site (when warranted) to review project consistency with terms and conditions of regulatory agency permits and approvals.
- BIO-IAMF#3: Prepare Worker Environmental Awareness Program (WEAP) Training Materials and Conduct Construction-Period WEAP Training—Provide training on regulatory agency terms and conditions contained in permits and approvals, federal and state environmental regulations, and project avoidance features and mitigation measures to project construction crews.
- BIO-IAMF#4: Conduct Operation and Maintenance-Period WEAP Training—Provide training on regulatory agency terms and conditions contained in permits and approvals, federal and state environmental regulations, and project avoidance features and mitigation features to HSR operations and maintenance employees.
- BIO-IAMF#5: Prepare and Implement a Biological Resources Management Plan—Detail an implementation strategy for applicable biological resource conservation and mitigation features, link implementation of the applicable features to discrete steps in the construction process, and define responsibilities and timing to allow for timely and appropriately implemented conservation and mitigation features.
- BIO-IAMF#6: Monofilament Restrictions—Eliminate monofilament debris in erosion control materials that can result in injury or death to wildlife through entanglement or ingestion.
- BIO-IAMF#7: Prevent Entrapment in Construction Materials and Excavations—Reduce the potential for wildlife to become trapped in construction trenches and/or enter stored construction pipe, culverts, or similar structures that would eventually be buried, moved or capped.
- BIO-IAMF#8: Delineate Equipment Staging Areas and Traffic Routes—Locate equipment staging areas within areas ultimately to be occupied by permanent HSR facilities to avoid the potential for increased impacts on sensitive biological resource areas and to provide a basis for regulatory agency permit approvals.
- BIO-IAMF#9: Dispose of Construction Spoils and Waste—Require contractors to temporarily store construction waste materials at or near the construction site and within the project footprint using approved containment methods to reduce potential impacts on biological resources by decreasing construction truck trips and to limit the potential for encounters with wildlife traversing the construction area.
- BIO-IAMF#10: Clean Construction Equipment—Clean construction equipment prior to moving equipment onto and off of the construction site to reduce potential impacts on biological resources by removing mud and plant materials containing seeds that could introduce noxious and invasive weeds to adjacent natural areas.
- BIO-IAMF#11: Maintain Construction Sites—Identify best management practices (BMP) for the following topics: temporary soil stabilization, temporary sediment control, wind erosion control, tracking control, nonstormwater management, waste management and materials control, and other general measures related to construction site cleanliness.
- BIO-IAMF#12: Design the Project to be Bird Safe—Evaluate the catenary system, masts, and other structures for designs that are bird- and raptor-safe in accordance with the applicable

standards, including recommendations made by the Authority’s Bird Electrocutation Avoidance Configuration Working Group.

- AQ-IAMF#1: Fugitive Dust Emissions—Implement measures to minimize fugitive dust associated with ground disturbance and demolition.
- HMW-IAMF#6: Spill Prevention—Prepare a spill prevention, control, and countermeasure plan or soil prevention and response plan, as applicable, to prescribe BMPs to prevent hazardous material releases and ensure cleanup of any hazardous material releases.
- HYD-IAMF#1, Storm and Groundwater Management—Prepare a storm and groundwater management and treatment plan. Design and build on-site storm and groundwater management facilities to capture runoff and provide treatment prior to discharge of pollutant-generating surfaces. Use low-impact development techniques to detain runoff on-site and to reduce off-site runoff.
- HYD-IAMF#3: Prepare and Implement a Construction Stormwater Pollution Prevention Plan (SWPPP)—Reduce potential effects on hydrology and water resources through the preparation of and adherence to a SWPPP.

3.7.4.5 Methods for NEPA and CEQA Impact Analysis

This section describes the sources and methods the Authority used to analyze the potential impacts on biological and aquatic resources from implementing the HSR Build Alternative. These methods apply to both NEPA and CEQA unless otherwise indicated. Refer to Section 3.1.3.4, Methods for Evaluating Impacts, for a description of the general framework for evaluating impacts under NEPA and CEQA. The evaluation of impacts on biological and aquatic resources also considered laws, regulations, and orders (Section 3.7.2) that regulate nonwetland aquatic resources, wildlife movement corridors, invasive species, protected trees, and significant ecological areas (SEA).

The analysis focuses on the direct and indirect impacts of the HSR Build Alternative on biological and aquatic resources. Analysts used a combination of data gathered from the pre-field investigation and literature review (Section 3.7.4.2) and data collected directly from the RSAs during the field surveys (Section 3.7.4.3) to determine impacts on specific biological and aquatic resources. All impact acreages presented in this report relevant to delineated aquatic resources and mapped vegetation types were calculated using preliminary engineering plans and GIS software.

3.7.4.6 Method for Determining Significance under CEQA

CEQA requires that an EIR identify the significant environmental impacts of a project (CEQA Guidelines § 15126). One of the primary differences between NEPA and CEQA is that CEQA requires a significance determination for each impact using a threshold-based analysis (see 3.1.3.4, Methods for Evaluating Impacts, for further information). By contrast, under NEPA, significance is used to determine whether an EIS will be required; NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to “significantly affect the quality of the human environment.” Accordingly, Section 3.7.9, CEQA Significance Conclusions, summarizes the significance of the environmental impacts on biological and aquatic resources for the HSR Build Alternative. The Authority is using the following thresholds to determine if a significant impact on biological and aquatic resources would occur as a result of the HSR Build Alternative. A significant impact is one that would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS.

- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

Mandatory findings of significance within Section 15065 of the CEQA Guidelines require the lead agency to determine whether a project may have a significant effect on the environment where substantial evidence indicates that negative impacts may occur on biological resources. The negative conditions are defined as follows:

- The project has the potential to substantially degrade the quality of the environment, substantially reduce habitat of wildlife species, cause wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce or restrict the range of an endangered, rare, or threatened species.
- The project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The project has environmental effects that are individually limited but cumulatively considerable.

Under CEQA's mandatory findings of significance, the project would result in a significant impact on biological resources if it would:

- Substantially reduce the habitat of a fish or wildlife species
- Cause a fish or wildlife population to drop below self-sustaining levels
- Threaten to eliminate a plant or animal community
- Substantially reduce the number or restrict the range of an endangered, rare, or threatened species

General indicators of significance, based on guidelines or criteria in NEPA, CEQA, CWA, CESA, FESA, and regulatory guidance from FRA include:

- Potential modification or destruction of habitat, movement corridors, or breeding, feeding, and sheltering areas for endangered, threatened, rare, or other special-status species
- Potential measurable degradation of protected habitats, sensitive plant communities, wetlands, or other habitat areas identified in plans, policies, or regulations
- Potential loss of a substantial number of any species that could affect the abundance or diversity of that species beyond the level of normal variability
- Potential indirect impacts, both temporary and permanent, from excessive noise that elicits a negative response and avoidance behavior

3.7.5 Affected Environment

This section describes the affected environment for biological resources within the Burbank to Los Angeles Project Section RSAs. It includes discussion of the regional setting, the watershed profile, plant communities and land cover types, special-status species and natural communities, wetlands and other aquatic resources, and other habitats of concern (essential fish habitat, critical habitat, wildlife movement corridors, and protected trees). As discussed in Section 3.7.3, several regional plans and policies pertain to biological resources within the Burbank to Los Angeles

Project Section. This information provides the context for the environmental analysis and evaluation of impacts.

3.7.5.1 Regional Setting

The HSR Build Alternative for the Burbank to Los Angeles Project Section is approximately 14 linear miles and is located on the U.S. Geological Survey *Burbank, Hollywood, and Los Angeles, California* 7.5-minute series topographic quadrangles. The proposed alignment lies within the South Coast subregion of the California Floristic Province's Southwestern California region. This floristic subregion extends along the Pacific Coast from Point Conception to Mexico. Historically, coastal sage scrub and chaparral plant communities characterized this subregion (Baldwin et al. 2012); however, large segments of land within Los Angeles County have been heavily developed through urbanization in the last two centuries. As such, the proposed alignment passes through mostly urban settings consisting of residential, industrialized warehouse, and commercial business uses that run along the existing railroad transportation corridor. Remaining open space areas in the general project vicinity include Griffith Park, near the northwestern portion of the Wildlife RSA, and the Verdugo Mountains, to the northeast of the Wildlife RSA. Los Angeles County has designated Griffith Park and the Verdugo Mountains as SEAs identified for their biological values; however, these SEAs are outside the project footprint and would not be affected by the HSR Build Alternative. The RSAs do not contain any identified lands covered in an HCP or NCCP, or lands designated as critical habitat for any federally listed threatened or endangered species.

Los Angeles County is typically dry during the late spring, summer, and early fall and receives most of its rain during winter (November through April). The average precipitation in Los Angeles between 1877 and the first half of 2018 was 14.7 inches per year; however, several seasons of very high rainfall levels skews this average upwards (Given Place Media, n.d.).

3.7.5.2 Watershed Profile

The proposed alignment is within the Los Angeles River Hydrologic Unit, which drains a watershed of approximately 530,000 acres (824 square miles). Flows within the Los Angeles River Hydrologic Unit travel south to the Pacific Ocean in the city of Long Beach.

Water flowing in the Los Angeles River and its tributaries consists of fresh water, with a significant portion of the water sourced from urban runoff, wastewater treatment plant secondary effluent discharges, and stormwater. Three tributaries to the Los Angeles River are also within the Aquatic RSA: the Burbank Western Channel, Verdugo Wash, and Arroyo Seco. These are mainly concrete-lined channels, as is much of the Los Angeles River in the Burbank to Los Angeles Project Section.

Elevations within the RSAs range from approximately 300 feet above sea level near Los Angeles Union Station and the low-lying areas along the Los Angeles River to approximately 500 feet above sea level in the northern part of the proposed alignment in Burbank. The topography is relatively flat throughout the length of the alignment.

3.7.5.3 Plant Communities and Land Cover Types

Plant communities associated with aquatic resources identified within the Wildlife RSA include fragments of riparian scrub and freshwater emergent marsh, which occur adjacent to the proposed alignment in multiple locations, including in a section of the Los Angeles River that has an earthen bottom and in a small area at the river's confluence with Verdugo Wash where sediment has accumulated on the concrete lining. Plant communities not associated with aquatic resources identified within the Wildlife RSA include annual (ruderal) grassland found in vacant lots and other disturbed sites, mixed ornamental plantings along streetways and city parks, and small areas of planted native riparian vegetation within greenways, water runoff basins, and parks adjacent to the Los Angeles River and surrounding neighborhoods. Remaining land cover within the Wildlife RSA consists of developed areas such as paved roads and highways, parking lots, and commercial, industrial, and residential buildings, as well as other hardscapes such as bike paths and

walkways. Over 90 percent of the Wildlife RSA consists of urban development. Table 3.7-3 provides a summary of all mapped vegetation and other land cover types within the Wildlife RSA.

Table 3.7-3 Summary of Plant Communities and Land Cover Types within the Wildlife Resource Study Area

Vegetation/Land Cover Type	Total Acreage
Mapped Plant Communities and Land Cover Types	
Nonnative Grassland/Ruderal	49.75
Parks and Greenways	123.45
Mixed Ornamental Plantings	95.65
Riparian Plantings	4.26
Developed	4,578.74
National Wetlands Inventory Plant Communities	
Freshwater Emergent Wetland	4.06
Freshwater Forested/Shrub Wetland	34.73
Freshwater Pond	4.18
Riverine	85.82
Grand Total	4,980.64

Source: Calculations generated using ESRI ArcGIS, Version 10.4, from data gathered during field surveys and aerial photograph interpretation

3.7.5.4 Special-Status Plant Species

During the literature review, 28 special-status plant species were identified as having potential to occur in or near Botanical RSA. Of these 28 species, 7 are federally listed as threatened or endangered, or state-listed as threatened, endangered, or rare. All 28 species were assessed for their likelihood of occurrence in the Botanical RSA. This assessment was based in large part on the results of the CNDDB (CDFW 2019) and California Native Plant Society (2019) searches for plant occurrences. Additional occurrence information was obtained from the Consortium of California Herbaria website (2016) and the USFWS (2019). These special-status plant species occurrence records were identified within the U.S. Geological Survey quadrangles encompassing and surrounding the Botanical RSA (i.e., the *Burbank, Pasadena, Hollywood, and Los Angeles, California* quadrangles).

A total of 16 special-status plant species have historical occurrence records within or near the 3-mile Supplemental Habitat Study Area; these occurrence records are summarized in Table 3.7-4. Most of these records are more than 85 years old and are not site-specific. There are no known site-specific occurrence records of special-status plant species within the Botanical RSA. Since nearly the entire Botanical RSA is already developed and highly disturbed, field surveys were limited to reconnaissance-level surveys for the purpose of verifying site conditions observed through analysis of aerial photography. No special-status plant species were observed during the reconnaissance-level field surveys.

Of the 28 special-status plant species identified in the literature review, 1 species (southern tarplant [*Centromadia parryi* ssp. *australis*]), which is not federally or state-listed but which does have a California Rare Plant Rank of 1B.1, currently has at least a low potential of occurring in the Botanical RSA. The remaining 27 species are not expected to occur within the Botanical RSA because existing habitat conditions are unsuitable or completely absent.

Table 3.7-4 Occurrence Records of Special-Status Plant Species within or near the Supplemental Habitat Study Area

Plant Species	Status ¹	Occurrence Record Date(s)
<i>Berberis nevinii</i> Nevin's barberry	US: FE CA: SE CRPR: 1B	2000, 2007
<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Fernando Valley spineflower	US: FC CA: SE CRPR: 1B	1890
<i>Dodecahema leptoceras</i> Slender-horned spineflower	US: FE CA: SE CRPR: 1B	1906
<i>Atriplex serenana</i> var. <i>davidsonii</i> Davidson's saltscale	US: – CA: – CRPR: 1B	1902
<i>California macrophylla</i> Round-leaved filaree	US: – CA: – CRPR: 1B	1906
<i>Calochortus clavatus</i> var. <i>gracilis</i> Slender mariposa lily	US: – CA: – CRPR: 1B	2009, 2014, 2018
<i>Calystegia felix</i> Lucky morning-glory	US: – CA: – CRPR: 3	1899
<i>Centromadia parryi</i> ssp. <i>australis</i> Southern tarplant	US: – CA: – CRPR: 1B	1930
<i>Dudleya multicaulis</i> Many-stemmed dudleya	US: – CA: – CRPR: 1B	1925
<i>Helianthus nuttallii</i> ssp. <i>parishii</i> Los Angeles sunflower	US: – CA: – CRPR: 1A	1901
<i>Horkelia cuneata</i> var. <i>puberula</i> Mesa horkelia	US: – CA: – CRPR: 1B	1895, 1902, 1906, 1918
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	US: – CA: – CRPR: 1B	1931, 2003, 2005, 2015
<i>Navarretia prostrata</i> Prostrate vernal pool navarretia	US: – CA: – CRPR: 1B	1907
<i>Pseudognaphalium leucocephalum</i> White rabbit-tobacco	US: – CA: – CRPR: 2B	1932

Plant Species	Status ¹	Occurrence Record Date(s)
<i>Ribes divaricatum</i> var. <i>parishii</i> Parish's gooseberry	CRPR: 1A	1882
<i>Symphotrichum greatae</i> Greata's aster	CRPR: 1B	1902, 1932

Source: California Department of Fish and Wildlife, 2019

This table represents the known occurrences of the species listed within or near the Supplemental Habitat Study Area as of the date of this version of the California Natural Diversity Database. There may be additional occurrences or additional species within the RSA that have not yet been reported. Lack of information in the California Natural Diversity Database regarding a species or an area can never be used as proof that no special-status species occur in an area.

¹ US = federal classifications CA = state classifications -- = not listed
FE = listed as endangered SE = state-listed as endangered

CRPR: California Rare Plant Ranks are assigned by a committee of government agency and nongovernmental botanical experts, including experts from the California Native Plant Society, and are not official state designations of rarity status.

California Rare Plant Rank 1A—Presumed extinct in California

California Rare Plant Rank 1B—Rare, threatened, or endangered in California and elsewhere

California Rare Plant Rank 2B—Rare, threatened, or endangered in California, but more common elsewhere

California Rare Plant Rank 3—A review list of plants about which more information is needed

3.7.5.5 Special-Status Wildlife Species

More than 75 special-status wildlife species were initially evaluated for their potential to occur in the Wildlife RSA based on historical occurrence records of these species within the region. Forty-three of these species were ruled out due to the lack of suitable habitat, conversion of natural areas by human development, and local or regional extirpations, or because the Wildlife RSA is outside their known geographic range. The remaining 32 special-status wildlife species were evaluated for their potential to occur in the Wildlife RSA and include 2 fish species, 6 reptile species, 14 bird species, and 10 mammal species. The *Burbank to Los Angeles Project Section: Biological and Aquatic Resources Technical Report* (Authority 2019b) summarizes the habitat requirements and range of each of these wildlife species and the reasoning behind the determinations of potential occurrence. Two individual male least Bell's vireos were observed within the Wildlife RSA near Rio de Los Angeles State Park during the June 19, 2020, field survey. Up to four least Bell's vireos were reported on eBird in this area from March through June 2020, and again in February through April 2021 (eBird 2021). No other special-status wildlife species were observed during the field surveys. Table 3.7-5 summarizes the CNDDDB occurrence records of special-status wildlife species within or near the 3-mile Supplemental Habitat Study Area. Figure 3.7-2 shows the eBird occurrence records of special-status bird species within the 3-mile Supplemental Habitat Study Area.

Table 3.7-5 California Natural Diversity Database Occurrence Records of Special-Status Wildlife Species within or near the Supplemental Habitat Resource Study Area

Wildlife Species	Status ¹	Occurrence Record Date(s)
Listed Special-Status Species		
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher	US: FE CA: SE (nesting)	1894, 1906
<i>Vireo bellii pusillus</i> Least Bell's vireo	US: FE CA: SE	1893, 1897, 1898, 1911, 1913, 1914, 1922, 2020
<i>Polioptila californica</i> Coastal California gnatcatcher	US: FT CA: SSC	1901, 1991
<i>Riparia</i> Bank swallow	US: -- CA: ST (nesting)	1894

Wildlife Species	Status ¹	Occurrence Record Date(s)
Non-Listed Special-Status Species		
<i>Phrynosoma blainvilli</i> Coast horned lizard	US: – CA: SSC	1931
<i>Anniella</i> spp. (<i>A. pulchra</i> and <i>A. stebbinsi</i>) California legless lizard	US: – CA: SSC	Various nonspecific records prior to 1970, 2009, 2016, 2018
<i>Arizona elegans occidentalis</i> California glossy snake	US: – CA: SSC	1937
<i>Emys marmorata</i> Western pond turtle	US: – CA: SSC	1917
<i>Athene cunicularia</i> Burrowing owl	US: – CA: SSC	1921
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	US: – CA: SSC	2006
<i>Nyctinomops macrotis</i> Big free-tailed bat	US: – CA: SSC	1985
<i>Eumops perotis californicus</i> Western mastiff bat	US: – CA: SSC	1972, 1987, 1990
<i>Lasiurus xanthinus</i> Western yellow bat	US: – CA: SSC	1984
<i>Antrozous pallidus</i> Pallid bat	US: – CA: SSC	1905
<i>Perognathus longimembris brevinasus</i> Los Angeles pocket mouse	US: – CA: SSC	1903
<i>Onychomys torridus ramona</i> Southern grasshopper mouse	US: – CA: SSC	1904

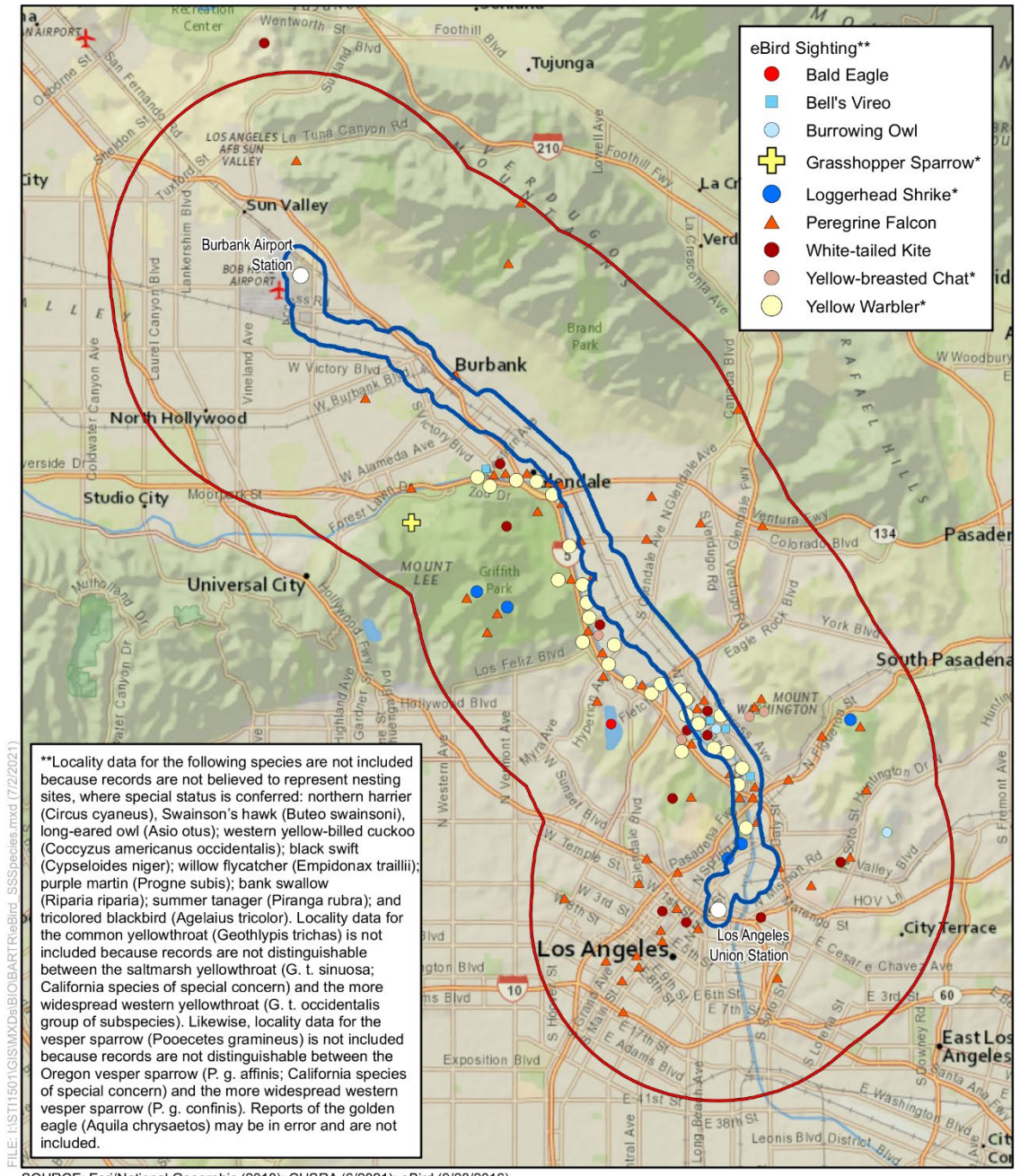
Source: California Department of Fish and Wildlife, 2019

This table represents the known occurrences of the species listed within or near the Supplemental Habitat Resource Study Areas of the date of this version of the California Natural Diversity Database. There may be additional occurrences or additional species within the RSA that have not yet been reported. Lack of information in the California Natural Diversity Database regarding a species or an area can never be used as proof that no special status species occur in an area.

¹ US = federal classifications
FE = listed as endangered
FT = listed as threatened

CA = state classifications
SE = state-listed as endangered
ST = state-listed as threatened
SSC = California Species of Special Concern

– = not listed



Wildlife Resource Study Area (project footprint plus 1000 feet)
 Supplemental Habitat Study Area (project footprint plus 3 miles)
 HSR Stations
 * Loggerhead shrike; records for years 2006-2016 only
 Yellow warbler; records at potential nesting sites only
 Yellow-breasted chat; records at potential nesting sites only
 Grasshopper sparrow; records at potential nesting sites only

Figure 3.7-2 eBird Occurrence Records of Special-Status Bird Species

Listed and Fully Protected Wildlife Species

Federally and state-listed species and fully protected species that are known to occur or that currently have at least a low potential to occur in the Wildlife RSA include bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), white-tailed kite (*Elanus leucurus*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), American peregrine falcon (*Falco peregrinus anatum*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), and coastal California gnatcatcher (*Polioptila californica californica*).

Special-Status Species Proposed for Listing

Two species have become candidates for listing under FESA and CESA as of April 2021. The monarch butterfly (*Danaus plexippus plexippus*) is designated as a candidate species under FESA, and the Southern California/Central Coast evolutionarily significant unit of mountain lions (*Puma concolor*) is designated as a candidate species under CESA. Suitable mountain lion and monarch habitat is limited within the Wildlife RSA due to the extensive development and constrained urban setting. Several mountain lions have been reported infrequently in open space areas within the Supplemental Habitat Study Area, including Griffith Park and the Verdugo Mountains. These individuals may use drainages and stormwater control channels such as Verdugo Wash to navigate and cross urban development to and from suitable habitat areas, although this is uncommon. Monarch butterflies have potential to be present within the Wildlife RSA during annual migrations; however, there are no documented overwintering roosting sites in the Wildlife RSA.

Nonlisted Special-Status Species

Aquatic and Riparian Special-Status Species

Two fish species that are California Species of Special Concern⁷ have a low potential to occur in waterways within the Wildlife RSA: arroyo chub (*Gila orcuttii*) and Santa Ana speckled dace (*Rhinichthys osculus* ssp. 3). Both species are believed to be extirpated from the Wildlife RSA due to habitat degradation associated with urban development, pollution, and introduced nonnative species.

Three reptile species typically associated with aquatic habitats are known to occur or have at least a low potential to occur within portions of the Wildlife RSA: western pond turtle (*Emys marmorata*), California legless lizard (*Anniella pulchra* [or *A. Stebbins*]), and two-striped garter snake (*Thamnophis hammondi*).

In addition to the three listed riparian bird species previously mentioned, the saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), yellow warbler (*Setophaga petechia*), and yellow-breasted chat (*Icteria virens*) each has at least a low potential of occurrence within the Wildlife RSA due to the presence of potentially suitable habitat in the Los Angeles River and Verdugo Wash.

Upland Special-Status Species

Three upland special-status reptile species that are designated California Species of Special Concern have a low potential to occur in the Wildlife RSA due to the presence of marginally suitable habitat near Elysian Park: coast horned lizard (*Phrynosoma blainvilli*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), and California glossy snake (*Arizona elegans occidentalis*).

Three special-status upland bird species, other than those species previously discussed, have a low potential to occur within the Wildlife RSA due to the presence of isolated pockets of potentially suitable habitat within undeveloped lots: burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), and grasshopper sparrow (*Ammodramus savannarum*). Historic and ongoing developments within the Wildlife RSA limit the potential for these species to occur.

⁷ "California Species of Special Concern" is an administrative designation made by the CDFW that carries no formal legal protection status. However, Section 15380 of the CEQA Guidelines indicates that Species of Special Concern should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein.

Two special-status upland mammal species have at least a low potential to occur within the Wildlife RSA due to the presence of potentially suitable habitat near Elysian Park: San Diego black-tailed jackrabbit (*Lepus californicus*) and San Diego desert woodrat (*Neotoma lepida intermedia*). The San Diego black-tailed jackrabbit historically occurred within the Wildlife RSA but has been extirpated from most of the Los Angeles Basin (Garrett 1993). The San Diego desert woodrat has been observed in Griffith Park as recently as 2006, but habitat within the Wildlife RSA is restricted to isolated pockets near Elysian Park.

Special-Status Bat Species

Eight special-status bat species have the potential to occur in the Wildlife RSA: Townsend's big-eared bat (*Corynorhinus townsendii*), California leaf-nosed bat (*Macrotus californicus*), western mastiff bat (*Eumops perotis californicus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), big free-tailed bat (*Nyctinomops macrotis*), western red bat (*Lasiurus blossevillii*), western yellow bat (*Lasiurus xanthinus*), and pallid bat (*Antrozous pallidus*).⁸ All are considered to have at least a moderate probability of occurring in the Wildlife RSA except for the California leaf-nosed bat and Townsend's big-eared bat, which are likely extirpated from the Wildlife RSA due to the high degree of disturbance related to human activity and loss of suitable habitats. Figure 3.7-3 shows the locations of structures suitable for bat roosting in the Wildlife RSA, as identified during field surveys conducted as part of the bat habitat suitability assessment. Each of these features was surveyed on foot. Where roosting bats or bat sign (i.e., guano or urine staining) were not observed, the probability of roosting was determined based on the quality of the structural feature(s) present and the proximity of the structure to water or vegetated areas that may provide foraging habitat.

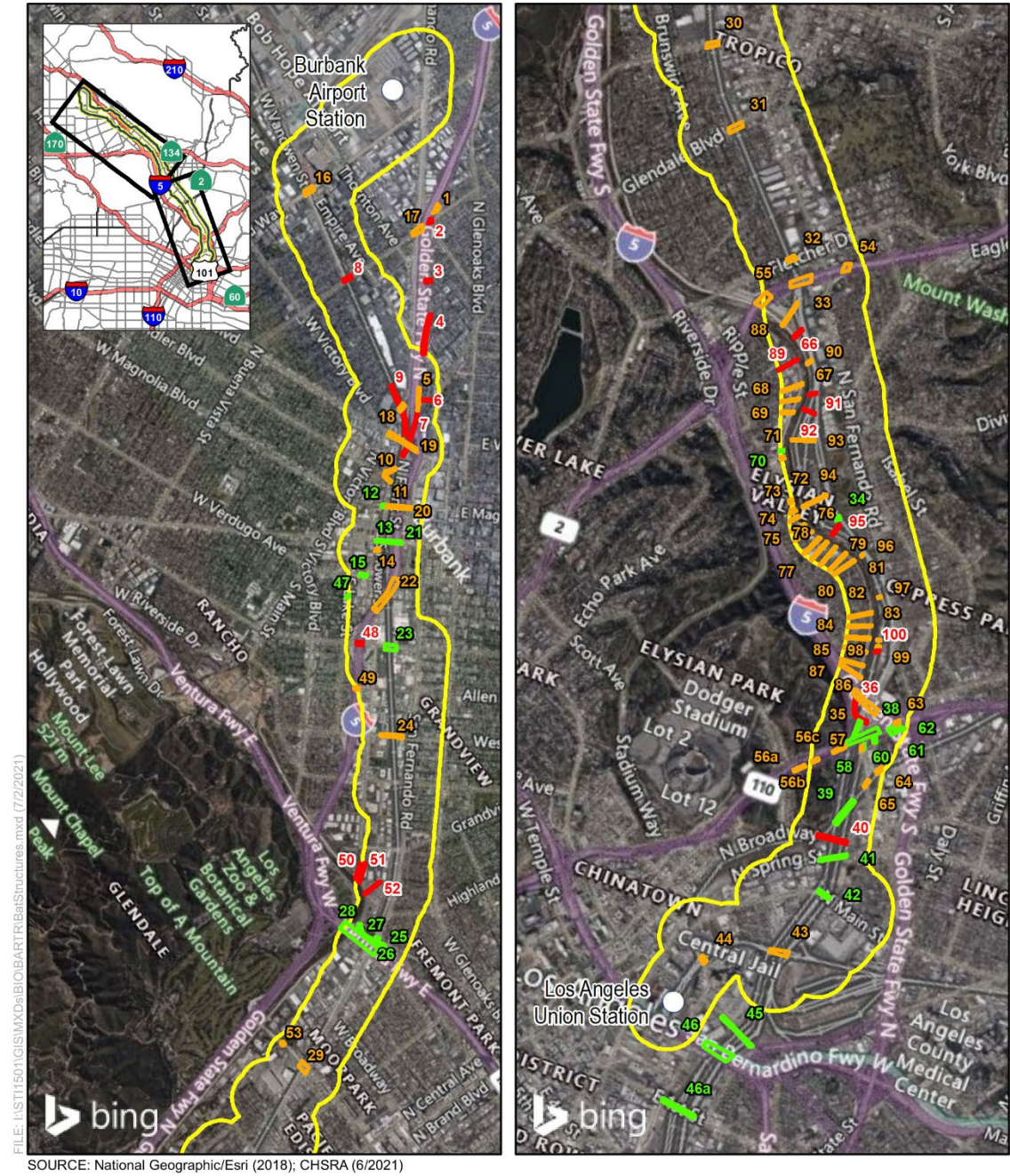
3.7.5.6 Special-Status Natural Communities

Two special-status natural communities— (1) freshwater-forested and shrub wetland and (2) freshwater emergent wetland—are identified by the NWI and were confirmed as occurring within the Aquatic RSA during the aquatic resources delineation surveys. They are associated with the Los Angeles River and Verdugo Wash and are shown on Figure 3.7-4. These two special-status natural communities are also considered aquatic resources and are discussed in further detail in Section 3.7.5.7, Wetlands and Other Aquatic Resources. The following five other special-status plant communities have CNDDDB records within the 3-mile Supplemental Habitat Study Area: California Walnut Woodland, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Sycamore Alder Riparian Woodland, and Walnut Forest (CDFW 2016a). Each of these special-status natural communities occurs outside of the Wildlife RSA within larger open space areas such as the Verdugo Mountains and Griffith Park.

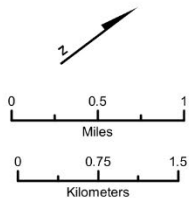
3.7.5.7 Wetlands and Other Aquatic Resources

Aquatic resources in the project vicinity, including waters of the U.S., waters of the state, and streams, lakes, rivers and associated riparian vegetation are regulated by USACE, SWRCB, and CDFW. A field verification survey of delineated features within the Aquatic RSA was conducted with USACE, SWRCB, and CDFW personnel on February 14, 2018. USACE provided a Preliminary Jurisdictional Determination confirming the extent of mapped jurisdictional waters of the U.S. for the project section in July 2018. There are no waters of the state within the Aquatic RSA that are not also waters of the U.S. under the effective definitions at the time this document was prepared. As such, the term “waters of the U.S.,” as used herein, includes aquatic resources regulated under the effective SWRCB permitting requirements at the time this document was prepared.

⁸ Each of these bat species are California Species of Special Concern. It should be noted that all bat species (regardless of listing status) and other nongame mammals are protected by California Fish and Game Code Section 4150, which states that all nongame mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the California Fish and Game Commission. Activities resulting in the mortality of nongame mammals (e.g., destruction of an occupied bat roost, resulting in the death of bats) or disturbance that results in the loss of a maternity colony of bats (including the death of young) may be considered a “take” by the CDFW. Furthermore, any structure occupied by a bat maternity colony of any species is considered a native wildlife nursery site that is essential to the viability of local populations.

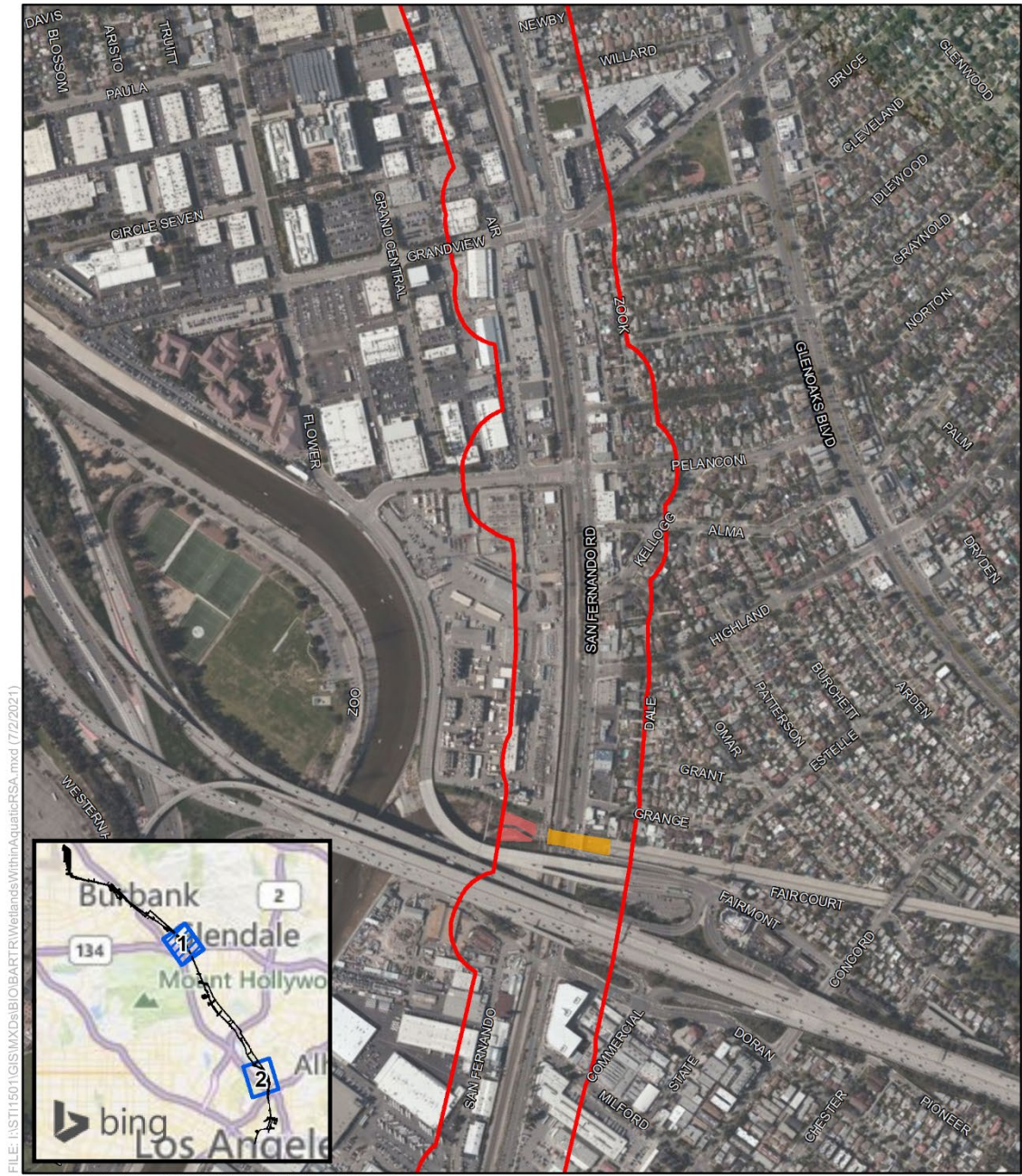


- Wildlife Resource Study Area (project footprint plus 1000 feet)
- HSR Stations
- Bat Structures**
- Structures Where Probability of Roosting Bats is Low
- Structures Where Probability of Roosting Bats is Moderate to High
- Structures Where Presence of Bats Confirmed*



*All bat roosting sightings were of Yuma myotis (*Myotis yumanensis*) individuals. Both Yuma myotis and Mexican free-tailed bats (*Tadarida brasiliensis*) were observed foraging over the Los Angeles River near the North Broadway Bridge.

Figure 3.7-3 Structures Examined during the Bat Habitat Assessment



SOURCE: Bing Maps (2018); CHSRA (6/2021); NWI (2017)

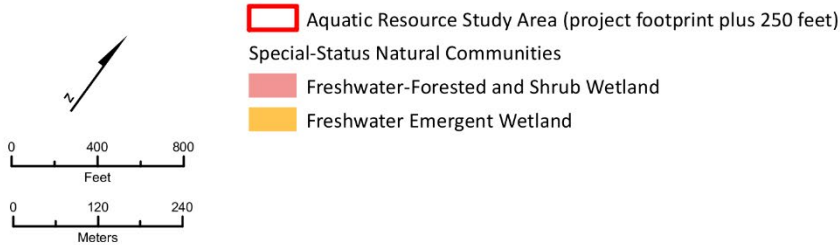


Figure 3.7-4 National Wetlands Inventory Occurrence Records of Special-Status Natural Communities
(Sheet 1 of 2)



SOURCE: Bing Maps (2018); CHSRA (6/2021); NWI (2017)

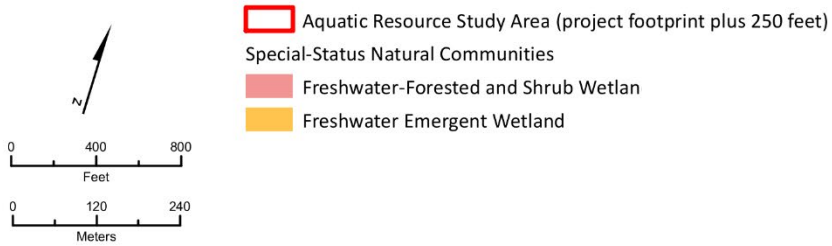


Figure 3.7-4 National Wetlands Inventory Occurrence Records of Special-Status Natural Communities
(Sheet 2 of 2)

Wetlands

The following two wetland types identified by the NWI were confirmed as occurring within the Aquatic RSA during the aquatic resources delineation surveys: freshwater-forested and shrub wetland, and freshwater emergent wetland. Although they are primarily concrete channels, the Los Angeles River channel and Verdugo Wash (at its confluence with the Los Angeles River), contain sections in the Aquatic RSA where there is an earthen bottom and where sufficient sediment has accumulated to support wetlands. The total acreage of delineated USACE wetland waters of the U.S. within the Aquatic RSA is 12.14 acres, as shown in Table 3.7-6.⁹ These areas are also considered special-status natural communities and contain riparian vegetation, as described below.

Table 3.7-6 Summary of Delineated Waters of the U.S. Within the Aquatic Resource Study Area

Waters Type	Acreage
Freshwater Emergent Wetland	
Los Angeles River	0.82
Verdugo Wash	0.58
Freshwater Emergent Wetland Total	1.40
Freshwater-Forested and Shrub Wetland	
Los Angeles River	10.29
Verdugo Wash	0.45
Freshwater Forested/Shrub Wetland Total	10.74
Wetlands Total	12.14
Riverine	
Los Angeles River	50.11
Verdugo Wash	0.42
Arroyo Seco	0.41
Lockheed Channel	3.42
Burbank Western Channel	4.25
Riverine (Nonwetland) Total	58.61
Wetland and Nonwetland Waters of the U.S. Grand Total	70.75

Source: California High-Speed Rail Authority, 2019b.

Freshwater-forested and shrub wetland consists generally of riparian scrub habitat and occurs within distinct sections of the Los Angeles River where the river has an earthen bottom, as well as within Verdugo Wash at its confluence with the Los Angeles River. Dominant species in riparian scrub include mulefat (*Baccharis salicifolia*), willows (*Salix* spp.), and Fremont's cottonwood (*Populus fremontii*). Occasionally, small stands of marsh species, such as California bulrush (*Schoenoplectus californicus*) and cattails (*Typha* spp.), are interspersed with riparian scrub. Nonnative weedy species commonly observed included giant reed (*Arundo donax*), poison hemlock (*Conium maculatum*), and broad-leaved peppergrass (*Lepidium latifolium*).

Freshwater emergent wetland occurs in the Glendale Narrows area at the confluence of Verdugo Wash with the Los Angeles River and within the earthen-bottom areas of the Los Angeles River.

⁹ Delineated wetlands occurring on the concrete channel lining are not considered to be jurisdictional wetland waters of the U.S. subject to Section 404 CWA permitting purposes; however, these areas are covered under the Preliminary Jurisdictional Determination issued by the USACE Los Angeles District in July 2018 and are therefore included in

Species typically found in freshwater marsh habitat include California bulrush, cattails (*Typha* spp.), nonnative smartweed (*Persicaria* spp.), and water speedwell (*Veronica anagallis-aquatica*). This particular area of Verdugo Wash also contains native willow trees and nonnative giant reed.

Most of the wetland areas existing within the Aquatic RSA are affected by trash and other disturbances stemming from unauthorized access and pollution (homeless encampments, urban runoff, etc.). Wetlands existing where there is accumulated sediment on a concrete lining are subject to shift or may be washed away during high-flow events, and therefore are not considered to be jurisdictional wetland waters of the U.S. for Section 404 CWA permitting purposes. Nonnative species constitute up to 50 percent of the vegetative cover within these areas.

Other Aquatic Resources

The NWI categorizes areas within the Lockheed Channel, Burbank Western Channel, the Los Angeles River, Verdugo Wash, and Arroyo Seco that lack vegetation and are concrete-lined as Riverine. The total acreage of USACE nonwetland waters within the Aquatic RSA is 58.61 acres, as shown in Table 3.7-6. Waters regulated by USACE and SWRCB under CWA and Porter-Cologne Water Quality Control Act, respectively, may also include resources regulated by CDFW. Within the Aquatic RSA, California Fish and Game Code § 1600 resources generally coincide with delineated waters of the U.S. within the Lockheed Channel, Burbank Western Channel, Verdugo Wash, Arroyo Seco, and the Los Angeles River. However, California Fish and Game Code aquatic resources extend beyond the ordinary high water mark, where present, to the top-of-bank within trapezoidal portions of the Los Angeles River, and do not include waters within underground/ covered portions of the Lockheed Channel and Burbank Western Channel. Table 3.7-7 identifies the delineated California Fish and Game Code § 1600 aquatic resources in the Aquatic RSA.

Table 3.7-7 Summary of California Fish and Game Code §1600 Aquatic Resources Within the Aquatic Resource Study Area

Feature	Acreage
Arroyo Seco	0.41
Burbank Western Channel	3.37
Los Angeles River	79.87
Lockheed Channel	2.24
Verdugo Wash	1.46
Grand Total	87.35

Source: California High-Speed Rail Authority, 2019b

3.7.5.8 Other Habitats of Concern

There are no NCCP or HCP areas in any of the biological RSAs, and there are no additional riparian areas that are not already covered above. There are, however, two Los Angeles County-designated SEAs within the 3-mile Supplemental Habitat Study Area. The Griffith Park SEA is between U.S. Route 101 and Interstate (I) 5, south of State Route (SR) 134, and west of the HSR Build Alternative. While Griffith Park provides habitat for many regional wildlife species, the open space area has become increasingly isolated over the years due to urban development. Griffith Park’s connection to the Los Angeles River is important for the future of wildlife and plant connectivity in the region.

The Verdugo Mountains SEA is within the Verdugo Mountains, north of the proposed HSR Build Alternative. This SEA encompasses the Verdugo Mountains south of I-210 and east of I-5, as well as a portion of open space north of I-210. The Verdugo Mountains are connected to the Los Angeles River channel at the base of the Santa Monica Mountains and are an important source of habitat for regional wildlife species otherwise isolated by urban development.

Essential Fish Habitat

The Los Angeles River does not currently provide habitat for anadromous fish, primarily because the river's concrete lining replaced suitable habitat for the species. Historically, the Los Angeles River supported a population of Southern California steelhead trout (*Oncorhynchus mykiss irideus*), a distinct population segment of an anadromous fish species that is federally listed as endangered; however, the species has been extirpated from the Los Angeles River (Moyle et al. 1995). Moreover, steelhead habitat generally does not warrant consideration under the Magnuson-Stevens Fishery Conservation and Management Act because it is not a targeted commercial species. The Southern California Steelhead Recovery Plan includes the Los Angeles River in its Distinct Population Segment Recovery Planning Area and indicates that the plan would involve large-scale ecosystem restoration, including the removal of the river's concrete lining and barriers to fish passage (National Marine Fisheries Service 2012). The Southern California Steelhead Recovery Plan has not yet been implemented, and there is currently no suitable steelhead trout or essential fish habitat within the Wildlife RSA.

Critical Habitat

There is no critical habitat for any species within any of the RSAs.

Wildlife Movement Corridors

The Wildlife RSA is in a highly developed urban environment. There are several large regionally important open spaces that remain relatively undeveloped outside of the Wildlife RSA and provide core habitat for wildlife, including Griffith Park at the eastern extension of the Santa Monica Mountains (west of the proposed HSR Build Alternative) and the Verdugo Mountains, San Rafael Hills, and San Gabriel Mountains (north and east of the proposed HSR alignment) (National Park Service 2015). In addition to these large habitat blocks, there are numerous smaller open space areas, pocket parks, landscape strips, and less dense development that may also serve as habitat islands that provide connectivity bridges between the more distant core habitat blocks. In order to traverse these dispersed habitats, wildlife in urban environments may travel through a network of streets, alleyways, freeways, yards, parking lots, storm drains, and other built structures as part of their regular daily or seasonal movement pattern.

Mammals such as coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*) have adapted to the densely developed urban environment, are found throughout the Wildlife RSA, and are known to navigate the network of roads, freeways, channels, and yards at the local level. One coyote was observed within the Los Angeles River near the river's confluence with Verdugo Wash during the November 15, 2016, reconnaissance-level survey. Raccoon tracks were also observed within portions of the Lockheed Channel and Burbank Western Channel during the October and November 2016 reconnaissance-level surveys. Some of the existing linear barriers within the Wildlife RSA include the roads and freeways, railroad corridor, and drainage channels. The freeways in the Wildlife RSA include I-5, SR 134 (Ventura Freeway), SR 2 (Glendale Freeway), and U.S. Route 101 (Santa Ana Freeway). I-5 generally parallels the proposed HSR alignment, and SR 134, SR 2, and U.S. Route 101 intersect the proposed HSR alignment. Most of these freeways provide a relatively continuous high volume of traffic and are lined with chain-link fence or block wall that restrict most wildlife movement. Wildlife crossing opportunities are limited to drainage channels and culverts and roadway undercrossings and overcrossings.

Protected Trees

Protected trees are defined in the Los Angeles County Code of Ordinances as well as the municipal and administrative codes of the Cities of Glendale, Burbank, and Los Angeles. The regional and contextual importance of protected trees varies based on the species of tree and its location. Native tree species and trees found in riparian areas are ecologically valuable because natural habitats and riparian areas have been greatly reduced in the Los Angeles Basin and these trees represent a rare resource for wildlife. However, most protected trees within the public right-of-way and along the existing railroad corridor are landscape, ornamental, or nonnative trees, which are less ecologically significant because they do not provide natural habitat or are

less likely to provide habitat preservation value for native species. Heritage trees (individual trees that are specially designated because of their historical, commemorative, or horticultural significance) are not known to occur within the project footprint.

3.7.6 Environmental Consequences

3.7.6.1 Overview

This section evaluates how the No Project Alternative and the HSR Build Alternative could affect biological and aquatic resources. The impacts of the HSR Build Alternative are described and organized as follows:

- **Construction Impacts**

- Impact BIO #1: Construction Effects on Special-Status Plant Species
- Impact BIO #2: Construction Effects on Special-Status Wildlife Species
- Impact BIO #3: Construction Effects on Special-Status Natural Communities
- Impact BIO #4: Construction Effects on Wetlands and Other Aquatic Resources
- Impact BIO #5: Construction Effects on Wildlife Movement
- Impact BIO #6: Construction Effects on Protected Trees

- **Operations Impacts**

- Impact BIO #7: Operation Effects on Special-Status Plant Species
- Impact BIO #8: Operation Effects on Special-Status Wildlife
- Impact BIO #9: Operation Effects on Special-Status Natural Communities
- Impact BIO #10: Operation Effects on Wetlands and Other Aquatic Resources
- Impact BIO #11: Operation Effects on Wildlife Movement
- Impact BIO #12: Operation Effects on Protected Trees

With incorporation of the IAMFs and mitigation measures described herein, the HSR Build Alternative for the Burbank to Los Angeles Project Section is not anticipated to substantially alter existing conditions or adversely affect special-status species, special-status natural communities, jurisdictional aquatic resources, or other habitats of concern.

3.7.6.2 No Project Alternative

Under the No Project Alternative, recent trends within the Burbank to Los Angeles Project Section affecting biological and aquatic resources in the biological RSAs are expected to continue, including mortality from train and other vehicle strikes; habitat degradation from pollution, such as polluted runoff from stormwater and inadvertent spills of hazardous materials; noise, light, and dust from existing roads and highways; and alterations to habitat suitability and hydrology resulting from additional development and climate change. As discussed in the Cumulative Condition in Section 3.19, these trends would be expected to continue with the No Project Alternative. Existing regulatory programs, such as the CWA and conservation programs (e.g., establishment of conservation easements and mitigation banks), would continue to reduce the amount of habitat loss and degradation from urban development, if feasible. Effects that are expected to continue to occur include those related to programmed and funded improvements to the intercity transportation system through 2040 (refer to Section 3.2, Transportation, of this EIR/EIS). In some cases, widening existing corridors or new improvements could result in additional impacts on biological and aquatic resources. Each of these improvement projects would be subject to environmental impact analysis and evaluation of the impacts of habitat loss, habitat degradation, and “take” of special-status species. Impacts on biological resources and jurisdictional waters would be mitigated as part of those projects, including avoidance of “take”

during construction, minimization of impacts during construction and operation, restoration of disturbed sites, and preservation of compensatory habitat.

In addition, foreseeable projects that are planned, committed, or otherwise part of a general plan, master plan, or specific plan are assumed to be implemented regardless of the introduction of the Burbank to Los Angeles Project Section of the California HSR System. These plans include the *Los Angeles River Revitalization Master Plan*, which would include creation and reestablishment of historical riparian strand and freshwater marsh habitat to support increased populations of wildlife and enhance habitat connectivity within the RSAs, as well as to provide opportunities for connectivity to ecological zones, such as the Santa Monica Mountains, Verdugo Hills, Elysian Hills, and San Gabriel Mountains. Other plans related to long-term development and the management of natural resources in the vicinity of the proposed HSR Build Alternative include the *Los Angeles County General Plan*, the Burbank General Plan, the City of Glendale General Plan, the City of Los Angeles General Plan, and the City of Los Angeles community plans listed in Table 3.7-1.

3.7.6.3 High-Speed Rail Build Alternative

Construction Impacts

Construction of the HSR Build Alternative would involve demolition of existing structures, clearing, and grubbing; reduction of permeable surface area; handling, storing, hauling, excavating, and placing fill; pile driving; and construction of aerial structures, bridges, road modifications, utility upgrades and relocations, HSR electrical systems, and railbeds. Construction activities are described in Chapter 2, Alternatives.

Biological resources occurring adjacent to and within the project footprint would incur direct and indirect impacts from construction activities. Construction activities associated with the HSR Build Alternative would be conducted on approximately 592 acres, with nearly all permanent and temporary ground disturbances occurring in previously disturbed areas (e.g., on streets, along the existing railroad right-of-way, in paved/developed lots, and in other areas generally lacking vegetation or wildlife habitat).¹⁰ Table 3.7-8 summarizes the HSR Build Alternative direct impacts on mapped upland plant communities and land cover types. Potential permanent and temporary impacts on aquatic resources, including wetlands and riparian plant communities, are discussed in the sections below (Impacts BIO #3, BIO #4, BIO #9, and BIO #10).

Table 3.7-8 High-Speed Rail Build Alternative Direct Impacts by Upland Vegetation and Land Cover Type

Mapped Upland Vegetation/Land Cover Type ¹	Temporary Impacts (acres)	Permanent Impacts (acres)	Total Direct Impact Acreage
Nonnative Grassland/Ruderal	<0.01	2.15	2.15
Parks and Greenways	0.22	1.03	1.25
Mixed Ornamental Plantings	0.37	2.14	2.51
Developed	207.50	376.46	583.96

Source: California High-Speed Rail Authority, 2021b

¹ Direct impacts on aquatic resources are not included in this table.

¹⁰ The disturbed surface area calculation is approximate and includes the footprint of the stations, grade separations, existing right-of-way, utility relocations, and proposed expansion of right-of-way, as well as construction staging areas and all temporary construction easements.

Impact BIO #1: Construction Effects on Special-Status Plant Species

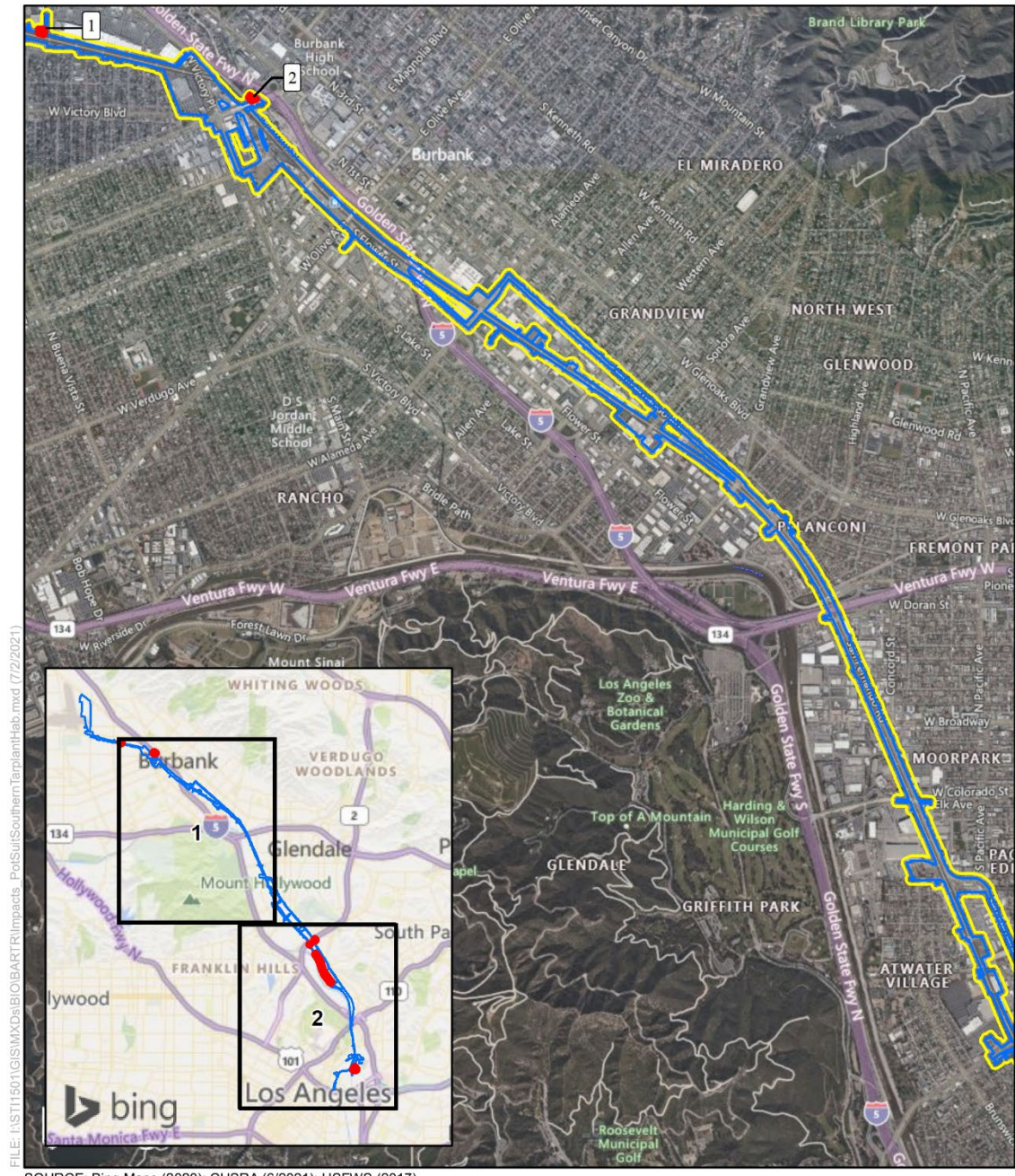
Although no special-status plant species have been documented within the Botanical RSA, construction of the HSR Build Alternative would result in direct and indirect impacts on potentially suitable habitat for southern tarplant, a nonlisted special-status plant species with a low to moderate probability of occurring in parts of the Botanical RSA. Potential habitat for southern tarplant is restricted to isolated sites throughout the Botanical RSA (e.g., undeveloped lots and ruderal areas along the margins of waterways and other mesic, disturbed sites). Potentially suitable habitat for southern tarplant that would be directly affected by the HSR Build Alternative is shown on Figure 3.7-5. Table 3.7-9 provides further details regarding each of these sites.

Table 3.7-9 High-Speed Rail Build Alternative Direct Impacts to Potentially Suitable Habitat for Southern Tarplant

Site Number ¹	Site Details	Temporary Impacts (acres)	Permanent Impacts (acres)	Proposed Project Features and Activities Resulting in Impacts
1	Vacant lot adjacent to the existing railroad right-of-way in the city of Burbank. Consists of disturbed annual grassland/ruderal vegetation.	–	0.43	Expanded railroad right-of-way; temporary construction easement; utility relocations and easements; permanent access
2	Undeveloped area between the existing railroad right-of-way and Interstate 5 consisting of ruderal and ornamental vegetation. Near the intersection between N Front Street and W Burbank Boulevard in the city of Burbank.	–	0.22	Roadway improvements associated with expanded railroad right-of-way
3 and 4	Small disturbed ruderal sites along the existing railroad right-of-way and N San Fernando Road, near State Route 2 in the city of Los Angeles.	0.02	–	Temporary construction easement; utility relocations and easements
5	Taylor Yard property consisting of disturbed nonnative grassland and ruderal vegetation between the existing railroad right-of-way and the Los Angeles River, near Rio de Los Angeles State Park. A large portion of property is subject to restoration under the planned Los Angeles River Revitalization Project (City of Los Angeles 2007).	0.31	3.76	Expanded railroad right-of-way; utility easements; permanent access
6	Disturbed, undeveloped site with ruderal vegetation adjacent to the Los Angeles River, just east of the existing Mission Tower railroad bridge. Located between existing Union Pacific Railroad tracks.	–	1.90	Expanded railroad right-of-way; permanent access

Source: California High-Speed Rail Authority, 2019b

¹Sites are shown on Figure 3.7-5 (Sheets 1 and 2), numbered north to south.



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SOURCE: Bing Maps (2020); CHSRA (6/2021); USFWS (2017)

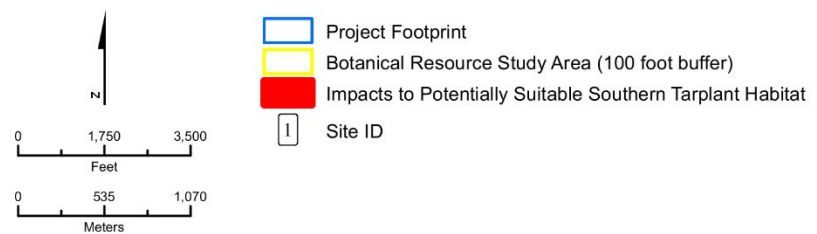
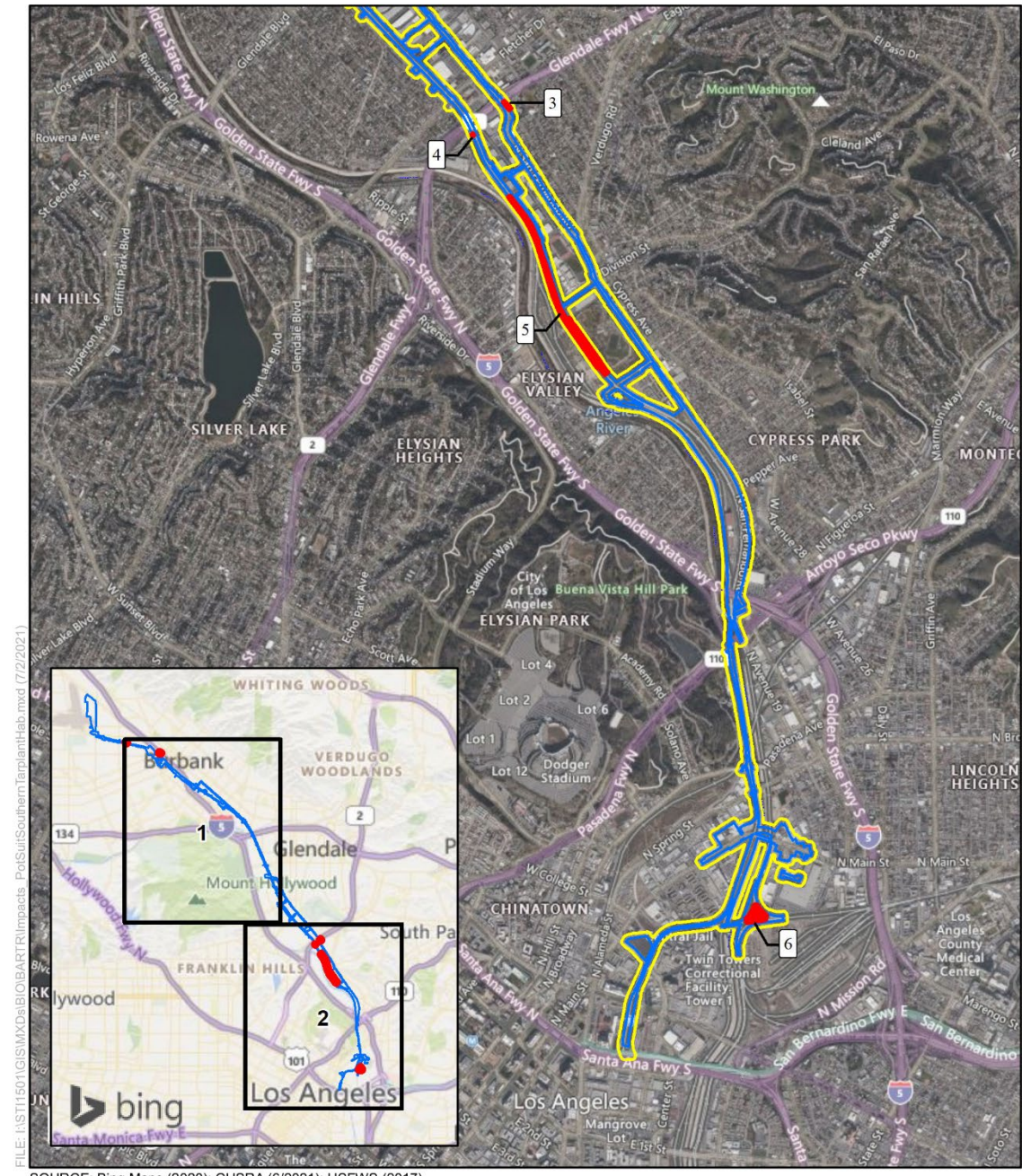


Figure 3.7-5 Direct Impacts to Potentially Suitable Southern Tarplant Habitat
(Sheet 1 of 2)



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SOURCE: Bing Maps (2020); CHSRA (6/2021); USFWS (2017)

Figure 3.7-5 Direct Impacts to Potentially Suitable Southern Tarplant Habitat

(Sheet 2 of 2)

Many of these sites are along the existing railroad corridor and are subject to ongoing disturbances (i.e., urban runoff, litter, frequent ground disturbance, dust, and vegetation maintenance). The suitability of any of these sites to support southern tarplant could change due to ongoing development throughout the Botanical RSA. Due to the highly disturbed and developed urban conditions prevalent throughout the entire RSA, construction of the proposed project is not expected to directly or indirectly affect any other special-status plant species.

The subsections below describe the temporary and permanent impacts on potentially suitable southern tarplant habitat that would result from construction activities.

Temporary

Should southern tarplant individuals be present in areas where potentially suitable habitat was identified in the Botanical RSA, potential direct and indirect temporary effects on any southern tarplant individuals within or near the project footprint would result from construction vehicle traffic, the temporary use of land for staging and access areas (although these areas would be sited within areas planned for permanent effects to the maximum extent practicable), and other construction-related activities. These activities would be temporary and would allow plant populations to re-establish after construction.

Temporary direct effects on southern tarplant, if present within the project footprint during construction, could occur due to the clearing, grubbing, covering, undercutting, and damaging of roots, or the unearthing of individual plants. Figure 3.7-5 shows the specific locations where suitable southern tarplant habitat was mapped within the project footprint, and Table 3.7-9 provides details for each mapped site. Dust and airborne soil, which may settle on southern tarplant individuals, may inhibit their ability to photosynthesize or reproduce through pollination. Soil compaction and the placement of fill may directly affect southern tarplant by causing decreased fitness or death by root compaction, decreased germination from the seed bank, or covering of the plants with soil. Chemical spills have the potential to contaminate the soil and groundwater, resulting in mortality, habitat degradation, or reduced reproductive success of any potential southern tarplant. Temporary construction activities (e.g., grading and excavation) would also alter existing drainage patterns and redirect stormwater runoff, potentially altering suitable southern tarplant habitat in the Botanical RSA.

Multiple IAMFs included as part of the HSR Build Alternative would be implemented to minimize temporary construction effects on potentially suitable southern tarplant habitat and avoid effects on adjacent habitats and individual plants (if present). These include BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, and HYD-IAMF#1. Implementation of these IAMFs would effectively minimize temporary construction effects on potentially suitable southern tarplant habitat and avoid effects on adjacent habitats and individual plants (if present) by designating qualified biologists to implement monitoring for compliance with applicable measures and avoidance of impacts on special-status species (where feasible), training construction crews on special-status species identification and applicable standards/regulations, limiting construction equipment and personnel from entering areas where special-status plants may be affected, minimizing the disturbance area needed for construction spoils and waste and the potential for construction activities to generate excessive dust and airborne soil, and ensuring BMPs are implemented to avoid soil and water contamination and hydrological alterations.

In addition, effects associated with accidental spills of hazardous materials or erosion and sedimentation resulting from construction would be minimized or avoided through implementation of HYD-IAMF#3 (Prepare and Implement a Construction SWPPP), which has been integrated into the project design. The SWPPP includes spill prevention and response planning, as well as erosion-control specifications.

CEQA Conclusion

Construction of the HSR Build Alternative would have the potential to cause a significant impact on special-status plant species due to temporary impacts on suitable habitat and the potential loss of individual plants. While implementation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1,

and HYD-IAMF#3 would substantially minimize temporary construction-related impacts on habitat suitable for special-status plant species, approximately 0.33 acre of potentially suitable habitat for southern tarplant would be temporarily altered by the HSR Build Alternative, which would be a significant impact under CEQA. Temporary impacts could become permanent if they result in plant mortality. Therefore, mitigation measures BIO-MM#1 (Conduct Presence/Absence Pre-Construction Surveys for Special-Status Plant Species and Special-Status Natural Communities) and BIO-MM#2 (Prepare and Implement Plan for Salvage and Relocation of Special-Status Plant Species) would be required to address these impacts.

Implementation of BIO-MM#1 would provide verification of the extent and locations of any special-status plant species in the project footprint prior to construction activities (including those potentially existing in suitable habitats where permission to enter was not granted prior to preparation of the Draft EIR/EIS). The measure would reduce or eliminate the potential for unforeseen impacts on such resources. Measure BIO-MM#2 provides a mechanism for further (compensatory) mitigation for any impacts on special-status plant species found to occur within the project footprint, including seed collection and the salvage of topsoil to be installed in a suitable and protected off-site location. With implementation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1, and HYD-IAMF#3 along with BIO-MM#1 and BIO-MM#2, temporary construction activities would not substantially alter existing conditions affecting special-status plant species within the Botanical RSA or result in a substantial adverse effect, either directly or through habitat modifications, on any special-status plant species known to occur in the Botanical RSA. As such, under CEQA, temporary impacts on special-status plant species would be less than significant with mitigation incorporated.

Permanent

Although no special-status plant species have been documented as occurring within the Botanical RSA, construction of the HSR Build Alternative would result in direct construction-period effects on potentially suitable southern tarplant habitat, including the conversion of undeveloped lots to project infrastructure (refer to Figure 3.7-5 and Table 3.7-9 for specific locations). Should southern tarplant individuals be present within the permanent project footprint, the construction of tracks, stations, maintenance and equipment storage areas, access roads, road overcrossings, and other permanent facilities would result in a permanent impact on individual plants through direct removal or by placing an impenetrable cap over the seed bank. However, most suitable habitat for southern tarplant mapped within the Botanical RSA (approximately 17 acres) lies outside of the project footprint and would not be permanently removed during construction of the HSR Build Alternative. Approximately 6.31 acres of potentially suitable habitat, which is currently subject to ongoing disturbances associated with the existing urban setting, would be permanently altered by the HSR Build Alternative (refer to Figure 3.7-5 and Table 3.7-9).

Indirect permanent effects on potential southern tarplant habitat would occur from the construction of HSR components that alter the landscape and may include changes in habitat due to erosion and sedimentation resulting from construction activities. Displaced sediment and major changes to microtopography could alter the soil and substrate conditions preferred by southern tarplant. Effects on hydrology may affect water availability to support southern tarplant and may inhibit growth, survival during harsh conditions, and germination. Potential habitat fragmentation would result from the construction of permanent features, especially linear features, including track and access roads that bisect suitable habitat for southern tarplant. Such effects could limit population sizes by interrupting seed dispersal. Construction activities would potentially facilitate the introduction and spread of invasive and noxious weeds through the introduction of their seeds by construction equipment, vehicles, and personnel, and could provide ample habitat for colonization where ground-disturbing activities occur. This would result in potential increased competition between invasive, nonnative plant species and the native southern tarplant. In addition to implementing BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1, and HYD-IAMF#3, listed above for potential temporary construction effects on southern tarplant, BIO-IAMF#5 and BIO-IAMF#10 would minimize permanent construction effects on potentially suitable southern

tarplant habitat and to avoid effects to adjacent suitable habitats and/or individual plants (if present). These IAMFs would reduce the potential for permanent construction effects on southern tarplant by identifying applicable procedures for the protection of special-status species and habitats and by limiting the potential spread of invasive plant species.

CEQA Conclusion

Construction of the HSR Build Alternative would have the potential to cause a significant impact on special-status plant species due to the removal of suitable habitat and potential loss of individual plants. While implementation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1, and HYD-IAMF#3 would substantially minimize construction-related impacts on habitat suitable for special-status plant species, the HSR Build Alternative would permanently alter approximately 6.31 acres of potentially suitable habitat for southern tarplant, which would be a significant impact under CEQA. Therefore, mitigation measures BIO-MM#1 (Conduct Presence/Absence Pre-Construction Surveys for Special-Status Plant Species and Special-Status Natural Communities) and BIO-MM#2 (Prepare and Implement Plan for Salvage and Relocation of Special-Status Plant Species) would be required. BIO-MM#1 would provide verification of the extent and locations of any special-status plant species existing in the project footprint prior to construction activities (including those potentially existing in suitable habitats where permission to enter was not granted prior to preparation of this environmental document). The mitigation measure would reduce or eliminate the potential for unforeseen impacts on such resources. BIO-MM#2 would provide a mechanism for further (compensatory) mitigation for any impacts on special-status plant species found to occur within the project footprint, including seed collection and the salvage of topsoil to be installed in a suitable and protected off-site location. In addition to direct impacts on habitat suitable for southern tarplant, construction of the HSR Build Alternative has the potential to introduce or spread invasive plant species that could compete with special-status plant species or degrade the quality of adjacent habitat areas. To avoid the spread of invasive plant species during construction, BIO-MM#55 (Prepare and Implement a Weed Control Plan) would be required. BIO-MM#55 would include preparation of a plan that contains applicable specifications and procedures that would minimize or avoid the spread of invasive weeds during ground-disturbing activities during construction of the HSR Build Alternative. With implementation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1, and HYD-IAMF#3, along with mitigation measures BIO-MM#1, BIO-MM#2, and BIO-MM#55, construction activities would not substantially, permanently alter existing conditions for affecting special-status plant species within the Botanical RSA or result in a substantial adverse effect, either directly or through habitat modifications, on any special-status plant species known to occur in the Botanical RSA. As such, under CEQA, permanent impacts on special-status plant species would be less than significant with mitigation incorporated.

Impact BIO #2: Construction Effects on Special-Status Wildlife Species

Construction of the HSR Build Alternative would not directly affect any potentially suitable habitat for special-status wildlife species other than special-status (or otherwise protected) bat species, which may roost in buildings that would be removed or in bridges that are planned to be widened or retrofitted for the project. (Refer to Figure 3.7-3 and Appendix H of the *Burbank to Los Angeles Project Section: Biological and Aquatic Resources Technical Report* [Authority 2019b] for further details regarding potential bat roosting habitat assessed within the Wildlife RSA). Nearby areas potentially inhabited by other special-status species, primarily along the Los Angeles River, would be subjected to increased noise during construction. However, it should be noted that constant traffic, existing railroad operations, and urban land uses contribute to existing high ambient noise levels along the Los Angeles River (refer to Section 3.4, Noise and Vibration). Based on mapped suitable habitat and species occurrence records within the Supplemental Habitat Study Area, as well as the implementation of IAMFs and mitigation measures as described below, the Burbank to Los Angeles Project Section of the California HSR System is not likely to adversely affect or result in the incidental take of any state or federally listed wildlife species. Furthermore, IAMFs and mitigation measures would be implemented to avoid adverse impacts on nesting birds, which are protected while nesting under the MBTA and California Fish and Game Code. Potential

temporary and permanent effects on special-status wildlife species (and nesting birds) that may result from project construction and applicable IAMFs and mitigation measures are described in the subsections below.

Temporary

Temporary indirect construction effects on special-status wildlife species may result from activities such as construction vehicle traffic; the temporary use of land for staging and access areas (although these would be sited within areas planned for permanent effects to the maximum extent practicable and most proposed staging areas are located away from habitat that could support special-status wildlife species); noise, light, and vibration from construction activities; and other construction-related activities that are temporary in nature. Such indirect effects would be limited to several isolated areas that contain potentially suitable habitats for special-status wildlife species, including riparian areas along the Los Angeles River and Rio de Los Angeles State Park.

Multiple IAMFs included as part of the HSR Build Alternative would be implemented to minimize temporary indirect construction impacts on potentially suitable habitats for special-status wildlife species, to avoid impacts on adjacent habitats, and/or direct impacts on special-status animal species (if present). These include BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, and HYD-IAMF#1. Each of these IAMFs would effectively minimize temporary indirect construction impacts on potentially suitable habitats for special-status wildlife species, avoid impacts on adjacent habitats, and/or direct impacts on special-status animal species that have potential to occur within the Wildlife RSA by limiting construction equipment and personnel from entering areas where special-status animals may be affected; minimizing the potential for construction activities to generate excessive noise, dust, light, and vibration; and ensuring that BMPs are implemented that would minimize temporary disturbances to special-status animals and their habitats.

Although these IAMFs would reduce the potential for temporary construction effects on special-status wildlife species, construction activities would still have the potential to cause impacts on special-status wildlife species. Therefore, mitigation measures BIO-MM#56, BIO-MM#61, and BIO-MM#63 would be required and would cover multiple species and habitats that have potential to be affected during project construction. BIO-MM#56 would involve the monitoring of all initial ground-disturbing activities by a qualified biologist, which would provide verification of the extent and locations of any special-status wildlife species present within or near the project footprint and verify compliance with all applicable IAMFs. BIO-MM#61 would require documentation of compliance with all IAMFs, mitigation measures, and requirements set forth in regulatory agency authorizations. Implementation of BIO-MM#63 would allow the biological monitor to temporarily stop work activities to prevent harm to any special-status wildlife species within or near the work area, as well as to ensure that the project would not adversely affect any FESA/CESA-listed species without proper consultation with the USFWS or CDFW, where applicable. BIO-MM#56, BIO-MM#61, and BIO-MM#63 would be implemented to offset potential project impacts on multiple types of special-status species (e.g., reptiles, birds, and mammals).

Potential species-specific impacts and the specific measures to reduce or avoid such impacts are discussed in the subsections below.

Reptiles

No special-status reptile species are expected to occur in areas directly affected by construction. The two-striped garter snake may be present in riparian habitats within the Los Angeles River at the Glendale Narrows and at the confluence between Verdugo Wash and the Los Angeles River. Increased noise, vibration, and lighting levels during construction activities may indirectly affect this species in adjacent areas along the existing railroad right-of-way.

CEQA Conclusion

Construction of the HSR Build Alternative has the potential to indirectly affect the two-striped garter snake (a nonlisted special-status reptile) through increased noise, vibration, and lighting levels during construction activities near the Los Angeles River. Such temporary disturbance is not anticipated to substantially adversely affect this species, and specific mitigation measures for special-status reptile species are not warranted. With incorporation of the IAMFs and mitigation

measures summarized above, temporary construction impacts on the two-striped garter snake would be less than significant under CEQA.

Birds (Including Migratory Birds Covered under the Migratory Bird Treaty Act)

Construction activities may directly and indirectly affect special-status bird species and migratory birds through the disturbance of potential nesting habitat. Habitat along the Los Angeles River is of greatest concern, where the occurrence of the listed least Bell's vireo has been documented as recently as May 2021 (eBird 2021).¹¹ Least Bell's vireo may occur along the Los Angeles River and Verdugo Wash in areas with suitable riparian vegetation cover. Specifically, suitable least Bell's vireo habitat is present within the Wildlife RSA near the following HSR Build Alternative footprint locations: (1) the Verdugo Wash Bridge Replacement area, (2) the Metrolink Central Maintenance Facility, and (3) rail alignment work between I-5 and SR 2 (including areas adjacent to Rio de Los Angeles State Park).

While direct removal of riparian habitat would not occur under the HSR Build Alternative, anticipated indirect disturbances include noise and vibration associated with construction activities and equipment. If construction occurs during the breeding season (February 1 through September 1), active nests could be disturbed, potentially causing the loss of eggs or developing young (i.e., nest abandonment during the incubation, nestling, or fledgling stages of these species).

BIO-MM#14 and BIO-MM#15 would be implemented to avoid potential temporary construction effects on nesting birds and raptors. BIO-MM#14 would identify and avoid potential project disturbances of active bird nests in accordance with the MBTA and the California Fish and Game Code. Implementation of BIO-MM #15 would identify and avoid potential project disturbances of active raptor nests in accordance with the MBTA and the California Fish and Game Code.

BIO-MM#79 and BIO-MM#80 would be implemented in specific areas along the project footprint to provide for further avoidance or minimization of indirect impacts on riparian habitats that have the potential to be occupied by least Bell's vireo. BIO-MM#79 would involve conducting USFWS protocol-level surveys for least Bell's vireo prior to project construction to identify occupied habitat, along with monitoring of construction activities within 500 feet of suitable vireo habitats during the least Bell's vireo breeding season. BIO-MM#80 would involve the delineation of any occupied least Bell's vireo habitat to be avoided during construction activities, the implementation of appropriate noise-reduction/attenuation techniques, and noise monitoring to help minimize potential indirect impacts within 500 feet of occupied habitat.

CEQA Conclusion

Temporary construction activities have the potential to have a significant impact on nesting birds, including common and special-status species. While implementation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, and AQ-IAMF#1 would reduce construction-related impacts on special-status birds, there would still be potential for indirect project-related impacts (e.g., noise, vibration, and lighting) to disrupt nesting activities, which would be a significant impact under CEQA. Four mitigation measures pertaining to avian species would be required: BIO-MM#14, BIO-MM#15, BIO-MM#79, and BIO-MM#80. With incorporation of BIO-MM#14 through BIO-MM#17, along with BIO-MM#56, BIO-MM#61, and BIO-MM#63, as summarized above, temporary construction impacts on special-status bird species would be less than significant under CEQA.

Mammals

Construction activities also have the potential to directly and indirectly affect special-status (or otherwise protected) bat species through the temporary disturbance of suitable roosting habitat. Occupied bridges, culverts, and other structures that contain highly suitable roosting features

¹¹ A FESA Section 7 consultation with the USFWS has been completed for potential effects on least Bell's vireo. In the Section 7 consultation letter dated April 12, 2021, the USFWS concluded that the HSR Build Alternative (with the mitigation measures documented herein incorporated) is *Not Likely to Adversely Affect* least Bell's vireo. The project is not anticipated to directly or indirectly affect other listed special-status species.

within the project footprint along the existing railroad right-of-way are of particular concern and include the following:

- Lockheed Channel crossings and modifications (City of Burbank)
- Burbank Western Channel crossings and modifications (City of Burbank)
- Magnolia Boulevard grade separations (City of Burbank)
- Modifications to the existing Burbank Metrolink Station (City of Burbank)¹²
- Olive Avenue overcrossing (City of Burbank)
- Alameda Avenue undercrossing (City of Burbank)
- Various overcrossings near Verdugo Wash (City of Glendale)
- Culverts within the Los Angeles River channel adjacent to the existing railroad right-of-way (City of Los Angeles)
- Various bridges over the Los Angeles River channel adjacent to the existing railroad right-of-way (City of Los Angeles)
- Buildings that would be removed during construction
- Railway and roadway grade separations currently under construction or planned to be constructed for unrelated projects along the existing railroad right-of-way

Temporary effects (e.g., increased noise, dust, and vibration) could indirectly affect bats roosting in adjacent structures during construction activities. Lighted construction areas could disorient bats in the vicinity of such activities and could disrupt nocturnal foraging activities.

The following mitigation measures would be required to minimize and avoid potential temporary construction impacts on special-status bat species and maternity roosting colonies: BIO-MM#25, BIO-MM#26, and BIO-MM#27. These measures would provide verification of the extent and locations of any special-status bat species or maternity roosting colonies (e.g., wildlife nursery sites), including those potentially existing in suitable habitats where permission to enter was not granted prior to construction, that could be adversely affected by project construction activities, would prevent impacts on special-status bat species by excluding individual bats from suitable habitats/structures within and adjacent to the project footprint, and would provide a mechanism for compensatory mitigation for unavoidable impacts (e.g., temporary disturbance within or near occupied habitat) based on CDFW guidance. Compensation would include the installation of nearby suitable alternative roosting structures if displacements are long-term or permanent. The alternative roosting structure would be constructed in accordance with CDFW guidance and be designed to be comparable in size and quality to the impacted habitat.

Mountain lions are unlikely to be directly affected by construction activities, as any occupancy by this species within the HSR Build Alternative footprint would be anticipated to be transient in nature. Given the existing urban setting of the HSR Build Alternative, temporary indirect effects during select construction activities (those in proximity to potential movement corridors such as the Los Angeles River and Verdugo Wash) would include increased noise, vibrations, light, dust, and other human disturbance within construction areas. Such effects are not anticipated to substantially interfere with the movement of mountain lions within the region or result in any adverse behavioral effects. Because these are temporary effects, it is likely that mountain lions already living or moving in the urban setting would alter their normal functions for the duration of project construction and then reestablish these functions once all temporary construction effects have been removed.

¹² The proposed Downtown Burbank Metrolink Station modifications are included as an early action project (refer to Chapter 2, Alternatives, for details).

CEQA Conclusion

Potential indirect effects on mountain lions that have limited potential to move through select portions of the Wildlife RSA would be less than significant under CEQA, and no direct effects are anticipated. No mitigation measures specific to mountain lions are required.

Construction activities have the potential to directly and indirectly affect protected bat species through the temporary disturbance of suitable roosting habitat. While incorporation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, and AQ-IAMF#1 would substantially reduce construction-related impacts on protected bat species and roosting habitat, there would still be potential for protected bats and maternity roosts to be directly and indirectly affected during construction, which would be a significant impact under CEQA. Impacts on protected bat species and maternity roosting sites would be significant impacts under CEQA. Therefore, BIO-MM#25, BIO-MM#26, and BIO-MM#27 would be required to further reduce the impacts. With these mitigation measures incorporated, temporary construction impacts on protected bat species would be less than significant under CEQA.

Insects

Suitable habitat containing monarch butterfly host plants (e.g., milkweed) and overwintering roosting habitat are absent from the HSR Build Alternative footprint. While monarchs are known to pass through the region during annual migrations, and there is potential for collisions with construction equipment during HSR construction activities, no barriers to monarch migration would be created, and habitats within the HSR Build Alternative footprint are not important in the context of this species' range and ecology. Given the developed and highly disturbed nature of the proposed HSR alignment, along with the limited potential for the species to be present within the construction footprint of the HSR Build Alternative, project construction is not expected to have any adverse effects on monarch overwintering activities or populations.

CEQA Conclusion

The HSR Build Alternative would not substantially adversely affect the monarch butterfly. Temporary construction impacts on the monarch butterfly would be less than significant under CEQA.

Permanent

Permanent construction effects involve the removal of buildings for construction or staging areas, widening an existing rail bridge over Verdugo Wash, modifying various bridges and crossing structures along the existing railroad right-of-way, realignment and partial undergrounding of storm channels, and building new bridges in the southern portion of the RSA. Any of these types of structures that contain suitable roosting features (e.g., hinges, crevices, or perches) may be used by a variety of bat species for roosting. New and expanded bridges and realigned underground storm channels may provide additional habitat for special-status bat species, resulting in a beneficial project effect. Any unavoidable removal of suitable habitat for special-status bat species would be effectively mitigated with implementation of BIO-MM#26 (Implement Bat Avoidance and Relocation Measures), which would create additional habitat in consultation with the CDFW.

No permanent construction-related effects are anticipated for special-status reptiles, birds, insects, or mountain lions because these species lack suitable habitat within the footprint of the HSR Build Alternative.

CEQA Conclusion

Special-status reptiles, birds, insects, or mountain lions would not be permanently impacted by construction of the HSR Build Alternative due to the lack of suitable habitat within the construction footprint; therefore, no mitigation is required for those species.

Construction of the HSR Build Alternative would have the potential to cause a significant impact on special-status bat species due to the removal of suitable roosting habitat. Even with BIO-IAMF#1, BIO-IAMF#3, and BIO-IAMF#5, which would reduce permanent construction effects on existing special-status wildlife species within the Wildlife RSA, the permanent removal of habitat used for bat maternity roosting would be a significant impact under CEQA. However, implementing BIO-MM#25, BIO-MM#26, BIO-MM#27, BIO-MM#56, BIO-MM#61, and BIO-

MM#63 would eliminate, reduce, or effectively offset permanent construction effects on existing special-status wildlife species within the Wildlife RSA. Therefore, with mitigation incorporated, the impact would be less than significant under CEQA.

Impact BIO #3 Construction Effects on Special-Status Natural Communities

Two special-status natural communities, freshwater-forested and shrub wetland and freshwater emergent wetland, as identified by the NWI and confirmed during field surveys, occur within the Aquatic RSA and are associated with the Los Angeles River and Verdugo Wash. These natural communities are locally important according to the Los Angeles County General Plan (Los Angeles County Regional Planning Department 2015) and include aquatic resources and riparian habitats under the jurisdiction of CDFW, USACE, and SWRCB (discussed further under Impact BIO #4). No direct removal of vegetation within these special-status natural communities would occur during construction of the HSR Build Alternative. Indirect effects on these special-status natural communities are expected to occur temporarily and would be associated with proposed construction activities near the Glendale Narrows and Verdugo Wash. Such indirect effects would not substantially modify the aquatic resources and riparian habitat within these special-status natural communities (e.g., no fill or modification of streambed or riparian vegetation would occur); therefore, the indirect impacts described below are not regulated activities under California Fish and Game Code Section 1602, CWA Sections 404/401, or the Porter-Cologne Water Quality Control Act. Due to the heavily developed conditions within and surrounding the proposed project footprint, there are no other special-status natural communities that would be affected. Potential temporary and permanent impacts on special-status natural communities from project construction are discussed in the subsections below.

Temporary

Temporary indirect effects on special-status natural communities within the Aquatic RSA (e.g., Verdugo Wash and the Glendale Narrows area within the Los Angeles River) would result from the following activities: construction vehicle traffic; the temporary use of land for staging and access areas near the Los Angeles River (although these areas will be sited within areas planned for permanent effects to the maximum extent practicable); noise, light, and vibration from construction activities; and other construction-related activities that are temporary in nature.

Potential indirect effects on special-status plant communities, where present within the Aquatic RSA, include temporary changes in erosion, sedimentation, and drainage patterns during construction. Displaced sediment and changes to microtopography could alter the soil and substrate conditions preferred by vegetation adjacent to special-status natural communities within the Aquatic RSA. Construction activities also have the potential to spread invasive and noxious weeds through introduction of seeds by construction equipment, vehicles, and personnel. While there are already high levels of disturbance and invasive plant species within the Aquatic RSA and any such impacts associated with the project would be minimal, the introduction or spread of invasive plant species have the potential to decrease cover by native plant species within these areas, which could influence the functions and values of special-status natural communities within the Aquatic RSA.

To minimize potential temporary construction effects on special-status natural communities, the following IAMFs would be implemented: BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1. Each of these IAMFs would effectively minimize temporary construction impacts on special-status natural communities by designating qualified biologists to conduct monitoring for compliance with applicable measures and avoidance of impacts on special-status natural communities, training construction crews on the characteristics and locations of special-status natural communities and applicable standards/regulations, restricting construction equipment and personnel from entering sensitive areas where biological resources may be affected, minimizing the disturbance area needed for construction spoils and waste and the potential for construction activities to generate excessive dust and airborne soil, and ensuring that BMPs are implemented to avoid soil and water contamination and hydrological alterations.

CEQA Conclusion

While no direct removal of any special-status natural community would occur under the HSR Build Alternative, the project has potential to result in indirect disturbance of wetland habitat associated with Verdugo Wash and the Glendale Narrows area within the Los Angeles River. Incorporation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1 would effectively minimize these impacts. However, the introduction or spread of invasive plant species into special-status natural communities has the potential to have significant impacts on special-status natural communities. Therefore, BIO-MM#55 is required and includes the preparation of a plan that contains applicable specifications and procedures that would minimize or avoid the spread of invasive weeds during ground-disturbing activities during construction. With the implementation of BIO-MM#55, the HSR Build Alternative would not have a substantial adverse effect on any riparian habitat or other sensitive natural community, including riparian habitats regulated under the California Fish and Game Code. Therefore, temporary construction impacts on existing special-status natural communities would be less than significant under CEQA with mitigation measure BIO-MM#55 incorporated.

Permanent

Permanent effects on special-status natural communities would result from shading from expanded bridges and aerial structures. Specifically, the proposed widening of an existing clear-span rail bridge over Verdugo Wash from its current width of approximately 30 feet to 91 feet could cause additional shading on the freshwater emergent wetland habitat below (established on a concrete lining). However, this area is already substantially shaded due to the channel's east-west orientation and approximately 30-foot-high vertical channel walls, the San Fernando Road Bridge, a clear-span utility crossing, the elevated Ventura Freeway (SR 134), and the elevated Fairmont Avenue roadway ramp and bridge that cross over Verdugo Wash. In addition, the freshwater emergent wetland habitat under the existing Verdugo Wash rail bridge consists of accumulated sediment and emergent vegetation on a concrete lining, which is subject to shifting and washing away during seasonal storm events. Therefore, the increase in shading that would occur in the Verdugo Wash area under the HSR Build Alternative would have a negligible effect on existing special-status natural communities.

Erosion and sedimentation could also have potential indirect effects on special-status natural communities, where present within the Aquatic RSA. Displaced sediment and major changes to microtopography would potentially alter the soil and substrate conditions preferred by current vegetation adjacent to existing special-status natural communities within the Los Angeles River and Verdugo Wash. Construction activities would potentially spread invasive and noxious weeds through introduction of seeds by construction equipment, vehicles, and personnel. The egress and ingress of machinery and personnel could also spread or inadvertently introduce harmful or devastating pathogens to special-status plant communities, which are more susceptible when fragmented, although given the already high levels of disturbance within the Aquatic RSA, any such impacts associated with the project would be minimal.

The IAMFs and BIO-MM#55 for temporary effects on special-status natural communities (listed above under the temporary effects discussion for Impact BIO #3) would effectively reduce the potential for permanent construction effects on special-status natural communities, and no further measures are required.

CEQA Conclusion

Construction of the HSR Build Alternative has potential to result in permanent indirect significant impacts on special-status natural communities. No direct removal of any special-status natural community would occur under the HSR Build Alternative. BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1, along with BIO-MM#55, would effectively minimize impacts. The HSR Build Alternative would not have a substantial adverse effect on any riparian habitat or other sensitive natural community, including riparian habitats regulated under the California Fish and Game Code. Therefore, permanent construction impacts on

existing special-status natural communities would be less than significant under CEQA with mitigation measure BIO-MM#55 incorporated.

Impact BIO #4: Construction Effects on Wetlands and Other Aquatic Resources

Construction of the project would result in direct and indirect effects on aquatic resources, including aquatic resources under the jurisdiction of CDFW, USACE, and SWRCB. The HSR Build Alternative would require crossings, realignments, and modifications to likely jurisdictional watercourses or waterbodies. The HSR Build Alternative includes project components that would cross or alter the Burbank Western Channel, Lockheed Channel, Verdugo Wash, and Los Angeles River. These proposed project components include the following, from north to south:

- Realignment and modifications to portions of the existing Lockheed Channel
- Reconfiguration of the Lockheed Channel and Burbank Western Channel confluence
- Replacement of a clear-span bridge with a wider clear-span bridge over Verdugo Wash
- A utility realignment along San Fernando Road that would cross over Verdugo Wash
- A new electrification system and use of the Metrolink tracks on the existing Downey Bridge over the Los Angeles River
- A new roadway bridge over the Los Angeles River to grade separate Main Street¹³
- Construction of an additional track on the existing Mission Tower Bridge, which crosses the Los Angeles River

The existing railroad bridge over Arroyo Seco is in the Aquatic RSA, although there are no proposed changes to the structure.

The Temporary and Permanent subsections below describe potential temporary and permanent effects on aquatic resources related to project construction. Potential indirect effects on aquatic resources in the Aquatic RSA would be substantively minimized or eliminated by implementation of the following IAMFs: BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1. Each of these IAMFs would effectively minimize temporary indirect construction effects on wetlands and other aquatic resources by designating qualified biologists to conduct monitoring for compliance with applicable measures and avoidance of impacts on jurisdictional areas, training construction crews on the characteristics and locations of jurisdictional aquatic resources and applicable standards/regulations, restricting construction equipment and personnel from entering sensitive areas where aquatic resources may be affected, minimizing the disturbance area needed for construction spoils and waste and the potential for construction activities to generate excessive dust and airborne soil, and ensuring that BMPs are implemented to avoid soil and water contamination and hydrological alterations. In addition, BIO-IAMF#2 (Facilitate Agency Access) would allow the resource agencies with jurisdiction over aquatic resources in the Aquatic RSA (i.e., USACE, SWRCB, and CDFW) to monitor construction for compliance with applicable permit measures.

Although these IAMFs for wetlands and other aquatic resources would reduce or eliminate the potential for construction effects on existing soil, water, and wildlife habitat quality, construction activities would still have direct impacts on aquatic resources (i.e., concrete-lined portions of the Los Angeles River and concrete-lined stormwater channels). Therefore, the following mitigation measures are required to further reduce impacts and ensure consistency with applicable regulatory agency requirements: BIO-MM#34, BIO-MM#61, and BIO-MM#62.

BIO-MM#34 and BIO-MM#61 would be part of compliance with applicable permit requirements of CDFW-, SWRCB-, and USACE-related to work in aquatic resources through monitoring and reporting of project activities within these areas. These measures would ensure compliance with requirements to protect aquatic resources within or adjacent to the project footprint through

¹³ The proposed Main Street Roadway Bridge is an early action project (refer to Chapter 2, Alternatives, for details).

compliance with applicable avoidance and minimization measures as set forth in regulatory authorizations under the CWA and/or Porter-Cologne Water Quality Control Act. BIO-MM#62 would be required to minimize construction-related impacts that could occur during water diversion or dewatering activities, and it would establish procedures for minimizing turbidity, siltation, and other water quality-related impacts, provide for the monitoring of dewatering or water diversion sites, require pre-activity surveys to determine the presence or absence of special-status species within the affected waterbody, and establish procedures for compliance with applicable resource agency permit requirements.

Because California Fish and Game Code aquatic resources do not include waters within underground portions of the Lockheed Channel, the impacts to California Fish and Game Code aquatic resources would be less than the impacts to waters of the U.S. for the proposed modifications to this concrete-lined storm channel. For all other proposed project components resulting in impacts on aquatic resources, the impacts within each jurisdiction would be coequal.

Unavoidable effects on waters of the U.S. are within the scope of the USACE Nationwide Permit Program, which does not authorize activities resulting in more than minimal individual or cumulative adverse environmental effects. All direct project-related impacts on aquatic resources would be to channelized, concrete-lined portions of the Los Angeles River, Lockheed Channel, and Burbank Western Channel. No riparian or wetland habitat would be removed or directly impacted under the HSR Build Alternative and there would be no loss of aquatic resource functions or values.

The Temporary and Permanent subsections below describe potential temporary and permanent effects on aquatic resources related to project construction.

Temporary

Direct temporary effects on aquatic resources would result from the temporary placement of fill during construction in and over aquatic resources or falling debris from bridge and channel modifications (e.g., relocating culverts) and construction. Temporary fill would be placed in aquatic resources during the construction or modification of bridges and storm channels. Such activities would not result in permanent loss of waters of the U.S., because any temporary fills and debris would be removed after construction and work sites would be returned to pre-project contours. The temporary fill and fallen debris would result in a temporary reduction of channel capacity; potential effects on the physical, chemical, and biological characteristics of aquatic substrates and food webs; and a potential increase in erosion and sediment transport into adjacent aquatic areas. Chemical spills or leaks of fuel, transmission fluid, lubricating oil, or motor oil from construction equipment could also contaminate waters and degrade their quality. Effects from potential chemical spills would be minimized or avoided through implementation of HYD-IAMF#3 (Prepare and Implement a Construction SWPPP). The SWPPP would include spill prevention and response planning, as well as erosion-control specifications.

Construction access and the temporary placement of materials associated with bridge construction, replacement, and modifications would temporarily affect up to approximately 2 acres of nonwetland (Riverine) waters of the U.S. within channelized, concrete-lined portions of the Los Angeles River and Verdugo Wash. The potential temporary effects associated with construction access would not result in the permanent loss of waters of the U.S. Potential temporary fills within jurisdictional waters associated with bridge construction activities (e.g., dewatering or water diversions) would be further defined during the regulatory permitting processes with CDFW, SWRCB, and USACE, as applicable.

The proposed Lockheed Channel and Burbank Western Channel modifications would involve the removal or filling of portions of the existing Lockheed Channel, conversion of open portions of Lockheed Channel to run underground, and the reconfiguration of the Lockheed Channel/Burbank Western Channel confluence. However, the construction of a realigned channel would replace the existing channel and associated aquatic resources within these concrete-lined features, resulting in no net loss of aquatic resources. The existing channel would be replaced during an approximately 12-month construction window. Water within channels affected by construction activities would be temporarily diverted, where necessary, in accordance with a

resource agency-approved dewatering plan as described under BIO-MM#62 (Prepare Plan for Dewatering and Water Diversions).

Collectively, 2.05 acres of temporary effects on aquatic resources associated with modifying and realigning the Lockheed Channel would occur under the HSR Build Alternative. In total, 2.02 acres of new (realigned) channel would be built. A net gain of approximately 0.015 acre of nonwetland aquatic resources would occur under the HSR Build Alternative due to the proposed Lockheed Channel realignment. Approximately 0.23 acre of the Burbank Western Channel would be temporarily affected during the reconfiguration of the Lockheed Channel/Burbank Western Channel confluence. Approximately 1.65 acres of existing open channel would be converted to an underground channel alignment during the realignment of Lockheed Channel and the reconfiguration of the Lockheed Channel/Burbank Western Channel confluence. All temporary impacts on aquatic resources—including construction access and temporary placement of materials within the Los Angeles River and Verdugo Wash as well as the proposed Lockheed Channel and Burbank Western Channel modifications—are within the scope of the USACE Nationwide Permit Program. Specifically, Nationwide Permit 14 “authorizes temporary structures, fills, and work necessary to construct the linear transportation project” (USACE 2017).

Table 3.7-10 summarizes anticipated direct temporary effects on aquatic resources associated with the Lockheed Channel and Burbank Western Channel modifications. This table does not include quantified temporary effects on aquatic resources caused by construction access within the channels because construction access points have not yet been defined based on the preliminary design. These potential temporary effects will be further defined during the regulatory permitting processes with CDFW, SWRCB, and USACE, as applicable.

Table 3.7-10 Anticipated Temporary Direct Effects on Aquatic Resources

Project Component	Potential Effect (acres)	Effect Type	Proposed Project Design Features
Lockheed Channel	2.05 acres ¹ modified, abandoned, or filled 2.02 acres constructed	Temporary fill	Realign channel and convert open portions to run underground. The realigned portion is approximately 0.015 acre greater in area than the existing channel alignment.
Burbank Western Channel	0.23 acre	Temporary fill	Reconfigure confluence with new Lockheed Channel alignment. No net loss in acreage.

Source: California High-Speed Rail Authority, 2019c

¹ Of the 2.05 acres of temporarily affected aquatic resources within Lockheed Channel, 1.65 acres would be within an open portion of the channel and is therefore considered a California Fish and Game Code aquatic resource. The remaining 0.40 acre of affected aquatic resources within the Lockheed Channel would be within underground portions of the storm channel and is therefore not considered a California Fish and Game Code aquatic resource.

CEQA Conclusion

Construction of the HSR Build Alternative would result in temporary direct impacts on nonwetland aquatic resources (concrete-lined portions of the Los Angeles River and concrete-lined stormwater channels). While incorporation of BIO-IAMF#1, BIO-IAMF#2, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1, and HYD-IAMF#3 would substantially reduce impacts on these areas, the project would still result in temporary impacts on aquatic resources under the jurisdiction of CDFW, SWRCB, and USACE, which would be a significant impact under CEQA. Therefore, BIO-MM#62 would be required and would offset project-related temporary impacts on aquatic resources and ensure consistency with applicable regulatory agencies, which require that such impacts result in no more than minimal individual or cumulative adverse environmental effects. With mitigation incorporated, temporary construction impacts on aquatic resources would be less than significant under CEQA.

Permanent

The HSR Build Alternative is expected to result in the discharge of less than 0.5 acre of permanent fill into waters of the U.S. (equal to areas potentially subject to SWRCB jurisdiction) at one location: the proposed Main Street roadway bridge that would cross the Los Angeles River. Table 3.7-11 provides a breakdown of the HSR Build Alternative's anticipated direct permanent impacts on aquatic resources. Such impacts are within the allowable parameters of the USACE Nationwide Permit program, including all General and Regional Conditions. Specifically, the HSR Build Alternative would have a direct permanent impact on 0.028 acre of nonwetland (Riverine) waters of the U.S. and 0.028 acre of California Fish and Game Code aquatic resources within channelized, concrete-lined portions of the Los Angeles River. It should be noted that the USACE Los Angeles District categorizes direct impacts on concrete-lined channels as "temporary impacts" rather than a permanent loss of waters of the U.S. There would be no permanent fills within wetlands or within Lockheed Channel, Burbank Western Channel, Verdugo Wash, or Arroyo Seco.

Table 3.7-11 Anticipated Permanent Effects on Aquatic Resources

Project Component	Potential Effect on Waters of the U.S. (acres)	Potential Effect on California Fish and Game Code Aquatic Resources (acres)	Effect Type	Proposed Project Design Features
New Main Street Roadway Bridge	0.028 acre	0.028 acre	Permanent fill; temporary impact for Section 404 Clean Water Act permitting purposes	New roadway bridge for Main Street grade separation; three columns with pier wall in Los Angeles River.

Source: California High-Speed Rail Authority, 2019c

There is a slight chance of indirect permanent effects on jurisdictional waters in the form of water-quality-related effects (i.e., dust/siltation and increased runoff into natural and constructed water features and fill downstream from the project footprint). Hydrologic changes would be minimal due to the limited extent of construction proposed in or near aquatic areas as well as the existing urbanized and disturbed setting. Indirect effects would be minimized or avoided through implementation of HYD-IAMF#3 and AQ-IAMF#1. The SWPPP would include spill prevention and response planning, as well as erosion-control specifications, and AQ-IAMF#1 would prescribe measures to minimize fugitive dust associated with ground disturbance and demolition.

As described in Table 3.7-11, the HSR Build Alternative proposes grade-separating Main Street with a new roadway bridge crossing over the railroad corridor and the Los Angeles River. The existing Main Street Bridge would remain in place, because it is a protected historical structure. The proposed Main Street Bridge would have one row of three 8-foot-diameter columns (with 10-foot-diameter bases) with a pier wall within the Los Angeles River and another row of three 8-foot-diameter columns on the west side of the concrete channel. This project component would result in 0.028 acre of new permanent fill (i.e., concrete columns with a pier wall) within a fully concrete-lined portion of the Los Angeles River.

CEQA Conclusion

The HSR Build Alternative would result in permanent impacts on aquatic resources (e.g., concrete-lined portions of the Los Angeles River). While implementation of BIO-IAMF#1, BIO-IAMF#2, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1, and HYD-IAMF#3 would substantially minimize impacts on aquatic resources, the project would still result in a substantial adverse effect on aquatic resources under the jurisdiction of the CDFW, the SWRCB, and the USACE due to the discharge of permanent fill and minimal hydrologic interruption, which would be a significant impact under CEQA. Therefore, BIO-MM#34, BIO-MM#61, and BIO-MM#62 would be required and would offset project-related permanent impacts on aquatic resources. These measures would

ensure protection of aquatic resources within or adjacent to the project footprint through compliance with applicable avoidance and minimization measures as set forth in regulatory authorizations under the CWA or Porter-Cologne Water Quality Control Act. If required by the resource agencies, BIO-MM#47 would be implemented to provide for compensatory mitigation for impacts to jurisdictional aquatic resources. With mitigation incorporated, permanent construction impacts on aquatic resources would be less than significant under CEQA.

Impact BIO #5: Construction Effects on Wildlife Movement

The upland and riparian connections from Verdugo Wash to the surrounding mountain areas are among the few connections throughout the Los Angeles Basin that may be used as wildlife movement corridors. These “corridors” are not located on the alignment but are several areas of open space (e.g., parks, golf courses) that connect Verdugo Wash to the mountains, well upstream of the alignment. Wildlife known to inhabit urban areas, such as coyote, skunk, opossum, and raccoon, may move throughout the Supplemental Habitat Study Area (3-mile buffer around the project footprint) as part of their daily activities, using roads, drainage channels, and backyards. The Burbank Western Channel, the Los Angeles River, Verdugo Wash, and Arroyo Seco have been identified as the primary terrestrial wildlife movement corridors in the Wildlife RSA. As discussed in Section 3.7.5.8, there is no suitable anadromous (or migratory) fish habitat within the Wildlife RSA. This section evaluates the temporary and permanent effects on terrestrial wildlife movement that could result from construction of the HSR Build Alternative.

Temporary

The wildlife species that commonly occur within the Wildlife RSA are already adapted to the urban environment and urban-wildland interface, and they would likely continue to adapt to additional urban development. Placement of temporary barriers (e.g., temporary fencing), construction staging areas, increased vehicular traffic, or construction laydown would temporarily restrict wildlife movement from their previous daily and seasonal patterns, which would be a direct effect. The noise, vibrations, light, dust, and other human disturbance within construction areas would temporarily deter wildlife from using areas in the immediate vicinity of construction activities, which would be an indirect effect. These direct and indirect effects could alter migration behaviors, territories, and foraging habitats in select areas. However, because these are temporary effects, it is likely that wildlife already living in the urban setting would alter their normal functions for the duration of the project construction and then re-establish these functions once all temporary construction effects have been removed.

The activities listed above would also potentially result in other indirect effects on wildlife movement, including changes in the frequency of visitation by one or more wildlife species to select habitats, increased foraging competition, or increased human-wildlife conflict. However, these indirect effects are unlikely to last if wildlife re-establish their movement patterns and habitat use once all temporary construction activities have been completed and equipment has been removed.

The following IAMFs would be implemented to minimize potential temporary construction effects on wildlife movement: BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#6, BIO-IAMF#7, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#11, and AQ-IAMF#1. Each of these IAMFs would minimize temporary construction effects on wildlife movement by designating qualified biologists to implement monitoring for compliance with applicable avoidance and minimization measures, training construction crews on species identification and applicable standards/regulations, limiting construction equipment and personnel from entering areas where wildlife movement may be affected, ensuring that construction sites are managed to prevent the entrapment of wildlife, using proper materials for erosion control in order to prevent entrapment or injury to wildlife, and minimizing the disturbance area needed for construction spoils and waste and the potential for construction activities to generate excessive dust and airborne soil (which could affect wildlife movement near construction sites).

CEQA Conclusion

Construction of the HSR Build Alternative has the potential to result in localized impacts on urban wildlife movement. The implementation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#6, BIO-IAMF#7, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#11, and AQ-IAMF#1 would minimize these

impacts. Despite the minimization that would occur through the implementation of these IAMFs, temporary construction activities would have the potential to significantly affect wildlife movement within known wildlife movement corridors (the Los Angeles River, Verdugo Wash, Burbank Western Channel, and Arroyo Seco). Therefore, mitigation measure BIO-MM#37 would be required to further reduce impacts. Implementation of BIO-MM#37 would involve avoidance of direct and indirect adverse effects on known wildlife movement corridors during construction activities by minimizing nighttime lighting and avoiding of placing barriers (such as fencing) within such areas, to the extent feasible. With the implementation of this mitigation measure, temporary impacts on wildlife movement would be less than significant under CEQA, and the HSR Build Alternative would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, and it would not impede the use of native wildlife nursery sites.

Permanent

The Burbank to Los Angeles Project Section would use an existing railroad corridor and would not permanently impede potential wildlife movement through the Burbank Western Channel, the Los Angeles River, Verdugo Wash, or Arroyo Seco, which are the primary wildlife movement corridors within the Wildlife RSA. The construction of the HSR fence, which would restrict access to the entire HSR right-of-way, would directly affect wildlife movement in various locales where wildlife currently cross the existing railroad alignment, because only portions of the existing railroad alignment are fenced. Permanent fencing would also likely prevent vehicles from striking wildlife along the existing railroad alignment and surrounding urban areas.

The grades for the existing road crossings at Sonora Avenue, Grandview Avenue, Goodwin Avenue, Flower Street, and Main Street would be changed to be roadway undercrossings, which may affect wildlife use at these crossings. Direct effects from the installation of physical barriers (e.g., fencing along the entire railroad corridor, street closures, and grade changes) could hinder wildlife movement through the Wildlife RSA, although no permanent barriers to wildlife movement would be placed within any existing wildlife movement corridor (e.g., the Los Angeles River and flood control channels). Permanent facilities would generally be within previously developed and fenced areas (e.g., the existing railroad transportation corridor), and any wildlife currently present would likely adapt by avoiding such structures.

CEQA Conclusion

The installation of physical barriers (e.g., fencing along the entire railroad corridor, street closures, and grade changes) could hinder wildlife movement through the Wildlife RSA, although no permanent barriers to wildlife movement would be placed within any existing wildlife movement corridor. The HSR Build Alternative would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, and would not impede the use of native wildlife nursery sites. Because the HSR Build Alternative would not place any permanent barriers to wildlife movement within known corridors and would have little or no regional effects, and due to the highly urbanized setting, permanent construction impacts on wildlife movement would be less than significant under CEQA and no mitigation would be required.

Impact BIO #6: Construction Effects on Protected Trees

While construction of the HSR Build Alternative would not result in the removal of any large groves of trees or trees protected as part of any special-status natural community (oak or sycamore woodland, etc.), construction activities would result in direct and indirect effects on individual trees protected under county and local plans and ordinances. Most protected trees within the public right-of-way and along the existing railroad corridor are landscape, ornamental, or nonnative trees, which are less ecologically significant because they do not provide natural habitat and are less likely to provide habitat preservation value for native wildlife species than naturally occurring native trees. Trees within the project footprint would be directly affected, and the appropriate county or local authorities would be consulted in accordance with the applicable plans and ordinances.

Potential temporary and permanent effects on protected trees that may result from project construction are described below.

Temporary

While impacts on heritage trees or trees of biological significance are not anticipated, direct effects on protected trees from construction activities would occur from trimming or pruning trees for stations, tracks, equipment storage areas, access roads, and road overcrossings. The trees that would be potentially affected are mostly ornamental nonnative species, but they are protected because they are within public rights-of-way and local permits are needed before removal or trimming. Direct effects from construction activities could also result from unintentional contamination, such as chemical leaks and spills, which may affect the water or soils on which protected trees depend. These effects could become permanent if the source of the unintentional contamination is not properly removed. The temporary construction areas would be almost entirely within previously developed and otherwise disturbed areas; therefore, direct effects on protected trees from construction activities would be minimal.

Dust, debris, and other airborne pollutants resulting from construction activities may temporarily affect trees by covering their leaves with substances that may inhibit photosynthesis. Soil compaction, the placement of fill and other material, shading by equipment, and alterations to microtopography could stress trees, causing poor growth and loss of leaves or roots during the construction period. However, most trees within the project footprint currently experience a high degree disturbance associated with the urban setting.

Indirect effects on protected trees could result from temporary changes in hydrology and topography (as a result of temporary staging areas; access roads; equipment storage; and foot, vehicle, and machine traffic), which may alter water and nutrient intake and thereby inhibit growth or cause leaf mortality. Temporary increases in soil saturation during construction activities would increase potential for root rot or oxygen deficiency. These temporary effects on other plant species, either common or special-status, would indirectly affect protected trees if these other plant species provide nitrogen, soil aeration, root protection, and moisture retention.

The following IAMFs would be implemented to minimize potential temporary construction effects on protected trees: BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1. These IAMFs would effectively minimize temporary construction effects on protected trees by designating qualified biologists to implement monitoring for compliance with applicable measures and avoidance of impacts to protected (where feasible), training construction crews on protected trees and applicable standards/regulations, limiting construction equipment and personnel from entering areas where additional protected trees may be affected, minimizing the disturbance area needed for construction spoils and waste and the potential for construction activities to generate excessive dust and airborne soil, and ensuring BMPs are implemented to avoid soil and water contamination and hydrological alterations.

CEQA Conclusion

Temporary construction activities would affect trees covered under local ordinances. While the incorporation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1 would reduce temporary construction impacts on protected trees, temporary impacts on protected trees have the potential to result in the significant loss of individual trees, which may require compensation in accordance with local policies and ordinances. Therefore, mitigation measure BIO-MM#35 would be required and would provide for consistency with local regulations and laws pertaining to protected trees through compensation (translocation, replacement plantings, or contribution to a tree planting fund), where required, based on requirements set out in applicable local government ordinances, policies, and regulations. With implementation of BIO-MM#35, impacts on protected trees would be less than significant under CEQA.

Permanent

While impacts on heritage trees or trees of biological significance are not anticipated, direct permanent effects on protected trees are anticipated in areas where permanent infrastructure

(e.g., rail track and road overcrossings and undercrossings and the proposed Burbank Airport Station) or temporary activities would require clearing (e.g., materials staging, temporary access roads, and construction rights-of-way). Direct effects from construction activities could also result from unintentional contamination, such as chemical leaks and spills, which could affect water or soils used by protected trees, potentially resulting in their death. These effects could be temporary if contaminants are properly removed and tree loss is prevented.

Indirect permanent effects on protected trees could occur as a result of changes in erosion and sedimentation. Displaced sediment and alterations to microtopography could change the soil and substrate conditions required by protected trees. Permanent changes in hydrology and topography could damage the soil environment surrounding a tree's roots by affecting the level of necessary symbionts in the soil (e.g., mycorrhizae for oaks), or lead to fungal infections, root rot, lack of proper drainage, and difficulty in obtaining oxygen or other necessary elements. These factors ultimately affect the growth of roots and vegetation and could lead to the death of protected trees. Such indirect permanent effects would be substantially reduced or avoided with implementation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1.

BIO-MM#35 would effectively mitigate unavoidable permanent direct effects on protected trees (e.g., tree removal) by providing multiple ways to compensate for permanent direct impacts on protected trees, including transplanting protected trees to outside of the impact area, planting replacement trees, or contributing to a tree-planting fund, as applicable and in accordance with local laws and regulations.

CEQA Conclusion

Construction of the HSR Build Alternative would have permanent impacts on trees covered under local ordinances, including tree removal. Implementation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1 would substantially minimize these construction-related impacts. However, the impact would still be significant under CEQA. Mitigation measure BIO-MM#35 would compensate for impacts on protected trees because trees would be transplanted outside of the impact area, replacement trees would be planted, or funding would be provided for a tree-planting fund. With mitigation incorporated, permanent construction impacts on protected trees would be less than significant under CEQA.

Operations Impacts

Operation of the HSR Build Alternative would include inspection and maintenance along the track and railroad right-of-way, as well as of the structures, fencing, power system, train control, electric interconnection facilities, and communications facilities. Chapter 2, Alternatives, describes operations and maintenance. The sections below describe each potential operations impact.

Impact BIO #7: Operation Effects on Special-Status Plant Species

Temporary and permanent operation effects on southern tarplant, a nonlisted special-status species with a low-to-moderate potential of occurrence within the Botanical RSA, are described below.

Temporary

No direct temporary effects on special-status plant species are anticipated during project operation due to the lack of suitable habitat and conditions required for such species to occur within and adjacent to the project footprint. As previously described, any special-status plant species found to occur within the project footprint would have been identified during the construction phase of the project (BIO-MM#1) and compensation would have been provided through implementation of BIO-MM#2. Routine maintenance activities during the operations phase of the HSR Build Alternative would not directly disturb any areas where southern tarplant may be present. Furthermore, potential indirect effects from maintenance activities that could result from unintentional pollution or contamination of adjacent habitat areas suitable for southern tarplant would be avoided through implementation of BIO-IAMF#4 and BIO-IAMF#5. Implementation of these IAMFs would effectively offset the potential for impacts by ensuring that

all maintenance personnel are aware of specific avoidance areas and applicable compliance measures, as well as establishing protective measures and procedures for maintenance activities that could affect southern tarplant potentially occurring in the Botanical RSA, including the preservation of topsoil and erosion control measures.

CEQA Conclusion

Operations and maintenance activities associated with the HSR Build Alternative would not have a temporary direct impact on habitat suitable for southern tarplant. With incorporation of BIO-IAMF#4 and BIO-IAMF#5, applicable measures would be implemented to avoid or reduce potential indirect impacts on adjacent areas, including training to ensure that personnel understand the regulatory agency requirements and procedures necessary to protect special-status plant species such as the key provisions of FESA, CESA, and CWA (BIO-IAMF#4). Additionally, BIO-IAMF#5 includes preparation and implementation of a Biological Resources Management Plan (an implementation strategy for applicable biological resource conservation and mitigation features). Operation and maintenance of the HSR Build Alternative would not substantially alter existing conditions affecting plants within the Botanical RSA or result in a substantial adverse effect, either directly or through habitat modifications, on any special-status plant species known to occur in the Botanical RSA. Therefore, temporary operations impacts on special-status plant species would be less than significant under CEQA and no mitigation is required

Permanent

No direct permanent effects on special-status plant species are anticipated during project operation due to the lack of suitable habitat and conditions required for such species to occur within and adjacent to the project footprint. Indirect operations effects would include increasing the potential for introducing and spreading invasive and nonnative plant species in areas adjacent to the railroad right-of-way, which could affect southern tarplant (if present) through increased competition and degradation of suitable habitat. BIO-IAMF#4 and BIO-IAMF#5 would minimize such effects, as discussed above for temporary impacts. To further avoid the spread of invasive plant species during maintenance activities involving ground disturbance, mitigation measure BIO-MM#55 would be required. Implementation of BIO-MM#55 would include the preparation of a plan that contains applicable specifications and procedures to minimize or avoid the spread of invasive weeds during ground-disturbing activities during the operations and maintenance phase of the HSR Build Alternative.

CEQA Conclusion

While no direct permanent effects on special-status plant species are anticipated during the operation phase of the HSR Build Alternative, maintenance activities could introduce or spread invasive plant species harmful to southern tarplant, if present. However, BIO-IAMF#4 and BIO-IAMF#5, would minimize these impacts. In addition, BIO-MM#55 would be required to avoid potentially significant indirect impacts related to the spread of invasive plant species. With incorporation of BIO-MM#55, permanent impacts on special-status plant species from the operation and routine maintenance of the HSR Build Alternative would be less than significant under CEQA.

Impact BIO #8: Operation Effects on Special-Status Wildlife

Potential temporary and permanent effects on special-status wildlife species that may result from project operations and routine maintenance activities are described in the subsections below.

Temporary

While maintenance activities associated with the HSR Build Alternative would be mostly restricted to access roads and project infrastructure (where special-status wildlife species are not anticipated to occur), several maintenance activities (e.g., vegetation maintenance or structural maintenance requiring equipment that would generate noise, dust, and vibration) have the potential to directly and indirectly affect bats, special-status bird species, and migratory birds through the disturbance of potential roosting and nesting habitat. Habitat along the Los Angeles River is of greatest concern, where the occurrence of the listed least Bell's vireo has been

documented.¹⁴ While the direct removal of riparian habitat would not occur under the HSR Build Alternative, anticipated indirect disturbances include noise and vibration associated with maintenance activities and equipment. If such maintenance activities occur during the breeding season (February 1 through September 1; January 1 to September 1 for raptors), active nests could be disturbed, potentially causing the loss of eggs or developing young (i.e., nest abandonment during the incubation, nestling, or fledgling stages of these species). Likewise, temporary maintenance activities conducted within or adjacent to suitable bat roosting habitat have potential to directly or indirectly impact special-status (or otherwise protected) bat species.

BIO-MM#14, BIO-MM#15, and BIO-MM#80 are required to be implemented during the bird and raptor breeding seasons (January 1 to September 1) to avoid potential temporary maintenance effects on nesting birds and raptors. BIO-MM#14 would identify and avoid potential project disturbances of active bird nests in accordance with the MBTA and the California Fish and Game Code. BIO-MM #15 would identify and avoid potential project disturbances to active raptor nests in accordance with the MBTA and the California Fish and Game Code. BIO-MM#80 would involve the delineation of any occupied least Bell's vireo habitat to be avoided during maintenance activities, the implementation of appropriate noise-reduction/attenuation techniques, and noise monitoring to help minimize potential indirect impacts within 500 feet of occupied habitat.

The following mitigation measures are required to minimize and avoid potential temporary operational and maintenance impacts on special-status bat species and maternity roosting colonies: BIO-MM#25, BIO-MM#26, and BIO-MM#27. These measures would provide verification of the extent and locations of any special-status bat species or maternity roosting colonies (e.g., wildlife nursery sites) that could be adversely affected by project maintenance activities, would prevent direct impacts on special-status bat species by excluding individual bats from suitable habitats/structures within and adjacent to the project footprint, and would provide a mechanism for compensatory mitigation for unavoidable impacts (e.g., temporary disturbance within or near occupied habitat) based on CDFW guidance. Compensation would include the installation of nearby suitable alternative roosting structures if displacements are long-term or permanent. The alternative roosting structure would be constructed in accordance with CDFW guidance and be designed to be comparable in size and quality to the impacted habitat. No other temporary effects on special-status wildlife species are anticipated during project operation due to the lack of suitable habitat and conditions required for such species to occur within and adjacent to the project footprint.

Temporary maintenance activities along the HSR infrastructure would not take place within suitable monarch butterfly or mountain lion habitat, and there is low probability of these species to be moving within the footprint of maintenance activities. It is likely that mountain lions already living and moving in close proximity to urban development would alter their normal functions for the duration of project maintenance activities and then reestablish these functions once all temporary maintenance activities are completed.

CEQA Conclusion

Routine maintenance activities associated with the HSR Build Alternative have the potential to result in temporary direct and indirect impacts on bats and nesting birds, including common and special-status species, through habitat modification, which would be a significant impact under CEQA. Two specific mitigation measures pertaining to avian species are required to be implemented when maintenance activities involving vegetation removal or trimming or use of heavy equipment is required: BIO-MM#14 and BIO-MM#15. When maintenance activities involving bridge/culvert work, or use of heavy equipment adjacent to such areas, is required, three specific mitigation measures pertaining to bat species are required to be implemented: BIO-MM#25, BIO-MM#26, and BIO-MM#27. With incorporation of these mitigation measures, temporary operational impacts on special-status wildlife species would be less than significant

¹⁴ A FESA Section 7 consultation with the USFWS has been completed for potential indirect impacts on least Bell's vireo. In the Section 7 consultation letter dated April 12, 2021, the USFWS concluded that the HSR Build Alternative (with the mitigation measures documented herein incorporated) is *Not Likely to Adversely Affect* least Bell's vireo. The project is not anticipated to directly or indirectly affect other listed special-status species.

under CEQA because active bird nests and bat roosts would be identified, and measures would be implemented to avoid, minimize, or compensate for impacts (and comply with relevant California Fish and Game Code requirements) during maintenance activities. If compensatory bat roosting habitat creation is required, the alternative roosting structure would be constructed in accordance with CDFW guidance and be designed to be comparable in size and quality to the impacted habitat.

Permanent

Permanent operations effects, which include noise, light, vibration, and wind generated from moving trains, would occur daily from operation of the HSR system. The HSR Build Alternative would operate within an existing railroad transportation corridor, so these effects would not be new to the Wildlife RSA, but they would be additive to existing conditions. Indirect effects from noise, vibration, and wind could result in localized displacement of some special-status bird and bat species. There would also be an increased potential for mortality from colliding with the moving trains and electrocution from the overhead catenary system, although implementation of BIO-IAMF#12 would limit the potential for bird strikes and electrocution by ensuring that the HSR catenary system, masts, and other structures are designed to be bird- and raptor-safe in accordance with the applicable recommendations presented in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (Avian Power Line Interaction Committee 2006) and *Reducing Avian Collisions with Power Lines: State of the Art in 2012* (Avian Power Line Interaction Committee 2012). The HSR Build Alternative will also implement design recommendations of the Authority's Overhead Contact System Bird Electrocution Configuration Working Group, which circulated guidance reviewed by the USFWS and CDFW in 2021.

Because the HSR right-of-way will be fenced and existing at-grade crossings will be grade-separated, increased mountain lion fatalities from train collisions are not anticipated. While there is potential for moving trains to collide with individual migrating monarch butterflies, the potential is low and the project is not expected to have any population-level effects, especially considering the existing high levels of automobile traffic, trains, and aircraft operations within the region.

The limited operation of the HSR system during nighttime hours would reduce the potential for direct operational effects on bats. Direct and indirect operational effects are most likely to occur near suitable bat roosting structures (Figure 3.7-3) and in areas adjacent to riparian habitats in the Los Angeles River and Verdugo Wash, where special-status bird species have at least a low potential to occur. Such effects may result in shifts in foraging patterns or territories, or dispersal movements, increased predation, decreased reproductive success, and reduced population viability. However, most wildlife currently occupying habitats adjacent to the existing railroad corridor are likely habituated to frequent wind, noise, vibration, and other indirect effects associated with the urban setting of the Wildlife RSA and existing rail system operations.

Multiple short-term and long-term ambient noise measurements were taken in areas along the Los Angeles River as part of completing the noise impact analysis included in Section 3.4 of this EIR/EIS. Based on this analysis, the approximate hourly range of existing noise levels at recent documented least Bell's vireo occurrences near Rio de Los Angeles State Park is 63 to 73 A-weighted decibels (dBA) equivalent continuous noise level. The quietest hour was at 4:00 a.m. and the peak noise levels were measured around 3:00 p.m. The shift in existing rail tracks proposed under the HSR Build Alternative at this location (the closest direct disturbance area along the HSR alignment in proximity to suitable vireo habitat) would increase noise levels approximately 2 dBA (daily and peak hour) compared to existing measured conditions. The additional HSR operations combined with the shift in existing rail tracks would result in an overall operational noise increase of approximately 3.5 to 4 dBA at the closest documented least Bell's vireo occurrence along the proposed alignment. Such noise increases are not expected to alter the suitability of habitat conditions within the Wildlife RSA.

CEQA Conclusion

Permanent operations effects, including noise, light, vibration, and wind generated from moving trains, have the potential to disturb special-status wildlife species. There would also be an increased potential for mortality from colliding with the moving trains, although BIO-IAMF#12

would limit the potential for bird strikes by ensuring that the HSR catenary system, masts, and other structures are bird- and raptor-safe in accordance with applicable guidance published by the Avian Powerline Interaction Committee and the Authority's Bird Electrocutation Avoidance Configuration Working Group. Due to the limited extent of special-status wildlife species and habitat along the proposed HSR alignment, and because of the ongoing disturbances that currently exist along the railroad transportation corridor, permanent operations and maintenance impacts on special-status wildlife species would be less than significant under CEQA, and no mitigation is required.

Impact BIO #9: Operation Effects on Special-Status Natural Communities

Potential temporary and permanent effects on special-status natural communities that may result from project operations and routine maintenance activities are described in the subsections below.

Temporary

Direct temporary effects on special-status natural communities are not expected to occur during the operational phase of the HSR Build Alternative due to the absence of such communities within and adjacent to the project footprint. Indirect temporary effects (e.g., dust, shading, and increased erosion or runoff) could affect special-status natural communities within the Wildlife RSA (e.g., riparian and wetland communities within the Los Angeles River and Verdugo Wash) due to infrequent maintenance activities along the proposed HSR alignment. Implementation of BIO-IAMF#4 and BIO-IAMF#5 would minimize or avoid such effects on special-status natural communities. These IAMFs would ensure that all maintenance personnel are aware of specific avoidance areas and compliance measures and would establish protective measures and procedures for maintenance activities that could affect special-status natural communities (including provisions for biological monitoring during ground-disturbing activities to confirm and report compliance and success of protective measures).

CEQA Conclusion

Maintenance activities associated with the HSR Build Alternative may result in temporary impacts on special-status natural communities. Due to the spatial separation between the HSR alignment and existing special-status natural communities within the Los Angeles River and Verdugo Wash, the limited circumstances that would require access to these areas, and the incorporation of BIO-IAMF#4 and BIO-IAMF#5, the HSR Build Alternative would not have a substantial adverse effect on any riparian habitat or other special-status natural community. Temporary impacts on special-status natural communities from project operations and routine maintenance activities would be less than significant under CEQA, and no mitigation would be required.

Permanent

Existing special-status natural communities close to the HSR alignment are already substantially disturbed under existing conditions (e.g., trains, cars, litter, and urban runoff). Furthermore, the special-status natural communities within the Los Angeles River and Verdugo Wash are below the grade of the proposed expanded railroad right-of-way, which limits the potential for indirect permanent effects to occur as a result of HSR operations and maintenance activities. Nevertheless, maintenance activities involving ground disturbance have the potential to introduce or spread invasive and nonnative plant species, which could have a negative impact (e.g., decreased cover by native plants, increased competition for water and sunlight) on adjacent special-status natural communities.

CEQA Conclusion

Operation and maintenance activities associated with the HSR Build Alternative may result in permanent indirect impacts on special-status natural communities. Due to the limited extent of special-status natural communities along the proposed HSR alignment and the spatial separation between such communities and the proposed HSR infrastructure, and because of the ongoing disturbances that currently exist along the railroad transportation corridor, such impacts would be limited to the introduction or spread of invasive plant species during ground-disturbing maintenance activities that would take place adjacent to riparian and wetland communities within the Los Angeles River and Verdugo Wash. This would be a significant impact under CEQA. As a result, BIO-MM#55 would be required and would include the preparation of a plan that contains

applicable specifications and procedures to minimize or avoid the spread of invasive weeds during ground-disturbing operational activities. With the implementation of this mitigation measure, the HSR Build Alternative would not have a substantial adverse effect on any riparian habitat or other sensitive natural community, including riparian habitats regulated under the California Fish and Game Code. Therefore, permanent operations impacts on existing special-status natural communities would be less than significant under CEQA with mitigation measure BIO-MM#55 incorporated.

Impact BIO #10: Operation Effects on Wetlands and Other Aquatic Resources

The following paragraphs describe temporary and permanent effects on jurisdictional waters that may result from project operations and routine maintenance activities.

Temporary

Operation of the HSR Build Alternative would require periodic inspections of rail and ancillary facilities sited within aquatic resources, infrequent maintenance of structures (e.g., repairs to piers and maintenance access roads), and removal of sediment and vegetation from the vicinity of structures sited within aquatic resources. These activities may temporarily alter drainage patterns within the footprint of these activities, and they may also alter downstream waters through the use of surface water diversions and dewatering equipment, as well as through the removal of sediment and vegetation. In addition, these maintenance activities may temporarily modify flow patterns by obstructing flow, changing the direction or velocity of water circulation, or increasing erosion, siltation, or runoff. Increased sedimentation through erosion, as well as accidental spills from trains or maintenance vehicles and equipment, could introduce contaminants or pollutants into aquatic resources. The aquatic resources within the Aquatic RSA are already subject to routine maintenance activities (because the Los Angeles River and its tributaries within the Aquatic RSA are used for stormwater control purposes), so such effects would not be new to the area. Despite the limited aquatic resource areas within the project footprint that may be subject to temporary maintenance activities, such activities may result in changes to the existing conditions of jurisdictional aquatic resources within the Aquatic RSA.

CEQA Conclusion

Operation and maintenance activities associated with the HSR Build Alternative may result in temporary significant impacts on aquatic resources. Any maintenance activities requiring dewatering or water diversion would require implementation of mitigation measures BIO-MM#62 and BIO-MM#34 to reduce effects and ensure compliance with applicable resource agency requirements, which would further avoid and minimize impacts on aquatic resources. BIO-MM#62 would establish procedures for minimizing turbidity, siltation, and other water quality-related impacts, provide for the monitoring of dewatering and water diversion sites, and require pre-activity surveys to determine the presence or absence of special-status species within the affected waterbody. BIO-MM#34 would require the designated project biologist to monitor construction activities that occur within or adjacent to aquatic resources, including activities associated with the installation of protective barriers (e.g., silt fencing, sandbags, fencing), installation or removal of creek material to accommodate crossings, construction of access roads, and removal of vegetation. As part of this effort, the project biologist would document compliance with applicable avoidance and minimization measures, including measures set forth in applicable regulatory authorizations issued under the California Fish and Game Code, CWA, and the Porter-Cologne Water Quality Control Act. With the implementation of BIO-MM#62 and BIO-MM-34, temporary operations and maintenance activities associated with the HSR Build Alternative would have a less than significant impact under CEQA.

Permanent

The operation of the HSR Build Alternative could increase the amount of the pollutants associated with rail operations because of increased rail service. Specifically, dust generated by braking would be continuously generated and released by trains. Brake dust consists of particulate metals, primarily iron, but may also include copper, silicon, calcium, manganese, chromium, and barium. Although brake dust consists primarily of particulate metals, some of these metals could become dissolved in rainwater. Although brake dust would be released into the environment during operations, the electric trains would use regenerative braking technology,

resulting in reduced physical braking and associated wear compared to conventional petroleum-fueled trains. Brake dust would not be generated in equal amount throughout the HSR alignment. The primary locations where brake dust would be generated are areas where the trains must reduce their travel speed, such as approaches to stations, turns, and elevation changes (primarily descents). Long stretches of flat terrain with a straight rail alignment would generate less brake dust than other areas. In addition, brake dust is generally anticipated to be retained in track ballast. Parking lots associated with the stations would also be a primary source of pollutants, including heavy metals, organic compounds, trash and debris, oil and grease, nutrients, pesticides, and sediments.

In consideration of the potential for brake-pad particles and parking lot runoff to be conveyed to surface waters, the Authority would prepare a stormwater management and treatment plan that complies with the Phase II MS4 permit requirements (HYD-IAMF#1). The plan would include post-construction BMPs and low-impact development techniques to reduce the quantity and improve the quality of stormwater runoff before runoff is discharged into a surface waterbody. A variety of BMPs would be considered, including, but not limited to, surface infiltration basins, subsurface infiltration systems, seasonal dry detention ponds, sand and media filters, and infiltration trenches. Of these potential treatment BMPs, all are capable of reducing particulate and dissolved metal concentrations in runoff. Post-construction BMPs would minimize potential continuous impacts from brake dust deposited on impervious surfaces by capturing and improving the quality of runoff prior to discharge into waterbodies. Along at-grade and retained-fill portions of the HSR alignment, brake dust is generally anticipated to be retained in track ballast. Accordingly, post-construction BMPs would minimize potential continuous impacts from brake dust deposited on impervious surfaces by capturing and improving the quality of runoff prior to discharge into waterbodies. Relative to other vehicles and trains that already operate in the project vicinity, the project would not substantially alter existing levels of sedimentation from dust and other pollutants. With implementation of HYD-IAMF#1 and associated BMPs, there would not be a substantial adverse effect on aquatic resources.

CEQA Conclusion

The operation of the HSR Build Alternative could increase the amount of pollutants associated with rail operations because of increased rail service. However, because it would operate within an existing railroad corridor and BMPs would be implemented in accordance with HYD-IAMF#1, the HSR Build Alternative would not result in a substantial adverse effect on aquatic resources. Permanent indirect impacts on wetlands and other aquatic resources from project operations (such as increased dust levels) would be less than significant under CEQA and no mitigation is required.

Impact BIO #11: Operation Effects on Wildlife Movement

Potential temporary and permanent effects on wildlife movement that may result from project operations and routine maintenance activities are described in the subsections below.

Temporary

The wildlife that inhabits this urban environment is already highly adapted to conditions associated with constant human activity. Such wildlife likely has a higher tolerance of noise, vibration, dust, lighting, and other human activities than wildlife that inhabit environments less affected by human activities. Rapid onset rates of train noise for brief periods (a few seconds) may cause annoyance and startling effects in wildlife. Loud noise may disturb or repel some animals and present a barrier to movement. A startling effect on wildlife in an area with high vehicle traffic could increase collision risk between wildlife and vehicles. Loud noise can mask wildlife calls used for identification, mate attraction, and territorial defense, although these effects are less of a concern with short-duration noise than with constant ambient urban noise (e.g., from busy highways). Although noise and vibration may negatively affect wildlife movement in a natural condition, animals that inhabit an urban environment have likely already adapted to loud noise, vibration, and other human activity and may not substantially change their movement patterns.

Maintenance or any other project activities along the proposed HSR alignment that occur infrequently or on a temporary basis may directly affect wildlife crossings by temporarily limiting

their use. Occasional project maintenance activities could cause wildlife to avoid the maintenance area, return at a later time, use another crossing, or eventually habituate to the activity. Nocturnally active species are more likely to eventually adapt their movement patterns to navigate these new landscape features because no HSR trains are scheduled to operate between the hours of 12:00 a.m. and 5:00 a.m. Short-term indirect effects from HSR system maintenance activities are anticipated, including temporary changes in hydrology and topography (as a result of temporary staging areas; access roads; equipment storage; and foot, vehicle, and machine traffic). However, intermittent maintenance activities are unlikely to affect long-term usage of the existing wildlife movement corridors.

The effects identified above would be short-lived and would not result in substantial changes from existing biological conditions in the heavily urbanized setting. BIO-IAMF#4 (Operation and Maintenance Period WEAP Training) and BIO-IAMF#5 (Prepare and Implement a Biological Resources Management Plan) would minimize disturbance from maintenance activities by ensuring that all maintenance personnel are aware of specific avoidance areas and compliance measures, as well as by establishing protective measures and procedures for maintenance activities that could affect wildlife movement (including provisions for biological monitoring during ground-disturbing activities to confirm and report compliance and success of protective measures).

CEQA Conclusion

Operation and maintenance activities associated with the HSR Build Alternative have the potential to result in localized interference with urban wildlife movement patterns, but would not be a substantial change from the existing conditions in a heavily urbanized setting. With incorporation of BIO-IAMF#4 and BIO-IAMF#5, would reduce temporary impacts on wildlife movement from project operations and routine maintenance activities. The HSR Build Alternative would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, and it would not impede the use of native wildlife nursery sites. The impact would be less than significant under CEQA, and no mitigation is required.

Permanent

Direct effects from daily train operation or regularly scheduled maintenance activities may interfere with wildlife movement, although no permanent barriers to wildlife movement would be placed within any existing wildlife movement corridor (e.g., the Los Angeles River and flood control channels). Regularly passing trains may not provide enough undisturbed time between passing intervals for some wildlife species to cross the alignment in certain areas. However, wildlife that has already adapted to the urban environment would habituate to HSR train passage and readily use the existing and new road crossings, as well as the existing and modified drainage features along the proposed HSR alignment.

Regularly scheduled maintenance may deter wildlife from approaching an area or using it as part of a wildlife movement corridor, because wildlife may come to associate it with increased human presence and disturbance. Additionally, regular train operation and maintenance activities may result in indirect effects on population dynamics and genetic exchange if they restrict wildlife movement along the existing railroad corridor. However, there is already a high degree of human disturbance (including train and other vehicle traffic) along the proposed HSR alignment.

CEQA Conclusion

Because the HSR Build Alternative would not place permanent barriers to wildlife movement within any existing wildlife movement corridor and the introduction of a rail alignment would not be new to the area, the HSR Build Alternative would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, and it would not impede the use of native wildlife nursery sites. Permanent impacts on wildlife movement from project operations and routine maintenance activities would be less than significant under CEQA, and no mitigation is required.

Impact BIO #12: Operation Effects on Protected Trees

Once the HSR Build Alternative is built, operational effects on protected trees would be minimal due to the absence of such resources within and immediately adjacent to the railroad right-of-way. Potential temporary and permanent effects on protected trees that may result from project operations and routine maintenance activities are described in the subsections below.

Temporary

Temporary operations effects may result from maintenance or any other activities along the proposed HSR alignment that occur infrequently or on a temporary basis. Direct temporary operations effects on protected trees may result from pruning and thinning foliage for access, visibility, and aesthetics. Dust from vehicle and machinery disturbance and from equipment and foot traffic may affect individual protected trees growing adjacent to maintenance areas. Direct effects from maintenance activities could result from unintentional contamination, such as chemical leaks and spills, of water or soils used by protected trees. Litter and accidental refuse associated with the HSR Build Alternative could limit the soil surface area necessary for nutrient intake. If such contaminants are not removed, the effects may become permanent.

Compaction of soil from high foot and vehicle traffic at the maintenance access areas could inhibit oxygen and nutrient intake around a tree's root zone. These changes may also alter the level of necessary symbionts in the soil (e.g., mycorrhizae for oaks) or cause fungal infections, root rot, or lack of proper drainage. These factors could ultimately result in the death of the tree. However, given the developed and disturbed nature of the operational footprint of the HSR Build Alternative, no protected trees are expected to experience mortality from routine maintenance activities.

BIO-IAMF#4 and BIO-IAMF#5 would minimize or avoid temporary operations effects on protected trees. These IAMFs would involve training maintenance crews on applicable standards/regulations pertaining to protected trees, and they would specify applicable BMPs to avoid soil and water contamination and hydrological alterations that could affect protected trees adjacent to the maintenance areas.

CEQA Conclusion

Operation and maintenance activities associated with the HSR Build Alternative may result in limited temporary impacts on trees covered under local ordinances. Due to the limited number of protected trees anticipated to be affected by HSR operations and routine maintenance activities, as well as the implementation of BIO-IAMF#4 and BIO-IAMF#5, permanent impacts on protected trees would be less than significant under CEQA, and no mitigation is required.

Permanent

Permanent operation effects, which include frequent noise, light, vibration, and wind generated from moving trains, would occur on a daily basis from the operation of the HSR system. Additionally, constant operation effects associated with the proposed HSR stations could include high vehicle and foot traffic. Given the spatial separation between protected trees and the railroad right-of-way, as well as the developed and heavily disturbed setting, permanent operational effects are not expected to have any adverse impacts on protected trees.

CEQA Conclusion

As discussed above, operation and maintenance activities associated with the HSR Build Alternative would not have permanent adverse impacts on trees covered under local ordinances. Permanent operational impacts would be less than significant under CEQA, and no mitigation is required.

3.7.7 Mitigation Measures

The Authority has identified the mitigation measures described in this section for impacts under NEPA and significant impacts under CEQA that IAMFs cannot avoid or minimize adequately. Many of these mitigation measures apply throughout the biological resources program for the entire California HSR System and cover multiple species and habitats. In addition, several mitigation measures described in Section 3.3, Air Quality and Global Climate Change; Section 3.4, Noise and Vibration; Section 3.8, Hydrology and Water Resources; Section 3.10, Hazardous

Materials and Wastes; Section 3.15, Parks, Recreation, and Open Space; and Section 3.16, Aesthetics and Visual Resources, would be applied that would also avoid or minimize impacts and effects on biological resources.

BIO-MM#1: Conduct Presence/Absence Pre-Construction Surveys for Special-Status Plant Species and Special-Status Plant Communities

Prior to any ground-disturbing activity, the project biologist will conduct presence/absence botanical field surveys for special-status plant species and special-status plant sensitive natural communities in all potentially suitable habitats within a Work Area. The surveys shall be consistent with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018) and *Guidelines for Conducting and Report Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 2001). The project biologist will flag and record in GIS the locations of any observed special-status plant species and special-status plant sensitive natural communities.

Impacts from Implementing Mitigation Measure BIO-MM#1

Implementation of BIO-MM#1 would involve conducting focused surveys for special-status plant species and special-status plant communities within the project footprint. While some soil compaction and increased noise may result from the project biologist accessing certain areas, no lasting changes to the physical environment are anticipated and existing conditions would remain relatively unaltered. Therefore, the impacts of implementing BIO-MM#1 would be less than significant under CEQA.

BIO-MM#2: Prepare and Implement Plan for Salvage and Relocation of Special-Status Plant Species

Prior to any ground-disturbing activity, the project biologist will collect seeds and plant materials and stockpile and segregate the top 4 inches of topsoil from locations within the work area where species listed as threatened or endangered under the FESA, threatened, endangered, or candidate for listing under CESA, state-designated "Rare" species, and California Rare Plant Rank 1B and 2 species were observed during surveys for use on off-site locations. Suitable sites to receive salvaged material include Authority mitigation sites, refuges, reserves, federal or state lands, and public/private mitigation banks.

If relocation or propagation is required by authorizations issued under the FESA and/or CESA, the project biologist will prepare a plant species salvage plan to address monitoring, salvage, relocation, and/or seed banking of federal or state-listed plant species

The plan will include provisions that address the techniques, locations, and procedures required for the collection, storage, and relocation of seed or plant material, and collection, stockpiling, and redistribution of topsoil and associated seed. The plan will also include requirements related to outcomes such as percent absolute cover of highly invasive species, as defined by the California Invasive Plant Council (less than documented baseline conditions), maintenance, monitoring, implementation, and the annual reporting. The plan will reflect conditions required under regulatory authorizations issued for federal or state-listed species. The project biologist will submit the plan to the Authority for review and approval.

Impacts from Implementing Mitigation Measure BIO-MM#2

Implementation of BIO-MM#2 would involve the collection of seed and plant materials (where appropriate) of any special-status plant(s) found to be present within the impact limits of the project for use during appropriate compensatory planting or seeding activities. Any compensatory mitigation would be designed and implemented consistent with local land use plans and may be subject to separate site-specific analysis under CEQA and NEPA, including measures to mitigate impacts to a less than significant level under CEQA. For this reason, it is expected that impacts of BIO-MM#2 would be less than significant under CEQA.

BIO-MM#14: Conduct Pre-Construction Surveys and Delineate Active Nest Buffers Exclusion Areas for Breeding Birds

Prior to any ground-disturbing activity, including vegetation removal, scheduled to occur during the bird breeding season (February 1 to September 1), the project biologist will conduct visual pre-construction surveys within the work area for nesting birds and active nests (nests with eggs or young) of nonraptor species listed under the MBTA or the Fish and Game Code.

In the event that active bird nests are observed during the pre-construction survey, the project biologist will delineate no-work buffers. No-work buffers will be set at a distance of 75 feet, unless a larger buffer is required pursuant to regulatory authorizations issued under the FESA and/or CESA. No-work buffers will be maintained until nestlings have fledged and are no longer reliant on the nest or parental care for survival or the project biologist determines that the nest has been abandoned. In circumstances where it is not feasible to maintain the standard no-work buffer, the no-work buffer may be reduced, provided that the project biologist monitors the active nest during the construction activity to ensure that the nesting birds do not become agitated. Additional measures that may be used when no-work buffers are reduced include visual screens and sound barriers.

Impacts from Implementing Mitigation Measure BIO-MM#14

Implementation of BIO-MM#14 would involve conducting pre-construction surveys for nesting birds and establishing nest avoidance zones, as appropriate, in accordance with the MBTA and the California Fish and Game Code. While some soil compaction and increased noise may result from the project biologist accessing certain areas, no lasting changes to the physical environment are anticipated, and existing conditions would remain relatively unaltered. Therefore, the impacts of implementing BIO-MM#14 would be less than significant under CEQA.

BIO-MM#15: Conduct Pre-Construction Surveys and Monitoring for Raptors

If construction or other vegetation removal activities are scheduled to occur during the breeding season for raptors (January 1 to September 1), no more than 14 days before the start of the activities, the project biologist will conduct pre-construction surveys for nesting raptors in areas where suitable habitat is present. Specifically, such surveys will be conducted in habitat areas within the project footprint and, where access is available, within 500 feet of the boundary of the project footprint. If breeding raptors with active nests are found, the project biologist will delineate a 500-foot buffer (or as modified by regulatory authorizations for species listed under the FESA and/or CESA) around the nest to be maintained until the young have fledged from the nest and are no longer reliant on the nest or parental care for survival or until such time as the project biologist determines that the nest has been abandoned. Nest buffers may be adjusted if the project biologist determines that smaller buffers would be sufficient to avoid impacts on nesting raptors.

Impacts from Implementing Mitigation Measure BIO-MM#15

Implementation of BIO-MM#15 would involve conducting pre-construction surveys for nesting raptors and establishing active raptor nest avoidance zones, as appropriate, in accordance with the MBTA and the California Fish and Game Code. Monitoring construction activities and establishing nondisturbance zones within the project footprint are not anticipated to result in substantial changes to the physical environment, and existing conditions would remain relatively unaltered. Therefore, the impacts of implementing BIO-MM#15 would be less than significant under CEQA.

BIO-MM#25: Conduct Pre-Construction Surveys for Special-Status Bat Species

No earlier than 30 days prior to the start of ground-disturbing activities in a work area, the project biologist will conduct a visual and acoustic survey (over the course of 1 day and 1 evening at a minimum) for roosting bats in the work area and extending 500 feet from the boundary of the work area, where access is available. Such surveys will be conducted only in those areas in which bridges, abandoned structures, culverts, trees with large cavities, or dense foliage are present within a half mile of the boundary of the work area.

Impacts from Implementing Mitigation Measure BIO-MM#25

Implementation of BIO-MM#25 would involve conducting focused surveys for special-status bat species within 500 feet of the project footprint. While some soil compaction and increased light and noise may result from the project biologist accessing certain areas, no lasting changes to the physical environment are anticipated and existing conditions would remain relatively unaltered. Therefore, the impacts of implementing BIO-MM#6 would be less than significant under CEQA.

BIO-MM#26: Implement Bat Avoidance and Relocation Measures

Prior to any ground-disturbing activity, the project biologist shall survey for active hibernacula or maternity roosts. If active hibernacula or maternity roosts are identified in the work area or 500 feet extending from the work area during pre-construction surveys, they will be avoided to the extent feasible. If avoidance of a hibernacula is not feasible, the project biologist will prepare a relocation plan to remove the hibernacula and provide for construction of an alternative bat roost outside of the work area with CDFW guidance. Compensation would include the installation of nearby suitable alternative roosting structures if displacements are long-term or permanent. The alternative roosting structure, if required, would be constructed in accordance with CDFW guidance and would be designed to be comparable in size and quality to the impacted habitat.

The project biologist will implement the relocation plan before the commencement of any ground-disturbing activities that will occur within 500 feet of the hibernacula. Removal of roosts will be guided by accepted exclusion and deterrent techniques.

Impacts from Implementing Mitigation Measure BIO-MM#26

If avoidance of a hibernation roost is not feasible and the project requires funding and construction of additional bat roosting habitat, implementation of BIO-MM#26 may result in impacts on the physical environment (e.g., emissions and fugitive dust from construction equipment, construction-related noise, visual impacts associated with new structures, and impacts on biological and cultural resources that may be present on the site of new structures). Any new or expanded facilities would be designed and constructed to be consistent with local land use plans and may be subject to separate site-specific analysis under CEQA, including measures to mitigate impacts to a less than significant level. For this reason, it is expected that impacts of BIO-MM#26 would be less than significant under CEQA.

If complete avoidance of any hibernation roost is feasible, then implementation of BIO-MM#26 would have no impact under CEQA, as no changes in the physical environment would occur.

BIO-MM#27: Implement Bat Exclusion and Deterrence Measures

If nonbreeding or nonhibernating individuals or groups of bats are found roosting within the work area, the project biologist will facilitate the eviction of the bats by either opening the roosting area to change the lighting and airflow conditions or installing one-way doors or other appropriate methods.

To the extent feasible, the Authority will leave the roost undisturbed by project activities for a minimum of 1 week after implementing exclusion and/or eviction activities. Steps will not be taken to evict bats from active maternity or hibernacula; instead such features may be relocated pursuant to a relocation plan.

Impacts from Implementing Mitigation Measure BIO-MM#27

Implementation of BIO-MM#27 would prevent impacts on special-status bat species by excluding individual bats from suitable or previously occupied habitats/structures within the project footprint. The measure would also prevent exclusionary measures or evictions from occurring at maternity roosting sites. Because any exclusionary measures would be implemented as specified by the CDFW and would be associated with constructing the project infrastructure itself, implementing BIO-MM#27 would have a less than significant impact under CEQA.

BIO-MM#34: Monitor Construction Activities within Aquatic Resources

The project biologist will monitor construction activities that occur within or adjacent to aquatic resources, including activities associated with the installation of protective barriers (e.g., silt fencing, sandbags, fencing), installation and/or removal of creek material to accommodate crossings, construction of access roads, and removal of vegetation. As part of this effort, the project biologist will document compliance with applicable avoidance and minimization measures, including measures set forth in applicable regulatory authorizations issued under the California Fish and Game Code, CWA, and/or the Porter-Cologne Water Quality Control Act.

Impacts from Implementing Mitigation Measure BIO-MM#34

Implementation of BIO-MM#34 would involve monitoring all work in aquatic resources, which is not anticipated to result in changes to the physical environment. For this reason, implementation of BIO-MM#34 would have no impact under CEQA.

BIO-MM#35: Implement Transplantation and Compensatory Mitigation Measures for Protected Trees

Prior to ground-disturbing activities, the project biologist will conduct surveys in the work area to identify protected trees.

The project biologist will establish environmentally sensitive areas (ESA) around protected trees with the potential to be affected by construction activities, but that do not require removal. The ESAs will extend outward 5 feet from the drip lines of such protected trees.

The Authority will provide compensatory mitigation for impacts on protected trees, including impacts associated with removing or trimming a protected tree. Compensation will be based on requirements set out in applicable local government ordinances, policies, and regulations. Compensatory mitigation may include, but is not limited to, the following:

- Transplantation of protected trees to areas outside of the work area
- Replacement of protected trees at an offsite location, based on the number of protected trees affected, at a ratio not to exceed 3:1 for native trees or 1:1 for ornamental trees, unless higher ratios are required by local government ordinances or regulations
- Contribution to a tree-planting fund

Impacts from Implementing Mitigation Measure BIO-MM#35

Implementation of BIO-MM#35 provides consistency with local regulations and laws pertaining to protected trees. If there are any unavoidable impacts on protected trees and compensatory planting efforts are necessary, mitigation may result in impacts on the physical environment (e.g., temporary noise, visual impacts associated with new trees, and impacts on biological and cultural resources that may be present on the planting site). Any compensatory tree planting would be designed and implemented consistent with local land use plans and may be subject to separate site-specific analysis under CEQA, including measures to mitigate impacts to a less than significant level. For this reason, impacts of BIO-MM#35 would be less than significant under CEQA.

BIO-MM#37: Minimize Effects to Wildlife Movement Corridors during Construction

To the extent feasible, the Authority will avoid placing fencing, either temporarily or permanently, within known wildlife movement corridors in those portions of the alignment where the tracks are elevated (e.g., viaducts, bridges). The Authority will avoid conducting ground-disturbing activities in wildlife movement corridors during nighttime hours, to the extent feasible, and will shield nighttime lighting to avoid illuminating wildlife movement corridors in circumstances where avoidance of such activities is not feasible.

Impacts from Implementing Mitigation Measure BIO-MM#37

Implementation of BIO-MM#37 would avoid direct and indirect adverse impacts on known wildlife movement corridors during construction activities, including the minimization of nighttime lighting

impacts within such areas. The measure would not result in changes to the physical environment. For this reason, there would be no impacts associated with BIO-MM#37 under CEQA.

BIO-MM#47: Prepare and Implement a Compensatory Mitigation Plan (CMP) for Impacts to Aquatic Resources

The Authority will prepare and implement a Compensatory Mitigation Plan (CMP) that identifies mitigation to address temporary and permanent loss, including functions and values, of aquatic resources as defined as waters of the U.S. under the federal Clean Water Act (CWA) and/or waters of the State under the Porter-Cologne Act. Compensatory mitigation may involve the restoration, establishment, enhancement, and/or preservation of aquatic resources through one or more of the following methods:

- Purchase of credits from an agency-approved mitigation bank.
- Preservation of aquatic resources through acquisition of property.
- Establishment, restoration, or enhancement of aquatic resources.
- In lieu fee contribution determined through consultation with the applicable regulatory agencies.

The following ratios will be used for compensatory mitigation unless a higher ratio is required pursuant to regulatory authorizations issued under Section 404 of the CWA and/or the Porter-Cologne Act:

- Vernal pools: 2:1.
- Seasonal wetlands: between 1.1:1 and 1.5:1 based on impact type, function and values lost.
- 1:1 offsite for permanent impacts.
- 1:1 onsite and 0.1:1 to 0.5:1 offsite for temporary impacts.

For mitigation involving establishment, restoration, enhancement, or preservation of aquatic resources by the Authority, the CMP will contain the following information:

- Objectives. A description of the resource types and amounts that will be provided, the type of compensation (i.e., restoration, establishment, enhancement, and/or preservation), and the manner in which the resource functions of the compensatory mitigation project will address the needs of the watershed or ecoregion.
- Site selection. A description of the factors considered during the term sustainability of the resource.
- Adaptive management plan. A management strategy to address changes in site conditions or other components of the compensatory mitigation project.
- Financial assurances. A description of financial assurances that will be provided to ensure that the compensatory mitigation will be successful.

In circumstances where the Authority intends to fulfill compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs, the CMP need only include the name of the specific mitigation bank or in-lieu fee program to be used and the method for calculating credits.

Impacts from Implementing Mitigation Measure BIO-MM#47

Implementation of BIO-MM#47 would involve actions required by the involved resource agencies to compensate for impacts to jurisdictional aquatic resources. Such mitigation may result in impacts on the physical environment (e.g., temporary noise, visual impacts associated with native plantings, and impacts on biological and cultural resources that may be present on the compensatory mitigation site or sites). Any compensatory restoration would be designed and implemented consistent with local land use plans and may be subject to separate site-specific analysis under CEQA, including measures to mitigate impacts to a less than significant level. For this reason, impacts of BIO-MM#47 would be less than significant under CEQA.

BIO-MM#55: Prepare and Implement a Weed Control Plan

Prior to any ground-disturbing activity during the construction phase, the project biologist will develop a weed control plan (WCP), subject to review and approval by the Authority. The purpose of the WCP is to establish approaches to minimize and avoid the spread of invasive weeds during ground-disturbing activities during construction and operations and maintenance.

The WCP will include, at a minimum, the following:

- A requirement to delineate ESAs in the field prior to weed control activities.
- A schedule for weed surveys to be conducted in coordination with the Biological Resources Management Plan.
- Success criteria for invasive weed control. The success criteria would be linked to the Biological Resources Management Plan standards for on-site work during ground-disturbing activities. In particular, the criteria would establish limits on the introduction and spread of invasive species, as defined by the California Invasive Plant Council, to less than or equal to the pre-disturbance conditions in the area temporarily affected by ground-disturbing activities. If invasive species cover is found to exceed pre-disturbance conditions by greater than 10 percent or is 10 percent greater than levels at a similar, nearby reference site, a control effort will be implemented. If the target, or other success criteria identified in the WCP, has not been met by the end of the WCP monitoring and implementation period, the Authority will continue the monitoring and control efforts, and remedial actions will be identified and implemented until the success criteria are met.
- Identification of weed control treatments, including permitted herbicides and manual and mechanical removal methods.
- Timeframes for weed control treatment for each plant species.
- Identification of fire prevention measures.

Impacts from Implementing Mitigation Measure BIO-MM#55

Implementation of BIO-MM#55 includes the preparation of a plan that contains applicable specifications and procedures to minimize and avoid the spread of invasive weeds during ground-disturbing activities during construction and operations and maintenance. The mitigation measure would not result in changes in the physical environment; no impact would occur under CEQA.

BIO-MM#56: Conduct Monitoring of Construction Activities

During any initial ground disturbing activity, the Project Biologist will be present in the Work Area to verify compliance with avoidance and minimization measures.

Impacts from Implementing Mitigation Measure BIO-MM#56

Implementation of BIO-MM#56 would involve the monitoring of all initial ground-disturbance activities by a qualified biologist. The measure would not result in changes to the physical environment and there would be no impacts under CEQA.

BIO-MM#61: Establish and Implement a Compliance Reporting Program

The project biologist will prepare monthly and annual reports documenting compliance with all IAMFs, mitigation measures, and requirements set forth in regulatory agency authorizations. The Authority will review and approve all compliance reports prior to submittal to the regulatory agencies. Reports will be prepared in compliance with the content requirements outlined in the regulatory agency authorizations.

Pre-activity survey reports will be submitted within 15 days of completing the surveys and will include:

- Location(s) of where pre-activity surveys were completed, including latitude and longitude, Assessor Parcel Number, and HSR parcel number.

- Written description of the surveyed area. A figure of each surveyed location will be provided that depicts the surveyed area and survey buffers over an aerial image.
- Date, time, and weather conditions observed at each location.
- Personnel who conducted the pre-activity surveys.
- Verification of the accuracy of the Authority's habitat mapping at each location, provided in writing and on a figure.
- Observations made during the survey, including the type and locations (written and GIS) of any sensitive resources detected.
- Identification of relevant measures from the Biological Resources Management Plan to be implemented as a result of the survey observations.

Daily compliance reports will be submitted to the Authority via Environmental Mitigation Management and Assessment (EMMA) within 24 hours of each monitoring day. Noncompliance events will be reported to the Authority the day of the occurrence. Daily compliance reports will include:

- Date, time, and weather conditions observed at each location where monitoring occurred.
- Personnel who conducted compliance monitoring.
- Project activities monitored, including construction equipment in use.
- Compliance conditions implemented successfully.
- Noncompliance events observed.

Daily compliance reports will also be included in the monthly compliance reports, which will be submitted to the Authority by the 10th of each month and will include:

- Summary of construction activities and locations during the reporting month, including any noncompliance events and their resolution, work stoppages, and take of threatened or endangered species.
- Summary of anticipated project activities and work areas for the upcoming month.
- Tracking of impacts on suitable habitats for each threatened and endangered species identified in USFWS and CDFW authorizations, including:
 - An accounting of the number of acres of habitats for which the Authority provides compensatory mitigation that has been disturbed during the reporting month, and
 - An accounting of the cumulative total number of acres of threatened and endangered species habitat that has been disturbed during the project period.
- Up-to-date GIS layers, associated metadata, and photo documentation used to track acreages disturbed.
- Copies of all pre-activity survey reports, daily compliance reports, and noncompliance/work stoppage reports for the reporting month.

Annual reports will be submitted to the Authority by January 20 and will include:

- Summary of all monthly compliance reports for the reporting year.
- A general description of the status of the project, including projected completion dates.
- All available information about project-related incidental take of threatened and endangered species.
- Information about other project impacts on the threatened and endangered species.
- A summary of findings from pre-construction surveys (e.g., number of times a threatened or endangered species or a den, burrow, or nest was encountered, location, if avoidance was achieved, if not, what other measures were implemented).

- Written description of disturbances to threatened and endangered species habitat within work areas, both for the preceding 12 months and in total since issuance of regulatory authorizations by USFWS and CDFW, and updated maps of all land disturbances and updated maps of identified habitat features suitable for threatened and endangered species within the project area.

In addition to the compliance reporting requirements outlined above, the following items will be provided for compliance documentation purposes:

- If agency personnel visit the project footprint in accordance with BIO-IAMF#2, the project biologist will prepare a memorandum within 1 day of the visit that memorializes the issues raised during the field meeting. This memorandum will be submitted to the Authority via EMMA. Any issues regarding regulatory compliance raised by agency personnel will be reported to the Authority and the contractor.
- Compliance reporting will be submitted to the Authority via EMMA in accordance with the report schedule. The project biologist will prepare and submit compliance reports that document the following:
 - Compliance with BIO-IAMF#6: Monofilament Restrictions
 - Compliance with BIO-IAMF#7: Prevent Entrapment in Construction Materials and Excavations
 - Compliance with BIO-IAMF#8: Delineate Equipment Staging Areas and Traffic Routes
 - Compliance with BIO-IAMF#10: Clean Construction Equipment
 - Compliance with BIO-IAMF#12: Design the Project to be Bird Safe
 - Compliance with BIO-IAMF#9: Dispose of Construction Spoils and Waste
 - BMP field manual implementation and any recommended changes to construction site housekeeping practices outlined in BIO-IAMF#11: Maintain Construction Sites
- Work stoppages and measures taken under BIO-MM#63: Work Stoppage (see below) will be documented in a memorandum prepared by the project biologist and submitted to the Authority within two business days of the work stoppage.

Impacts from Implementing Mitigation Measure BIO-MM#61

Implementation of BIO-MM#61 would involve preparing monthly and annual reports documenting compliance with all IAMFs, mitigation measures, and requirements set forth in regulatory agency authorizations. The mitigation measure would not result in changes in the physical environment, and there would be no impact under CEQA.

BIO-MM#62: Prepare Plan for Dewatering and Water Diversions

Prior to initiating any construction activity that occurs within open or flowing water, the Authority will prepare a dewatering plan, which will be subject to the review and approval by the applicable regulatory agencies. The plan will incorporate measures to minimize turbidity and siltation. The project biologist will monitor the dewatering and/or water diversion sites, including collection of water quality data, as applicable. Prior to the dewatering or diverting of water from a site, the project biologist will conduct pre-activity surveys to determine the presence or absence of special-status species within the affected waterbody. In the event that special-status species are detected during pre-activity surveys, the project biologist will relocate the species (unless the species is fully protected under state law), consistent with any regulatory authorizations applicable to the species.

Impacts from Implementing Mitigation Measure BIO-MM#62

Implementation of BIO-MM#62 would involve preparing a resource-agency-approved plan for minimizing project-related impacts during any necessary dewatering or water diversion activities. The physical environmental effects of such dewatering or water diversion activities would be associated with building the project infrastructure itself; therefore, preparing and implementing

this plan would not result in additional changes to the physical environment. For this reason, there would be no impacts associated with BIO-MM#62 under CEQA.

BIO-MM#63: Work Stoppage

In the event that any special-status wildlife species is found in a work area, the project biologist will have the authority to halt work to prevent the death or injury to the species. Any such work stoppage will be limited to the area necessary to protect the species and work may be resumed once the project biologist determines that the individuals of the species have moved out of harm's way or the project biologist has relocated them out of the work area.

If any fully protected or FESA/CESA-listed species are observed within the work area at any time, work will not occur in the occupied area until appropriate measures to avoid or reduce take of any listed wildlife species are established through consultation with the USFWS and/or CDFW.

Any such work stoppages and the measures taken to facilitate the removal of the species, if any, will be documented in a memorandum prepared by the project biologist and submitted to the Authority within 2 business days of the work stoppage.

Impacts from Implementing Mitigation Measure BIO-MM#63

Implementation of BIO-MM#63 would involve temporarily halting work activities to prevent harm to any special-status wildlife species present within the project footprint, as well as ensuring that any FESA/CESA-listed species are not adversely affected by the project without proper consultation with the USFWS or CDFW, where applicable. The measure would not result in changes in the physical environment, and no impact would occur under CEQA.

BIO-MM#79: Conduct Pre-Construction Protocol-Level Surveys and Construction Monitoring for Least Bell's Vireo

Protocol surveys will be conducted for least Bell's vireo during the breeding season at least 2 years prior to the commencement of HSR project activities within a 500-foot buffer of the HSR footprint at the following locations: (1) the Verdugo Wash Bridge Replacement area, (2) the Metrolink Central Maintenance Facility, and (3) rail alignment work between I-5 and SR 2 (including areas adjacent to Rio de Los Angeles State Park). Protocol surveys will be repeated within 1 year prior to the commencement of vegetation clearing and construction activities in these locations to ensure that survey information for the HSR project remains up to date. The protocol surveys will be conducted by a qualified designated biologist(s) in accordance with the most recent USFWS guidelines. All survey results will be submitted to the USFWS Carlsbad Fish and Wildlife Office.

Weekly surveys and monitoring of suitable least Bell's vireo habitat within 500 feet of the HSR footprint will be conducted by the designated biologist(s) if construction activities are occurring in these areas during the vireo breeding season (March 15 to September 15).

Impacts from Implementing Mitigation Measure BIO-MM#79

Implementation of BIO-MM#79 would involve conducting pre-construction focused surveys within portions of the Wildlife RSA and monitoring construction work for the presence of least Bell's vireo within 500 feet of direct disturbance areas in proximity to suitable riparian habitat. Conducting pre-construction surveys and monitoring construction activities are not anticipated to result in substantial changes to the physical environment, and existing conditions would remain relatively unaltered. Therefore, the impacts of implementing BIO-MM#79 would be less than significant under CEQA.

BIO-MM#80: Implement Impact Avoidance and Minimization Measures for Occupied Least Bell's Vireo Habitat

The following measures will be implemented to avoid and minimize HSR project impacts on suitable least Bell's vireo habitat occurring within a 500-foot buffer of the HSR footprint at (1) the Verdugo Wash Bridge Replacement area, (2) the Metrolink Central Maintenance Facility, and

(3) rail alignment work between I-5 and SR 2 (including areas adjacent to Rio de Los Angeles State Park):

- HSR construction activities will be limited to daylight hours during the vireo breeding season.
- For any work proposed within 500 feet of vireo occupied habitat during the vireo breeding season, the occupied habitat shall be clearly delineated and no work shall occur within occupied habitat without the USFWS' written approval. In addition, onsite noise-reduction/attenuation techniques shall be incorporated, as appropriate, to avoid impacts on least Bell's vireo from elevated construction noise levels during the breeding season. Noise monitoring will be implemented by the designated biologist(s) during the breeding season to ensure that elevated construction noise levels are appropriately attenuated at the edge of vireo-occupied habitat to a level that is not expected to adversely affect nesting bird behavior (i.e., not to exceed an hourly average of 3 dBA above existing ambient levels at the edge of vireo occupied habitat). If specific HSR project construction noise levels would exceed this threshold within 500 feet of occupied least Bell's vireo habitat during the vireo breeding season, the USFWS Carlsbad Fish and Wildlife Office will be contacted for guidance on additional noise-reduction measures and written approval, which must be received before such activities are performed.

Impacts from Implementing Mitigation Measure BIO-MM#80

Implementation of BIO-MM#80 would involve the delineation of any occupied least Bell's vireo habitat in proximity to construction areas, implementing noise-reduction/attenuation techniques, and monitoring construction noise levels. Such activities would not result in any substantial changes to the physical environment. Because any further noise-reduction measures would be implemented based on USFWS guidance and would be associated with constructing the project infrastructure itself, implementation of BIO-MM#80 would have a less than significant impact under CEQA.

3.7.7.1 Early Action Projects

As described in Chapter 2, Section 2.5.2.9, early action projects would be completed in collaboration with local and regional agencies. They include grade separations and improvements at regional passenger rail stations. These early action projects are analyzed in further detail to allow the agencies to adopt the findings and mitigation measures needed to construct the projects. Construction activities associated with the early action projects would take place within entirely developed areas, and although not anticipated, there is the potential for significant impacts on special-status plant species, special-status natural communities, or wildlife movement. Table 3.7-12 lists the mitigation measures for biological and aquatic resources that would be required for the early action projects to mitigate for potentially significant impacts on jurisdictional aquatic resources, special-status bat species, nesting birds, and protected trees.

Table 3.7-12 Mitigation Measures Required for Early Action Projects

Early Action Project	Impacts	Mitigation Measure
1. Downtown Burbank Metrolink Station Modifications	Impact BIO #2: Construction Effects on Special-Status Wildlife Species (Nesting Birds and Special-Status Bat Species)	BIO-MM#14 BIO-MM#15 BIO-MM#25 BIO-MM#26 BIO-MM#27
	Impact BIO #6: Construction Effects on Protected Trees	BIO-MM#35
2. Sonora Avenue Grade Separation 3. Grandview Avenue Grade Separation 4. Flower Street Grade Separation 5. Goodwin Avenue/Chevy Chase Drive Grade Separation	Impact BIO #2: Construction Effects on Special-Status Wildlife Species (nesting birds)	BIO-MM#14 BIO-MM#15
	Impact BIO #6: Construction Effects on Protected Trees	BIO-MM#35
6. Main Street Grade Separation	Impact BIO #2: Construction Effects on Special-Status Wildlife Species (nesting birds and special-status bat species)	BIO-MM#14 BIO-MM#15 BIO-MM#25 BIO-MM#26 BIO-MM#27
	Impact BIO #4: Construction Effects on Wetlands and Other Aquatic Resources	BIO-MM#56 BIO-MM#61 BIO-MM#62
	Impact BIO #5: Construction Effects on Wildlife Movement	BIO-MM#37
	Impact BIO #6: Construction Effects on Protected Trees	BIO-MM#35

3.7.8 NEPA Impact Summary

This section summarizes the impacts identified in Section 3.7.6, Environmental Consequences. Under NEPA, project effects are evaluated based on the criteria of context, intensity, and duration (short- or long-term). Effects are assessed after implementation of the project IAMFs and mitigation measures described above in Sections 3.7.4.4 and 3.7.7, respectively.

3.7.8.1 No Project Alternative

Under the No Project Alternative, recent trends within the Burbank to Los Angeles Project Section affecting biological and aquatic resources within the biological RSAs are expected to continue, including mortality from train and other vehicle strikes; habitat degradation from pollution (e.g., polluted runoff from stormwater and inadvertent spills of hazardous materials); noise, light, and dust from existing roads and highways; and alterations of habitat suitability and hydrology resulting from additional development and climate change. Existing regulatory programs such as the CWA and conservation programs (e.g., establishment of conservation easements and mitigation banks) would continue to abate the amount of habitat loss and degradation from urban development, if feasible. Effects that are expected to continue to occur include those related to programmed and funded improvements to the intercity transportation system through 2040 (refer to Section 3.2, Transportation). In some cases, widening existing corridors or new improvements could result in additional impacts on biological and aquatic resources. Each of these improvement projects would be subject to environmental impact analysis and evaluation of the impacts of habitat loss, habitat degradation, and “take” of special-status species. Impacts on biological resources and jurisdictional waters would be mitigated as part of those projects, including

avoidance of “take” during construction, minimization of impacts during construction and operation, restoration of disturbed sites, and preservation of compensatory habitat.

3.7.8.2 High-Speed Rail Build Alternative

With implementation of the IAMFs and mitigation measures described herein, the HSR Build Alternative has been designed to minimize effects on biological and aquatic resources to the maximum extent feasible. Given the context of the urbanized environment associated with the existing railroad corridor, all effects on biological and aquatic resources (as described in Section 3.7.6.3, High-Speed Rail Build Alternative, and summarized below) would be minimal in intensity. The HSR stations for the Burbank to Los Angeles Project Section would be in the vicinity of Hollywood Burbank Airport and at Los Angeles Union Station. Negligible effects on biological and aquatic resources are anticipated at the station sites due to the developed nature of the sites, as well as ongoing disturbances that occur at each site (e.g., traffic, planes, trains, maintenance activities).

The following list summarizes effects on biological and aquatic resources that would result from the HSR Build Alternative:

Construction Impacts

- Although no special-status plant species have been documented as occurring within the Botanical RSA, project construction would result in direct and indirect effects on suitable habitat for southern tarplant, a nonlisted special-status plant species that has a low to moderate probability of occurring within the Botanical RSA. No listed plant species are expected to occur within the Botanical RSA or to be adversely affected by the HSR Build Alternative.
- Project construction would result in direct and indirect effects on suitable roosting habitat for common and special-status (nonlisted) bat species (e.g., bridge and culvert hinges and crevices) and could result in temporary indirect impacts (e.g., noise, lighting, dust, and vibration) to suitable habitat for special-status species that have potential to occur along the Los Angeles River. While the federally and state-listed least Bell’s vireo has been documented as occurring within riparian habitats in the Wildlife RSA, no direct effects on this species or associated suitable breeding habitat would occur under the HSR Build Alternative. Due to the potential for indirect effects on this species, such as increased noise, vibration, and lighting during construction, the Authority entered into consultation with USFWS in accordance with Section 7 of FESA. A Draft Biological Assessment requesting concurrence with a *May Affect, Not Likely to Adversely Affect* determination for least Bell’s vireo was submitted to USFWS by the Authority in March 2020. Following USFWS comments on the Draft Biological Assessment and the focused least Bell’s vireo survey that took place on June 19, 2020, a Final Biological Assessment was submitted to USFWS in November 2020. The USFWS provided concurrence with a *May Affect, Not Likely to Adversely Affect* determination for least Bell’s vireo on April 12, 2021. The project would not have direct or indirect impacts on any other listed special-status species. The HSR Build Alternative would affect no designated critical habitat or lands identified within an adopted HCP or recovery plan. No species proposed for listing or proposed critical habitat would be adversely affected by the HSR Build Alternative.
- Approximately 98 percent of the land within the HSR Build Alternative footprint consists of urban development and hardscape. Other areas that would be directly affected during construction include ornamental vegetation, nonnative grassland, and ruderal areas.
- While there would be no direct impacts on special-status natural communities under the proposed HSR Build Alternative, there is potential for indirect impacts (e.g., dust and the spread or introduction of nonnative plant species) on wetland habitats associated with Verdugo Wash and the Glendale Narrows area within the Los Angeles River. Existing wetland habitats in the Aquatic RSA are currently affected by trash and other disturbances stemming from unauthorized access and pollution (homeless encampments, urban runoff, etc.). Nonnative species components currently constitute up to 50 percent of the vegetative cover within these areas.

- Project construction would result in direct and indirect impacts on nonwetland, concrete-lined aquatic resources (e.g., storm channels) under the jurisdiction of the USACE, SWRCB, and CDFW. No direct impacts on wetlands would occur under the HSR Build Alternative.
- Project construction may temporarily and locally affect the movement of wildlife habituated to the urban setting of the RSAs. However, no permanent barriers would be placed within any designated wildlife movement corridors.
- Project construction would result in direct and indirect impacts on trees protected under local ordinances. However, the HSR Build Alternative would not result in the removal of any large groves of trees or trees protected as part of any special-status natural community, and locally specified procedures related to the trimming or removal of such trees would be implemented under the HSR Build Alternative.

Operations Impacts

There is limited potential for impacts on biological and aquatic resources after construction of the HSR Build Alternative due to the urbanized setting of the proposed HSR alignment and high level of existing disturbance related to human activity. A summary of the operations-related impacts on biological and aquatic resources that would result from the HSR Build Alternative is provided below:

- Potentially suitable habitat for southern tarplant may be subjected to disturbance and the spread or introduction of nonnative plant species during project maintenance activities.
- Special-status wildlife species, particularly protected bat and avian species, may be subjected to direct and indirect operational and maintenance impacts (e.g., vegetation trimming/removal, structural maintenance work within or near bat roosting habitat, increased dust, wind, noise, lighting, and vibration). There is also potential for an increase in mortality from vehicle strikes. However, most wildlife currently occupying habitats adjacent to the existing railroad corridor are likely habituated to frequent wind, noise, vibration, and other indirect effects associated with the urban setting of the Wildlife RSA and existing rail system operations.
- While not located close to the proposed HSR infrastructure, special-status natural communities present in the Wildlife RSA may be subjected to operational and maintenance impacts (e.g., increased dust, wind, noise, lighting, vibration, and the spread or introduction of nonnative plant species).
- Wetlands and other aquatic resources within the Aquatic RSA may be subjected to indirect operational and maintenance impacts, including increased dust and the spread or introduction of nonnative plant species. However, the HSR Build Alternative would not be likely to alter existing conditions affecting wetlands and other aquatic resources within the RSAs.
- While maintenance activities may temporarily and locally affect the movement of wildlife, no permanent barriers would be placed within any designated wildlife movement corridors. Wildlife within the RSAs are habituated to a highly urbanized setting, and the operation of the HSR Build Alternative would not alter wildlife movement patterns.
- While project maintenance activities and operation have the potential to affect trees covered under local ordinances through direct trimming and indirect disturbances, operation of the HSR Build Alternative would not affect protected trees within the RSAs.

3.7.9 CEQA Significance Conclusions

Table 3.7-13 provides a summary of the CEQA impacts from the HSR Build Alternative, the associated mitigation measures, and the level of significance after mitigation is applied.

Table 3.7-13 Summary of CEQA Significance Conclusions and Mitigation Measures for Biological and Aquatic Resources

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Construction			
Impact BIO #1: Construction Effects on Special-Status Plant Species	Significant	BIO-MM#1 BIO-MM#2 BIO-MM#55	Less than Significant
Impact BIO #2: Construction Effects on Special-Status Wildlife Species	Significant	BIO-MM#56 BIO-MM#61 BIO-MM#63 BIO-MM#14 BIO-MM#15 BIO-MM#25 BIO-MM#26 BIO-MM#27 BIO-MM#79 BIO-MM#80	Less than Significant
Impact BIO #3 Construction Effects on Special-Status Natural Communities	Significant	BIO-MM#55	Less than Significant
Impact BIO #4: Construction Effects on Wetlands and Other Aquatic Resources	Significant	BIO-MM#34 BIO-MM#47 BIO-MM#61 BIO-MM#62	Less than Significant
Impact BIO #5: Construction Effects on Wildlife Movement	Significant	BIO-MM#37	Less than Significant
Impact BIO #6: Construction Effects on Protected Trees	Significant	BIO-MM#35	Less than Significant
Operations¹			
Impact BIO #7: Operations Effects on Special-Status Plant Species	Significant	BIO-MM#55	Less than Significant
Impact BIO #8: Operations Effects on Special-Status Wildlife (nesting birds and roosting bats)	Significant	BIO-MM#14 BIO-MM#15 BIO-MM#25 BIO-MM#26 BIO-MM#27 BIO-MM#80	Less than Significant
Impact BIO #9: Operations Effects on Special-Status Natural Communities	Significant	BIO-MM#55	Less than Significant
Impact BIO #10: Operations Effects on Wetlands and Other Aquatic Resources	Significant	BIO-MM#34 BIO-MM#62	Less than Significant
Impact BIO #11: Operations Effects on Wildlife Movement	Less than Significant	No mitigation measures are required	Not Applicable
Impact BIO #12: Operations Effects on Protected Trees	Less than Significant	No mitigation measures are required	Not Applicable

¹ The operational phase of the HSR Build Alternative includes routine inspections and maintenance of the HSR infrastructure. In cases where maintenance activities require vegetation trimming/removal or ground disturbance with heavy equipment, there is potential for significant impacts on habitat suitable for special-status plant species, nesting birds and raptors, and roosting bats, as well as wetland and riparian habitat areas. As such, the mitigation measures included in this table for the operational period only apply during maintenance activities that require vegetation trimming/removal or ground disturbance with heavy equipment, and work on or adjacent to bridges and culverts.

CEQA = California Environmental Quality Act

HSR = high-speed rail