



State of California – Natural Resources Agency
 DEPARTMENT OF FISH AND WILDLIFE
 South Coast Region
 3883 Ruffin Road
 San Diego, CA 92123
 (858) 467-4201
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



Governor's Office of Planning & Research

Oct 18 2022

STATE CLEARINGHOUSE

Via Electronic Mail Only

October 17, 2022

Ariana Villanueva
 Los Angeles County Public Works, Stormwater Quality Division
 PO Box 1460
 Alhambra, CA 91802
SWQD_CEQA@pw.lacounty.gov

Subject: San Gabriel Valley Greenway Network Strategic Implementation Plan, Notice of Preparation of a Draft Programmatic Environmental Impact Report, SCH #2022090340, Los Angeles County

Dear Ms. Villanueva:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced Notice of Preparation (NOP) of a Draft Programmatic Environmental Impact Report (DPEIR) from Los Angeles County Public Works (LACPW; Lead Agency) for the San Gabriel Valley Greenway Network Strategic Implementation Plan (Project). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & Game Code, §§ 711.7, subdivision (a) & 1802; Public Resources Code, § 21070; Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of California Environmental Quality Act (CEQA), CDFW is directed to provide biological expertise to lead agencies as part of environmental review, focusing on project activities that have the potential to adversely affect state fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Public Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration (LSA) regulatory authority (Fish & Game Code, § 1600 *et seq.*) and the California Endangered Species Act (CESA; Fish & Game Code, § 2050 *et seq.*). To the extent implementation of the Project as proposed may result in "take", as defined by State law, or CESA-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & Game Code,

Conserving California's Wildlife Since 1870

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 2 of 17

§ 1900 *et seq.*), CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code.

Project Description and Summary

Objective: The County of Los Angeles (County), through the Department of Public Works (LACPW), is proposing the Project, which would provide program-level direction for development along the San Gabriel River, the Rio Hondo, and adjacent tributaries within the San Gabriel Valley, eastern Los Angeles County. The Project study area includes Los Angeles County Flood Control District (LACFCD) rights-of-way (ROWs) and adjacent parcels along 15 streams. The Project proposes multiple “greenway” components intended to provide an active transportation corridor for bicyclists, pedestrians, and equestrians; beautify the LACFCD ROWs; and enhance stormwater management and natural habitats within the San Gabriel Valley.

The main Project component is a network of shared paths. The greenway path network may include shared pedestrian and bike paths, or shared paths with separated equestrian trails, in segments up to 5 miles long and 24 feet wide. Other Project proponents may include (1) amenities, (2) pocket parks and greenspaces, (3) safe crossings, and (4) stormwater management infrastructure. Greenway amenities may include fencing, railings, guard rails, barriers, gates, privacy screens, lighting, seating, shade structures, equestrian amenities, bike parking, signage, trash receptacles, public art, community gardens, emergency call boxes, restrooms, water stations, kiosks, and community message boards. Pocket parks and greenspaces may include the expansion of existing parks or the creation of new parks between 1 and 25 acres in area. Safe crossings may include crosswalks, bridges, signals, signage over existing roads, intersections, flood control channels, and railroad tracks up to 400 feet long and 8 feet wide. Stormwater management infrastructure may include permeable pavement, green streets, bioretention facilities, green infrastructure/low-impact development, and infiltration facilities. The Project provides program-level analysis and does not include project-specific or site-specific analyses.

Location: The Project addresses approximately a 130-mile-long area within the San Gabriel Valley along the San Gabriel River, the Rio Hondo, and adjacent tributaries. The Project provides program-level regional planning and does not include any site-specific locations for individual actions or component projects.

Comments and Recommendations

CDFW offers the comments and recommendations below to assist the LACPW in adequately identifying, avoiding, and/or mitigating the Project’s significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. The DPEIR should provide adequate and complete disclosure of the Project’s potential impacts on biological resources [Pub. Resources Code, § 21061; CEQA Guidelines, §§ 15003(i), 15151]. CDFW looks forward to commenting on the DPEIR when it is available.

Specific Comments

- 1) Streams and Associated Natural Communities. According to the U.S. Fish and Wildlife Service’s (USFWS) [National Wetlands Mapper](#), multiple streams are located within the Project site (USFWS 2022). Implementation of the Project may impact streams and associated natural communities as a result of grading and development. Streams could be

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 3 of 17

channelized or diverted underground. Streams could become impaired because of streambank erosion resulting from Project implementation. Natural communities adjacent to streams could be removed or degraded through habitat modification (e.g., loss of water source, encroachment by the Project, edge effects leading to introduction of non-native plants).

- a) Stream Delineation and Impact Assessment. The DPEIR should provide a stream delineation, which should also identify culverts, ditches, and storm channels that may transport water, sediment, pollutants, and discharge into any rivers, streams, and lakes¹. The delineation should be conducted pursuant to the USFWS wetland definition adopted by CDFW (Cowardin *et al.* 1979). Be advised that some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' Section 404 permit and Regional Water Quality Control Board Section 401 Certification. In addition, the DPEIR should disclose the total impacts (linear feet and/or acreage) including impacts resulting from fuel modification on any river, stream, or lake and associated natural communities.
 - b) Avoidance and Setbacks. CDFW recommends the Project avoid impacts on streams and associated natural communities by avoiding or minimizing Project-related development adjacent to streams. Herbaceous vegetation adjacent to streams protects the physical and ecological integrity of these water features and maintains natural sedimentation processes. The Project should be designed with effective setbacks from streams and associated natural communities. The chosen setback distance should be disclosed in the DPEIR.
 - c) Mitigation. If avoidance is not feasible, the DPEIR should include measures to fully compensate for impacts on streams and loss of associated natural communities. Higher mitigation should be provided to compensate for impacts on streams supporting rare, sensitive, or special status fish, wildlife, and natural communities. In addition, the DPEIR should be conditioned to require submittal of a Lake and Streambed Alteration (LSA) Notification to CDFW pursuant to Fish and Game Code Section 1600 *et seq.* As a Responsible Agency under CEQA, CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow, or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream or use material from a streambed. For any such activities, the project applicant (or "entity") must notify CDFW². Please visit CDFW's [Lake and Streambed Alteration Program](#) webpage for more information (CDFW 2022a).
- 2) Water Diversion and Impacts on Beneficial Uses. The Project proposes to enhance stormwater management through the diversion of flows into newly constructed or existing

¹ "Any river, stream, or lake" includes those that are dry for periods of time (ephemeral/episodic) as well as those that flow year-round (perennial). This includes ephemeral streams and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a water body.

² CDFW's issuance of a LSA Agreement for a project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the environmental document of the local jurisdiction (lead agency) for the project. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the environmental document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSA Agreement.

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 4 of 17

stormwater and flood control infrastructure. Diversion structures may create artificial barriers to fish passage, obstruct water flow, and change the bed and channel of a stream (confinement). Water diversion may adversely affect the existing stream pattern, potentially resulting in substantial erosion or siltation within the Project area and further downstream. Diverting storm flows as well as dry season baseflows into stormwater catchment basins, spreading grounds, or infiltration galleries could potentially reduce the extent and availability of water to wildlife and natural communities. Changes to the hydrologic regime within the Project area and downstream could affect the abiotic and biotic conditions that support fish, wildlife, and the vegetated habitats on which they depend. Significant impacts to biological resources could occur due to water diversions, especially during a dry season proceeding after a below-average water year.

The DPEIR should examine potential hydrological effects on downstream biological resources as a result of proposed water diversions, particularly during dry seasons and during drought and below-average water years. Additionally, the DPEIR should analyze whether the Project would result in significant impacts when considered cumulatively with other existing or proposed water diversion projects within the watershed. Lastly, the Project should include design standards and guidelines that avoid the creation of any barriers to fish passage, particularly those that might affect southern California steelhead (*Oncorhynchus mykiss*) or other native fish species.

- 3) Sensitive Natural Communities. A qualified biologist should map all natural communities within the Project site as well as areas subject to off-site impacts such as edge effects in accordance with established protocol (see General Comment #3b and 3c). The qualified biologist should identify and map natural communities including, but not limited, to the following: California walnut groves (*Juglans californica* Alliance); California sycamore woodlands (*Platanus racemosa* Alliance); Fremont cottonwood forest and woodland (*Populus fremontii* Alliance); oak forest and woodland (*Quercus* genus Alliance); and willow riparian woodland and forest (*Salix* genus Alliance).

The DPEIR should fully disclose where impacts would occur and how many acres of natural communities would be impacted. The DPEIR should be conditioned to provide compensatory mitigation for impacts on Sensitive Natural Communities (see General Comment #3a). Due to the local/regional rarity and significance, compensatory mitigation should be higher for impacts on Sensitive Natural Communities with a State Rarity Ranking of S1 or S2 and/or a Sensitive Natural Community with an additional ranking of 0.1 or 0.2.

- 4) Impacts to Sensitive Species. The Project location is within the floodplain and active channel of the San Gabriel River, the Rio Hondo, and their tributaries. CDFW is concerned the Project may affect sensitive species that occur within these watersheds and areas adjacent to the Project. Areas of particular concern include reaches near the Santa Fe Dam, Whittier Narrows Dam, Peck Road Spreading Basin, San Jose Creek confluence with the San Gabriel River, Upper Eaton Wash, Upper Santa Anita Wash, and Upper Sawpit Wash. Least Bell's vireo (*Vireo bellii pusillus*; CDFW 2022c), southwestern willow flycatcher (*Empidonax traillii extimus*), and coastal California gnatcatcher (*Polioptila californica californica*) have been documented as occurring in these areas. Least Bell's vireo and southwestern willow flycatcher are protected as endangered species under both CESA and the federal Endangered Species Act (ESA). Coastal California gnatcatcher is protected by ESA and listed as a California Species of Special Concern. Crotch bumble bee (*Bombus crotchii*;

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 5 of 17

CDFW 2022d) is a CESA-listed species that could potentially occur within or near the Project location. Other California Species of Special Concern that may occur within or near the Project location include but are not limited to burrowing owl (*Athene cunicularia*), American badger (*Taxidea taxus*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), big free-tailed bat (*Nyctinomops macrotis*), hoary bat (*Lasiurus cinereus*), pallid bat (*Antrozous pallidus*), western yellow bat (*Lasiurus xanthinus*), western mastiff bat (*Eumops perotis californicus*), coast range newt (*Taricha torosa*), western spadefoot (*Spea hammondi*), western pond turtle (*Emys marmorata*), coast horned lizard (*Phrynosoma blainvillii*), and southern California legless lizard (*Anniella stebbinsi*). Rare plants that may occur within or near the Project location include but are not limited to Parry's spineflower (*Chorizanthe parryi* var. *parryi*), mesa horkelia (*Horkelia cuneata* var. *puberula*), Parish's brittlescale (*Atriplex parishii*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*). Grading, vegetation removal, and other ground disturbances could crush and bury listed or sensitive plants and animals, resulting in direct mortality. The Project may also affect adjacent habitat by loud noises, lighting, increased human presence and activity, fugitive dust, increased temperatures from asphalt (heat island effect), hydrocarbons from asphalt paving within the floodplain, and spreading invasive weeds, resulting in stress, displacement, and mortality of these species. CDFW recommends to following:

- a) California Endangered Species Act. CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or CESA-listed rare plant species that results from the Project is prohibited, except as authorized by State law (Fish & Game Code, §§ 2080, 2085; California Code of Regulations, tit. 14, § 786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options [Fish & Game Code, §§ 2080.1, 2081, sub's. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.
- b) Avoidance, Minimization, and Mitigation for Sensitive Plants. The DPEIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts. CDFW considers these communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S1, S2, S3, and S4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDDB and are included in the *Manual of California Vegetation* (Sawyer *et al.* 2009).

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 6 of 17

- c) The Project should use alternatives to hydrocarbon-based asphalt paving. Asphalt pavement continues to leach hydrocarbons and heavy metals, becoming a significant point source of environmental contamination (Sadler 1999).
 - d) Given this Project is proposed for a sensitive location (within a stream channel and floodplain), the potential for direct and indirect impacts to sensitive, listed, and fully protected species should be further addressed. The DPEIR should include specific information on species locations and specifically how the project will be sited to avoid impacts to this species or vegetation communities. If the Project will impact a sensitive species or vegetation community, specific mitigation to offset the loss of habitat (acreage and type) should be included in the DPEIR.
- 5) Bats. A review of the California Natural Diversity Database (CNDDDB) through Biogeographic Information and Observation System (BIOS 6; CDFW 2022b) indicates occurrences of several bat species within the Project vicinity. Bats may forage and roost in open space and natural areas in the vicinity of the Project area. Ground-disturbing activities and vegetation removal could impact bats and roosts. Extra noise, human activity, dust, ground vibrations, or the reconfiguration of large objects can disturb roosting bats which may have a negative impact on the animals. Bridges, overpasses, tunnels, culverts, buildings, trees, and scattered vegetation throughout the Project location may provide potential habitat where Project activities may impact bats. Activities that will result in the removal of trees, buildings or other habitat for bats should consider avoiding adverse impacts to bats.
- a) Protection Status. Bats are considered nongame mammals and are afforded protection by State law from take and/or harassment (Fish & G. Code, § 4150; Cal. Code of Regs., § 251.1). In addition, some bats are considered California Species of Special Concern (SSC).
 - b) Analysis and Disclosure. In preparation of the DPEIR, CDFW recommends LACPW require that a qualified bat specialist identify potential daytime, nighttime, wintering, and hibernation roost sites and conduct bat surveys within these areas (plus a 100-foot buffer as access allows) to identify roosting bats and any maternity roosts. CDFW recommends using acoustic recognition technology to maximize detection of bats.
 - c) Avoidance and Minimization. If the Project would impact bats, CDFW recommends the DPEIR provide measures to avoid/minimize impacts on bats, roosts, and maternity roosts. The DPEIR should incorporate mitigation measures in accordance with [California Bat Mitigation Measures](#) (Johnston *et al.* 2004).
- 6) Nesting Birds. The Project proposes to develop within or adjacent to open space and natural areas that likely supports nesting birds and raptors. Accordingly, the Project may impact nesting birds and raptors. Project activities occurring during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The Project could also lead to the loss of foraging habitat for sensitive bird species.
- a) Protection Status. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Code of Federal Regulations, Title 50, § 10.13). Sections 3503, 3503.5, and 3513 of the California Fish

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 7 of 17

and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). It is unlawful to take, possess, or needlessly destroy the nest or eggs of any raptor.

- b) Avoidance. CDFW recommends that measures be taken to avoid impacts on nesting birds and raptors. CDFW recommends the DPEIR include a measure whereby the Project avoids ground-disturbing activities (e.g., mobilizing, staging, drilling, and excavating) and vegetation removal during the avian breeding season which generally runs from February 15 through September 15 (as early as January 1 for some raptors) to avoid take of birds, raptors, or their eggs.
 - c) Minimizing Potential Impacts. If impacts on nesting birds and raptors cannot be avoided, CDFW recommends the DPEIR include measures to minimize impacts on nesting birds and raptors. Prior to starting ground-disturbing activities and vegetation removal, CDFW recommends a qualified biologist conduct breeding bird and raptor surveys to identify nests occurring in the disturbance area and 100 feet from the disturbance area to the extent allowable and accessible. The qualified biologist should establish no-disturbance buffers to minimize impacts on those nests. CDFW recommends a minimum 300-foot no-disturbance buffer around active bird nests. For raptors, the no-disturbance buffer should be expanded to 500 feet and 0.5 mile for special status species, if feasible. Project personnel, including all contractors working on site, should be instructed on nesting birds, sensitivity of the area, and adherence to the no-disturbance buffers. Reductions in the buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors determined by a qualified biologist.
- 7) Loss of Bird and Raptor Nesting Habitat. The Project proposes to develop within or adjacent to open space and natural areas that likely supports nesting birds and raptors.
- a) Analysis and Disclosure. CDFW recommends the DPEIR discuss the Project's impact on nesting habitat. Edge effects and impacts due to fuel modification should also be discussed. The DPEIR should disclose the acreage of nesting habitat that could be impacted and lost as a result of the proposed Project.
 - b) Minimizing Potential Impacts and Compensatory Mitigation. CDFW recommends the Project avoid and minimize development and encroachment onto nesting habitat. If avoidance is not feasible, CDFW recommends the DPEIR provide compensatory mitigation for the loss of nesting habitat.
- 8) Landscaping. The NOP includes parks, open spaces, and trails among the Project objectives. Habitat loss and invasive plants are a leading cause of native biodiversity loss. Invasive plant species spread quickly and can displace native plants, prevent native plant growth, and create monocultures. CDFW recommends using native, locally appropriate plant species for landscaping on the Project site. CDFW recommends invasive/exotic plants, such as pampas grass (*Cortaderia selloana*) and salt cedar (*Tamarisk* spp.), be restricted from use in landscape plans for this Project. The California Invasive Plant Council provides a list of invasive/exotic plants that should be avoided as well as suggestions for better landscape plants (Cal-IPC 2018).

Ms. Ariana Villanueva
 Los Angeles County Public Works
 October 17, 2022
 Page 8 of 17

- 9) Tree Removal. Satellite imagery indicates the presence of trees in areas of the Project site that might be developed for parks, trails, channel modifications, or other Project components. Habitat loss is one of the leading causes of native biodiversity loss. To compensate for any loss of trees, CDFW recommends replacing all non-native trees removed as a result of the proposed work activities at least a 1:1 ratio with native trees. CDFW recommends replacing native trees at least a 3:1 ratio with a combination of native trees and/or appropriate understory and lower canopy plantings.

Due to tree removal, Project activities have the potential to result in the spread of tree insect pests and disease into areas not currently exposed to these stressors. This could result in expediting the loss of oaks, alders, sycamore, and other trees in California which support a high biological diversity including special status species. To reduce impacts to less than significant, the final environmental document should describe an infectious tree disease management plan and how it will be implemented to avoid significant impacts under CEQA. All trees identified for removal resulting from the Project should be inspected for contagious tree diseases including but not limited to: [thousand cankers fungus](#) (*Geometric morbida*; TCD 2022), [polyphagous shot-hole borer and Kuroshio shot-hole borer](#) (*Euwallacea* spp.; Eskalen *et al.* 2018), and [goldspotted oak borer](#) (*Agrilus auroguttatus*; Flint *et al.* 2013). To avoid the spread of infectious tree diseases, diseased trees and plant material should not be transported from the Project site without first being treated using best available management practices relevant for each tree disease observed.

- 10) Direct, Indirect, and Cumulative Impacts to Biological Resources. The NOP states that the Project location broadly includes 15 washes and creeks in the San Gabriel Valley. The San Gabriel River and Rio Hondo watersheds are major riparian corridors in the Los Angeles Basin, and they serve as important wildlife movement linkages connecting open spaces through the rapidly urbanizing landscape. It is essential to understand how these open spaces and the biological diversity within them may be impacted by Project activities. The DPEIR should aid in identifying specific mitigation or avoidance measures necessary to offset those impacts. CDFW recommends providing a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts. The following should be addressed in the DPEIR:
- a) A discussion regarding indirect Project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a Natural Community Conservation Plan (NCCP, Fish & Game Code, § 2800 *et seq.*). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DPEIR;
 - b) A discussion of potential adverse impacts from lighting, noise, human activity, and exotic species and identification of any mitigation measures;
 - c) A discussion on Project-related changes on drainage patterns and downstream of the Project site; the volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and, post-Project fate of runoff from the Project site. The discussion should also address the proximity of the extraction activities to the water table, whether dewatering would be

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 9 of 17

necessary and the potential resulting impacts on the habitat (if any) supported by the groundwater. Mitigation measures proposed to alleviate such Project impacts should be included;

- d) An analysis of impacts from land use designations and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the DPEIR; and
- e) A cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

General Comments

- 1) Disclosure. The DPEIR should provide an adequate, complete, and detailed disclosure about the effect which a proposed project is likely to have on the environment (Pub. Resources Code, § 20161; CEQA Guidelines, § 15151). Adequate disclosure is necessary so CDFW may provide comments on the adequacy of proposed avoidance, minimization, or mitigation measures, as well as to assess the significance of the specific impact relative to plant and wildlife species impacted (e.g., current range, distribution, population trends, and connectivity).
- 2) Mitigation Measures. Public agencies have a duty under CEQA to prevent significant, avoidable damage to the environment by requiring changes in a project through the use of feasible alternatives or mitigation measures [CEQA Guidelines, §§ 15002(a)(3), 15021]. Pursuant to CEQA Guidelines section 15126.4, an environmental document “shall describe feasible measures which could mitigate for impacts below a significant level under CEQA.”
 - a) Level of Detail. Mitigation measures must be feasible, effective, implemented, and fully enforceable/imposed by the lead agency through permit conditions, agreements, or other legally binding instruments (Pub. Resources Code, § 21081.6(b); CEQA Guidelines, § 15126.4). A public agency “shall provide the measures that are fully enforceable through permit conditions, agreements, or other measures” (Pub. Resources Code, § 21081.6). CDFW recommends LACPW provide mitigation measures that are specific and detailed (i.e., responsible party, timing, specific actions, location) in order for a mitigation measure to be fully enforceable and implemented successfully via a mitigation monitoring and/or reporting program (Pub. Resources Code, § 21081.6; CEQA Guidelines, § 15097).
 - b) Disclosure of Impacts. If a proposed mitigation measure would cause one or more significant effects, in addition to impacts caused by the proposed Project, the DPEIR should include a discussion of the effects of proposed mitigation measures [CEQA Guidelines, § 15126.4(a)(1)]. In that regard, the DPEIR should provide an adequate, complete, and detailed disclosure about the Project’s proposed mitigation measure(s). Adequate disclosure is necessary so CDFW may assess the potential impacts of proposed mitigation measures.

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 10 of 17

- 3) **Biological Baseline Assessment.** An adequate biological resources assessment should provide a complete assessment and impact analysis of the flora and fauna within and adjacent to the Project area and where the Project may result in ground disturbance. The assessment and analysis should place emphasis on identifying endangered, threatened, rare, and sensitive species; regionally and locally unique species; and sensitive habitats. An impact analysis will aid in determining the Project's potential direct, indirect, and cumulative biological impacts, as well as specific mitigation or avoidance measures necessary to offset those impacts. CDFW also considers impacts to SSC a significant direct and cumulative adverse effect without implementing appropriate avoidance and/or mitigation measures. The DPEIR should include the following information:
- a) Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)]. The DPEIR should include measures to fully avoid and otherwise protect Sensitive Natural Communities. CDFW considers Sensitive Natural Communities as threatened habitats having both regional and local significance. Natural communities, alliances, and associations with a State-wide rarity ranking of S1, S2, and S3 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by visiting the [Vegetation Classification and Mapping Program - Natural Communities](#) webpage (CDFW 2022e);
 - b) A thorough, recent, floristic-based assessment of special status plants and natural communities following CDFW's [Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities](#) (CDFW 2018). Botanical field surveys should be comprehensive over the entire Project area, including areas that will be directly or indirectly impacted by the Project. Adjoining properties should also be surveyed where direct or indirect Project effects could occur, such as those from fuel modification, herbicide application, invasive species, and altered hydrology. Botanical field surveys should be conducted in the field at the times of year when plants will be both evident and identifiable. Usually, this is during flowering or fruiting. Botanical field survey visits should be spaced throughout the growing season to accurately determine what plants exist in the project area. This usually involves multiple visits to the Project area (e.g., in early, mid, and late-season) to capture the floristic diversity at a level necessary to determine if special status plants are present;
 - c) Floristic alliance- and/or association-based mapping and vegetation impact assessments conducted in the Project area and within adjacent areas. The [Manual of California Vegetation](#) (MCV), second edition, should also be used to inform this mapping and assessment (Sawyer *et al.* 2009). Adjoining habitat areas should be included in this assessment where the Project's construction and activities could lead to direct or indirect impacts off site;
 - d) A complete and recent assessment of the biological resources associated with each habitat type in the Project area and within adjacent areas. CDFW's [California Natural Diversity Database](#) should be accessed to obtain current information on any previously reported sensitive species and habitat (CDFW 2022f). An assessment should include a minimum nine-quadrangle search of the CNDDDB to determine a list of species potentially present in the Project area. A nine-quadrangle search should be provided in the Project's CEQA document for adequate disclosure of the Project's potential impact on

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 11 of 17

biological resources. Please see [CNDDDB Data Use Guidelines – Why do I need to do this?](#) for additional information (CDFW 2011);

- e) A lack of records in the CNDDDB does not mean that rare, threatened, or endangered plants and wildlife do not occur. Field verification for the presence or absence of sensitive species is necessary to provide a complete biological assessment for adequate CEQA review [CEQA Guidelines, § 15003(i)];
 - f) A complete, recent, assessment of endangered, rare, or threatened species and other sensitive species within the Project area and adjacent areas, including SSC and California Fully Protected Species (Fish & G. Code, §§ 3511, 4700, 5050, and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare, or threatened species (CEQA Guidelines, § 15380). Seasonal variations in use of the Project area should also be addressed such as wintering, roosting, nesting, and foraging habitat. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, may be required if suitable habitat is present. See CDFW's [Survey and Monitoring Protocols and Guidelines](#) for established survey protocol (CDFW 2022g). Acceptable species-specific survey procedures may be developed in consultation with CDFW and USFWS; and
 - g) A recent wildlife and rare plant survey. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed Project may warrant periodic updated surveys for certain sensitive taxa, particularly if Project implementation build out could occur over a protracted time frame or in phases.
- 4) Project Description and Alternatives. To enable adequate review and comment on the proposed Project from the standpoint of the protection of fish, wildlife, and plants, CDFW recommends the following information be included in the DPEIR:
- a) A complete discussion of the purpose and need for, and description of the proposed Project;
 - b) Pursuant to CEQA Guidelines section 15126.6(a), an environmental document “shall describe a reasonable range of potentially feasible alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project.” CEQA Guidelines section 15126.6(f)(2) states if the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion; and,
 - c) A range of feasible alternatives to the Project location to avoid or otherwise minimize direct and indirect impacts on sensitive biological resources and wildlife movement areas. CDFW recommends LACPW select Project designs and alternatives that would avoid or otherwise minimize direct and indirect impacts on biological resources. CDFW also recommends LACPW consider establishing appropriate setbacks from sensitive and special status biological resources. Setbacks should not be impacted by ground

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 12 of 17

disturbance or hydrological changes from any future Project-related construction, activities, maintenance, and development. As a general rule, CDFW recommends reducing or clustering a development footprint to retain unobstructed spaces for vegetation and wildlife and provide connections for wildlife between properties and minimize obstacles to open space.

Project alternatives should be thoroughly evaluated, even if an alternative would impede, to some degree, the attainment of the Project objectives or would be more costly (CEQA Guidelines, § 15126.6). The DPEIR “shall” include sufficient information about each alternative to allow meaningful evaluation, public participation, analysis, and comparison with the proposed Project (CEQA Guidelines, § 15126.6).

- d) Where the Project may impact aquatic and riparian resources, CDFW recommends LACPW select Project designs and alternatives that would fully avoid impacts to such resources. CDFW also recommends an alternative that would not impede, alter, or otherwise modify existing surface flow, watercourse and meander, and water-dependent ecosystems and natural communities. Project designs should consider elevated crossings to avoid channelizing or narrowing of watercourses. Any modifications to a river, creek, or stream may cause or magnify upstream bank erosion, channel incision, and drop in water level and cause the watercourse to alter its course of flow.
- 5) Data. CEQA requires that information developed in environmental impact reports be incorporated into a database which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special status species and sensitive natural communities detected by completing and submitting [CNDDB Field Survey Forms](#) (CDFW 2022h). To submit information on special status native plant populations and sensitive natural communities, the [Combined Rapid Assessment and Relevé Form](#) should be completed and submitted to CDFW’s Vegetation Classification and Mapping Program (CDFW 2022i). LACPW should ensure data collected for the preparation of the DPEIR be properly submitted, with all data fields applicable filled out.
- 6) Compensatory Mitigation. The DPEIR should include compensatory mitigation measures for the Project’s significant direct and indirect impacts to sensitive and special status plants, animals, and habitats. Mitigation measures should emphasize avoidance and minimization of Project-related impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore inadequate to mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement and financial assurance and dedicated to a qualified entity for long-term management and monitoring. Under Government Code, section 65967, the Lead Agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.
- 7) Long-term Management of Mitigation Lands. For proposed preservation and/or restoration, the DPEIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset Project-induced

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 13 of 17

qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate endowment should be set aside to provide for long-term management of mitigation lands.

- 8) Wildlife Friendly Fencing. Fencing could obstruct wildlife movement and result in wildlife injury or mortality due to impalement and entanglement (e.g., chain link fencing). If the Project would include temporary and/or permanent fencing, prior to preparation of the DPEIR, CDFW recommends LACPW require the Project applicant to provide wildlife friendly fencing designs. Fencing designs should be disclosed and evaluated in the DPEIR for potential impacts on biological resources and wildlife movement. The DPEIR should discuss how fencing proposed for the Project would minimize impacts on biological resources, specifically wildlife movement. CDFW supports the use of wildlife-friendly fencing. Wildlife-friendly fencing should be used and strategically placed in areas of high biological resource value in order to protect biological resources, habitat, and wildlife movement. CDFW recommends [A Landowner's Guide to Wildlife Friendly Fences](#) for information wildlife-friendly fences (MFWP 2012).
- 9) Use of Native Plants and Trees. If the Project would include landscaping, CDFW recommends LACPW require the Project applicant to provide a native plant palette for the Project. The Project's landscaping plan should be disclosed and evaluated in the DPEIR for potential impacts on biological resources such as natural communities adjacent to the Project site (e.g., introducing non-native, invasive species). CDFW supports the use of native plants for the Project especially considering the Project's location adjacent to protected open space and natural areas. CDFW strongly recommends avoiding non-native, invasive species for landscaping and restoration, particularly any species listed as 'Moderate' or 'High' by the [California Invasive Plant Council](#) (Cal-IPC 2022). CDFW supports the use of native species found in naturally occurring plant communities within or adjacent to the Project site. In addition, CDFW supports planting species of trees, such as oaks (*Quercus* genus), and understory vegetation (e.g., ground cover, subshrubs, and shrubs) that create habitat and provide a food source for birds. CDFW recommends retaining any standing, dead, or dying tree (snags) where possible because snags provide perching and nesting habitat for birds and raptors. Finally, CDFW supports planting species of vegetation with high insect and pollinator value.
- 10) Translocation/Salvage of Plants and Animal Species. Translocation and transplantation is the process of removing plants and wildlife from one location and permanently moving it to a new location. CDFW generally does not support the use of translocation or transplantation as the primary mitigation strategy for unavoidable impacts to endangered, rare, or threatened plants and animals. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving plants and animals and their habitats.
- 11) Wetland Resources. CDFW, as described in Fish and Game Code section 703(a), is guided by the Fish and Game Commission's (Commission) policies. The [Wetlands Resources](#) policy the Commission "...seek[s] to provide for the protection, preservation, restoration, enhancement, and expansion of wetland habitat in California" (CFGF 2020). Further, it is

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 14 of 17

the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."

- a) The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, a project should include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions benefiting local and transient wildlife populations. CDFW recommends mitigation measures to compensate for unavoidable impacts be included in the DPEIR and these measures should compensate for the loss of function and value.
 - b) The Fish and Game Commission's Water policy guides CDFW on the quantity and quality of the waters of this State that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this State; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish & G. Code, § 5650).
- 12) Moving Wildlife Out of Harm's Way. The proposed Project is anticipated to result in clearing of natural habitats that support many species of indigenous wildlife. To avoid direct mortality, we recommend that a qualified biological monitor approved by CDFW be on-site prior to and during ground and habitat disturbing activities to move out of harm's way special status species or other wildlife of low mobility that would be injured or killed by grubbing or Project-related construction activities. It should be noted that the temporary relocation of on-site wildlife does not constitute effective mitigation for the purposes of offsetting Project impacts associated with habitat loss. If the Project requires species to be removed, disturbed, or otherwise handled, we recommend that the DPEIR clearly identify that the designated entity should obtain all appropriate state and federal permits.
- 13) Revegetation/Restoration Plan. Plans for restoration and re-vegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 15 of 17

strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

- a) CDFW recommends that local on-site propagules from the Project area and nearby vicinity be collected and used for restoration purposes. On-site seed collection should be initiated in the near future to accumulate sufficient propagule material for subsequent use in future years. On-site vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various Project components as appropriate.
- b) Restoration objectives should include providing special habitat elements where feasible to benefit key wildlife species. These physical and biological features can include (for example) retention of woody material, logs, snags, rocks, and brush piles (see Mayer and Laudenslayer 1988).

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist LACPW in preparing the Project's environmental document and identifying and mitigating Project impacts on biological resources. If you have any questions or comments regarding this letter, please contact David Lin, Senior Environmental Scientist (Specialist), at (562) 430-0097 or by email at David.Lin@wildlife.ca.gov.

Sincerely,

DocuSigned by:

B6E58CFE24724F5...

Erinn Wilson-Olgin
Environmental Program Manager I
South Coast Region

ec: CDFW

Victoria Tang, Los Alamitos – Victoria.Tang@wildlife.ca.gov

David Lin, Los Alamitos – David.Lin@wildlife.ca.gov

Cindy Hailey, San Diego – Cindy.Hailey@wildlife.ca.gov

CEQA Program Coordinator, Sacramento – CEQACommentLetters@wildlife.ca.gov

OPR

State Clearinghouse, Sacramento – State.Clearinghouse@opr.ca.gov

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 16 of 17

References

- [CFGC] California Fish and Game Commission. 2020. Policies. Retention of Wetland Acreage and Habitat Values. Accessed: <https://fgc.ca.gov/About/Policies/Miscellaneous>.
- [CDFWa] California Department of Fish and Wildlife. 2022. Lake and Streambed Alteration Program. Available from: <https://wildlife.ca.gov/Conservation/LSA>.
- [CDFWb] California Department of Fish and Wildlife. 2022. California Protected Areas Database Holdings. Biogeographic Information and Observation System (BIOS 6). [Accessed 3 October 2022]. Accessed at: <https://wildlife.ca.gov/Data/BIOS>
- [CDFWc] California Department of Fish and Wildlife. 2022. California Natural Diversity Database (CNDDDB) Government [ds2949] USGS Least Bell's Vireo Habitat Suitability Model. Biogeographic Information and Observation System (BIOS 6). [Accessed 3 October 2022]. Accessed at: <https://wildlife.ca.gov/Data/BIOS>
- [CDFWd] California Department of Fish and Wildlife. 2022. California Natural Diversity Database (CNDDDB) Government [ds45] Object TID 93217 *Bombus crotchii*. Biogeographic Information and Observation System (BIOS 6). [Accessed 3 October 2022]. Accessed at: <https://wildlife.ca.gov/Data/BIOS>
- [CDFWe] California Department of Fish and Wildlife. 2022. Natural Communities. Available from: <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities>.
- [CDFWf] California Department of Fish and Wildlife. 2022. California Natural Diversity Database. Available from: <https://wildlife.ca.gov/Data/CNDDDB/Maps-and-Data#43018408-cnddb-in-bios>
- [CDFWg] California Department of Fish and Wildlife. 2022. Survey and Monitoring Protocols and Guidelines. Available from: <https://wildlife.ca.gov/Conservation/Survey-Protocols>
- [CDFWh] California Department of Fish and Wildlife. 2022. Submitting Data to the CNDDDB. Available from: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>
- [CDFWi] California Department of Fish and Wildlife. 2022. Natural Communities - Submitting Information. Available from: <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Submit>
- [CDFW] California Department of Fish and Wildlife. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Available from: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959>
- [CDFW] California Department of Fish and Wildlife. 2011. CNDDDB Data Use Guidelines. Available from: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=27285&inline>
- [Cal-IPC] California Invasive Plant Council. 2022. The Cal-IPC Inventory. Accessed at: <https://www.cal-ipc.org/plants/inventory/>.

Ms. Ariana Villanueva
Los Angeles County Public Works
October 17, 2022
Page 17 of 17

[Cal-IPC] California Invasive Plant Council. 2018. Invasive Plant Checklist for California Landscaping. Available from: <https://www.cal-ipc.org/wp-content/uploads/2018/05/InvasivePlantChecklistforCaliforniaLandscaping.pdf> and <https://www.cal-ipc.org/solutions/prevention/landscaping/>

Cowardin, L M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31, Washington, DC.

Eskalen, A., J. Kabashima, M. Dimson, and S. Lynch. 2018. Identifying Polyphagous and Kuroshio Shot-Hole Borer in California. UC ANR Publication 8590. Available from: <http://dx.doi.org/10.3733/ucanr.8590> and <https://www2.ipm.ucanr.edu/agriculture/avocado/polyphagous-shot-hole-borer-and-kuroshio-shot-hole-borer/>

Flint, M. L., M. I. Jones, T. W. Coleman, and S. J. Seybold. 2013. Pest Notes: Goldspotted Oak Borer. UC ANR Publication 74163. Available from: <http://ipm.ucanr.edu/PMG/PESTNOTES/pn74163.html> or <http://ipm.ucanr.edu/PDF/PESTNOTES/pngoldspottedoakborer.pdf>

Johnston, D., G. Tatarian G., and E. Pierson. 2004. California Bat Mitigation Techniques, Solutions, and Effectiveness. Available from: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=10334>

Mayer, K.E. and W.F. Laudenslayer, Jr. 1988. Editors: A Guide to Wildlife Habitats of California. State of California, Resources Agency, Department of Fish and Game, Sacramento, CA.

[MFWP] Montana Fish, Wildlife and Parks. 2012. A Landowner's Guide to Wildlife Friendly Fences: How to Build Fence with Wildlife in Mind. Second Edition Revised and Updated. Available from: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=134713&inline>

Sadler, R., C. Delamont, P. White, and D. Connell. 1999. Contaminants in soil as a result of leaching from asphalt. *Toxicological & Environmental Chemistry* 68:71-81.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, CA.

[TCD] Thousand Canker Disease. 2022. Thousand Canker Disease Website. [Accessed 3 October 2022]. Available from: <https://thousandcankers.com/>

[USFWS] United States Fish and Wildlife Service. 2022. Wetlands Mapper. [Accessed 30 June 2022]. Available from: <https://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper>