PROTECTED AREAS FOR WILDLIFE & WILDLIFE MOVEMENT PATHWAYS

Final Report

Prepared for
Los Angeles City Planning

February 2021

ESA

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PROTECTED AREAS FOR WILDLIFE & WILDLIFE MOVEMENT PATHWAYS

Final Report

1. Executive Summary

The City of Los Angeles (City) is a part of the California Floristic Province, which is one of 36 global biodiversity hotspots—a designation that indicates the region has a significant amount of biodiversity that is threatened by factors such as human development.[1] With nearly four million residents, the City is currently one of the most densely populated urban areas in the United States, and contains the majority of the population living within this global biodiversity hotspot. Humans have drastically altered the natural landscape with development, which has resulted in habitat loss, fragmentation, and continues to threaten the biodiversity remaining within the City and California Floristic Province. However, the City still contains a wealth of biological resources within its limits. Surrounded by extensive undeveloped open space and natural lands that are a part of the Transverse Ranges (which include the Santa Monica Mountains and San Gabriel Mountains), these large expanses of natural lands contain a diversity of species that make the greater Los Angeles region their home. Wildlife also persist within fragmented habitats, and even within suburban and urban areas for wildlife that have adapted to living in developed environments.

Future development will continue to put pressure on these limited remaining natural resource areas within the City, and wildlife will be forced to survive on fewer habitat areas and resources, which will continue to threaten the biodiversity remaining within the City. One of the City's Conservation Element objectives is to "preserve, protect, restore and enhance natural plant and wildlife diversity, habitats, corridors and linkages so as to enable the healthy propagation and survival of native species, especially those species that are endangered, sensitive, threatened or species of special concern." The City is committed to conserving natural habitat areas and provide connectivity for wildlife.

In April 2014, the City Council initiated this study by a Motion to address wildlife habitat in the city. Thus, the Department of City Planning (Planning) has undertaken an evaluation to identify important habitats, areas identified as Protection Areas for Wildlife (PAWs), for sustaining wildlife and connectivity within the City.

[1] City of Los Angeles. 2016. *Reader's Guide for the LA River Ecosystem Restoration Project*. Final Integrated Feasibility Report (IFR) which includes the Final Environmental Impact Statement / Environmental Impact Report. April 2016. http://eng2.lacity.org/techdocs/emg/docs/lariver/LA_River_Reader_Guide.pdf.

The study has three objectives: 1) To evaluate existing biotic conditions within the City's boundaries and delineate important areas for habitat conservation and enhancement necessary for sustaining wildlife within the City Los Angeles (through the designation of PAWs); 2) to identify important areas for enhancing connectivity for wildlife movement within the City (through the designation of Wildlife Movement Pathways [WMPs]); and 3) to provide scientific evidence and recommendations that can be used to inform the creation of guidelines and regulations for conserving and managing biological resources within these areas. These recommendations will inform the development of regulations by Planning, which will help to balance needs for development with needs for wildlife habitat and connectivity.

2. Introduction

2.1 Background

Historically, the Los Angeles Basin was a diverse collection of shrublands, grasslands, forests, and dense woodlands. In 1769, the first known description of the area that was to become Los Angeles was described by Spanish explorer Juan Crespi: "Through a pass between low hills, a spacious valley well-grown with cottonwood and alders, among which ran a beautiful river."[2] The Los Angeles River served as the backbone to a vast system of riverine, freshwater marsh, and riparian habitat that carried seasonal rains and subterranean flows to the coastal plains, and ultimately the Pacific Ocean.[3] Prior to 1825, the Los Angeles River flowed through the Ballona watershed and into the Ballona Lagoon, but after the Los Angeles region experienced three consecutive years of unusually heavy rains that inundated the lowland, as well as a series of earthquakes that rocked the Los Angeles area, the discharge of the Los Angeles River shifted south to San Pedro, where it lies today.[4]

The City is uniquely surrounded with extensive undeveloped open space and natural lands that are a part of the Transverse Ranges including the Santa Monica Mountains, the Santa Susana Mountains, the Verdugo Mountains, and the San Gabriel Mountains with the associated Angeles National Forest. Within these large expanses of natural lands, there is a substantial diversity of wildlife that make the greater Los Angeles region their home. Each species of this biodiverse assembly of organisms portrays a particular role in the greater Los Angeles ecosystem in which a range of ecological functions persist and contribute to the well-being of the environment.

The Los Angeles Basin is a part of the greater California Floristic Province, which stretches throughout California along the Pacific Coast and includes southwestern Oregon, a small part of western Nevada, and northern Baja California. Its Mediterranean-like climate, dynamic climatic and geological history, and topographic complexity have contributed to the species richness (i.e.,

2 Friends of the Los Angeles River (FoLAR). 2016. *State of the River*. The Long Beach Fish Study. June 2016.

3 City of Los Angeles. 2016. *Reader's Guide for the LA River Ecosystem Restoration Project*. Final Integrated Feasibility Report (IFR) which includes the Final Environmental Impact Statement / Environmental Impact Report. April 2016. http://eng2.lacity.org/techdocs/emg/docs/lariver/LA_River_Reader_Guide.pdf.

4 Dark, S. et al. 2011. *Historical Ecology of the Ballona Creek Watershed*. Southern California Coastal Water Research Project. Technical Report #671. http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/671_BallonaHistoricalEcology.pdf.

the number of different species represented) and endemism (i.e., species that are native and restricted to a certain place) that is found within the region.[5] The California Floristic Province has over 5,500 native plant taxa,[6] 40% of which are endemic.[7] The California Floristic Province is one of the top 36 global hotspots of rapid biodiversity loss on Earth.[8,9,10] A biodiversity hotspot is considered to be an area where exceptional concentrations of endemic species are undergoing exceptional loss of habitat. To qualify as a biodiversity hotspot, a region must meet two criteria: (1) it must have at least 1,500 vascular plants as endemics, and (2) it must have lost at least 70% of its original natural vegetation.[11] Around the world, there are currently 36 recognized biodiversity hotspots.[12]

As human presence within the Los Angeles Basin has increased exponentially, the natural landscape has been drastically altered, first by agricultural and then industrial development. Additionally, after catastrophic flooding from the Los Angeles River in the late 19th and early 20th centuries caused loss of human lives and millions of dollars in property damage, the natural river system was channelized in the 1930s in order to move flood flows to the ocean as efficiently as possible. This further affected the regional landscape by straightening the river's course, considerably changing its appearance and function, disconnecting it from its floodplain and adjacent ecological areas, degrading the habitats associated with the river, and diminishing its plant and wildlife diversity and quality.[13] With continued growth throughout the region, development and urbanization dramatically changed the landscape. Large expanses of native habitats were converted to developed areas with structures and infrastructure that were either devoid of vegetation, or were planted with ornamental species and lacked native vegetation. This resulted in habitat loss and habitat fragmentation (i.e., breaking up large blocks of contiguous native vegetation into smaller habitat patches, which diminishes the ecological functions of that habitat). Habitat loss and fragmentation, combined with increased human presence, has resulted in decreasing biodiversity (e.g., through removal of habitat and plant species, increased

5 Baldwin, Bruce G.; Andrew H. Thornhill; William A. Freyman; David D. Ackerly; Matthew M. Kling; Naia Morueta-Holme; and Brent D. Mishler. 2017. *Species richness and endemism in the native flora of California*. American Journal of Botany. 104 (3): 487 – 501, 2017. https://ucjeps.berkeley.edu/common/pdf/Baldwin_et_al_2017.pdf.

6 This includes distinct species, subspecies, or varieties.

7 Loarie, Scott R.; Benjamin E. Carter; Katharine Hayhoe; Sean McMahon; Richard Moe; Charles A. Knight; and David D. Ackerly. 2008. *Climate Change and the Future of California's Endemic Flora*. PLoS One. 2008; 3(6): e2502. Published online 2008 Jun 25. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2481286/.

8 City of Los Angeles. 2016. *Reader's Guide for the LA River Ecosystem Restoration Project*. Final Integrated Feasibility Report (IFR) which includes the Final Environmental Impact Statement / Environmental Impact Report. April 2016. http://eng2.lacity.org/techdocs/emg/docs/lariver/LA_River_Reader_Guide.pdf.

9 Conservation International. 2020. *Biodiversity Hotspots*. https://www.conservation.org/priorities/biodiversity-hotspots. Website accessed December 28, 2020.

10 Critical Ecosystem Partnership Fund. 2020. *Biodiversity Hotspots Defined*. https://www.cepf.net/our-work/biodiversity-hotspots/hotspots-defined. Website accessed March 4, 2020.

11 Myers, Norman; Mittermeier, Russell A.; Mittermeier, Cristina G.; da Fonseca, Gustavo A. B.; Kent, Jennifer. 2000. *Biodiversity hotspots for conservation priorities*. Nature. 403 (6772): 853–858.

12 Critical Ecosystem Partnership Fund. 2020. *Biodiversity Hotspots Defined*. https://www.cepf.net/our-work/biodiversity-hotspots/hotspots-defined. Website accessed March 4, 2020.

13 City of Los Angeles. 2016. *Reader's Guide for the LA River Ecosystem Restoration Project*. Final Integrated Feasibility Report (IFR) which includes the Final Environmental Impact Statement / Environmental Impact Report. April 2016. http://eng2.lacity.org/techdocs/emg/docs/lariver/LA_River_Reader_Guide.pdf.

competition for limited resources).[14] Today, Southern California is our nation's largest urban area and continues to be one of its fastest growing, urbanizing areas,[15] and the City of Los Angeles (City) is currently one of the most densely populated urban areas in the United States.

Remarkably, for an urban setting with nearly four million residents, areas within the City continue to harbor impressive biological diversity comprised of hundreds of species of plants and wildlife, a number of which are protected as endangered or threatened or are otherwise considered to be rare, as well as providing a temporary residence for many migratory wildlife species. Most of these areas are within the undeveloped, or less developed, portions of the City, which are becoming increasingly limited, and many are within proximity to larger undeveloped and open space areas. However, wildlife also persist within fragmented habitats, and even within suburban and urban areas for wildlife that have adapted to living in developed environments. Future development will continue to threaten the integrity of these limited remaining natural resource areas within the City with increasing pressure on wildlife to survive on fewer habitat areas and dwindling resources, which further threatens the biodiversity within the City. Urban areas may be population sinks for some species, where mortality exceeds reproduction.[16] Within remaining natural areas, native plants would compete for limited resources, such as suitable habitat and soils, space to grow, water, and sunlight, as well as compete with non-native plant species introduced by landscaping or other anthropomorphic means (e.g., introduced through spreading seeds, including inadvertently on clothing or via livestock grazing). Further removal of habitat and plant species could also potentially eliminate populations of sensitive habitats and rare plants. Within shrinking habitat areas, native wildlife are also competing for resources, such as water, food, cover, territories, and mates. The introduction of exotic wildlife and pets pose an increased risk of predation for native wildlife. Also, with limited resources, native wildlife have reduced fecundity (i.e., reproductive success), and inbreeding depression (i.e., reduced biological fitness and decreased survivorship due to inbreeding).[17] This will disproportionately affect wildlife that require larger areas of pristine native habitat and are not able to adapt to urbanization, or associated edge effects, which comes from the abrupt transition between developed areas and natural lands at the urban-wildlands interface.

Thus, habitat connectivity between intact patches of habitat, and particularly with larger expanses of natural areas, plays a vital role for the maintenance of the wealth of species to allow natural ecological and evolutionary processes to continue. Habitat connectivity allows for greater wildlife movement, which is essential to wildlife survival for seeking food, shelter, or mates; dispersal of offspring to find new homes; or seasonal migration to find favorable conditions and/or breeding grounds. Movement is also essential for gene flow, for recolonizing unoccupied habitat after a local population goes extinct, and for species to adapt their geographic range (i.e., in response to a

14 South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org. March 2008.

15 South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org. March 2008.

16 Noss, Reed. 2004. *Can urban areas have ecological integrity?* Proceedings 4th International Urban Wildlife Symposium. Shaw et al., Eds. 2004.

17 South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org. March 2008.

significant natural disaster, or global climate change).[18] The preservation of biodiversity within the City is important, not only for the intrinsic value of conserving the remaining natural resources and species that inhabited the area long before people altered the landscape, but also because maintaining the ecological health of these areas can provide ecosystem services that benefit people. Open space areas near urban land uses function as a visual amenity, as a passive recreational asset, a groundwater recharge site, and a "storehouse" for natural species populations. The value of the ecosystem to daily life is found in the contributions toward soil erosion control, air pollution protection, crop and fruit production through pollination (via insects and birds), water quality purification, and other environmental stress reducers. Greater biodiversity conveys improved agricultural production, potential for medicinal wealth, and increased economic and commercial possibilities through tourism and industrial products.

2.2 Purpose

Future development will continue to threaten biodiversity within the City by reducing the remaining natural resource areas and increasing pressure on wildlife to survive on limited habitat and resources. One of the City's Conservation Element objectives is to "preserve, protect, restore and enhance natural plant and wildlife diversity, habitats, corridors and linkages so as to enable the healthy propagation and survival of native species, especially those species that are endangered, sensitive, threatened or species of special concern." The City's Conservation Element recognizes some of the important habitat areas found within the City, among them the Significant Ecological Areas (SEAs), which are significant habitats identified by Los Angeles County (County) as important for the preservation and maintenance of biodiversity. The County of Los Angeles designated SEAs occurring throughout Los Angeles County, including within the City's boundaries **Figure 1**, *City of Los Angeles Map*. However, the County SEAs identified within the City have limited regulatory protection within the City's jurisdiction. Other regional studies have also recognized important ecological areas, such as the California Department of Transportation (CalTrans) and California Department of Fish and Wildlife (CDFW; formerly California Department of Fish and Game [CDFG]) *California Essential Habitat Connectivity Project*[19] and National Park Service (NPS) *Rim of the Valley Corridor Special Resource Study*.[20]

The City Council initiated this effort in April 2014 by a motion to address wildlife habitat connectivity, while acknowledging that residential development can adversely impact wildlife populations. Thus, Department of City Planning (Planning) has undertaken an evaluation to identify important habitats, or Protection Areas for Wildlife (PAWs), for sustaining wildlife and connectivity within the City.

18 South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org. March 2008.

19 California Department of Transportation and California Department of Fish and Game (CalTrans and CDFG). 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Prepared with Funding from: Federal Highways Administration. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18366.

20 NPS. 2015. *Finding of No Significant Impact, Rim of the Valley Corridor Special Resource Study*. November 2015.

The City has many adopted policies to conserve habitat for protection of natural wildlife areas and that maintain connectivity for wildlife corridors and movement pathways. The conservation of the City's natural resources represents the foundation of conserving biological diversity within its jurisdiction in line with metropolitan areas across the nation and world. The City also has the unique opportunity to help educate and integrate its diverse residents and visitors in the conservation of the biodiversity and ecosystem services that natural areas within its own city limits has to offer.

2.3 Study Goals and Objectives

The study's goal is to maintain and enhance the ecological health within the City. To meet this goal, this study has three objectives: 1) To evaluate existing biotic conditions within the City's boundaries and delineate important areas for habitat conservation and enhancement necessary for sustaining wildlife within the City Los Angeles (through the designation of PAWs); 2) to identify important areas for enhancing connectivity for wildlife movement within the City (through the designation of Wildlife Movement Pathways [WMPs]); and 3) to provide scientific evidence and recommendations that can be used to inform the creation of guidelines and regulations for conserving and managing biological resources within these areas. These recommendations will inform the development of regulations by Planning, which will help to balance needs for development with needs for wildlife habitat and connectivity.

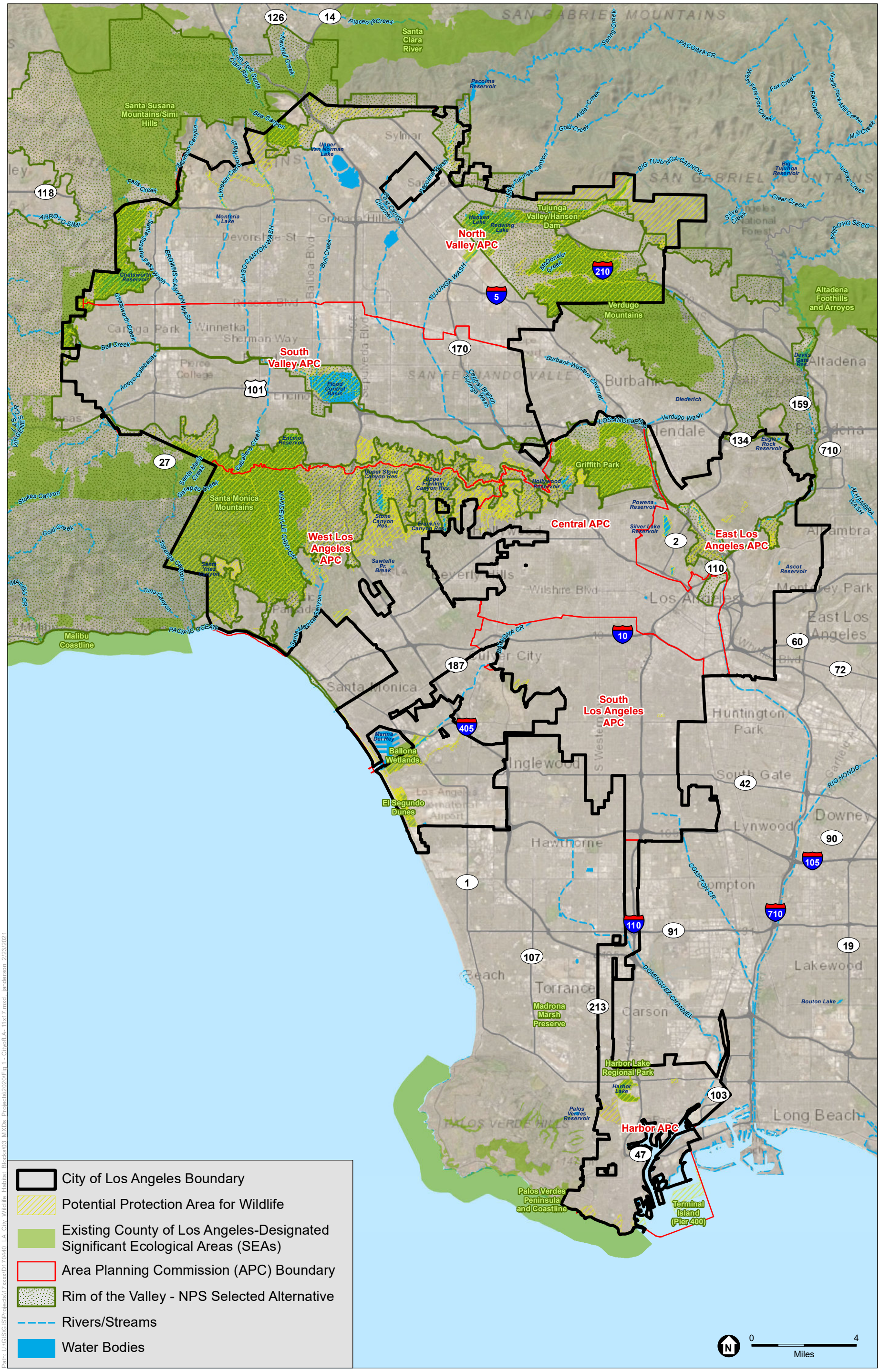
3. Protection Areas of Wildlife (PAWs)

3.1 Background

The City's Conservation Element recognizes some of the important habitat areas for the preservation and maintenance of biodiversity that are found within the City, including the County SEAs. However, the County SEAs identified within the City have limited regulatory protection within the City's jurisdiction. Furthermore, these areas include large contiguous natural areas, but do not include all important habitats for sustaining wildlife and connectivity within the City, such as fragmented habitat where diverse wildlife populations are known to persist.

3.2 Purpose of PAWs

The overall goal of identifying PAWs is to protect biologically important areas that are crucial for maintaining and preserving the existing level of biological diversity found within the City. The PAWs may provide habitat for endangered species, wildlife movement pathways, conservation of undisturbed examples of natural biotic communities, biotic communities or vegetation associations that are unique within the City or Southern California, and restoration or enhancement opportunities for areas of reduced biological diversity where restoration is planned to occur within the foreseeable future. These areas are under continuous pressure from the pattern of urbanization within a large metropolitan region, and in order for the City to maintain biological diversity within the urban environment, protection of these areas is needed for wildlife to persist.



SOURCE: Open Street Map, 2017; County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 1
City of Los Angeles Map

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Additionally, sustaining wildlife habitat and connectivity within the City will have broader implications for conserving habitat connectivity and ecological functions within adjacent habitat areas and the greater region. Biological resources and important wildlife habitat areas within the City of Los Angeles comprise elements of larger regional habitat linkages that extend beyond the City's boundaries. These regional landscape linkages connect biological resource areas in the City with resource areas in neighboring and adjacent jurisdictions, which in turn may extend further to other contiguous or non-contiguous resource areas. Consequently, the recognition and protection of local habitat and connectivity offer a key contribution to the functioning of regional linkages.

3.3 Methodology Used to Define PAWs

3.3.1 Selection Criteria

A suite of selection criteria was established to define what resources and locations should be conserved as PAWs. These criteria parallel the County's SEA criteria, which were chosen to preserve biological diversity and ecological functions. To these initial criteria, wildlife corridors have been added to better acknowledge the importance of habitat connectivity for facilitating wildlife movement and maintaining ecological processes in an urban setting. Wildlife movement corridors may help to reduce or moderate some of the adverse effects of habitat fragmentation by facilitating dispersal of individuals between substantive patches of remaining habitat, allowing for both long-term genetic interchange and individuals to re-colonize habitat patches from which populations may have been locally extirpated. Additionally, another criterion has been added to reflect opportunities to restore and/or enhance natural resources in areas where restoration is planned to occur within the foreseeable future. The selection criteria include the following:

1. The habitat of core populations of Endangered or Threatened plant and/or animal species.
2. Biotic communities, vegetative associations, and plant and animal species habitats that are either unique or are restricted in distribution in Southern California.
3. Biotic communities, vegetative associations, and plant and animal species habitats that are either unique or are restricted in distribution within the City of Los Angeles.
4. Corridors that facilitate wildlife movement between habitat areas and that may be either constrained with urban or suburban development or unconstrained.
5. Habitat that at some point in the life cycle of a species or suite of species serves as concentrated breeding, feeding, resting, or migrating grounds and is limited in availability within Southern California or within the City of Los Angeles. This includes areas that provide for the conservation of relatively undisturbed examples of the original natural biotic communities (i.e., biodiversity) within the City of Los Angeles.
6. Areas where restoration and/or enhancement of the City's original biodiversity components is planned within the foreseeable future.

As part of the early consultation process, ESA and City staff considered whether or not to include areas of marginal value and highly constrained wildlife corridors. The initial decision was to include both marginal habitat (i.e., habitat that has been disturbed and is not pristine) and constrained corridors since both contribute to biodiversity, even if on a limited basis. If these areas met one or more of the selection criteria, then it was included as a PAW.

Additional factors considered included constrained wildlife movement pathways consisting of potential connections (between and within potential PAWs) where wildlife passage may be limited to areas as small as a network of side yards in residential areas, and small but important natural areas that may be home for highly restricted species or for unique resource rareness that occur in localized areas. For wildlife movement, mid- to large-sized mammals were initially the focus for representative wildlife movement since the larger ranges of these species often encompass many of the ranges of smaller terrestrial vertebrates. For purposes of this study, medium mammals include American badger (*Taxidea taxus*), gray fox (*Urocyon cinereoargenteus*), long-tailed weasel (*Mustela frenata*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and Virginia opossum (*Didelphis virginiana*). Large mammals include black bear (*Ursus americanus*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), mountain lion (*Puma concolor*), and mule deer (*Odocoileus hemionus*). However, the habitat and movement requirements for other taxa (e.g., amphibians, reptiles, birds) and in multiple habitat types (e.g., terrestrial, aquatic) were also considered. In small but important habitat areas, such as the Baldwin Hills where the coastal California gnatcatcher (*Polioptila californica californica*) (a federally threatened species) occurs, habitat sustainability and exchange between populations of "outlying" species are valuable ecological functions.

3.3.2 Data Review and Identification of Potential PAWs

ESA reviewed the City's biological resources and undeveloped areas in order to evaluate important wildlife habitat areas and recommend PAWs for the protection and preservation of the City's biological diversity and natural history heritage. The evaluation began with review of the County SEAs within the City of Los Angeles, which were overlaid onto an aerial photograph in Google Earth.[21] Additional potential City PAWs were then identified and delineated via review of aerial photography based on natural communities and undeveloped areas contiguous or adjacent to existing County SEAs, as well as other Open Space areas and large undeveloped areas with potential to support wildlife within the City.

Literature and databases were then reviewed for information focusing on important areas for connectivity throughout the City and region. Most of the studies reviewed did not focus on urban areas that provide fragmented habitat and are of lower ecological value, but rather focused on large undeveloped habitat blocks that contain habitat conducive to regional movement. Sources included *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*,[22] a collaborative inter-agency effort to identify and conserve a regional network of highest-priority habitat linkages throughout southern California, and *South Coast Missing Linkages: A Linkage Design for the Santa Monica-Sierra Madre Connection*,[23] which focuses on conserving a landscape-level connection between the Santa Monica Mountains and the Sierra Madre Ranges.

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21 Los Angeles County, Department of Regional Planning. 2017. *Significant Ecological Area - SEAs & The General Plan*. SEA Program. Available online (http://planning.lacounty.gov/sea/biological). Accessed November 3, 2017.

22 South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org. March 2008.

23 Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, R. Sauvajot, S. Riley, and D. Kamradt. 2006. *South Coast Missing Linkages Project: A Linkage Design for the Santa Monica-Sierra Madre Connection*. Produced by South Coast Wildlands, Idyllwild, CA. www.scwildlands.org, in cooperation with the National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy.

Although it is outside of the City's limits, Ventura County's *Habitat Connectivity and Wildlife Corridor*,[24] an effort which mapped wildlife corridors throughout Ventura County and developed regulations that would protect habitat connectivity and wildlife movement corridors within the non-coastal area of the county, was also reviewed for regional context.

ESA reviewed the *Rim of the Valley Corridor Special Resource Study* (Figure 1), a study to determine the feasibility of designating the Rim of the Valley corridor as a unit of the Santa Monica Mountains National Recreation Area (SMMNRA), and means for the protection and interpretation of this corridor by the NPS, other federal, state, or local government entities, or private or non-profit organizations.[25] Other reviewed references included the *California Essential Habitat Connectivity*, a state-wide study that identified from a broad-brush perspective large, relatively natural habitat blocks that support native biodiversity (Natural Landscape Blocks) and areas essential for ecological connectivity between them (Essential Connectivity Areas);[26] and conserved areas owned or managed by the Santa Monica Mountains Conservancy (SMMC)/Mountains Recreation Conservation Authority (MRCA). These areas were considered for expanded or additional areas for potential PAWs.

Additionally, maps and databases were queried for known occurrences of special-status species documented within the City. Special-status species include both plant and wildlife species considered endangered or threatened under the Federal Endangered Species Act or California Endangered Species Act, as well as species that are not yet listed but are becoming increasingly rare within the City or southern California region. Information reviewed included U.S. Fish and Wildlife Service (USFWS) Species Occurrence Data,[27] and USFWS Critical Habitat Mapping, which shows designated Critical Habitat areas important for the conservation of federally-listed species.[28] The California Natural Diversity Database (CNDDB), a CDFW species account database, was also queried for information regarding known observations of special-status species and sensitive habitats (such as Southern Coastal Bluff Scrub along the undeveloped coastline in San Pedro) within the City. The California Native Plant Society (CNPS) Online Inventory was also reviewed for rare plants documented within the City and vicinity. Other locally known locations of special-status species (e.g., least tern and snowy plover nesting locations based on ESA biologists' observations) were also considered. It should be noted that during the preparation of this report, on April 21, 2020, the Fish and Game Commission recommended the Southern California/Central Coast evolutionarily significant unit (ESU) of mountain lions as a candidate

24 Ventura County Resource Management Agency. 2020. Website accessed March 4, 2020. *Habitat Connectivity and Wildlife Corridor*. https://vcrma.org/habitat-connectivity-and-wildlife-movement-corridors.

25 NPS. 2015. *Finding of No Significant Impact, Rim of the Valley Corridor Special Resource Study*. November 2015.

26 CalTrans and CDFG. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Prepared with Funding from: Federal Highways Administration. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18366.

27 USFWS. 2017. *Species Occurrence Data*. Provided by USFWS.

28 USFWS. 2017. *Critical Habitat Mapping*. GIS files provided by USFWS.

species for listing as Threatened under the California Endangered Species Act.[29,30] Thus, for purposes of this report, mountain lion is considered a special-status species. Areas where special-status species occurrences have been documented were considered for potential PAWs, and as part of the selection criteria for determining PAWs.

Other data was collected to determine where common (i.e., not special-status) wildlife have been documented within the City. A literature review was conducted of local wildlife movement studies within the City, including a California State University, Northridge (CSUN) study of wildlife movement across Interstate 405 in the Sepulveda Pass area that was monitored using gypsum powder track stations,[31] and a University of California, Los Angeles (UCLA) study that conducted camera trapping in the eastern Santa Monica Mountains in the vicinity of Mulholland Drive and N. Beverly Glen Boulevard.[32] Additionally, the Griffith Park Connectivity Study motion-triggered cameras detected mule deer, bobcat, coyote, raccoon, striped skunk, and a male mountain lion near State Route 101 on the western side of Griffith Park.[33] This mountain lion detection in February 2012 was the first verifiable record of a mountain lion east of Interstate 405 or State Route 101 in the Santa Monica Mountains. As part of a NPS study, this mountain lion was later captured, radio-collared, and given the identification code of Puma 22 (or P22), and has since become a local celebrity.

NPS biologists provided species and location information for medium and large mammals they were radio-collar tracking within portions of the City.[34] Data was also provided from the UC Davis Road Ecology Center[35] that showed documented locations of roadkill or animal hazards (classified into either fatality, injury, alive/no injury, or fate unknown) reported from volunteer carcass observations between 2009 and 2017 and from accidents reported to the California Highway Patrol between February 2015 and February 2017 (**Figure 2**, *Reported Wildlife Roadkill Observations*). Nearly half of the data was comprised of deer observations.

29 Center for Biological Diversity and the Mountain Lion Foundation. June 25, 2019. A Petition to List the Southern California/Central Coast Evolutionarily Significant Unit (ESU) of Mountain Lions as Threatened under the California Endangered Species Act (CESA). https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=171208&inline.

30 California Fish and Game Commission. April, 21, 2020. *Notice of Findings. Mountain Lion (Puma Concolor).* https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=178623&inline

31 Osborn, N. 2009. *Barriers to Movement and Gene Flow in Mid-Sized Carnivores in the Eastern Santa Monica Mountains*. California State University, Northridge. Master of Science in Biology.

32 Albano, G., T. Bitcon, M. Condamoor, S. Lao, G. Lopez, R. Sokolovsky, and A. Vicencio. June 2012. *Large Mammal Movement in the Eastern Santa Monica Mountains*. UCLA Institute of the Environment and Sustainability. Environment 180 – Senior Practicum in Environmental Science. Client: Mountains Recreation and Conservation Authority. Advisors: Dr. Travis Longcore (UCLA) and Dr. Erin Boydston (U.S. Geological Survey).

33 Boydston, E., M. Ordeñana, and D. Cooper. 2014. *Landscape Connectivity for Medium and Large Mammals in the City of Los Angeles*. WatershedWise. Vol. 15, No. 4. Pages 4 -5.

34 NPS. 2018. Personal communication from NPS biologists (Justin Brown and Seth Riley) with Los Angeles Department of City Planning staff (Chris Piña, Michelle Levy, Lena Mik, and Conni Pallini-Tipton) and ESA biologists (Daryl Koutnik and Maile Tanaka). March 21, 2018.

35 University of California, Davis. 2017. *California Roadkill Observation System Occurrence Data*. Department of Environmental Science and Policy. Road Ecology Center. Email correspondence with Fraser Shilling, PhD., Co-Director. December 8, 2017.

Please Note: The reported wildlife roadkill occurrences shown on this map are based on community scientist observations. Although it is representative of where roadkill has been observed, the data is not comprehensive and has limitations (e.g., data may be skewed to indicate roads that people frequent the most, only represents those observations that were reported into the databases). Thus, the absence of reported roadkill observations does not indicate that roadkill or wildlife could not occur there.

4 - Mule (or Black tailed) Deer

2 - Coyote

2 - Mule (or Black tailed) Deer

2 - Mule (or Black tailed) Deer

3 - Mule (or Black tailed) Deer

17 Mule (or Black tailed) Deer

2

City of Los Angeles Boundary

Species

- American Coot
- American Crow
- Axis Deer
- Black-Necked Stilt
- Brown Pelican
- California Ground Squirrel
- Coyote
- Desert Cottontail
- Eastern Fox Squirrel
- Eastern Gray Squirrel
- Golden-Crowned Sparrow
- Gray Fox
- Great Horned Owl
- Mountain Lion
- Mule (or Black tailed) Deer
- Raccoon
- Rock Pigeon
- Rufous Hummingbird
- Striped Skunk
- Virginia Opossum

0 6 Miles

Path: U:\GIS\GIS\Projects\17xxxx\D170440_LA_City_Wildlife_Habitat_Blocks\03_MXDs_Projects\2020\Fig 2 - Reported Wildlife Roadkill Observations - 11x17.mxd, janderson 3/11/2020

SOURCE: NAIP, 2016 (Aerial); County of Los Angeles, UC Davis Road Ecology Center.

Los Angeles City Protection Areas for Wildlife

Figure 2
Reported Wildlife Roadkill Observations

ESA

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Available "community science" data, collected from databases that local naturalists can contribute to, was also reviewed to determine areas that may be important for preserving biodiversity. These sources included iNaturalist, an online mapping database run by the California Academy of Sciences using citizen science (reported by hikers, hunters, birders, beach-combers, and other professional and recreational naturalists) to collect and share basic information on species observations to help people learn about nature and biodiversity,[36] as shown in **Figure 3**, *Community Science Reported Wildlife Observations (Medium and Large Mammals)*, which shows medium and large mammals documented within the city; eBird, a collaborative effort between the Cornell Lab of Ornithology and National Audubon Society that provides data for basic information on bird abundance and distribution from data collected by recreational and professional bird watchers;[37] and Reptiles and Amphibians of Southern California (RASCals), a citizen science project by the Natural History Museum of Los Angeles County (NHMLAC) and the San Diego Natural History Museum (SDNHM) to document native and non-native reptiles and amphibians throughout the Southern California region.[38] Data was also reviewed from Coyote Cacher, a research project with the University of California Cooperative Extension to collect information on coyote encounters in California using citizen science to inform researchers of trends in human-coyote interactions.[39] Other locally known locations of wildlife species, such as grunion (*Leuresthes tenuis*) spawning beaches on Cabrillo Beach,[40] were also considered. Areas within the City where common wildlife have been observed or recorded, particularly areas with greater concentrations of wildlife occurrences, that may be important breeding grounds, or other areas that may meet the selection criteria, were reviewed for potential wildlife habitat currently existing and were considered for potential PAWs.

3.3.3 Evaluation of Potential PAWs Against Selection Criteria

Each potential PAW identified was then evaluated against the selection criteria to determine whether it should be included as a City PAW. A more detailed rationale for defining each of the selection criteria is provided below:

36 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed November 15, 2017.

37 The Cornell Lab of Ornithology. 2012. *eBird: An Online Database of Bird Distribution and Abundance*. eBird Hotspots (http://ebird.org/ebird/hotspots). eBird, Ithaca, New York. Available: http://www.ebird.org. Accessed: August 30, 2017.

38 Natural History Museum of Los Angeles County (NHMLAC) and San Diego Natural History Museum (SDNHM). 2018. *Reptiles and Amphibians of Southern California (RASCals) Project*. Website accessed January 18, 2018. https://nhm.org/site/activities-programs/citizen-science/rascals.

39 University of California, Division of Agricultural and Natural Resources. 2017. *Coyote Cacher*. Available online (http://ucanr.edu/sites/CoyoteCacher/). Website accessed September 7, 2017.

40 CDFW. 2017. *California Grunion Facts and Expected Runs*. Available online (https://www.wildlife.ca.gov/fishing/ocean/grunion#28352307-grunion-facts-and-faqs). Accessed September 28, 2017.

1. *The habitat of core populations of Endangered or Threatened plant or animal species.* This included plant and wildlife species that are listed as Federal and/or State Endangered and/or Threatened species by the USFWS and/or CDFW.[41, 42]

2. *Biotic communities, vegetative associations, and plant and animal species habitats that are either unique or are restricted in distribution in Southern California.* This included sensitive plant communities that are habitat types considered sensitive by the CDFW due to their rarity and/or decline in the region,[43] as well as other special-status plant and wildlife species, such as those considered rare by the CNPS[44] (i.e., not listed as Federal and/or State Endangered and/or Threatened species under Criterion 1).[45, 46, 47]

3. *Biotic communities, vegetative associations, and plant and animal species habitats that are either unique or are restricted in distribution within the City of Los Angeles.* This included locally important habitat areas, such as Environmentally Sensitive Habitat Areas identified within a Local Coastal Program.[48]

4. *Corridors that facilitate wildlife movement between habitat areas and that may be either constrained with urban or suburban development or unconstrained.* This included important areas for regional connectivity, such as the Los Angeles River, Santa Monica Mountains, and other areas with potential connection to large habitat blocks of undeveloped natural areas and/or open space areas, such as existing SEAs and other potential PAWs. A variety of factors were considered when evaluating the potential for connectivity, such as the range and mobility of various taxonomic groups (e.g., invertebrates, fish, amphibians, reptiles, birds, or mammals), topography, habitat type, land use (e.g., vacant, rural, suburban, urban), and the number and types of barriers to movement (e.g., roads, traffic, fences, human activity). Areas with potential connectivity were identified based on review of aerial photography, and conditions on the ground, such as general habitat types and barriers to movement, were ground-truthed in the field by experienced biologists (as detailed in Section 3.3.4 below) in order to determine suitability to support potential regional wildlife movement.

41 U.S. Fish and Wildlife Service (USFWS). 2017. *Species Occurrence Data*. Provided by USFWS.

42 CDFW. 2017. *California Natural Diversity Database (available by subscription) and Rarefind*. CDFW: Sacramento, California. Accessed September 28, 2017.

43 CDFW. 2018. *California Natural Community List*. Vegetation Classification and Mapping Program. October 15, 2018. https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#natural%20communities%20lists.

44 The CNPS is a private plant conservation organization dedicated to the monitoring and protection of special-status species in California.

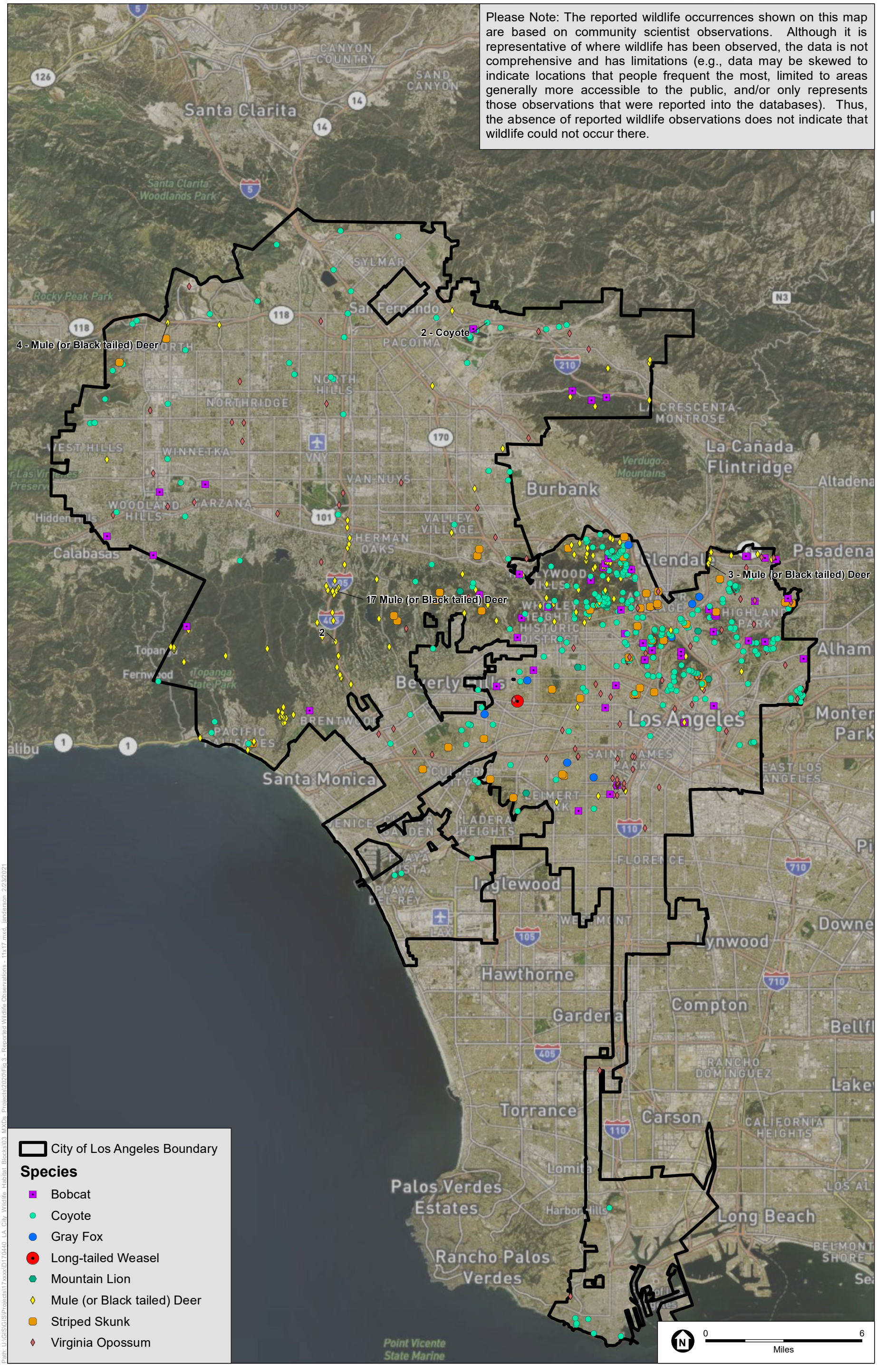
45 USFWS. 2017. *Species Occurrence Data*. Provided by USFWS.

46 CDFW. 2017. *California Natural Diversity Database (available by subscription) and Rarefind*. CDFW: Sacramento, California. Accessed September 28, 2017.

47 CNPS. 2017. *Inventory of Rare and Endangered Plants of California*. California Native Plant Society. Available online (http://cnps.web.aplus.net /cgi-bin/inv/inventory.cgi). Accessed September 28, 2017.

48 City of Los Angeles, Department of City Planning. 2001. *Venice Local Coastal Program*. Land Use Plan. www.lacity.org/PLN. Certified by the Coastal Commission June 14, 2001.

Please Note: The reported wildlife occurrences shown on this map are based on community scientist observations. Although it is representative of where wildlife has been observed, the data is not comprehensive and has limitations (e.g., data may be skewed to indicate locations that people frequent the most, limited to areas generally more accessible to the public, and/or only represents those observations that were reported into the databases). Thus, the absence of reported wildlife observations does not indicate that wildlife could not occur there.



SOURCE: NAIP, 2016 (Aerial); County of Los Angeles, UC Davis Road Ecology Center, iNaturalist.org.

Los Angeles City Protection Areas for Wildlife

Figure 3
Community Science Reported Wildlife Observations (Medium and Large Mammals)

ESA

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5. *Habitat that at some point in the life cycle of a species or suite of species serves as concentrated breeding, feeding, resting, or migrating grounds and is limited in availability on either a regional basis or within the City of Los Angeles. This includes areas that provide for the conservation of relatively undisturbed examples of the original natural biotic communities (i.e., biodiversity) within the City of Los Angeles.* This included areas that are locally important for breeding, feeding and resting, such as grunion spawning beaches on Cabrillo Beach[49] and monarch butterfly (*Danaus plexippus*) overwintering habitat.[50] This also included areas important for preserving biodiversity. For observations of avian species, the threshold for meeting this criterion was determined to be areas that supported 100 or more species of birds, as these areas are important for preserving biodiversity.[51, 52, 53, 54]

6. *Areas where restoration and/or enhancement of the City's original biodiversity components is planned within the foreseeable future.* This includes areas where the restoration and/or enhancement of biological resources is planned and will contributed to conserving biodiversity in the City, such as the Los Angeles River Ecosystem Restoration Project, a project of the U.S. Army Corps of Engineers (USACE) and locally sponsored by the City. The restoration project area is known as the ARBOR (Area with Restoration Benefits and Opportunities for Revitalization) reach, which plans to restore 11 miles of the Los Angeles River from approximately Griffith Park to downtown Los Angeles. Restoration measures considered include creation and reestablishment of historic riparian strand and freshwater marsh habitat to support wildlife and enhance habitat connectivity within the area, as well as to provide opportunities for connectivity to other areas, such as the Santa Monica Mountains, Verdugo Hills, Elysian Hills, and San Gabriel Mountains.[55] The City also prepared the Los Angeles River Revitalization Master Plan, a planning area which consists of an approximately one mile-wide, 32 mile-long river corridor and five opportunity areas along that corridor, to improve the general environment of the Los Angeles River by improving natural habitat, water quality, recreation, open space, and economic values.[56] The City also purchased the Taylor Yard, also referred to as the G2 parcel, a 42-acre parcel along the Los Angeles River, which is adjacent to Rio de Los Angeles State Park and the Bowtie, a 18-acre

49 CDFW. 2017. *California Grunion Facts and Expected Runs*. Available online (https://www.wildlife.ca.gov/fishing/ocean/grunion#28352307-grunion-facts-and-faqs). Accessed September 28, 2017.

50 CDFW. 2017. *California Natural Diversity Database (available by subscription) and Rarefind*. CDFW: Sacramento, California. Accessed September 28, 2017.

51 The Cornell Lab of Ornithology. 2012. *eBird: An Online Database of Bird Distribution and Abundance*. eBird Hotspots (http://ebird.org/ebird/hotspots). eBird, Ithaca, New York. Available: http://www.ebird.org. Accessed: August 30, 2017.

52 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed November 15, 2017.

53 USFWS. 2017. *Species Occurrence Data*. Provided by USFWS.

54 CDFW. 2017. *California Natural Diversity Database (available by subscription) and Rarefind*. CDFW: Sacramento, California. Accessed September 28, 2017.

55 City of Los Angeles. 2016. *Reader's Guide for the LA River Ecosystem Restoration Project*. Final Integrated Feasibility Report (IFR) which includes the Final Environmental Impact Statement / Environmental Impact Report. April 2016. http://eng2.lacity.org/techdocs/emg/docs/lariver/LA_River_Reader_Guide.pdf.

56 The City of Los Angeles and the U.S. Army Corps of Engineers. 2007. *Final Programmatic Environmental Impact Report/Programmatic Environmental Impact Statement for the Los Angeles River Revitalization Master Plan*. Prepared by the City of Los Angeles Department of Public Works Bureau of Engineering and the U.S. Army Corps of Engineers Los Angeles District Planning Division with technical assistance from Tetra Tech, Inc. http://boe.lacity.org/lariverrmp/CommunityOutreach/LARiverFinalPEIRPEIS_VolumeI_043007.pdf.pdf

parcel owned by California State Parks. The Taylor Yard G2 River Park Project plans to transform the 42-acre parcel into open space.[57, 58]

A comprehensive list of vegetation communities found within the City is included in **Appendix A**, *Representative Vegetation Associations*. Additionally, comprehensive lists of plant species, wildlife species, and special-status plant and wildlife species found within the City are included in **Appendix B**, *Floral Compendium*, **Appendix C**, *Faunal Compendium*, and **Appendix D**, *Special-Status Species*, respectively.

A detailed matrix summarizing the selection criteria met for each potential PAW is provided in **Appendix E**, *PAW Criteria Matrix*.

3.3.4 Field Evaluation of Potential PAWs

From October 18 to November 16, 2017, ESA biologists Daryl Koutnik, Maile Tanaka, Dale Hameister, Matt South, Karl Fairchild, and Karla Flores conducted field site visits to each potential PAW, and conducted habitat assessments to evaluate the potential for each site to support wildlife, with particular focus on medium and large mammals as representative species that have larger range requirements that encompass the ranges of a variety of taxa. For each site, general habitat types were noted, as well as any observations of medium or large mammals or their sign (e.g., tracks, scat). Any human activities (e.g., pedestrians, dog walkers, equestrians, hikers, joggers, bikers, homeless encampments, construction) observed within the potential PAW or the immediate area were noted, as well as potential barriers and hazards to wildlife movement (e.g., fencing, walls, steep terrain or cliffs, noise, freeways, highly-trafficked roads).

A table summarizing medium and large mammal field observations by ESA biologists, or an assessment of potential to occur within each potential PAW, is provided in **Appendix F**, *Potential for Medium and Large Mammal Species to Occur within Potential PAWs*.

3.3.5 Reconciliation of Potential PAWs with City Parcel Map

Upon completing the mapping of the potential PAW boundaries based on the above criteria and field evaluations, a total of 44 PAWs were recommended, and final mapping of the PAW boundaries was modified by matching the boundary of individual property parcels[59, 60] with the limits of the PAWs. It should be noted that public rights-of-way (e.g., transportation circulation and flood control boundaries) are non-parcel areas within the City; thus, in these areas, the PAW boundary was not mapped.

57 City of Los Angeles Bureau of Engineering. 2020. *Taylor Yard G2 Projects*. Website accessed March 5, 2020. https://tayloryardriverprojects.lacity.org/.

58 Zeiger, Mimi. 2019. *L.A. River planners float three design proposals for a major new park.* Los Angeles Times. July 17, 2019. https://www.latimes.com/entertainment/arts/la-et-cm-river-taylor-yard-park-design-proposals-20190708-story.html.

59 City of Los Angeles, Department of City Planning. 2017. *Zoning/Property Info (ZIMAS)*. Available online (http://zimas.lacity.org/). Accessed November 3, 2017.

60 County of Los Angeles, Office of the Assessor. 2017. *GIS Tax Parcel Boundary Base Map*. Los Angeles County Assessor. Information Technology Division. http://assessor.lacounty.gov/gis-maps/. April 3, 2017.

3.4 PAW Profiles

The 44 PAWs recommended are shown in **Figure 4**, *Protection Areas of Wildlife*. Descriptions of individual PAWs are provided below and are categorized geographically by Area Planning Commissions (APCs). For those PAWs that overlap into multiple APCs, the PAW is described in detail upon initial mention, and subsequent references may elaborate more on resources particular to a specific APC. The descriptions also note any PAWs that are documented as an existing Los Angeles County-designated SEA or an expanded area of existing Los Angeles County-designated SEA. Each PAW description includes a general discussion of representative vegetation communities that comprise the PAW, wildlife (with specific focus on medium and large mammals as representative species that have larger range requirements that encompass the ranges of a variety of taxa), potential for wildlife movement, and sensitive biological resources, including sensitive natural plant communities and special-status plant and wildlife species. For each PAW, the regional biological value is discussed and a table is included which summarizes each criterion and provides the justification for how they are met.

3.4.1 North Valley Area Planning Commission

3.4.1.1 Santa Susana Mountains and Simi Hills PAW

The Santa Susana Mountains and Simi Hills PAW is adapted from the existing Los Angeles County SEA, which includes four areas in the western and northwestern portions of the North Valley APC within the foothills of the Santa Susana Mountains to the northwest and the Simi Hills to the west (**Figure 5**, *North Valley APC - PAWs*). The western portion of the PAW is located south of State Route 118 and west of Chatsworth. The northwestern portion of the PAW is located north of State Route 118 and west of Porter Ranch and north of Granada Hills. The existing Los Angeles County SEA has been expanded to include additional undeveloped areas, including Stoney Point Park, Browns Creek Park, Mormon Canyon, O'Melveny Park, and undeveloped areas south of Sunshine Canyon Landfill. Within the North Valley APC, the Santa Susana Mountains and Simi Hills PAW is approximately 4,486.9 acres.

Vegetation

Natural plant communities within this PAW include non-native grassland, oak woodland, non-native woodland, coastal sage scrub, chaparral, rock outcrop, and sycamore and willow riparian woodland, as well as landscaped areas associated with parks.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Evidence of coyote and mule deer were observed within this PAW.

Wildlife Movement

Wildlife species have potential to move through the various fragments of this PAW, as well as to the larger expanses of undeveloped areas of the Santa Susana Mountains to the northwest and the Simi Hills to the west. This area is identified as part of the Rim of the Valley Corridor, and is adjacent to a Ventura County Wildlife Corridor, a California Essential Habitat Connectivity area,

and a South Coast Wildlands South Coast Ecoregion Missing Linkage (Santa Monica-Sierra Madre).

Sensitive Biological Resources

Sensitive Natural Plant Communities

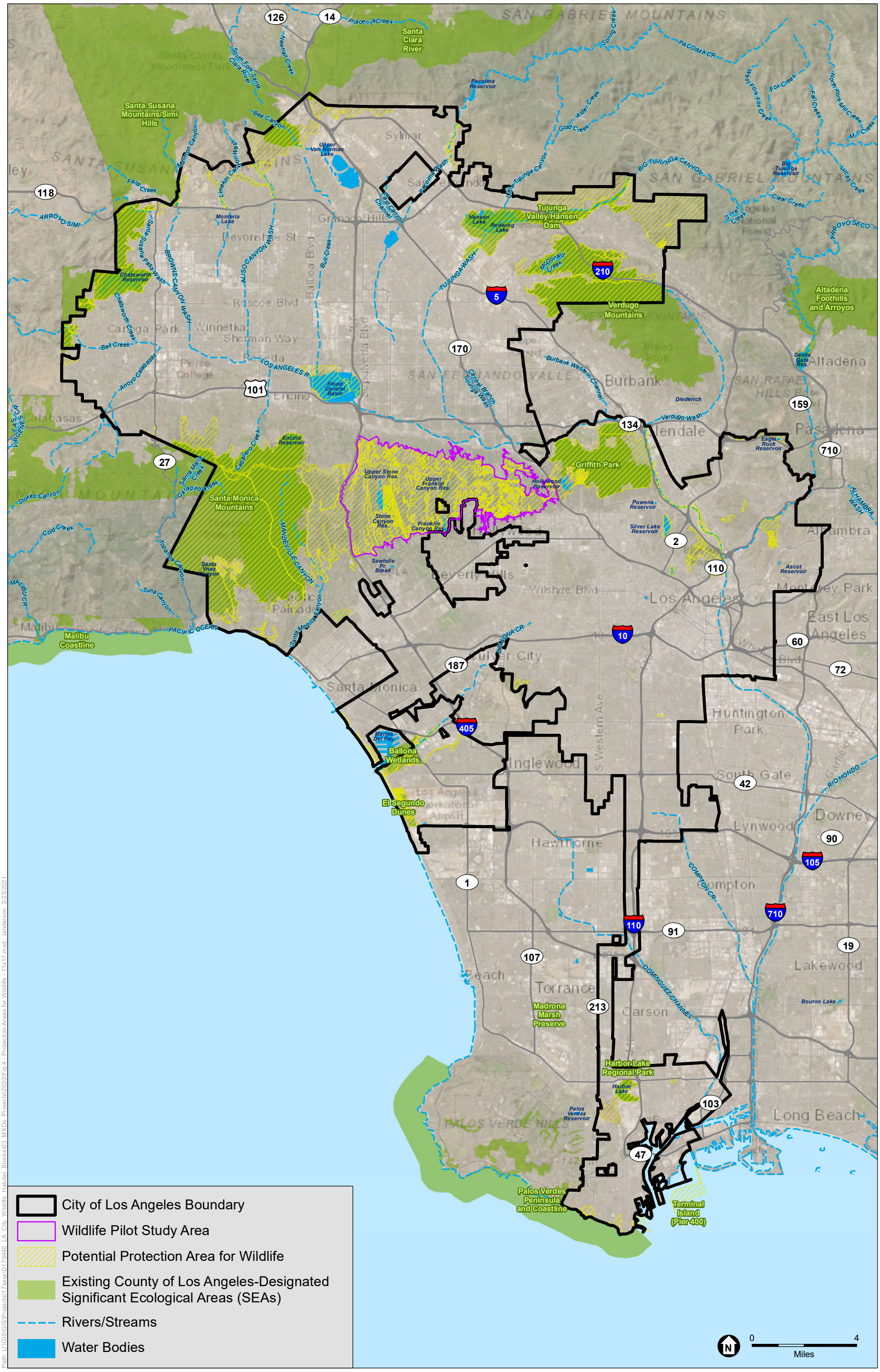
This PAW supports California Walnut Woodland and Southern Sycamore Alder Riparian Woodland, which are two communities that are considered sensitive habitats by CDFW due to their rarity and/or decline in the region.

Special-Status Plant Species

This PAW supports USFWS designated critical habitat for Braunton's milk-vetch (*Astragalus brauntonii*) (Federal Endangered [FE]), and has documented occurrences of Braunton's milk-vetch. Other special-status plant species documented to occur within this PAW include many-stemmed dudleya (*Dudleya multicaulis*) (CRPR 1B.2), Plummer's mariposa lily (*Calochortus plummerae*) (CRPR 4.2), slender mariposa lily (*Calochortus clavatus* var. *gracilis*) (CRPR 1B.2), and Santa Susana tarplant (*Deinandra minthornii*) (State Rare, CRPR 1B.2).

Special-Status Wildlife Species

This PAW supports USFWS designated critical habitat for coastal California gnatcatcher (Federal Threatened [FT], Species of Special Concern [SSC]), and has documented occurrences of tricolored blackbird (*Agelaius tricolor*) (State Candidate Endangered [SCE], SSC). Other special-status wildlife species documented to occur within this PAW include western spadefoot (*Spea hammondii*) (SSC), San Diego desert woodrat (*Neotoma lepida intermedia*) (SSC), western mastiff bat (*Eumops perotis californicus*) (SSC), and burrowing owl (*Athene cunicularia*) (SSC).

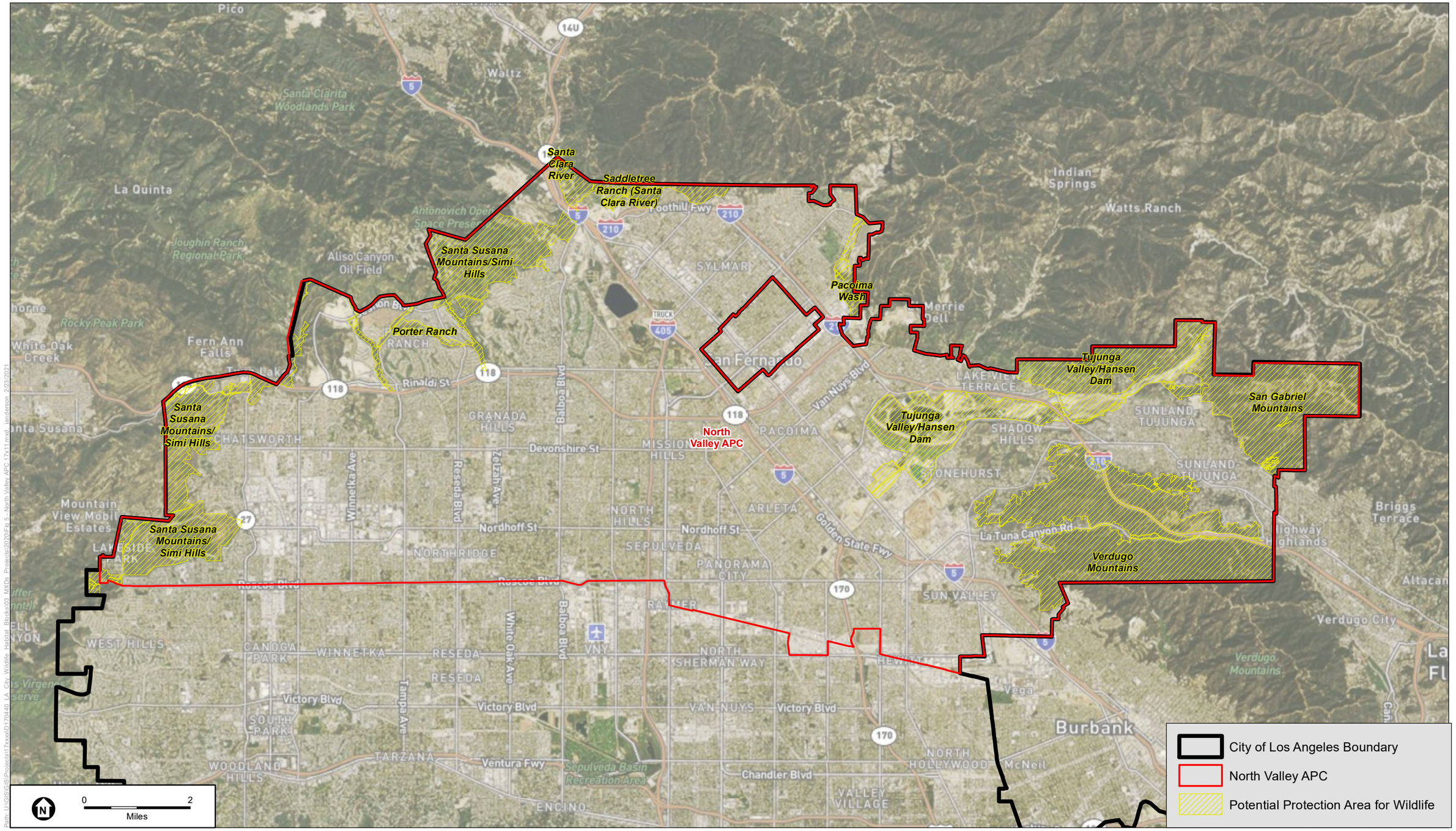


SOURCE: Open Street Map, 2017; County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 4
Protection Areas for Wildlife

ESA



Path: U:\GIS\GIS\Projects\17xxxx\D170440_LA_City_Wildlife_Habitat_Blocks\03_MXDs_Projects\2020\Fig 5 - North Valley APC 17x11.mxd_landerson_2/23/2021

SOURCE: Open Street Map, 2017 (Aerial); County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 5
North Valley APC - PAWs

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened plant species, critical habitat, sensitive natural plant communities, special-status species, linkages that facilitate wildlife movement within and between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened plant species and USFWS designated critical habitat.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant and wildlife species (e.g., CRPR plant species, SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.1.2 Porter Ranch PAW

The Porter Ranch PAW consists of a network of parks and undeveloped canyons and drainage courses within the Porter Ranch community, including Sesnon Canyon, Moonshine Canyon Park, Limekiln Canyon Park, Wilbur-Tampa Park, Aliso Canyon Park, and Porter Ridge Park (Figure 5). This PAW is located in the northern portion of the North Valley APC, just south of the foothills of the Santa Susana Mountains and north of State Route 118. Within an otherwise developed area, the Porter Ranch PAW provides a network of both live-in and movement habitats for wildlife that connect to larger natural areas (i.e., the Santa Susana Mountains to the north). The Porter Ranch PAW is approximately 367.9 acres.

Vegetation

Natural plant communities within this PAW include coastal sage scrub, chaparral, oak woodland, willow woodland, non-native woodland, and non-native grassland.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Evidence of coyote was observed within this PAW.

Wildlife Movement

Wildlife species have potential to move through the linear network of riparian drainages and upland areas within the canyons of this PAW, as well as to the larger expanses of undeveloped areas Santa Susana Mountains to the north.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Southern Cottonwood Willow Riparian Forest and Southern Sycamore Alder Riparian Woodland, which are two communities that are considered sensitive habitats by CDFW due to their rarity and/or decline in the region.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW supports USFWS designated critical habitat for coastal California gnatcatcher (FT, SSC) at Sesnon Canyon, Mormon Canyon, and Browns Creek Park.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports critical habitat, sensitive natural plant communities, and linkages that facilitate wildlife movement within and between PAWs.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports USFWS designated critical habitat.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities.
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.1.3 Saddletree Ranch (Santa Clara River) PAW

The Saddletree Ranch PAW contains a small area of the existing Los Angeles County Santa Clara River SEA, but has been expanded to include the undeveloped foothills of the San Gabriel Mountains (Figure 5). This PAW is immediately adjacent to Saddletree Ranch Open Space and the Angeles National Forest, which lie to the north, and includes Stetson Ranch Park. The Saddletree Ranch is located within the northern portion of the North Valley APC, just east of Interstate 5 and north of Interstate 210 and the community of Sylmar. The Saddletree Ranch PAW is approximately 695.8 acres.

Vegetation

Natural plant communities within this PAW include coastal sage scrub, chaparral, oak woodland, and non-native grassland.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, reptiles, birds, and small mammals). Coyote has been documented within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW, as well as to the larger expanses of undeveloped areas of Saddletree Ranch Open Space and the Angeles National Forest to the north. This area is identified as part of the Rim of the Valley Corridor, and is adjacent to a California Essential Habitat Connectivity area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Southern Coast Live Oak Riparian Forest, which is considered a sensitive habitat by CDFW.

Special-Status Plant Species

Special-status plant species documented to occur within this PAW include Davidson's bush-mallow (*Malacothamnus davidsonii*) (CRPR 1B.2) and Plummer's mariposa lily (CRPR 4.2).

Special-Status Wildlife Species

This PAW supports USFWS designated critical habitat for coastal California gnatcatcher (FT, SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports critical habitat, sensitive natural plant communities, special-status species, linkages that facilitate wildlife movement between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports USFWS designated critical habitat.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant species (e.g., CRPR plant species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.1.4 Pacoima Wash PAW

The Pacoima Wash PAW includes the undeveloped natural areas within Pacoima Wash as well as the foothills of the San Gabriel Mountains that fall within the City's limits (Figure 5). This PAW is located in the northern portion of the North Valley APC, northeast of Interstate 210, north of the community of Pacoima. The Pacoima Wash PAW is approximately 307.5 acres.

Vegetation

Natural plant communities within this PAW include coastal sage scrub, willow riparian woodland, mule fat scrub, and alluvial scrub.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Evidence of coyote was observed within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW, as well as to the larger expanses of undeveloped areas of the San Gabriel Mountains to the east. This area is identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

Special-status plant species documented to occur within this PAW include Plummer's mariposa lily (CRPR 4.2).

Special-Status Wildlife Species

This PAW has documented occurrences of least Bell's vireo (*Vireo bellii pusillus*) (FE, State Endangered [SE]).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species and special-status species.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered/ Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports special-status plant species (e.g., CRPR plant species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating		

Criteria	Criterion Satisfied?	Qualifying Evidence
Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.1.5 Tujunga Valley and Hansen Dam PAW

The Tujunga Valley and Hansen Dam PAW is adapted from the existing Los Angeles County SEA, and includes a portion of Big Tujunga Canyon, Tujunga Valley, Hansen Dam, Hansen Dam Park, Hansen Lake, and spreading grounds for the Los Angeles County Flood Control District (Figure 5). This PAW also includes Angeles National Golf Club, Hansen Dam Equestrian Center, and Hansen Dam Golf Course. This PAW is located in the northeastern portion of the North Valley APC, east and west of Interstate 210 between the communities of Lakeview Terrance and Sunland-Tujunga. The Tujunga Valley and Hansen Dam PAW is approximately 3,914.6 acres.

Vegetation

Natural plant communities within this PAW include alluvial fan sage scrub, willow-cottonwood riparian forest, oak woodland, wetlands, ruderal (i.e., non-native herbaceous cover), and open water.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Coyote has been documented within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW, as well as to the San Gabriel Mountains PAW to the east and the larger expanses of undeveloped areas of the San Gabriel Mountains to the north and east. This area is identified as part of the Rim of the Valley Corridor and connects to a South Coast Wildlands Missing Linkage.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Riversidean Alluvial Fan Sage Scrub and Southern Sycamore Alder Riparian Woodland, which are two communities that are considered sensitive habitats by CDFW due to their rarity and/or decline in the region.

Special-Status Plant Species

This PAW has documented occurrences of slender-horned spineflower (*Dodecahema leptoceras*) (FE, SE, CRPR 1B.1) and Davidson's bush-mallow (CRPR 1B.2).

Special-Status Wildlife Species

This PAW supports USFWS designated critical habitat for Santa Ana sucker (*Catostomus santaanae*) (FT), and has documented occurrences of coastal California gnatcatcher (FT, SSC), least Bell's vireo (FE, SE), Santa Ana sucker (FT), southwestern willow flycatcher (*Empidonax traillii extimus*) (FE, SE), southern mountain yellow-legged frog (*Rana muscosa*) (FE, SE). Other special-status wildlife species documented to occur within this PAW include arroyo chub (*Gila orcuttii*) (SSC), Santa Ana speckled dace (*Rhinichthys osculus* ssp. *3*) (SSC), California legless lizard (*Anniella* sp. *1*) (SSC), coast horned lizard (*Phrynosoma blainvillii*) (SSC), coastal whiptail (*Aspidoscelis tigris stejnegeri*) (SSC), western pond turtle (*Emys marmorata*) (SSC), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened plant and wildlife species, critical habitat, sensitive natural plant communities, special-status species, linkages that facilitate wildlife movement between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened plant and wildlife species and USFWS designated critical habitat.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant and wildlife species (e.g., CRPR plant species, SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.1.6 San Gabriel Mountains PAW

The San Gabriel Mountains PAW consists of the surrounding foothills of the San Gabriel Mountains to the north and east of the Tujunga Valley and Hansen Dam PAW (Figure 5). This PAW is located in the northeastern portion of the North Valley APC, northeast of Interstate 210 and north and east of the community of Sunland-Tujunga. The San Gabriel Mountains PAW is approximately 2,731.6 acres.

Vegetation

Natural plant communities within this PAW include chaparral, coastal sage scrub, and non-native grassland.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals).

Wildlife Movement

Wildlife species have potential to move through this PAW, as well as to the Tujunga Valley and Hansen Dam PAW to the west and the larger expanses of undeveloped areas of the San Gabriel Mountains to the north and east. Portions of this area are identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Southern Coast Live Oak Riparian Forest and Southern Sycamore Alder Riparian Woodland, which are two communities that are considered sensitive habitats by CDFW due to their rarity and/or decline in the region.

Special-Status Plant Species

Special-status plant species documented to occur within this PAW include Davidson's bush-mallow (CRPR 1B.2), Greata's aster (*Symphyotrichum greatae*) (CRPR 1B.3), and Plummer's mariposa lily (CRPR 4.2).

Special-Status Wildlife Species

This PAW has documented occurrences of mountain lion (State Candidate Threatened [SCT]) and coast horned lizard (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports sensitive natural plant communities, special-status species, linkages that facilitate wildlife movement between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant and wildlife species (e.g., CRPR plant species, SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages. Directly connects to the Tujunga Valley and Hansen Dam PAW to the west.
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.1.7 Verdugo Mountains PAW

The Verdugo Mountains PAW is adapted from the existing Los Angeles County SEA, but has been expanded slightly in some areas to include additional contiguous undeveloped natural areas within the Verdugo Mountains (Figure 5). This PAW is located to the southwest, south, and northeast of Interstate 210, and includes Verdugo Mountain Park, Tuna Canyon Park, McGroarty Park, Haines Canyon Park, Verdugo Hills Golf Course, and Villa Cabrini Park. The Verdugo Mountains PAW is approximately 5,578.8 acres.

Vegetation

Natural plant communities within this PAW include chaparral, coastal sage scrub, oak woodland, and riparian oak forest.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Evidence of coyote, gray fox, American black bear, and raccoon were observed, and bobcat has been documented within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW, as well as to the larger expanses of undeveloped areas of the Verdugo Mountains to the south. This area is identified as part of the Rim of the Valley Corridor and connects to a South Coast Wildlands Missing Linkage.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Southern Coast Live Oak Riparian Forest and Southern Sycamore Alder Riparian Woodland, which are two communities that are considered sensitive habitats by CDFW due to their rarity and/or decline in the region.

Special-Status Plant Species

Special-status plant species documented to occur within this PAW include Davidson's bush-mallow (CRPR 1B.2), Plummer's mariposa lily (CRPR 4.2), slender mariposa lily (CRPR 1B.2), and white rabbit-tobacco (*Pseudognaphalium leucocephalum*) (CRPR 2B.2).

Special-Status Wildlife Species

This PAW has documented occurrences of mountain lion (SCT).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports sensitive natural plant communities, special-status species, and linkages that facilitate wildlife movement within and between PAWs.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant species (e.g., CRPR plant species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 6: Restoration Foreseeable		

3.4.2 South Valley Area Planning Commission

3.4.2.1 Santa Susana Mountains and Simi Hills PAW

The Santa Susana Mountains and Simi Hills PAW is described above in Section 3.1.1.1. This PAW extends into the South Valley APC and is located in along the foothills of the Simi Hills, west of the community of West Hills. Within the South Valley APC, this PAW includes Roscoe-Valley Circle Park, El Escorpion Park, Bell Canyon Park, and Knapp Ranch Park West (**Figure 6**, *South Valley APC - PAWs*). Within the South Valley APC, the Santa Susana Mountains and Simi Hills PAW is approximately 574.1 acres.

Vegetation

Natural plant communities within this PAW include non-native grassland, oak woodland, non-native woodland, coastal sage scrub, chaparral, and sycamore and willow riparian woodland, as well as landscaped areas associated with a park.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Evidence of coyote and mule deer were observed within this PAW.

Wildlife Movement

Wildlife species have potential to move through the various fragments of this PAW, as well as to the larger expanses of undeveloped areas of the Simi Hills to the west. This area is identified as part of the Rim of the Valley Corridor, and is adjacent to a Ventura County Wildlife Corridor, a California Essential Habitat Connectivity area, and a South Coast Wildlands South Coast Ecoregion Missing Linkage (Santa Monica-Sierra Madre).

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Southern Coast Live Oak Riparian Forest, which is considered sensitive habitats by CDFW due to its rarity and/or decline in the region.

Special-Status Plant Species

This PAW has documented occurrences of Braunton's milk-vetch (FE). Other special-status plant species documented to occur within this PAW include chaparral nolina (*Nolina cismontana*) (CRPR 1B.2) and Plummer's mariposa lily (*Calochortus plummerae*) (CRPR 4.2).

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened plant species, sensitive natural plant communities, and special-status plant species.

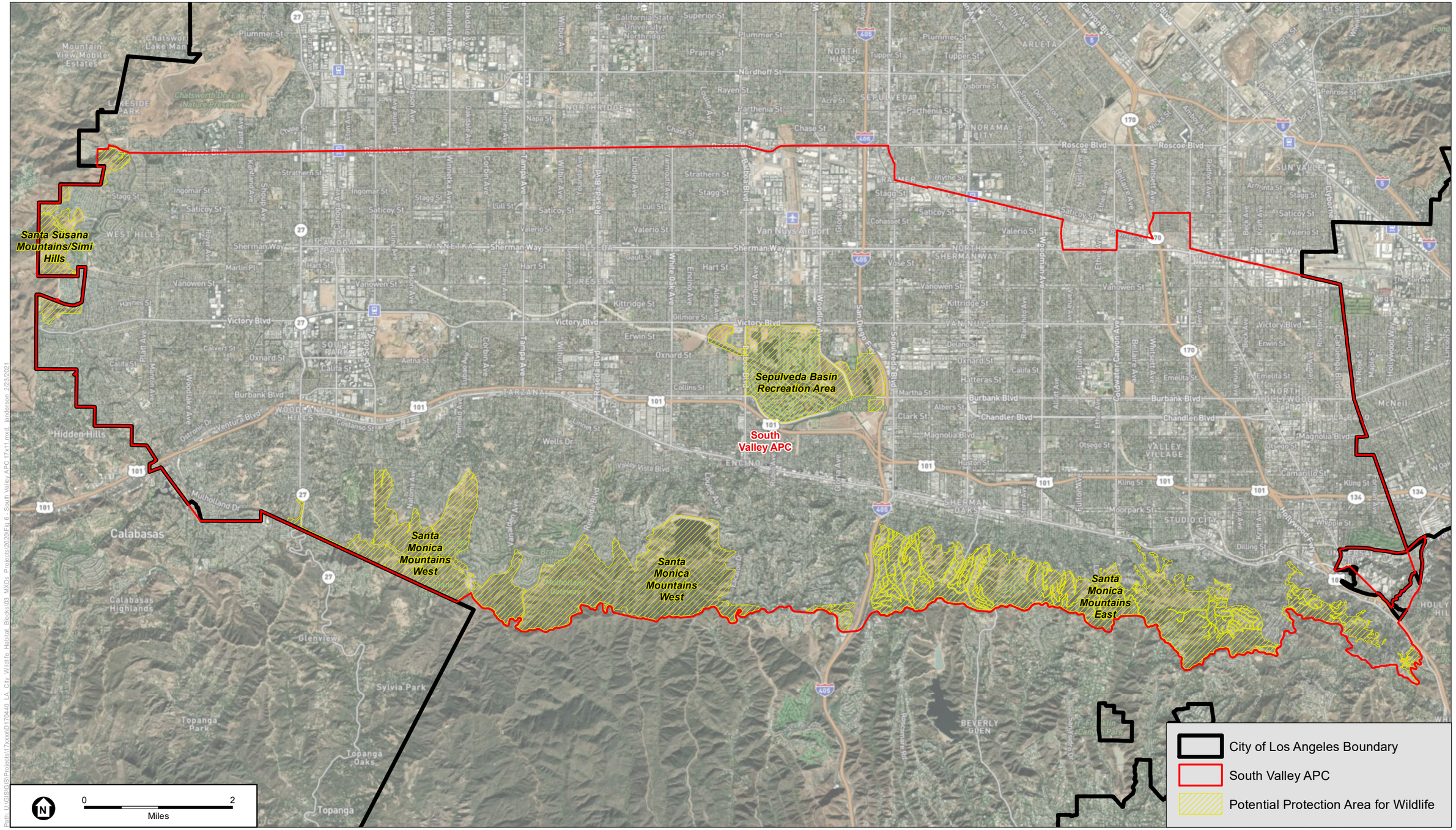
Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened plant species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant species (e.g., CRPR plant species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.2.2 Santa Monica Mountains West PAW

Within the South Valley APC, the Santa Monica Mountains West PAW is adapted from the existing Los Angeles County SEA, but was expanded to include undeveloped natural areas along Topanga Canyon State Park, Marvin Braude Mulholland Gateway Park, and Serrania Avenue Park as Resource areas within the western portion of this PAW (Figure 6). This PAW is located within the southwestern portion of the South Valley APC within the foothills of the Santa Monica Mountains, south of State Route 101. Within the South Valley APC, the Santa Monica Mountains West PAW is approximately 10,769.5 acres.

Vegetation

Natural plant communities within this PAW include chaparral, oak woodland, sycamore woodland, non-native woodland, ruderal, and non-native grassland.



SOURCE: Open Street Map, 2017 (Aerial); County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

ESA

Figure 6
South Valley APC - PAWs

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Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Mountain lion (*Puma concolor*) and coyote has been documented within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW, as well as to the larger expanses of undeveloped areas of the Santa Monica Mountains to the south and west into unincorporated Los Angeles County. This area is identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports California Walnut Woodland, which is considered a sensitive habitat by CDFW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of mountain lion (SCT).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports sensitive natural plant communities.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered/ Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities.
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating		

Criteria	Criterion Satisfied?	Qualifying Evidence
Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.2.3 Santa Monica Mountains East PAW

The Santa Monica Mountains East PAW is a network of fragmented undeveloped natural areas interspersed with residential development of suburban single-family homes, many of which are aligned along ridges and canyons (Figure 6). Although this fragmented PAW does not contain large, extensive blocks of contiguous natural areas as many of the other PAWs do, this PAW connects larger areas of intact natural habitat within the Santa Monica Mountains West PAW to the west, and the Griffith Park and Hollywood Hills PAW to the east. Within the South Valley APC, the Santa Monica Mountains East PAW includes Deervale-Stone Canyon Park, Johnson Overlook, Fossil Ridge Park, Charles and Lotte Melhorn Overlook, Dixie Canyon Park, Longridge Park, MRCA Open Space, Coldwater Canyon Open Space, Wilacre Park, Coldwater Canyon Park, Fryman Canyon Park, Autry Overlook, Dead Man Overlook, and Universal City Overlook as Resource Areas. This PAW is located within the eastern range of the Santa Monica Mountains, east of Interstate 405 and west of State Route 101. Within the South Valley APC, the Santa Monica Mountains East PAW is approximately 1,570.8 acres.

Vegetation

Natural plant communities within this PAW include chaparral, oak woodland, sycamore woodland, walnut woodland, non-native woodland, ruderal, and non-native grassland.

Wildlife

This PAW has a moderate to high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, reptiles, birds, and small mammals). Coyote and bobcat have been documented within this PAW.

Wildlife Movement

Although fragmented, wildlife species have potential to move through the various fragments of this PAW, as well as to the larger expanses of undeveloped areas of the Santa Monica Mountains to the west, fragmented undeveloped areas to the south, and Griffith Park and Hollywood Hills PAW to the east. Large portions of this area are identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports California Walnut Woodland, which is considered a sensitive habitat by CDFW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of mountain lion (SCT).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports sensitive natural plant communities and linkages that facilitate wildlife movement within the PAW.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered/ Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities.
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.2.4 Sepulveda Basin Recreation Area PAW

The Sepulveda Basin Recreation Area PAW consists of the Sepulveda Flood Control Basin, Lake Balboa and Anthony C. Beilenson Park, Woodley Park, as well as a vegetated stretch of the Los Angeles River that extends from the Orange Line Busway to Burbank Boulevard (Figure 6). This PAW also includes the Woodley Lake Golf Course, Balboa Golf Course, and Encino Municipal Golf Course. Although this PAW contains little undeveloped natural habitat, the open space areas within this PAW may provide some habitat for wildlife within an otherwise urbanized area of the San Fernando Valley. The Sepulveda Basin Recreation Area PAW is located west of Interstate 405 and north of State Route 101 within a highly developed area northeast of Encino and

southwest of Van Nuys. The Sepulveda Basin Recreation Area PAW is approximately 1,158.1 acres.

Vegetation

Natural plant communities within this PAW include willow riparian woodland, non-native grassland, and landscaped areas and golf courses.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Medium and large mammals may be limited to more urban-adapted species, such as coyote, since this PAW is isolated and surrounded by development, and habitat to support such species is primarily within the dense vegetation within the Los Angeles River. Coyote, raccoon, and Virginia opossum have been documented within this PAW.

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in and urban-adapted terrestrial species that may utilize the concrete-lined portions of the Los Angeles River that lie upstream and downstream of the PAW as a movement corridor. This area is identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of least Bell's vireo (FE, SE), western pond turtle (SSC), and burrowing owl (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species, special-status species, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports special-status wildlife species (e.g., SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3 West Los Angeles Area Planning Commission

3.4.3.1 Santa Monica Mountains West PAW

The Santa Monica Mountains West PAW is described above in Section 3.1.2.2. The majority of this PAW falls within the West Los Angeles APC and is adapted from the existing Los Angeles County SEA, but was expanded to include adjacent undeveloped natural areas west towards Topanga Canyon and east towards Interstate 405 (**Figure 7**, *West Los Angeles APC - PAWs*). The Santa Monica Mountains West PAW includes Topanga State Park, Santa Ynez Canyon Park, Temescal Gateway Park, Rivas Canyon Park, Will Rogers State Historic Park, Westridge-Canyonback Wilderness Park, and Mountain Gate Country Club as Resource Areas. This PAW contains large extents of undeveloped natural area that are contiguous to the rest of the Santa Monica Mountains to the west in unincorporated Los Angeles County and Ventura County. The Santa Monica Mountains West PAW is located within the western portion of the West Los Angeles APC, west of Interstate 405. Within the West Los Angeles APC, the Santa Monica Mountains West PAW is approximately 8,795.1 acres.

Vegetation

Natural plant communities within this PAW include chaparral, oak woodland, sycamore woodland, non-native woodland, ruderal, and non-native grassland.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Mountain lion, coyote, and mule deer have been documented within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW, as well as to the large expanses of undeveloped areas of the Santa Monica Mountains to the east and west into unincorporated Los Angeles County. This area is identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

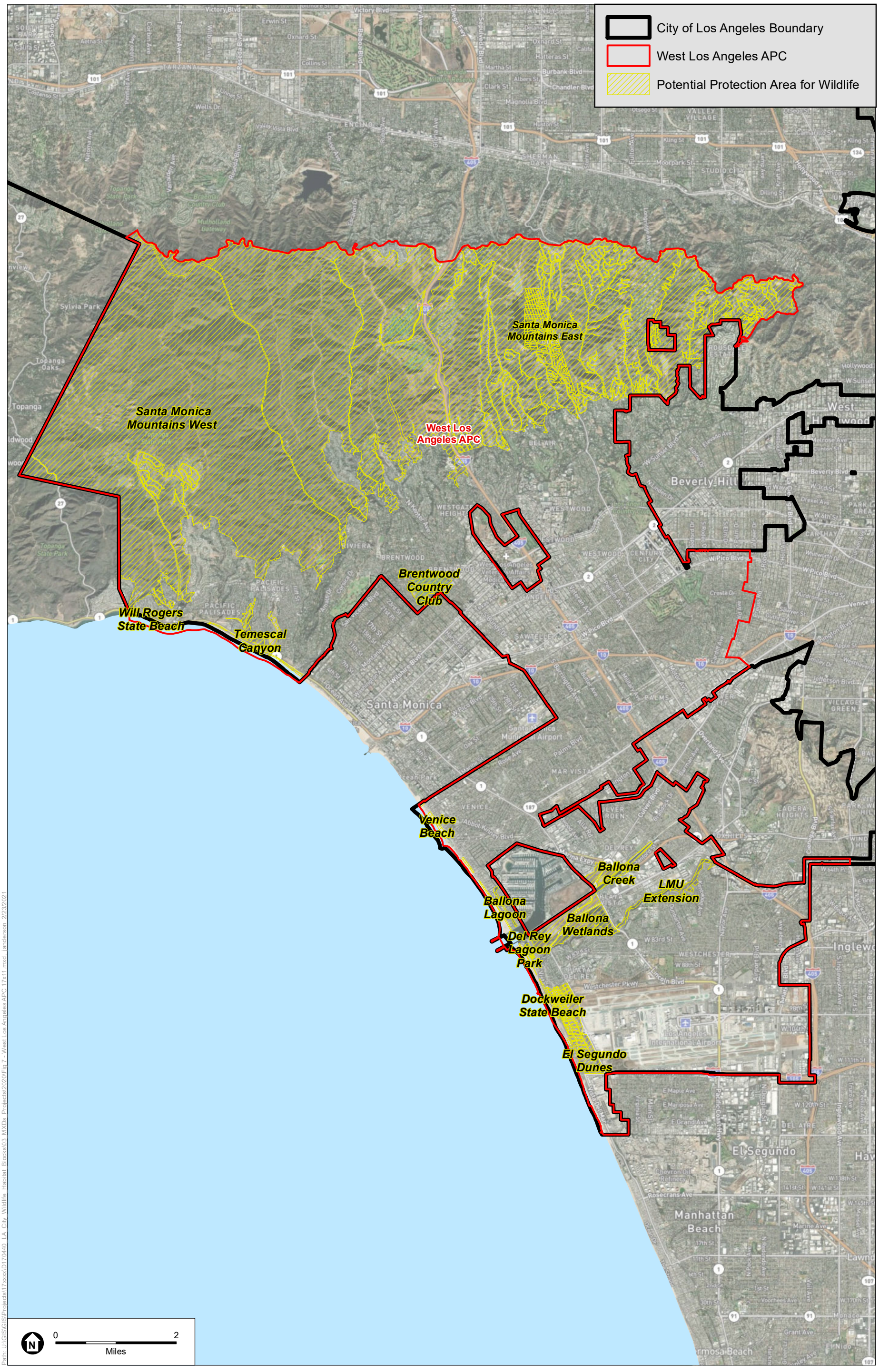
This PAW supports California Walnut Woodland, Southern Coast Live Oak Riparian Forest, and Southern Sycamore Alder Riparian Woodland, which are communities that are considered sensitive habitats by CDFW due to their rarity and/or decline in the region.

Special-Status Plant Species

This PAW supports USFWS designated critical habitat for Braunton's milk-vetch FE, and has documented occurrences of Braunton's milk-vetch. Other special-status plant species documented to occur within this PAW include Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*) (FT, CRPR 1B.1), Plummer's mariposa lily (CRPR 4.2), and white-veined monardella (*Monardella hypoleuca* ssp. *hypoleuca*) (CRPR 1B.3).

Special-Status Wildlife Species

This PAW has documented occurrences of steelhead (southern California Distinct Population Segment [DPS]) (*Oncorhynchus mykiss irideus*) (FE) and mountain lion (SCT). Other special-status wildlife species documented to occur within this PAW include coastal whiptail (SSC), two-striped garter snake (*Thamnophis hammondii*) (SSC), and western mastiff bat (SSC).



SOURCE: Open Street Map, 2017 (Aerial); County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 7
West Los Angeles APC - PAWs

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Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened plant species, critical habitat, sensitive natural plant communities, special-status species, linkages that facilitate wildlife movement within and between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened plant species and USFWS designated critical habitat.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant and wildlife species (e.g., CRPR plant species, SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species and monarch butterfly habitat, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.2 Santa Monica Mountains East PAW

The Santa Monica Mountains East PAW is described above in Section 3.1.2.3. The majority of this fragmented PAW falls within the West Los Angeles APC (Figure 7). Within the West Los Angeles APC, the Santa Monica Mountains East PAW includes Getty View Park, Stone Canyon Overlook, Stone Canyon Reservoir, Briarwood Park, Beverly Glen Park, Franklin Canyon Park, and Laurel Canyon Park as Resource Areas. This PAW is located within the eastern range of the Santa Monica Mountains, east of Interstate 405 and west of State Route 101. Within the West Los Angeles APC, the Santa Monica Mountains East PAW is approximately 1,424.6 acres.

Vegetation

Natural plant communities within this PAW include chaparral, oak woodland, walnut woodland, non-native woodland, ruderal, and native and non-native grasslands.

Wildlife

This PAW has a moderate to high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Coyote, mule deer, and bobcat have been documented within this PAW.

Wildlife Movement

Although fragmented, wildlife species have potential to move through the various fragments of this PAW, as well as to the larger expanses of undeveloped areas of the Santa Monica Mountains to the west and Griffith Park and Hollywood Hills PAW to the east. Large portions of this area are identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports California Walnut Woodland, which is considered a sensitive habitat by CDFW.

Special-Status Plant Species

Special-status plant species documented to occur within this PAW include Greata's aster (CRPR 1B.3).

Special-Status Wildlife Species

This PAW has documented occurrences of mountain lion (SCT) and coast horned lizard (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports sensitive natural plant communities, special-status species, linkages that facilitate wildlife movement within and between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant and wildlife species (e.g., CRPR plant species, SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.3 Will Rogers State Beach PAW

The Will Rogers State Beach PAW consists of the coastal stretch of sandy beach from Coastline Drive to southeast of Entrada Drive, just southwest of (and parallel to) Pacific Coast Highway (Figure 7). This PAW includes Will Rogers State Beach and is located within the southwestern portion of the West Los Angeles APC. The Will Rogers State Beach PAW is approximately 102.9 acres.

Vegetation

Natural plant communities within this PAW include sandy beach and coastal sage scrub.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Wildlife species have potential to move through this PAW to beaches of unincorporated Los Angeles County to the north and the City of Santa Monica to the south. This area is identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW supports USFWS designated critical habitat for snowy plover (*Charadrius alexandrinus nivosus*) (FT, SSC), and has documented occurrences of this species.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species, critical habitat, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species and USFWS designated critical habitat.
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.4 Temescal Canyon PAW

The Temescal Canyon PAW includes the undeveloped natural areas within Temescal Canyon Park, Palisades Park, and Potrero Canyon Park (Figure 7). This PAW is located in the southwestern portion of the West Los Angeles APC, just northeast of Pacific Coast Highway in the community of Pacific Palisades. The Temescal Canyon PAW is approximately 98.9 acres.

Vegetation

Natural plant communities within this PAW include coastal bluff, coastal sage scrub, chaparral, and landscaped areas including non-native trees and manicured lawns.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, reptiles, birds, and small mammals). Evidence of coyote was observed within this PAW.

Wildlife Movement

Wildlife species have potential to move along the canyons of this PAW. Although somewhat isolated by surrounding development, this PAW is adjacent to the Will Rogers State Beach PAW and near the Santa Monica Mountains West PAW, so some wildlife (e.g., insect and avian species that can fly in and urban-adapted terrestrial species) may move to and from this PAW from surrounding areas. This area is identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that is important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.5 Brentwood Country Club PAW

The Brentwood Country Club PAW includes the landscaped golf course within the Brentwood Country Club (Figure 7). This PAW is located in the southwestern portion of the West Los Angeles APC, southwest of Interstate 405 and northwest of the Interstate 10 in the community of Brentwood. The Brentwood Country Club PAW is approximately 128.6 acres.

Vegetation

This PAW contains landscaped areas with non-native trees (pines and eucalyptus) and manicured lawns.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals).

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in and urban-adapted terrestrial species.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that is important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California		

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports monarch butterfly overwintering habitat, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.6 Venice Beach PAW

The Venice Beach PAW consists of the coastal stretch of sandy beach from Marine Court to the Marina del Rey Channel, just southwest of (and parallel to) Ocean Front Walk (Figure 7). This PAW includes Venice Beach and is located within the southern portion of the West Los Angeles APC. The Venice Beach PAW is approximately 165.1 acres.

Vegetation

This PAW includes a coastal stretch of sandy beach.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Wildlife species have potential to move through this PAW to beaches of unincorporated Los Angeles County to the north and the City of Santa Monica to the south.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of snowy plover (FT, SSC) and least tern (*Sternula antillarum browni*) (FE, SE, State Fully Protected [SFP]). In addition, this PAW supports a nesting colony of least terns within an area that has been fenced off for the protection of the colony (e.g., from terrestrial predators, human disturbance, off-leash domestic dogs), which is considered an Environmentally Sensitive Habitat Area (ESHA) within the Venice Local Coastal Program (LCP).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles	X	Venice LCP ESHA (Least Tern Nesting Area)
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.7 Ballona Lagoon PAW

The Ballona Lagoon PAW consists a small lagoon that is fed by Grand Canal to the northwest, and is immediately adjacent to Marina del Rey Channel and surrounded by residential development to the east, north, and west (Figure 7). This PAW is located within the southern portion of the West Los Angeles APC, just northeast of the Venice Beach PAW. The Ballona Lagoon PAW is approximately 18.4 acres.

Vegetation

This PAW includes a coastal marsh community.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Wildlife species have potential to move through this PAW from Venice Beach, which parallels Ballona Lagoon to the southwest, and Ballona Creek to the south.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW. However, Ballona Lagoon is considered an ESHA within the Venice LCP.

Special-Status Plant Species

Special-status plant species documented to occur within this PAW include Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*) (CRPR 1B.1).

Special-Status Wildlife Species

This PAW has documented occurrences of least tern (FE, SE, SFP) and California black rail (*Laterallus jamaicensis coturniculus*) (State Threatened [ST], SFP).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports special-status plant species (e.g., CRPR plant species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles	X	Venice LCP ESHA
Criterion 4: Supports Linkages/Constrained Linkages		

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.8 Ballona Wetlands PAW

The Ballona Wetlands PAW includes the undeveloped natural areas of the Ballona Freshwater Marsh and Ballona Wetlands Ecological Reserve that are immediately south of channelized Ballona Creek (Figure 7). The Ballona Wetlands are a remnant of what was the largest coastal lagoon in Los Angeles (Los Angeles County 2012a). This PAW is contiguous to undeveloped areas outside of the City's limits (i.e., within unincorporated Los Angeles County) to the north of Ballona Creek. This PAW is located in the southern portion of the West Los Angeles APC within the community of Playa del Rey. The Ballona Wetlands PAW is approximately 471.6 acres.

Vegetation

Natural plant communities within this PAW include salt marsh, seasonal wetland, salt pan, brackish marsh, freshwater marsh, dune, non-native grassland, and upland scrub.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Coyote, raccoon, striped skunk, and Virginia opossum have been documented within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW from inland drainage channels, the Ballona Creek PAW, and the Loyola Marymount University PAW to the coastal lagoons and beaches to the west (e.g., Ballona Lagoon PAW, Venice Beach PAW, Del Rey Lagoon Park PAW, and Dockweiler State Beach PAW).

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Southern Coastal Salt Marsh, which is considered a sensitive habitat by CDFW due to its rarity and/or decline in the region.

Special-Status Plant Species

This PAW has documented occurrences of Orcutt's pincushion (CRPR 1B.1) and southern tarplant (*Centromadia parryi* ssp. *australis*) (CRPR 1B.1).

Special-Status Wildlife Species

This PAW has documented occurrences of El Segundo blue butterfly (*Euphilotes battoides allyni*) (FE), light-footed Ridgway's rail (*Rallus obsoletus levipes*) (FE, SE, SFP), least Bell's vireo (FE, SE), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) (SE), least tern (FE, SE, SFP), and snowy plover (FT, SSC). Other special-status wildlife species documented to occur within this PAW include burrowing owl (SSC) and south coast marsh vole (*Microtus californicus stephensi*) (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened plant species, sensitive natural plant communities, special-status species, linkages that facilitate wildlife movement within and between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant and wildlife species (e.g., CRPR plant species, SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species and monarch butterfly overwintering habitat, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.9 Ballona Creek PAW

The Ballona Creek PAW consists of the concrete-lined channelized portion of Ballona Creek from Centinela Avenue to Lincoln Boulevard, as well as undeveloped upland areas to the north of the creek within the City's limits (Figure 7). This PAW is located in the southern portion of the West Los Angeles APC south of Marina del Rey. The Ballona Creek PAW is approximately 58.0 acres.

Vegetation

This PAW includes open water and patches of marsh habitat along the fringes of the water's edge within the concrete-lined channel.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

This PAW provides very limited habitat within the concrete-lined channel, but this waterway serves as a corridor, particularly for shorebirds, from inland areas (e.g., the Ballona Wetlands PAW) to the ocean.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of least tern (FE, SE, SFP) and snowy plover (FT, SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species, a linkage that facilitate wildlife movement within and between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages; Waterway for shorebirds and coastal access.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.10 Loyola Marymount University PAW

The Loyola Marymount University PAW includes the undeveloped natural areas and a drainage course that flows into the Ballona Wetlands PAW (Figure 7). This PAW is bordered by residential, commercial, and industrial development to the north and Loyola Marymount University and residential development to the south; however, it provides a linear strip of native upland and riparian habitat that connects to the Ballona Wetlands to the west. This PAW is located in the southern portion of the West Los Angeles APC, west of Interstate 405 and south of State Route 90. The Loyola Marymount University PAW is approximately 85.1 acres.

Vegetation

This PAW contains an earthen-bottomed stream with mature canopy of riparian woodland and patches of marsh habitat. The adjacent steep northwest-facing slope is vegetated with upland habitats, including native coastal sage scrub as well as non-native grassland and ruderal communities.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Evidence of coyote and raccoon were observed within this PAW.

Wildlife Movement

Wildlife species have potential to move through the various fragments of this PAW, as well as to the larger expanses of undeveloped areas of the Santa Susana Mountains to the northwest and the Simi Hills to the west.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of least Bell's vireo (FE, SE).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened plant species and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.11 Del Rey Lagoon Park PAW

The Del Rey Lagoon Park PAW includes a small lagoon and landscaped area that is immediately adjacent to Marina del Rey Channel and surrounded by residential development to the east, south, and west (Figure 7). This PAW is located in the southern portion of the West Los Angeles APC between the Dockweiler State Beach PAW and the Ballona Wetlands PAW. The Del Rey Lagoon Park PAW is approximately 12.4 acres.

Vegetation

Natural plant communities within this PAW include open water and landscaped areas.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Wildlife species have potential to move through this PAW from Ballona Creek and the Ballona Wetlands PAW to the Dockweiler Beach PAW to the southwest.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of least tern (FE, SE, SFP) and burrowing owl (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 6: Restoration Foreseeable		

3.4.3.12 Dockweiler State Beach PAW

The Dockweiler State Beach PAW consists of the coastal stretch of sandy beach from Ballona Creek to W. Grand Avenue, just southwest of (and parallel to) Vista Del Mar (Figure 7). This PAW includes Dockweiler State Beach and is located within the southern portion of the West Los Angeles APC. The Dockweiler State Beach PAW is approximately 220.8 acres.

Vegetation

Natural plant communities within this PAW include an open stretch of sandy beach and groomed dunes with little to no vegetation.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Wildlife species have potential to move through this PAW from Ballona Creek and beaches to the south.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of El Segundo blue butterfly (FE), least tern (FE, SE, SFP), snowy plover (FT, SSC), and burrowing owl (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened plant species, special-status species, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports special-status wildlife species (e.g., SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.3.13 El Segundo Dunes PAW

The El Segundo Dunes PAW includes the undeveloped natural areas of the El Segundo Dunes just west of the Los Angeles International Airport (Figure 7). This PAW also includes a small landscaped park, Vista Del Mar Park, and is located in the southern portion of the West Los Angeles APC. The El Segundo Dunes PAW is approximately 318.1 acres.

Vegetation

This PAW contains southern dune scrub, which consists of stabilized dunes vegetated with non-native grasses and ruderal vegetation.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects, reptiles, and small mammals).

Wildlife Movement

Although relatively isolated because it is surrounded by development to the north, east, and south, this PAW may support some movement from the adjacent Dockweiler State Beach PAW, as well as insect and avian species that can fly in and urban-adapted terrestrial species that may be in the area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Southern Dune Scrub, which is considered a sensitive habitat by CDFW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of El Segundo blue butterfly (FE).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened plant species and sensitive natural plant communities.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities.
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.4 Central Area Planning Commission

3.4.4.1 Santa Monica Mountains East PAW

The Santa Monica Mountains East PAW is described above in Section 3.1.2.3. A portion of this fragmented PAW falls within the Central APC (**Figure 8**, *Central APC - PAWs*). Within the Central APC, the Santa Monica Mountains East PAW includes Briar Summit Open Space

Preserve, Trebek Open Space, Wattles Garden Park, and Hollywood Bowl Overlook as Resource Areas. This PAW is located within the eastern range of the Santa Monica Mountains, east of Interstate 405 and west of State Route 101. Within the Central APC, the Santa Monica Mountains East PAW is approximately 1,016.6 acres.

Vegetation

Natural plant communities within this PAW include chaparral, sycamore woodland, and non-native grassland.

Wildlife

This PAW has a moderate to high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, reptiles, birds, and small mammals). Coyote and bobcat have been documented within this PAW.

Wildlife Movement

Although fragmented, wildlife species have potential to move through the various fragments of this PAW, as well as to the larger expanses of undeveloped areas of the Santa Monica Mountains to the west and Griffith Park and Hollywood Hills PAW to the east. Portions of this area are identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of mountain lion (SCT).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports sensitive natural plant communities and linkages that facilitate wildlife movement within and between PAWs.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered/ Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California		

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.4.2 Griffith Park and Hollywood Hills PAW

The Griffith Park and Hollywood Hills PAW is adapted from the existing Los Angeles County SEA, but has been expanded to include undeveloped natural areas to the west of Griffith Park, including Hollywood Reservoir (Figure 8). This PAW also includes Griffith Park, Lake Hollywood Park, Bronson Canyon, and Bronson Caves. This PAW is located within the northern portion of the Central APC, east of State Route 101, south of State Route 134, and west of Interstate 5. The Griffith Park and Hollywood Hills PAW is approximately 3,844.9 acres.

Vegetation

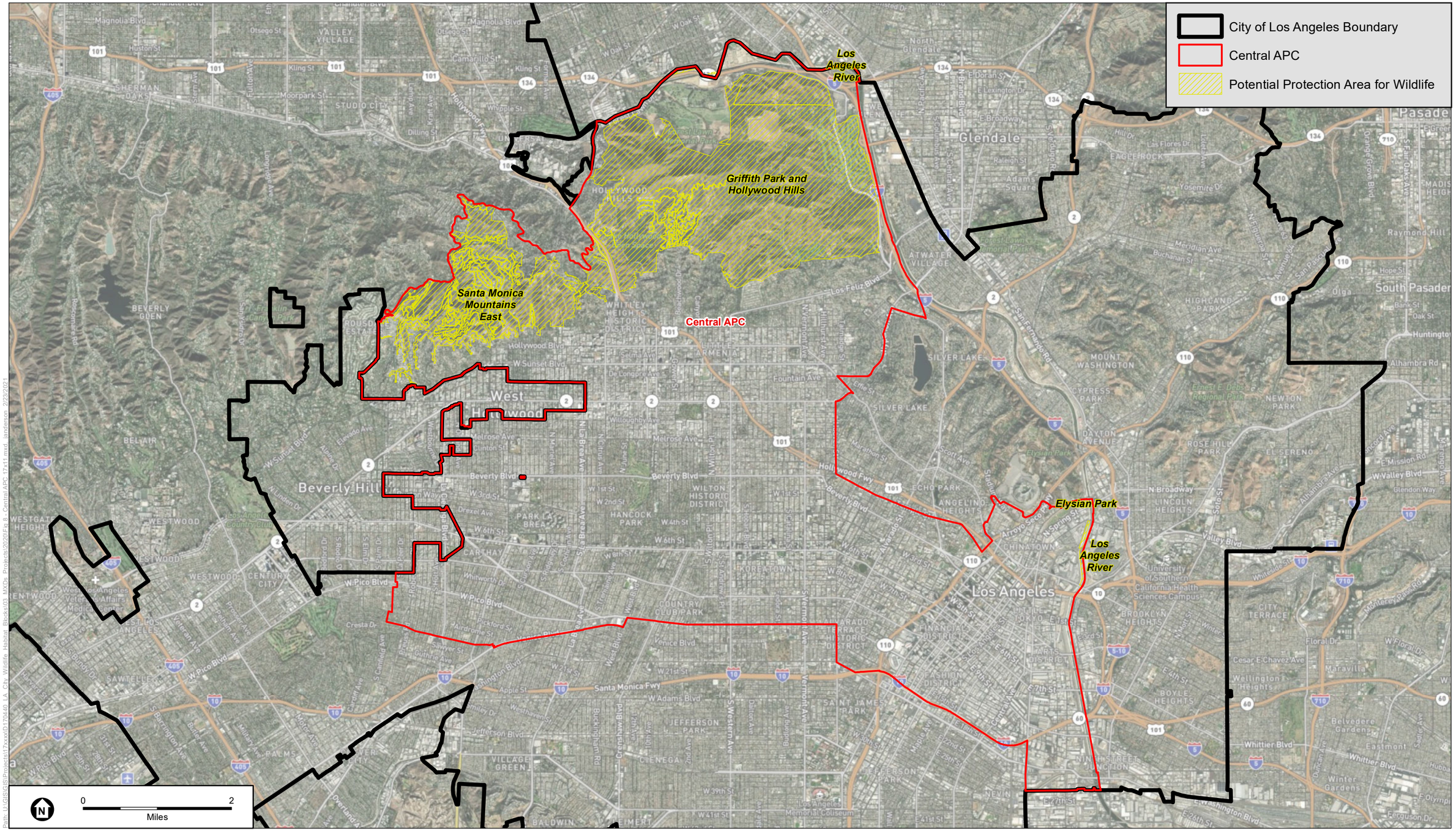
Natural plant communities within this PAW include chaparral, non-native woodland, and non-native grassland.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Mountain lion, coyote, bobcat, mule deer, raccoon, and Virginia opossum have been documented within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW, as well as to the large expanses of undeveloped areas of the Santa Monica Mountains to the west into unincorporated Los Angeles County. This area is identified as part of the Rim of the Valley Corridor.



SOURCE: Open Street Map, 2017 (Aerial); County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 8
Central APC - PAWs

ESA

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Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports California Walnut Woodland, Southern Coast Live Oak Riparian Forest, and Southern Sycamore Alder Riparian Woodland, which are communities that are considered sensitive habitats by CDFW due to their rarity and/or decline in the region.

Special-Status Plant Species

This PAW has documented occurrences of Nevin's barberry (*Berberis nevinii*) (FE, SE, CRPR 1B.1), as well as mesa horkelia (*Horkelia cuneata* var. *puberula*) (CRPR 1B.1), Plummer's mariposa lily (CRPR 4.2), slender mariposa lily (CRPR 1B.2).

Special-Status Wildlife Species

This PAW has documented occurrences of mountain lion (SCT) and San Diego desert woodrat (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened plant species, sensitive natural plant communities, special-status species, linkages that facilitate wildlife movement within and between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened plant and wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status plant and wildlife species (e.g., CRPR plant species, SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.4.3 Los Angeles River PAW

A small portion of the Los Angeles River PAW lies within the northern portion of the Central APC, just north of the State Route 134 and Interstate 5 interchange (Figure 8). Historically, the Los Angeles River was home to a number of special-status wildlife species, which are currently extirpated from the river, including yellow-billed cuckoo, red-legged frog, and steelhead trout.[61] Although this portion of the PAW is currently a concrete-lined channel, it is anticipated to be restored under the U.S. USACE's Los Angeles River Ecosystem Restoration Project. The ARBOR project will restore 11 miles of the Los Angeles River, from Griffith Park to downtown Los Angeles.[62] The project will reestablish riparian strand, freshwater marsh, and aquatic habitat communities; reconnect the Los Angeles River to major tributaries, its historic floodplain, and the regional habitat zones of the Santa Monica, San Gabriel, and Verdugo Mountains; and maintain existing levels of flood risk management. The ARBOR project will also provide recreational opportunities consistent with the restored ecosystem within this reach of the Los Angeles River. The City also prepared the Los Angeles River Revitalization Master Plan, a planning area which consists of an approximately one mile-wide, 32 mile-long river corridor and five opportunity areas along that corridor, to improve the general environment of the Los Angeles River by improving natural habitat, water quality, recreation, open space, and economic values.[63] Within the Central APC, the Los Angeles River PAW is approximately 20.0 acres.

Vegetation

This portion of the PAW is a concrete-lined channel with no vegetation.

Wildlife

This PAW has a moderate potential to support medium and large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Although this PAW provides very limited habitat within the concrete-lined channel, this waterway serves as a water source and regional movement corridor through the City. This area is identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

61 FoLAR. 2005. *The First State of the Los Angeles River Report*. Towards a Swimmable, Fishable, Boatable River.

62 Battelle Memorial Institute. 2013. *Final Independent External Peer Review Report Los Angeles River Ecosystem Restoration Feasibility Study, Draft Integrated Feasibility Report and Environmental Impact Statement*. Prepared for Department of the Army, U.S. Army Corps of Engineers, Ecosystem Restoration Planning Center of Expertise. November 8, 2013. http://www.spl.usace.army.mil/Portals/17/docs/review_plans/LARiverPeerReview.pdf.

63 The City of Los Angeles and the U.S. Army Corps of Engineers. 2007. *Final Programmatic Environmental Impact Report/Programmatic Environmental Impact Statement for the Los Angeles River Revitalization Master Plan*. Prepared by the City of Los Angeles Department of Public Works Bureau of Engineering and the U.S. Army Corps of Engineers Los Angeles District Planning Division with technical assistance from Tetra Tech, Inc. http://boe.lacity.org/lariverrmp/CommunityOutreach/LARiverFinalPEIRPEIS_VolumeI_043007.pdf.pdf

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that serves as a linkage that facilitate wildlife movement within the PAW, and supports areas important for preserving biodiversity. In addition, this PAW will be restored under USACE's ARBOR project and the Los Angeles River Revitalization Master Plan.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages - Regional movement corridor.
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable	X	ARBOR, Los Angeles River Revitalization Master Plan

3.4.5 East Los Angeles Area Planning Commission

3.4.5.1 Los Angeles River PAW

The Los Angeles River PAW is described above in Section 3.1.4.3. The majority of this PAW falls within the northwestern portion of the East Los Angeles APC, just east of (and parallel to) Interstate 5, from State Route 134 to State Route 110 (**Figure 9**, *East Los Angeles APC - PAWs*). Although the Los Angeles River is a concrete-lined channel, the majority of this portion of the

PAW is vegetated and thus provides some habitat value for wildlife, with future improvements anticipated from restoration with the USACE's ARBOR project. The ARBOR reach was selected for restoration because it contains a large portion of "soft bottom" area (where concrete does not cover the bottom of the riverbed) that hosts existing native riparian habitat and has exceptional promise for restoration. The area also includes two major tributary confluences (the Arroyo Seco and the Verdugo Wash confluences) and connections to three large State Park sites (i.e., Los Angeles State Historic Park, Rio de Los Angeles State Park, and The Bowtie, a 18-acre parcel owned by California State Parks).[64, 65] The Los Angeles River PAW includes the Taylor Yard, (G2 parcel), a 42-acre parcel along the Los Angeles River that will be transformed into open space, and is adjacent to Rio de Los Angeles State Park and The Bowtie.[66, 67] The Los Angeles River PAW is approximately 296.4 acres.

Vegetation

Although the majority of this PAW is a concrete-lined channel with no vegetation, portions of this PAW include patches of marsh habitat along the fringes of the water's edge within the concrete-lined channel and dense stands of riparian woodland.

Wildlife

This PAW has a moderate potential to support medium and large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Although this PAW provides very limited habitat within the concrete-lined channel, this waterway serves as a water source and regional movement corridor through the City. This area is identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

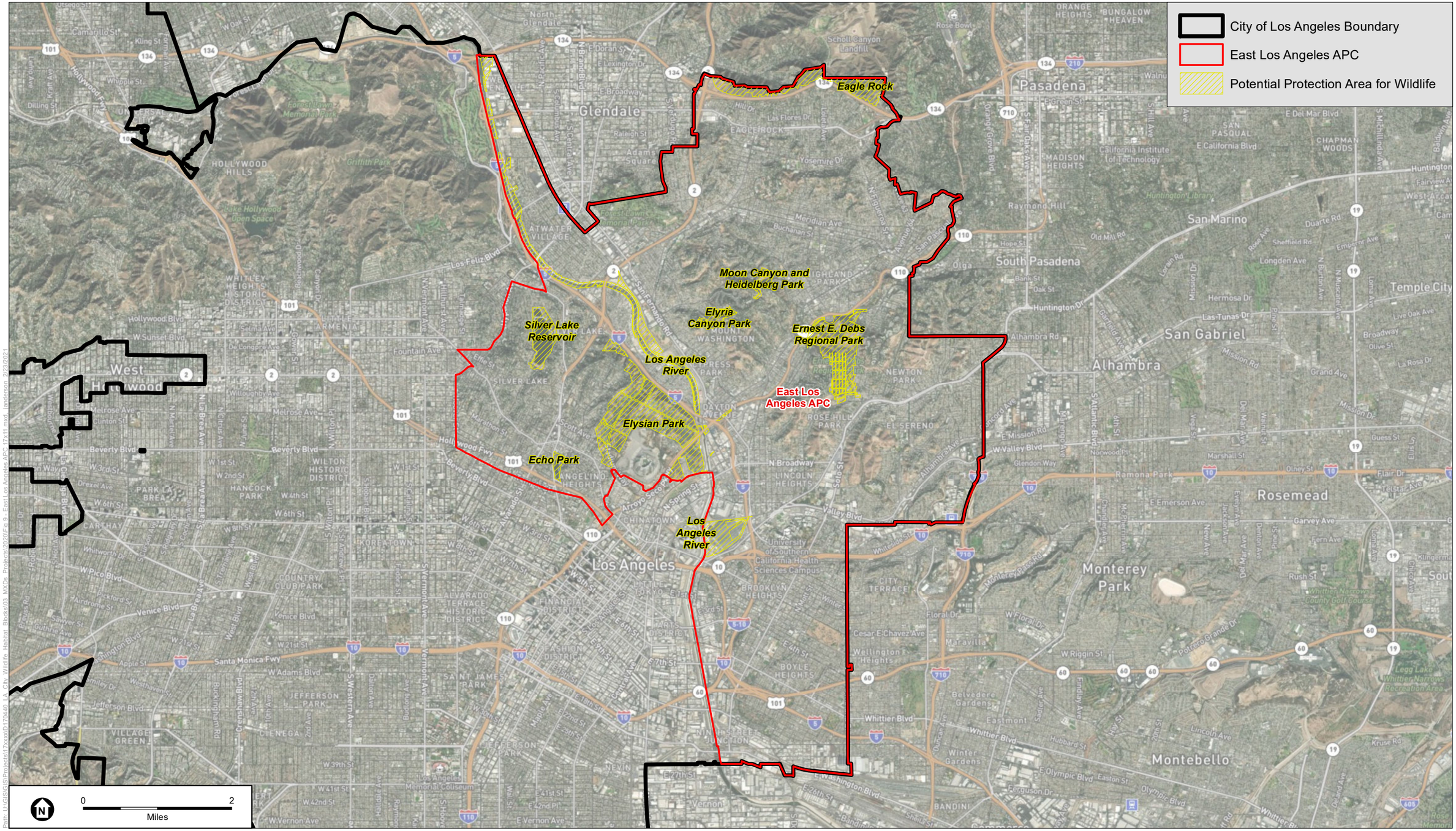
No documented special-status plant species were found within this PAW.

64 City of Los Angeles. 2016. Reader's Guide for the LA River Ecosystem Restoration Project. Final Integrated Feasibility Report (IFR) which includes the Final Environmental Impact Statement / Environmental Impact Report. April 2016. http://eng2.lacity.org/techdocs/emg/docs/lariver/LA_River_Reader_Guide.pdf.

65 Los Angeles River State Park Partners. 2020. *The Parks*. Website accessed March 5, 2020. http://www.larsppartners.org/the-parks.html.

66 City of Los Angeles Bureau of Engineering. 2020. *Taylor Yard G2 Projects*. Website accessed March 5, 2020. https://tayloryardriverprojects.lacity.org/.

67 Zeiger, Mimi. 2019. *L.A. River planners float three design proposals for a major new park.* Los Angeles Times. July 17, 2019. https://www.latimes.com/entertainment/arts/la-et-cm-river-taylor-yard-park-design-proposals-20190708-story.html.



SOURCE: Open Street Map, 2017 (Aerial); County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 9
East Los Angeles APC - PAWs

ESA

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Special-Status Wildlife Species

This PAW supports least Bell's vireo (FE, SE), mountain lion (SCT), American peregrine falcon (*Falco peregrinus anatum*) (SFP), and Vaux's swift (*Chaetura vauxi*) (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species, special-status species, and serves as a linkage that facilitate wildlife movement within the PAW. In addition, this PAW will be restored under USACE's ARBOR project and the Los Angeles River Revitalization Master Plan.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports special-status wildlife species (e.g., SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages - Regional movement corridor.
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable	X	ARBOR, Los Angeles River Revitalization Master Plan, Taylor Yard G2 River Park Project

3.4.5.2 Silver Lake Reservoir PAW

The Silver Lake Reservoir PAW consists of two man-made reservoirs, Ivanhoe Reservoir and Silver Lake Reservoir, and surrounding landscaped areas, including Silver Lake Meadows, within a densely developed residential and commercial area of Silver Lake (Figure 9). Although this PAW does not support native vegetation, it provides an island of landscaped habitat in a highly urbanized area. This PAW is located southwest of Interstate 5 within the western portion of the East Los Angeles APC. The Silver Lake Reservoir PAW is approximately 127.4 acres.

Vegetation

Natural plant communities within this PAW include open water and landscaped areas.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals). Coyote, bobcat, and striped skunk have been documented within this PAW.

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in and urban-adapted terrestrial species that may be in the area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that is important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.5.3 Echo Park PAW

The Echo Park PAW consists of a man-made lake and surrounding landscaped areas within a densely developed residential and commercial area of Echo Park (Figure 9). Although this PAW does not support native vegetation, it provides an island of landscaped habitat in a highly urbanized area. This PAW is located southwest of Interstate 5 and northwest of State Route 110 within the western portion of the East Los Angeles APC. The Echo Park PAW is approximately 23.7 acres.

Vegetation

This PAW contains landscaped areas with non-native trees, aquatic plants, and manicured lawns.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in and urban-adapted terrestrial species that may be in the area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that is important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.5.4 Elysian Park PAW

The Elysian Park PAW includes a mix of undeveloped landscaped and natural areas that surrounds Dodger Stadium, including Victory Memorial Grove, Montecillo De Leo Politi, Chavez Ravine Arboretum, Elysian Heights Park, Solano Canyon Community Garden, and Radio Hills Gardens (Figure 9). This PAW is located within the western portion of the East Los Angeles APC, south of Interstate 5 and east and west of State Route 110. The Elysian Park PAW is approximately 598.9 acres.

Vegetation

This PAW contains a predominantly landscaped areas with a mixed woodland of non-native ornamental eucalyptus, pine, palm, and pepper trees, as well as native oak trees, with an understory of non-native grassland and a few remnant patches of native chaparral in some areas.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, reptiles, birds, and small mammals). Coyote, bobcat, gray fox, raccoon, and Virginia opossum have been observed within this PAW.

Wildlife Movement

Although this PAW is surrounded by development, it is adjacent to the Los Angeles River, which provides a regional movement corridor for wildlife, such as insect and avian species that can fly in and urban-adapted terrestrial species that may be in the area. This area is identified as part of the Rim of the Valley Corridor.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that is important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating	X	Supports a variety of bird species, and is important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.5.5 Elyria Canyon Park PAW

The Elyria Canyon Park PAW consists of undeveloped landscaped and natural areas within Elyria Canyon Park in the hills of Northeast Los Angeles (Figure 9). This PAW is surrounded by residential development and is located within the central portion of the East Los Angeles APC, north of Interstate 5, west of State Route 2, and east of State Route 110. The Elyria Canyon Park PAW is approximately 43.2 acres.

Vegetation

Natural plant communities within this PAW include chaparral, walnut woodland, and non-native grassland.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, reptiles, birds, and small mammals). Evidence of coyote has been observed within this PAW.

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in and urban-adapted terrestrial species that may be in the area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports California Walnut Woodland, which is considered a sensitive habitat by CDFW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports sensitive natural plant communities and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities.
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.5.6 Ernest E. Debs Regional Park PAW

The Ernest E. Debs Regional Park PAW consists of undeveloped natural and landscaped areas within Ernest E. Debs Regional Park and Rose Hill Park in the hills of Northeast Los Angeles (Figure 9). This PAW is surrounded by residential development and is located within the eastern portion of the East Los Angeles APC, south of State Route 110. The Ernest E. Debs Regional Park PAW is approximately 318.6 acres.

Vegetation

This PAW includes landscaped areas within the parks with large stands of eucalyptus, pine, and pepper trees, as well as non-native grassland and ruderal habitat. Native chaparral and walnut woodland dominate the north-facing slopes. Wetland vegetation occurs along the edge of the large freshwater pond in Ernest E. Debs Regional Park.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Evidence of coyote, bobcat, and raccoon have been observed within this PAW.

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in and urban-adapted terrestrial species that may be in the area. This area is identified as part of the Rim of the Valley Corridor, so there may be some potential for regional movement through the Arroyo Seco even though this concrete-lined channel is surrounded by development.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports California Walnut Woodland, which is considered a sensitive habitat by CDFW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports sensitive natural plant communities and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities.
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.5.7 Moon Canyon and Heidelberg Park PAW

The Moon Canyon and Heidelberg Park PAW consists of undeveloped natural areas within Moon Canyon Park and Heidelberg Park in the hills of Northeast Los Angeles (Figure 9). This PAW is surrounded by residential development that tends to be concentrated along the ridgelines and canyons within this area, and is located within the central portion of the East Los Angeles APC, northwest of State Route 110. The Moon Canyon and Heidelberg Park PAW is approximately 24.9 acres.

Vegetation

Natural plant communities within this PAW include walnut woodland with an understory of non-native grassland.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, reptiles, birds, and small mammals). Coyote has been documented within this PAW.

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in and urban-adapted terrestrial species that may be in the area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports California Walnut Woodland, which is considered a sensitive habitat by CDFW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports sensitive natural plant communities.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities.
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.5.8 Eagle Rock PAW

The Eagle Rock PAW consists of undeveloped natural areas within the hills of Eagle Rock Hillside Park and Alatorre-Eagle Rock View Park (Figure 9). This PAW is located within the northern portion of the East Los Angeles APC, north of State Route 134 and the community of Eagle Rock. The Eagle Rock PAW is approximately 238.3 acres.

Vegetation

Natural plant communities within this PAW includes chaparral intermixed with coastal sage scrub habitats along the steep hillsides, with sycamore and oak woodlands in the bottoms of the canyons. This PAW also contains some large stands of non-native pine and eucalyptus trees.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Bobcat and mule deer have been documented within the immediate vicinity of this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW, as well as to the large expanses of undeveloped areas of the San Rafael Hills and the Rim of the Valley Corridor to the north.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

This PAW has documented occurrences of southern tarplant (CRPR 1B.1).

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports special-status species.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports special-status plant species (e.g., CRPR plant species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.4.6 South Los Angeles Area Planning Commission

3.4.6.1 Baldwin Hills PAW

The Baldwin Hills PAW includes the undeveloped natural and landscaped areas within Kenneth Hahn State Recreation Area within the South Los Angeles APC (**Figure 10**, *South Los Angeles APC - PAWs*). Although this PAW is bordered by dense residential development to the north and

east, this PAW is contiguous to undeveloped areas outside of the City's limits (i.e., within unincorporated Los Angeles County), including Kenneth Hahn Lower Park to the west and Inglewood Oil Fields to the southwest and south. The Baldwin Hills PAW is located east of Interstate 405 and south of Interstate 10. The Baldwin Hills PAW is approximately 85.8 acres.

Vegetation

This PAW contains a mix of landscaped areas within Kenneth Hahn State Recreation Area and native habitat which is predominantly concentrated along the steeper hillsides and canyons. Natural plant communities within this PAW include coastal sage scrub, chaparral, non-native grassland, and ruderal communities.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, reptiles, birds, and small mammals). Evidence of coyote was observed, and striped skunk and bobcat have been documented within, or within the immediate vicinity of, this PAW.

Wildlife Movement

Wildlife species have potential for some limited local movement through this PAW to larger expanses of undeveloped areas within unincorporated Los Angeles County to the west and south that is otherwise surrounded by development.

Sensitive Biological Resources

Sensitive Natural Plant Communities

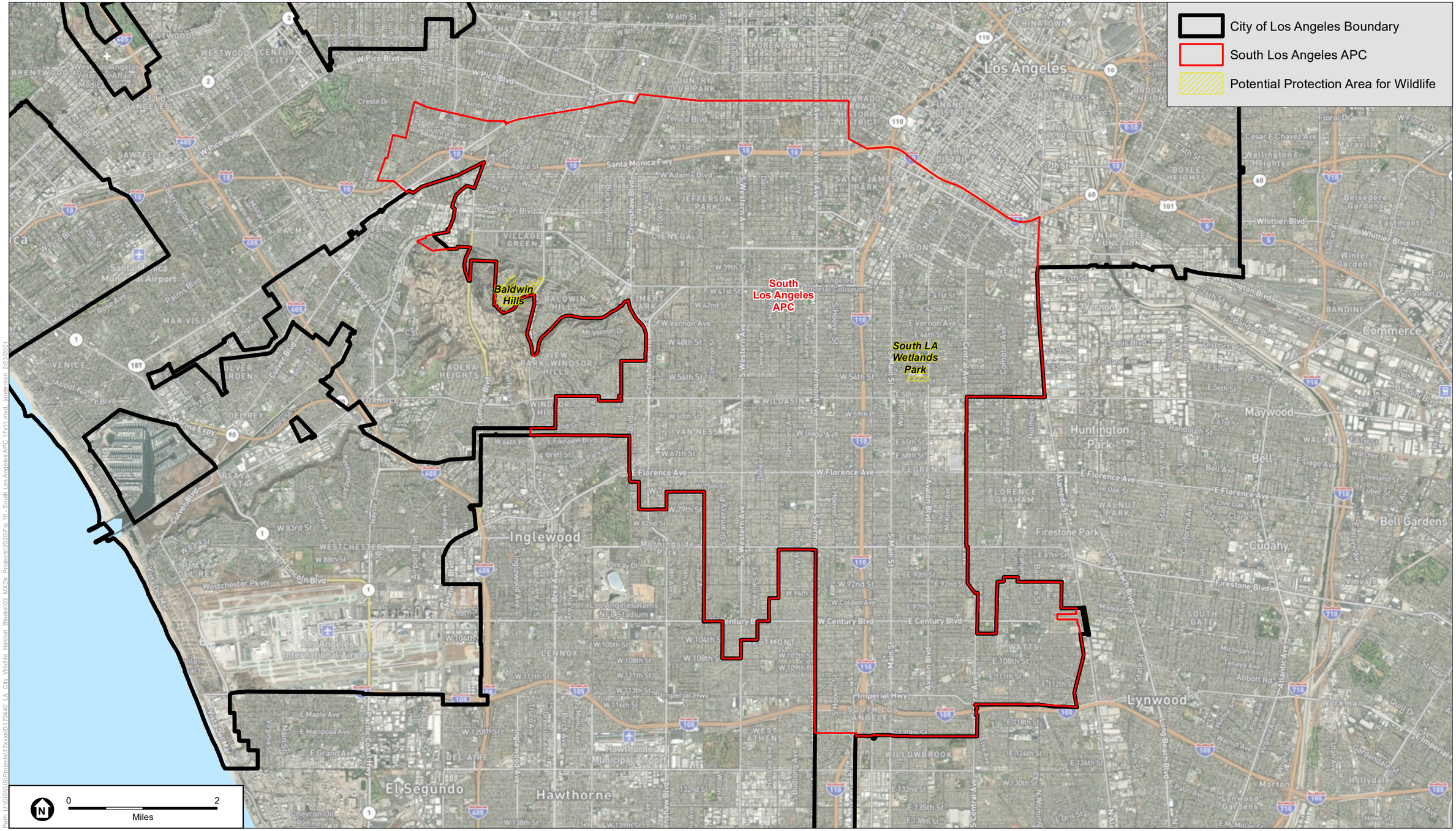
No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of burrowing owl (SSC).



SOURCE: Open Street Map, 2017 (Aerial); County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 10
South Los Angeles APC - PAWs

ESA

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Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports special-status wildlife species (e.g., SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.6.2 South Los Angeles Wetland Park PAW

The South Los Angeles Wetland Park PAW includes a restored wetland area within a densely developed residential area of South Los Angeles (Figure 10). This PAW provides an island of riparian habitat in a highly urbanized area. The South Los Angeles Wetland Park PAW is located east of Interstate 110 and south of Interstate 10. The South Los Angeles Wetland Park PAW is approximately 9.3 acres.

Vegetation

Natural plant communities within this PAW include cattail marsh and willow scrub.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals). Virginia opossum has been documented within this PAW.

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in and urban-adapted terrestrial species that may be in the area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that is important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.7 Harbor Area Planning Commission

3.4.7.1 Harbor Lake Regional Park PAW

The Harbor Lake Regional Park PAW is adapted from the existing Los Angeles County SEA, and includes undeveloped natural and landscaped areas within Ken Malloy Harbor Regional Park, Harbor Lake, and Harbor Park Golf Course between the communities of Harbor City and Wilmington within the Harbor APC (**Figure 11**, *Harbor APC - PAWs*). This PAW is located west of Interstate 110 and north and south of Pacific Coast Highway within the southern portion of the Harbor APC. The Harbor Lake Regional Park PAW is approximately 305.1 acres.

Vegetation

This PAW contains a mix of landscaped areas, including Harbor Park Golf Course, and natural habitat. Natural plant communities within this PAW include southern willow riparian woodland, open water, and non-native grassland.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Evidence of coyote and raccoon were observed within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW from Wilmington Drain in the north to South Harbor Lake to the southwest.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

Special-status plant species documented to occur within this PAW include Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) (CRPR 1B.1) and mud nama (*Nama stenocarpa*) (CRPR 2B.2).

Special-Status Wildlife Species

This PAW has documented occurrences of tricolored blackbird (SCE, SSC) and least tern (FE, SE, SFP), and was historically used as foraging ground for least terns breeding on Terminal Island.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species, special-status species, linkages that facilitate wildlife movement between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports special-status plant and wildlife species (e.g., CRPR plant species, SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.7.2 South Harbor Lake PAW

The South Harbor Lake PAW is southwest of Harbor Lake Regional Park PAW, and includes undeveloped natural areas within the Defense Fuel Support Point (DFSP) in San Pedro (Figure 11). This PAW is located west of Interstate 110 and south of Pacific Coast Highway within the southern portion of the Harbor APC. The South Harbor Lake PAW is approximately 318.7 acres.

Vegetation

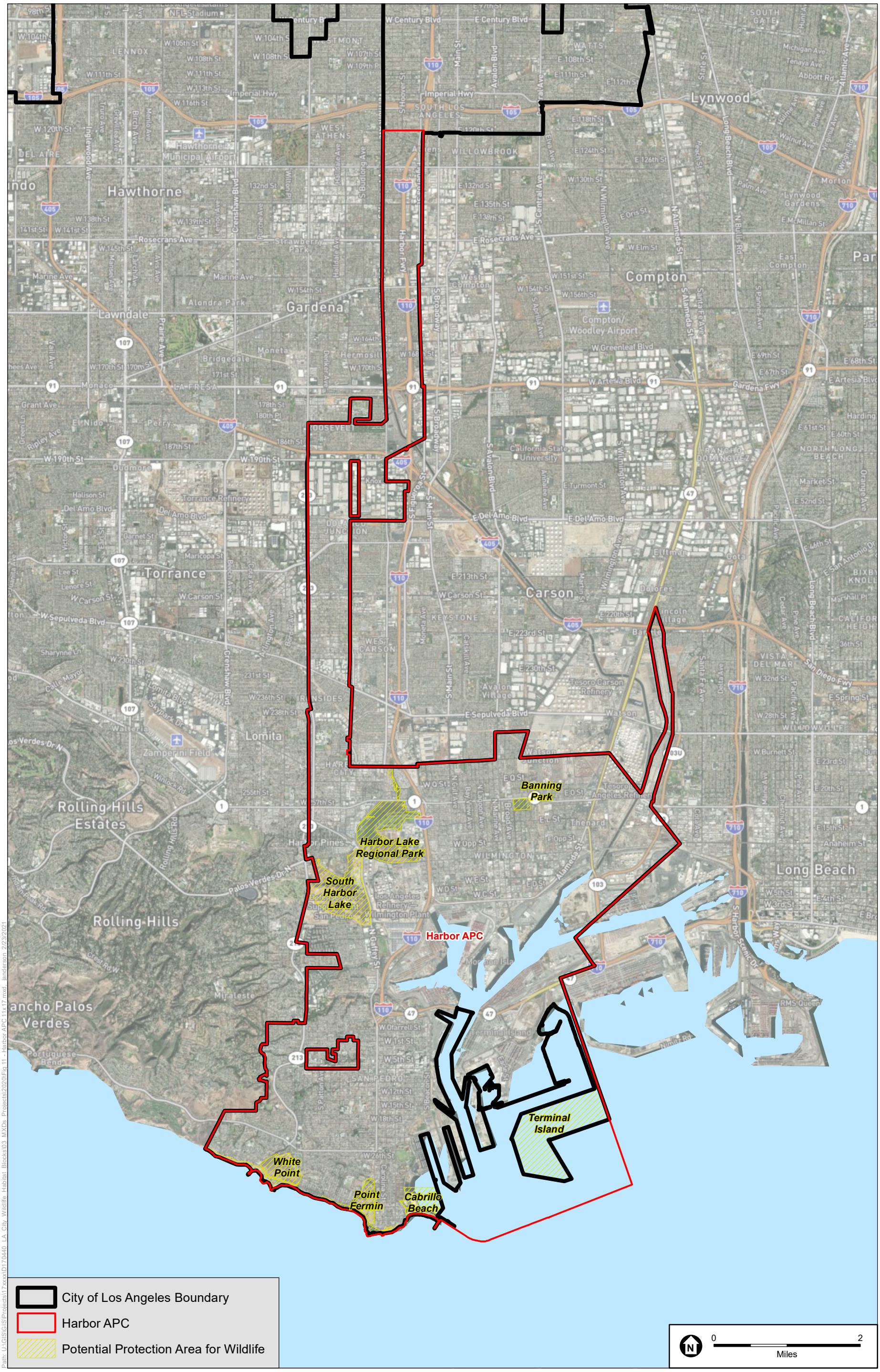
Natural plant communities within this PAW include non-native grassland and coastal sage scrub.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, amphibians, reptiles, birds, and small mammals). Evidence of raccoon was observed, and coyote and striped skunk have been observed, within this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW from Harbor Lake PAW in the northeast.



SOURCE: Open Street Map, 2017; County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 11
Harbor APC - PAWs

ESA

Path: U:\GIS\GIS\Projects\17xxxx\D170440_LA_City_Wildlife_Habitat_Blocks\03_MXDs_Projects\2020\Fig 11 - Harbor APC 11x17.mxd, janderson, 2/23/2021

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Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

This PAW has documented occurrences of southern tarplant (CRPR 1B.1).

Special-Status Wildlife Species

This PAW has documented occurrences of coastal California gnatcatcher (FT, SSC) and Palos Verdes blue butterfly (*Glaucopsyche lygdamus palosverdesensis*) (FE).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species, special-status species, linkages that facilitate wildlife movement between PAWs, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports special-status plant species (e.g., CRPR plant species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.7.3 Banning Park PAW

The Banning Park PAW is a landscaped park located within the community of Wilmington (Figure 11). This PAW is located in the southern portion of the Harbor APC, east of Interstate

110 and immediately south of Pacific Coast Highway. The Banning Park PAW is approximately 21.1 acres.

Vegetation

This PAW contains landscaped areas with non-native trees and manicured lawns.

Wildlife

This PAW has a low potential to support medium and large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in and urban-adapted terrestrial species that may be in the area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

No documented special-status wildlife species were found within this PAW.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that is important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife		
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species and monarch butterfly overwintering habitat, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.7.4 White Point PAW

The White Point PAW consists of White Park Nature Preserve and the undeveloped coastal bluffs and stretch of sandy beach parallel to W. Paseo del Mar (Figure 11). This PAW is located along the southern coastline of the Harbor APC in San Pedro. The White Point PAW is approximately 148.1 acres.

Vegetation

This PAW contains a mix of natural habitat and landscaped areas. Natural plant communities within this PAW include coastal sage scrub, coastal bluffs, and non-native grassland.

Wildlife

This PAW has a high potential to support medium and large mammals, as well as a variety of other wildlife species (e.g., insects, reptiles, birds, and small mammals). Coyote has been documented within this PAW.

Wildlife Movement

Although this PAW is surrounded by development to the west, north, and east, it is adjacent to the San Pedro coastline, and avian species can fly in and it may also be used by urban-adapted terrestrial species that may be in the area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Southern Coastal Bluff Scrub, which is a community that is considered a sensitive habitat by CDFW due to its rarity and/or decline in the region.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of coastal California gnatcatcher (FT, SSC), least tern (FE, SE, SFP), and burrowing owl (SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species, sensitive natural plant communities, special-status species, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities and special-status wildlife species (e.g., SSC wildlife species).
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages	X	Supports Linkages/Constrained Linkages – Coastal access between Paseo del Mar SEA and coast/other undeveloped areas to the west.
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.7.5 Point Fermin PAW

The Point Fermin PAW consists of Fort MacArthur and Angels Gate Park, as well as Point Fermin Park and the undeveloped coastal bluffs along the coastline from Barbara Street to Stephen M. White Drive in Cabrillo Beach (Figure 11). This PAW is located along the southern coastline of the Harbor APC in San Pedro. The Point Fermin PAW is approximately 109.9 acres.

Vegetation

Natural plant communities within this PAW include coastal bluffs, non-native grassland, and landscaped areas with non-native trees, shrubs, and manicured lawns.

Wildlife

This PAW has a moderate potential to support medium mammals and a low to moderate potential to support large mammals. There is a high potential to support other wildlife species (e.g., insects, reptiles, birds, and small mammals). Coyote has been documented within the immediate vicinity of this PAW.

Wildlife Movement

Although this PAW is surrounded by development to the west, north, and east, it is adjacent to the San Pedro coastline, and avian species can fly in and it may also be used by urban-adapted terrestrial species that may be in the area.

Sensitive Biological Resources

Sensitive Natural Plant Communities

This PAW supports Southern Coastal Bluff Scrub, which is a community that is considered a sensitive habitat by CDFW due to its rarity and/or decline in the region.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW had historic occurrences of Palos Verdes blue butterfly (FE) documented at Fort MacArthur, and least tern (FE, SE, SFP) at Point Fermin Park.

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species, sensitive natural plant communities, and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California	X	Supports sensitive natural plant communities.
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species and monarch butterfly overwintering habitat, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.7.6 Cabrillo Beach PAW

The Cabrillo Beach PAW includes the undeveloped sandy beaches of the Cabrillo Beach Park that are north and south of Cabrillo Beach Pier (Figure 11). This PAW is located along the southern coastline of the Harbor APC in San Pedro. The Cabrillo Beach PAW is approximately 17.1 acres.

Vegetation

Natural plant communities within this PAW include sandy beach, non-native grassland, and landscaped areas with non-native trees and manicured lawns.

Wildlife

This PAW has a moderate potential to support medium mammals and a low potential to support large mammals. There is a high potential to support birds and a moderate potential for other wildlife species (e.g., insects and small mammals). Coyote and raccoon have been documented within the immediate vicinity of this PAW.

Wildlife Movement

Wildlife species have potential to move through this PAW along the coastline to the Point Fermín PAW to the south.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

This PAW has documented occurrences of least tern (FE, SE, SFP) and snowy plover (FT, SSC).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species and areas important for preserving biodiversity.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles	X	Supports a variety of bird species and California grunion spawning beach, and is important for preserving biodiversity.
Criterion 6: Restoration Foreseeable		

3.4.7.7 Terminal Island (Pier 400) PAW

The Terminal Island (Pier 400) PAW includes an open, undeveloped fenced area on the southern tip of Terminal Island, a man-made island located within Los Angeles Harbor that was created from material dredged from the harbor to form the Pier 400 peninsula (Figure 11). This PAW is located along the southeastern coastline of the Harbor APC. The Terminal Island (Pier 400) PAW is approximately 28.5 acres.

Vegetation

Natural plant communities within this PAW include areas of open sand with trace amounts of herbaceous vegetation.

Wildlife

This PAW has a low potential to support medium and large mammals. There is a high potential to support birds and a low potential for other wildlife species (e.g., insects and small mammals).

Wildlife Movement

Because this PAW is isolated and surrounded by development, movement of wildlife species is limited to within the PAW, except for insect and avian species that can fly in.

Sensitive Biological Resources

Sensitive Natural Plant Communities

No documented sensitive natural plant communities were found within this PAW.

Special-Status Plant Species

No documented special-status plant species were found within this PAW.

Special-Status Wildlife Species

Terminal Island was historically a breeding colony for the least tern (FE, SE, SFP).

Regional Biological Value

This PAW contributes to the biological value of the City as an area that supports Endangered or Threatened wildlife species.

Criteria	Criterion Satisfied?	Qualifying Evidence
Criterion 1: Supports Endangered & Threatened Plants/Wildlife	X	Supports Endangered or Threatened wildlife species.
Criterion 2: Supports Unique/Restricted Distribution in Southern California		
Criterion 3: Supports Unique/Restricted Distribution in Los Angeles		
Criterion 4: Supports Linkages/Constrained Linkages		
Criterion 5: Supports Breeding/Feeding/Resting/Migrating Grounds with Limited Availability in Southern California/Los Angeles		
Criterion 6: Restoration Foreseeable		

3.5 Use and Application of PAWs

The 44 PAWs recommended above were based on meeting one or more of the selection criteria and field evaluations. Areas that did not meet any of the PAW selection criteria were not proposed as PAWs. Should conditions change and an area not identified above as a PAW meet one or more criteria in the future, then it is recommended that area should be considered for a

future proposed PAW or an expanded PAW. This may include new observations of important biological resources, new evidence of connectivity or data of wildlife movement patterns not previously known (including across jurisdictional boundaries since the focus of this analysis was habitat and connectivity that fell within the City's limits), or restoration of an area that creates or enhances habitat. Although the majority of the PAWs are comprised of undeveloped areas that support natural communities, many of which consist of native habitat, this can also include areas of marginal habitat (e.g., landscaping) or even built habitats (e.g., concrete-lined channels) if these areas meet one or more of the PAW selection criteria. For example, the City may desire to protect additional areas by connecting and/or expanding PAWs to include areas that may be less ecologically intact on the whole but may otherwise provide important opportunities for wildlife movement. This may be implemented by study of suitable conditions (such as hydrology, vegetation and topography), and physical barriers that may impede wildlife connections, such as major freeways or fully urbanized neighborhoods.

The initial recommendation would be for the City to formally adopt the PAW boundaries as important biological resource areas. Once officially recognized as valuable resource areas, environmental considerations for development standards can be recommended for greater protection of the biological resources and ecological functions of these areas.

Concurrent with the preparation of this study, LA Sanitation and Environment (LASAN) released the 2018 Biodiversity Report, which summarizes biodiversity found within the City based on a set of indicators that make up the "Singapore Index of Cities' Biodiversity" (Singapore Index or SI).[68] Planning should collaborate with LASAN to share data from their biodiversity study and evaluate if any proposed PAWs should be revised based on new data available.

4. Wildlife Movement Pathways (WMPs)

4.1 Background

In addition to identifying important habitat areas for preserving biodiversity within the region, habitat connectivity is just as important for functional regional and local wildlife movement, which is essential to wildlife survival for seeking food, shelter, or mates; dispersal of offspring to find new homes and territories; seasonal migration to find favorable conditions and/or breeding grounds; and gene flow (e.g., to promote genetic diversity and avoid inbreeding depression, or for recolonizing unoccupied habitat after a local population goes extinct).[69] Since habitat areas within and between the PAWs can be fragmented, or even isolated, by the surrounding dense urbanization within the City, the connections between those areas are important to maintain permeability throughout much of the City in order to facilitate movement of multiple species and maintain biodiversity and healthy ecological processes.

68 Isaac Brown Ecology Studio and LA Sanitation & Environment. 2018. *2018 Biodiversity Report*. City of Los Angeles. Measurement of the Singapore Index of Cities' Biodiversity and Recommendations for a Customized Los Angeles Index. https://www.lacitysan.org/san/sandocview?docname=cnt024743.

69 South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org. March 2008.

Wildlife corridors are generally defined as a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by developed urban areas or other areas unsuitable for wildlife. The size of wildlife corridors and the habitat patches that they connect can vary greatly based on a number of site-specific condition (e.g., topography, habitat, and land use). For example, within the Bow Valley along the Bow River located in southwestern Alberta, Canada, minimum dimensions for a wildlife corridor include a width of 1,150 feet and length of 3,280 feet to connect a local habitat patches (e.g., over 1,100 acres with a minimum width of 0.75 mile),[70] whereas a study in Louisiana showed black bear use of corridors ranging in widths from 164 to 240 feet.[71] Corridors need suitable habitat, and cannot be too narrow or too long to be effective, or animals will be less likely to use it.[72] The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.

Wildlife movement corridors help to reduce or moderate some of the adverse effects of habitat fragmentation by: (1) facilitating dispersal of individuals between substantive patches of remaining habitat, which allows depleted populations to be replenished and promotes genetic diversity; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.[73, 74, 75, 76]

Wildlife movement activities fall into three categories: dispersal (e.g., juvenile animals moving from natal areas, individuals extending range distributions); seasonal migration; and home range movements (e.g., foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

Because large, undisturbed expanses of natural habitat areas are limited and many habitat areas remaining within the City are fragmented or isolated by dense urbanization, many traditional "wildlife corridors" do not occur within the City. The greatest potential for regional movement within the City is within the PAWs themselves, since the PAWs can not only provide habitat for wildlife to live in and support home range movements and dispersal, but a number of the PAWs

70 Bow Corridor Ecosystem Advisory Group. 2012. *Wildlife Corridor and Habitat Patch Guidelines for the Bow Valley*. Alberta Environment and Alberta Sustainable Resource Development.

71 Anderson 1997 as cited in Henry, A. C., Jr; Hosack, D. A.; Johnson, C. W.; Rol, D.; Bentrup, G. 1999. *Conservation corridors in the United States: Benefits and planning guidelines*. Journal of Soil and Water Conservation; Ankeny Vol. 54, Iss. 4, (Fourth Quarter 1999): 645.

72 St John, T´oth, and Zabinsky. 2015. *Optimizing the Geometry of Wildlife Corridors in Conservation Reserve Design*. Article submitted to Operations Research; manuscript no. tbd. http://pdfs.semanticscholar.org/8cc8/520040f58d2290e44b83e073e99713e086e6.pdf

73 Noss, R. F. 1983. *A Regional Landscape Approach to Maintain Diversity*. BioScience. 33:700-706.

74 Fahrig, L. and G. Merriam. 1985. *Habitat Patch Connectivity and Population Survival*. Ecology. 66:1762-1768.

75 Simberloff, D. and J. Cox. 1987. *Consequences and Costs of Conservation Corridors*. Conservation Biology. 1:63-71.

76 Harris, L. D. and P. B. Gallagher. 1989. *New Initiatives for Wildlife Conservation: The Need for Movement Corridors*. Pages 11-34 in G. Mackintosh, ed. Preserving communities and corridors. Defenders of Wildlife. Washington D.C. 96 pp.

also provide connections to larger adjacent undeveloped natural areas that fall outside of the City's limits, such as the Los Angeles County SEAs; Santa Susana Mountains and Simi Hills; San Gabriel Mountains and Angeles National Forest; and Santa Monica Mountains.

However, within the City's limits, movement between adjacent PAWs, or between fragmented areas of a single PAW, is constricted by the surrounding development of an urbanized environment. Unlike true wildlife corridors, which consist of pieces of habitat connecting larger extensive core habitat patches, the majority of wildlife movement opportunities throughout the City consist of smaller constrained movement pathways many of which contain limited marginal (i.e., low quality) habitat or even some developed areas (e.g., road crossings) connecting PAWs or fragments of PAWs. Thus, the term Wildlife Movement Pathways (WMPs) is used to characterize these likely pathways that are not traditional wildlife corridors, rather they are constrained urban wildlife passage opportunities.

4.2 Purpose of WMPs

The identification of important WMPs within the City is intended to help facilitate connectivity between PAWs within the City and to adjacent undeveloped natural areas. The focus of the WMPs identified are on medium and large mammals, since within the context of wildlife movement in general, this taxonomic group contains indicator species[77,78] representative of the movement of the terrestrial vertebrates found within the City.

4.3 Methodology Used to Define WMPs

A literature review was conducted to determine if any wildlife corridors were documented within the City. Available species occurrence data and roadkill data was also reviewed to determine general trends in wildlife distribution and wildlife-vehicle collisions that may be relevant to determining important wildlife movement areas or concentrations of roadkill. In addition, stakeholders were engaged to obtain information and data about locally known wildlife movement pathways.

These sources included:

1. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*[79]
2. *South Coast Missing Linkages: A Linkage Design for the Santa Monica-Sierra Madre Connection*[80]

77 Species whose presence denotes either the composition or condition of a particular habitat, community, or ecosystem.

78 Zacharias, M. and J. Roff. 2001. *Use of Focal Species in Marine Conservation and Management: A Review and Critique*. Aquatic Conservation: Marine and Freshwater Ecosystems. 11: 59-76 (2001).

79 South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org. March 2008.

80 Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, R. Sauvajot, S. Riley, and D. Kamradt. 2006. *South Coast Missing Linkages Project: A Linkage Design for the Santa Monica-Sierra Madre Connection*. Produced by South Coast Wildlands, Idyllwild, CA. www.scwildlands.org, in cooperation with the National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy.

3. *California Essential Habitat Connectivity Project*[81]
4. *Rim of the Valley Corridor Special Resource Study*[82]
5. *Individual Behaviors Dominate the Dynamics of an Urban Mountain Lion Population Isolated by Roads*[83]
6. *NPS Information (species and location information for radio-collar tracked medium and large mammals)*[84]
7. *USFWS Species Occurrence Data*[85]
8. *California Natural Diversity Database*[86]
9. *Griffith Park to Elysian Park Community Trail and Wildlife Corridor along Red Car ROW*[87]
10. *Santa Monica Mountains Conservancy - Proposed Wildlife Corridors*[88]
11. *iNaturalist*[89]
12. *Coyote Cacher*[90]
13. *California Roadkill Observation System Occurrence Data*[91]

A comprehensive list of references is included in Section 7.0, *References*.

Based on the literature and data review, coordination with stakeholders, and evaluations of the PAWs identified within the City, potential WMPs within and between PAWs were proposed based on aerial photograph mapping of the most direct path with greatest potential wildlife habitat

81 CalTrans and CDFG. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Prepared with Funding from: Federal Highways Administration. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18366.

82 NPS. 2015. *Finding of No Significant Impact, Rim of the Valley Corridor Special Resource Study*. November 2015.

83 Riley, S.P.D., L.E.K. Serieys, J.P. Pollinger, J.A. Sikich, L. Dalbeck, R.K. Wayne and H.B. Ernest. 2014. *Individual Behaviors Dominate the Dynamics of an Urban Mountain Lion Population Isolated by Roads*. Current Biology 24: 1989-1994. September 2014.

84 NPS. 2018. Personal communication from NPS biologists (Justin Brown and Seth Riley) with Los Angeles Department of City Planning staff (Chris Piña, Michelle Levy, Lena Mik, and Conni Pallini-Tipton) and ESA biologists (Daryl Koutnik and Maile Tanaka). March 21, 2018.

85 USFWS. 2017. *Species Occurrence Data*. Provided by USFWS.

86 CDFW. 2017. *California Natural Diversity Database (available by subscription) and Rarefind*. CDFW: Sacramento, California. Accessed September 28, 2017.

87 Santa Monica Mountains Conservancy. 2009. *Griffith Park to Elysian Park Community Trail and Wildlife Corridor along Red Car ROW*. Fletcher Drive to Glendale Boulevard Menlo Apartments Section. Photographic depiction of complete buildable trail alignment on 2600-2750 W. Riverside Drive. A project of: Santa Monica Mountains Conservancy and Mountains Recreation and Conservation Authority. Submitted to Advisory Agency on December 29, 2009.

88 Edelman, P. from Santa Monica Mountains Conservancy. 2017. Personal communication and email communication with ESA biologists Daryl Koutnik and Maile Tanaka and Tony Tucci from Citizens for Los Angeles Wildlife (CLAW). October 6, 2017.

89 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed November 15, 2017.

90 University of California, Division of Agricultural and Natural Resources. 2017. *Coyote Cacher*. Available online (http://ucanr.edu/sites/CoyoteCacher/). Website accessed September 7, 2017.

91 University of California, Davis. 2017. *California Roadkill Observation System Occurrence Data*. Department of Environmental Science and Policy. Road Ecology Center. Email correspondence with Fraser Shilling, PhD., Co-Director. December 8, 2017.

(i.e., natural communities when available, or landscaped/non-native undeveloped areas) and the least constraints and barriers for wildlife movement. The majority of potential opportunities for wildlife movement throughout the City consist of constrained movement pathways, which include one or more of the following:

1. Narrow areas of very low-quality habitat that are surrounded by adjacent development that connect two PAWs or fragments of a single PAW;
2. Narrow areas of moderate-quality habitat that are surrounded by adjacent development, but that connect to other movement pathways or PAWs with only small patches of habitat rather than PAWs that consist of large habitat blocks;
3. Crossing structures (e.g., bridges, underpasses, culverts) and improved areas (e.g., concrete-lined channels) that were intended for other uses (e.g., to convey traffic, pedestrians, drainage flows) and were not specifically designed for wildlife use, but are, or could be, used opportunistically for movement by wildlife; and/or
4. Pathways connecting two or more PAWs of variable sizes that require crossing one or more roads or other developed areas.

The proposed WMPs were then ground-truthed during field surveys, and the habitat present within each PAW was assessed for potential to support medium and large mammal[92] movement (which were used as representative species that have larger range requirements that encompass the ranges of a variety of taxa) based on a variety of factors, including the on-site and surrounding land uses, topography, habitat type and cover, access to water sources, and width and length of movement pathways. Any observations or evidence (e.g., tracks, scat, or other sign, or anecdotal observations) of medium and/or large mammal use were also documented during field surveys, as well as any potential barriers or hazards to wildlife movement (e.g., fencing, walls, steep terrain or cliffs, number and size of roads to be crossed, traffic, and/or noise) and human activity (e.g., pedestrians, dog walkers, equestrians, hikers, joggers, bikers, homeless encampments, construction).

The barriers to movement and human activity were considered in assessing Wildlife Movement Pathways to differentiate between “Unconstrained”, “Constrained”, and “Highly Constrained” WMPs.

1. Unconstrained WMPs allow for free movement through the area without barriers.
2. Constrained WMPs recognize that some barriers may be present (e.g., road with little traffic), but movement is not inhibited.
3. Highly Constrained WMPs recognize that a barrier may not be very permeable (e.g., a freeway), or multiple barriers may be present (e.g., chainlink fence, multiple roads), which may deter wildlife movement along this pathway.

92 As was used in the PAWs, medium mammals include American badger, gray fox, long-tailed weasel, raccoon, striped skunk, and Virginia opossum. Large mammals include black bear, bobcat, coyote, mountain lion, and mule deer.

A detailed matrix summarizing each WMP's width and length, vegetative cover, and barriers to movement, as well as a classification of whether each WMP is highly constrained, constrained, or unconstrained, is provided in **Appendix G**, *WMP Matrix*.

4.4 WMP Profiles

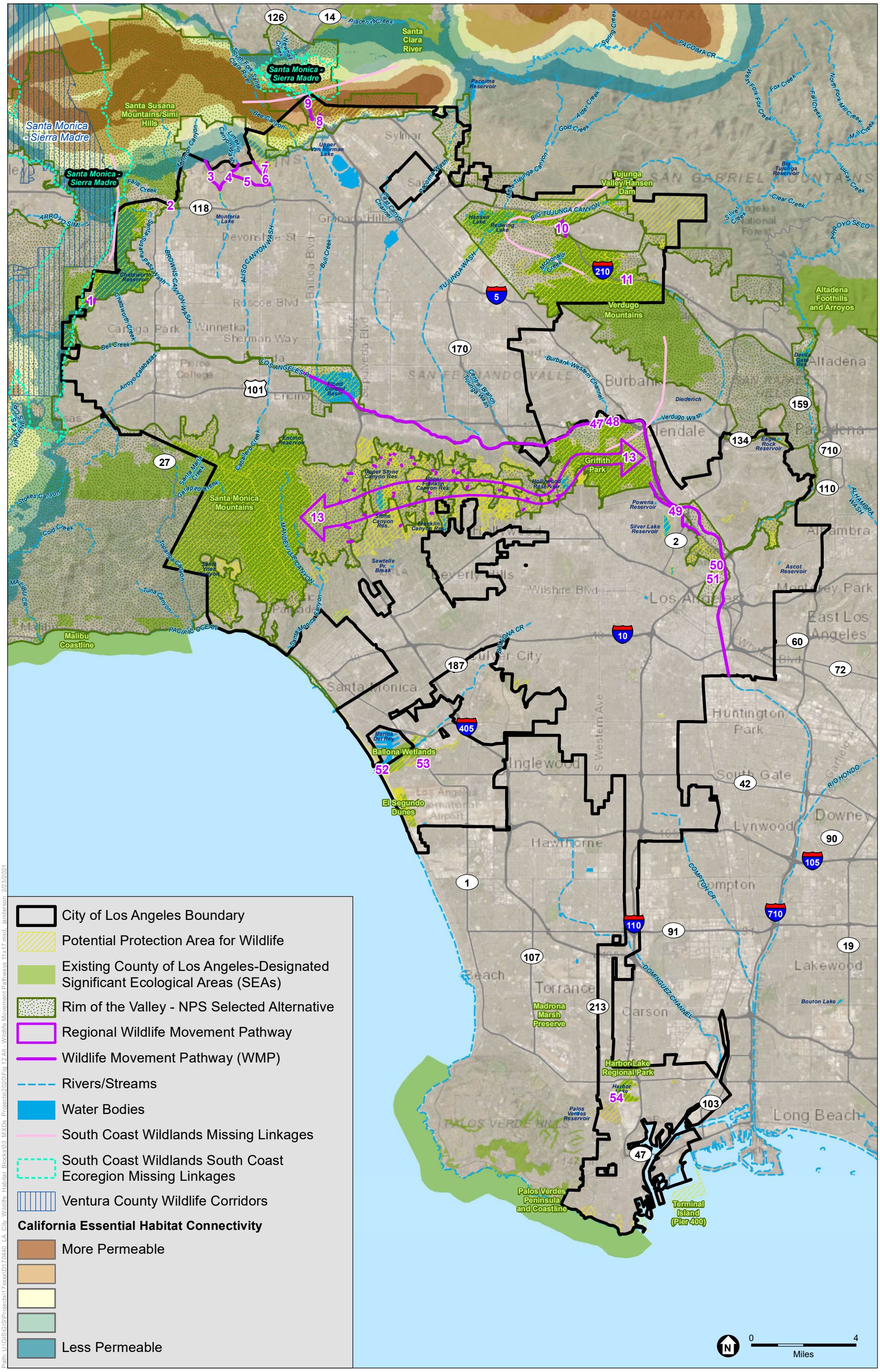
A number of wildlife species have adapted to Los Angeles' urban setting, and are opportunistically moving between the PAWs and fragmented habitat within the City. Although there are numerous travel routes that wildlife can use throughout habitat areas, and even through developed areas (e.g., roads), the WMPs identify opportunities for movement pathways within and between PAWs that wildlife, particularly medium and large mammal species, are likely to use. These WMPs are not meant to be exhaustive, and similar to humans, wildlife will use the "least cost" pathways for movement that are easiest to access considering various factors, such as accessibility, topography, cover, fencing, and hazards.

The 54 WMPs recommended are shown in **Figure 12**, *Protection Areas for Wildlife and Wildlife Movement Pathways*. Descriptions of individual WMPs are provided below. Each WMP description includes an assessment of potential to support medium and large mammal movement and a discussion of barriers to movement, including human activity, that may deter wildlife movement through an area.

4.4.1 WMP 1 – Valley Circle Boulevard

WMP 1 connects Dayton Canyon Open Space Preserve to Chatsworth Nature Preserve, both of which are part of the Santa Susana Mountains and Simi Hills PAW (**Figure 13**, *Protection Areas for Wildlife and Wildlife Movement Pathways – Northwestern Portion*). From the western end, this WMP parallels Dayton Canyon drainage, which is vegetated with some patches of riparian habitat and oak woodland, just north of Dayton Canyon Road. The WMP then turns north and parallels the western side of Valley Circle Boulevard via a narrow strip of undeveloped areas along the road that is currently unvegetated and mostly dirt due to the construction of a residential development. Wildlife would then have to cross Valley Circle Boulevard between Deer Lick Drive and Jensen Drive in a northeast direction to get to Chatsworth Nature Preserve and Chatsworth Reservoir. Evidence of coyote (i.e., scat) was observed along the road and inside the fence of the Chatsworth Nature Preserve, and raccoon has been documented within the vicinity.

WMP 1 is approximately 0.4 mile long and relatively flat, and widths range from approximately 40 to 300 feet. There is residential development to the immediate northwest and southeast of the WMP. The western end of WMP 1 leads to the foothills of the Simi Hills to the west, and large expanses of undeveloped, natural areas within unincorporated Los Angeles County. To the northeast, Chatsworth Nature Preserve, Chatsworth Reservoir, and the undeveloped natural areas to the north contain non-native grassland, oak woodland, coastal sage scrub, chaparral, and riparian woodland habitats, all of which are a part of the Santa Susana Mountains and Simi Hills PAW within the City's limits, and is contiguous to larger expanses of undeveloped, natural areas within unincorporated Los Angeles County to the north and west.



SOURCE: Open Street Map, 2017; County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 12
Protection Areas for Wildlife and Wildlife Movement Pathways

ESA

City of Los Angeles Boundary
Potential Protection Area for Wildlife
Rim of the Valley - NPS Selected
Existing County of Los Angeles-Designated Significant Ecological Areas (SEAs)
Wildlife Movement Pathway (WMP)
Rivers/Streams
Water Bodies

Santa Susana Mountains/Simi Hills
OAT MOUNTAIN
Santa Clara River
South Fork Santa Clara River
Bee Canyon
Upper Van Norman Lake
BROWNS CANYON WASH
Mormon Canyon
Falls Creek
Simi Valley
Tapo Canyon
Township Ave
Walnut St
Simi Hills Golf Course
Alamo St
Ronald Reagan Fwy
Kuehner Dr
Tapo Canyon Rd
Los Angeles Ave
Arroyo Simi
ARROYO SIMI
Bell Creek
Santa Susana Pass Rd
118
27
Porter Ranch
Rinaldi St
Limekiln Canyon Wash
Monteria Lake
Wilbur Ave
Chatsworth
Chatsworth St
Devonshire St
Lassen St
Tampa Ave
De Soto Ave
Reseda Blvd
ALISO CANYON WASH
Balboa Blvd
Granada Hills
Woodley Ave
Haskell Ave
Bull Creek
Mayall St
Plummer St
Prairie St
Nordhoff St
Northridge
North Hills
Parthenia St
Roscoe Blvd
Strathern St
Chatsworth Reservoir
Santa Susana Pass Wash
Chatsworth Creek
Corbin Ave
Mission
San Fernando Mission Blvd
Tulsa St
Raven St
Chase St
Prairie St
Knollwood Dr
Encino
Yolanda Ave
Tunney Ave
Valley Circle Blvd
Cohasset St
Corbin Ave
Rinaldi St
Lassen St
Devonshire St
Mayall St
Plummer St
Prairie St
Nordhoff St
Roscoe Blvd
Parthenia St
Strathern St
Woodley Ave
Haskell Ave
Balboa Blvd
Bull Creek
Chatsworth St
Wilbur Ave
Tampa Ave
Reseda Blvd
De Soto Ave
Rinaldi St
Santa Clara River
Upper Van Norman Lake
Monteria Lake
Chatsworth Reservoir
Porter Ranch
Granada Hills
North Hills
Northridge
Simi Valley
Chatsworth
Oat Mountain
Santa Susana Mountains/Simi Hills
Simi Hills Golf Course
Knollwood Dr
Township Ave
Walnut St
Alamo St
Ronald Reagan Fwy
Tapo Canyon
Kuehner Dr
Los Angeles Ave
Arroyo Simi
ARROYO SIMI
Bell Creek
Santa Susana Pass Rd
118
27
Falls Creek
Limekiln Canyon Wash
Mormon Canyon
BROWNS CANYON WASH
Bee Canyon
South Fork Santa Clara River
Santa Susana Pass Wash
Chatsworth Creek
ALISO CANYON WASH
Corbin Ave
Mission
San Fernando Mission Blvd
Tulsa St
Raven St
Chase St
Knollwood Dr
Encino
Yolanda Ave
Tunney Ave
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Path: U:\GIS\GIS\Projects\17xxxx\D170440 LA City Wildlife Habitat Blocks\03 MXDs Projects\2020\Fig 13 - NW Portion 11x17.mxd, landerson 2/23/2021

SOURCE: Open Street Map, 2017; County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 13
Protection Areas for Wildlife and Wildlife Movement Pathways – Northwestern Portion

ESA

Barriers to Movement

Since there is currently construction of a residential development along the western side of Valley Circle Boulevard, it is uncertain what landscaping or potential barriers (i.e., fencing) may be installed upon complete project build-out. There is also a chain link fence along the western edge of Chatsworth Nature Preserve; however, there are some gaps in the fence that small and medium mammals would be able to get through. In addition, there is heavy traffic along Valley Circle Boulevard that may be a hazard for wildlife, or deter them from moving through, particularly during times of day when there is more traffic. However, there may be little or no traffic hazards during the middle of the night when many wildlife species are more active.

4.4.2 WMP 2 – Canoga Avenue

WMP 2 connects undeveloped, natural areas within Stoney Point Park to the southwest to undeveloped, natural areas and riparian drainage within Browns Canyon to the northeast, both of which are within the Santa Susana Mountains and Simi Hills PAW, via a bridge underpass under State Route 118 (Figure 13). The underpass consists of a paved road (Canoga Avenue) with dirt on either side, and paved road transitions into a rural dirt road just north of State Route 118. Evidence of coyote was observed within the vicinity, and mule deer has been documented within the vicinity (both alive and as roadkill).

WMP 2 is less than 0.1 mile long (approximately 300 feet) and relatively flat, and widths of the underpass range from approximately 60 to 70 feet. There is residential development to the northwest and southeast of the WMP. The southwestern end of WMP 2 leads to the Stoney Point Park, and large expanses of undeveloped, natural areas within the Santa Susana Mountains and Simi Hills PAW farther to the southwest. To the northeast, this WMP connects to the undeveloped natural areas to the north within the Santa Susana Mountains and Simi Hills PAW within the City's limits, and is contiguous to larger expanses of undeveloped, natural areas within unincorporated Los Angeles County to the west. The surrounding natural areas contain large rock formations, and support chaparral and oak woodlands.

Barriers to Movement

There is chain link fence and barbed-wire fence along portions of Canoga Avenue; however, there are some gaps in the fence that medium and large mammals would be able to get through. Human activity within the area consists of hiking and rock climbing and some residential traffic. In addition, there is heavy traffic along adjacent roads that may be a hazard for wildlife, or deter them from moving through, particularly during times of day when there is more traffic and noise. However, there may be little or no traffic hazards or human activities during the middle of the night when many wildlife species are more active.

4.4.3 WMP 3 – Moonshine Canyon Park

WMP 3 is located within Moonshine Canyon Park within the Porter Ranch PAW, and follows Moonshine Canyon from the foothills of the Santa Susana Mountains in the north to its convergence with Limekiln Canyon to the south (Figure 13). This canyon supports a drainage feature vegetated with riparian oak and willow woodland that flows south-southeast, with upland

areas of coastal sage scrub and chaparral communities. Evidence of coyote was observed within the vicinity.

WMP 3 is approximately 1.3 miles long, and widths range from approximately 200 to 500 feet. There is residential development to the immediate east and west of the WMP. The northern end of WMP 3 leads to the foothills of the Santa Susana Mountains and large expanses of undeveloped, natural areas within unincorporated Los Angeles County. To the south, this WMP converges with Limekiln Canyon within the Porter Ranch PAW, which supports riparian woodland within the canyon, but the native vegetation eventually becomes less dense farther to the south, and then south of State Route 118, the drainage is eventually channelized within a completed developed area.

Barriers to Movement

There are many fences along the tops of the canyons, and most of the residences nearby are within gated communities. Human activity within the area consists of hiking along trails within the canyons of the Porter Ranch PAW.

4.4.4 WMP 4 – Limekiln Canyon Park

WMP 4 is located within Limekiln Canyon Park within the Porter Ranch PAW, and follows Limekiln Canyon from the foothills of the Santa Susana Mountains in the north to its convergence with Moonshine Canyon to the south (Figure 13). This canyon supports a drainage feature vegetated with riparian oak and willow woodland that flows southwest, with upland areas of coastal sage scrub and chaparral communities. Evidence of coyote (i.e., scat) was observed.

WMP 4 is approximately 1.3 miles long, and widths range from approximately 200 to 450 feet. There is residential development to the immediate east and west of the WMP. The northern end of WMP 4 leads to the foothills of the Santa Susana Mountains and large expanses of undeveloped, natural areas within unincorporated Los Angeles County. To the south, this WMP ends within Limekiln Canyon, which extends farther to the south within the Porter Ranch PAW, and supports riparian woodland within the canyon. The native vegetation within Limekiln Canyon eventually becomes less dense farther to the south, and is channelized south of State Route 118.

Barriers to Movement

There are many fences along the tops of the canyons, and most of the residences nearby are within gated communities. Human activity within the area consists of hiking along trails within the canyons of the Porter Ranch PAW.

4.4.5 WMP 5 – Wilbur Tampa Park

WMP 5 is located within Wilbur Tampa Park (or Palisades Park) within the Porter Ranch PAW, and follows the steep hillside slope between Limekiln Canyon and Aliso Canyon (Figure 13). This hillside slope supports a dirt trail along the length of this WMP within upland areas of non-native grassland, coastal sage scrub, and chaparral communities. Evidence of coyote was observed within the vicinity.

WMP 5 is approximately 1.6 miles long, and widths range from approximately 150 to 900 feet. There is residential development to the immediate northeast and southwest of the WMP. The western end of WMP 5 leads to Limekiln Canyon and the riparian woodland within the drainage. The eastern end of this WMP ends within Aliso Canyon drainage. Both Limekiln Canyon and Aliso Canyon are within the Porter Ranch PAW and both connect to the foothills of the Santa Susana Mountains in the north.

Barriers to Movement

Human activity within the area consists of hiking and walking dogs on leash; however, this is generally a quiet area.

4.4.6 WMP 6 – Aliso Canyon Park

WMP 6 is located within Aliso Canyon Park within the Porter Ranch PAW, and follows Aliso Canyon from the foothills of the Santa Susana Mountains in the north to its convergence with WMP 5 within Wilbur Tampa Park to the south (Figure 13). This canyon supports a drainage feature vegetated with riparian vegetation that flows southeast, with upland areas of coastal sage scrub and non-native grassland communities. Evidence of coyote was observed within the vicinity.

WMP 6 is approximately 1.1 miles long, and widths range from approximately 300 to 550 feet. There is residential development to the immediate east and west of the WMP. The northern end of WMP 6 leads to the foothills of the Santa Susana Mountains and large expanses of undeveloped, natural areas within unincorporated Los Angeles County. To the south, this WMP ends within Aliso Canyon, which extends farther to the south within the Porter Ranch PAW, which eventually becomes channelized south of State Route 118.

Barriers to Movement

There are many fences along the tops of the canyons, and most of the residences nearby are within gated communities. Human activity within the area consists of hiking along trails within the canyons of the Porter Ranch PAW.

4.4.7 WMP 7 – Longacre Avenue

WMP 7 is located within the Porter Ranch PAW, and connects the foothills of the Santa Susana Mountains in the north to Aliso Canyon to the south via a canyon that crosses Longacre Avenue (Figure 13). This canyon supports some riparian vegetation and upland areas of coastal sage scrub and non-native grassland communities. Evidence of coyote was observed within the vicinity.

WMP 7 is approximately 0.5 mile long, with averages widths of approximately 100 feet or greater since there is little development or barriers to movement within the immediate vicinity. There is residential development to the east and west of the WMP. The northern end of WMP 7 leads to the foothills of the Santa Susana Mountains and large expanses of undeveloped, natural areas within unincorporated Los Angeles County. To the south, this WMP ends within Aliso Canyon, also within the Porter Ranch PAW.

Barriers to Movement

Wildlife moving through this WMP would have to cross a residential road, Longacre Avenue. There is a small section of chain link fencing along the road immediately surrounding a culvert underneath the road, but wildlife can navigate around it. Human activity within the area consists of hiking and residential traffic.

4.4.8 WMP 8 – Balboa Boulevard

WMP 8 connects the Santa Susana Mountains and Simi Hills PAW in the southwest with the Saddletree Ranch (Santa Clara River) PAW to the northeast (Figure 13). From the western end, this WMP starts within undeveloped areas south of Sunshine Canyon Landfill, then follows a large paved road, Balboa Boulevard, to the northeast, which turns into a bridge over Interstate 5. Once across Interstate 5, this WMP continues along Balboa Boulevard past Foothill Boulevard, where there is fragmented undeveloped hillsides slopes with patches of coastal sage scrub to the north, parallel to the Los Angeles Aqueduct, which lead to undeveloped, natural areas farther north within the Saddletree Ranch (Santa Clara River) PAW. Coyote has been documented (both alive and as roadkill) within the vicinity.

WMP 8 is approximately 0.5 mile long and relatively flat with some hills, and widths range from very narrow (i.e., 5 feet along the sidewalks or margins of the road) to approximately 50 feet (i.e., assuming no traffic is present and wildlife could potentially use the width of the road). There is residential development to the east of the WMP, and industrial development to the south. The southwestern end of WMP 8 leads to the foothills of the Santa Susana Mountains to the west, and large expanses of undeveloped, natural areas within unincorporated Los Angeles County. To the northeast, the Saddletree Ranch (Santa Clara River) PAW connects to undeveloped coastal sage scrub, chaparral, oak woodland, and non-native grassland habitats within the foothills of the San Gabriel Mountains.

Barriers to Movement

There is heavy traffic and associate noise from Interstate 5, and because the WMP follows a paved road that is traveled by cars, this connection contains hazardous conditions for wildlife and likely would only be used by more urban-adapted species (e.g., coyote) that are opportunistically moving thorough the area at night or early morning when there is less traffic and human activity for wildlife to avoid.

4.4.9 WMP 9 – San Fernando Road

As an alternate route to WMP 8, WMP 9 is a more northern connection between the Santa Susana Mountains and Simi Hills PAW in the southwest with the Saddletree Ranch (Santa Clara River) PAW to the northeast (Figure 13). From the western end, this WMP starts within undeveloped areas south of Sunshine Canyon Landfill, then crosses San Fernando Road, crosses under Interstate 5 via a bridge underpass, and parallels (and eventually crosses) the railroad tracks up to a small access road that joins to Sierra Highway. From Sierra Highway, there are several bridge underpasses under Interstate 5 Truck Route that lead to the east to undeveloped natural areas of the northern end of the Saddletree Ranch (Santa Clara River) PAW. Coyote has been documented within the vicinity.

WMP 9 is approximately 0.9 mile long and relatively flat, and widths are very narrow ranging from approximately 5 feet along margins of the road to 15 feet along the railroad tracks and access roads.

There is residential development to the east of the WMP, and industrial development to the south. The southwestern end of WMP 9 leads to the foothills of the Santa Susana Mountains to the west, and large expanses of undeveloped, natural areas within unincorporated Los Angeles County. To the northeast, the Saddletree Ranch (Santa Clara River) PAW connects to undeveloped coastal sage scrub, chaparral, oak woodland, and non-native grassland habitats within the foothills of the San Gabriel Mountains.

Barriers to Movement

There are a number of hazards to wildlife by crossing or using multiple roads and the railroad tracks, and there is heavy traffic and associate noise from Interstate 5. This WMP would likely only be used at night or early morning when there is less traffic and human activity for wildlife to avoid. There are also chain link fences along San Fernando Road and the access road adjacent to Sierra Highway; however, there are some gaps in the fence that medium and large mammals would be able to get through.

4.4.10 WMP 10 – Tujunga-Verdugo

WMP 10 connects Tujunga Wash in the Tujunga Valley and Hansen Dam PAW to the north to Verdugo Mountains PAW in the south (**Figure 14**, *Protection Areas for Wildlife and Wildlife Movement Pathways – Northeastern Portion*). From its north end, this WMP follows Tujunga Wash west and crosses W. Foothill Boulevard and Interstate 210 via bridge underpasses. From the Tujunga Wash, this WMP turns south into an upland area of coastal sage scrub along the western side of Interstate 210, then crosses Wentworth Street to another steep hillside of coastal sage scrub that parallels the freeway and its off-ramp to Sunland Boulevard. Wildlife would then have to navigate across Sunland Boulevard, through an undeveloped lot, and across a paved Water and Power Road to get to the undeveloped chaparral, coastal sage scrub, oak woodland, and riparian oak forest habitat within the Verdugo Mountains PAW. Evidence of coyote (i.e., scat) was observed, and mule deer has been documented within this WMP, as well as Virginia opossum documented nearby.

WMP 10 is approximately 0.7 mile long and relatively flat with some hills and slopes, and widths range from approximately 20 to 100 feet. There is residential development to the west and Interstate 210 to the east of the WMP. To the north, the Tujunga Valley and Hansen Dam PAW supports alluvial fan sage scrub, willow-cottonwood riparian forest, oak woodland, wetlands, and open water, and is contiguous to larger expanses of undeveloped, natural areas within the San Gabriel Mountains to the north and east. The southern end of WMP 10 leads to the Verdugo Mountains PAW, as well as large expanses of undeveloped, natural areas within the Verdugo Mountains within the Cities of Burbank and Glendale farther to the south.

Barriers to Movement

There is a lot of fencing (mostly chain link fencing) along the river and in the neighborhoods surrounding this WMP, but the slopes make it easy for animals to find ways under the fencing,

and even where solid fencing is found, there are gaps that allow for movement of large mammals. In addition, the neighborhood provides a lot of tree coverage for wildlife. This is a very high vehicle traffic area that may be hazardous for wildlife or deter them from moving through, particularly during times of day when there is more traffic and noise. Human activity also includes pedestrians with dogs on leash. However, there may be little or no traffic hazards or human activities during the middle of the night when many wildlife species are more active.

4.4.11 WMP 11 – La Tuna Canyon Road

WMP 11 connects two areas of the Verdugo Mountains PAW, which is bisected by Interstate 210, via a bridge underpass along La Tuna Canyon Road (Figure 14). The underpass includes a 4-lane paved road with dirt or vegetated walkways on either side of the road. Evidence of coyote, grey fox, black bear, and raccoon (i.e., scat and tracks) was observed within the vicinity, and mountain lion has been documented nearby.

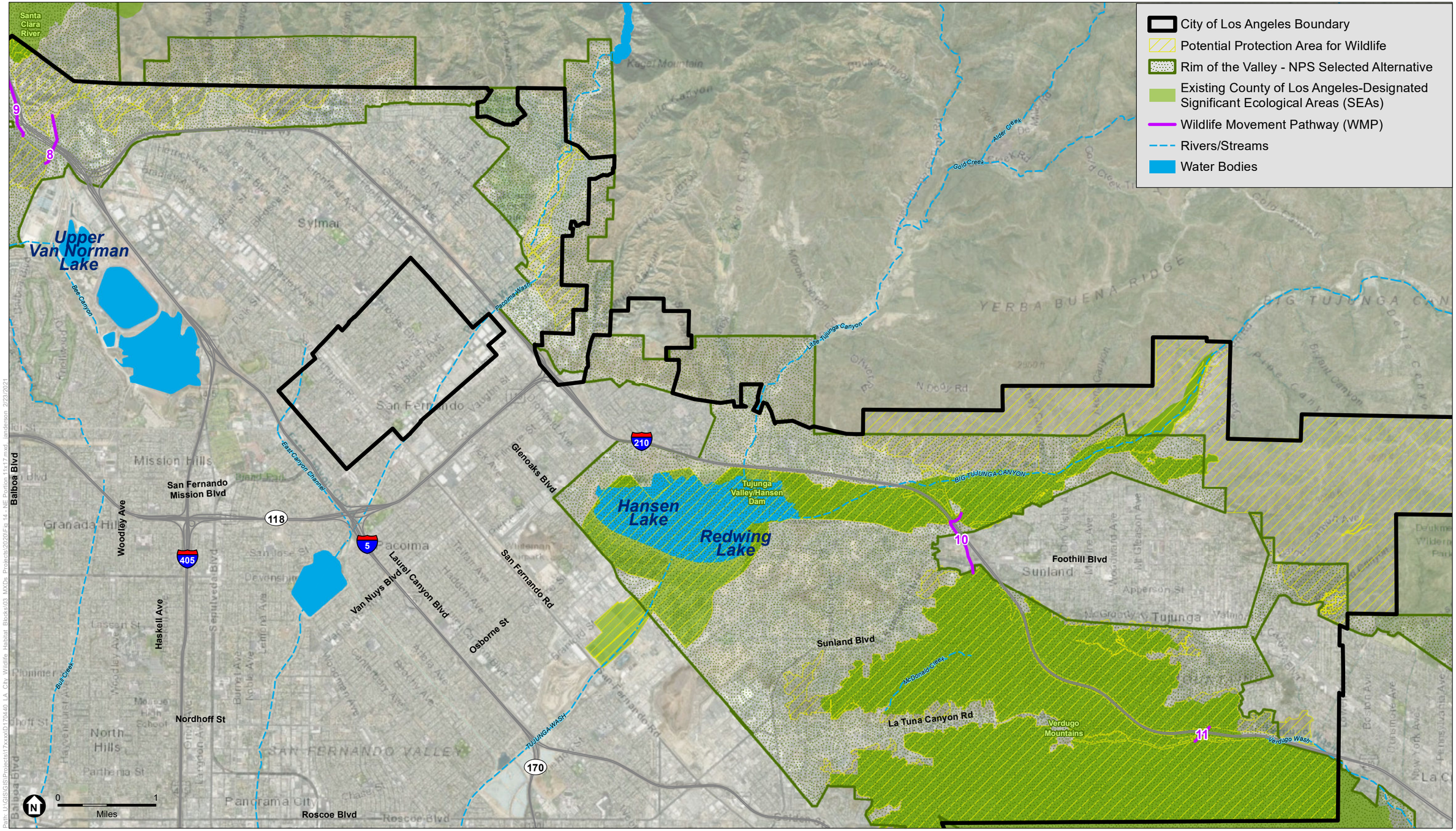
WMP 11 is approximately 0.2 mile long and relatively flat between hilly areas, with a width of approximately 100 feet. Southland Nursery is located just southwest of the WMP; otherwise, there is very little development within the immediate vicinity of the WMP. The surrounding Verdugo Mountains PAW contains large expanses of chaparral, coastal sage scrub, oak woodland, and riparian oak forest habitat to the north and south.

Barriers to Movement

Although there is some chain link fencing along La Tuna Canyon Road near the freeway on-ramps and off-ramps, wildlife movement would not be inhibited by this fencing. The main barrier to movement within this area would be traffic that may be hazardous for wildlife or deter them from moving through, particularly during times of day when there is more traffic and noise. However, there may be little or no traffic hazards during the middle of the night when many wildlife species are more active.

4.4.12 WMP 12 – Los Angeles River

WMP 12 is a regional connection that follows the Los Angeles River along the dense riparian habitat that extends from west of the Sepulveda Basin Recreation Area PAW to the eastern boundary of the PAW, just west of Interstate 405 (**Figure 15**, *Protection Areas for Wildlife and Wildlife Movement Pathways – Central Portion*). WMP 12 continues east via an unvegetated, concrete-lined channel past Interstate 405 and roughly parallel to State Route 101. WMP 12 then turns south, just east of the Griffith Park and Hollywood Hills PAW, and parallels Interstate 5 until its intersection with State Route 110, just east of the Elysian Park PAW; this entire stretch of the Los Angeles River contains vegetated portions of the channel that support patches of riparian habitat within the Los Angeles River PAW. South of State Route 110, WMP 12 continues along an unvegetated, concrete-lined portion of the channel that continues south and parallel to Interstate 5 to the City's limits. Although only portions of WMP 12 are vegetated and thus provide riparian habitat for wildlife, the entire extent of the river provides aquatic resources and a wildlife movement pathway for a variety of avian, terrestrial, and aquatic species. Coyote and raccoon have been documented within the Los Angeles River.

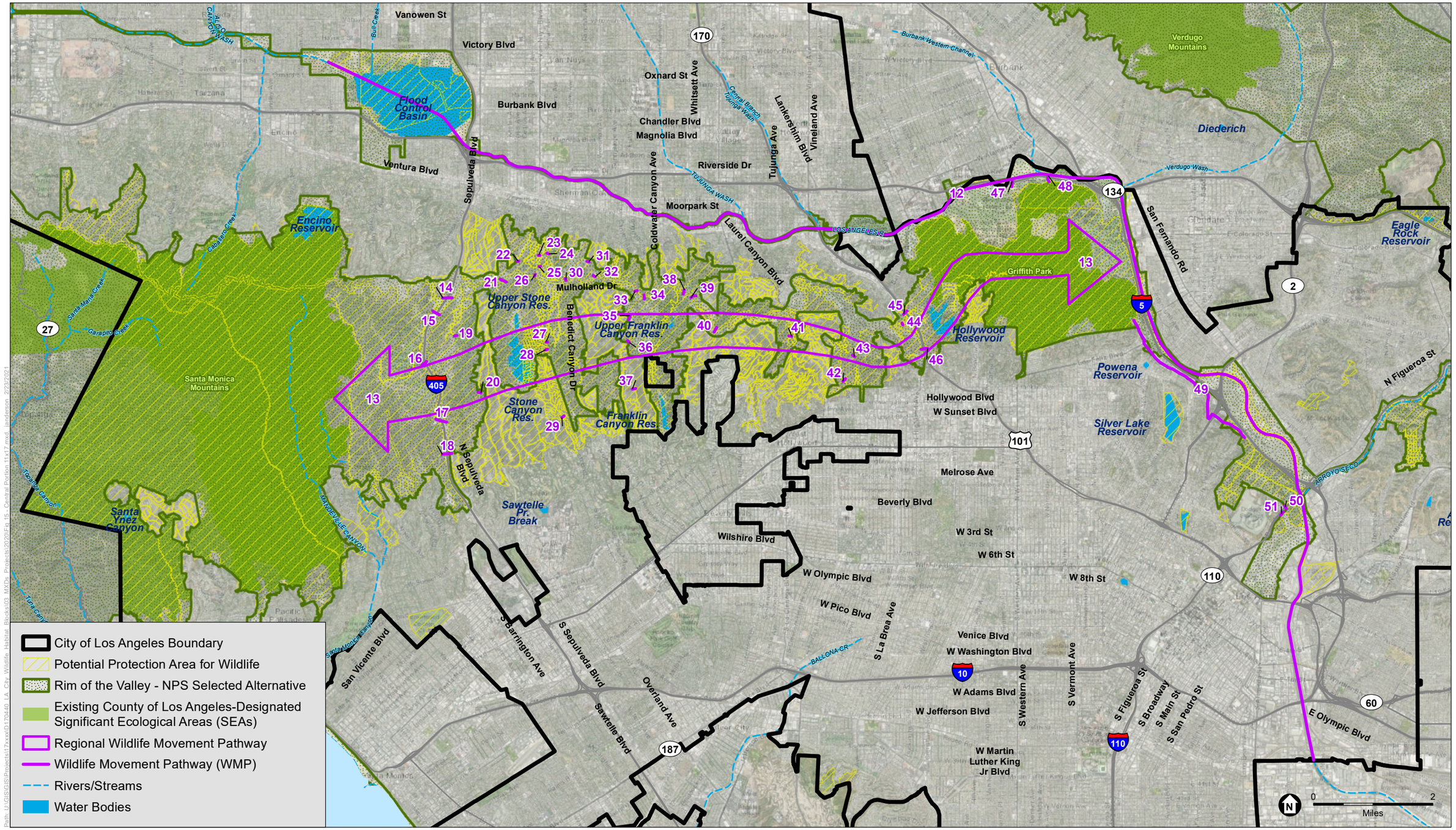


SOURCE: Open Street Map, 2017; County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 14
Protection Areas for Wildlife and Wildlife Movement Pathways – Northeastern Portion

ESA



SOURCE: Open Street Map, 2017; County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 15
Protection Areas for Wildlife and Wildlife Movement Pathways – Central Portion

ESA

Path: U:\GIS\GIS\Projects\17xxxx\D170440 LA City Wildlife Habitat Blocks\03 MXDs Projects\2020\Fig 15 - Central Portion 11x17.mxd landerson 2/23/2021

WMP 12 is approximately 26.0 miles long, and relatively flat with a very gradual slope to the east and south, with widths range from approximately 275 to 375 feet. The river runs through highly urbanized areas within the City, and is surrounded by a mix of residential, commercial, and industrial development; a network of roads and freeways, a number of which have bridges over the river; and some larger undeveloped areas (e.g., Sepulveda Basin, Griffith Park, Elysian Park). The western end of WMP 12 continues as an unvegetated, concrete-lined channel further upstream, which diverts into multiple smaller unvegetated, concrete-lined channels between the neighborhoods of Canoga Park (to the north), Warner Center (to the south), and West Hills (to the west). These smaller channels eventually connect to undeveloped areas within the Santa Susana Mountains and Simi Hills PAW and areas of the Santa Monica Mountains outside of the City's limits within unincorporated Los Angeles County. These montane areas contribute steep topography that is part of the watershed providing hydrology to these upstream tributaries of the Los Angeles River. At the southern extent of WMP12, which is the downstream extent of the Los Angeles River at the City's limits, the river continues as a generally unvegetated, concrete-lined channel that roughly parallels Interstate 710 until its outlet into the Los Angeles Harbor and the Pacific Ocean.

Barriers to Movement

Many areas of the WMP 12 are difficult to access due to vertical concrete banks, chain link fencing, and some gated culverts. These gates and fencing were installed for human safety, as a deterrent to accessing the river. As such, these barriers may also deter access for wildlife. Portions of WMP 12 are surrounded by roads, railroads, and development on both sides of the river, which provide additional hazards to wildlife moving through an area; thus, if a wildlife species is able to get into the river (e.g., via a culvert or through a gap in the fence), they may use it as a movement pathway between habitat areas rather than traversing through urbanized areas where crossing over roads or railroad tracks may be required, particularly during times of day when there is more traffic. There is relatively little human activity within the river, with the exception of a number of homeless encampments. However, there is a high amount of human activity, and some associated noise, immediately adjacent to portions of the river (e.g., cars on freeways), which may deter movement for less urban-adapted species.

4.4.13 WMP 13 – Santa Monica Mountains-Griffith Park

WMP 13 represents a regional connection across the Santa Monica Mountains East PAW, which connects the Santa Monica Mountains West PAW with the Griffith Park and Hollywood Hills PAW, and beyond to the Los Angeles River PAW (Figure 15). This wildlife movement pathway does not detail a single, specific pathway for wildlife movement. Rather, WMP 13 acknowledges that wildlife moves through the fragmented habitat within the developed and undeveloped ridges and canyons, water bodies, wetlands, riparian areas, open space areas, along roads, and around reservoirs of the suburban Santa Monica Mountains from west of Interstate 405, between Interstate 405 and State Route 101, and east to Griffith Park and the Los Angeles River. Multiple studies and data resources have documented use of WMP 13 by medium and large mammals, among other species.

In a California State University, Northridge (CSUN) study from 2006 to 2007,[93] wildlife movement across Interstate 405 in the Sepulveda Pass area was monitored using gypsum powder track stations that were set up at three crossing points, including the Mulholland Drive bridge, Sepulveda Boulevard underpass, and a drainage culvert on the Getty Museum property. Raccoons and opossums were the only species found using the Getty Museum drainage culvert, but evidence of these species, as well as feline and canine species, was found as the most frequent visitors to the other track stations. For both the Mulholland bridge and Sepulveda underpass, there were less completed crossings recorded than investigations (i.e., where animals would start to cross but turn back), likely due to the dimensions or type of crossing, as well as aversion to human activity. Observations of vehicle mortalities at the Sepulveda underpass of one raccoon, two opossums, and one California mountain kingsnake (*Lampropeltis zonata*) also indicated wildlife movement through the area. The same study also documented gene flow of bobcats within the eastern Santa Monica Mountains from west of Interstate 405 ("Topanga Section"), to the "Mid-Section" between Interstate 405 and State Route 101, to Griffith Park. From these three subpopulations, the study concluded that the Griffith Park subpopulation was not experiencing significant inbreeding; however, the same was not true for the Topanga and Mid-Section subpopulations.

A UCLA study[94] conducted camera trapping in the eastern Santa Monica Mountains in the vicinity of Mulholland Drive and N. Beverly Glen Boulevard. The study captured evidence of coyote and bobcat, which were primarily seen at night, and mule deer, which were largely crepuscular (i.e., active primarily during dawn and dusk). Data collected from this study suggests that coyotes may use Mulholland Drive as a movement corridor between habitats.

The Griffith Park Connectivity Study set up motion-triggered cameras to monitor wildlife movement between Griffith Park and other habitat areas or to access the Los Angeles River.[95] From 2011 to 2012, mule deer, bobcat, coyote, raccoon, striped skunk, and a male mountain lion were detected in cameras in hillside habitat near bridges over State Route 101 at Lakeridge Bridge (also referred to as WMP 44 in this document) and Pilgrimage Bridge (also referred to as WMP 45 in this document). Coyotes were recorded crossing State Route 101 via the Lakeridge Bridge twice a week, and mule deer were also recorded using the bridge, though less frequently. Only one deer crossing was documented on Pilgrimage Bridge, and a raccoon was detected but it could not be confirmed as crossing the bridge. From 2013 to 2014, on the eastern side of Griffith Park, cameras were placed in habitat at the opening of three tunnels under highways between Griffith Park and the Los Angeles River. The same medium and large mammal species, plus gray fox, were detected. Coyotes were documented within all three tunnels, and bobcat, raccoon, and

93 Osborn, N. 2009. *Barriers to Movement and Gene Flow in Mid-Sized Carnivores in the Eastern Santa Monica Mountains*. California State University, Northridge. Master of Science in Biology.

94 Albano, G., T. Bitcon, M. Condamoor, S. Lao, G. Lopez, R. Sokolovsky, and A. Vicencio. June 2012. *Large Mammal Movement in the Eastern Santa Monica Mountains*. UCLA Institute of the Environment and Sustainability. Environment 180 – Senior Practicum in Environmental Science. Client: Mountains Recreation and Conservation Authority. Advisors: Dr. Travis Longcore (UCLA) and Dr. Erin Boydston (U.S. Geological Survey).

95 Boydston, E., M. Ordeñana, and D. Cooper. 2014. *Landscape Connectivity for Medium and Large Mammals in the City of Los Angeles*. WatershedWise. Vol. 15, No. 4. Pages 4 -5.

mule deer were documented using one or more tunnels; however, overall wildlife use was infrequent.

The male mountain lion observed within the Griffith Park area is Puma 22 (P22), which was discovered during the Griffith Park Connectivity Study and later captured and radio-collared by National Park Service (NPS). P22 is the most urban mountain lion known to exist, and based on the results of genetic testing, came from the Santa Monica Mountains.[96] During the day, he generally uses natural areas and remains in remote and inaccessible sections within Griffith Park, then travels mostly at night and feeds on deer.

WMP 13 is approximately 12 miles long through rolling hills and canyons. There is scattered residential development, particularly within the portion through the Santa Monica Mountains East PAW.

Barriers to Movement

Scattered residential development, particularly throughout the Santa Monica Mountains East PAW, has a variety of constraints to wildlife movement including fragmentation of habitat and impermeable ridgelines and canyons in some areas where development and associated structures (e.g., tennis courts, pools), fencing, and walls impede free movement through an area. Urban lighting, noise, and window glare effects associated with residences, as well as lighting and noise associated with roadways, may also deter some wildlife species from moving through an area. Due to the presence of residential development, there is a moderate amount of human activity within the region, including areas such as Hollywood Bowl and Runyon Canyon, a frequented hiking spot. In addition, traffic along windy roads following ridgelines and canyons may be a hazard for wildlife, or deter them from moving through, particularly during times of day when there is more traffic and noise. However, there may be little or no traffic hazards or human activities during the middle of the night when many wildlife species are more active.

4.4.14 WMP 14 – Mulholland Bridge

Within regional connection WMP 13 across the Santa Monica Mountains, there are a number of smaller WMPs that connect fragmented patches of undeveloped habitat for wildlife between PAWs (Figure 15). WMP 14 connects the Santa Monica Mountains West PAW with Santa Monica Mountains East PAW via the Mulholland Drive bridge over Interstate 405. As mentioned above, the CSUN study recorded evidence of raccoons, opossums, and feline and canine species at the Mulholland bridge, although there were less completed crossings recorded than investigations. Mule deer has been documented (both alive and as roadkill) in this location.

WMP 14 is approximately 0.2 mile long and 80 feet wide spanning over a canyon (i.e., Interstate 405). The bridge is surrounded by a mix of native and non-native habitat, including native walnuts and non-native grassland, and development from multiple schools and roads, as well as Interstate 405.

96 Ordeñana, Miguel. March 31, 2013. *Discovering the Griffith Park Mountain Lion (P22): Looking Back One Year Later*. Urban Carnivores. http://www.urbancarnivores.com/miguels-blog/.

Barriers to Movement

Heavy traffic along Interstate 405 and Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. In addition, because there are multiple schools surrounding the bridge, human activity within the area is high during certain times of day, and fragmented habitat in the surrounding area may make movement through an area difficult. Moderate lighting, human activity, noise, traffic, and lack of cover may deter wildlife from using the bridge.

4.4.15 WMP 15 – Skirball Center Drive

WMP 15 connects the Santa Monica Mountains West PAW with Santa Monica Mountains East PAW via the Skirball Center Drive bridge over Interstate 405 (Figure 15). Mule deer have been documented within the vicinity.

WMP 15 is approximately 0.1 mile long and 85 feet wide spanning over a canyon (i.e., Interstate 405). The bridge is surrounded by mix of native oak woodland and non-native grassland habitat and with some limited development and roads nearby, as well as Interstate 405.

Barriers to Movement

Heavy traffic along Interstate 405 and Skirball Center Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Moderate lighting, human activity, noise, and traffic may deter wildlife from using the bridge.

4.4.16 WMP 16 – Bel Air Crest Road

WMP 16 connects the Santa Monica Mountains West PAW with Santa Monica Mountains East PAW via the Bel Air Crest Road underpass under Interstate 405 (Figure 15). Mule deer, coyote, raccoon have been observed within the vicinity, and there was an anecdotal report of a mountain lion observed in the area.

WMP 16 is approximately 0.1 mile long and 85 feet wide and relatively flat. The underpass is surrounded by native habitat on both sides, chaparral and oak woodland to the west, residential development to the east with some roads nearby, as well as Interstate 405.

Barriers to Movement

Heavy traffic along Interstate 405 and some light traffic along Bel Air Crest Road may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Moderate lighting, human activity, and noise may deter wildlife.

4.4.17 WMP 17 – Sepulveda Boulevard

WMP 17 connects the Santa Monica Mountains West PAW with Santa Monica Mountains East PAW via the N. Sepulveda Boulevard underpass under Interstate 405 (Figure 15). As mentioned above, the CSUN study recorded evidence of raccoons, opossums, and feline and canine species at the Sepulveda Boulevard underpass, although there were less completed crossings recorded than investigations.

WMP 17 is approximately 0.2 mile long and 100 feet wide and relatively flat. The underpass crosses under Interstate 405 is surrounded by non-native grassland and ruderal habitat on both sides with a mix of native and non-native habitat beyond that, and N. Sepulveda Boulevard on either side.

Barriers to Movement

Heavy traffic along Interstate 405 and some moderate traffic along N. Sepulveda Boulevard may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic and noise.

4.4.18 WMP 18 – Getty Center Drive

WMP 18 connects the Santa Monica Mountains West PAW with Santa Monica Mountains East PAW via the Getty Center Drive underpass under Interstate 405 (Figure 15). The underpass is lit with no dirt edges. Mule deer have been documented within the vicinity.

WMP 18 is approximately 850 feet long and 180 feet wide and relatively flat across the bottom of a canyon. The underpass crosses under Interstate 405 is surrounded by chaparral and oak woodland on both sides with non-native woodland to the east.

Barriers to Movement

Heavy traffic along Interstate 405 and some moderate traffic along Getty Center Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic and noise. There are parking lots on both sides of the WMP, and human activity may be higher during certain times of the week when there are more visitors to the Getty Center, which may deter wildlife.

4.4.19 WMP 19 – Casiano Road

Within the Santa Monica Mountains East PAW, wildlife moves through the fragmented habitat within the developed and undeveloped ridges and canyons, and along roads, of the suburban Santa Monica Mountains (Figure 15). Within this area, several WMPs have been identified where movement from a large, undeveloped area of habitat connects over a ridgeline and/or road to another a large, undeveloped area of habitat. WMP 19 connects two undeveloped areas that are bisected by Earls Court, which is at the end of a cul-de-sac, on Casiano Road.

WMP 19 is approximately 230 feet long and 300 feet wide across a ridgeline surrounded by gradual to steep slopes. WMP 18 is surrounded by residential development along the ridgeline to the north and south, and undeveloped areas to the east and west, with a natural canyon to the east.

Barriers to Movement

There is a wrought iron fence surrounding the property to the south, which may make access difficult for larger mammal species that cannot fit through gaps in the fence. Light traffic along the roads may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat may deter some wildlife movement through the area.

4.4.20 WMP 20 – Linda Flora Drive

WMP 20 connects two undeveloped areas that are bisected by Linda Flora Drive (Figure 15). WMP 20 is approximately 25 feet long and 600 feet wide across a ridgeline flanked by steep slopes. WMP 20 is surrounded by residential development along the ridgeline to the north and south, and undeveloped areas to the east and west, with a natural canyon to the west.

Barriers to Movement

Light traffic along Linda Flora Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development in the canyon and along the ridgeline to the east may deter some wildlife movement through the area.

4.4.21 WMP 21 – Stone Canyon Road

WMP 21 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 21 is approximately 260 feet long and 375 feet wide across a ridgeline flanked by canyons. WMP 21 is surrounded by residential development to the north-northeast and south-southwest, and undeveloped areas, which include oak woodland and walnut woodland, to the northwest and southeast. The undeveloped areas to the north are highly fragmented between residential development along the ridgelines and canyons; however, there is larger area of undeveloped native habitat to the south, which includes Stone Canyon Reservoir. Raccoon has been documented in the vicinity.

Barriers to Movement

Moderate traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.22 WMP 22 – Fawndale Place

WMP 22 connects two undeveloped areas via a ridgeline that is between residential development (Figure 15). WMP 22 is approximately 60 feet long and 125 feet wide along an undeveloped slope. WMP 22 is surrounded by residential development to the north and south, and undeveloped areas to the east and west.

Barriers to Movement

Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.23 WMP 23 – Oakfield Drive

WMP 23 connects two undeveloped areas along a west-facing slope that are bisected by Oakfield Drive (Figure 15). WMP 23 is approximately 40 feet long and 75 feet wide along a very steep slope. WMP 23 is immediately surrounded by residential development to the north, and undeveloped areas to the east and west with chaparral, walnut woodland, non-native woodland,

and non-native grassland on the steep slopes. There is residential development in the canyon to the west, as well as the ridgeline to the east.

Barriers to Movement

There is a chain link fence along the west side of Oakfield Drive; however, larger mammal species that cannot fit through gaps in the fence can go around the northern end of the fence. Light traffic along the roads may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat may deter some wildlife movement through the area.

4.4.24 WMP 24 – Camino de la Cumbre

WMP 24 connects two undeveloped areas along an east-facing slope that are bisected by Camino de la Cumbre (Figure 15). WMP 24 is approximately 75 feet long and 280 feet wide along a very steep slope. WMP 24 is immediately surrounded by a school to the north and residential development to the south, and undeveloped areas to the east and west with walnut woodland and chaparral on the steep slopes. There is residential development along the ridge to the west, and a large, undeveloped natural area within Fossil Ridge Park to the east with high quality oak and sycamore woodland within the canyon bottom.

Barriers to Movement

Moderate traffic along the road may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from the nearby school and residences and the fragmentation of habitat may deter some wildlife movement through the area.

4.4.25 WMP 25 – Beverly Glen Boulevard

WMP 25 connects two undeveloped areas that are bisected by Beverly Glen Boulevard (Figure 15). WMP 25 is approximately 120 feet long and 65 feet wide across a ridgeline with steep slopes on either side. WMP 25 is surrounded by residential development to the north and south, and undeveloped areas vegetated with chaparral, walnut woodland, non-native woodland, and non-native grassland to the east and west. The undeveloped areas to the north are highly fragmented between residential development along the ridgelines and canyons, within larger areas of undeveloped habitat within Fossil Ridge Park to the northeast and Stone Canyon Reservoir to the south.

Barriers to Movement

High traffic along Beverly Glen Boulevard may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area. However, there may be little or no traffic hazards or human activities during the middle of the night when many wildlife species are more active.

4.4.26 WMP 26 – Stone Canyon Overlook

WMP 26 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 26 is approximately 130 feet long and 280 feet wide across a ridgeline flanked by steep slopes. WMP 26 is immediately surrounded by undeveloped areas to the north and a larger area of undeveloped undeveloped areas to the south, which includes Stone Canyon Reservoir. Vegetation within the area includes chaparral, walnut woodland, oak woodland, and non-native grassland. The surrounding area is highly fragmented between residential development along the ridgelines and canyons, particularly to the north and east. Evidence of striped skunk was observed nearby, and mule deer have been documented near this location.

Barriers to Movement

Moderate traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.27 WMP 27 – N. Beverly Glen Boulevard - A

WMP 27 connects two undeveloped areas that are bisected by N. Beverly Glen Boulevard (Figure 15). WMP 27 is approximately 70 feet long and 430 feet wide across a canyon bottom flanked by steep slopes with non-native woodland and non-native grassland. WMP 27 is surrounded by residential development to the north, and undeveloped areas to east and west, including Beverly Glen Park (east) and Stone Canyon Reservoir (west). Evidence of coyote (e.g., scat) was observed, and mule deer have been documented within the vicinity.

Barriers to Movement

High traffic along N. Beverly Glen Boulevard may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.28 WMP 28 – N. Beverly Glen Boulevard - B

WMP 28 connects two undeveloped areas that are bisected by N. Beverly Glen Boulevard (Figure 15). WMP 28 is approximately 70 feet long and 230 feet wide across a canyon bottom flanked by steep slopes with non-native woodland and non-native grassland. WMP 28 is surrounded by residential development to the south, and undeveloped areas to east and west, including Beverly Glen Park (east) and Stone Canyon Reservoir (west). Evidence of coyote (e.g., scat) was observed, and mule deer have been documented within the vicinity.

Barriers to Movement

High traffic along N. Beverly Glen Boulevard may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.29 WMP 29 – N. Beverly Glen Boulevard - C

WMP 29 connects two undeveloped areas that are bisected by N. Beverly Glen Boulevard (Figure 15). WMP 29 is approximately 70 feet long and 170 feet wide across a canyon bottom flanked by steep slopes with chaparral and walnut woodland. WMP 29 is immediately surrounded by residential development to the north and south, and undeveloped areas to east and west. Evidence of coyote (e.g., scat) was observed, and mule deer have been documented within the vicinity.

Barriers to Movement

High traffic along N. Beverly Glen Boulevard may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.30 WMP 30 – Mulholland Drive - A

WMP 30 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 30 is approximately 100 feet long and 100 feet wide across a ridgeline flanked by canyons. WMP 30 is surrounded by residential development to the north, and undeveloped areas to the south. The undeveloped areas to the north are highly fragmented between residential development along the ridgelines and canyons; however, there is larger area of undeveloped habitat within Fossil Ridge Park to the north and Beverly Glen Park to the south.

Barriers to Movement

High traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.31 WMP 31 – Benedict Canyon Lane

WMP 31 connects two undeveloped areas that are bisected near the intersection of Durham Road and Benedict Canyon Lane (Figure 15). WMP 31 is approximately 130 feet long and 90 feet wide across a canyon bottom. WMP 31 is surrounded by residential development to the north and south, and undeveloped areas to the east and some limited areas to the west and northwest. Vegetation within the area consists of urban landscaping and chaparral. The undeveloped areas are highly fragmented between residential development along the ridgelines and canyons.

Barriers to Movement

Light traffic along Durham Road and Benedict Canyon Lane may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.32 WMP 32 – Mulholland Drive - B

WMP 32 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 32 is approximately 95 feet long and 90 feet wide across a ridgeline flanked by steep slopes leading to canyons below. WMP 32 is surrounded by residential development to the immediate northeast and southwest, and undeveloped areas to the immediate northwest and southeast. However, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area.

Barriers to Movement

High traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.33 WMP 33 – Mulholland Drive - C

WMP 33 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 33 is approximately 130 feet long and 150 feet wide across a ridgeline flanked by steep slopes on either side. WMP 33 is surrounded by undeveloped areas to the immediate northwest and southeast, and a residence to the immediate north. However, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area. Coyote has been documented within the vicinity of this location.

Barriers to Movement

Moderate traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.34 WMP 34 – Mulholland Drive - D

WMP 34 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 34 is approximately 90 feet long and 200 feet wide across a ridgeline flanked by steep slopes on either side. WMP 34 is surrounded by undeveloped areas to the immediate north and south, and a residence to the immediate west. However, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area.

Barriers to Movement

Moderate traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. A small section of chain link fencing is located near a culvert; however, wildlife can pass through around the fencing. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.35 WMP 35 – Arby Drive

WMP 35 connects two undeveloped areas via an undeveloped slope at the eastern end of Arby Drive (Figure 15). WMP 35 is approximately 160 feet long and 225 feet wide across a west-facing slope traversing rolling hills. WMP 35 is surrounded by residential development to the immediate east and west, and undeveloped areas to the immediate north and south. However, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area.

Barriers to Movement

Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.36 WMP 36 – Summitridge Drive - A

WMP 36 connects two undeveloped areas that are bisected by Summitridge Drive (Figure 15). WMP 36 is approximately 70 feet long and 360 feet wide across a ridgeline flanked by steep slopes on either side. WMP 36 is surrounded by one residence to the immediate north and residential development to the south, and undeveloped areas to the immediate east and west. However, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area.

Barriers to Movement

Light traffic along Summitridge Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.37 WMP 37 – Summitridge Drive - B

WMP 37 connects two undeveloped areas that are bisected by Summitridge Drive (Figure 15). WMP 37 is approximately 60 feet long and 200 feet wide near a ridgeline with steep slopes on either side. WMP 37 is surrounded by residential development to the east and west, and undeveloped areas to the north and south, including an extensive undeveloped area of Franklin Canyon Park to the south. However, to the north, east, and west, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area.

Barriers to Movement

Light traffic along Summitridge Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area. There is also a wrought iron fence along the eastern side of Summitridge Drive, which may make access difficult for larger mammal species that cannot fit through gaps in the fence.

4.4.38 WMP 38 – Mulholland Drive - E

WMP 38 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 38 is approximately 70 feet long and 365 feet wide across a ridgeline flanked by steep slopes on either side. WMP 38 is surrounded by residential development to the east and west, and undeveloped areas to the north and south, including an extensive undeveloped area of Franklin Canyon Park to the south. However, to the north, east, and west, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area.

Barriers to Movement

High traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.39 WMP 39 – Mulholland Drive - F

WMP 39 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 39 is approximately 50 feet long and 130 feet wide across a ridge and down a slope. WMP 39 is surrounded by residential development to the north and south, and undeveloped areas to the immediate east and west, with an extensive undeveloped area of Franklin Canyon Park to the southwest. However, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area.

Barriers to Movement

High traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area. There are also some nearby chain link fences and walls along the road that may inhibit some movement for larger mammal species; however, there are open areas around those fences and walls.

4.4.40 WMP 40 – Mulholland Drive - G

WMP 40 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 40 is approximately 50 feet long and 100 feet wide across a ridgeline flanked by steep slopes on either side. WMP 40 is surrounded by residential development to the northwest and southeast, and undeveloped areas to the immediate northeast and southwest, with a large undeveloped area of Fryman Canyon Park to the northeast. However, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area.

Barriers to Movement

High traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby

residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.41 WMP 41 – Laurel Canyon Boulevard

WMP 41 connects two undeveloped areas that are bisected by Laurel Canyon Boulevard (Figure 15). WMP 41 is approximately 100 feet long and 90 feet wide across a canyon surrounded by steep slopes on either side. WMP 41 is surrounded by residential development to the north and south, and undeveloped areas to the immediate east and west, with a large undeveloped area of Laurel Canyon Park to the west. However, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area. Mule deer has been documented in this location.

Barriers to Movement

High traffic along Laurel Canyon Boulevard may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. The steep slope along the western side of the road may be difficult to traverse, especially for smaller animals. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.42 WMP 42 – Nichols Canyon Road

WMP 42 connects two undeveloped areas that are bisected by Nichols Canyon Road (Figure 15). WMP 42 is approximately 50 feet long and 280 feet wide across a canyon surrounded by steep slopes on either side. WMP 42 is surrounded by scattered rural residential development to the north and south, and undeveloped areas to the immediate east and west, with a large undeveloped area of Trebek Open Space to the east. However, the undeveloped areas are highly fragmented between residential development along the ridgelines and canyons within the area.

Barriers to Movement

Moderate traffic along Nichols Canyon Road may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area. There is also a chain link fence along the western side of the road and portions of the eastern side, which may make access difficult for larger mammal species that cannot fit through gaps in the fence.

4.4.43 WMP 43 – Astral Drive

WMP 43 connects two undeveloped areas that are bisected by Astral Drive (Figure 15). WMP 43 is approximately 50 feet long and 280 feet wide across a ridgeline flanked by steep slopes on either side. WMP 43 is surrounded by residential development to the north and south, and undeveloped areas to the immediate east and west, including a large undeveloped area of Trebek Open Space to the west, and Runyon Canyon Park and Wattles Garden Park to the east.

Barriers to Movement

Light traffic along Astral Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area. There is also a wooden fence along the eastern side of the road, which may inhibit access for medium and large mammal species if they cannot find gaps in the fence or jump over it.

4.4.44 WMP 44 – Mulholland Drive - H

WMP 44 connects two undeveloped areas that are bisected by Mulholland Drive (Figure 15). WMP 44 is approximately 70 feet long and 200 feet wide across a slope. WMP 44 is immediately surrounded by undeveloped areas vegetated with sycamores and chaparral, with pockets of residential development to the northwest, east, and south. Mule deer has been documented within the vicinity of this location.

Barriers to Movement

High traffic along Mulholland Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. Human activity from nearby residences and the fragmentation of habitat due to residential development may deter some wildlife movement through the area.

4.4.45 WMP 45 – Lakeridge Bridge

WMP 45 connects the Santa Monica Mountains East PAW with Griffith Park and Hollywood Hills PAW via the Lakeridge Bridge over State Route 101 (Figure 15). As previously mentioned, the Griffith Park Connectivity Study detected evidence of mule deer, bobcat, coyote, raccoon, striped skunk, and a male mountain lion from their cameras in hillside habitat near the bridge, and coyotes were recorded crossing the bridge regularly twice a week while mule deer were recorded to cross occasionally but less frequently.

WMP 45 is approximately 410 feet long and 30 feet wide spanning over a canyon (i.e., State Route 101). The bridge is surrounded by a undeveloped land vegetated with sycamores and chaparral to the northeast and southwest, and development from State Route 101, as well as from residences, a school, and roads to the northwest and south.

Barriers to Movement

Heavy traffic along State Route 101, Mulholland Drive, and Lakeridge Road may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. In addition, because there are multiple developed areas surrounding the bridge, human activity within the area is likely to be high during certain times of day, and fragmented habitat in the surrounding area may make movement through an area difficult. Heavy lighting, human activity, noise, and traffic may deter wildlife from using the bridge.

4.4.46 WMP 46 – Pilgrimage Bridge

WMP 46 connects the Santa Monica Mountains East PAW with Griffith Park and Hollywood Hills PAW via the Pilgrimage Bridge over State Route 101 (Figure 15). As previously mentioned, the Griffith Park Connectivity Study detected evidence of mule deer, bobcat, coyote, raccoon, striped skunk, and a male mountain lion from their cameras in hillside habitat near the bridge, although only one mule deer crossing was recorded during the study, as well as a possible (but unconfirmed) raccoon crossing.

WMP 46 is approximately 570 feet long and 30 feet wide spanning over a canyon (i.e., State Route 101). The bridge is surrounded by a undeveloped land to the east and west, and development from State Route 101, as well as nearby residences, Hollywood Bowl, and roads to the north and south.

Barriers to Movement

Heavy traffic along State Route 101, Cahuenga Boulevard West, Cahuenga Boulevard East, and across Pilgrimage Bridge may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. In addition, because there are developed areas surrounding the bridge, human activity within the area is likely to be high during certain times of day, and fragmented habitat in the surrounding area may make movement through an area difficult. Heavy lighting, human activity, noise, and traffic may deter wildlife from using the bridge.

4.4.47 WMP 47 – Forest Lawn Drive

WMP 47 connects the Griffith Park and Hollywood Hills PAW with Los Angeles River PAW via the Forest Lawn Drive underpass under State Route 134 (Figure 15). Coyote and mule deer have been documented within the vicinity. In addition, as previously mentioned, the Griffith Park Connectivity Study placed cameras in habitat at the opening of three tunnels under highways between the Los Angeles River and the eastern side of Griffith Park, which detected evidence of mule deer, bobcat, coyote, raccoon, striped skunk, gray fox, and a male mountain lion.

WMP 47 is approximately 640 feet long and 50 feet wide with relatively flat topography that gradually slopes from the hills of Griffith Park down to the Los Angeles River. The underpass is immediately surrounded by undeveloped land with non-native woodland to the north and south, Mount Sinai Memorial Parks and Mortuaries and Forest Lawn - Hollywood Hills Memorial Park and Mortuaries to the southwest, and some scattered development (i.e., museums) to the east. Dense development occurs north of the Los Angeles River, which consists of residential and commercial development, agriculture, and equestrian facilities.

Barriers to Movement

Heavy traffic along State Route 134 and Forest Lawn Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. In addition, because there are developed areas surrounding the underpass, human activity and noise within the area is likely to be high during certain days of the week or times of day. However, there may be little or no traffic hazards or human activities during the middle of the night when

many wildlife species are more active. Fragmented habitat in the surrounding area (i.e., to the north) may make movement through the area difficult, especially since there is little vegetative cover within the Los Angeles River near the underpass, which may deter wildlife from using this WMP. There is also chain link fencing along the Los Angeles River, but wildlife (particularly medium mammals and coyote) would likely be able to pass through large holes in the fencing.

4.4.48 WMP 48 – Los Angeles River Equestrian Trail

WMP 48 connects the Griffith Park and Hollywood Hills PAW with Los Angeles River PAW via a concrete box culvert crossing structure under State Route 134 that is used as an equestrian trail (Figure 15). Evidence of coyote (e.g., tracks and scat) was observed along this WMP, as well as anecdotal observations of coyote and mule deer within the vicinity. In addition, as previously mentioned, the Griffith Park Connectivity Study placed cameras in habitat at the opening of three tunnels under highways between the Los Angeles River and the eastern side of Griffith Park, which detected evidence of mule deer, bobcat, coyote, raccoon, striped skunk, gray fox, and a male mountain lion.

WMP 48 is approximately 550 feet long and 12 feet wide with relatively flat topography that gradually slopes from the hills of Griffith Park down to the Los Angeles River. The underpass is immediately surrounded by riparian woodland and wetland within the river channel to the north, undeveloped land with non-native woodland to the north and south, and some scattered development (i.e., museums) to the west. To the north of the Los Angeles River, there is a park (Bette Davis Picnic Area) and dense development, which consists of residential and commercial development, agriculture, and equestrian facilities.

Barriers to Movement

Heavy traffic along State Route 134 and Zoo Drive may be a hazard for wildlife, or deter wildlife from moving through, particularly during times of day when there is more traffic. In addition, because there are developed areas surrounding the crossing structure, and since the crossing structure is used as an equestrian trail, human activity and noise within the area is likely to be high during certain days of the week or times of day. However, there may be little or no traffic hazards or human activities during the middle of the night when many wildlife species are more active. Fragmented habitat in the surrounding area (i.e., to the north) may make movement through the area difficult, especially since there is little vegetative cover within the Los Angeles River near the underpass, which may deter wildlife from using this WMP.

4.4.49 WMP 49 – Corralitas Red Car Trail

WMP 49 connects the Griffith Park and Hollywood Hills PAW to the Elysian Park PAW via a constrained pathway amidst a heavily developed area just west of and parallel to Interstate 5 (Figure 15). This pathway occurs along vegetated slopes with a mix of non-native woodland, chaparral, and non-native grassland between developed areas and a dirt hiking trail; however, wildlife would have to cross five large roads, and a few smaller ones, from one end to the other. Although this pathway is highly constrained, it is traversable and it is likely that the wildlife that choose to use it may tend to do so during times of day when there is little traffic and human activity. From the northern end, this WMP parallels Crystal Spring Drive along a narrow, densely

vegetated slope. Wildlife would then have to cross over Los Feliz Boulevard, through William Mulholland Memorial park, to the vegetated slopes southwest of and parallel to Riverside Drive. Continuing down these vegetated slopes, wildlife would have to cross Hyperion Avenue, Glendale Boulevard, and Fletcher Drive and an adjacent parking lot. The vegetated slopes closer to Fletcher Drive become open non-native grassland with some large chaparral shrubs, which provides less dense vegetative cover for medium and large mammals to use. Southeast of Fletcher Drive, WMP 48 follows the Corralitas Red Car Trail, a dirt trail following a private right-of-way through Silver Lake where the historic Pacific Electric Red Car route was previously located.[97, 98] The trail terminates at the end of Corralitas Drive, just northwest of State Route 2. From the end of the trail, wildlife could follow Corralitas Drive northeast, then turn southeast towards a series of underpasses under State Route 2 and across Allesandro Drive. Continuing southeast along roads or steep vegetated slopes, wildlife can then access the Elysian Park PAW. Coyote, bobcat, and raccoon have been observed along Corralitas Red Car Trail.

WMP 49 is approximately 30 miles long with widths from approximately 10 to 50 feet, and topography ranges from flat to steep slopes. There is residential development to the immediately surrounding WMP 49 to the northeast and southwest. The northern end of WMP 49 leads to the foothills of the Griffith Park and Hollywood Hills PAW to the northwest, and the Santa Monica Mountains beyond. The southern end of WMP 48 leads to Elysian Park PAW, which is adjacent to the Los Angeles River PAW.

Barriers to Movement

Multiple chain link and wrought iron fences were observed obstructing free movement along portions of WMP 49. However, there are some gaps in the fence that small and medium mammals would be able to get through, and larger mammals may be able to jump over or find ways around the fences. In addition, there is heavy traffic along five major roads that may be a hazard for wildlife, or deter them from moving through, particularly during times of day when there is more traffic and noise. There is also a moderate to high level of human activity during certain times of the day due hikers and proximity to residences and business. However, there may be little or no traffic hazards or human activities during the middle of the night when many wildlife species are more active.

4.4.50 WMP 50 – Park Row Bridge

WMP 50 connects two portions of Elysian Park PAW via the Park Row Street bridge over State Route 101 (Figure 15). Evidence of coyote (i.e., scat) was observed nearby within Elysian Park.

WMP 50 is approximately 290 feet long, 30 feet wide, and relatively flat. On the north side of the bridge, there is residential development to the immediate northwest. However, to the northeast and on the south side of the bridge are undeveloped areas within the Elysian Park PAW vegetated with a mix of non-native woodland and chaparral.

97 Community Residents' Association for Parks. 2017. *Corralitas Red Car Property*. https://redcarproperty.blogspot.com/.

98 Brightwell, E. April 10, 2013. *Exploring a Section of the Old Glendale and Edendale Red Car Lines*. KCET. History and Society. https://www.kcet.org/history-society/exploring-a-section-of-the-old-glendale-and-edendale-red-car-lines.

Barriers to Movement

There may be light traffic along Park Row Street that may be a hazard for wildlife, or deter them from moving through during times of day when there is more traffic, noise, or human activity from the nearby park or residences. However, there may be little or no traffic hazards during the middle of the night when many wildlife species are more active.

4.4.51 WMP 51 – Solano Avenue

WMP 51 connects two portions of Elysian Park PAW across Solano Avenue (Figure 15). Coyote and striped skunk have been documented within the vicinity.

WMP 51 is approximately 350 feet long, 35 feet wide, with some slopes. State Route 110 is to the immediate north of WMP 51, and there is residential development immediately to the south. However, both sides WMP 51 connect to undeveloped areas within the Elysian Park PAW.

Barriers to Movement

There may be moderate traffic along Solano Avenue and high traffic along State Route 110 that may be a hazard for wildlife, or deter them from moving through during times of day when there is more traffic and noise. There may also be moderate human activity from the nearby residences. However, there may be little or no traffic hazards or human activities during the middle of the night when many wildlife species are more active.

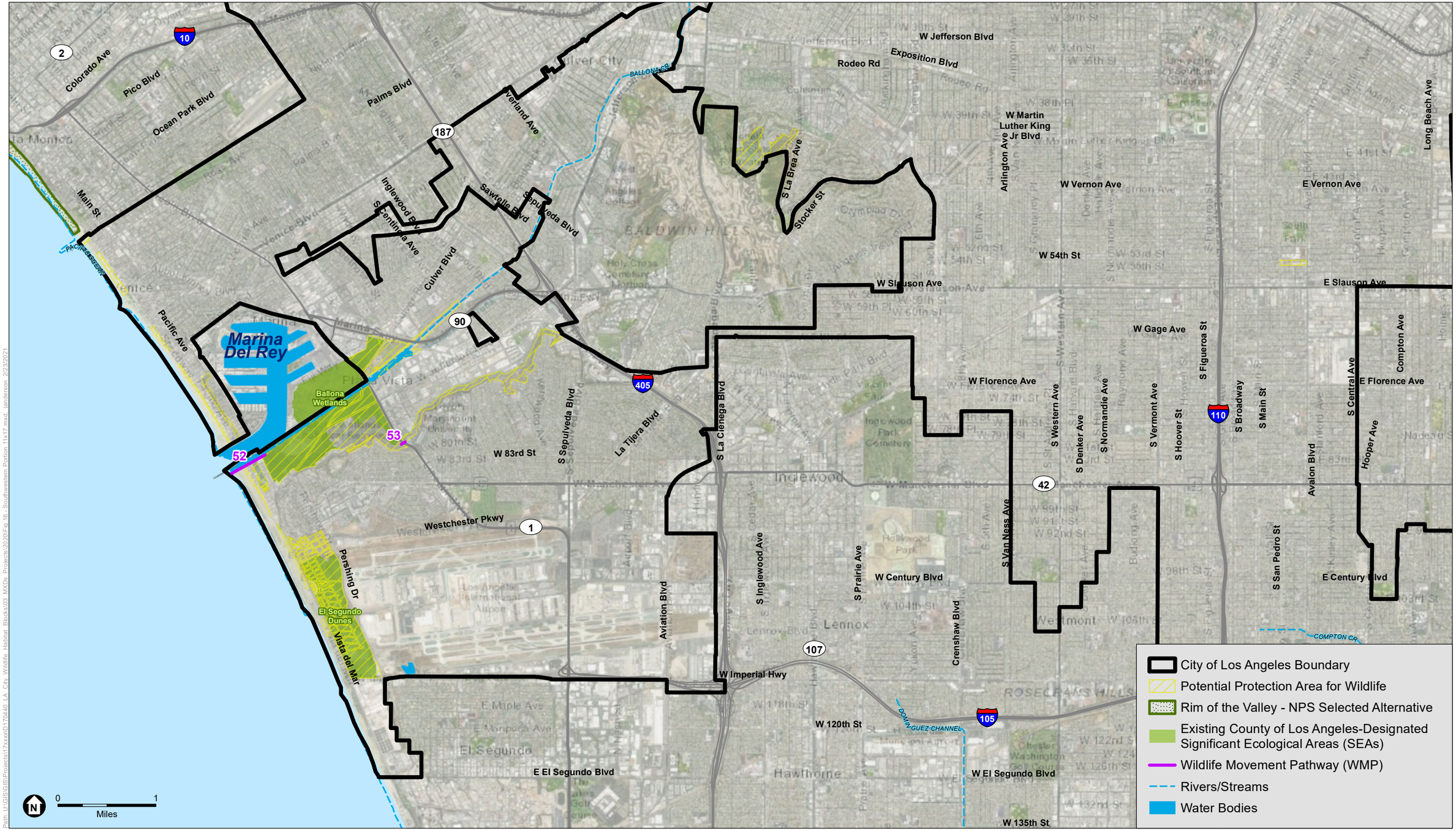
4.4.52 WMP 52 – Ballona Creek

WMP 52 connects the Ballona Wetlands PAW, Del Rey Lagoon Park PAW, and Dockweiler State Beach PAW along a narrow path adjacent to Ballona Creek (**Figure 16**, *Protection Areas for Wildlife and Wildlife Movement Pathways – Southwestern Portion*). From the eastern end, this WMP starts in Ballona Wetland and follows a paved access road along the southern bank of Ballona Creek past a residential area to south to the Del Rey Lagoon. Following the road, the WMP then continues past another residential area through a parking lot to Dockweiler State Beach, and eventually to the Pacific Ocean. Although developed, WMP 52 is adjacent to aquatic habitat and connects wetland habitat to sandy beach and marine habitat. Raccoon has been documented within the vicinity on the north side of Ballona Creek.

WMP 52 is approximately 0.5 mile long, 30 feet wide, and relatively flat. There is residential development to the immediate south of the WMP, and Ballona Creek lies to the north. The eastern end of WMP 52 leads to the Ballona Wetland PAW, which connects to the Ballona Creek PAW upstream. The western ends leads to Dockweiler State Beach PAW, which connects to the El Segundo Dunes PAW and the Pacific Ocean.

Barriers to Movement

There is light traffic along the road, adjacent roads, and parking lot which WMP 52 passes through, as well as moderate to high human activity due to residents and beachgoers. Thus, wildlife may prefer to move through during night or times of day when traffic and human activity are lower or absent.



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SOURCE: Open Street Map, 2017; County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 16
Protection Areas for Wildlife and Wildlife Movement Pathways – Southwestern Portion

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4.4.53 WMP 53 – E. Pacific Coast Highway

WMP 53 connects the Ballona Wetlands PAW and Loyola Marymount University PAW across E. Pacific Coast Highway (i.e., Lincoln Boulevard) from a dirt trail and paved access road (Cabora Drive) in the west to a dirt trail to the east, which parallels the drainage course within the Loyola Marymount University PAW (Figure 16). There is also a culvert under E. Pacific Coast Highway that is typically inundated with water and may not allow passage for terrestrial species. Thus, these species moving between the Loyola Marymount University PAW and Ballona Wetlands PAW are likely to cross over the road if the culvert is not passable due to the water level. Raccoon has been documented within the vicinity along Cabora Drive, just south of the WMP.

WMP 53 is approximately 250 feet long, 30 feet wide, and relatively flat. There is undeveloped coastal sage scrub and riparian habitat immediately surrounding the WMP to the east within the Loyola Marymount University PAW and to the west within the Ballona Wetlands PAW which connects to Ballona Creek and eventually the Pacific Ocean, and residential development to the north, south, and east.

Barriers to Movement

There is heavy traffic along E. Pacific Coast Highway, associated noise, as well as moderate to high human activity due to residents, bikers, and hikers. Thus, wildlife may prefer to move through during night or times of day when traffic, noise, and human activity are lower or absent.

4.4.54 WMP 54 – Harbor Lake

WMP 54 connects the Harbor Lake Regional Park PAW to South Harbor Lake PAW via a pathway crossing N. Gaffey Street and W. Anaheim Street (**Figure 17**, *Protection Areas for Wildlife and Wildlife Movement Pathways – Southern Portion*). From the western end, this WMP crosses N. Gaffey Street to an undeveloped median between roads, and then passes under W. Anaheim Street via an underpass that connects to the Harbor Lake Regional Park PAW. Evidence of coyote and raccoon (i.e., scat) were observed in the vicinity within the PAWs.

WMP 54 is approximately 410 feet long, and relatively flat, with widths range from approximately 20 to 50 feet. There is residential development to the northwest, industrial to the southeast, and the Defense Fuel Support Point (DFSP) in San Pedro to the south of the WMP. However, WMP 54 connects the Harbor Lake Regional Park PAW in the northeast to South Harbor Lake PAW in the southwest, and both areas are otherwise isolate from adjacent contiguous undeveloped land.

Barriers to Movement

There is heavy traffic along N. Gaffey Street and W. Anaheim Street that may be a hazard for wildlife, or deter them from moving through, particularly during times of day when there is more traffic and noise. However, there may be little or no traffic hazards during the middle of the night when many wildlife species are more active. There is moderate to high human activity due to visitors to Harbor Lake Regional Park. In addition, there are a chain link fences within the Harbor Lake Regional Park PAW and along the eastern edge of South Harbor Lake PAW which may inhibit wildlife movement.

4.5 Use and Application of WMPs

In addition to potential movement within PAWs, the WMPs have been identified as opportunities for wildlife movement pathways between fragmented portions of a PAW, and/or between adjacent PAWs. Thus, it is recommended that the City formally adopt WMPs as important pathways for potential wildlife movement that should be analyzed when considering future development proposals. Even if an area is already developed, future development should not further inhibit potential wildlife movement within these areas. For example, if an area between two PAWs is developed with a two-lane road, which has already constrained movement (i.e., due to hazards such as traffic), and this is the only possible connection between these wildlife habitat areas, any proposals to increase the road width or intensity of use or to develop along that potential movement pathway (e.g., build homes along the road, installing retaining walls) should take wildlife movement opportunities into consideration so as not exacerbate an already constrained connection, but rather to propose ways to ensure movement between PAWs is still feasible, or even propose ways to enhance movement opportunities (e.g., with crossing structures over or under the road where possible, include gaps in the walls, wildlife crossing signage, etc.). Continued data collection could help confirm wildlife use of PAWs and WMPs for movement, and inform other important areas for movement within the City (e.g., new evidence of connectivity not previously known or associated with restoration of an area). Figure 2 shows a map of documented vehicular human-wildlife conflicts that have been reported within the City. However, the data from the UC Davis Road Ecology Center was limited to volunteer carcass observations between 2009 and 2017 and from accidents reported to the California Highway Patrol between February 2015 and February 2017.[99] The City Department of Animal Services was contacted with an inquiry for additional roadkill data, but they primarily deal with live animals and did not have any additional data to contribute. LASAN was also contacted with an inquiry for additional roadkill data. LASAN provides the service of removal and processing of the animal carcasses from the City streets, alleyways, sidewalks, residences, parks, beaches, and waterways, and although they track address information on each carcass, they do not always track the cause of mortality of the animals collected. No additional roadkill data was able to be obtained from LASAN. It would be helpful if the City Department of Animal Services and/or LASAN would record data on human-wildlife interactions (e.g., wildlife documented in urban and suburban areas) and roadkill data (species and GPS location). As previously mentioned, Figure 3 shows medium and large mammals documented within the City based on voluntary reporting by community scientists.[100] Additional wildlife occurrence and mortality data could continually be collected and would be beneficial to expand on the wildlife use and movement information available. Additionally, Planning should collaborate with LASAN to share data from their biodiversity study and evaluate if any proposed WMPs should be revised based on new data available. [101]

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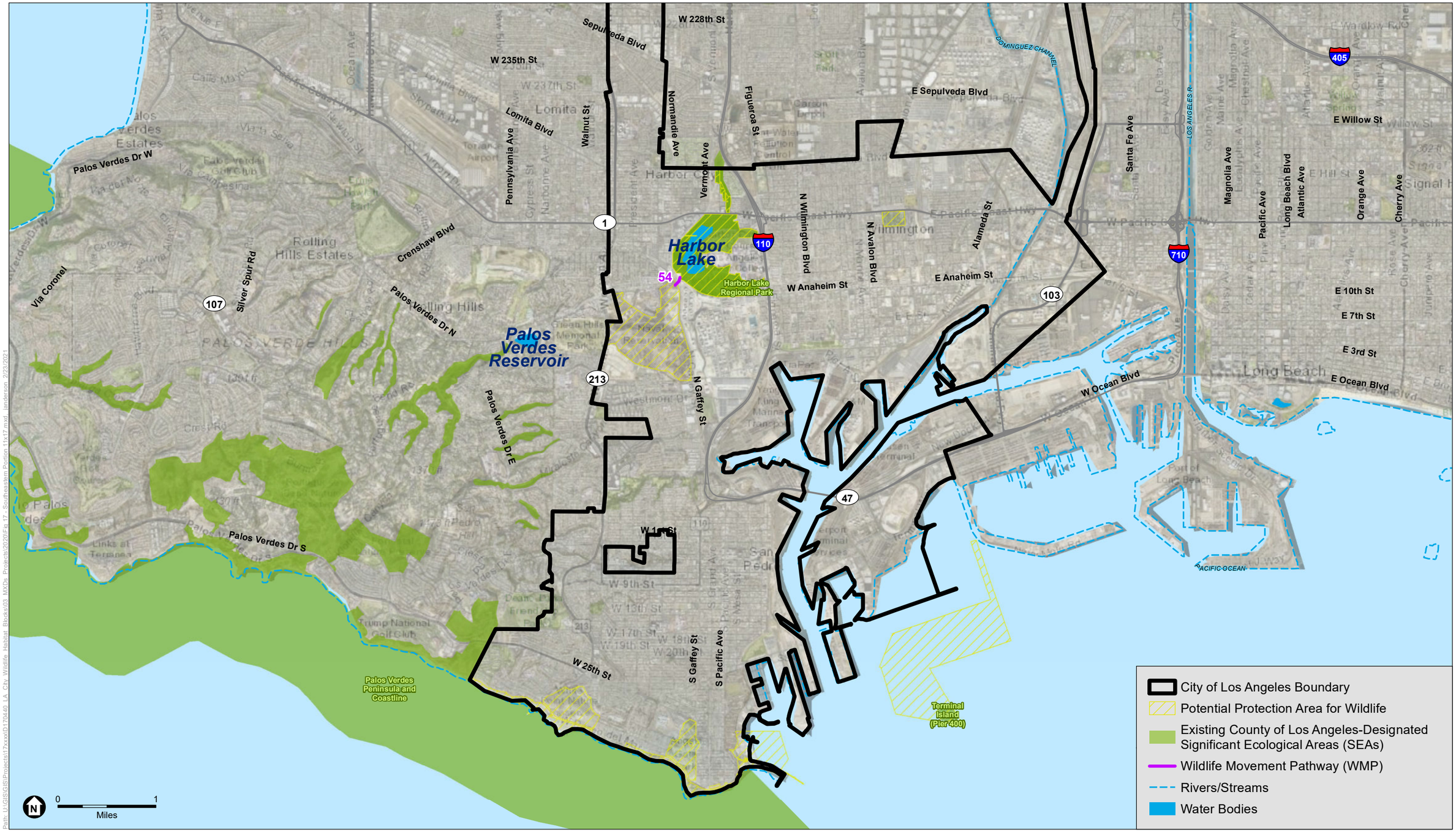
99 University of California, Davis. 2017. *California Roadkill Observation System Occurrence Data*. Department of Environmental Science and Policy. Road Ecology Center. Email correspondence with Fraser Shilling, PhD., Co-Director. December 8, 2017.

100 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed November 15, 2017.

101 Isaac Brown Ecology Studio and LA Sanitation & Environment. 2018. *2018 Biodiversity Report*. City of Los Angeles. Measurement of the Singapore Index of Cities' Biodiversity and Recommendations for a Customized Los Angeles Index. https://www.lacitysan.org/san/sandocview?docname=cnt024743.



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SOURCE: Open Street Map, 2017; County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 17
Protection Areas for Wildlife and Wildlife Movement Pathways – Southeastern Portion

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Once movement pathways are better understood and defined, environmental considerations for development standards can be recommended for greater protection of the biological resources and ecological functions of these areas. The City should also work with County of Los Angeles, CalTrans, and others where collaboration between various stakeholders could be beneficial to wildlife and movement. The WMPs identified focused on opportunities for wildlife movement pathways between fragmented portions of a PAW, and/or between adjacent PAWs, within the City's limits. Should additional studies provide evidence of connectivity or data of wildlife movement patterns not previously known, any future WMPs identified could also consider important local and regional movement pathways across jurisdictional boundaries in collaboration with the Los Angeles County and/or other cities.

5. Scientific Research and Rationale for the Development of Policy Recommendations for PAWs and WMPs

5.1 Goals of Recommendations

The primary goal of these policy recommendations is to evaluate the City's existing policies that protect biological resources and habitat connectivity as well as policies and regulations of other jurisdictions to determine best practices that should be considered to reduce the impacts of urbanization on habitat and wildlife, conserve and enhance the ecological health and functions within PAWs and WMPs, and achieve no net loss of biological diversity within the City.

5.2 Methodology Used to Generate Recommendations

To develop recommendations, ESA conducted a comprehensive review of existing City policies, regulations, and nationwide best management practices applicable to habitat and wildlife conservation. Additionally, ESA conducted a review of the best available science as well as existing policies and regulations that have been implemented in other jurisdictions outside the City. This review focused on sources covering focal wildlife species that were selected as target taxa for this study; areas in close geographic proximity to the City (i.e., coastal Southern California); and/or policy, guidance, or mitigation measures related to wildlife movement pathways and the urban-wildland interface. The review focused on the sources listed below. Additional sources were reviewed but are not listed if they were found to have limited applicability for policy development.

Key policy documents reviewed included the following:

- Multiple Species Conservation Program Subarea Plan[102]
- San Diego Municipal Code. Land Development Code. Biology Guidelines[103]

[102] City of San Diego. 1997. *Multiple Species Conservation Program. City of San Diego MSCP Subarea Plan*. March 1997.

[103] City of San Diego. 1999. *San Diego Municipal Code*. Land Development Code. Biology Guidelines. Adopted September 28, 1999, Amended April 23, 2012 by Resolution No. R-307376.

- County of Ventura General Plan[104]
- Ventura County Guidelines for Safe Wildlife Passage[105]
- Western Riverside County Multiple Species Habitat Conservation Program (MSHCP) Urban/Wildlands Interface Guidelines (Section 6.1.4)[106]
- County of San Diego North County MSCP Biological Mitigation Ordinance, Appendix H - Design Criteria for Linkages and Corridors[107]
- Santa Clara Valley Habitat Conservation Program (Chapter 6)[108]
- Sonoma Valley Wildlife Corridor Project Management and Monitoring Strategy[109]
- Wildlife Compatible Fencing[110]
- Wildlife Corridor and Habitat Patch Guidelines for the Bow Valley[111]
- Los Angeles River Design Guidelines[112]
- Resolution No. 13-28. A Resolution of the City Council of the City of Malibu Opposing the Sale, Purchase, and Use of Anticoagulant Rodenticides in Malibu[113]
- Wildlife Crossing Structure Handbook Design and Evaluation in North America[114]
- Model Lighting Ordinance with User's Guide[115]
- Fencing Guidelines and Specifications for Conservation Easements[116]
- Light Pollution Reduction Guidelines[117]

104 County of Ventura. 2016. *Ventura County General Plan*. Goals, Policies, and Programs. Last Amended by the Ventura County Board of Supervisors on December 13, 2016.

105 County of Ventura. 2005. *Roads and Biodiversity Project: Guidelines for Safe Wildlife Passage*. June.

106 County of Riverside. 2003. *Western Riverside County Multiple Species Habitat Conservation Plan*. Retrieved from http://www.wrc-rca.org/about-rca/multiple-species-habitat-conservation-plan/.

107 County of San Diego. 2010. *Biological Mitigation Ordinance*. Amended April 2. https://www.sandiegocounty.gov/content/dam/sdc/pds/mscp/docs/SCMSCP/BMO_Update_2010.pdf.

108 County of Santa Clara, City of San Jose, City of Morgan Hill, City of Gilroy, Santa Clara Valley Water District, and Santa Clara Valley Transportation Authority. 2012. *Final Santa Clara Valley Habitat Plan*. August. https://scv-habitatagency.org/DocumentCenter/View/136.

109 Sonoma Land Trust. 2014. *Sonoma Valley Wildlife Corridor Project: Management and Monitoring Strategy*. Santa Rosa, CA.

110 Arizona Game and Fish Department. No Date. *Wildlife Compatible Fencing*. http://www.azgfd.gov/hgis/documents/110125_AGFD_fencing_guidelines.pdf.

111 Bow Corridor Ecosystem Advisory Group. 2012. *Wildlife Corridor and Habitat Patch Guidelines for the Bow Valley*. Alberta Environment and Alberta Sustainable Resource Development.

112 City of Los Angeles. No Date. *Los Angeles River Design Guidelines*. http://cityplanning.lacity.org/Code_Studies/RIOproject/RIO_Revised/AppendixD_LA-RIOGuidelines.pdf.

113 City of Malibu. 2014. Resolution No. 13-28. *A Resolution of the City Council of the City of Malibu Opposing the Sale, Purchase, and Use of Anticoagulant Rodenticides in Malibu*. October 20.

114 U.S. Department of Transportation Federal Highway Administration. 2011. *Wildlife Crossing Structure Handbook Design and Evaluation in North America*. Publication No. FHWA-CFL/TD-11-003. March.

115 Illuminating Engineering Society. 2011. *Model Lighting Ordinance with User's Guide*. June 15.

116 Sonoma Ecology Center. 2003. *Fencing Guidelines and Specifications for Conservation Easements*. Prepared for Sonoma County Agricultural Preservation and Open Space District. July.

117 U.S. Green Building Council. No Date. *Light Pollution Reduction*. https://www.usgbc.org/credits/ss8.

Additional scientific studies and papers included the following:

- Effects of Urbanization on Carnivore Species Distribution and Richness[118]
- Urbanization and Anticoagulant Poisons Promote Immune Dysfunction in Bobcats[119]
- Determining Minimum Habitat Areas and Habitat Corridors for Cougars[120]
- Dispersal of Juvenile Cougars in Fragmented Habitat[121]
- Best Management Practices for Wildlife Corridors[122]
- Black Bear Population Information[123]
- Managing Non-Native Species in California - The Red Fox[124]
- Griffith Park Wildlife Connectivity Study[125]
- Determining Wildlife Use of Wildlife Crossing Structure Under Different Scenarios[126]
- Design Recommendations from Five Years of Wildlife Crossing Research Across Utah[127]
- Permeable Fence and Wall Designs that Facilitate Passage by Endangered San Joaquin Kit Foxes[128]
- Activity and Distribution of Gray Foxes (*Urocyon cinereoargenteus*) in Southern California[129]
- Terrestrial Wildlife Crossing Structure Types (By Function)[130]

118 Ordeñana, M.A., Crooks, K.R., Boydston, E.E., Fisher, R.N., Lyren, L.M., S. Siudyla, et al. 2010. *Effects of Urbanization on Carnivore Species Distribution and Richness*. Journal of Mammalogy, 91(6), 1322-1331. December.

119 Serieys, L.E., A.J. Lea, M. Epeldegui, T.C. Armenta, J. Moriarty, S. VandeWoude, et al. 2018. *Urbanization and Anticoagulant Poisons Promote Immune Dysfunction in Bobcats*. Proc. R. Soc. B 2018 285 20172533; DOI: 10.1098/rspb.2017.2533. Published 17 January 2018.

120 Beier, P. 1993. *Determining Minimum Habitat Areas and Habitat Corridors for Cougars*. Conservation Biology 7(1)94-108.

121 Beier, P. 1995. *Dispersal of Juvenile Cougars in Fragmented Habitat*. The Journal of Wildlife Management, 59(2), 228-237. doi:10.2307/3808935.

122 Beier, P., D. Majka, S. Newell, and E. Garding. 2008. *Best Management Practices for Wildlife Corridors*. January.

123 CDFW. 2018. *Black Bear Population Information*. Accessed at https://www.wildlife.ca.gov/Conservation/Mammals/Black-Bear/Population on February 15, 2018.

124 CDFW. No Date. *Managing Non-Native Species in California*. The Red *Fox*. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=22712.

125 Cooper, D., M. Ordeñana, and E. Boydston. 2012. Griffith Park Wildlife Connectivity *Study*. March.

126 Cramer, P. 2012. *Determining Wildlife Use of Wildlife Crossing Structure Under Different Scenarios*. Utah State University Department of Wildland Resources and Utah Transportation Center. Prepared for Utah Department of Transportation Research Division. May.

127 Cramer, P. 2013. *Design Recommendations from Five Years of Wildlife Crossing Research Across Utah*. Proceedings of the 2013 International Convergence on Ecology and Transportation.

128 Cypher, B.L., and C.L. Van Horn Job. 2009. *Permeable Fence and Wall Designs that Facilitate Passage by Endangered San Joaquin Kit Foxes*. California State University, Stanislaus Endangered Species Recovery Program. March.

129 Farías, V., T.K. Fuller, and R.M. Sauvajot. 2012. *Activity and Distribution of Gray Foxes (Urocyon cinereoargenteus) in Southern California*. The Southwestern Naturalist Jun 2012: Vol. 57, Issue 2, pg(s) 176-181https://doi.org/10.1894/0038-4909-57.2.176.

130 U.S. Forest Service. No Date. *Terrestrial Wildlife Crossing Structure Types (By Function)*. https://www.fs.fed.us/wildlifecrossings/glossary/documents/WildlifeCrossingStructureTypesByFunctionIAWHI.pdf.

- Wildlife Movement Study Canyon Hills Development Project Los Angeles, California[131]
- Analysis of Bobcats in Urban Areas of Orange County, CA[132]
- Habitat Associations of Dusky-Footed Woodrats (*Neotoma fuscipes*) in Mixed-Conifer Forest of the Northern Sierra Nevada[133]
- Griffith Park Mountain Lion Exposed to Poison, Suffering from Mange[134]
- Demographic Factors Contributing to High Raccoon Densities in Urban Landscapes[135]
- California Ground Squirrel Habitat Suitability Models[136]
- Life History Accounts for Focal Species[137]

5.2.1 Identification and Analysis of Focal Species

5.2.1.1 Purpose of Focal Species

Because the City is home to a diverse assortment of species, focal species were chosen to represent the broad range of habitat and movement requirements. Planning for these indicator species and their needs is expected to cover habitat and connectivity needs for the various species and ecosystems they represent.

5.2.1.2 Methodology for Selection of Focal Species

Wildlife species reviewed for policy development focused on medium and large mammals known or expected to occur within some or all of the PAWs. These indicator species included black bear, mountain lion, California mule deer, American badger, bobcat, coyote, red fox (*Vulpes vulpes*), gray fox, long-tailed weasel, ring-tailed cat (*Bassariscus astutus*), raccoon, striped skunk, spotted skunk (*Spilogale gracilis*), and Virginia opossum. Many of these species are also "umbrella

131 Glenn Lukos Associates. 2003. *Wildlife Movement Study Canyon Hills Development Project Los Angeles, California*. April.

132 Ice, I. 2013. *Analysis of Bobcats in Urban Areas of Orange County, CA* (Master's thesis, University of Redlands). Retrieved from http://inspire.redlands.edu/gis_gradproj/210

133 Innes, R.J., D.H. Van Vuren, D.A. Kelt, M.L. Johnson, J.A. Wilson, and P.A. Stine. 2007. *Habitat Associations of Dusky-Footed Woodrats (Neotoma fuscipes) in Mixed-Conifer Forest of the Northern Sierra Nevada*. Journal of Mammalogy, Volume 88, Issue 6, 1 December 2007, Pages 1523–1531, https://doi.org/10.1644/07-MAMM-A-002R.1.

134 NPS. 2014. *Griffith Park Mountain Lion Exposed to Poison, Suffering from Mange*. News Release. April 17.

135 Prange, S., S.D. Gehrt, and E.P. Wiggers. 2003. *Demographic Factors Contributing to High Raccoon Densities in Urban Landscapes*. The Journal of Wildlife Management. Vol. 67, No. 2 (Apr., 2003), pp. 324-333 Published by: Wiley on behalf of the Wildlife Society DOI: 10.2307/3802774 http://www.jstor.org/stable/3802774.

136 Timossi, I.C., and R.H. Barrett. 1995. *Habitat Suitability Models for Use with ARC/INFO: California ground squirrel*. California Department of Fish and Game, CWHR Program, Sacramento, CA. CWHR Tech. Report No. 3. 16 pp.

137 Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. *Life History Accounts for Species in the California Wildlife Habitat Relationships (CWHR) System California's Wildlife*. Vol. I-III. California Depart. of Fish and Game, Sacramento, California.

species"[138,139] that tend to have larger range requirements that encompass the ranges of a variety of taxa (e.g., insects, amphibians, reptiles, birds, and other mammals).

Different species have different tolerances to human disturbances and urbanization. Planning for only species that are highly tolerant of urban environments would not meet the needs of all species within the City, such as wildlife species that need extensive home ranges and avoid areas within human activity. Mammalian carnivores, such as mountain lions and bobcat, tend to have large home ranges, lower population densities, and slower population growth rates, making them more susceptible to habitat loss and human disturbances, and good indicators of the overall fate or ecosystems due to their top-trophic position.[140, 141] Conversely, planning for the needs of only species with a low tolerance of urban environments could negate the importance of conserving smaller habitat patches for urban wildlife that could persist and flourish within those areas. Thus, it was recommended that a variety of different indicator species with varying tolerances be used to analyze habitat and connectivity within the City.

Each species was categorized by its tolerance of urban environments, as described in further detail in Section 5.2.1.3, *Species Profiles*, below. Highly urban-tolerant species include raccoon, striped skunk, red fox, and Virginia opossum. Moderately urban-tolerant species include bobcat, coyote, gray fox, and long-tailed weasel, which were also identified as target species for conservation in the Green Visions Plan, which was a joint venture between the University of Southern California and the San Gabriel and lower Los Angeles Rivers and Mountains Conservancy, Santa Monica Mountains Conservancy, Coastal Conservancy, and Baldwin Hills Conservancy, and serves as a guide to habitat conservation, watershed health and recreational open space for the Los Angeles metropolitan region.[142] Low urban-tolerance species include black bear, mountain lion, mule deer, American badger, ring-tailed cat, and spotted skunk. Mountain lion and American badger were also identified as target species for conservation in the Green Visions Plan.

Highly urban-tolerant species were not considered as focal species for policy development because these species have a low sensitivity to urban pressures and may even benefit from urbanization.

138 Species with such demanding habitat requirements and large area requirements that conservation of these species will automatically save many other species.

139 Simberloff, D. 1998. *Flagships, Umbrellas, and Keystones: Is Single-Species Management Passé in the Landscape Era?* Biological Conservation. Vol. 83, No. 3, pp. 247-257.

140 Ordeñana, M.A., Crooks, K.R., Boydston, E.E., Fisher, R.N., Lyren, L.M., S. Siudyla, et al. 2010. *Effects of Urbanization on Carnivore Species Distribution and Richness*. Journal of Mammalogy, 91(6), 1322-1331. December.

141 Ice, I. 2013. *Analysis of Bobcats in Urban Areas of Orange County, CA* (Master's thesis, University of Redlands). Retrieved from http://inspire.redlands.edu/gis_gradproj/210.

142 Martino, D., C. S. Lam, and T. Longcore. 2005. *Green Visions Plan for 21st Century Southern California. 5. Terrestrial Target Species for Habitat Conservation Planning*. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, California. http://greenvisions.usc.edu/documents/05Species_Report.pdf.

5.2.1.3 Species Profiles

Mammals

A detailed profile of each focal species is provided below. Highly urban-tolerant species include raccoon, striped skunk, red fox, and Virginia opossum. Virginia opossums were introduced to California in the late 1800's from the eastern U.S. and can be considered an invasive species along the West Coast. Red foxes are also an invasive species where they occur within the City of Los Angeles and are thought to be introduced from the Midwest, as opposed to the native Sierra Nevada red fox subspecies (*Vulpes vulpes necator*).[143] Raccoon, striped skunk, and Virginia opossum can persist in urban environments without the presence of natural habit and may actually benefit from the effects of urbanization. Urbanization provides unnatural food sources for these species such as human trash and pet food. A study by Prange et al.[144] noted that raccoon population densities are higher in urbanized areas than in rural landscapes in northeastern Illinois. Unnaturally high populations of predator species supported by human-provided food sources can negatively affect prey species in adjacent natural areas, including small mammals, reptiles, amphibians, and birds.

Moderately urban-tolerant species include those that tolerate some level of urbanization and will occupy the urban-wildlands interface but generally do not occur in exclusively urban landscapes without the presence of natural habitat in the vicinity. These species include bobcat, coyote, gray fox, and long-tailed weasel. These species typically have smaller range requirements and are more generalist than the low urban-tolerance species, thereby allowing them to occur within the smaller habitat fragments that are common in urban areas. Coyotes are even known to frequent urban habitats, but likely require access to sufficient natural areas to persist.[145] While included in this group, gray foxes are more avoidant of developed areas than coyotes and bobcats, possibly due to increased predation by coyotes along the urban-wildland interface.[146]

Low urban-tolerance species generally include mammals that either require larger territories to persist and/or are highly sensitive to the disturbances associated with urbanization. These "urban shy" species include black bear, mountain lion, mule deer, American badger, ring-tailed cat, and spotted skunk. Many of these species are confined to the largest and least developed PAWs and associated WMPs, such as the San Gabriel Mountains, Santa Susana Mountains/Simi Hills, and Santa Monica Mountains West, as these areas have connectivity to large habitat blocks. Low urban-tolerance species occasionally use residential and developed areas for movement between natural habitat areas. Black bears are not believed to be native to the San Gabriel Mountains, with the current population being the result of bears introduced in the 1930s after the extirpation of the

143 Department of Fish and Game. No Date. *Managing Non-Native Species in California: The Red Fox*.

144 Prange, S., S.D. Gehrt, and E.P. Wiggers. 2003. *Demographic Factors Contributing to High Raccoon Densities in Urban Landscapes*. The Journal of Wildlife Management. Vol. 67, No. 2 (Apr., 2003), pp. 324-333 Published by: Wiley on behalf of the Wildlife Society DOI: 10.2307/3802774 http://www.jstor.org/stable/3802774.

145 Crooks 2002 as cited in Ordeñana, M.A., Crooks, K.R., Boydston, E.E., Fisher, R.N., Lyren, L.M., S. Siudyla, et al. 2010. *Effects of Urbanization on Carnivore Species Distribution and Richness*. Journal of Mammalogy, 91(6), 1322-1331. December.

146 Farías, V., T.K. Fuller, and R.M. Sauvajot. 2012. *Activity and Distribution of Gray Foxes (Urocyon cinereoargenteus) in Southern California*. The Southwestern Naturalist Jun 2012: Vol. 57, Issue 2, pg(s) 176-181https://doi.org/10.1894/0038-4909-57.2.176.

grizzly bear from Southern California in the early 1900s.[147] For this reason, and due to the high potential for negative human-wildlife interactions, black bears were not considered as a focal wildlife species for policy development. In the case of mountain lions, confined habitat areas lacking wildlife corridor connectivity to allow for adequate movement can push individuals into human-occupied areas in search of new territories, resulting in more negative wildlife-human interactions, such as vehicle strikes. The lower urban-tolerance and greater habitat requirements of some of these species also make them more susceptible to genetic isolation as a result of urbanization. Population modeling by Beier[148] indicated that in absence of habitat connectivity to allow for occasional replacement of lost individuals, a habitat area of 386 to 850 square miles would be required to support a persistent mountain lion population. For comparison, the habitat area within the Griffith Park/Hollywood Hills PAW is approximately 5.5 square miles, highlighting the importance of habitat connectivity.

Highly Urban-Tolerant Species

Raccoon

Raccoons occur in many different habitats but are most abundant in riparian and wetland areas at low to middle elevations. They are also well adapted to urban areas and are prevalent throughout urban areas of the City, and are also documented in some rural areas of the City.[149] They use cavities in trees, snags, logs, and rocky areas for dens and other cover, and also use cover provided by abandoned buildings and dense vegetation. Raccoons are omnivorous, and highly opportunistic, feeding frequently in agricultural and urban areas. In spring, they primarily eat small animals (crayfish, fish, arthropods, amphibians, a few small mammals, birds, and eggs). In summer and fall, they eat large amounts of grains, acorns, other nuts, and fruits. They forage along all saline and freshwater riparian habitats, in shallow water, in vegetation, and on the ground.

Raccoons are nocturnal, and their home ranges average around 500 acres. They do not migrate, but remain dormant in winter dens. The juxtaposition of riparian and wetland habitats, and forest and shrubland is important to raccoon populations.

Raccoons are very adaptable, and tolerant of most human activity. They are highly opportunistic omnivores that primarily eat crayfish, fish, arthropods, amphibians, a few small mammals, birds, eggs, grains, nuts, and fruits, but also can prey on domestic animals, or consume cultivated fruits, vegetables, and other crops. Raccoons are prey to great horned owls, bobcats, and domestic

147 CDFW. 2018. *Black Bear Population Information*. Accessed at https://www.wildlife.ca.gov/Conservation/Mammals/Black-Bear/Population on February 15, 2018.

148 Beier, P. 1993. *Determining minimum habitat areas and habitat corridors for cougars*. Conservation Biology 7(1)94-108.

149 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=41663.

dogs.[150] As this species is well adapted to urban environments, the population is expected to continue to thrive and may actually benefit from the effects of urbanization.

Striped Skunk

Striped skunks are found in nearly all habitats, but they frequent earlier seral stages (i.e., intermediate stages) of conifer and deciduous forests, and brush and shrub areas. They are also commonly found in grass/forb areas of most habitats, riparian areas, and herbaceous shrub and forest ecotones. Striped skunks are somewhat prevalent in both urban and rural areas throughout the City.[151] Striped skunks use cavities and crevices in rock areas, snags, logs, stumps, under buildings, and can excavate burrows or use abandoned ones for cover. They can also den above ground in heavy cover. Striped skunks are omnivorous, and primarily eat insects, small mammals, other small vertebrates, eggs, crustaceans, fruits, seeds, and some carrion. Striped skunks search and dig on ground, in earth, logs, and stumps for food.

Striped skunks do not migrate, and are mostly nocturnal with some crepuscular activity, but they may remain in den during periods of inclement weather. The minimum area required for a population of striped skunks is estimated to be about 640 acres. Great horned owls, mountain lions, eagles, coyotes, badgers, foxes, and bobcats are known to prey upon striped skunks, and urban developments that create open areas, fragmented habitats, and mosaics of vegetation may improve habitat for striped skunks, and allow them to expand their range.[152] As this species is well adapted to urban environments, the population is expected to continue to thrive and may actually benefit from the effects of urbanization.

Red Fox

Red foxes are widely distributed in lowlands in central and southern California within annual and perennial grassland, coastal scrub, wet meadow, emergent wetland, and cropland habitats, and may use chaparral. Red foxes are an invasive species and a have been documented in low numbers in the outskirts of the City, generally somewhat in proximity to open space and undeveloped areas.[153] They use rock outcrops, hollow logs and stumps, and burrows in deep, loose soil within dense vegetation and rocky areas for cover and den sites. For food, red foxes hunt small and medium-sized mammals (such as ground squirrels, gophers, mice, woodrats, and rabbits/hares), birds, and eggs in open habitats like meadows, grasslands, and wetlands.

Red foxes are active year-round, and hunt both day and night. The size of their home range size is influenced by habitat and abundance of food. Lowland populations of red foxes, like those in

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150 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

151 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=41880.

152 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

153 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=42069.

Southern California, are presumably introduced, and expanding in range and numbers.[154] As this species is an invasive species and that has expanded into to urban environments, the population is expected to continue to persist even with continued urbanization.

Virginia Opossums

Virginia opossums are found in moist woodlands, brushy habitats, riparian, wetlands, and agricultural and residential areas that provide abundant food and cover along the entire coast and interior of California. Virginia opossums are prevalent in both urban and rural areas throughout the City.[155] They are highly opportunistic and eat a wide variety of animal and vegetable foods, including insects, carrion (i.e., scavenge on dead animals), vegetation, and fruits. Their den sites are comprised of a rough nest of leaves and other material constructed in hollow snags, logs, rocks, piles of brush, or in the burrows of other animals. Opossums can also use human-made structures (e.g., buildings and culverts), and prefer to be near water sources.

Virginia opossums are active year-round, and nocturnal. They do not migrate, but are somewhat nomadic and often change den sites. Their home range size can vary greatly, with reports of 11.5 acres up to 200 acres, and they do not defend their home range, but are solitary and aggressive. Virginia opossums are prey to owls and dogs, and traffic and severe winter conditions can also be sources of mortality for this species.[156] As this species is well adapted to urban environments, the population is expected to continue to thrive and may actually benefit from the effects of urbanization.

Moderately Urban-Tolerant Species

Bobcat

Bobcats are found throughout most of California and use nearly all habitats, including chaparral, and conifer, oak, riparian, and pinyon-juniper forests. Bobcats are somewhat prevalent in open space and undeveloped areas within the City, and are typically not found within urban areas.[157] They eat rabbits/hares, rodents, a few deer (mostly young fawns), and some birds, reptiles, amphibians, and invertebrates, and can also eat vegetation (e.g., fruits, grass). Bobcats use cavities in rock areas, hollow logs, snags, stumps, and dense brush for cover and their dens.

Bobcats are active year-round, and are mostly nocturnal and crepuscular with some diurnal activity. They do not migrate, and average home range can be variable (e.g., 10 square miles or greater). Scent marking appears to reduce actual contact, and fighting is very unusual. Researchers speculated that bobcats may be territorial in some situations, but not all, and this flexibility in behavior may result in higher population levels where they are not territorial. Great

154 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

155 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=42652.

156 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

157 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=41976.

horned owls can prey on young bobcats, and adults occasionally are taken by mountain lions and domestic dogs. Coyote population numbers may also influence bobcat numbers since these species compete with each other.[158] This species is a moderately urban-tolerant species that may tolerate some level of urbanization and occupy the urban-wildlands interface but generally do not occur in exclusively urban landscapes without the presence of natural habitat in the vicinity. This species was also identified as target species for conservation in the Green Visions Plan.[159]

Coyote

Coyotes are found throughout California in almost all habitats, including urban areas. Coyotes are prevalent in urban and rural areas, open space, and undeveloped areas within the City.[160] They inhabit younger stands of forests and woodland, open brush, scrub, and herbaceous habitats, and may be associated opportunistically with croplands. These opportunistic omnivores primarily eat rodents, rabbits/hares, and carrion, but can also eat insects, reptiles, amphibians, fruits, and occasionally birds, eggs, and deer fawns. They use brushy stands of vegetation, and natural cavities in rocky areas, hollow trees and logs, caves and holes for cover and den sites.

Coyotes are active year-round, and are mostly nocturnal and crepuscular with some diurnal activity. They do not migrate, and their movements vary with the seasons. Home ranges can be variable (e.g., ranging from 3 to 39 square miles on average). Great horned owls, and mountain lions occasionally may kill coyotes. Coyotes are adaptable predators, are tolerant of human activities, and adapt and adjust rapidly to disturbances and changes in their environment.[161] This species is a moderately urban-tolerant species that may tolerate some level of urbanization and occupy the urban-wildlands interface but generally do not occur in exclusively urban landscapes without the presence of natural habitat in the vicinity. Coyotes are known to frequent urban habitats, but likely require access to sufficient natural areas to persist.[162] This species was also identified as target species for conservation in the Green Visions Plan.[163]

158 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

159 Martino, D., C. S. Lam, and T. Longcore. 2005. *Green Visions Plan for 21st Century Southern California. 5. Terrestrial Target Species for Habitat Conservation Planning*. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, California. http://greenvisions.usc.edu/documents/05Species_Report.pdf.

160 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=42051.

161 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

162 Crooks 2002 as cited in Ordeñana, M.A., Crooks, K.R., Boydston, E.E., Fisher, R.N., Lyren, L.M., S. Siudyla, et al. 2010. *Effects of Urbanization on Carnivore Species Distribution and Richness*. Journal of Mammalogy, 91(6), 1322-1331. December.

163 Martino, D., C. S. Lam, and T. Longcore. 2005. *Green Visions Plan for 21st Century Southern California. 5. Terrestrial Target Species for Habitat Conservation Planning*. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, California. http://greenvisions.usc.edu/documents/05Species_Report.pdf.

Gray Fox

Gray foxes inhabit meadows, shrublands, valley foothill riparian, montane riparian, forest, and woodland habitats and cropland areas throughout California. Gray foxes are somewhat prevalent in open space and undeveloped areas within the City, and are typically not found within urban areas.[164] They are omnivores that feed on rabbits/hares, rodents, fruits, nuts, grains, insects, carrion, and small amounts of vegetation. They use brush, natural cavities (e.g., in rocky areas, snags, logs, brush, abandoned burrows, slash and debris piles), and occasionally human-made structures for cover and dens.

Gray foxes are active year-round, and are mostly nocturnal and crepuscular with occasional diurnal activity. They do not migrate, and home ranges can be variable (e.g., ranging from 0.05 to 8 square miles). Large hawks, great horned owls, domestic dogs, and bobcats may prey on pups, but adult gray foxes have few predators.[165] This species is a moderately urban-tolerant species that may tolerate some level of urbanization and occupy the urban-wildlands interface but generally do not occur in exclusively urban landscapes without the presence of natural habitat in the vicinity. Gray foxes are more avoidant of developed areas than coyotes and bobcats, possibly due to increased predation by coyotes along the urban-wildland interface.[166] This species was also identified as target species for conservation in the Green Visions Plan.[167]

Long-Tailed Weasel

Long-tailed weasels are found in open forest, woodland areas, and shrublands, from sea level to alpine meadows. Long-tailed weasels are very uncommon in open space and undeveloped areas within the City, and are typically not found within urban areas.[168] They are carnivorous, and eat small mammals (e.g., rodents and rabbits/hares), birds, insects, salamanders, and small amounts of fruit. They use small cavities in the ground, rock areas, logs, snags, stumps, and burrows other animals for cover, and can also nest in human structures.

Long-tailed weasel are active year-round, and are nocturnal and diurnal. They do not migrate, and home ranges can be variable (e.g., 25-600 acres). Long-tailed weasel populations respond to small mammal population numbers as their prey, as well as grey fox numbers since they compete with this species, and raptors since they are hunted as prey by these species. They are also preyed upon occasionally by bobcats, coyotes, red foxes, and gray foxes. suggested that sometimes

164 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=42076.

165 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

166 Farías, V., T.K. Fuller, and R.M. Sauvajot. 2012. *Activity and Distribution of Gray Foxes (Urocyon cinereoargenteus) in Southern California*. The Southwestern Naturalist Jun 2012: Vol. 57, Issue 2, pg(s) 176-181https://doi.org/10.1894/0038-4909-57.2.176.

167 Martino, D., C. S. Lam, and T. Longcore. 2005. *Green Visions Plan for 21st Century Southern California. 5. Terrestrial Target Species for Habitat Conservation Planning*. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, California. http://greenvisions.usc.edu/documents/05Species_Report.pdf.

168 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=41810.

control weasel numbers. They are tolerant of most human activities.[169] This species is a moderately urban-tolerant species that may tolerate some level of urbanization and occupy the urban-wildlands interface but generally do not occur in exclusively urban landscapes without the presence of natural habitat in the vicinity. This species was also identified as target species for conservation in the Green Visions Plan.[170]

Low Urban-Tolerant Species

Black Bear

Black bears are found in fairly dense, mature stands of many forest habitats in parts of the South Coast Ranges, and in the San Gabriel and San Bernardino Mountains. Although they can be occasionally found within these areas, black bears are uncommon in other open space and undeveloped areas within the City, and are typically not found within urban areas.[171] They require large trees and various cavities and hollows in trees, snags, stumps, logs, uprooted trees, talus slopes, or in the earth for denning. These habitat elements must be in mature, dense vegetation, and on sheltered slopes for adequate denning. Black bears are omnivorous, and mainly feed on grasses and forbs, fruits, nuts, insects, and carrion. Also consume human refuse. They are seasonal specialists, feeding on grasses and forbs in early spring, insects and fruits (e.g., manzanita berries) in summer, and on acorns and other nuts and fruits in fall. Black bears forage on the ground, and as high as they can reach in shrubs and trees. They also fish, dig, and climb trees for food. They feed in a variety of habitats, including brushy stands of forest, valley foothill riparian, and wet meadow.

Black bears are usually dormant in winter, although they may have brief periods of activity. When they are not hibernating, they are mostly nocturnal and crepuscular, with some daytime activity. Home ranges are variable, but males in the San Bernardino Mountains had average home ranges of 8.6 square miles. They are usually dormant in winter, although may be active for brief periods. It is common for black bears to move seasonally to different habitats, including some altitudinal migration. Black bears are the largest terrestrial carnivore species in California, and adults have few predators other than humans.[172] Black bears are not believed to be native to the San Gabriel Mountains, with the current population being the result of bears introduced in the 1930s after the extirpation of the grizzly bear from Southern California in the early 1900s.[173] This

169 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

170 Martino, D., C. S. Lam, and T. Longcore. 2005. *Green Visions Plan for 21st Century Southern California. 5. Terrestrial Target Species for Habitat Conservation Planning*. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, California. http://greenvisions.usc.edu/documents/05Species_Report.pdf.

171 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=41638.

172 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

173 CDFW. 2018. *Black Bear Population Information*. Accessed at https://www.wildlife.ca.gov/Conservation/Mammals/Black-Bear/Population on February 15, 2018.

species is a low urban-tolerant species that require larger territories to persist and are highly sensitive to the disturbances associated with urbanization.

Mountain Lion

Mountain lions are found in riparian areas, and brushy stages of most habitats. Mountain lions are uncommon in open space and undeveloped areas within the City, and are typically not found within urban areas.[174] They are carnivores, and primarily eat mule deer, which make up 60-80% of diet throughout year. They also eat rabbits, rodents, skunks, coyotes, and occasionally domestic stock. They use caves and other natural cavities, and thickets in brush and timber provide cover and denning.

Mountain lions are active year-round, and are nocturnal and crepuscular. They have seasonal movements, which are commonly in response to prey movements, such as following migrating deer herds. Male home ranges are usually a minimum of 15 square miles, with females having smaller ranges. Bobcats, coyotes, and bears are potential competitors. Large hawks and bears may prey on a few young; however, otherwise, mountain lions have few predators other than humans. Fragmentation of habitats by spread of human developments and associated roads, utilities, and other support facilities, restricts movements and increases association with humans, which are detrimental to mountain lion populations.[175] On April 21, 2020, the Fish and Game Commission recommended the Southern California/Central Coast ESU of mountain lions as a candidate species for listing as Threatened under the California Endangered Species Act. [176,177] This species is a low urban-tolerant species that require larger territories to persist and are highly sensitive to the disturbances associated with urbanization. This species was also identified as target species for conservation in the Green Visions Plan.[178]

Mule Deer

Mule deer occur in most forest, woodland, and brush habitats, and prefer a mosaic of vegetation that provides woody cover, meadow and shrubby openings, and water. Mule deer are somewhat prevalent in open space and undeveloped areas within the City, and are typically not found within urban areas.[179] They browse and graze, and prefer tender new growth of various shrubs, forbs,

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174 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=42007.

175 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

176 Center for Biological Diversity and the Mountain Lion Foundation. June 25, 2019. A Petition to List the Southern California/Central Coast Evolutionarily Significant Unit (ESU) of Mountain Lions as Threatened under the California Endangered Species Act (CESA). https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=171208&inline.

177 California Fish and Game Commission. April, 21, 2020. *Notice of Findings. Mountain Lion (Puma Concolor).* https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=178623&inline

178 Martino, D., C. S. Lam, and T. Longcore. 2005. *Green Visions Plan for 21st Century Southern California. 5. Terrestrial Target Species for Habitat Conservation Planning*. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, California. http://greenvisions.usc.edu/documents/05Species_Report.pdf.

179 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=42220.

grasses, and acorns. Brushy areas and tree thickets are important cover for escape from predators and for fawning.

Mule deer can be resident or migratory, and are generally crepuscular, but may be active day or night. Bucks (i.e., males) usually have larger home ranges, and travel longer distances than doe and fawn groups, and home ranges are typically less than 1 mile in diameter. Natural predators of deer have been reduced in numbers in most areas, and mule deer are preyed upon regularly by mountain lions and coyotes, but also occasionally by bobcats, black bears, and domestic dogs. Deer populations can decline in response to fragmentation, degradation, or destruction of habitat caused by urban expansion and disturbances by humans.[180] This species is a low urban-tolerant species that require larger territories to persist and are highly sensitive to the disturbances associated with urbanization.

American Badger

American badgers are found throughout California within drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. American badgers are very uncommon in open space and undeveloped areas within the City, and are typically not found within urban areas.[181] They are carnivores, and their diet shifts seasonally and yearly in response to prey that is available. They eat rodents, reptiles, insects, birds, eggs, and carrion. They dig burrows in relatively dry, often sandy, soil, usually in areas with sparse overstory cover.

American badgers are active year-round, and are nocturnal and diurnal. They do not migrate, and their home ranges vary greatly (e.g., 330-1,550 acres). They are somewhat tolerant of human activities, however predator control using indiscriminate trapping and poisons causes extensive losses to this species. [182] This species is a low urban-tolerant species that require larger territories to persist[183] and are highly sensitive to the disturbances associated with urbanization. This species was also identified as target species for conservation in the Green Visions Plan.[184]

Ring-Tailed Cat

Ring-tailed cats are found in riparian habitats, and in brush stands of most forest and shrub habitats, at low to middle elevations. Little information is available on distribution and relative abundance among habitats for this species. Ring-tailed cats are very uncommon in open space

180 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

181 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=41789.

182 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

183 Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. Life History Accounts for Species in the California Wildlife Habitat Relationships (CWHR) System California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2597&inline=1.

184 Martino, D., C. S. Lam, and T. Longcore. 2005. *Green Visions Plan for 21st Century Southern California. 5. Terrestrial Target Species for Habitat Conservation Planning*. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, California. http://greenvisions.usc.edu/documents/05Species_Report.pdf.

and undeveloped areas within the City, and are typically not found within urban areas.[185] They are primarily carnivorous, eating mainly rodents and rabbits, but they also eat birds, eggs, reptiles, invertebrates, fruits, nuts, and some carrion. They use hollow trees, logs, snags, cavities in talus and other rocky areas, and other recesses, as well as abandoned burrows and woodrat nests for cover and nests.

Ring-tailed cats are active year-round, and are nocturnal. They do not migrate, and their home ranges vary greatly (e.g., 109-1,280 acres). Probable predators include bobcats, raccoons, foxes, and especially large owls. Potential competition for food exists between ringtails and raccoons, gray foxes, coyotes, barn owls, great horned owls, rattlesnakes, and gopher snakes.[186] This species is a low urban-tolerant species that require larger territories to persist[187] and are highly sensitive to the disturbances associated with urbanization.

Spotted Skunk

Spotted skunks occur in shrub and brush habitats with moderate canopy-closure, open forest and woodland with scattered openings, and riparian habitats. Spotted skunks are very uncommon in open space and undeveloped areas within the City, and are typically not found within urban areas.[188] They are omnivores, and eat primarily insects and small mammals, along with reptiles, birds, eggs, carrion, fruits, and grains. They use brushy areas, brush piles, slash, rock areas, burrows, and hollow logs, snags, and stumps, as well as underneath buildings for cover and nesting.

Spotted skunks are nocturnal and crepuscular with some diurnal activity, and may remain in their den for several days at a time in winter. They do not migrate, and their home ranges vary greatly (e.g., 160-2,560 acres). The primary predators to the spotted skunk are domestic dogs, great horned owls, and humans. Competitors include long-tailed weasels, ringtails, raccoons, and gray foxes.[189] This species is a low urban-tolerant species that require larger territories to persist and are highly sensitive to the disturbances associated with urbanization.

Other Species

Although medium and large mammal species were targeted as focal species (as representative "umbrella species" that have larger range requirements that encompass the ranges of a variety of taxa), consideration was also given to insects, fish, amphibians, reptiles, birds, and other mammals in the development of PAWs, WMPs, and the policy recommendations provided

185 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=41789.

186 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

187 Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1988-1990. Life History Accounts for Species in the California Wildlife Habitat Relationships (CWHR) System California's Wildlife. Vol. I-III. California Depart. of Fish and Game, Sacramento, California. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=2581&inline=1.

188 California Academy of Sciences. 2017. *iNaturalist*. Available online (https://www.inaturalist.org/observations). Website accessed January 18, 2021. https://www.inaturalist.org/observations?place_id=962&taxon_id=41789.

189 CDFW. California Interagency Wildlife Task Group. 2014. *California Wildlife Habitat Relationships System version 9.0 personal computer program*. Sacramento, CA. https://wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

below. For example, some beaches were included as PAWs even though they are habitats that are not often used by mammals, but they are important breeding and foraging habitat for a variety of invertebrates and a number of bird species, including rare birds. Additionally, aquatic habitats were included, such as Ballona Creek and Los Angeles River, even though these provide marginal habitat for medium and large mammals, since these aquatic resources provide habitat and connectivity for fish and variety of bird species. Although the focal species are good indicators of ecosystem health, the overarching goals of the policy recommendations are to maintain and conserve important local wildlife species of all taxa and in multiple habitat types (e.g., terrestrial, aquatic), and the conservation of these "umbrella species" will automatically provide for the conservation of many other species and the ecological functions and existing biodiversity throughout the City.

Planning could further expand the scope of study in the future to include a wider variety of indicator species beyond those "umbrella species" used in this analysis, that includes multiple taxonomic groups besides mammals. For example, connectivity to the Arroyo Seco, a tributary of the Los Angeles River, could be further assessed for habitat and movement for aquatic fish and bird species. Future expansion of this study could include additional target species recommended by the Green Visions Plan, which includes a suite of invertebrate, amphibian, reptile, bird, and mammal species representing a variety of habitat types,[190] plus also include representative aquatic (e.g., fish), plant, and marine species, and those species being used by LASAN's Biodiversity Index.

5.2.2 Existing Policies and Best Practices Assessment

5.2.2.1 Existing Local Policies

The General Plan is a comprehensive policy document that informs future land use decisions by prescribing policy goals and objectives to shape and guide the physical development of the City. ESA reviewed policies within the City's General Plan, including those contained within the Conservation, Open Space, and Framework Elements. Policies within Chapter 6 (Open Space and Conservation) of the General Plan Framework Element supplement the policies outlined in the Open Space and Conservation Elements. The City also maintains 35 Community Plans, one for each of its Community Plan Areas, which establish neighborhood-specific goals and implementation strategies to achieve the broad objectives that are laid out in the City's General Plan. Together, the 35 Community Plans make up the General Plan's Land Use Element, which plays an important role in bolstering housing and job opportunities, conserving open space and natural resources, and balancing the needs of different neighborhoods. Specific Plans provide geographically precise land use regulations for specific areas within a community.

Wildlife-related policies within Community and Specific Plans were also reviewed. It is important to note that not all community and specific plans contain wildlife-related policies, which is not surprising given the City's diverse setting. The existing policy review found that the

[190] Martino, D., C. S. Lam, and T. Longcore. 2005. *Green Visions Plan for 21st Century Southern California. 5. Terrestrial Target Species for Habitat Conservation Planning*. University of Southern California GIS Research Laboratory and Center for Sustainable Cities, Los Angeles, California. http://greenvisions.usc.edu/documents/05Species_Report.pdf.

City's General Plan Framework Element does not prescribe many specific design guidelines or many mitigation related to wildlife resources; however, several of the Specific Plans (such as the Cornfield Arroyo Seco Specific Plan, Mulholland Scenic Parkway Specific Plan, Mount Washington/Glassell Park, San Gabriel/Verdugo Hills Scenic Preservation Specific Plan, and Venice Coastal Zone Specific Plan) include design for resource protection such as providing open space areas to facilitate wildlife migration, setbacks from streams, native tree preservation, and directing lighting away from sensitive habitat areas. ESA evaluated the potential for wider applicability within the City of existing Specific Plan policies as well as areas where wildlife would benefit from the addition of new protection policies.

Appendix H, *City of Los Angeles Policy Summary Matrix*, summarizes the existing policies contained within the City's General Plan, as well as within various Community and Specific Plans, where biological resource protection is a primary focus. **Figure 18**, *Existing SEAs, Community Plans, and Specific Plans with Wildlife Protection Policies*, shows plan areas with wildlife protection policies. It should be noted that two of the City's existing policies are being implemented through this study: Policy 6.1.3 and Policy 6.1.5 (see Appendix H for detailed description). Policy 6.1.3 in particular prescribes reassessing the resources and functions within the County-designated SEAs within the City and evaluating potential inclusion of other areas that exhibit equivalent environmental value. Policy 6.1.5 prescribes on-site evaluations to identify sensitive habitats, species and wildlife movement corridors. These policies are the primary land use tools presently available to the City for the protection of wildlife areas in conjunction with the CEQA analysis for discretionary projects. Expanded implementation of these policies will further the protection of wildlife habitat in the City.

Generally, wildlife-related policies were categorized into the following topics: open space/wildlife habitat conservation; habitat linkage conservation; native tree preservation; project design guidelines and mitigation measures; and coordination with regional planning efforts. Each topic area is discussed below with reference to applicable existing City policies.

Open Space/Wildlife Habitat

Policies relating to open space/wildlife habitat focus on identifying and promoting conservation of large, intact blocks of open space that, among other beneficial uses (e.g., recreation), provide natural communities that support diverse populations of wildlife. Open space areas can include both undeveloped areas supporting native habitats as well as areas subject to low-intensity uses that are compatible with natural environmental functions (such passive park space). Since many parks are landscaped with grass and ornamental landscaping, or can include outdoor recreational areas, such as sports fields and playgrounds, there are also varying qualities of potential habitat within these open space areas that can be utilized by wildlife. Within the City limits, open space and undeveloped areas are generally scarce and subject to substantial edge effects (i.e., the abrupt transition between developed areas and natural lands) associated with human activity that reduce overall habitat quality and limit functionality for wildlife. Edge effects may include increased noise from traffic, construction, and other human activities; increased lighting that can affect normal nocturnal behaviors of wildlife; pollutants from urban areas; and the introduction of invasive non-native species that compete with native species. Regardless, despite the highly

urbanized nature of the City, opportunities remain to protect open space for the benefit of wildlife by promoting the conservation of native habitat and connectivity between other open space and undeveloped areas.

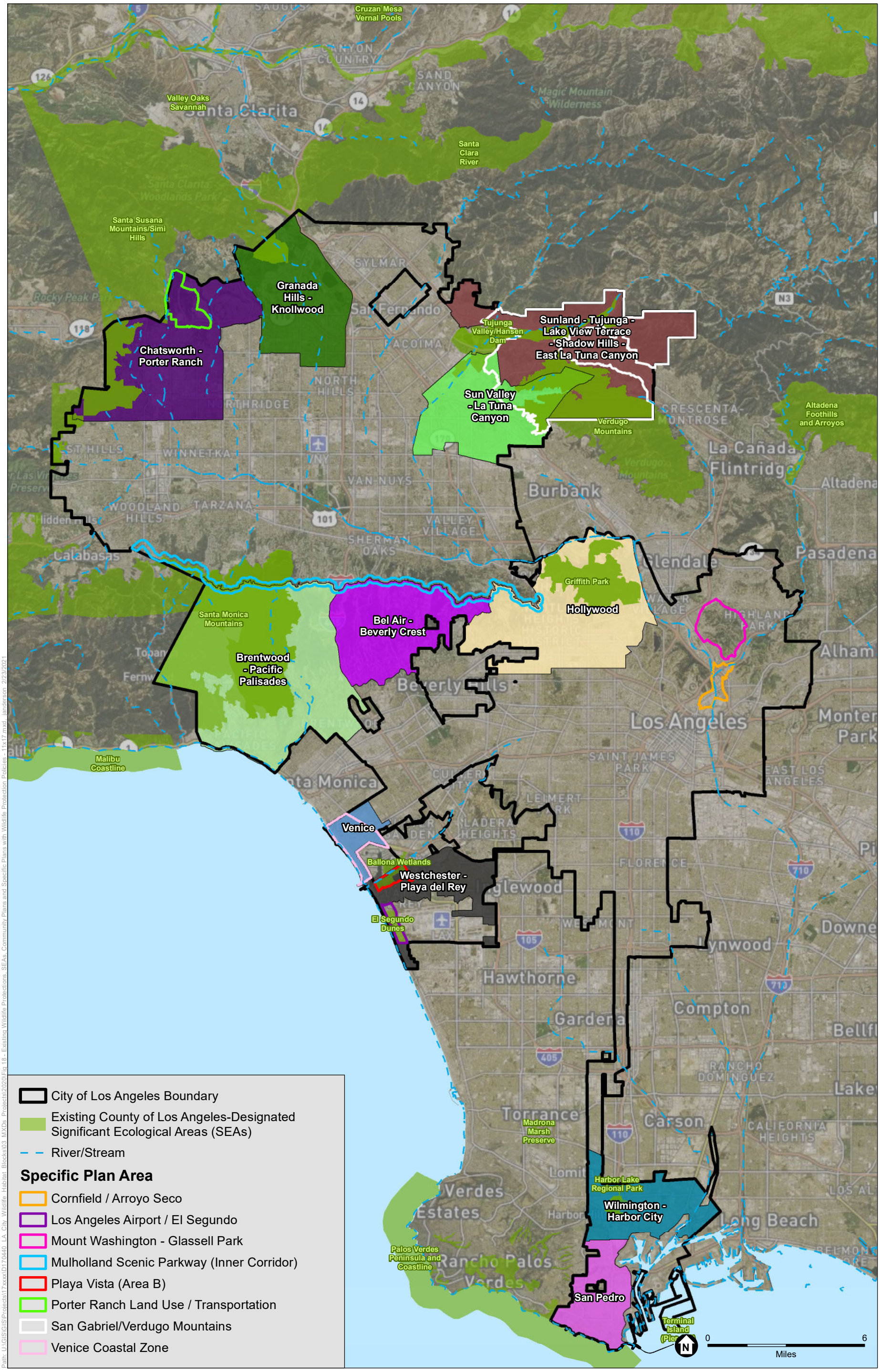
Existing policies of the City's General Plan Framework Element pertaining to open space/wildlife habitat conservation are listed below, particularly Policies 6.1.4 and 6.1.5.

- Protection and conservation of open space (Policies 6.1.2, 6.1.4, 6.1.6, and 6.1.7),
- Assessments of designated SEAs and other areas outside of targeted growth areas (Policies 6.1.3 and 6.1.5), and
- Consideration of methodologies for preservation of open space (Policies 6.1.1 and 6.5.2).

However, the existing policies in the Framework Element do not directly address edge effects that are a common threat to open space and the wildlife that inhabit it in the City. Policy 6.5.2 also recommends establishing a program for the purchase of opens space areas, a role that the Santa Monica Mountains Conservancy and other agencies and organizations have served. This same policy emphasizes open space areas protecting endangered, threatened, or otherwise sensitive species habitats.

Open space and wildlife habitat conservation is provided for within a number of the City's Community Plans and Specific Plans, including the following:

- The Bel Air-Beverly Crest Community Plan provides for Designated Open Space Lands to be considered for wildlife refuge and preservation areas. Open space and park and recreation lands should be considered in calculating the potential density in associated subdivisions, and should be protected by provisions which would prohibit any future construction of non-recreational buildings on the protected areas.
- Policy 4-1.1 of the Brentwood-Pacific Palisades Community Plan emphasizes that natural resources should be conserved on privately-owned land of open space quality and preserved on state parkland.
- The proposed update to the Hollywood Community Plan includes numerous goals and policies for the preservation and enhancement of open space, improving accessibility with greenways and trails, and protecting natural areas and wildlife habitat. Policy PR6.1 emphasizes evaluating existing conditions and identify areas important for supporting habitat and movement for wildlife. Policy PR6.2 promotes the preservation of passive and visual open space that provides wildlife habitat and corridors, wetlands, watershed, groundwater recharge areas, and other natural resources areas. Policy PR6.4 encourages coordination with the County of Los Angeles in identifying significant ecological areas featuring ecological or scenic resources that should be preserved and protected within State reserves, preserves, parks, or natural wildlife refuges. These three policies are being implemented through this study.



SOURCE: Open Street Map, 2017 (Aerial); County of Los Angeles.

Los Angeles City Protection Areas for Wildlife

Figure 18
Existing SEAs, Community Plans, and Specific Plans with Wildlife Protection Policies

ESA

Path: U:\GIS\GIS\Projects\17xxxx\D170440_LA City Wildlife Habitat Blocks\03 MXDs Projects\2020\Fig 18 - Existing Wildlife Protections_SEAs_Community Plans and Specific Plans with Wildlife Protection Policies - 11x17.mxd landerson 2/23/2021

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- In the Westchester-Playa Del Rey Community Plan, protection of sensitive habitats is emphasized for the coastal bluffs and wetland environments, including the vicinity of the Loyola University, and includes a policy (Policy 18-2.1) promoting open space buffer areas between development and sensitive ecological environments, though specific buffer sizes are not prescribed in the policy. These buffers can reduce edge effects associated with human activity. This community plan also emphasizes the importance of preserving the Ballona Wetlands.
- Similarly, the adjacent Playa Vista Area B Specific Plan emphasizes the importance of preserving the Ballona Wetlands and the Venice Coastal Zone Specific Plan provides for habitat restoration adjacent to the Ballona Lagoon and protection of Environmentally Sensitive Habitat Areas.
- Policy 4-6.1 of the Wilmington-Harbor City Community Plan promotes the preservation of wildlife habitats in a natural state.
- Policy 5-1.7 of the San Pedro Community Plan identifies ecologically important areas and designated wildlife refuges.
- The Cornfield Arroyo Seco Specific Plan provides for open space areas of natural habitats.
- The Los Angeles Airport/El Segundo Dunes Specific Plan acknowledges the restoration and maintenance of the dune habitat preserve as open space.
- The Open Space designation for publicly-owned land in the Granada Hills-Knollwood Community Plan is specifically intended for the protection and preservation of natural resources and wildlife habitats.
- The Chatsworth-Porter Ranch Community Plan includes a policy to establish a 100-foot buffer zone from top of channel banks for riparian habitats.
- Policy 1-6.3 of the Sun Valley-La Tuna Canyon Community Plan requires that grading be minimized to reduce the effects on environmentally sensitive areas.
- Policy 18-1.2 of the Venice Community Plan promotes the protection of estuaries and wetlands and the restoration and protection of the Venice Canals. The plan also emphasizes that public works improvements shall be designed to protect sensitive habitat resources.

These applicable existing City policies are listed in Appendix H.

Habitat Linkages

Policies relating to habitat linkages focus on identifying and promoting conservation of linear corridors of native habitat that connect one or more patches of open space or undeveloped habitat areas. Linking habitat together is vital to the health of ecological systems and associated wildlife populations, as connectivity facilitates gene flow, range expansion, seasonal migration movements, and resilience to the effects of climate change throughout the landscape matrix. Ridgelines, canyons, waterways, and associated riparian habitat are often considered important linkages; however, linkages that facilitate wildlife movement may also include man-made infrastructural features, such as constructed undercrossings (e.g. culverts)/overcrossings (e.g. bridges) to link patches fragmented by urban development (such as roads and other transportation corridors).

Existing policies of the City's General Plan Framework Element that recognize the importance of habitat linkages include Policies 6.1.2b and 6.1.5 (refer to Appendix H). In addition, the General Plan Framework Element contains the following policies related to habitat linkages:

- Policy 6.1.3 indirectly pertains to habitat linkages because the 2015 revised County SEA boundaries provided for habitat linkages in order to provide connectivity to wildlife habitats.
- Policy 2 (Chapter 2, Section 12) highlights protecting habitat linkages within City properties.
- Policy 6.5.2 prioritizes habitat corridor protection within a City open space acquisition program.

Policies relating to habitat linkages within the City's Community Plans and Specific Plans include the following:

- The Chatsworth-Porter Ranch Community Plan recognizes the important habitat linkage through the Simi Hills and Santa Susana Mountains to the Santa Monica Mountains, recognizing the importance of these linkages and promoting use of culverts to allow safe wildlife passage under freeways.
- The Porter Ranch Specific Plan promotes the dedication of a wildlife corridor along the northern and western borders of the plan area. Recognition of the use of man-made features to facilitate safe wildlife passage between habitats is particularly relevant to the highly urbanized nature of the City.
- The Cornfield Arroyo Seco Specific Plan provides for open space areas that facilitate local wildlife movement.

These policies recognize the importance of habitat linkages and the applicable City policies are referenced in Appendix H.

Native Trees

In addition to providing aesthetic value, native trees provide food and shelter for wildlife, slope stabilization and erosion control with their roots, and carbon sequestration. The canopies of trees provide shade to cool the air, and also drop leaves that provide a layer of leaf litter that acts as a mulch to keep moisture in the ground, break down to enrich the soil with organic materials, and create microhabitats (i.e., small areas of habitat with differing characteristics from the surrounding more extensive habitat) that wildlife life in. A multitude of insects live in the soil and on the trees, and amphibians, reptiles, birds, and small mammals forage on these species. Trees also provide seeds and nuts for wildlife to forage on, as well as habitat for nesting (e.g., for birds and squirrels). They can also provide habitat for other plant species, such as mistletoe. Even dead trees provide habitat for birds, like woodpeckers to reside in or store their granaries, or snags that raptors will perch on to scope out their next meal. From the tree's debris, woodrats gather sticks, twigs, and leaf litter that are interwoven to create their middens, a large mound of with multiple chambers where they reside, store food, and nest. Native trees, even dead or decaying trees, are an important part of the natural ecosystem.

Policies related to native trees direct protection and planting of native tree species for a variety of benefits. One of the benefits native trees provide is nesting and roosting habitat for birds. Even trees outside of open space areas can provide nesting and roosting habitat for urban-adapted avian species. The City's General Plan Framework Element and community plans do not include policies related to native tree protection. However, the City's municipal code does contain provision for protecting the more prominent native trees within the region, including oak, walnut, sycamore and California bay laurel trees (Ordinance No. 177,404). The City also regulates the removal of "significant trees," which are both native trees and non-native landscaping trees 8 inches or greater in diameter at breast height (DBH), and requires replacement of those trees that are removed, though this requirement is only found in a few specific plan areas (Mount Washington/Glassell Park Specific Plan, San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan). The Mount Washington/Glassell Park Specific Plan promotes the preservation of native and landscape (i.e., significant) trees by regulating removals with permit requirements. Similarly, the Mulholland Scenic Parkway Specific Plan promotes the preservation of oak trees with Environmental Protection Measures. The San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan promotes protection of native oak species. Applicable existing City policies are listed in Appendix H.

Design Guidelines and Mitigation Measures

Policies pertaining to design guidelines and mitigation measures provide standards applicable to projects implemented in proximity to wildlife resources. The City's General Plan Framework Element does not prescribe any specific design guidelines or mitigation measures related to wildlife resources; thus, formulation of such standards is recommended to bolster protection of wildlife resources within the City's limits. That said, a number of Community and Specific Plans include design guideline provisions for resource protection. For example, the Cornfield Arroyo Seco Specific Plan and Venice Coastal Zone Specific Plan include design standards for preventing light trespass into environmentally sensitive habitat areas. The Mulholland Scenic Parkway Specific Plan prohibits project construction within 100 feet of a stream bank without approvals and assurances that the integrity of a stream and any prominent ridges and environmentally sensitive areas will be protected, and prohibits planting a specific list of invasive plant species within the scenic corridor parkway. The Granada Hills-Knollwood Community Plan describes the need for a rare plant and wildlife survey in order to develop specific design requirements/mitigation measures to protect natural resources. The San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan prohibits removal of native vegetation within any Prominent Ridgeline Protection Area with a few exceptions, and prohibits a specific list of invasive plant species for all new projects. Several of the existing applicable City policies and design guidelines are listed in Appendix H.

Regional Planning Coordination

Policies related to regional planning guide coordination and cooperation with other public and private entities that own or manage open space. A regional planning approach to open space conservation is important as wildlife populations are not bound by land ownership or political boundaries. Existing Policy 6.1.1 in the City's General Plan Framework Element promotes

acquisition of open space with private and public partners (Appendix H). However, the existing policy could be strengthened to explicitly promote coordination among private and public partners to ensure conservation and management of wildlife resources is prioritized based on broader regional efforts.

The City is engaged in several policy efforts to enhance and promote biodiversity and conservation of the City's remaining wildlife. Efforts such as the LASAN-led Biodiversity Index study, [191] as well as this study, can help to develop policies to maintain biodiversity and connectivity within the City. These efforts have brought together a number of stakeholders, including the City's Department of Recreation and Parks, LASAN, The Trust for Public Land, Natural History Museum of Los Angeles County, and the National Park Service. Collaboration with these public partners will allow conservation policy implementation to garner broader support and effectiveness. To continue this collaboration, Planning should partner with LASAN to share data from their biodiversity study and evaluate if any proposed PAWs or WMPs should be revised based on new data available. To further promote the biodiversity initiative, as well as water conservation, Planning and LASAN should encourage other City departments (e.g., Bureau of Engineering, Department of Public Works, Bureau of Street Services) to incorporate native landscaping and native hydroseed into their projects wherever possible. Seeds and plants should be from local sources and include a diverse assortment of species endemic to the Los Angeles area. Planning could also team with the Urban Forestry Division and the Department of Recreation and Parks to provide mitigation opportunities within City parks, properties, and right-of-ways for native and significant tree replacement for projects that cannot accommodate it on-site, and encourage planting native trees over non-native landscape trees.

It would also be beneficial if an entity such as LASAN and/or the City Department of Animal Services would record data on human-wildlife interactions (e.g., wildlife documented in urban and suburban areas) and roadkill data (species and GPS location), as more wildlife occurrence and mortality data would help to confirm wildlife use and movement within the City. Such data would also be valuable for identifying areas where wildlife density and/or biodiversity is greater than currently known due to limitations of the data currently available. As previously mentioned, much of the community science data available is limited to what is reported, and what areas are accessible or most frequented by the public; thus, data can be skewed to favor more popular public areas. The City should also coordinate with NPS and/or other governmental and academic organizations (e.g., CDFW, UCLA) for additional wildlife studies within the City's limits. Additional data could also be useful to identify high concentrations of roadkill where the City could evaluate if more crossing structures, signage, speed humps, or other minimization measures might be needed. Since roads, and especially freeways, are major hazards to wildlife and impediment to connectivity and movement, the City should collaborate with Department of Public Works and CalTrans to identify areas to enhance and improve safe crossing for wildlife.

191 Isaac Brown Ecology Studio and LA Sanitation & Environment. 2018. *2018 Biodiversity Report*. City of Los Angeles. Measurement of the Singapore Index of Cities' Biodiversity and Recommendations for a Customized Los Angeles Index. https://www.lacitysan.org/san/sandocview?docname=cnt024743.

As referenced in the City's General Plan Framework Element, the San Gabriel Mountains, Santa Susana Mountains, Baldwin Hills, and the Santa Monica Mountains are examples of natural open space resources that surround the City. To a large extent, the County's SEA Program is a regional planning approach for conservation of open space pertaining to biological resources. Coordinating the planning and management of open space within the City limits within and adjacent to these large and significant blocks of open space is beneficial as it informs prioritization of City resources in a manner that provides the greatest value towards wildlife conservation and maintaining regional connectivity of these ecosystems.

Additional regional connectivity planning efforts within the City and immediately adjacent areas also include South Coast Wildland's *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*[192] and *South Coast Missing Linkages: A Linkage Design for the Santa Monica-Sierra Madre Connection*;[193] CalTrans and CDFW's *California Essential Habitat Connectivity Project*;[194] NPS *Rim of the Valley Corridor Special Resource Study*;[195] and Ventura County's *Habitat Connectivity and Wildlife Corridor*,[196] which identify important areas for regional connectivity within the open space and undeveloped natural areas of the ranges surrounding the San Fernando Valley. Planning should collaborate with Los Angeles County Department of Regional Planning (and their SEA Technical Advisory Committee [SEATAC]), NPS, and Ventura County Resource Management Agency to work in concert to ensure compatible provisions for the protection of habitat conservation, regional connectivity, and wildlife movement between jurisdictions. Farther afield, the San Diego State University's Connecting Wildlands & Communities (CWC) effort, a comprehensive planning approach to provide an integrated planning and decision-making framework that supports multi-benefit landscape-scale planning and facilitates science-informed climate adaptation and strategies across the region to protect rural communities, mitigate wildfire risk, support water sustainability, and protect biodiversity, should also be consulted to obtain any leading practices or policies to address regional connectivity.[197]

5.2.2.2 Existing Regional Policies

A review was conducted of existing policies and regulations applicable to habitat and wildlife conservation that have been implemented in other jurisdictions outside the City. **Appendix I**, *Best*

192 South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. www.scwildlands.org. March 2008.

193 Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, R. Sauvajot, S. Riley, and D. Kamradt. 2006. *South Coast Missing Linkages Project: A Linkage Design for the Santa Monica-Sierra Madre Connection*. Produced by South Coast Wildlands, Idyllwild, CA. www.scwildlands.org, in cooperation with the National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy.

194 CalTrans and CDFG. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Prepared with Funding from: Federal Highways Administration. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18366.

195 NPS. 2015. *Finding of No Significant Impact, Rim of the Valley Corridor Special Resource Study*. November 2015.

196 Ventura County Resource Management Agency. 2020. Website accessed March 4, 2020. *Habitat Connectivity and Wildlife Corridor*. https://vcrma.org/habitat-connectivity-and-wildlife-movement-corridors.

197 San Diego State University, Institute for Ecological Monitoring and Management. 2020. Website accessed January 18, 2021. *Connecting Wildlands and Communities*. https://iemm.sdsu.edu/projects/CWC.html.

Practice Policy Matrix, summarizes the existing policies related to wildlife resources within other cities and counties. These best practice policies are limited to policies that would improve/expand upon existing City policies, as some existing City policies are applicable to guiding wildlife habitat protection in the City and do not need revision. The best practice policies presented in Appendix I are verbatim from other jurisdictions and, while conceptually applicable, modification to tailor specifically for the City are appropriate. As discussed for policies within the City, other policies reviewed were generally categorized into the following topics: open space/wildlife habitat conservation; habitat linkage conservation; native tree preservation; project design guidelines and mitigation measures; and coordination with regional planning efforts. These topics are discussed below with references to applicable policies.

Open Space/Wildlife Habitat

Outside of the City, other jurisdictions also emphasize the importance of open space and habitat preservation, though some have more specific requirements tailored to the conservation of their resources.

- The East Alameda County Conservation Strategy provides for the protection a range of environmental gradients (such as slope, elevation, aspect) across a diversity of natural communities (Objective 1.1), and allows for natural disturbance regimes, or management actions that mimic those natural disturbances, required for natural community regeneration and structural diversity and native species germination and recruitment to occur (Objective 1.3). This is useful because a number of native plants are "fire followers" that are adapted to natural fire regimes and require their seeds to be burned in order to germinate. Other plant species are adapted to natural disturbances, such as water scouring a floodplain, and are "pioneer" species that thrive by colonizing open areas. Their conservation strategy also provides for nonnative invasive plants and animals removals using Integrated Pest Management (IPM) principles to enhance natural communities (Objective 1.4).
- In Washington, the City of Kent Municipal Code provides for buffers for fish and wildlife habitat conservation areas.
- The County of San Diego General Plan encourages the formation of volunteer preserve managers that are incorporated into each community planning group to supplement professional enforcement staff in order to protect and manage open space.

The applicable policies are listed in Appendix I.

Habitat Linkages

Other jurisdictions also emphasize the importance of habitat linkages.

- The County of Ventura General Plan requires that discretionary development be sited a minimum of 100 feet from significant wetland habitats, though buffer areas may be increased or decreased upon evaluation and recommendation by a qualified biologist and County approval. The design of road and floodplain improvements are also required to incorporate all feasible measures to accommodate wildlife passage.
- An objective of the Vermont Fish and Wildlife Department Habitat Block Report is the identification and ranking of the relative importance of potential wildlife road crossings statewide based on the structural suitability of adjacent habitat.

The applicable policies are listed in Appendix I.

Native Trees

Policies related to native trees includes the City of Pasadena General Plan, which promotes planting additional trees along the City's sidewalks, civic places, parks, and in private developments to support the health and diversity of wildlife, sequester GHG emissions, and contribute to the reduction of the urban heat-island. The applicable policy is listed in Appendix I.

Design Guidelines and Mitigation Measures

Policies pertaining to design guidelines and mitigation measures provide standards applicable to projects implemented in proximity to conservation lands and wildlife resources.

- The City of San Diego Multiple Species Conservation Plan Subarea Plan and Western Riverside Multiple Species Habitat Conservation Plan include design guidelines to minimize edge effects of proposed development on conserved lands. Guidelines are included for preventing drainage of pollutants (e.g., chemicals, petroleum products) and toxins (e.g., manure for fertilizer); directing lighting away from conserved areas; minimizing noise; installing barriers around conserved lands (e.g., rocks/boulders, non-invasive vegetation, fences, signage); preventing the introduction on invasive non-native plants into conserved lands; and setting brush management back from conserved lands.
- The County of Ventura General Plan requires a qualified biologist to evaluate potential impacts to biological resources and develop mitigation measures as necessary.
- The County of Los Angeles General Plan discourages development in areas with identified significant biological resources, such as SEAs, and requires additional technical review for complex or intensive types of developments within SEAs to evaluate potential impacts to biological resources, determine SEA compatibility, and develop mitigation measures as necessary. The SEATAC is an expert advisory committee that assists the Los Angeles County Department of Regional Planning and the Los Angeles County Regional Planning Commission in assessing applications for SEA Conditional Use Permits (CUPs) by providing recommendations on the biological analyses conducted for SEA CUPs, and on the project's compatibility with SEA resources.

The applicable policies are listed in Appendix I.

Regional Planning Coordination

As mentioned in Section 5.2.2.1 above, regional planning efforts that overlap with the City's boundaries or are immediately adjacent, include the Los Angeles County SEA Program, South Coast Missing Linkages, California Essential Habitat Connectivity Project, Rim of the Valley Corridor, and Ventura County Habitat Connectivity and Wildlife Corridor, and farther afield, the San Diego State University's CWC effort. In addition, the following regional planning efforts are taking place:

- The County of Los Angeles General Plan supports the acquisition of new available open space areas, and they aim to leveraging County resources in concert with the compatible open space stewardship actions of other agencies, as feasible.
- The County of San Diego General Plan promotes collaboration with other jurisdictions and federal, state, and local agencies to identify regional, long-term funding mechanisms that achieve common resource management goals.

- In their "Climate Change Response Strategy," one of the National Park Service's objectives is to collaborate to develop cross-jurisdictional conservation plans to protect and restore connectivity and other landscape-scale components of resilience and develop cross-jurisdictional conservation.
- The City of Sacramento General Plan support the efforts of The Natomas Basin Conservancy and other habitat preserve managers to adaptively manage wildlife preserves to ensure adequate connectivity, habitat range, and diversity of topographic and climatic conditions are provided for species to move as climate shifts.
- The Department of Interior's Subcommittee on Land and Water Management also promotes regional partnerships to enhance the success of species migration and relocation in response to climate change.

The applicable policies are listed in Appendix I.

5.3 Recommendations to Inform Policy and Planning

ESA considered how focal species' use of the PAWs and WMPs proposed could be impacted or impeded by urbanization and development. Factors that were considered include physical barriers to movement such as structures, fences, walls, and windows; behavioral hindrances to movement such as lighting, noise, proximity to development, and lack of vegetative cover; and direct physical threats to wildlife within PAWs and WMPs such as dangerous fencing materials, poisons, and traffic. These categories served as the primary focus of recommendations for policy development.

Based on the PAWs and WMPs proposed, a number of recommendations are proposed for developing guidelines and regulations for conserving and managing biological resources within these areas. Recommendations are provided for the following categories:

- Setback and Buffers from open spaces and natural resource areas
- Fencing and Physical Barriers
- Vegetation, Landscaping (and Brush Management)
- Lighting
- Windows
- Noise
- Poison
- Traffic
- Education

These recommendations should be considered by Planning for the development of regulations to be applied on future projects, which will help to balance needs for development with needs for wildlife habitat and connectivity.

5.3.1 Setback and Buffers

Establishing development regulations that include a proportional limitation between natural open space and building area/non-natural open space within PAWs and WMPs would conserve some of the existing habitat functions provided by areas with low and very low density development and reduce fragmentation effects. In a study of fragmentation effects in rural San Diego County, the effects were negligible in areas with less than 1 dwelling unit per 80 acres, and severe in areas with greater than 1 dwelling unit per 40 acres.[198] While many of the PAWs and WMPs within the City are in areas that already exceed this threshold, the effects of fragmentation can be reduced by introducing regulations that buffer development away from open space areas and encouraging the conservation of existing habitats, native vegetation, water resources and undeveloped ridgelines that may serve as natural pathways for wildlife.

Recommendations:

- *WMPs should be maintained at the existing widths, or provide a minimum of 30 feet of open access.*[199,200]
  - *If a WMP is already constrained (i.e., is a crossing structure under a road, or road crossing without a crossing structure), then the enhancement or installation of a crossing structure should be considered. Since different species have different preferences for crossing structures that they would use, site-specific conditions should be assessed to address the species that have potential to occur and to use the pathway for movement. For example, larger mammals such as deer prefer larger, open structures (like a bridge undercrossing); medium-sized mammals, black bear, and mountain lions prefer large box culverts with natural earthen bottoms; while smaller amphibians, reptiles, and mammals may prefer smaller pipe culvert crossing structures (from 1 to 3 feet in diameter) with less exposure to predators.*[201] *Multiple types of crossing structures can also be implemented within a single area to accommodate multiple species preferences.*
- *Unconstrained WMPs should be maintained at an average minimum width that should be determined on a case-by-case basis based on factors that include, but are not limited to: the species present, local topography, level of disturbance adjacent to the corridor, length of the corridor, and overall ecological significance of the corridor. The following guidelines should be applied to determine minimum WMP widths, as applicable:*
  - WMP minimum widths should be designated to include a variety of habitats, where available, to provide for the habitat preferences of various species (i.e. include areas with dense vegetation for cover as well as open areas to allow for the movement of larger mammals).

198 CBI 2005 as cited in Beier, P., D. Majka, S. Newell, and E. Garding. 2008. *Best Management Practices for Wildlife Corridors*. January.

199 WMPs should be assessed on a case-by-case basis depending on the conditions of the WMP (e.g., natural area or fragmented/constrained), habitat and biological resources present throughout the WMP and surrounding vicinity, and the potential threats and barriers to movement. The recommended minimum width is based on the recommended minimum width for bridges or culverts as used in the City of San Diego MSCP Subarea Plan and discussed further in Section 5.3.8 below.

200 City of San Diego. 1997. *Multiple Species Conservation Program. City of San Diego MSCP Subarea Plan*. March 1997.

201 Beier, P., D. Majka, S. Newell, and E. Garding. 2008. *Best Management Practices for Wildlife Corridors*. January.

  - *WMP minimum widths should be designated to include areas with slopes of less than 40 percent, where available. In areas of high topographic relief, WMPs should include ridgeline and/or valley bottom habitat to the extent feasible.*
  - *WMP minimum widths should be designated to include adequate buffers from the effects of existing adjacent land uses, including lighting and noise. Adequate buffer widths should be determined based on the presence of barriers such as vegetation, topography, walls, and berms and may range from approximately 50 feet to 500 feet.*

- *Within PAWs, the proportional limitation between natural open space and the amount of building area (i.e., structures and impervious area)/non-natural open space should be based upon the size of the parcel as follows:*
  - *< 7,500 square feet- 1:1 ratio*
  - *7,501 to 15,000 square feet- 2:1 ratio*
  - *15,001 to 43,560 (1 acre) – 3:1 ratio*
  - *Greater than one acre- 4:1 ratio- (note: Subdivisions would be subject this ratio and are required to cluster development)*
  - *If the lot is adjoining a natural open space area, no more than 25% of the building area/non-natural open space should be located on the portion of the lot that is proximal to the adjoining natural open space, as feasible and with consideration for access and other limitations.*
  - *If the lot contains a naturally-occurring perennial or intermittent water feature that is considered a key water source for wildlife, then the natural open space portion of the lot should include this feature and include the conservation of natural open space to allow for wildlife access to the feature.*
- *The building area/non-natural open space should be established within a minimum setback from WMPs or PAWs of 25 feet or 25 percent of the average lot diameter,[202] whichever is greater. The setback should be established with the intent to retain connected corridors of natural open space between adjoining lots within WMPs, regardless of lot orientation.*
- *Setbacks for sensitive biological resources within a PAW or WMP (e.g., sensitive habitats, habitat that supports special-status plant or wildlife species) should range from 35 to 250 feet to minimize edge effects from future development, and balance the need to protect ecological functions with surrounding land uses and private property constraints.[203] A 100-foot buffer is*

202 Calculated based on the square root of the lot area.

203 County of Santa Clara, City of San Jose, City of Morgan Hill, City of Gilroy, Santa Clara Valley Water District, and Santa Clara Valley Transportation Authority. 2012. Final Santa Clara Valley Habitat Plan. August. https://scv-habitatagency.org/DocumentCenter/View/136.

the recommended setback for riparian corridors, streams, lakes, and wetlands. [204, 205, 206, 207] *A 60-foot buffer is the recommended setback for prominent ridgelines.* [208, 209]

- *Along major perennial and intermittent stream systems, maintain a 500-foot buffer of native vegetation along each side of the low-flow channel to provide wildlife cover and protect wildlife during periods of flooding.*

5.3.2 Fencing and Physical Barriers

Physical barriers such as fences, berms, walls, and steeply cut slopes can interfere with wildlife movement within WMPs. Additionally, certain fence materials and designs present risks of entanglement and impalement of wildlife. Medium- to large-size mammals, such as deer, as well as flying creatures can become impaled on sharp fencing top posts or tangled in fences topped with barbed or razor wire while woven wire fencing can trap wildlife trying to fit through the wire openings. Fencing that extends to ground can impede the movement of ground-dwelling animals, such as deer fawns and other mammals where they are unable to jump, dig, or climb. Steeply cut slopes and berms can also reduce WMP function.

Physical barriers can also be beneficial to wildlife when used for directing wildlife movement to safe crossing locations, reducing negative wildlife-human interactions, and buffering the effects of noise and lighting. To ensure guidelines are beneficial to wildlife, it is recommended that location-specific parameters be applied on a case-by-case basis to distinguish between areas where wildlife movement should be encouraged (e.g., fencing/barriers funneling wildlife towards a wildlife crossing structure or open natural area) versus locations where wildlife movement should be discouraged (e.g., away from road hazards, developed areas).

Recommendations:

- *Within natural open space areas, fencing should be wildlife-permeable (i.e., that wildlife can pass through, such as a split-rail fence). Within developed/non-natural open space areas, fencing should be wildlife-friendly (i.e., that is not likely injure, impale, or entangle wildlife). Any non-permeable fencing within non-natural open space areas should not intersect WMPs or otherwise obstruct wildlife movement within the WMP.*

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204 Beier, P., D. Majka, S. Newell, and E. Garding. 2008. *Best Management Practices for Wildlife Corridors*. January

205 City of Los Angeles. 1992. Mulholland Scenic Parkway Specific Plan. Ordinance No. 167,943. Adopted May 13, 1992. Specific Plan Procedures Amended pursuant to L.A.M.C. Section 11.5.7. Design Review Board Procedures Amended pursuant to L.A.M.C. Section 16.50. A Part of the General Plan - City of Los Angeles. www.lacity.org/pln/index.htm.

206 City of San Diego. 1999. San Diego Municipal Code. Land Development Code. Biology Guidelines. Adopted September 28, 1999, Amended April 23, 2012 by Resolution No. R-307376.

207 County of Ventura. 2016. Ventura County General Plan. Goals, Policies, and Programs. Last Amended by the Ventura County Board of Supervisors on December 13, 2016.

208 City of Los Angeles. 1992. Mulholland Scenic Parkway Specific Plan. Ordinance No. 167,943. Adopted May 13, 1992. Specific Plan Procedures Amended pursuant to L.A.M.C. Section 11.5.7. Design Review Board Procedures Amended pursuant to L.A.M.C. Section 16.50. A Part of the General Plan - City of Los Angeles. www.lacity.org/pln/index.htm.

209 City of Los Angeles. 2004. San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan. Ordinance No. 175,736. Adopted December 19, 2003; Effective February 8, 2004. Specific Plan Procedures Amended pursuant to L.A.M.C. Section 11.5.7. A Part of the General Plan - City of Los Angeles. www.lacity.org/pln/index.htm.

- *All fencing should be wildlife-permeable where wildlife movement "funnels" (i.e., impassable obstacles or barriers to movement that guide wildlife towards another area, such as an open natural area) are present within PAWs and WMPs, such as those created by steep topography, existing development, highways, walls, etc.*
- *Wildlife-friendly fencing should avoid use of the following materials: barbed wire, razor wire, and fencing with pointed or narrow extensions on top (e.g. metal pickets). Woven wire fencing is also hazardous to wildlife and should be prohibited. Horizontal fence wires should be spaced at least 12 inches apart to reduce the risk of entanglement. Regardless of location, all hollow fence and sign posts, or posts with top holes, such as metal pipes or sign posts with open bolt holes, should be capped and the bolt holes filled to prevent the entrapment of bird species.*
- *Wildlife-permeable fencing should be no more than 42 inches high with a bottom opening of at least 18 inches above the ground for passage of small- to medium-sized mammals, such as deer fawns.[210,211] All wildlife-permeable fencing should incorporate wildlife-friendly fencing specifications (listed in the bullet above). Post and rail fencing is recommended as a wildlife-friendly and wildlife-permeable fence design.*
- *Walls, berms, and steep slope cuts that could potentially obstruct wildlife movement should not be installed within WMPs. If overriding circumstances require these structures, wildlife permeable designs should be used.*
  - *Wildlife permeable walls should either be less than 42 inches high with minimum 18-inch by 18-inch bottom openings every 150 to 300 feet[212,213] and at locations that funnel wildlife movement or, if over 42 inches high, should include wall breaks or ramps for wildlife passage every 150 to 300 feet and at locations that funnel wildlife movement.*
  - *Berms, embankments, and slope cuts over 42 inches high should include segments with slopes of 45 degrees or less.*
  - *Alternative fence, wall, and berm/slope designs based on publicly-available guidance and best available science to allow for the passage of the applicable wildlife species are also acceptable.*

5.3.3 Landscaping

The natural landscape of southern California is comprised of a variety of natural communities, including pine forests in the mountains; chaparral on steep hillsides; oak woodlands, coastal sage scrub, and native grasslands in the foothills; marshes, and riparian woodlands and forests in the valleys; and coastal bluffs and beaches along the coastline. Native vegetation has evolved with our local climate, soil types, and animals. Even areas that are currently developed once contained these natural habitats.

The native plants that make up these communities provide food and shelter for wildlife, stabilize slopes with their roots, sequester carbon, and filter pollutants from streams, among many other

210 Sonoma Land Trust. 2014. *Sonoma Valley Wildlife Corridor Project: Management and Monitoring Strategy*. Santa Rosa, CA.

211 County of Ventura. 2005. *Roads and Biodiversity Project: Guidelines for Safe Wildlife Passage*. June.

212 County of Ventura. 2005. Roads and Biodiversity Project: Guidelines for Safe Wildlife Passage. June.

213 Sonoma Land Trust. 2014. *Sonoma Valley Wildlife Corridor Project: Management and Monitoring Strategy*. Santa Rosa, CA.

ecological benefits. Although many types of vegetation can provide such ecosystem services, native plants in particular have evolved with local native wildlife species and provide habitat and resources to these animals. Additionally, native plants and natural communities require less water and maintenance than non-native landscaping plants.

Development has altered and in many ways negatively impacted natural habitats by replacing native habitat with structures and hardscape, and replacing native plants with non-native landscape plantings. Planting gardens, parks, and roadsides with plants native to southern California can help provide an important bridge to nearby remaining wildlands; however, most public areas such as parks that are not natural open space areas are landscaped with non-natives.

Landscaping can provide habitat to wildlife, but since the majority of landscaping is comprised or non-native "ornamental" species that have been imported from various regions around the world and planted for aesthetics, these non-native species do not necessarily support the native wildlife in the same way as natural communities do, and can alter the natural landscape of an area. Some landscaping does incorporate native species, but the majority of landscaped areas around developed areas, within residents' backyards, within landscaped parks, and along City streets are not native. Thus, wildlife that flourish in landscaped environments tend to be those species that are more urban-tolerant species. The conversion of natural areas to ornamental landscaping can degrade habitat within PAWs and WMPs can reduce their function, in addition to loss of habitat due to development, and other types habitat degradation associated with urbanization, including trespassing and unauthorized recreation (i.e., dirt bike trails, homeless camps), the introduction of invasive species, and brush clearing and thinning to maintain fire management zones.

Landscaping can also lead to the introduction of invasive species, which are species that generally not native to a specific location and spread prolifically to a degree believed to cause damage to the natural environment, and can degrade habitat quality and disrupt wildlife movement by forming dense impenetrable monocultures, providing unnatural fuel loads and increasing the risk of fire, and competing with native vegetation that would otherwise provide food and cover for wildlife. For example, Russian thistle (*Salsola tragus*) a common invasive plant on disturbed lands, creates "tumbleweeds" that can accumulate in drainages and culverts and impede wildlife movement. Giant reed (*Arundo donax*) can form dense stands in riparian corridors, blocking the movement of larger mammals. Invasive plants can also change natural community composition, which not only reduces habitat for native species to thrive, but also changes natural processes (such as wildfire frequency and intensity). A number of non-native grasses are highly invasive, and after decades of historic grazing of livestock throughout southern California that has removed native plants and spread invasive species, these non-native grasses provide fuel loads for the rapid spread of fire.

Wildfire

Fires have always been a natural component of ecosystems (e.g., from lightning and volcanic activity), and like wind, rain, and other natural forces, fires help create a patchwork of vegetation types, enrich the soil with organic nutrients, and start the succession (i.e., colonization) of pioneer plant species (e.g., allowing understory species to grow). Many native plants are well-adapted to fire, and can even help some native plant seeds to germinate. Fires also clear the forest of

underbrush, leaving ash and debris to supply nutrients to the soil, and opening the forest floor up to sunlight, which allows grasses, herbs, and regenerated shrubs to provide food for many wildlife species. Native Americans also regularly burned the vegetation to open up areas and to favor plants that attract game animals. Thus, these natural and human-caused fires have helped select vegetation types that have adapted to fire, and may depend on fires for their existence, such as heat-resistant seeds that need fire to germinate, or help them survive and reestablish after fires, such as "fire-resistant" roots also enable the plant to resprout quickly in recently burned areas.[214]

However, with the spread of development and infrastructure, the current number and frequency of unnatural human-caused wildfires (e.g., from arson, sparks from vehicles, and downed power lines) is becoming more prevalent in southern California annually with the wildland–urban interface being impacted the most by the destruction of wildfires.

Causes of Wildfires

Wildfires can start in a variety of ways but the majority of wildfires are caused by anthropomorphic (i.e., human-induced) means. Wildfires have been ignited by arson, sparks from vehicles or other equipment, and downed power lines and faulty electrical equipment. A study published in 2017 found that 84% of wildfires in the U.S were caused by human-related activity; the remaining 16% were caused by lightening.[215] In California, about 95% of fires that CalFire responds to are caused by humans. Anthropogenic ignitions tend to be concentrated near infrastructure with more fires now occurring at the wildland–urban interface than in the backcountry.[216]

Very High Fire Hazard Severity Zone

The California Department of Forestry and Fire Protection (CalFire) classified portions of the City of Los Angeles (City) as being a Very High Fire Hazard Severity Zone (VHFHSZ). The VHFHSZ is considered "any area within the City that poses a significant threat of fire from adjoining natural brush hillside areas and which is determined by the following factors: topography, infrastructure, fire protection, population density, types of construction, weather, existing fire codes and ordinances, and fire history."[217] Approximately 32% of the City is within the VHFHSZ designation. These areas include the Santa Monica Mountains, San Gabriel Mountains, Verdugo Mountains, and Palos Verdes Peninsula.

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214 California Department of Forestry and Fire Protection (Cal Fire). 1999. *Learning to Live with Fire*. August 1999. https://www.fire.ca.gov/media/8657/live_w_fire.pdf.

215 Balch, Jennifer K., et al. 2017. *Human-Started Wildfires Expand the Fire Niche across the United States*. PNAS, National Academy of Sciences, February 22, 2017. www.pnas.org/content/early/2017/02/21/1617394114.

216 Pyne, S. J. 2001. *Fire in America*. Princeton University Press. Princeton, New Jersey, USA.

217 City of Los Angeles. 1936. *City of Los Angeles Municipal Code*. Effective November 12, 1936. Current through December 31, 2019. Accessed January, 26, 2020. http://library.amlegal.com/nxt/gateway.dll/California/lamc/municipalcode/chapterxvrentstabilizationordinance?f=templates$fn=default.htm$3.0$vid=amlegal:lamc_ca$anc=JD_151.28.

Fuel Modification

A fuel modification zone is an area of defensible space around structures, such as buildings and road, where combustible native or ornamental vegetation has been cleared, modified, or partially or totally replaced with drought tolerant, fire retardant plants and maintained per local Fire Code requirements. Many cities and counties within southern California have set up requirements for fuel modification surrounding structures and building. Each fire department has specific guidelines for fuel modification including distances from a structure that fuel modification is required, landscaping and planting guidelines, and maintenance requirements.[218, 219, 220] However, all fire departments follow the same principles of 1) creating a defensible space surrounding the structure and 2) minimizing sources of ignition. A defensible space is the required clearance between a structure and surrounding natural vegetation that provides firefighters the room they need to defend a structure. The defensible space, which ranges from 100 feet to 200 feet depending on jurisdiction, creates a sufficient buffer around a structure that reduces the amount of direct flame and radiant heat from a wildfire. Most fire department separate the defensible space into "zones" with distance and clearance requirements for each zone.

Fuel Modification Requirements within the City of Los Angeles

The Los Angeles County Fire Code, which the City has adopted, requires the defensible space be separated into three zones, A, B, and C.[221] Within each of these zones, the sources of ignition, typically combustible vegetation, must be modified and/or partially or totally replaced with drought tolerant, fire resistant plants. The zone closest to the structure, Zone A, which extends 30 feet from any qualifying structure or the property line, is typically cleared of large shrubs and trees (including ornamental plants and trees known to be flammable), allowing only small herbaceous or succulent species to remain. Zone B, which extends 30 feet to 100 feet from any qualifying structure or the property line, is typically slightly denser in vegetation than Zone A but the creation of "ladder fuels" (i.e., low-level vegetation that allows the fire to spread from the ground to the tree canopy) is discouraged within this zone. Zone C, which extends 100 feet to 200 feet from any qualifying structure or the property line, requires routine maintenance for structures that are deemed an "extra hazard" according to Section 325.2.2 of the Los Angeles County Fire Code. The County also has Plant Selection Guidelines by Zone, which includes plant species that are not acceptable within a Fuel Modification Plan, as well as a Fuel Modification Plant List of acceptable plants.[222]

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218 Los Angeles County Fire Department. 2020. *Fuel Modification Guidelines*. www.fire.lacounty.gov/wp-content/uploads/2019/10/Plant-Selection-Fuel-Modification-Guidelines.pdf. Accessed January, 26, 2020.

219 Ventura County Fire Department. 2020. *Defensible Space and Field Modification Zones*. vcfd.org/images/FHRP/Standard-515---Defensible-Space-and-Fuel-Modification-Zones.pdf. Accessed January, 26, 2020.

220 San Diego City Fire Department. 2020. *Brush Management Requirements*. www.sandiego.gov/sites/default/files/legacy/fire/pdf/brushpdf.pdf. Accessed January, 26, 2020.

221 Los Angeles County Fire Department. 2020. *Forestry: Fuel Modification*. www.fire.lacounty.gov/forestry-division/forestry-fuel-modification/. Accessed January, 26, 2020.

222 Los Angeles County Fire Department. 2017. *Plant Selection Guidelines by Zone*. www.fire.lacounty.gov/wp-content/uploads/2017/03/Plant-List.pdf.

Fuel Modification Requirements within Other Areas

Other cities and counties follow similar requirements for maintaining defensible space around structures, though specific requirements vary by jurisdiction.

Ventura County Fire Protection District requires "an effective firebreak" within 100 feet of structures by removing and clearing away all combustible material, excluding protected species of trees, ornamental shrubbery, or similar plants used in landscaping and ground covers, provided they do not form a means of transmitting a fire from the native growth to a structure.[223,224] The Ventura County Fire Protection District also has a Prohibited Plant List,[225] which lists plants and trees that must be thinned and/or removed from existing defensible spaces or fuel modification zones, and are not allowed within a new required defensible spaces or fuel modification zones.

Within a hazardous fire area, San Diego County Fire Authority requires the area within 50 feet of a building or structure to be cleared of vegetation that is not fire resistant and re-planted with fire-resistant plants. For the area between 50 to 100 feet from a building all dead and dying vegetation must be removed, the lower limbs of trees should be removed to reduce "fire ladder", trees should be trimmed at least 10 feet away from chimneys, and trees and shrubs should be spaced to reduce the potential for a fire to spread.[226,227]

The City of San Diego understands that "in addition to protecting the public from fire hazards, the City also has a responsibility to protect sensitive biological resources. Brush management activity must be done in a manner that both reduces fire hazards and minimizes impacts to undisturbed native or naturalized vegetation." The city requires any property containing a habitable structure and native or naturalized vegetation is required to provide 100 feet of brush management in two distinct zones: Zone 1 and Zone 2.[228]

Brush Management Zone 1 typically extends 35 feet out from the habitable structure towards flammable vegetation, and occurs on the level portion of a property. Zone 1 must be maintained on a regular basis by thinning and pruning trees and plants, controlling weeds, and maintaining irrigation systems; plants should be primarily low-growing (less than 4 feet in height), low-fuel, and fire-resistive; and all portions of trees, other than the trunk, which extend within ten feet of a structure or the outlet of any chimney, must be cut back. Brush Management Zone 2 is the remaining 65 feet that extends beyond Zone 1, typically comprised of undisturbed vegetation on a slope subject to sensitive biological resource protections. Zone 2 must be maintained on a regular

223 Ventura County Fire Protection District. 2020. *Fire Hazard Reduction Program*. https://vcfd.org/fire-prevention/fire-hazard-reduction-program-fhrp. Accessed January 27, 2020.

224 Ventura County Fire Protection District. 2020. *Appendix W: Fire Hazard Reduction*. Ventura County Fire Code. VCFPD ORD NO. 30. https://vcfd.org/images/FHRP/Ord-30-Appendix-W-FHRP.pdf. Accessed January 27, 2020.

225 Ventura County Fire Protection District. 2019. *Prohibited Plant List*. April 19, 2019. https://vcfd.org/images/FHRP/410---Prohibited-Plant-List-4-2019.pdf.

226 San Diego County Fire Authority. 2020. *Prevention FAQ*. https://www.sandiegocounty.gov/content/sdc/sdcfa/prevention/faq.html. Accessed January 27, 2020.

227 San Diego County Fire Authority. 2020. *Defensible Space*. https://www.sandiegocounty.gov/content/sdc/sdcfa/prevention/defensible-space.html. Accessed January 27, 2020.

228 San Diego Fire-Rescue Department. 2014. *Brush Management Requirements*. Revised August 19, 2014. https://www.sandiego.gov/sites/default/files/legacy/fire/pdf/brushpdf.pdf.

basis by controlling weeds and removing invasive species, and permanent irrigation is not allowed within this zone. Selective thinning and pruning of native and non-native plants is required to reduce the fuel-load; however, no grading or grubbing of native plants, soils or habitats is allowed, and non-native plants must be pruned before native plants. Violators are responsible for restoration and mitigation costs. Additionally, brush management activity is not allowed March 1 through August 15 in coastal sage scrub, maritime succulent scrub, or coastal sage-chaparral habitats.

Wildlife Abatement Strategies and Best Practices

In addition to maintaining defensible spaces, many fire departments have recently embraced the use of certain types of fire-resistant native vegetation within the fuel modification zones.[229, 230, 231, 232] They acknowledge that although some native plants are well-adapted to fire and combustible, there are also some native plants are more fire-resistant species and are not as susceptible to ignition as are some fast growing non-native weeds and invasive wild grasses. Some native vegetation burns slower, grows slower, and has lower maintenance requirements than their non-native counterparts, which makes them valuable plants to be used in a fuel modification zone. In recent years, the focus has evolved into finding native plants with low volume and height, and therefore, species that would output less heat when caught on fire, as well as some degree of fire resistance.[233]

Following a fire, heavy rains can contribute to soil erosion, slope instability, and mudslides among other issues, due to a lack of vegetation to stabilize the soils. Some native plant communities, such as chaparral, have the capacity to regenerate from resprouting from rootstocks and dormant seed banks.[234] However, hydroseeding, which is a seeding process that uses a mixture of seed and mulch along with other ingredients (e.g., fertilizer, tackifying agents, and fiber mulch) is often used as a soil stabilization technique to encourage vegetation recovery. The slurry is sprayed over an area of prepared soil from a truck-mounted tank to seed an area and promote growth of new vegetation (e.g., ground cover, wildflowers, shrubs).[235] However, spreading seed to reestablish vegetation after a fire may not be the most effective method for reducing slope erosion, and hydroseeded areas are not always comprised of native plant species.

229 Ventura County Fire Department. 2019. *Fire Hazard Reduction Program Plant Reference Guide*. Updated April 2019. vcfd.org/images/FHRP/Plant%20Reference%20Guide%20rev%204-2019.pdf.

230 Los Angeles County Fire Department. 2017. *Plant Selection Guidelines by Zone*. www.fire.lacounty.gov/wp-content/uploads/2017/03/Plant-List.pdf.

231 Orange County Fire Authority. 2017. *Technical Design for New Construction Fuel Modification Plans and Maintenance Program*. www.ocfa.org/Uploads/CommunityRiskReduction/OCFA%20Guide-C05-Fuel%20Modification.pdf.

232 Los Angeles Fire Department. 2020. *MRCA Information*. Accessed February 4, 2020. https://www.lafd.org/fire-prevention/brush/mrca-information.

233 Moore, Howard E. 1981. *Protecting Residences from Wildfires: A Guide for Homeowners, Lawmakers, and Planners*. United States Department of Agriculture, Forest Service. Pacific Southwest Forest and Range Experiment Station. May 1981. https://www.fs.fed.us/psw/publications/documents/psw_gtr050/psw_gtr050.pdf.

234 Keeley, Jon. 2007. *Appropriate Postfire Management for the 2007 Griffith Park Fire*. Watershed Wise. The Newsletter of Los Angeles & San Gabriel Rivers Watershed Council. The Fires This Time: Post-Fire Recovery Best Pr2007. actices. Fall 2007. https://www.firescience.gov/projects/04-1-2-01/project/K2007_GriffithParkRecovery.pdf.

235 Canyon Hydroseeding. 2020. *Revegetation After the Wildfires*. Accessed February 4, 2020. http://hydroseedingsocal.com/revegetation-after-the-wildfires/.

The introduction of non-native or even invasive plant species through hydroseeding may create competition for native plants and alter the local ecosystem, and may even contribute to a flammable fuel load, such as invasive, non-native grasses do. Mulch or hay bales have proven to be more effective and more predictable for reducing slope erosion than seeding, but should be "weed-free" hay so as not to introduce exotic species.[236]

The responsibility of wildfire prevention doesn't rest solely on fire departments. City planners and utility administrators should also consider fire hazards in designing and planning development, transportation, and infrastructure, including utility lines. Clustered development, particularly adjacent to areas that are already developed, would limit sprawling communities, which may limit the need for expanded utilities and infrastructure into rural areas and also limit the amount of defensible space needed around structures.[237] If open space areas and parks are designed to abut wildlands, this would provide an additional buffer against wildfires. Utility administrators could also design new electrical lines to be undergrounded instead of installing overhead lines, thus lowering the risk of wildfire ignition being sparked from a downed power line; however, this can be much costlier to install and maintain.[238]

Recommendations:

- *The use of native plants in landscaping should be encouraged to provide habitat and conserve water. Native plants selected for landscaping should be appropriate for the area (i.e., so that desert species are not selected for coastal area, or wetland species are not planted on a dry upland slope), and preferably with species endemic to an area (i.e., a plant native to northern California would not necessarily flourish in a southern California environment).*
- *If areas within PAWs or WMPs are planted, these areas should be restored to natural conditions before these areas were disturbed by development and planted with native plants.*

236 Keeley, Jon. 2007. *Appropriate Postfire Management for the 2007 Griffith Park Fire.* Watershed Wise. The Newsletter of Los Angeles & San Gabriel Rivers Watershed Council. The Fires This Time: Post-Fire Recovery Best Pr2007. actices. Fall 2007. https://www.firescience.gov/projects/04-1-2-01/project/K2007_GriffithParkRecovery.pdf.

237 Moore, Howard E. 1981. *Protecting Residences from Wildfires: A Guide for Homeowners, Lawmakers, and Planners*. United States Department of Agriculture, Forest Service. Pacific Southwest Forest and Range Experiment Station. May 1981. https://www.fs.fed.us/psw/publications/documents/psw_gtr050/psw_gtr050.pdf.

238 Alonso, Frank and Carolyn A. E. Greenwell. *Underground vs. Overhead: Power Line Installation-Cost Comparison and Mitigation*. Outage Management, T&D, Transmission. Issue 2 and Volume 18. https://www.power-grid.com/2013/02/01/underground-vs-overhead-power-line-installation-cost-comparison/#gref.

- *For areas within or adjacent to PAWs or WMPs (i.e., within a 100-foot buffer[239, 240, 241, 242]), landscape plans should avoid the use of invasive species. Invasive species are defined as having a California Invasive Plant Council (Cal-IPC) rating of moderate or higher, or are considered invasive by the California Invasive Species Advisory Committee.*
- *Where brush management zones for existing development encroach or overlap PAWs and WMPs and require the thinning of native vegetation, in addition to mitigating the native habitat offsite, oak trees or other fire-safe native vegetation should be planted and maintained within these brush management zones.*
- *When establishing proportional development limitations, brush management zones should not be considered natural open space areas unless they are maintained as native habitats.*
- *Along major perennial and intermittent stream systems, maintain a 500-foot buffer of native vegetation along each side of the low-flow channel to provide wildlife cover and protect wildlife during periods of flooding.*
- *Within fuel modification zones, plant fire-resistant native vegetation, preferably native plants with low volume and height.*
- *The County's Plant Selection Guidelines by Zone should continue to be updated with new information about fire-resistant native plant species and/or invasive species to avoid and remove.*
  - *Invasive species include plants that are rated as "moderate" or "high" on the California Invasive Plant Council's (Cal-IPC) Inventory, a list that categorizes invasive plants that threaten California's natural areas.[243]*
- *Fuel modification Zones B and C should be maintained on a regular basis by controlling weeds and removing invasive species, and permanent irrigation should not be allowed within these zones.*
  - *Selective thinning and pruning of native and non-native plants is allowed to reduce the fuel-load, but non-native plants should be pruned before native plants.*
  - *No grading or grubbing of native plants, soils, or habitats should be allowed. Violators should be responsible for restoration and mitigation costs if necessary.*
- *If it is suspected that sensitive plants could occur on your site, hire a qualified botanist to conduct surveys during the appropriate blooming season.*

239 This buffer is based on the recommended minimum buffer for setbacks from streams and/or wetland habitats in the Mulholland Scenic Parkway Specific Plan, City of San Diego Land Development Code – Biology Guidelines, and County of Ventura General Plan to minimize detrimental edge effects from development.

240 City of Los Angeles. 1992. Mulholland Scenic Parkway Specific Plan. Ordinance No. 167,943. Adopted May 13, 1992. Specific Plan Procedures Amended pursuant to L.A.M.C. Section 11.5.7. Design Review Board Procedures Amended pursuant to L.A.M.C. Section 16.50. A Part of the General Plan - City of Los Angeles. www.lacity.org/pln/index.htm.

241 City of San Diego. 1999. San Diego Municipal Code. Land Development Code. Biology Guidelines. Adopted September 28, 1999, Amended April 23, 2012 by Resolution No. R-307376.

242 County of Ventura. 2016. Ventura County General Plan. Goals, Policies, and Programs. Last Amended by the Ventura County Board of Supervisors on December 13, 2016.

243 California Invasive Plant Council. 2020. *The Cal-IPC Inventory*. Accessed February 5, 2020. https://www.cal-ipc.org/plants/inventory/.

- *Brush management activity should not be allowed February 1 through August 31 in all habitats, native and ornamental, unless a nesting bird survey is conducted prior to activities to avoid impacting active nests and young birds.*
- *Avoid ground disturbance that can damage or destroy ground burrows, which provide shelter for small animals (e.g., snakes, lizards, toads, rodents, squirrels). Brush management activities should mow or trim vegetation a few inches above the ground so that the roots and soil are undisturbed, which would also reduce the risk of erosion.*[244]
- *Slope stabilization techniques, such as mulch or hay bales, should be "weed-free" hay so as not to introduce exotic species.*
- *If hydroseeding is conducted, hydroseed slurry should be free of invasive plant seeds. Native seed is preferable to non-native seed.*
- *When accessing a burned area, workers and fire crews should clean the underside of vehicles, equipment, and their gear to prevent the spread of invasive weed seeds and mud (that may contain seeds), which can act as mediums for dispersal.*[245]
- *Cluster development to limit urban sprawl and the need for expanded utilities, infrastructure, and the amount of defensible space needed around structures.*
- *Consider maintaining swaths of native habitat as connections between important habitat areas.*[246]
- *Reduce risk of wildfire ignition by installing underground power lines instead of overhead lines.*

5.3.4 Lighting

Light pollution that spills into PAWs and WMPs can alter wildlife behavior, disorient wildlife, cause temporary night blindness, and reduce the function of PAWs and WMPs. In a study of juvenile mountain lion dispersal in fragmented habitats within California, darkness was a key component of the habitat corridors used by the dispersing juveniles.[247] Beier noted instances in which mountain lions would wait until dawn to cross lit highways, likely because of their inability to see the areas that lie beyond the artificially lit areas. Even moonlight is known to alter wildlife behavior, with a variety of nocturnal mammals avoiding open areas in moonlit conditions (e.g., reducing use of open areas, duration of activities, and restricting foraging activities and movement until the darkest periods of night), which is likely due to increased predation

244 County of San Diego. 2008. *A Workshop for Community Wildfire Protection Plan Projects - Featuring How to Comply With Environmental Regulations*. November 12, 2008. https://www.fws.gov/cno/docs/fire/SanDiegoHandout.pdf.

245 Knapp, John. 2007. *Lessons from Catalina Ialand: Managing Invasive Plants Before and After a Fire. Catalina Island Conservancy*. Watershed Wise. The Newsletter of Los Angeles & San Gabriel Rivers Watershed Council. The Fires This Time: Post-Fire Recovery Best Pr2007. actices. Fall 2007. https://www.firescience.gov/projects/04-1-2-01/project/K2007_GriffithParkRecovery.pdf.

246 County of San Diego. 2008. *A Workshop for Community Wildfire Protection Plan Projects - Featuring How to Comply With Environmental Regulations*. November 12, 2008. https://www.fws.gov/cno/docs/fire/SanDiegoHandout.pdf.

247 Beier, P. 1995. *Dispersal of Juvenile Cougars in Fragmented Habitat*. The Journal of Wildlife Management, 59(2), 228-237. doi:10.2307/3808935.

risk.[248,249] Light pollution can be reduced by placing restrictions on the intensity, type, and directional focus of lighting as well as by blocking light sources with visual barriers such as vegetation, walls, and berms.

Recommendations:

- *For all outdoor lighting within 500 feet[250] of PAWs and WMPs:*
  - *Lighting should be directed away from natural open space areas, PAWs, and WMPs. Lighting should be directed down toward the ground whenever possible and light sources should be shielded to have limited or no light trespass at 500 feet. Street lights should be shielded so that the pattern of illumination is below the horizontal plane of the light fixture, and any accent lighting (such as floodlights on the ground pointing upward to illuminate buildings) should be designed to point down instead, or should turned off during migration seasons when weather conditions could contribute to attraction and mortality.[251]*
  - *Where development would result in a noticeable increase in ambient light levels within PAWs or WMPs, visual barriers (such as vegetation, berms, or walls) should be included in the project design to reduce light pollution.*
  - *Lighting should be fully shielded and should not exceed 1,260 lumens, with the exception of one partly-shielded or unshielded luminaire at the main entry that should not exceed 420 lumens, and any other partly shielded or unshielded luminaires that should not exceed 315 lumens.*
  - *Lighting should be designed such that it produces a maximum initial luminance value no greater than 0.10 horizontal and vertical footcandles (1.0 horizontal and vertical lux) at the property boundary and no greater than 0.01 horizontal footcandles (0.1 horizontal lux) 10 feet (3 meters) beyond the property boundary. A project's environmental analysis should document that no more than 2% of the total initial designed fixture lumens (sum total of all fixtures on site) are emitted at an angle of 90 degrees or higher from nadir (straight down). [252]*

5.3.5 Windows

Human-built structures have been recognized as a hazard to birds for more than a century.[253,254] However, the accelerated rate of urban development in recent years has seen the proliferation of radio and television towers, office buildings, power lines, cooling towers, emission stacks, and

248 Beier, Paul. 2006. "Effects of Artificial Night Lighting on Terrestrial Mammals." *Ecological Consequences of Artificial Night Lighting*. Edited by Catherine Rich and Travis Longcore. Island Press, 2006, pp. 19-42.

249 Florida Atlantic University. No Date. *Light Pollution Affects Mammals in the Environment*. http://cescos.fau.edu/observatory/lightpol-Mammals.html#Beier_LAN_Mammals

250 Recommended buffer based on professional judgement.

251 Gauthreaux Jr., S. and C. Belser. 2006. "Effects of Artificial Night Lighting on Migrating Birds." *Ecological Consequences of Artificial Night Lighting*. Edited by Catherine Rich and Travis Longcore. Island Press, 2006, pp. 67-93.

252 U.S. Green Building Council. n.d. Light Pollution Reduction. https://www.usgbc.org/credits/ss8

253 Cooke, W.W. 1888. Report on Bird Migration in the Mississippi Valley in the Years 1884 and 1885. U.S. Department of Agriculture, Div. Econ. Ornithol. Bulletin No. 2. 313 pp.

254 Kumlien, L. 1888. Observation on Bird Migration in Milwaukee. Auk 5(3): 325-328.

residential housing, all of which represent an increasing threat to flying birds.[255] Specifically, a high incidence of mortality was recorded in long-distance migrants.[256] Major factors contributing to the hazardous nature of human-built structures are: (1) the presence of artificial lights at night (as discussed above); and (2) the presence of reflective glass windows, which are potentially hazardous both day and night.[257]

In regards to collisions with glass, growing evidence supports the interpretation that, except for habitat destruction, collisions with clear and reflective sheet glass cause the deaths of more birds than any other human-related avian mortality factor.[258,259,260,261,262,263] As such, it is estimated that over 34 million birds are killed by window collisions each year in the U.S.[264] Birds generally act as if sheet glass and plastic in the form of windows and noise barriers are invisible to them. Lethal casualties result from head trauma after birds leave a perch from as little as one meter away in an attempt to reach habitat that is seen through, or reflected in, clear and tinted panes.[265,266,267,268,269,270] Higher strike rates were documented for glass surfaces that reflected densely vegetated areas than those glass surfaces opposite less-vegetated areas.[271] Birds that are not killed on impact may be stunned and predated by scavengers (e.g., crows). In addition, birds

255 Ogden, L. and J. Evans. 1996. Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds. Published by World Wildlife Fund Canada and the Fatal Light Awareness Program. September. 46 pages.

256 O'Connell, T.J. 2001. Avian Window Strike Mortality at a Suburban Office Park. The Raven 72(2): 142-149.

257 Ogden, L. and J. Evans. 1996. Collision Course: The Hazards of Lighted Structures and Windows to Migrating Birds. Published by World Wildlife Fund Canada and the Fatal Light Awareness Program. September. 46 pages.

258 Klem Jr., D. 1989. Bird-Window Collisions. Wilson Bulletin 101:606–620.

259 Klem Jr., D. 1990. Collisions between Birds and Windows: Mortality and Prevention. Journal of Field Ornithology 61:120–128.

260 Klem Jr., D. 2006. Glass: A Deadly Conservation Issue for Birds. Bird Observer 34:73–81.

261 Erickson, W.P., G.D. Johnson, M.D. Stickland, D.P. Young Jr., K.J. Sernka, and R.E. Good. 2001. Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons to Other Sources of Avian Collisions Mortality in the United States. National Wind Coordinating Committee, Washington, D.C., USA.

262 Manville II, A.M. 2005. Bird Strike and Electrocutions at Power Lines, Communication Towers, and Wind Turbines: State of the Art and State of the Science - Next Steps Toward Mitigation. Pages 1051– 1064 in Bird Conservation Implementation in the Americas: Proceedings 3rd International Partners in Flight Conference 2002 (C. J. Ralph and T. D. Rich, Editors). USDA, Forest Service, General Technical Report PSW-GTR-191. Pacific Southwest Research Station, Albany, California, USA.

263 Manville II, A.M. 2008. Towers, Turbines, Power Lines, and Buildings-Steps Being Taken by the U.S. Fish and Wildlife Service to Avoid or Minimize Take of Migratory Birds at these Structures. Proceedings 4th International Partners in Flight Conference 2008, McAllen, Texas, USA. USDA, Forest Service Technical Report. In Press.

264 Klem Jr., D, C.J. Farmer, N. Delacretaz, Y. Gelb, and P. Saenger. 2009. Architectural and Landscape Risk Factors Associated with Bird–Glass Collisions in an Urban Environment. The Wilson Journal of Ornithology 121(1):126–134.

265 Klem Jr., D. 1990. Bird Injuries, Cause of Death, and Recuperation from Collisions with Windows. Journal of Field Ornithology 61:115–119.

266 Klem Jr., D. 2006. Glass: A Deadly Conservation Issue for Birds. Bird Observer 34:73–81.

267 Klem Jr., D. 2009. Preventing Bird–Window Collisions. The Wilson Journal of Ornithology 121(2):314–321.

268 Klem Jr., D. 2009. Avian Mortality at Windows: The Second Largest Human Source of Bird Mortality on Earth. Proceedings of the Fourth International Partners in Flight Conference: Tundra to Tropics. 244–251

269 Klem Jr., D, D.C. Keck, K.L. Marty, A.J. Miller Ball, E.E. Niciu, and C.T. Platt. 2004. Effects of Window Angling, Feeder Placement, and Scavengers on Avian Mortality at Plate Glass. Wilson Bulletin 116:69–73.

270 Veltri, C.J. and D. Klem Jr. 2005. Comparison of Fatal Bird Injuries from Collisions with Towers and Windows. Journal of Field Ornithology 76:127– 133.

271 Gelb, Y. and N. Delacretaz. 2006. Avian Window Strike Mortality at an Urban Office Building. The Kingbird 2006 September; 56 (3)

can interpret their reflection as a rival and repeatedly attacks a pane attempting to defend its territory from itself.[272] While there is no established thresholds for window size, building structure, time of day, season of year, or set of weather conditions during which birds elude the fatal hazards of glass in urban, suburban, or rural environments, it is recommended that the city consider minimum requirements for increasing avian survivorship.[273]

Recommendations:

- *For all structures with windows within or adjacent to PAWs and WMPs:*
  - *To minimize the hazards that glass poses to birds, create visual markers. This helps indicate to birds that glass windows are solid objects to be avoided.[274]*
    - *The denser the pattern the more effective it becomes in projecting itself as a solid object to birds. Birds begin to perceive buildings as objects to be avoided when the distances between features or patterns on glass is at approximately 11 inches, with the most effective pattern distance at 4 inches or less, and uniformly cover the entire glass surface.*
    - *This can include patterned or etched glass, a patterned film over the glass, decals, multiple paned glass, or exterior grills or window coverings.*
    - *Applications that combine alternating and contrasting UV-reflecting and UV-absorbing patterns to existing clear and reflective windows can be seen by birds as barriers to avoid and to prevent bird strikes while offering little or no visual distraction for humans.[275]*
    - *One-way films that result in a complete translucent or opaque covering when viewed from outside, but only weakly diminish the view from inside, were also confirmed to be effective strike deterrents.[276]*
  - *An alternate, but less effective, strategy is to mute reflections in glass.[277]*
    - *Glass panes can be angled to project reflected images downward. Angles become effective at a minimum angle of 20 degrees, though 40 degrees is more effective.[278]*
    - *If glass is non-reflective, the installation of internal screens may provide enough visual markers for birds to perceive windows as solid objects. They must be installed as close to the glass as possible to be most effective.*
    - *Awnings, overhangs, and external sunshades are all designed to reduce direct sunlight and provide shade, and can also mute image reflections in glass.*

272 Klem Jr., D. 2006. Glass: A Deadly Conservation Issue for Birds. Bird Observer 34:73–81.

273 Klem Jr., D. 1989. Bird-Window Collisions. Wilson Bulletin 101:606–620.

274 City of Toronto. 2007. Bird-Friendly Development Guidelines. City of Toronto Green Development Standard. March 2007. www.toronto.ca/lightsout. www.toronto.ca/environment/greendevelopment.htm.

275 Klem Jr., D. 2009. Preventing Bird–Window Collisions. The Wilson Journal of Ornithology 121(2):314–321.

276 Klem Jr., D. 2009. Preventing Bird–Window Collisions. The Wilson Journal of Ornithology 121(2):314–321.

277 City of Toronto. 2007. Bird-Friendly Development Guidelines. City of Toronto Green Development Standard. March 2007. www.toronto.ca/lightsout. www.toronto.ca/environment/greendevelopment.htm.

278 Klem Jr., D, D.C. Keck, K.L. Marty, A.J. Miller Ball, E.E. Niciu, and C.T. Platt. 2004. Effects of Window Angling, Feeder Placement, and Scavengers on Avian Mortality at Plate Glass. Wilson Bulletin 116:69–73.

- *Any of these glass treatments should be applied to an entire building if possible, but at minimum, window applications should be applied in the first 40 feet above grade, or to the height of the top of the surrounding tree canopy or the anticipated height of the surrounding vegetation at maturity, whichever is most conservative.*[279]
- *If planting of landscapes nearby a building is desirable, situate trees and shrubs immediately adjacent to the exterior glass walls, at a distance of less than three feet from the glass. The close proximity would obscure habitat reflections as well as minimize fatal collisions by reducing birds' flight momentum from the vegetation towards the glass. This would also provide beneficial shading in the summertime.*[280]

5.3.6 Noise

Similar to light pollution, noise can alter wildlife behavior and reduce the function of PAWs and WMPs. Mitigation of noise impacts can be accomplished through use of setback buffers and/or construction of attenuation structures, such as berms or walls. Berms offer noise buffering with less restriction to wildlife movement while walls may be constructed to either deter or allow for wildlife movement, depending on their location. Traffic noise was a commonly identified barrier to movement in the WMPs, and 300 feet is the typical distance needed to attenuate heavy traffic noise to 60 dBA. A 60 dBA threshold for noise disturbance to wildlife is based on laboratory masking studies showing the effects of continuous noise on sound detection in birds.[281]

Recommendations:

- *In areas within PAWs and WMPs, or immediately adjacent (i.e., within a 300-foot buffer), noise should not exceed residential noise standards (as measured at the edge of the PAW or WMP).*
- *For development projects (e.g., construction) or other land uses that may introduce noise that would exceed residential noise standards and could impact or interfere with the function of PAWs and WMPs, attenuation structures (such as berms or temporary sound walls) should be erected, or setback buffers implemented to minimize noise.*

5.3.7 Poison

Poisons, particularly anticoagulant[282] rodenticides, are well known for their unintended impacts on wildlife species that consume poisoned rodents. Impacts can include direct mortality or reduced immune function allowing the spread of other opportunistic diseases, such as mange.[283] First-generation anticoagulants generally require several successive days of feeding to kill rodents while second-generation anticoagulants are more likely to kill after a single night's feeding and remain in tissues longer. Second-generation products are considered to pose greater risks to

279 City of Toronto. 2007. Bird-Friendly Development Guidelines. City of Toronto Green Development Standard. March 2007. www.toronto.ca/lightsout. www.toronto.ca/environment/greendevelopment.htm.

280 New York City Audubon. 2007. Bird-Safe Building Guidelines. Published by: New York City Audubon Society, Inc., May 2007.

281 California Department of Transportation (Caltrans). 2016. Technical Guidance for Assessment and Mitigation of the Effects of Traffic Noise and Road Construction Noise on Birds. June.

282 Anticoagulants interfere with blood clotting and cause death from excessive bleeding.

283 Serieys, L.E., A.J. Lea, M. Epeldegui, T.C. Armenta, J. Moriarty, S. VandeWoude, et al. 2018. *Urbanization and Anticoagulant Poisons Promote Immune Dysfunction in Bobcats*. Proc. R. Soc. B 2018 285 20172533; DOI: 10.1098/rspb.2017.2533. Published 17 January 2018.

wildlife that might feed on poisoned rodents and these products are no longer are registered for use in products geared toward consumers and are registered only for the commercial pest control and structural pest control markets. In addition, State Legislation Assembly Bill 1788, which passed in 2020, prohibits the use of any second generation coagulant rodenticide in the State, with a few exceptions. However, first-generation anticoagulants have been implicated in the poisonings of local bobcats and the P-22 mountain lion that occupies Griffith Park.[284]

To determine a recommended buffer for rodenticide use, the average home range diameters of native and non-native rodent species that are likely to occur along the urban-wildland interface were considered, including Norway rat (100 feet), dusky-footed woodrat (200 feet), and California ground squirrel (130-160 feet).[285, 286] Based on these distances, restricting rodenticide use on properties immediately adjacent to or within a 200-foot buffer of PAWs and WMPs that contain natural habitat could significantly reduce poisoning of mammalian predators. In addition to mammalian predators, raptor species that commonly hunt rodents, such as great-horned owls, barn owls, and red-tailed hawks, are at high risk of secondary poisoning and are capable of traveling greater distances to forage. Poisoned raptors that die within PAWs may be scavenged by other wildlife species, thereby introducing poisons into the food chain from a broader area. Although highly variable, red-tailed hawks and great-horned owls are generally known to forage distances of roughly one mile from nest sites. Broader restrictions on anticoagulant rodenticides are recommended to include these areas.

Recommendations:

- *The use of all general rodenticides, pesticides, and poisons with the potential to harm non-target wildlife should be prohibited. If these products must be used, they should be prohibited within 200 feet of PAWs and WMPs.*
- *The use of anticoagulant rodenticides should be prohibited within one mile of PAWs and WMPs and within all open space areas and natural habitat areas. Recommended alternative rodent control options include bird-safe traps for general rodent control and smoke/carbon monoxide treatment for ground squirrels.*
- *These measures should be implemented by residents, pest control providers operating within the City, City maintenance staff, and Homeowners Associations (HOAs). This measure should be included as part of Conditions, Covenants, and Restrictions prior to recordation of final tract maps as a condition of project approval.*
- *Adoption of a future City Resolution as follows is encouraged: The City Council urges businesses in Los Angeles to no longer use or sell anticoagulant rodenticides, urges all property owners to cease purchasing or using anticoagulant rodenticides on their properties, and commits the City of Los Angeles to not use anticoagulant rodenticides as part of its maintenance program for City-owned parks and facilities. Alternative strategies for*

284 NPS. 2014. *Griffith Park Mountain Lion Exposed to Poison, Suffering from Mange*. News Release. April 17.

285 Cranford 1977 and Lynch et al. 1994 as cited in Innes, R.J., D.H. Van Vuren, D.A. Kelt, M.L. Johnson, J.A. Wilson, and P.A. Stine. 2007. *Habitat Associations of Dusky-Footed Woodrats (Neotoma fuscipes) in Mixed-Conifer Forest of the Northern Sierra Nevada*. Journal of Mammalogy, Volume 88, Issue 6, 1 December 2007, Pages 1523–1531, https://doi.org/10.1644/07-MAMM-A-002R.1.

286 Timossi, I.C., and R.H. Barrett. 1995. *Habitat Suitability Models for Use with ARC/INFO: California ground squirrel*. California Department of Fish and Game, CWHR Program, Sacramento, CA. CWHR Tech. Report No. 3. 16 pp.

addressing nuisance rodents should use non-toxic, natural method, such as installing raptor nesting platforms and owl boxes, planting mint or bulbs of plants that squirrels avoid (daffodils, hyacinths, snowdrops, allium), and spraying them with motion-activated sprinklers, and removing food sources (fallen fruits, nuts, and seeds).

5.3.8 Traffic

Road crossings within WMPs are a particular threat to wildlife. Dangerous road crossings can function as "population sinks" resulting in lower wildlife densities near roadways. While traffic impacts that occur within transportation easements are largely outside of City jurisdiction, City policy can still mitigate some of these impacts. Potential measures within the scope of policy development include implementing local speed limits within WMPs, limiting development density within areas primarily accessed by roads crossing through WMPs, and requiring installation of wildlife culverts or overpass crossings where a single large development or subdivision of lots could contribute to traffic impacts on wildlife.

Recommendations:

- *New developments or zoning changes that could result in a significant increase in traffic along roadways that intersect WMPs and lack wildlife crossings (i.e. bridges or adequate culvert tunnels) should mitigate for these impacts by funding the installation of wildlife crossing structures or other methods.*
- *All major riparian crossings within WMPs should use bridges instead of culverts where feasible, and use wildlife-deterrent fencing to direct wildlife movement toward the wildlife underpass.*[287,288] *The design should be determined based on the site of the riparian crossing and its importance as a wildlife corridor.*
- *Where driveways, walkways, or other structures associated with development bisect WMPs, the need for underpasses or culverts, or multiple crossing structures to promote passage for all species likely to use a given area should be considered, and should be designed to accommodate species that use the WMP.* [289] *WMPs crossings used by mule deer should include bridges or culverts that are at least 30 feet wide by 15 feet high with a maximum 2:1 length-to-width ratio, preferably with a natural earthen bottom, and if feasible the ceiling constructed using skylights to provide adequate visibility for wildlife.*[290,291] *For WMPs used by coyotes, bobcats, badgers, skunks, foxes and long-tailed weasels, box or pipe culverts may be acceptable. Minimum culvert diameter should consider the size of the species using the structure and their tolerance for confinement.*

287 Beier, P., D. Majka, S. Newell, and E. Garding. 2008. *Best Management Practices for Wildlife Corridors*. January

288 Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, R. Sauvajot, S. Riley, and D. Kamradt. 2006. *South Coast Missing Linkages Project: A Linkage Design for the Santa Monica-Sierra Madre Connection*. Produced by South Coast Wildlands, Idyllwild, CA. www.scwildlands.org, in cooperation with the National Park Service, Santa Monica Mountains Conservancy, California State Parks, and The Nature Conservancy.

289 Sonoma Land Trust. 2014. *Sonoma Valley Wildlife Corridor Project: Management and Monitoring Strategy*. Santa Rosa, CA.

290 City of San Diego. 1997. *Multiple Species Conservation Program. City of San Diego MSCP Subarea Plan*. March 1997.

291 County of San Diego. 2010. *Biological Mitigation Ordinance*. Amended April 2.

5.3.9 Education

Another important part of conserving PAWs and WMPs is educating the communities and the public about the natural areas and wildlife that inhabit their communities.

Recommendations:

- *Landowners living within PAWs or WMPs or within 500-feet should be encouraged to be proud stewards of their environment and learn about living with wildlife and the importance of maintaining connectivity.*
- *Residents should keep their pets indoors or in enclosure (especially at night), understand the risk of wildlife preying on pets, and respect wildlife that may live within their area. Wild mammals should not be fed or provided water, so as not to attract them into urban areas or allow them to lose their fear of people, and trash and recycling receptacles should be wildlife-proof and securely stored.*[292]
- *Habitat conservation should also be encouraged with recreation by reminding local hikers to stay on trails, travel in groups in areas frequented by bears or mountain lions, keep dogs on leashes, and discourage collecting or harassing wildlife.*[293]

6. Conclusion and Recommendations

Future development will continue to threaten the City's biodiversity by further reducing and fragmenting the remaining natural resource areas and increasing pressure on wildlife to survive on dwindling habitat and resources. To maintain the biodiversity and ecological health within the City, prioritization should be given to conserving and enhancing the habitat areas necessary to sustain wildlife through the designation of PAWs, and to conserve and enhance connectivity for wildlife movement within the City through the designation of WMPs. The City should use the recommendations outlined in Section 5.3 above as ecological considerations to inform policies and regulations that can be used as the basis for development standards to avoid and minimize impacts to PAWs and WMPs.

Initially, regulations may be implemented in a Pilot Study Area. Once regulations are implemented in the Pilot Study Area, these regulations can be expanded for PAWs and WMPs throughout the City.

Planning should continue to coordination between other City departments (e.g. Department of Recreation and Parks,[294] LASAN, Department of Animal Services, Bureau of Engineering, Los Angeles Fire Department, Bureau of Street Services – Urban Forestry Division, Department of Public Works, Department of Building and Safety) to communicate wildlife conservation and connectivity objectives and determine how departments can better collaborate to promote conservation as well as determine where conflicting objectives may occur and cooperate to find solutions. Planning should also with collaborate outside entities (e.g. County of Los Angeles, CalTrans, NPS, UC Davis Road Ecology Center, NHMLAC) to coordinate on how to incorporate

292 Beier, P., D. Majka, S. Newell, and E. Garding. 2008. *Best Management Practices for Wildlife Corridors*. January.
293 Beier, P., D. Majka, S. Newell, and E. Garding. 2008. *Best Management Practices for Wildlife Corridors*. January.
294 Several areas within proposed PAWs are managed by Department of Recreation and Parks.

wildlife and connectivity considerations into future projects and to continue to improve data collection, such as new observations of important biological resources, new evidence of connectivity not previously known, or restoration of an area that may better inform the importance of a PAW or WMP, or even provide data to evaluate if a PAW or WMP should be revised or a new PAW or WMP not proposed in this report should be considered.

Appendix A
Representative Vegetation Associations

ESA

APPENDIX A
Representative Vegetation Communities

Coastal Sage Scrub

Subtypes

***Acmispon glaber* Alliance [Deerweed Scrub; CDFW Code 52.240.00; NPS SMM Code 3270] Sensitivity Rank G5S5**

This shrubland association occurs on gentle to steep slopes of variable aspect at low elevations. This community is characterized by the dominance of common deerweed (*Acmispon glaber*) in the shrub layer and a variety of mostly non-native herbs in the herbaceous layer. The emergent tree layer is generally absent.

***Artemisia californica* Alliance [California Sagebrush Scrub; CDFW Code 32.010.00; NPS SMM Code 3210] Sensitivity Rank G4S4**

This vegetation community has California sagebrush (*Artemisia californica*) as the dominant species. This is often a relatively closed scrub community without a well-developed understory. Herbaceous components include rancher's fireweed (*Amsinckia menziesii*), scarlet pimpernel (*Lysimachia arvensis*), coastal morning glory (*Calystegia macrostegia* ssp. *cyclostegia*), California sun cup (*Eulobus californicus*), white pincushion (*Chaenactis artemisiifolia*), blue dicks (*Dichelostemma capitatum*), whispering bells (*Emmenanthe penduliflora*), spotted hideseed (*Eucrypta chrysanthemifolia*), and manroot (*Marah macrocarpus*).

Associations found within the City:

Artemisia californica-Eriogonum fasciculatum Association [California Sagebrush-California Buckwheat Scrub; CDFW Code 32.110.00; NPS SMM Code 3371] Sensitivity Rank G4S4
Artemisia californica-Salvia mellifera Association [California Sagebrush-Black Sage Scrub; CDFW Code 32.120.00; NPS SMM Code 3421] Sensitivity Rank G4S4

***Atriplex lentiformes* Alliance [Quailbush Scrub; CDFW Code 36.370.00; NPS SMM Code 2330] Sensitivity Rank G4S4**

Quailbush scrub habitat is defined by the presence of halophytic shrubs, primarily quailbush (*Atriplex lentiformis*), with non-native herbs and forbs in the herbaceous layer. This habitat occurs on gentle to steep southeast- and southwest-facing slopes at lower elevations within coastal areas. Native monocultures can form within these areas.

Baccharis pilularis Alliance [Coyote Brush Scrub; CDFW Code 32.060.00; NPS SMM Code 2310] Sensitivity Rank G5S5

Coyote brush scrub consists of one primary species, coyote brush (*Baccharis pilularis*) often with shrubs of coastal sage, such as California sagebrush and purple sage (*Salvia leucophylla*), as subordinates. Sometimes coyote brush is codominant, usually in disturbed areas such as old fields, road banks, and stream and ravine borders. This community is often found on moist slopes, disturbed areas, and terraces with intermittent water availability.

Associations found within the City:

Baccharis pilularis/Annual Grass-Herb Association [Coyote Brush Scrub/Annual Grass-Herb; CDFW Code 32.060.20; NPS SMM Code 2311] Sensitivity Rank G5S5

Diplacus auranticus Alliance [Bush Monkeyflower Scrub; CDFW Code 32.082.00; NPS SMM Code 2170] Sensitivity Rank G3S3

This community has a shrub canopy that is dominated by the low facultatively drought deciduous bush monkey flower (*Diplacus auranticus*).

Encelia californica Alliance [California Bush Sunflower Scrub; CDFW Code 32.050.02; NPS SMM Code 3222] Sensitivity Rank G4S4

This vegetation community has California bush sunflower (*Encelia californica*) as the dominant species, with scattered California buckwheat (*Eriogonum fasciculatum*), sawtooth goldenbush (*Hazardia squarrosa* var. *grindelioides*), slender sunflower (*Helianthus gracilentus*), California wishbone bush (*Mirabilis laevis* var. *crassifolia*), branching phacelia *(Phacelia ramosissima*), black sage (*Salvia mellifera*), and blue chaparral nightshade (*Solanum xanti*). A dense understory of native species is also present in these areas, including the following annual and geophytic species: sticky false-gilia (*Allophyllum glutinosum*), rancher's fireweed, coastal morning glory, California sun cup, miniature sun cup (*Camissoniopsis micrantha*), white pincushion, western thistle (*Cirsium occidentale*), common cryptantha (*Cryptantha intermedia*), chaparral dodder (*Cuscuta californica,* parasitic mostly on California buckwheat), blue dicks, whispering bells, golden yarrow (*Eriophyllum confertiflorum*), Spanish clover (*Acmispon americanus*), common deerweed, stinging lupine (*Lupinus hirsutissimus*), truncate-leaf lupine (*Lupinus truncatus*), coast range melic (*Melica imperfecta*), purple needlegrass (*Stipa pulchra*), caterpillar phacelia (*Phacelia cicutaria*), silver puffs (*Uropappus lindleyi*), and small fescue (*Festuca microstachys*).

Associations found within the City:

Encelia californica-Artemisia californica Association [California Bush Sunflower-California Sage Scrub; CDFW Code 32.050.01; NPS SMM Code 3227] Sensitivity Rank G4S4

Encelia californica-Salvia mellifera Association [California Bush Sunflower-Black Sage Scrub]

Eriogonum fasciculatum Alliance [California buckwheat Scrub; CDFW Code 32.040.00; NPS SMM Code 3240] Sensitivity Rank G5S5

California buckwheat is dominant in the California buckwheat series. This is an open scrub community with a diverse understory, including sticky false-gilia, annual bursage (*Ambrosia acanthicarpa*), rancher's fireweed, California sun cup, miniature sun cup, California aster (*Corethrogyne filaginifolia*), common cryptantha, chaparral dodder, slender tarweed (*Deinandra fasciculata*), blue dicks, sapphire woollystar (*Eriastrum sapphirinum*), golden yarrow, telegraph weed (*Heterotheca grandiflora*), California cottonrose (*Logfia filaginoides*), Spanish clover, common deerweed, caterpillar phacelia, chia (*Salvia columbariae*), silver puffs, small fescue, and mouse-tail fescue (*Festuca myuros*).

Associations found within the City:

Eriogonum fasciculatum- Salvia mellifera-Malosma laurina Association [California Buckwheat-Black Sage-Laurel Sumac Scrub; CDFW Code 32.040.07; NPS SMM Code 3248] Sensitivity Rank G4S4

Salvia leucophylla Alliance [Purple Sage Scrub; CDFW Code 32.090.00; NPS SMM Code 3310] Sensitivity Rank G4S4

This shrub community is dominated by purple sage but may be accompanied by lower cover of several other species including ashy buckwheat *(Eriogonum cinereum)*, California sagebrush, chaparral bushmallow (*Malacothamnus fasciculatus*), or understory species of native and non-native grasses and herbs.

Associations found within the City:

Salvia leucophylla-Malsoma laurina Association [Purple Sage-Laurel Sumac Scrub; CDFW Code 32.090.02] Sensitivity Rank G4S4

Salvia mellifera Alliance [Black Sage Scrub; CDFW 32.020.00; NPS SMM Code 3324] Sensitivity Rank G4S4

This shrubland association occurs on moderate to very steep southeast- and southwest-facing slopes at low elevations, and is characterized by a strong dominance of black sage in the shrub layer. The herbaceous layer and emergent tree layer are generally insignificant.

Associations found within the City:

Salvia mellifera-Malosma laurina Association [Black Sage-Laurel Sumac Scrub; NPS SMM Code 8324] Sensitivity Rank G4S4

Chaparral

Subtypes

Adenostoma fasciculatum Alliance [Chamise Chaparral; CDFW Code 37.101.00; NPS SMM Code 2010] Sensitivity Rank G5S5

Chamise chaparral vegetation community is often the most common vegetation community in the mountains surrounding the San Fernando Valley, where native plants have survived past fires. This community is dominated by chamise (*Adenostoma fasciculatum*) and laurel sumac (*Malosma laurina*). The herbaceous layer contains a suite of species similar to that given above for the California bush sunflower series. In burned areas, this vegetation supports a high density of short-pod mustard (*Hirschfeldia incana*) which becomes very thick in late spring, giving the impression of a near lack of native annual species. In unburned areas, this community is more diverse, supporting dense formations of chaparral bushmallow in places and scattered individuals of California bush sunflower, thick-leaf yerba santa (*Eriodictyon crassifolium*), California buckwheat, laurel sumac, bush monkey flower, and holly-leaf redberry (*Rhamnus ilicifolia*). Annual and herbaceous perennial species include slender wild oat (*Avena barbata*), California bricklebush (*Brickellia californica*), coastal morning glory, California sun cup, amole (*Chlorogalum pomeridianum*), hedgehog cryptantha (*Cryptantha echinella*), chaparral dodder, slender tarweed (Deinandra fasciculata), blue dicks, whispering bells, red- stem filaree (*Erodium cicutarium*), slender sunflower, telegraph weed (*Heterotheca grandiflora*), California cottonrose, Spanish clover, common deerweed, California wishbone bush, and Danny's skullcap (*Scutellaria tuberosa*).

Associations found within the City:

Adenostoma fasciculatum-Ceanothus megacarpus Association [Chamise-Bigpod Ceanothus Chaparral; CDFW Code 37.101.20; NPS SMM Code 2019] Sensitivity Rank G3S3

Adenostoma fasciculatum-Eriogonum fasciculatum Association [Chamise-California Buckwheat Chaparral; CDFW Code 37.101.14; NPS SMM Code 2017] Sensitivity Rank G4S4
Adenostoma fasciculatum-Salvia mellifera Association [Chamise-Black Sage Chaparral; CDFW Code 37.102.00; NPS SMM Code 2036] Sensitivity Rank G4S4

Ceanothus megacarpus Alliance [Bigpod Ceanothus Chaparral; CDFW Code 37.201.00; NPS SMM Code 2081] Sensitivity Rank G4S4

This shrubland association occurs on moderate to steep slopes of variable aspect at low elevations. It is characterized by a strong dominance of bigpod ceanothus (*Ceanothus megacarpus*) in the shrub layer and an uncharacteristic and insignificant herbaceous layer. The emergent tree layer may include coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), and Southern California black walnut (*Juglans californica*).

Associations found within the City:

Ceanothus megacarpus-Adenostoma fasciculatum Association [Bigpod Ceanothus-Chamise Chaparral; CDFW Code 37.201.02; NPS SMM Code 2083] Sensitivity Rank G4S4

Ceanothus megacarpus-Malosma laurina Association [Bigpod Ceanothus-Laurel Sumac Chaparral; CDFW Code 37.201.06; NPS SMM Code 2087] Sensitivity Rank G4S4

Ceanothus megacarpus-Salvia mellifera Association [Bigpod Ceanothus-Black Sage Chaparral; CDFW Code 37.201.08; NPS SMM Code 7085] Sensitivity Rank G3S3

Ceanothus spinosus Alliance [Greenbark Ceanothus Chaparral; CDFW Code 37.214.01; NPS SMM Code 2092] Sensitivity Rank G4S4

This shrubland occurs on moderately steep to very steep northeast- and northwest-facing slopes at low elevations. It is characterized by a strong dominance of greenbark ceanothus (*Ceanothus spinosus*) in the shrub layer and may include a wide variety of mesophytic species in the herbaceous layer, none apparently in high constancy. The emergent tree layer may include coast live oak and Southern California black walnut.

Associations found within the City:

Ceanothus spinosus-Ceanothus megacarpus Association [Greenbark Ceanothus-Bigpod Ceanothus Chaparral; CDFW Code 37.214.02; NPS SMM Code 2091] Sensitivity Rank G4S4

Cercocarpus betuloides Alliance [Birchleaf Mountain Mahogany Chaparral; CDFW Code 76.100.00; NPS SMM Code 2114] Sensitivity Rank G4S4

This shrubland association occurs on moderately steep to steep northeast- and northwest-facing slopes at low elevations. It is characterized by a dominance of birchleaf mountain mahogany (*Cercocarpus betuloides*) in the shrub layer. The herbaceous layer has no characteristic species. The emergent tree layer may include infrequent coast live oak, Southern California black walnut, California sycamore (*Platanus racemosa*), and California bay.

Associations found within the City:

Cercocarpus betuloides-Adenostoma fasciculatum Association [Birchleaf Mountain Mahogany-Chamise Chaparral; CDFW Code 76.100.06; NPS SMM Code 2115] Sensitivity Rank G4S4

Heteromeles arbutifolia Alliance [Toyon Chaparral; CDFW Code 37.911.01; NPS SMM Code 2130]

In this community, toyon occurs as a codominant to dominant shrub in an open to continuous shrub overstory.

Associations found within the City:

Heteromeles arbutifolia-Malosma laurina Association [Toyon-Laurel Sumac Chaparral; CDFW Code 37.911.03; NPS SMM Code 2138] Sensitivity Rank G5S4

Malacothamnus fasciculatus Alliance [Chaparral Bushmallow Scrub; CDFW Code 45.450.00; NPS SMM Code 3280] Sensitivity Rank G4S4

Chaparral bushmallow is the dominant or codominant shrub species in the canopy, and may be associated with a variety of chaparral or coastal scrub species, which may be subdominant to codominant. Stands of this community typically arise following fire events and do not persist for more than a decade or so.

Associations found within the City:

Malacothamnus fasciculatus-Salvia leucophylla Association [Chaparral Bushmallow-Purple Sage Scrub; CDFW Code 45.450.05; NPS SMM Code 3281] Sensitivity Rank G3S3

Malosma laurina Alliance [Laurel Sumac Scrub; CDFW Code 45.455.00; NPS SMM Code 7142] Sensitivity Rank G4S4

This shrubland association occurs on gentle to very steep southeast- to northwest-facing slopes at low elevations. This community is characterized by a dominance of laurel sumac in the shrub layer in an open to intermittent shrub overstory often with nonsclerophyllous shrubs such as California buckwheat, black sage, or California sagebrush, and a relatively nondescript herbaceous layer. The emergent tree layer includes coast live oak in about 20 percent of the stands.

Associations found within the City:

Malosma laurina-Artemisia californica Association [Laurel Sumac-California Sagebrush Scrub; NPS SMM Code 7148] Sensitivity Rank G3S3

Malosma laurina-Rhus ovata-Ceanothus megacarpus Association [Laurel Sumac-Sugarbush-Bigpod Ceanothus Chaparral; NPS SMM Code 21415] Sensitivity Rank G3S3

Malosma laurina-Eriogonum fasciculatum Association [Laurel Sumac-California Buckwheat Scrub; NPS SMM Code 21423] Sensitivity Rank G4S4

Malosma laurina-Salvia mellifera Association [Laurel Sumac-Black Sage Scrub; NPS SMM Code 2148] Sensitivity Rank G4S4?

Quercus berberidifolia Alliance [Scrub Oak Chaparral; CDFW Code 37.407.02; NPS SMM Code 2161] Sensitivity Rank G4S4

This shrubland association occurs on gentle to very steep northwest- and northeast-facing slopes at low to middle elevations. This community is characterized by strong dominance of scrub oak (*Quercus berberidifolia*) in the shrub layer. The herbaceous layer is sparse and has no characteristic species, and the emergent tree layer includes coast live oak in some stands.

Associations found within the City:

Quercus berberidifolia-Artemisia californica Association [Scrub Oak-California Sagebrush Chaparral]

Quercus berberidifolia-Cercocarpus betuloides Association [Scrub Oak-Birchleaf Mountain Mahogany Chaparral; CDFW Code 37.407.06; NPS SMM Code 2591] Sensitivity Rank G3S3

Woodland Habitats

Subtypes

Quercus agrifolia Alliance [Coast Live Oak Woodland; CDFW Code 71.060.00: NPS SMM Code 1110] Sensitivity Rank G5S4

Areas where coast live oak is the dominant tree in the canopy comprise the coast live oak woodland alliance. California sycamore and/or California bay may be subdominant to codominant within this community. Other associated species within understory may include toyon, blue elderberry (*Sambucus nigra* ssp. *caerulea*), laurel sumac, chamise, California sagebrush, black sage, hairy ceanothus (*Ceanothus oliganthus*), hairy brackenfern (*Pteridium aquilinum* var. *pubescens*), California blackberry (*Rubus ursinus*), creeping snowberry (*Symphoricarpos mollis*), heart- leaf bush penstemmon (*Keckiella cordifolia*), poison-oak (*Toxicodendron diversilobum*), holly-leaf redberry, branching phacelia, goose-grass (*Galium aparine*), spotted hideseed, coastal morning glory, manroot, and non-native horehound (*Marrubium vulgare*), tocalote (*Centaurea melitensis*), and prickly sow-thistle (*Sonchus asper*).

Associations found within the City:

Quercus agrifolia/Ceanothus spinosus Association [Coast Live Oak/Greenbark Ceanothus Woodland; CDFW Code 71.060.56; NPS SMM Code 1118] Sensitivity Rank G3S3

Juglans californica Alliance/Groves [California Walnut Woodland; CDFW Code 72.100.00: NPS SMM Code 1310] Sensitivity Rank G3S3

California walnut woodland is generally found on relatively moist, fine-textured soils of mountain slopes and canyon bottoms. California walnut woodland is generally characterized by open to intermittent tree canopies of Southern California black walnut habitat and may co-occur with coast live oak. Shrubs of either chaparral or coastal sage scrub as well as annual or perennial grasses may occur in the understory.

Associations found within the City:

Juglans californica/Artemisia californica/Elymus condensatus Association [California Walnut/California Sagebrush/Giant Wildrye Woodland; CDFW Code 72.100.04; NPS SMM Code 1317] Sensitivity Rank G3S3

Riparian Habitats

Subtypes

Alnus rhombifolia Alliance/Groves [White Alder Woodland/Forest; CDFW Code 61.420.00; NPS SMM Code 1440] Sensitivity Rank G4S4

This community is comprised of white alder (*Alnus rhombifolia*) as the dominant tree within the canopy, and it commonly shares dominance with other trees. It is usually restricted to permanently flowing streams close to the coast.

Associations found within the City:

Alnus rhombifolia-Platanus racemosa Association [White Alder-California Sycamore Woodland/Forest; CDFW Code 61.420.11; NPS SMM Code 1441] Sensitivity Rank G3S3

Baccharis salicifolia Alliance/Thickets [Mulefat Scrub/Thickets; CDFW Code 63.510.00; NPS SMM Code 2210] Sensitivity Rank G4S4

Mulefat scrub has mulefat (*Baccharis salicifolia*) as the most common component of riparian scrub assemblages in the region. This woody, evergreen plant is associated with seasonally wet soils and high energy or disturbed stream systems. This plant assemblage is characterized by having a continuous canopy comprised of shrubs less than 4 meters in height associated with sparse ground cover.

Associations found within the City:

Baccharis salicifolia Association [Mulefat Thickets; CDFW Code 63.510.01; NPS SMM Code 2212] Sensitivity Rank G5S5

Lepidospartum squamatum Alliance [Scale Broom Scrub; CDFW Code 32.070.00; NPS SMM Code 2220] Sensitivity Rank G3S3

This community is primarily found in riparian or wetland habitats where scale broom (*Lepidospartum squamatum*) is usually dominant but may be codominant or subdominant with other shrubs. These are generally found in rocky, occasionally flooded washes or floodplains.

Platanus racemosa Alliance [California Sycamore Woodland/Forest; CDFW Code 61.310.00; NPS SMM Code 1450] Sensitivity Rank G3S3

A common riparian woodland in the City is California sycamore woodland. The California sycamore woodland natural community is the dominant community in many drainages and tributaries. Remnants of California sycamore woodlands are located in side canyons off La Tuna Canyon in the Verdugo Mountains and are composed of a dominant overstory of California sycamore, coast live oak, and California bay. Other associated trees that may occur within this community are Southern California black walnut, red willow (*Salix laevigata*), white alder, foothill ash (*Fraxinus dipetala*), and Fremont cottonwood (*Populus fremontii*). Shrubs commonly occurring in these communities are toyon, California buckwheat, mulefat, blue elderberry, poison

oak, creeping snowberry, California blackberry, golden currant (*Ribes aureum* var. *gracillimum*), arroyo willow (*Salix lasiolepi*s) and sandbar willow (*Salix exigua*). Common perennial herbs include mugwort (*Artemisia douglasiana*), *A. dracunculus* (tarragon), *Aspidotis californica* (California lacefern), *Dryopteris arguta* (coastal woodfern), *Dudleya lanceolata* (lanceleaf liveforever), *Elymus condensatus* (giant wildrye). *Juncus* spp. (rushes), *Pellaea andromedifolia* (coffee fern), *Pentagramma triangularis* (goldback fern), *Polypodium californicum* (California polypody), and *Solanum douglasii* (greenspot nightshade). Additionally, *Lilium humboldtii* subsp. *ocellatum* (ocellated lily) is common in north-facing canyons.

Associations found within the City:

Platanus racemosa South Coast Intermittent Stream Association [California Sycamore South Coast Intermittent Stream Woodland/Forest; NPS SMM Code 6451] Sensitivity Rank G4S3

Platanus racemosa/Annual Grass-Herb Association [California Sycamore Annual Grass-Herb Woodland/Forest; NPS SMM Code 1456] Sensitivity Rank G3S3

Platanus racemosa-Quercus agrifolia South Coast Association [California Sycamore-Coast Live Oak South Coast Woodland/Forest; CDFW Code 61.310.01; NPS SMM Code 1452] Sensitivity Rank G3S3

Platanus racemosa-Quercus agrifolia/*Baccharis salicifolia*/*Artemisia douglasiana* South Coast Association [California Sycamore-Coast Live Oak/Mulefat South Coast Woodland/Forest; CDFW Code 61.310.04; NPS SMM Code 1458] Sensitivity Rank G3S3

Platanus racemosa-Quercus agrifolia-Salix lasiolepis Association [California Sycamore-Coast Live Oak-Arroyo Willow Woodland/Forest; CDFW Code 61.310.03; NPS SMM Code 6452] Sensitivity Rank G3S3

Quercus agrifolia Alliance [Coast Live Oak Woodland; CDFW Code 71.060.00; NPS SMM Code 1110] Sensitivity Rank G5S4

Coast live oak occurs as the dominant tree in the canopy, while California sycamore and/or California bay may be subdominant to codominant. This community would include similar species as described above for *Quercus agrifolia* Alliance Woodland, but may have more riparian-associated species that are typically associated with streams or other waterbodies.

Associations found within the City:

Quercus agrifolia-Salix lasiolepis Association [Coast Live Oak-Arroyo Willow Woodland/Forest; CDFW Code 71.060.47; NPS SMM Code 6114] Sensitivity Rank G3S3

Salix exigua Shrubland Alliance [Sandbar Willow Shrubland/Thickets; CDFW Code 61.209.00; NPS SMM Code 3110] Sensitivity Rank G5S4

Sandbar willow dominates in the shrub layer, and is generally uncommon in small shrubby stands. This shrubland alliance usually occurs on flat or gentle sloping surfaces with little or no exposure at very low elevations. Other willow species, such as arroyo willow, may be present at

low cover. The herbaceous layer is diverse and includes cattails (*Typha* spp.), giant reed (*Arundo donax*), white sweet-clover (*Melilotus albus*), and watercress (*Rorippa nasturtium-aquaticum*) at low cover.

Salix laevigata Alliance [Red Willow Woodland/Forest; CDFW Code 61.205.01; NPS SMM Code 1420] Sensitivity Rank G4S3

Red willow is the sole dominant within this riparian woodland community. An emergent and sparse shrub layer may also be present.

Associations found within the City:

Salix laevigata-Salix lasiolepis Association [Red Willow-Arroyo Willow Woodland/Forest; CDFW Code 61.205.02; NPS SMM Code 1410] Sensitivity Rank G4S3?
Salix laevigata-Salix lasiolepis/*Artemisia douglasiana-Rubus ursinus*/Annual Grass-Herb Association [Red Willow-Arroyo Willow/Douglas Mugwort-California Blackberry/Annual Grass-Herb; NPS SMM Code 1413] Sensitivity Rank G4S4?

Salix laevigata-Salix lasiolepis/*Baccharis salicifolia* Association [Red Willow-Arroyo Willow/Mulefat Woodland/Forest; NPS SMM Code 1412] Sensitivity Rank G3S3

Salix lasiolepis Alliance [Arroyo Willow Woodland/Forest/Thickets; CDFW Code 61.201.00; NPS SMM Code 1430] Sensitivity Rank G4S4

Southern willow scrub has the dominant species of red willow, arroyo willow, and sandbar willow. Other species recorded within this community include mulefat and Fremont cottonwood. Arroyo willow thickets are becoming increasingly uncommon on a regional basis and are in decline due to historic agricultural conversions, urban development pressures, and arrested successional stages of vegetative development in managed riverine systems.

Associations found within the City:

Salix lasiolepis/*Baccharis salicifolia* Association [Arroyo Willow/Mulefat Woodland/Forest; CDFW Code 61.201.06; NPS SMM Code 1432] Sensitivity Rank G4S4

Salix lasiolepis/*Malosma laurina* Association [Arroyo Willow/Laurel Sumac Woodland/Forest; CDFW Code 61.201.07; NPS SMM Code 1433] Sensitivity Rank G3S3?

Schoenoplectus acutus-Schoenoplectus californicus Alliance [California Bulrush Herbaceous; CDFW Code 52.114.01; NPS SMM Code 4410] Sensitivity Rank G5S5

Common bulrush (*Schoenoplectus acutus*) and/or California bulrush (*Schoenoplectus californicus*) are characteristically dominant in the herbaceous layer. Stands of this herbaceous alliance occur on flat to gentle slopes at low elevations. Arroyo willow is often found in the shrub layer at low cover.

***Typha* spp. Alliance [California Bay Woodland/Forest; CDFW Code 74.100.00; NPS SMM Code 4420] Sensitivity Rank G4S3**

Cattails are dominant within this community, usually in standing fresh or brackish water. Bulrush (*Schoenoplectus* spp.) are an associated plant species found within this vegetation community, and arroyo willow can also be found in the shrub layer at low cover.

***Umbellularia californica* Alliance [California Bay Woodland/Forest; CDFW Code 74.100.00; NPS SMM Code 1010] Sensitivity Rank G4S3**

California bay occurs as trees or tall shrubs that are usually dominant or codominant with coast live oak, California walnut, California sycamore, white alder, or taller mesic chaparral shrubs, such as greenbark ceanothus or hairy leaf ceanothus.

Associations found within the City:
Umbellularia californica-Alnus rhombifolia Association [California Bay-White Alder Woodland/Forest; CDFW Code 74.100.16; NPS SMM Code 1013] Sensitivity Rank G3S3
Umbellularia californica-Platanus racemosa Association [California Bay-California Sycamore Woodland/Forest; CDFW Code 74.100.13; NPS SMM Code 1014] Sensitivity Rank G3S3

Herbaceous and Grassland Habitats

Subtypes

***Sarcocornia pacifica* Alliance [Pickleweed Mats; CDFW Code 52.215.00; NPS SMM Code 1010] Sensitivity Rank G4S3**

Coastal salt marsh habitat, which includes low salt marsh areas that receive tidal flows, are dominated by vegetation that can tolerate relatively greater frequency and duration of inundation, such as Pacific pickleweed (*Salicornia pacifica*) and other co-dominants such as fleshy jaumea (*Jaumea carnosa*), dodder (*Cuscuta* spp.), and shore grass (*Distichlis littoralis*). Associated species may include Parish's glasswort (*Arthrocnemum subterminale*), alkali heath (*Frankenia salina*), and alkali plant (*Cressa truxillensis*).

Sarcocornia pacifica-Jumea carnosa-Distichlis spicata Association [Pacific Pickleweed-Fleshy Jaumea-Saltgrass Mat; CDFW Code 52.215.11; NPS SMM Code 4527] Sensitivity Rank G3S3

***Stipa* spp. – *Melica* spp. Alliance [Needlegrass-Melic Grass Grassland; CDFW Code 41.151.00; NPS SMM Code 4020] Sensitivity Rank G4S4**

Native grass component is usually mainly purple needlegrass (*Stipa pulchra*), foothill needlegrass (*Stipa lepida*), and/or nodding needlegrass (*Stipa cernua*), and the annual component is a mixture of grasses and forbs. This community also occurs intermixed in both chaparral and upland scrub communities, but not in substantial densities or specific geographic locations.

Associated species may include redskin onion (*Allium haematochiton*), common goldenstar (*Bloomeria crocea*), slender mariposa lily (*Calochortus clavatus* var. *gracilis*), butterfly mariposa

lily (*Calochortus venustus*), wavyleaf soap plant (*Chlorogalum pomeridianum* var. *pomeridianum*), cobwebby thistle (*Cirsium occidentale* var. *californicum*), Parry's larkspur (*Delphinium parryi*), lanceleaf liveforever (*Dudleya lanceolata*), California fuschia (*Epilohium canum* ssp. *canum*), chocolate lily (*Fritillaria biflora*), blue-eyed-grass (*Sisyrinchium bellum*), mock parsley (*Apiastrum angustifolium*), clustered tarweed (*Deinandra fasciculata*), and California chicory (*Rafinesquia californica*).

Elymus condensatus Alliance [Giant Wild Rye Grassland; CDFW Code 41.265.00; NPS SMM Code 4040] Sensitivity Rank G3S3

Stands dominated by coarse, moderately tall giant wild rye (*Elymus condensatus*) are usually on slopes associated with scrub or woodland. Giant wild rye is associated with seeps, which are highly localized surface areas where subsurface water saturates the ground seasonally and sometimes exudes minor surface flows or springs, usually very short in geographic extent and duration.

California Annual Grassland Alliance [California Annual Grassland/Herbaceous; CDFW Code 42.027.00; NPS SMM Code 4340/5000]

Grasslands or forb lands are strongly dominated by non-native annual grasses and forbs. Common weedy species include bromes (*Bromus* spp.), wild oat (*Avena* spp.), mustard (*Brassica* spp.), and filaree (*Erodium* spp.). There may be native species, but these may be relatively low cover. Non-native species found associated with this community commonly include ripgut brome (*Bromus diandrus*), rescuegrass (*Bromus catharticus*), slender oat (*Avena barbata*), wild oat (*Avena fatua*), black mustard (*Brassica nigra*), short-pod mustard (*Hirschfeldia incana*), red-stem filaree (*Erodium cicutarium*), white-stemmed filaree (*Erodium moschatum*), Crane's-bill geranium (*Geranium molle*), horehound, bull mallow (*Malva nicaeensis*), scarlet pimpernel (*Anagallis arvensis*), caltrop (*Tribulus terrestris*), Italian ryegrass (*Festuca perennis*), barley (*Hordeum murinum*), Mediterranean schismus (*Schismus barbatus*), Italian thistle (*Carduus pycnocephalus*), Russian-thistle (*Salsola tragus*), tocalote, asthmaweed (*Conyza bonariensis*), bristly ox-tongue (*Helminthotheca echioides*), prickly lettuce (*Lactuca serriola*), burclover (*Medicago polymorpha*), white sweet-clover, veldt grass (*Ehrharta erecta*), hare barley (*Hordeum murinum* ssp. *leporinum*), and smilo grass (*Piptatherum miliaceum*). Native herbaceous species are commonly associated with non-native grassland may include fiddleneck (*Amsinckia* spp.), blue-eyed grass (*Sisyrinchium bellum*), cryptantha (*Cryptantha microstachys*), telegraph weed (*Heterotheca grandiflora*), ragweed (*Ambrosia* spp.), horseweed (*Erigeron canadensis*), California chicory (*Rafinesquia californica*), and jimsonweed (*Datura wrightii*).

Appendix B
Floral Compendium

ESA

APPENDIX B: FLORAL COMPENDIUM

LYCOPHYTES

Scientific Name	Common Name
Selaginellaceae	**Spike-Moss Family**
Selaginella bigelovii	Bigelow's spike moss

FERNS

Scientific Name	Common Name
Azollaceae	**Mosquito Fern Family**
Azolla filiculoides	Pacific mosquitofern
Azolla microphylla	Mexican mosquito fern
Blechnaceae	**Deer Fern Family**
Woodwardia fimbriata	giant chain fern
Dennstaedtiaceae	**Bracken Fern Family**
Pteridium aquilinum	western brackenfern
Pteridium aquilinum var. *pubescens*	hairy brackenfern
Dryopteridaceae	**Wood Fern Family**
Athyrium filix-femina var. *cyclosorum*	subarctic ladyfern
Cystopteris fragilis	brittle bladderfern
Dryopteris arguta	coastal woodfern
Polystichum imbricans	narrowleaf swordfern
Polystichum scopulinum	mountain hollyfern
Marsileaceae	**Water-clover Family**
Marsilea vestita	hairy waterclover
Polypodiaceae	**Polypody Family**
Polypodium californicum	California polypody
Pteridaceae	**Maidenhair Fern Family**
Adiantum capillus-veneris	common maidenhair
Adiantum jordanii	California maidenhair
Aspidotis californica	California lacefern
Myriopteris covillei	Coville’s lipfern
Notholaena californica	California cloak fern
Pellaea andromedifolia	coffee cliffbrake
Pellaea mucronata	birdfoot cliffbrake
Pentagramma triangularis	goldback fern

GYMNOSPERMS

Scientific Name	Common Name
Cupressaceae	**Cypress Family**
Hesperocyparis forbesii	tecate cypress
Juniperus californica	California juniper
Pinaceae	**Pine Family**
* *Pinus canariensis*	Canary Island pine
* *Pinus halepensis*	aleppo pine
* *Pinus pinea*	Italian stone pine
Podocarpaceae	**Southern Hemisphere Conifer Family**
* *Afrocarpus gracilior*	fern pine tree

MAGNOLIIDS

Scientific Name	Common Name
Lauraceae	**Laurel Family**
* *Persea americana*	avocado
Umbellularia californica	California bay
Magnoliaceae	**Magnolia Family**
* *Magnolia grandiflora*	southern magnolia
Saururaceae	**Lizard's-Tail Family**
Anemopsis californica	yerba mansa

CERATOPHYLLALES

Scientific Name	Common Name
Ceratophyllaceae	**Hornwort Family**
Ceratophyllum demersum	hornwort

EUDICOTS

	Scientific Name	Common Name
	Adoxaceae	**Muskroot Family**
	Sambucus nigra ssp. *caerulea*	blue elderberry
	Aizoaceae	**Fig-Marigold Family**
*	*Aptenia cordifolia*	heartleaf iceplant
*	*Carpobrotus chilensis*	sea-fig
*	*Carpobrotus edulis*	hottentot fig
*	*Drosanthemum floribundum*	showy dewflower
*	*Drosanthemum hispidum*	hairy dewflower
*	*Lampranthus multiradiatus*	creeping redflush
*	*Malephora crocea*	coppery mesemb
*	*Mesembryanthemum crystallinum*	common iceplant
*	*Mesembryanthemum nodiflorum*	slender-leaved iceplant
	Sesuvium verrucosum	Western sea purslane
*	*Tetragonia tetragonioides*	New Zealand spinach
	Amaranthaceae	**Amaranth Family**
*	*Amaranthus albus*	tumbling pigweed
	Amaranthus blitoides	mat amaranth
	Amaranthus californicus	California amaranth
*	*Amaranthus deflexus*	largefruit amaranth
*	*Amaranthus retroflexus*	redroot amaranth
	Anacardiaceae	**Sumac Family**
	Malosma laurina	laurel sumac
	Rhus integrifolia	lemonade sumac
	Rhus ovata	sugar bush
	Rhus aromatica	skunkbush (squawbush)
*	*Schinus molle*	Peruvian peppertree
*	*Schinus terebinthifolius*	Brazilian peppertree
*	*Searsia lancea*	African sumac
	Toxicodendron diversilobum	poison oak
	Apiaceae	**Carrot Family**
*	*Anthriscus caucalis*	bur chervil
	Apiastrum angustifolium	mock celery
*	*Apium graveolens*	wild celery
	Berula erecta	cutleaf waterparsnip
	Bowlesia incana	hoary bowlesia
	Cicuta douglasii	western water hemlock
	Cicuta maculata	spotted water hemlock
*	*Conium maculatum*	poison hemlock
*	*Cyclospermum leptophyllum*	marsh parsley
	Daucus pusillus	American wild carrot
	Eryngium aristulatum	California eryngo

EUDICOTS

	Scientific Name	Common Name
	Eryngium aristulatum var. parishii	San Diego button-celery
*	*Foeniculum vulgare*	sweet fennel
	Heracleum maximum	common cowparsnip
	Lomatium dasycarpum	woolly-fruited lomatium
	Lomatium lucidum	shiny biscuitroot
	Lomatium utriculatum	common lomatium
	Lomatium vaginatum	broadsheath desertparsley
	Oenanthe sarmentosa	water parsley
	Osmorhiza brachypoda	California sweetcicely
	Perideridia gairdneri	Gardner's yampah
	Petroselinum crispum	parsley
	Sanicula arguta	sharp-toothed sanicle
	Sanicula bipinnata	poison sanicle
	Sanicula bipinnatifida	purple sanicle
	Sanicula crassicaulis	Pacific sanicle
	Sanicula tuberosa	turkey pea
	Scandix pectin-veneris	shepherdsneedle
	Tauschia arguta	southern umbrellawort
	Tauschia hartwegii	Hartweg's umbrellawort
	Torilis arvensis	spreading hedgeparsley
	Yabea microcarpa	false carrot
	Apocynaceae	**Dogbane Family**
	Apocynum cannabinum	Indian hemp
*	*Araujia sericifera*	white bladderflower
	Asclepias californica	California milkweed
*	*Asclepias curassavica*	bloodflower
	Asclepias eriocarpa	Indian milkweed
	Asclepias fascicularis	narrowleaf milkweed
	Funastrum cynanchoides	fringed twinevine
	Funastrum cynanchoides ssp. *hartwegii*	climbing milkweed
*	*Nerium oleander*	oleander
*	*Vinca major*	bigleaf periwinkle
	Araliaceae	**Ginseng Family**
*	*Hedera helix*	English ivy
*	*Hydrocotyle moschata*	musk hydrocotyle
	Hydrocotyle verticillata	whorled marsh pennywort
	Asteraceae	**Aster Family**
*	*Achillea filipendulina*	fernleaf yarrow
	Achillea millefolium	common yarrow
	Achyrachaena mollis	blow wives
	Acourtia microcephala	sacapellote
*	*Acroptilon repens*	Russian knapweed

EUDICOTS

	Scientific Name	Common Name
*	*Ageratina adenophora*	crofton weed
	Agoseris grandiflora	bigflower agoseris
	Agoseris heterophylla	annual agoseris
	Amblyopappus pusillus	dwarf coastweed
	Ambrosia acanthicarpa	flatspine bur ragweed
*	*Ambrosia artemisiifolia*	annual ragweed
	Ambrosia chamissonis	silver bur ragweed
	Ambrosia confertiflora	weakleaf bur ragweed
	Ambrosia dumosa	burrobush
	Ambrosia eriocentra	woolly fruit bur ragweed
	Ambrosia ilicifolia	hollyleaf bur ragweed
	Ambrosia psilostachya	western ragweed
*	*Ambrosia trifida*	great ragweed
	Anaphalis margaritacea	western pearly everlasting
*	*Anthemis cotula*	mayweed chamomile
*	*Arctotheca calendula*	Capeweed
*	*Arctotheca prostrata*	prostrate capeweed
	Argyranthemum foeniculum	dill daisy
*	*Artemisia biennis*	biennial wormwood
	Artemisia californica	California sagebrush
	Artemisia douglasiana	Douglas' sagewort
	Artemisia dracunculus	tarragon
	Artemisia tridentata	big sagebrush
*	*Artemisia vulgaris*	common wormwood
	Baccharis pilularis	coyotebrush
	Baccharis salicifolia	mule fat
	Baccharis salicina	Emory's baccharis
	Baccharis sarothroides	desertbroom
	Baccharis sergiloides	desert baccharis
	Balsamorhiza deltoidea	deltoid balsamroot
*	*Bellis perennis*	English daisy
	Bidens frondosa	devil's beggartick
	Bidens laevis	smooth beggartick
*	*Bidens pilosa*	hairy beggarticks
	Blennosperma nanum	yellow carpet
	Brickellia californica	California brickellbush
	Brickellia nevinii	Nevin's brickellbush
*	*Calendula arvensis*	field marigold
*	*Calendula officinalis*	pot marigold
*	*Carduus pycnocephalus*	Italian thistle
*	*Carduus tenuiflorus*	winged plumeless thistle
*	*Centaurea bendicta*	blessed thistle
*	*Centaurea cineraria*	dusty miller

EUDICOTS

	Scientific Name	Common Name
*	*Centaurea cyanus*	garden cornflower
*	*Centaurea diluta*	North African knapweed
*	*Centaurea melitensis*	tocalote/ Maltese star-thistle
*	*Centaurea solstitialis*	yellow star-thistle
	Centromadia parryi ssp. australis	southern tarplant
	Centromadia pungens ssp. *pungens*	common tarplant
	Chaenactis artemisiifolia	white pincushion
	Chaenactis glabriuscula	yellow pincushion
*	*Chondrilla juncea*	rush skeletonweed
*	*Cichorium intybus*	chicory
*	*Cirsium arvense*	Canada thistle
	Cirsium occidentale	cobwebby thistle
*	*Cirsium vulgare*	bull thistle
	Corethrogyne filaginifolia	common sandaster
*	*Cotula australis*	Australian waterbuttons
*	*Cotula coronopifolia*	common brassbuttons
*	*Crepis capillaris*	smooth hawksbeard
*	*Cynara cardunculus*	artichoke thistle, cardoon
*	*Cynara cardunculus ssp. cardunculus*	globe artichoke
	Deinandra fasciculata	fascicled tarplant
	Deinandra minthornii	Santa Susana tarweed
	Deinandra pallida	Kern tarweed
	Deinandra paniculata	paniculate/San Diego tarweed
*	*Delairea odorata*	Cape-ivy
*	*Dimorphotheca ecklonis*	blue and white daisybush
*	*Dimorphotheca fruticosa*	trailing African daisy
*	*Dimorphotheca sinuata*	glandular Cape marigold
*	*Dittrichia graveolens*	stinkwort
	Eclipta prostrata	false daisy
	Encelia californica	California encelia
	Encelia farinosa	brittlebush
	Ericameria ericoides	California goldenbush
	Ericameria linearifolia	narrowleaf goldenbush
	Ericameria nauseosa	rubber rabbitbrush
	Ericameria palmeri	Palmer's goldenbush
	Ericameria parishii	Parish's rabbitbush
	Ericameria pinifolia	pinebush
*	*Erigeron bonariensis*	flaxleaved fleabane
	Erigeron canadensis	Canadian horseweed
	Erigeron divergens	spreading fleabane
	Erigeron foliosus	leafy fleabane
	Erigeron philadelphicus	Philadelphia fleabane
*	*Erigeron sumatrensis*	asthmaweed

EUDICOTS

	Scientific Name	Common Name
	Eriophyllum confertiflorum	golden-yarrow
	Eriophyllum wallacei	woolly easterbonnets
	Euthamia occidentalis	western goldentop
*	*Galinsoga parviflora*	gallant soldier
	Gamochaeta pensylvanica	Pennsylvania everlasting
	Gamochaeta ustulata	featherweed
*	*Gazania linearis*	treasureflower
	Geraea canescens	hairy desertsunflower
	Geraea viscida	sticky desertsunflower
	Gleviionis carinatum	tricolor daisy
*	*Glebionis coronaria*	crowndaisy
	Grindelia camporum	Great Valley gumweed
	Grindelia hirsutula	hairy gumweed
	Gutierrezia californica	San Joaquin snakeweed
	Gutierrezia microcephala	threadleaf snakeweed
	Gutierrezia sarothrae	broom snakeweed
	Hazardia squarrosa	sawtooth goldenbush
	Hedypnois cretica	Cretanweed
	Helenium puberulum	rosella
	Helianthus annuus	common sunflower
	Helianthus gracilentus	slender sunflower
	Helianthus nuttallii	Nuttall's sunflower
*	*Helminthotheca echioides*	bristly ox-tongue
	Hemizonia congesta	hayfield tarweed
	Heterotheca grandiflora	telegraphweed
	Heterotheca sessiliflora	sessileflower false goldenaster
	Heterotheca subaxillaris	camphorweed
	Heterotheca villosa	hairy false goldenaster
	Hypochaeris glabra	smooth cat's ear
	Hypochaeris radicata	hairy cat's ear
	Isocoma acradenia	alkali goldenbush
	Isocoma menziesii	Menzies' goldenbush
*	*Iva axillaris*	povertyweed
	Jaumea carnosa	marsh jaumea
*	*Lactuca sativa*	garden lettuce
*	*Lactuca serriola*	prickly lettuce
*	*Lactuca virosa*	bitter lettuce
	Laennecia coulteri	Coulter's horseweed
	Lasthenia californica	California goldfields
	Lasthenia coronaria	royal goldfields
	Lasthenia glabrata	yellowray goldfields
	Lasthenia glabrata ssp. *coulteri*	goldfields
	Lasthenia gracilis	needle goldfields

EUDICOTS

	Scientific Name	Common Name
	Layia glandulosa	whitedaisy tidytips
	Layia platyglossa	coastal tidytips
	Leontodon saxatilis	hawkbit
	Lepidospartum squamatum	California broomsage
	Leptosyne bigelovii	Bigelow's tickseed
	Leptosyne californica	California tickseed
	Leptosyne gigantea	giant coreopsis
	Lessingia glandulifera	valley lessingia
	Logfia depressa	dwarf cottonrose
	Logfia filaginoides	California cottonrose
*	*Logfia gallica*	narrowleaf cottonrose
	Madia gracilis	grassy tarweed
	Madia sativa	coast tarweed
	Malacothrix californica	California desertdandelion
	Malacothrix clevelandii	Cleveland's desertdandelion
	Malacothrix coulteri	snake's head
	Malacothrix saxatilis	twiggy wreath plant
	Matricaria discoidea	pineapple weed
	Matricaria occidentalis	valley mayweed
*	*Melampodium perfoliatum*	perfoliate blackfoot
	Micropus californicus	Q tips
	Microseris douglasii	Douglas' silverpuffs
	Microseris elegans	elegant silverpuffs
	Monolopia lanceolata	common monolopia
	Osmadenia tenella	false rosinweed
	Pentachaeta fragilis	fragile pygmydaisy
	Pentachaeta lyonii	Lyon's pygmydaisy
	Perityle emoryi	Emory's rockdaisy
	Pluchea odorata	sweetscent
	Pluchea sericea	arrowweed
*	*Porophyllum ruderale*	yerba porosa
	Pseudognaphalium beneolens	cudweed
	Pseudognaphalium biolettii	two-color rabbit-tobacco
	Pseudognaphalium californicum	ladies' tobacco
	Pseudognaphalium canescens	Wright's cudweed
	Pseudognaphalium leucocephalum	white rabbit-tobacco
	Pseudognaphalium luteoalbum	Jersey cudweed
	Pseudognaphalium microcephalum	Wright's cudweed
	Pseudognaphalium stramineum	cottonbatting plant
	Psilocarphus brevissimus	short woollyheads
	Psilocarphus tenellus	slender woollyheads
*	*Pulicaria paludosa*	Spanish false fleabane
	Pyrrocoma apargioides	alpineflames

EUDICOTS

	Scientific Name	Common Name
	Rafinesquia californica	California plumeseed
	Senecio blochmaniae	dune ragwort
	Senecio californicus	California ragwort
	Senecio flaccidus	threadleaf ragwort
	Senecio lyonii	island senecio
*	*Senecio vulgaris*	old-man-in-the-spring
*	*Silybum marianum*	blessed milkthistle
	Solidago canadensis	Canada goldenrod
	Solidago confinis	southern goldenrod
	Solidago velutina	threenerve goldenrod
	Solidago velutina ssp. *californica*	California goldenrod
*	*Soliva sessilis*	field burrweed
*	*Sonchus arvensis*	field sowthistle
*	*Sonchus asper*	spiny sowthistle
*	*Sonchus oleraceus*	common sowthistle
	Stebbinsoeris heterocarpa	grassland stebbinsoseris
	Stephanomeria cichoriacea	chicoryleaf wirelettuce
	Stephanomeria diegensis	San Diego wirelettuce
	Stephanomeria exigua	small wirelettuce
	Stephanomeria parryi	Parry's wirelettuce
	Stephanomeria pauciflora	brownplume wirelettuce
	Stephanomeria tenuifolia	narrow leaved wirelettuce
	Stephanomeria virgata	rod wirelettuce
	Stylocline gnaphalioides	mountain neststraw
	Symphyotrichum defoliatum	San Bernardino aster
	Symphyotrichum greatae	Greata's aster
	Symphyotrichum lanceolatum	white panicle aster
	Symphyotrichum subulatum	Eastern annual saltmarsh aster
*	*Tanacetum parthenium*	feverfew
*	*Taraxacum erythrospermum*	red-seeded dandelion
*	*Taraxacum officinale*	common dandelion
	Tetradymia comosa	hairy horsebrush
	Thymophylla pentachaeta	fiveneedle pricklyleaf
	Tragopogon porrifolius	salsify
	Uropappus lindleyi	silver puffs
	Venegasia carpesioides	canyon sunflower
*	*Verbesina encelioides*	golden crownbeard
	Xanthium spinosum	spiny cocklebur
	Xanthium strumarium	rough cocklebur
	Bataceae	**Saltwort Family**
	Batis maritima	saltwort

EUDICOTS

	Scientific Name	Common Name
	Berberidaeeae	**Barberry Family**
	Berberi nevinii	Nevin's barberry
	Berberis pinnata	wavyleaf barberry
*	*Nandina domestica*	sacred bamboo
	Betulaceae	**Birch Family**
	Alnus rhombifolia	white alder
	Bignoniaceae	**Bignonia Family**
	Chilopsis linearis	desert willow
*	*Jacaranda mimosifolia*	jacaranda
*	*Tecoma capensis*	cape honeysuckle
	Boraginaceae	**Borage Family**
	Amsinckia douglasiana	Douglas' fiddleneck
	Amsinckia eastwoodiae	Eastwood's fiddleneck
	Amsinckia grandiflora	largeflowered fiddleneck
	Amsinckia intermedia	common fiddleneck
	Amsinckia menziesii	Menzies' fiddleneck
	Amsinckia retrorsa	rigid fiddleneck
	Amsinckia spectabilis	woolly breeches
	Amsinckia tessellata	bristly fiddleneck
*	*Borago officinalis*	common borage
	Cryptantha barbigera	bearded cryptantha
	Cryptantha clevelandii	Cleveland's cryptantha
	Cryptantha corollata	coast range cryptantha
	Cryptantha flaccida	beaked cryptantha
	Cryptantha intermedia	common cryptantha
	Cryptantha leiocarpa	coastal cryptantha
	Cryptantha micrantha	redroot cryptantha
	Cryptantha micromeres	pygmyflower cryptantha
	Cryptantha microstachys	Tejon cryptantha
	Cryptantha muricata	pointed cryptantha
*	*Echium candicans*	pride of Madeira
	Emmenanthe penduliflora	whispering bells
	Eriodictyon crassifolium	thick-leaved yerba santa
	Eriodictyon parryi	poodle-dog bush
	Eriodictyon trichocalyx	hairy yerba santa
	Eucrypta chrysanthemifolia	common eucrypta
	Eucrypta micrantha	dainty desert hideseed
	Heliotropium curassavicum	salt heliotrope
	Lappula squarrosa	European stickseed
	Nama stenocarpum	mud fiddleleaf
	Nemophila maculata	fivespot
	Nemophila menziesii	baby blue eyes

EUDICOTS

	Scientific Name	Common Name
	Pectocarya linearis	sagebrush combseed
	Pectocarya penicillata	sleeping combseed
	Pectocarya setosa	moth combseed
	Phacelia affinis	limestone phacelia
	Phacelia brachyloba	short-lobed phacelia
	Phacelia cicutaria	caterpillar phacelia
	Phacelia distans	distant phacelia
	Phacelia douglasii	Douglas's phacelia
	Phacelia floribunda	southern island phacelia
	Phacelia grandiflora	large-flowered phacelia
	Phacelia hubbyi	Hubby’s phacelia
	Phacelia imbricata	imbricate phacelia
	Phacelia longipes	longstalk phacelia
	Phacelia minor	wild canterbury-bells
	Phacelia parryi	Parry's phacelia
	Phacelia ramosissima	branching phacelia
	Phacelia stellaris	Brand's phacelia
	Phacelia tanacetifolia	lacy phacelia
	Phacelia viscida	sticky phacelia
	Pholisma arenarium	dune food
	Pholistoma auritum	fiesta flower
	Pholistoma membranaceum	white fiestaflower
	Plagiobothrys canescens	valley popcornflower
	Plagiobothrys collinus	Cooper’s popcornflower
	Plagiobothrys nothofulvus	rusty popcornflower
	Plagiobothrys tenellus	Pacific popcornflower
*	*Wigandia urens*	Caracus wigandia
	Brassicaceae	**Mustard Family**
*	*Arabidopsis thaliana*	mouseear cress
	Athysanus pusillus	common sandweed
	Barbarea orthoceras	American yellowrocket
	Boechera californica	California rockcress
	Boechera pulchra	beautiful rockcress
*	*Brassica napus*	rapeseed
*	*Brassica nigra*	black mustard
*	*Brassica oleracea*	cabbage
*	*Brassica rapa*	field mustard
*	*Brassica tournefortii*	Sahara mustard
*	*Cakile maritime*	European searocket
*	*Camelina microcarpa*	littlepod false flax
*	*Capsella bursa-pastoris*	shepherd’s purse
	Cardamine californica	milkmaids
*	*Cardamine debilis*	roadside bittercress

EUDICOTS

	Scientific Name	Common Name
	Cardamine hirsuta	hairy bittercress
	Cardamine oligosperma	little western bittercress
	Cardamine pensylvanica	Pennsylvania bittercress
	Caulanthus coulteri	Coulter's wild cabbage
	Caulanthus heterophyllus	San Diego wild cabbage
	Caulanthus lasiophyllus	California mustard
	Descurainia pinnata	western tansy mustard
*	*Descurainia sophia*	herb sophia
*	*Diplotaxis tenuifolia*	perennial wallrocket
	Dithyrea maritima	beach shieldpod
	Draba cuneifolia	wedgeleaf draba
*	*Eruca vesicaria*	rocketsalad
	Erysimum capitatum	sanddune wallflower
	Erysimum suffrutescens	suffrutescent wallflower
*	*Hirschfeldia incana*	shortpod mustard
	Lepidium acutidens	net pepper grass
*	*Lepidium chalepense*	lens-podded hoary cress
*	*Lepidium didymum*	lesser swine cress
*	*Lepidium draba*	whitetop
	Lepidium lasiocarpum	shaggyfruit pepperweed
*	*Lepidium latifolium*	perennial pepperweed
	Lepidium latipes	dwarf pepper grass
	Lepidium nitidum	shining pepper grass
	Lepidium oblongum	veiny pepper grass
*	*Lepidium pinnatifidum*	wayside pepper grass
	Lepidium strictum	upright pepper grass
	Lepidium virginicum ssp. *robinsonii*	Robinson's pepper grass
	Lepidium virginicum ssp. *virginicum*	wild pepper grass
*	*Lobularia maritima*	sweet alyssum
*	*Matthoila incana*	tenweeks stock
	Nasturtium gambelii	Gambel's yellowcress
	Nasturtium officinale	watercress
*	*Planodes virginica*	common rock cress
*	*Raphanus raphanistrum*	jointed charlock
*	*Raphanus sativus*	cultivated radish
*	*Rapistrum rugosum*	annual bastardcabbage
	Rorippa curvisiliqua	curvepod yellowcress
	Rorippa palustris	bog yellowcress
*	*Sinapis alba*	white mustard
*	*Sisymbrium altissimum*	tall tumblemustard
*	*Sisymbrium irio*	London rocket
*	*Sisymbrium officinale*	hedgemustard
*	*Sisymbrium orientale*	Indian hedgemustard

EUDICOTS

	Scientific Name	Common Name
	Stanleya pinnata	desert princesplume
	Streptanthus bernardinus	Laguna Mountain jewelflower
	Thysanocarpus curvipes	sand fringepod
	Thysanocarpus laciniatus	mountain fringepod
	Tropidocarpum gracile	dobie pod
	Turritis glabra	tower rockcress
	Cactaceae	**Cactus Family**
	Cylindropuntia californica	California pricklypear
	Cylindropuntia prolifera	coastal cholla
	Opuntia basilaris	beavertail cactus
	Opuntia engelmannii	cactus apple
*	*Opuntia ficus-indica*	tuna cactus
	Opuntia littoralis	coastal prickly pear
*	*Opuntia microdasys*	angel's wings
	Opuntia oricola	western prickly pear
	Opuntia vaseyi	Vasey's prickly pear
	Campanulaceae	**Bellflower Family**
	Githopsis diffusa	southern bluecup
	Githopsis diffusa ssp. *candida*	blue cup
*	*Lobelia erinus*	edging lobelia
	Nemacladus glanduliferus	glandular threadplant
	Nemacladus longiflorus	longflower threadplant
	Nemacladus orenitalis	Eastern glandular nemacladus
	Nemacladus ramosissimus	smallflower threadplant
	Triodanis biflora	Venus looking glass
	Caprifoliaceae	**Honeysuckle Family**
	Lonicera hispidula	pink honeysuckle
*	*Lonicera japonica*	Japanese honeysuckle
	Lonicera subspicata	southern honeysuckle
	Symphoricarpos albus	common snowberry
	Symphoricarpos mollis	creeping snowberry
	Caryophyllaceae	**Pink Family**
	Arenaria paludicola	marsh sandwort
	Cardionema ramosissimum	sand mat
*	*Cerastium fontanum*	common mouse ear chickweed
*	*Cerastium glomeratum*	mouse-ear chickweed
	Loeflingia squarrosa	spreading loeflingia
	Polycarpon depressum	California manyseed
*	*Polycarpon tetraphyllum*	fourleaf manyseed
*	*Sagina apetala*	annual pearlwort
	Silene antirrhina	sleepy silene
*	*Silene coniflora*	fire-following campion

EUDICOTS

	Scientific Name	Common Name
*	*Silene gallica*	common catchfly
	Silene laciniata	cardinal catchfly
*	*Spergula arvensis*	corn spurry
*	*Spergularia bocconii*	Boccone's sandspurry
	Spergularia macrotheca	sticky sandspurry
	Spergularia marina	salt sandspurry
*	*Spergularia platensis*	La Plata sandspurry
*	*Spergularia rubra*	red sandspurry
*	*Spergularia villosa*	hairy sandspurry
*	*Stellaria media*	common chickweed
	Stellaria nitens	shiny chickweed
*	*Vaccaria hispanica*	cow soapwort
	Chenopodiaceae	**Goosefoot Family**
	Aphanisma blitoides	San Diego coastalcreeper
	Arthrocnemum subterminale	Parish's glasswort
*	*Atriplex amnicola*	swamp saltbush
	Atriplex argentea	silverscale saltbush
	Atriplex canescens	fourwing saltbush
	Atriplex coulteri	Coulter's saltbush
*	*Atriplex glauca*	waxy saltbush
	Atriplex lentiformis	big saltbush
	Atriplex leucophylla	beach saltbush
*	*Atriplex nummularia*	bluegreen saltbush
	Atriplex pacifica	south coast salt scale
	Atriplex parishii	Parish's saltbush
	Atriplex patula	spear saltbush
*	*Atriplex prostrata*	triangle orache
*	*Atriplex rosea*	tumbling saltbush
*	*Atriplex semibaccata*	Australian saltbush
	Atriplex serenana	bractscale
	Atriplex serenana var. *davidsonii*	Davidson's saltscale
*	*Atriplex suberecta*	peregrine saltbush
	Atriplex watsonii	Watson's saltbush
*	*Bassia hyssopifolia*	fivehorn smotherweed
*	*Beta vulgaris*	common beet
*	*Chenopodium album*	lamb's quarters
	Chenopodium berlandieri	pitseed goosefoot
	Chenopodium californicum	California goosefoot
	Chenopodium leptophyllum	narrowleaf goosefoot
	Chenopodium littoreum	coastal goosefoot
	Chenopodium macrospermum	largeseed goosefoot
*	*Dysphania multifidum*	cut-leaved goosefoot
*	*Chenopodium murale*	nettle-leaved goosefoot

EUDICOTS

	Scientific Name	Common Name
	Chenopodium strictum	lateflowering goosefoot
*	*Dysphania ambrosioides*	Mexican tea
*	*Dysphania botrys*	Jerusalem oak goosefoot
*	*Dysphania multifidum*	cut-leaved goosefoot
*	*Dysphania pumilio*	Tasmanian goosefoot
	Extriplex californica	California orach
	Kochia americana	green molly
*	*Kochia scoparia*	burningbush
	Salicornia bigelovii	dwarf saltwort
	Salicornia depressa	Virginia glasswort
	Salicornia pacifica	Pacific pickleweed
*	*Salsola australis*	Russian thistle
*	*Salsola kali*	Russian thistle
*	*Salsola tragus*	prickly Russian thistle
	Suaeda calceoliformis	Pursh seepweed
	Suaeda californica	California seablite
	Suaeda esteroa	estuary seablite
	Suaeda nigra	bush seepweed
	Suaeda taxifolia	woolly seablite
	Cistaceae	**Rock-Rose Family**
*	*Cistus incanus*	hairy rockrose
*	*Cistus ladanifer*	common gum cistus
	Crocanthemum scoparium	Bisbee Peak rush-rose
	Cleomaceae	**Spiderflower Family**
	Peritoma arborea	bladderpod
	Convolvulaceae	**Morning-Glory Family**
	Calystegia felix	lucky morning glory
	Calystegia longipes	Piute morning glory
	Calystegia macrostegia	California morning glory
	Calystegia peirsonii	Peirson's false bindweed
*	*Convolvulus althaeoides*	hollyhock bindweed
*	*Convolvulus arvensis*	field bindweed
	Convolvulus simulans	small-flowered morning glory
	Cressa truxillensis	spreading alkaliweed
	Cuscuta californica	California dodder
	Cuscuta campestris	field dodder
	Cuscuta indecora	bigseed alfalfa dodder
	Cuscuta pentagona	fiveangled dodder
	Cuscuta salina	saltmarsh dodder
	Cuscuta subinclusa	canyon dodder
*	*Dichondra micrantha*	Asian ponysfoot
	Dichondra occidentalis	western ponysfoot

EUDICOTS

	Scientific Name	Common Name
*	*Ipomoea cairica*	mile a minute vine
*	*Ipomoea indica*	oceanblue morning-glory
*	*Ipomoea purpurea*	common morning-glory
	Crassulaceae	**Stonecrop Family**
*	*Aeonium arboreum*	tree aenium
	Crassula aquatica	water pygmyweed
	Crassula connata	sand pygmyweed
*	*Crassula ovata*	jade plant
*	*Crassula tillaea*	moss pygmyweed
	Dudleya blochmaniae	Blochman's liveforever
	Dudleya caespitosa	sealettuce
	Dudleya cymosa	canyon liveforever
	Dudleya cymosa ssp. *ovatifolia*	Santa Monica Mountains dudleya
	Dudleya lanceolata	lanceleaf liveforever
	Dudleya multicaulis	many-stemmed dudleya
	Dudleya pulverulenta	chalk dudleya
	Dudleya virens	bright green liveforever
	Cucurbitaceae	**Gourd Family**
	Cucurbita foetidissima	Missouri gourd
*	*Cucurbita melo*	cantaloupe
	Marah fabacea	California manroot
	Marah macrocarpus	Cucamonga manroot
	Datiscaceae	**Datisca Family**
	Datisca glomerata	durango root
	Elatinaceae	**Waterwort Family**
	Elatine californica	California waterwort
	Ericaceae	**Heath Family**
	Arbutus menziesii	Pacific madrone
*	*Arbutus unedo*	strawberry tree
	Arctostaphylos glandulosa	Eastwood's manzanita
	Arctostaphylos glauca	bigberry Manzanita
	Arctostaphylos pringlei	Pringle manzanita
	Comarostaphylis diversifolia	summer holly
	Xylococcus bicolor	mission manzanita
	Euphorbiaceae	**Spurge Family**
	Croton californicus	California croton
	Croton setiger	dove weed
	Euphorbia albomarginata	rattlesnake weed
	Euphorbia crenulata	Chinese caps
*	*Euphorbia hypericifolia*	graceful sandmat
*	*Euphorbia lathyris*	compass plant

EUDICOTS

	Scientific Name	Common Name
*	*Euphorbia maculata*	spotted spurge
	Euphorbia melanadenia	squaw spurge
*	*Euphorbia peplus*	petty spurge
	Euphorbia polycarpa	smallseed sandmat
*	*Euphorbia prostrata*	prostrate sandmat
*	*Euphorbia serpens*	matted sandmat
	Euphorbia serpyllifolia	thyme-leaved spurge
	Euphorbia spathulata	reticulate-seeded spurge
*	*Euphorbia terracina*	Geraldton carnation weed
*	*Euphorbia virgata*	leafy spurge
*	*Ricinus communis*	castor bean
	Stillingia linearifolia	linear-leaved stillingia
*	*Triadica sebifera*	Chinese tallowtree
	Fabaceae	**Legume Family**
*	*Acacia baileyana*	Bailey acacia
*	*Acacia cultriformis*	knife acacia
*	*Acacia cyclops*	cyclops acacia
*	*Acacia dealbata*	silver wattle
*	*Acacia decurrens*	green wattle
*	*Acacia longifolia*	Sydney golden wattle
*	*Acacia melanoxylon*	blackwood
*	*Acacia redolens*	bank catclaw
*	*Acacia retinodes*	water wattle
*	*Acacia verticillata*	prickly Moses
	Acmispon americanus	Spanish lotus
	Acmispon argophyllus	silver bird's-foot trefoil
	Acmispon brachycarpus	short podded lotus
	Acmispon glaber var. *glaber*	deerweed
	Acmispon grandiflorus	chaparral bird's-foot trefoil
	Acmispon heermannii	Heermann's bird's-foot trefoil
	Acmispon junceus	rush lotus
	Acmispon maritimus	coastal bird's-foot trefoil
	Acmispon micranthus	San Diego bird's-foot trefoil
	Acmispon nevadensis	Nevada's bird's-foot trefoil
	Acmispon strigosus	strigose lotus
	Acmispon wrangelianus	Chilean bird's-foot trefoil
*	*Albizia julibrissin*	silktree
*	*Albizia lophantha*	plume acacia
	Amorpha californica	California false indigo
	Astragalus asymmetricus	San Joaquin milkvetch
	Astragalus brauntonii	Braunton's milkvetch
	Astragalus didymocarpus	two-seeded milk-vetch
	Astragalus douglasii	Jacumba milk-vetch

EUDICOTS

	Scientific Name	Common Name
	Astragalus gambelianus	Gambell's dwarf milkvetch
	Astragalus pomonensis	Pomona milkvetch
	Astragalus pycnostachyus	marsh milkvetch
	Astragalus tener var. *titi*	coastal dunes milkvetch
	Astragalus trichopodus	Santa Barbara milkvetch
*	*Bauhinia variegata*	mountain ebony
*	*Bituminaria bituminosa*	Arabian pea
*	*Caesalpinia gilliesii*	bird of paradise
*	*Caesalpinia spinosa*	tara
*	*Ceratonia siliqua*	St. John's bread
	Cercis occidentalis	western redbud
*	*Coronilla valentina*	Mediterranean crownvetch
*	*Cytisus proliferus*	tree Lucerne
*	*Cytisus scoparius*	scotchbroom
*	*Cytisus striatus*	striated broom
*	*Dalea greggii*	Gregg's prairie clover
*	*Genista monospessulana*	French broom
	Hoffmannseggia glauca	Indian rushpea
	Hoita macrostachya	leather root
	Hosackia oblongifolia	streambank bird's-foot trefoil
*	*Lathyrus latifolius*	everlasting pea
*	*Lathyrus odoratus*	Garden sweet pea
*	*Lathyrus tingitanus*	Tangier pea
	Lathyrus vestitus	Pacific pea
*	*Lotus corniculatus*	broadleaf bird's-foot trefoil
	Lupinus affinis	fleshy lupine
	Lupinus albifrons	silver bush lupine
	Lupinus arboreus	yellow bush lupine
	Lupinus argenteus	silvery lupine
	Lupinus bicolor	miniature lupine
	Lupinus chamissonis	chamisso bush lupine
	Lupinus concinnus	scarlet lupine
	Lupinus excubitus	grape soda lupine
	Lupinus formosus	western lupine
	Lupinus hirsutissimus	stinging annual lupine
	Lupinus hyacinthinus	San Jacinto lupine
	Lupinus latifolius	broad-leaved lupine
	Lupinus longifolius	longleaf bush lupine
	Lupinus nanus	sky lupine
	Lupinus paynei	Payne's bush lupine
	Lupinus sparsiflorus	Coulter's lupine
	Lupinus succulentus	arroyo lupine
	Lupinus truncatus	collared lupine

EUDICOTS

	Scientific Name	Common Name
*	*Medicago lupulina*	black medick
*	*Medicago polymorpha*	bur clover
*	*Medicago sativa*	alfalfa
*	*Melilotus albus*	white sweetclover
*	*Melilotus indicus*	sourclover
*	*Melilotus officinalis*	yellow sweet clover
*	*Parkinsonia aculeata*	Mexican palo verde
	Pickeringia montana	chaparral pea
*	*Pisum sativum*	garden pea
*	*Robinia pseudoacacia*	black locust
	Rupertia physodes	California rupertia
*	*Senna artemisioides*	silver senna
*	*Senna didymobotrya*	African senna
*	*Spartium junceum*	Spanish broom
	Trifolium albopurpureum	Indian clover
	Trifolium bifidum	Pinole clover
*	*Trifolium campestre*	low hop clover
	Trifolium ciliolatum	foothill cloer
	Trifolium depauperatum	dwarf sack clover
*	*Trifolium dubium*	Shamrock clover
*	*Trifolium fragiferum*	strawberry clover
	Trifolium fucatum	bull clover
	Trifolium gracilentum	pinpoint clover
*	*Trifolium hirtum*	rose clover
*	*Trifolium hybridum*	alsike clover
*	*Trifolium pratense*	red clover
*	*Trifolium repens*	white clover
*	*Trifolium tomentosum*	woolly clover
	Trifolium willdenovii	tomcat clover
	Trifolium wormskioldii	cow clover
*	*Ulex europaeus*	common gorse
	Vicia americana	American vetch
*	*Vicia benghalensis*	purple vetch
	Vicia hassei	Hasse's vetch
	Vicia ludoviciana	Louisiana vetch
*	*Vicia sativa*	spring vetch
*	*Vicia villosa*	hairy vetch
	Fagaceae	**Oak Family**
	Chrysolepis chrysophylla	golden chinquapin
	Quercus agrifolia	coast live oak
	Quercus berberidifolia	scrub oak
	Quercus chrysolepis	canyon live oak
	Quercus dumosa	coastal sage scrub oak

EUDICOTS

	Scientific Name	Common Name
	Quercus durata	leather oak
	Quercus durata var. *gabrielensis*	San Gabriel oak
*	*Quercus ilex*	holly oak
	Quercus lobata	valley oak
*	*Quercus suber*	cork oak
	Quercus wislizeni	interior live oak
	Frankeniaceae	**Frankenia Family**
	Frankenia palmeri	Palmer's frankenia
	Frankenia salina	alkali heath
	Garryaceae	**Silk Tassel Family**
	Garrya elliptica	wavyleaf silktassel
	Garrya veatchii	Veatch silktassel
	Gentianaceae	**Gentian Family**
	Zeltnera venusta	charming centaury
	Geraniaceae	**Geranium Family**
	California macrophylla	round leaved filaree
*	*Erodium botrys*	longbeak stork's bill
*	*Erodium brachycarpum*	shortfruit stork's bill
*	*Erodium cicutarium*	redstem filaree
*	*Erodium moschatum*	musky stork's bill
	Geranium bicknellii	Bicknell's cranesbill
	Geranium californicum	California cranesbill
	Geranium carolinianum	Carolina geranium
*	*Geranium dissectum*	cutleaf geranium
*	*Geranium molle*	woodland geranium
*	*Geranium rotundifolium*	roundleaf geranium
*	*Pelargonium X hortorum*	garden geranium
*	*Pelargonium peltatum*	ivyleaf geranium
*	*Pelargonium zonale*	horseshoe geranium
	Grossulariaceae	**Gooseberry Family**
	Ribes amarum	bitter gooseberry
	Ribes aureum	golden currant
	Ribes californicum	hillside gooseberry
	Ribes indecorum	white flowering currant
	Ribes malvaceum	chaparral currant
	Ribes nevadense	mountain pink currant
	Ribes sanguineum	redflower currant
	Ribes speciosum	fuchsia-flowered gooseberry
	Ribes viscosissimum	sticky currant
	Haloragaceae	**Water Milfoil Family**
*	*Myriophyllum aquaticum*	parrot feather watermilfoil

EUDICOTS

	Scientific Name	Common Name
	Hypericaceae	**Saint John's Wort Family**
	Hypericum scouleri	Scouler's St. John's wort
	Juglandaceae	**Walnut Family**
	Juglans californica	Southern California black walnut
	Juglans hindsii	Northern California black walnut
*	*Juglans regia*	English walnut
	Lamiaceae	**Mint Family**
	Clinopodium douglasii	yerba buena
*	*Lamium amplexicaule*	henbit deadnettle
	Lepechinia fragrans	fragrant pitcher sage
	Lycopus americanus	American water horehound
*	*Marrubium vulgare*	horehound
*	*Mentha aquatica*	water mint
*	*Mentha spicata*	spearmint
*	*Mentha suaveolens*	apple mint
	Monardella breweri	Brewer's monardella
	Monardella hypoleuca	white leaf monardella
	Monardella lanceolata	mustang monardella
	Monardella undulata	curlyleaf monardella
*	*Nepeta cataria*	catnip
*	*Rosmarinus officinalis*	rosemary
	Salvia apiana	white sage
	Salvia carduacea	thistle sage
	Salvia clevelandii	Cleveland sage
	Salvia columbariae	chia
	Salvia leucophylla	purple sage
	Salvia mellifera	black sage
	Salvia spathecea	hummingbird sage
	Scutellaria siphocampyloides	grayleaf skullcap
	Scutellaria tuberosa	Danny's skullcap
	Stachys ajugoides	hedge-nettle
	Stachys albens	white hedge-nettle
	Stachys bullata	California hedge-nettle
	Stachys rigida	rough hedge nettle
	Trichostema lanatum	woolly bluecurls
	Trichostema lanceolatum	vinegarweed
	Linaceae	**Flax Family**
	Hesperolinon micranthum	dwarf flax
*	*Linum grandiflorum*	flowering flax
*	*Linum usitatissimum*	common flax

EUDICOTS

	Scientific Name	Common Name
	Loasaceae	**Loasa Family**
	Mentzelia affinis	yellow blazing star
	Mentzelia laevicaulis	smooth stem blazing star
	Mentzelia lindleyi	Lindley's blazing star
	Mentzelia micrantha	chaparral blazing star
	Lythraceae	**Loosestrife Family**
	Ammannia coccinea	red ammannia
	Ammannia robusta	grand ammannia
*	*Lagerstroemia indica*	crape myrtle
	Lythrum californicum	California loosestrife
*	*Lythrum hyssopifolia*	Hyssop loosestrife
*	*Punica granatum*	pomegranate
	Malvaceae	**Mallow Family**
	Abutilon palmeri	Palmer's abutilon
*	*Abutilon theophrasti*	velvet leaf
*	*Anoda cristata*	violettas
	Fremontodendron californicum	California flannelbush
	Lavatera assurgentiflora	island mallow
	Malacothamnus davidsonii	Davidson's bushmallow
	Malacothamnus fasciculatus	chaparrel bushmallow
*	*Malva neglecta*	dwarf mallow
*	*Malva nicaeensis*	bull mallow
*	*Malva parviflora*	cheeseweed
*	*Malva pseudolavatera*	cretan mallow
*	*Malva sylvestris*	high mallow
	Malvella leprosa	Alkali mallow
*	*Modiola caroliniana*	Carolina bristle mallow
	Sidalcea malviflora	checker mallow
	Sidalcea neomexicana	salt spring checkerbloom
	Sidalcea sparsifolia	southern checkerbloom
	Sphaeralcea ambigua	desert globemallow
	Montiaceae	**Purslane Family**
	Calandrinia breweri	Brewer's calandrinia
	Calandrinia menziesii	red maids
	Calyptridium monandrum	common calyptridium
	Cistanthe maritima	seaside calandrinia
	Claytonia parviflora	narrow leaved miner's lettuce
	Claytonia perfoliata	miner's lettuce

EUDICOTS

	Scientific Name	Common Name
	Myricaceae	**Wax Myrtle Family**
	Morella californica	California wax myrtle
	Myrsinaceae	**Myrsine Family**
*	*Lysimachia arvensis*	scarlet pimpernel
	Myrtaceae	**Myrtle Family**
*	*Eucalyptus camaldulensis*	red gum
*	*Eucalyptus cladocalyx*	sugar gum
*	*Eucalyptus globulus*	blue gum
*	*Eucalyptus polyanthemos*	silver dollar gum
*	*Eucalyptus rudis*	Western Australia flooded gum
*	*Eucalyptus sideroxylon*	red iron bark
*	*Eucalyptus viminalis*	Manna gum
*	*Luma apiculata*	temu
	Nyctaginaceae	**Four O'Clock Family**
	Abronia maritima	red sand verbena
	Abronia umbellata	pink sand verbena
	Abronia villosa	sand verbena
	Boerhavia coccinea	scarlet spiderling
*	*Bougainvillea spectabilis*	bougainvillea
*	*Mirabilis jalapa*	wishbone bush
	Mirabilis laevis	desertwishbone bush
	Oleaceae	**Olive Family**
	Forestiera pubescens	desert olive
	Fraxinus dipetala	California ash
	Fraxinus latifolia	Oregon ash
*	*Fraxinus uhdei*	shamel ash
	Fraxinus velutina	velvet ash
*	*Ligustrum japonicum*	Japanese privet
*	*Ligustrum jlucidum*	glossy privet
*	*Ligustrum ovalifolium*	California privet
*	*Olea europaea*	olive
	Onagraceae	**Evening Primrose Family**
	Camissonia strigulosa	sandysoil suncup
	Camissoniopsis bistorta	California sun cup
	Camissoniopsis cheiranthifolia	beach evening-primrose
	Camissoniopsis hirtella	hairy sun cup
	Camissoniopsis ignota	Jurupa Hills sun cup
	Camissoniopsis intermedia	intermediate sun cup
	Camissoniopsis lewisii	Lewis' evening-primrose
	Camissoniopsis micrantha	Spencer primrose

EUDICOTS

	Scientific Name	Common Name
	Camissoniopsis robusta	robust sun cup
	Clarkia amoena	farewell to spring
	Clarkia bottae	punchbowl godetia
	Clarkia cylindrica	speckled clarkia
	Clarkia dudleyana	Dudley's clarkia
	Clarkia epilobioides	canyon clarkia
	Clarkia purpurea	winecup clarkia
	Clarkia rhomboidea	diamond clarkia
	Clarkia unguiculata	elegant clarkia
	Epilobium brachycarpum	tall annual willowherb
	Epilobium campestre	smooth boisduvalia
	Epilobium canum	California fuchsia
	Epilobium ciliatum	fringed willowherb
	Eremothera boothii	Booth's suncup
	Eulobus californicus	California suncup
*	*Fuchsia magellanica*	hardy fuchisa
*	*Ludwigia hexapetala*	six petal water primrose
*	*Ludwigia peploides*	yellow waterweed
	Oenothera californica	California evening primrose
	Oenothera elata	evening primrose
*	*Oenothera laciniata*	southern evening primrose
*	*Oenothera rosea*	pink evening primrose
*	*Oenothera sinuosa*	wavy-leaved gaura
*	*Oenothera speciosa*	Mexican evening primrose
	Oenothera villosa	hairy evening primrose
*	*Oenothera xenogaura*	Drummond's gaura
	Tetrapteron graciliflorum	Hill sun cup
	Orobanchaceae	**Broom-rape Family**
	Aphyllon californicum	California broomrape
	Aphyllon fasciculatum	custered broomrape
	Aphyllon tuberosum	chaparral broomrape
	Aphyllon vallicolum	Valley broomrape
	Castilleja affinis	coast paintbrush
	Castilleja applegatei	applegate's paintbrush
	Castilleja densiflora	dense-flowered owl's-clover
	Castilleja exserta	purple owl's-clover
	Castilleja foliolosa	woolly Indian paintbrush
	Castilleja linarifolia	desert paintbrush
	Castilleja minor	little paintrbush
	Castilleja subinclusa	Franciscan paintbrush
	Chloropyron maritimum	salt marsh bird's beak
	Chloropyron molle	soft bird's beak

EUDICOTS

	Scientific Name	Common Name
	Cordylanthus eremicus	desert bird-beak
	Cordylanthus rigidus	rigid bird's-beak
	Orobanche californica	California orobanche
	Pedicularis densiflora	Indian warrior
	Oxalidaceae	**Oxalis Family**
*	*Oxalis artuclata*	windowbox wood-sorrel
	Oxalis californica	California wood sorrel
*	*Oxalis corniculata*	creeping wood-sorrel
*	*Oxalis pes-caprae*	Bermuda buttercup
	Oxalis pilosa	hairy wood sorrel
	Paeoniaceae	**Peony Family**
	Paeonia californica	California peony
	Papaveraceae	**Poppy Family**
	Argemone corymbosa	Mohave prickly poppy
	Argemone munita	prickly poppy
	Canbya candida	pygmy poppy
	Dendromecon rigida	bush poppy
	Ehrendorferia chrysantha	golden eardrops
	Ehrendorferia ochroleuca	yellow bleeding heart
	Eschscholzia caespitosa	foothill poppy
	Eschscholzia californica	California poppy
	Eschscholzia hypecoides	leafy stemmed poppy
	Eschscholzia minutiflora	Coville's poppy
*	*Fumaria officinalis*	drug fumitory
	Meconella denticulata	small flowered meconella
	Papaver californicum	fire poppy
	Papaver heterophyllum	wind poppy
	Platystemon californicus	cream cups
	Romneya coulteri	Coulter's matilija poppy
	Romneya trichocalyx	bristly Matilija poppy
	Phrymaceae	**Lopseed Family**
	Diplacus aurantiacus	orange bush monkeyflower
	Diplacus puniceus	sticky monkeyflower
	Diplacus brevipes	wide throated monkeyflower
	Diplacus fremontii	Fremont's monkeyflower
	Diplacus longiflorus	southern bush monkeyflower
	Diplacus rutilis	red bush monkeyflower
	Erythranthe cardinalis	scarlet monkeyflower
	Erythranthe floribunda	many flowered monkeyflower
	Erythranthe guttatus	common monkeyflower
	Mimetanthe pilosa	snouted monkeyflower

EUDICOTS

	Scientific Name	Common Name
	Pittosporaceae	**Cheesewood Family**
*	*Billardiera heterophylla*	Australian bluebell
*	*Pittosporum crassifolium*	thick leaf box
*	*Pittosporum tobira*	mock orange
*	*Pittosporum undulatum*	Victorian box
	Plantaginaceae	**Plantain Family**
	Antirrhinum coulterianum	white snapdragon
	Antirrhinum kelloggii	twining snapdragon
*	*Antirrhinum majus*	garden snapdragon
	Antirrhinum multiflorum	chaparral snapdragon
	Antirrhinum nuttallianum	Nuttall's snapdragon
*	*Antirrhinum orontium*	Syrian snapdragon
	Callitriche marginata	winged water starwort
	Collinsia heterophylla	Chinese houses
	Collinsia parryi	Parry's collinsia
*	*Digitalis purpurea*	foxglove
	Gameblia speciosa	island snapdragon
	Keckiella antirrhinoides	chaparral beard-tongue
	Keckiella cordifolia	heart-leaved keckiella
*	*Kickxia elatine*	sharp point fluellin
*	*Kickxia spurria*	fluellin
	Nuttallanthus texanus	blue toadflax
	Penstemon centranthifolius	scarlet bugler
	Penstemon heterophyllus	foothill penstemon
	Penstemon spectabilis	royal penstemon
*	*Plantago arenaria*	Indian plantain
	Plantago erecta	western plantain
*	*Plantago lanceolata*	English plantain
*	*Plantago major*	common plantain
	Plantago ovata	desert plantain
	Plantago patagonica	Patagonia plantain
	Plantago subnuda	coastal plantain
*	*Plantago virginica*	dwarf plantain
*	*Veronica anagallis-aquatica*	water speedwell
*	*Veronica arvensis*	speedwell
	Veronica peregrina ssp. xalapensis	hairy purslane speedwell
*	*Veronica persica*	bird's eye speedwell
	Platanaceae	**Sycamore Family**
	Platanus racemosa	western sycamore

EUDICOTS

Scientific Name	Common Name
Plumbaginaceae	**Leadwort Family**
* *Limonium arborescens*	bush sea-lavander
Limonium californicum	western marsh-rosemary
* *Limonium duriusculum*	Eurpoean sea-lavander
* *Limonium otolepis*	Asian sea-lavander
* *Limonium perezii*	Canarian sea-lavander
* *Limonium ramosissiumum*	Algerian sea-lavander
* *Limonium sinuatum*	statice
* *Plumbago auriculata*	Cape leadwort
Polemoniaceae	**Phlox Family**
Allophyllum divaricatum	purple false gilia
Allophyllum gilioides	dense false gilia
Allophyllum glutinosum	sticky false gilia
Eriastrum densifolium	giant woollystar
Eriastrum filifolium	lavender eriastrum
Eriastrum sapphirinum	sapphire eriastrum
Eriastrum virgatum	virgate eriastrum
Gilia achilleifolia	California gilia
Gilia angelensis	angel gilia
Gilia capitata	blue field gilia
Gilia latiflora	broad flowered gilia
Gilia tricolor	bird’s eyes
Leptosiphon androsaceus	common linanthus
Leptosiphon aureus	golden linanthus
Leptosiphon grandiflorus	large-flowered leptosiphon
Leptosiphon liniflorus	flax-flowered linanthus
Leptosiphon parviflorus	coast baby-star
Linanthus californicus	prickly phlox
Linanthus concinnus	San Gabriel linanthus
Linanthus dianthiflorus	ground-pink
Linanthus dichotomus	evening snow
Linanthus parryae	Parry's linanthus
Microsteris gracilis	slender phlox
Navarretia atractyloides	holly-leaved navarretia
Navarretia fossalis	spreading navarretia
Navarretia hamata	hooked navarretia
Navarretia ojaiensis	Ojai navarretia
Navarretia prostrata	prostrate navarretia
Saltugilia splendens	splendid gilia
Polygonaceae	**Buckwheat Family**
Acanthoscyphus parishii	Cushenbury oxytheca
Chorizanthe angustifolia	narrow leaf spineflower

EUDICOTS

	Scientific Name	Common Name
	Chorizanthe diffusa	diffuse spineflower
	Chorizanthe parryi var. fernandina	San Fernando Valley spineflower
	Chorizanthe procumbens	prostrate spineflower
	Chorizanthe pungens	Monterey spineflower
	Chorizanthe staticoides	turkish rugging
	Dodecahema leptoceras	slender-horned spineflower
	Eriogonum brachypodium	Parry's buckwheat
	Eriogonum cinereum	ashy-leaved buckwheat
	Eriogonum cithariforme	cithara buckwheat
	Eriogonum davidsonii	Davidson buckwheat
	Eriogonum elongatum	long-stemmed buckwheat
	Eriogonum fasciculatum	California buckwheat
	Eriogonum giganteum	St. Catherine's lace
	Eriogonum gracile	slender woolly buckwheat
	Eriogonum parvifolium	bluff buckwheat
	Eriogonum roseum	wand buckwheat
	Eriogonum thurberi	Thurber buckwheat
	Eriogonum wrightii	Wright's buckwheat
	Lastarriaea coriacea	lastarriaea
	Mucronea californica	California spineflower
	Nemacaulis denudata var. denudata	coast woolly heads
	Nemacaulis denudata var. gracilis	slender woolly heads
	Persicaria amphibia	water smartweed
*	*Persicaria capitata*	Himalayan smartweed
*	*Persicaria hydropiper*	common smartweed
	Persicaria hydropiperoides	water pepper
	Persicaria lapathifolium	willow-weed
*	*Persicaria maculosa*	spotted ladysthumb
	Persicaria punctata	perennial smartweed
*	*Polygonum argyrocoleon*	silver sheath knotweed
*	*Polygonum aviculare*	prostrate knotweed
	Polygonum ramosissimum	yellow knotweed
	Pterostegia drymarioides	California thread-stem
	Rumex acetosella	sheep sorrel
	Rumex conglomeratus	whorled dock
	Rumex crassus	willow-leaved dock
*	*Rumex crispus*	curly dock
	Rumex fueginus	golden dock
	Rumex hymenosepalus	desert rhubarb
	Rumex salicifolius	willow dock
	Rumex violascens	Mexican dock

EUDICOTS

	Scientific Name	Common Name
	Portulacaceae	**Purslane Family**
*	*Portulaca oleracea*	common purslane
	Primulaceae	**Primrose Family**
	Primula clevelandii	Padre's shooting star
	Ranunculaceae	**Buttercup Family**
	Actaea rubra	baneberry
	Clematis lasiantha	pipestems
	Clematis ligusticifolia	virgin's bower
	Clematis pauciflora	ropevine
	Delphinium cardinale	scarlet larkspur
	Delphinium parishii	Parish's larkspur
	Delphinium parryi	Parry's larkspur
	Delphinium patens	spreading larkspur
	Ranunculus californicus	California buttercup
	Ranunculus cymbalaria	desert buttercup
	Ranunculus hebecarpus	pubescent fruited buttercup
	Thalictrum fendleri	meadow-rue
	Resedaceae	**Mignonette Family**
	Oligomeris linifolia	narrow-leaved oligomeris
	Rhamnaceae	**Buckthorn Family**
	Adolphia californica	California adolphia
	Ceanothus crassifolius	hoary leaf ceanothus
	Ceanothus cuneatus	buck brush
	Ceanothus cyaneus	lakeside ceanothus
	Ceanothus impressus	Santa Barbara ceanothus
	Ceanothus leucodermis	chaparral whitethorn
	Ceanothus megacarpus	big-podded ceanothus
	Ceanothus oliganthus	hairy ceanothus
	Ceanothus spinosus	green bark ceanothus
	Ceanothus thyrsiflorus	blueblossom
	Frangula californica	California coffeeberry
	Rhamnus crocea	spiny redberry
	Rhamnus ilicifolia	holly-leaf redberry
	Rosaceae	**Rose Family**
	Adenostoma fasciculatum	chamise
	Adenostoma sparsifolium	red shanks
	Cercocarpus betuloides	birch-leaf mountain-mahogany
*	*Cotoneaster franchetii*	cotoneaster
*	*Cotoneaster lacteus*	milkflower cotoneaster
*	*Cotoneaster pannosus*	woolly cotoneaster

EUDICOTS

	Scientific Name	Common Name
	Drymocallis glandulosa	sticky cinquefoil
*	*Duchesnea indica*	mock strawberry
*	*Eriobotrys japonica*	loquat
	Fragaria vesca	wild strawberry
	Heteromeles arbutifolia	toyon
	Holodiscus discolor	oceanspray
	Horkelia cuneata	wedge leaved horkelia
	Ivesia santolinoides	mouse tail ivesia
	Potentilla multijuga	Ballona cinquefoil
*	*Prunus caroliniana*	Carolina laurelcherry
	Prunus ilicifolia	holly-leaved cherry
*	*Prunus persica*	peach
*	*Pyracantha coccinea*	scarlet firethorn
*	*Pyracantha fortuneana*	Chinese firethorn
*	*Pyracantha koidzumii*	Taiwan firethorn
	Rosa californica	California wild rose
	Rosa spithamea	Sonoma rose
*	*Rubus armeniacus*	Himalayan blackberry
	Rubus parviflorus	thimbleberry
*	*Rubus pensilvanicus*	Pennsylvania blackberry
*	*Rubus ulmifolius*	elmleaf blackberry
	Rubus ursinus	California blackberry
*	*Sanguisorba minor*	small burnet
	Rubiaceae	**Madder Family**
	Galium andrewsii	phlox-leaved bedstraw
	Galium angustifolium	narrow leaved bedstraw
	Galium aparine	goose grass
	Galium nuttallii	San Diego bedstraw
*	*Galium parisiense*	wall bedstraw
	Galium porrigens	climbing bedstraw
	Galium trifidum	three petaled bedstraw
*	*Sherardia arvensis*	field madder
	Rutaceae	**Rue Family**
*	*Ruta chalepensis*	fringed rue
	Salicaceae	**Willow Family**
*	*Populus alba*	white polar
	Populus fremontii	Fremont cottonwood
*	*Populus nigra*	Lombardy poplar
	Populus trichocarpa	black cottonwood
*	*Salix babylonica*	weeping willow
	Salix exigua	sandbar willow
	Salix gooddingii	black willow

EUDICOTS

	Scientific Name	Common Name
	Salix laevigata	red willow
	Salix lasiandra	Pacific willow
	Salix lasiolepis	arroyo willow
	Salix sessilifolia	northern sandbar willow
	Sapindaceae	**Soapberry Family**
	Acer macrophyllum	bigleaf maple
	Acer negundo	boxelder
	Aesculus californica	buckeye
*	*Cupaniopsis anacardioides*	carrotwood
*	*Koelreuteria bipinnata*	goldenrain tree
	Saxifragaceae	**Saxifrage Family**
	Boykinia occidentalis	western boykinia
	Boykinia rotundifolia	round-leaved boykinia
	Lithophragma affine	common woodland star
	Lithophragma bolanderi	hill star
	Micranthes californica	Greene's saxifrage
	Scrophulariaceae	**Figwort Family**
*	*Buddleja davidii*	butterfly bush
*	*Myoporum acuminatum*	strichnine bush
*	*Myoporum laetum*	Ngaio tree
	Scrophularia californica	California figwort
*	*Verbascum blattaria*	moth mullein
*	*Verbascum thapsus*	woolly mullein
*	*Verbascum virgatum*	wand mullein
	Solanaceae	**Nightshade Family**
*	*Cestrum nocturnum*	night jessamine
*	*Datura stramonium*	annual jimson weed
	Datura wrightii	jimson weed
	Lycium andersonii	box thorn
	Lycium brevipes var. *hassei*	Santa Catalina Island desert-thorn
	Lycium californicum	California box-thorn
*	*Lycium ferocissimum*	African boxthorn
*	*Lycopersicon esculentum*	tomato
*	*Nicandra physalodes*	nicandra
*	*Nicotiana alata*	flowering tobacco
	Nicotiana clevelandii	Cleveland's tobacco
*	*Nicotiana glauca*	tree tobacco
	Nicotiana quadrivalvis	Indian tobacco
	Petunia parviflora	wild petunia
*	*Physalis philadelphica*	tomatillo
*	*Salpichroa origanifolia*	lily of the valley vine

EUDICOTS

	Scientific Name	Common Name
	Solanum americanum	small-flowered nightshade
*	*Solanum aviculare*	New Zealand nightshade
	Solanum douglasii	Douglas' nightshade
*	*Solanum elaeagnifolium*	white horse-nettle
*	*Solanum lanceolatum*	lance leaf nightshade
*	*Solanum mauritianum*	earleaf nightshade
*	*Solanum nigrum*	black nightshade
*	*Solanum physalifolium*	hoe nightshade
*	*Solanum rostratum*	buffalo berry
	Solanum umbelliferum	blue witch
	Solanum xanti	chaparral nightshade
	Sterculiaceae	**Cacao Family**
*	*Brachychiton populneum*	white-flower kurrajong
	Tamaricaceae	**Tamarix Family**
*	*Tamarix aphylla*	athel
*	*Tamarix chinensis*	tamarisk
*	*Tamarix parviflora*	small-flowered tamarisk
*	*Tamarix ramosissima*	Mediterranean tamarisk
	Urticaceae	**Nettle Family**
	Hesperocnide tenella	western nettle
	Parietaria hespera	western pellitory
	Parietaria judaica	spreading pellitory
*	*Soleirolia soleirolii*	baby’s tears
	Urtica dioica	stinging nettle
*	*Urtica urens*	dwarf nettle
	Valerianaceae	**Valerian Family**
*	*Centranthus ruber*	Jupiter’s beard
	Verbenaceae	**Verbain Family**
*	*Lantana camara*	lantana
*	*Lantana montevidensis*	trailing lantana
	Phyla lanceolata	lance leaf lippia
	Phyla nodiflora	common lippia
	Verbena bracteata	bracted verbena
	Verbena lasiostachys	western verbena
*	*Verbena pulchella*	South American mock vervain
	Violaceae	**Violet Family**
*	*Viola odorata*	English violet
	Viola pedunculata	johnny-jump-up

EUDICOTS

	Scientific Name	Common Name
	Viscaceae	**Mistletoe Family**
	Phoradendron leucarpum ssp. *macrophyllum*	big leaf mistletoe
	Phoradendron leucarpum ssp. *tomentosum*	mistletoe
	Vitaceae	**Grape Family**
*	*Parthenocissus inserta*	woodbine
	Vitis californica	California wild grape
	Vitis girdiana	Southern California wild grape
*	*Viola odorata*	cultivated grape
	Zygophyllaceae	**Caltrop Family**
*	*Tribulus terrestris*	puncture vine

MONOCOTYLEDONS

	Scientific Name	Common Name
	Agavaceae	**Agave Family**
*	*Agave americana*	century plant
	Chlorogalum pomeridianum	soap plant
	Hesperoyucca whipplei	chaparral yucca
	Alliaceae	**Onion Family**
	Allium haematochiton	red-skinned onion
	Allium peninsulare	peninsular onion
*	*Nothoscordum gracile*	slender false garlic
	Arecaceae	**Palm Family**
*	*Washingtonia robusta*	Mexican fan palm
	Asparagaceae	**Asparagas Family**
*	*Asparagus aethiopicus*	African asparagus fern
*	*Asparagus asparagoides*	smilax
*	*Asparagus setaceus*	common asparagus fern
	Cyperaceae	**Sedge Family**
	Bolboschoenus maritimus	salt marsh bulrush
	Bolboschoenus robustus	sturdy bulrush
	Carex alma	sedge
	Carex barbarae	Valley sedge
	Carex pellita	woolly sedge
	Carex praegracilis	clustered field sedge
	Carex schottii	Schott's sedge
	Carex scopulorum	mountain sedge
	Carex senta	rough sedge
	Carex spissa	San Diego sedge
	Carex triquetra	triangular-fruited sedge
	Carex utriculata	beaked sedge
*	*Cyperus difformis*	variable nutsedge
	Cyperus eragrostis	tall cyperus
	Cyperus erythrorhizos	red-rooted cyperus
	Cyperus esculentus	yellow nut-grass
*	*Cyperus gracilis*	slimjim flatsedge
*	*Cyperus involucratus*	umbrella-plant
	Cyperus laevigatus	smooth cyperus
	Cyperus niger	brown cyperus
	Cyperus odoratus	coarse cyperus
*	*Cyperus rotundus*	purple nutsedge
	Eleocharis acicularis	needle-stemmed spikerush
	Eleocharis macrostachya	pale spike-rush
	Eleocharis montevidensis	slender creeping spike-rush
	Eleocharis palustris	pale spikerush

MONOCOTYLEDONS

	Scientific Name	Common Name
	Eleocharis radicans	creeping spikerush
	Isolepis cernua	low bulrush
*	*Kyllinga brevifolia*	short leaf spikesedge
	Schoenoplectus acutus	hard-stemmed bulrush
	Schoenoplectus americanus	American bulrush
	Schoenoplectus californicus	California bulrush
	Schoenoplectus pungens	common threesquare
	Scirpus microcarpus	small-fruited bulrush
	Iridaceae	**Iris Family**
*	*Iris pseudoacorus*	iris
	Sisyrinchium bellum	blue-eyed-grass
	Juncaceae	**Rush Family**
	Juncus acutus	southwestern spiny rush
	Juncus ambiguus	saline toad rush
	Juncus balticus	wire rush
	Juncus bufonius	toad rush
	Juncus effusus	bog rush
	Juncus macrophyllus	long-leaved rush
	Juncus mexicanus	Mexican rush
	Juncus patens	rush
	Juncus phaeocephalus	brown-headed rush
	Juncus rugulosus	wrinkled rush
	Juncus textilis	Indian rush
	Juncus xiphioides	iris-leaved rush
	Lemnaceae	**Duckweed Family**
	Lemna gibba	inflated duckweed
	Lemna minuscula	least duckweed
	Liliaceae	**Lily Family**
*	*Agapanthus africanus*	lily of the nile
	Calochortus albus	white fairy lantern
	Calochortus catalinae	Catalina mariposa lily
	Calochortus clavatus	yellow mariposa
	Calochortus plummerae	Plummer's mariposa lily
	Calochortus splendens	lilac mariposa lily
	Calochortus venustus	butterfly mariposa lily
	Fritillaria biflora	chocolate lily
	Lilium humboldtii ssp. *ocellatum*	ocellated lily
	Melianthaceae	**False-hellebore Family**
	Toxicoscordion fremontii	Fremont's death camas

MONOCOTYLEDONS

	Scientific Name	Common Name
	Orchidaceae	**Orchid Family**
	Epipactis gigantea	stream orchid
	Piperia cooperi	Cooper's rein orchid
	Piperia unalascensis	Alaska piperia
	Poaceae	**Grass Family**
*	*Aegilops geniculata*	ovate goatgrass
*	*Aegilops triuncialis*	goatgrass
	Agrostis exarata	bentgrass
	Agrostis pallens	Diego bentgrass
*	*Agrostis stolonifera*	redtop
	Alopecurus carolinanus	Carolina foxtail
	Alopecurus geniculatus	marsh foxtail
*	*Ammophila arenaria*	European beachgrass
	Andropogon glomeratus	bushy bluestem
	Aristida adscensionis	six-week's three-awn
	Aristida purpurea	Parish three-awn
*	*Arundo donax*	giant reed
*	*Avena barbata*	slender wild oat
*	*Avena fatua*	wild oat
*	*Avena sativa*	wild oat
	Bothriochloa barbinodis	beard grass
	Bothriochloa laguroides	silver beard grass
*	*Brachypodium distachyon*	false-brome
*	*Briza minor*	little rattlesnake grass
	Bromus arizonicus	Arizona brome
*	*Bromus berteroanus*	Chliean chess
	Bromus carinatus	California brome
*	*Bromus catharticus*	rescue grass
*	*Bromus diandrus*	ripgut grass
*	*Bromus hordeaceus*	soft chess
*	*Bromus madritensis* ssp. *rubens*	foxtail chess
*	*Bromus sterilis*	sterile brome
*	*Bromus tectorum*	cheat grass
*	*Cenchrus echinatus*	southern sandbur
*	*Cenchrus longispinus*	mat sandbur
*	*Chloris gayana*	Rhodes grass
*	*Chloris virgata*	feather finger grass
*	*Cortaderia jubata*	Andean pampas grass
*	*Cortaderia selloana*	pampas grass
*	*Crypsis schoenoides*	swamp timothy
*	*Crypsis vaginiflora*	prickle grass
*	*Cynodon dactylon*	Bermuda grass

MONOCOTYLEDONS

	Scientific Name	Common Name
*	*Cynosurus cristatus*	crested dogtail grass
*	*Dactylis glomerata*	orchardgrass
	Deschampsia danthonioides	annual hairgrass
*	*Digitaria ciliaris*	southern crabgrass
*	*Digitaria ischaemum*	smooth crabgrass
*	*Digitaria sanguinalis*	hairy crabgrass
	Distichlis spicata	saltgrass
*	*Echinochloa colona*	jungle rice grass
*	*Echinochloa crus-galli*	barnyard grass
*	*Ehrharta calycina*	perennial veldtgrass
*	*Ehrharta erecta*	panic veldtgrass
*	*Ehrharta longiflora*	long flowered veldtgrass
*	*Eleusine indica*	goose grass
	Elymus condensatus	giant wild rye
	Elymus glaucus	blue wildrye
	Elymus multisetus	big squirreltail
*	*Elymus repens*	quack grass
	Elymus stebbinsii	wheatgrass
	Elymus triticoides	beardless wild rye
*	*Eragrostis barrelieri*	Mediterranean lovegrass
*	*Eragrostis cilianensis*	weeping lovegrass
*	*Eragrostis curvula*	stinkgrass
	Eragrostis mexicana	Mexican lovegrass
	Eragrostis pectinacea	tufted lovegrass
*	*Eragrostis pilosa*	Indian lovegrass
*	*Festuca arundinacea*	reed fescue
*	*Festuca bromoides*	false brome fescue
	Festuca californica	California fescue
	Festuca microstachys	Pacific fescue
*	*Festuca myuros*	rattail fescue
	Festuca octoflora	hairy six-weeks fescue
*	*Festuca perennis*	Italian ryegrass
	Festuca pratensis	meadow fesue
*	*Festuca temulenta*	darnel
*	*Gastridium phleoides*	nit grass
	Hainardia cylindrica	thin tail
	Hordeum brachyantherum	meadow barley
	Hordeum depressum	alkali barley
	Hordeum intercedens	vernal barley
*	*Hordeum marinum*	seaside barley
*	*Hordeum murinum*	glaucous foxtail barley
*	*Hordeum murinum ssp. leporinum*	foxtail barley
*	*Hordeum vulgare*	common barley

MONOCOTYLEDONS

	Scientific Name	Common Name
*	*Hyparrhenia hirta*	thatching grass
	Koeleria macrantha	June grass
*	*Lamarckia aurea*	goldentop
	Leptochloa fusca ssp. *uninervia*	Mexican sprangletop
	Leptochloa panicea	mucronate sprangletop
	Melica californica	California melic
	Melica imperfecta	coast range melic
*	*Melinis repens*	Natal grass
	Muhlenbergia microsperma	littleseed muhly
	Muhlenbergia rigens	deergrass
	Orcuttia californica	California orcutt grass
	Pancium capillare	old witch grass
*	*Pancium dichotomiflorum*	fall panic grass
*	*Pancium miliaceum*	broom corn millet
*	*Parapholis incurva*	sickle grass
*	*Paspalum dilatatum*	dallis grass
	Paspalum distichum	knotgrass
*	*Paspalum vaginatum*	seashore paspalum
*	*Pennisetum clandestinum*	kikuyu grass
*	*Pennisetum purpureum*	elephant grass
*	*Pennisetum setaceum*	African fountain grass
*	*Phalaris aquatica*	Harding grass
	Phalaris californica	Canary grass
*	*Phalaris canariensis*	Canary grass
*	*Phalaris caroliniana*	Carolina canary grass
	Phalaris lemmonii	Lemmon’s canary grass
*	*Phalaris minor*	Mediterranean canary grass
*	*Phalaris paradoxa*	hood canary grass
	Phragmites australis	common reed
*	*Poa annua*	annual bluegrass
	Poa bulbosa	bulbous blue grass
	Poa fendleriana	Fendler’s bluegrass
*	*Poa pratensis*	Kentucky bluegrass
	Poa secunda	pine bluegrass
*	*Polypogon interruptus*	ditch beard grass
*	*Polypogon monspeliensis*	annual beard grass
*	*Polypogon viridis*	water beard grass
	Puccinellia nuttalliana	Nuttall’s alkali grass
*	*Rytidosperma penicillatum*	purple-awned wallaby grass
*	*Schismus arabicus*	Arabian grass
*	*Schismus barbatus*	Mediterranean schismus
*	*Secale cereale*	rye
*	*Setaria parviflora*	marsh bristle grass

MONOCOTYLEDONS

	Scientific Name	Common Name
*	*Setaria pumila*	yellow bristle grass
*	*Setaria verticillata*	hooked bristle grass
*	*Sorghum halepense*	Johnsongrass
	Spartina foliosa	Pacific cord grass
	Sporobolus airoides	alkali sacaton
*	*Sporobolus indicus*	smutgrass
*	*Stenotaphrum secundatum*	Saint Augustine grass
	Stipa cernua	nodding needlegrass
	Stipa coronatum	giant needlegrass
	Stipa lepida	small-flowered needlegrass
*	*Stipa miliacea*	Smilo grass
	Stipa pulchra	purple needlegrass
	Stipa speciosa	desert needlegrass
*	*Stipa tenuissima*	Mexican feathergrass
*	*Triticum aestivum*	wheat
	Potamogetonaceae	**Pondweed Family**
	Potamogeton foliosus	leafy pondweed
	Stuckenia pectinata	fennel-leaf pondweed
	Ruscaceae	**Butcher's Broom Family**
	Nolina cismontana	California beargrass
	Themidaceae	**Brodiaea Family**
	Bloomeria crocea	common goldenstar
	Brodiaea jolonensis	dwarf brodiaea
	Brodiaea terrestris	dwarf brodiaea
	Dichelostemma capitatum	blue dicks
	Muilla maritima	common muilla
	Triteleia ixioides	foothill triteleia
	Triteleia laxa	Ithuriel's spear
	Typhaceae	**Cattail Family**
	Sparganium eurycarpum	broad-fruited bur-reed
	Typha domingensis	slender cattail
	Typha latifolia	broad-leaved cattail
	Zannichelliaceae	**Horned-Pondweed Family**
	Zannichellia palustris	horned pondweed

Appendix C
Faunal Compendium

ESA

APPENDIX C: FAUNAL COMPENDIUM

INVERTEBRATES

Scientific Name	Common Name
Class: Gastropoda	**Snails and Slugs**
Ambigolimax nyctelius	Balkan threeband slug
Arion hortensis	garden arion
Cornu aspersum	garden snail
Deroceras laeve	meadow slug
Deroceras reticulatum	milky slug
Glyptostoma gabrielense	San Gabriel chestnut
Helminthoglypta petricola	Transverse Range shoulderband snail
Helminthoglypta traskii	trask shoulderband snail
Helminthoglypta tudiculata	Southern California shoulderband snail
Hespararion hemphilli	Hemphill's westernslug
Milax gagates	greenhouse slug
Otala lactea	milk snail
Oxychilus draparnaudi	Draparnaud's glass snail
Paralaoma servilis	pinhead spot snail
Polygyra cereolus	southern flatcoil
Zonitoides arboreus	quick gloss snail
Arachnida	**Spiders and Relatives**
Latrodectus geometricus	brown widow
Latrodectus hesperus	western black widow
Pauroctonus silvestrii	California common scorpion
Insecta (Order Orthoptera)	**Grasshoppers, Katydids, and Crickets**
Schistocerca nitens	gray bird grasshopper
Stenopelmatus sp.	Jerusalem cricket
Trimerotropis pallidipennis	pallid-winged grasshopper
Insecta (Order Odonata)	**Dragonflies and Damselflies**
Ischnura cervula	Pacific forktail
Libellula saturata	flame skimmer
Pachydiplax longipennis	blue dasher
Perithemis intensa	Mexican amberwing
Rhionaeschna multicolor	blue-eyed darner
Sympetrum corruptum	variegated meadowhawk
Insecta (Order Coleoptera)	**Beetles**
Cycloneda sanguinea	spotless lady beetle
* *Harmonia axyridis*	Asian lady beetle
Hippodamia convergens	convergent lady beetle

INVERTEBRATES

Scientific Name	Common Name
Insecta (Order Lepidoptera)	**Butterflies and Moths**
Agraulis vanillae	Gulf fritillary
Anthocharis sara	Sara orangetip
Apodemia vrigulti	Mormon metalmark
Burnsius albescens	white checkered-skipper
Callophrys augustinus	brown elfin
Callophrys perplexa	bramble hairstreak
Celastrina echo	echo azure
Danaus plexippus	Monarch butterfly
Erynnis funeralis	funeral duskywing
Euphilotes battoides allyni	El Segundo blue butterfly
Euphilotes bernardino	Bernardino blue
Euphilotes chalcedona	variable checkerspot
Glaucopsyche lygdamus palosverdesensis	Palos Verdes blue butterfly
Hylephila phyleus	fiery skipper
Junonia coenia	common buckeye
Leptotes marina	Marine blue
Limenitis lorquini	Lorquin's admiral
Nymphalis antiopa	mourning cloak
Nymphalis californica	California tortoiseshell
Papilio eurymedon	pale swallowtail
Papilio rutulus	western tiger swallowtail
Papilio zelicaon	anise swallowtail
Pieris rapae	cabbage white
Plebejus acmon	Acmon blue butterfly
Poanes melane	umber skipper
Pontia protodice	checkered white
Strymon melinus	gray hairstreak
Vanessa annabella	West Coast lady
Vanessa atalanta	red admiral
Vanessa cardui	painted lady
Vanessa virginiensis	American lady
Insecta (Order Hymenoptera)	**Ants, Bees, and Wasps**
Apis mellifera	western honey bee
Bombus sonorus	Sonoran bumblebee
Dasymutilla aureola	velvet ant
Dasymutilla sackenii	Sackeni's velvet ant
Linepithema humile	Argentine ant

FISH

	Scientific Name	Common Name
	Castostomidae	**Suckers**
	Catostomus santaanae	Santa Ana sucker
	Centrarchidae Family	**Sunfishes**
*	*Lepomis macrochirus*	bluegill
*	*Micropterus salmoides*	largemouth bass
	Cichlidae	**Cichlids**
*	*Oreochromis mossambicus*	Mozambique tilapia
	Cyprinidae	**Carps and Minnows**
*	*Cyprinus carpio*	common carp
*	*Cyprinus rubrofuscus*	Amur carp
	Gila orcutti	arroyo chub
	Rhinichthys osculus	speckled dace
	Ictaluridae	**Catfish**
*	*Ictalurus melas*	black bullhead
*	*Ictalurus nebulosus*	brown bullhead
*	*Ictalurus punctatus*	channel catfish
	Percichthyidae	**Temperate Bass**
*	*Morone saxatilis*	striped bass
	Poeciliidae	**Mosquitofish**
*	*Gambusia affinis*	western mosquitofish

AMPHIBIANS

Scientific Name	Common Name
Bufonidae	**True Toads**
Anaxyrus boreas	western toad
Hylidae	**Treefrogs**
Pseudacris cadaverina	California treefrog
Pseudacris hypochondriaca	Baja California treefrog
Pipidae	**Tongueless Frogs**
* *Xenopus laevis*	African clawed frog
Plethodontidae	**Lungless Salamanders**
Batrachoseps major	garden slender salamander
Batrachoseps nigriventris	black-bellied slender salamander
Ranidae	**True Frogs**
* *Lithobates catesbeianus*	American bullfrog
Rana draytonii	California red-legged frog
Rana muscosa	mountain yellow-legged frog
Salamandridae	**Pacific Newts**
Taricha torosa	California newt
Scaphiopodidae	**North American Spadefoots**
Spea hammondii	western spadefoot

REPTILES

Scientific Name	Common Name
TESTUDINES	**TURTLE AND TORTOISES**
Emydidae	**Box and Water Turtles**
Emys marmorata	western pond turtle
* *Graptemys pseudogeographica*	false map turtle
* *Pseudemys nelsoni*	Florida red-bellied cooter
* *Trachemys scripta*	common slider
* *Trachemys scripta elegans*	red-eared slider
Trionychidae	**Softshell Turtles**
* *Apalone ferox*	Floria softshell turtle
* *Apalone spinifera*	spiny softshell
LACERTILIA	**LIZARDS**
Anguidae	**Alligator Lizards**
Elgaria multicarinatus webbi	San Diego alligator lizard
Anniellidae	**North American Legless Lizards**
Anniella pulchra	California legless lizard
Phrynosomatidae	**Zebratail, Earless, Horned, Spiny, Fringe-Toed Lizards**
Phrynosoma blainvillii	Blainville's horned lizard
Sceloporus occidentalis	western fence lizard
Uta stansburiana	side-blotched lizard
Scincidae	**Skinks**
Plestiodon skiltonianus	western skink
Teiidae	**Whiptail Lizards**
Aspidoscelis tigris	western whiptail
SERPENTES	**SNAKES**
Colubridae	**Colubrid Snakes**
Diadophis punctatus	ring-necked snake
Lampropeltis californiae	California kingsnake
Lampropeltis multifasciata	coast mountain kingsnake
Masticophis flagellum	coachwhip
Masticophis lateralis	striped racer
Nerodia fasciata	banded watersnake
Pituophis catenifer	gopher snake
Pituophis catenifer annectens	San Diego gopher snake
Salvadora hexalepis	western patch-nosed snake
Viperidae	**Vipers**
Crotalus oreganus	western rattlesnake
Crotalus oreganus helleri	southern Pacific rattlesnake

BIRDS

Scientific Name	Common Name
ANSERIFORMES	
Anatidae	**Waterfowl**
Aix galericulata	Mandarin duck
Aix sponsa	wood duck
Alopochen aegyptiaca	Egyptian goose
Anas acuta	northern pintail
Anas americana	American wigeon
Anas clypeata	northern shoveler
Anas crecca	green-winged teal
Anas cyanoptera	cinnamon teal
Anas discors	blue-winged teal
Anas penelope	Eurasian wigeon
Anas platyrhynchos	mallard
Anas strepera	gadwall
Anser albifrons	greater white-fronted goose
Anser anser	greylag goose
Anser cygnoides	swan goose
Aythya affinis	lesser scaup
Aythya americana	redhead
Aythya collaris	ring-necked duck
Aythya valisineria	canvasback
Branta bernicla	brant
Branta canadensis	Canada goose
Branta hutchinsii	cackling goose
Bucephala albeola	bufflehead
Buscephala clangula	common goldeneye
Cairina moschata	Muscovy duck
Chen caerulescens	snow goose
Chen rossii	Ross's goose
Clangula hyemalis	long-tailed duck
Cygnus buccinators	trumpeter swan
Cygnus columbianus	tundra swan
Cygnus olor	mute swan
Dendrocygna bicolor	fulvous whistling-duck
Lophodytes cucullatus	hooded merganser
Melanitta americana	black scoter
Melanitta perspicillata	surf scoter
Mergus merganser	common merganser
Mergus serrator	red-breasted merganser
Oxyura jamaicensis	ruddy duck

BIRDS

Scientific Name	Common Name
GALLIFORMES	
Odontophoridae	**Quails**
Callipepla californica	California quail
Phasianidae	**Pheasants**
Pavo cristatus	Indian peafowl
GAVIIFORMES	
Gaviidae	**Loons**
Gavia immer	common loon
Gavia pacifica	Pacific loon
Gavia stellata	red-throated loon
PODICIPEDIFORMES	
Podicipedidae	**Grebes**
Aechmophorus clarkii	Clark's grebe
Aechmophorus occidentalis	western grebe
Podiceps auritus	horned grebe
Podiceps grisegena	red-necked grebe
Podiceps nigricollis	eared grebe
Podilymbus podiceps	pied-billed grebe
SULIFORMES	
Phalacrocoracidae	**Cormorants**
Phalacrocorax auritus	double-crested cormorant
Phalacrocorax penicillatus	Brandt's cormorant
PELECANIFORMES	
Pelecanidae	**Pelicans**
Pelecanus erythrorhynchos	American white pelican
Pelecanus occidentalis	brown pelican
Ardeidae	**Herons**
Ardea alba	great egret
Ardea herodias	great blue heron
Botaurus lentiginosus	American bittern
Bubulcus ibis	cattle egret
Butorides virescens	green heron
Egretta caerulea	little blue heron
Egretta thula	snowy egret
Ixobrychus exilis	least bittern
Nycticorax nycticorax	black-crowned night-heron
Nycticorax violacea	yellow-crowned night-heron

BIRDS

Scientific Name	Common Name
Threskiornithidae	**Ibises**
Plegadis chihi	white-faced ibis
Plegadis falcinellus	glossy ibis
ACCIPITRIFORMES	
Cathartidae	**New World Vultures**
Cathartes aura	turkey vulture
Pandionidae	**Osprey**
Pandion haliaetus	osprey
Accipitridae	**Hawks**
Accipiter cooperii	Cooper's hawk
Accipiter striatus	sharp-shinned hawk
Aquila chrysaetos	golden eagle
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
Buteo regalis	ferruginous hawk
Buteo swainsoni	Swainson's hawk
Circus hudsonius	northern harrier
Elanus leucurus	white-tailed kite
Haliaeetus leucocephalus	bald eagle
FALCONIFORMES	
Falconidae	**Falcons**
Caracara cheriway	crested caracara
Falco columbarius	merlin
Falco mexicanus	prairie falcon
Falco peregrinus	peregrine falcon
Falco sparverius	American kestrel
GRUIFORMES	**Cranes and Rails**
Rallidae	**Rails and Gallinules**
Fulica americana	American coot
Gallinula galeata	common gallinule
Porzana carolina	sora
Rallus limicola	Virginia rail
Rallus obsoletus	Ridgway's rail
Gruidae	**Cranes**
Grus canadensis	sandhill crane

BIRDS

Scientific Name	Common Name
CHARADRIIFORMES	
Charadriidae	**Plovers**
Charadrius nivosus	western snowy plover
Charadrius semipalmatus	semipalmated plover
Charadrius vociferus	killdeer
Pluvialis fulva	Pacific golden-plover
Pluvialis squatarola	black-bellied plover
Haematopodidae	**Oystercatchers**
Haematopus bachmani	black oystercatcher
Recurvirostridae	**Stilts and Avocets**
Himantopus mexicanus	black-necked stilt
Recurvirostra americana	American avocet
Scolopacidae	**Sandpipers**
Actitis macularia	spotted sandpiper
Arenaria melanocephala	black turnstone
Calidris alba	sanderling
Calidris alpina	dunlin
Calidris bairdii	Baird's sandpiper
Calidris canutus	red knot
Calidris mauri	western sandpiper
Calidris melanotos	pectoral sandpiper
Calidris minutilla	least sandpiper
Calidris virgata	surfbird
Gallinago delicata	Wilson's snipe
Limnodromus griseus	short-billed dowitcher
Limnodromus scolopaceus	long-billed dowitcher
Limosa fedoa	marbled godwit
Numenius americanus	long-billed curlew
Numenius phaeopus	whimbrel
Phalaropus lobatus	red-necked phalarope
Phalaropus tricolor	Wilson's phalarope
Tringa flavipes	lesser yellowlegs
Tringa incana	wandering tattler
Tringa melanoleuca	greater yellowlegs
Tringa semipalmata	willet
Tringa solitaria	solitary sandpiper
Laridae	**Gulls and Terns**
Chroicocephalus philadelphia	Bonaparte's gull
Hydroprogne caspia	Caspian tern
Larus argentatus	herring gull
Larus californicus	California gull

BIRDS

	Scientific Name	Common Name
	Larus canus	mew gull
	Larus delawarensis	ring-billed gull
	Larus glaucescens	glaucous-winged gull
	Larus occidentalis	western gull
	Rynchops niger	black skimmer
	Sternula antillarum	least tern
	Sterna forsteri	Forster's tern
	Sterna hirundo	common tern
	Alcidae	**Auks, Murres, and Puffins**
	Synthliboramphus antiquus	ancient murrelet
	COLUMBIFORMES	
	Columbidae	**Pigeons and Doves**
*	*Columba livia*	rock pigeon
	Columbina passerina	common ground-dove
	Patagioenas fasciata	band-tailed pigeon
	Streptopelia chinensis	spotted dove
*	*Streptopelia decaocto*	Eurasian collared-dove
	Zenaida asiatica	white-winged dove
	Zenaida macroura	mourning dove
	CUCULIFORMES	
	Cuculidae	**Cuckoos and Roadrunners**
	Geococcyx californianus	greater roadrunner
	STRIGIFORMES	
	Tytonidae	**Barn Owls**
	Tyto alba	barn owl
	Strigidae	**True Owls**
	Asio flammeus	short-eared owl
	Athene cunicularia	burrowing owl
	Bubo virginianus	great horned owl
	CAPRIMULGIFORMES	
	Caprimulgidae	**Goatsuckers**
	Chordeiles acutipennis	lesser nighthawk
	Phalaenoptilus nuttallii	common poorwill
	APODIFORMES	
	Apodidae	**Swifts**
	Aeronautes saxatalis	white-throated swift
	Chaetura vauxi	Vaux's swift

BIRDS

Scientific Name	Common Name
Trochilidae	**Hummingbirds**
Archilochus alexandri	black-chinned hummingbird
Calypte anna	Anna's hummingbird
Calypte costae	Costa's hummingbird
Selasphorus rufus	rufous hummingbird
Selasphorus sasin	Allen's hummingbird
Stellula calliope	Calliope hummingbird
CORACIIFORMES	
Alcedinidae	**Kingfishers**
Megaceryle alcyon	belted kingfisher
PICIFORMES	
Picidae	**Woodpeckers**
Colaptes auratus	northern flicker
Melanerpes formicivorus	acorn woodpecker
Picoides nuttallii	Nuttall's woodpecker
Picoides pubescens	downy woodpecker
Sphyrapicus nuchalis	red-naped sapsucker
Sphyrapicus thyroideus	Williamson’s sapsucker
Sphyrapicus varius	yellow-bellied sapsucker
PSITTACIFORMES	
Psittacidae	**Parakeets and Parrots**
* *Agapornis roseicollis*	rosy-faced lovebird
* *Amazona finschi*	lilac-crowned parrot
* *Amazona viridigenalis*	red-crowned parrot
* *Aratinga nenday*	Nanday parakeet
* *Bortogeris chiriri*	yellow-chevroned parakeet
* *Melopsittacus undulatus*	budgerigar
* *Nymphicus hollandicus*	cockatiel
* *Psittacula krameri*	rose-ringed parakeet
* *Psittacara mitratus*	mitred parakeet
PASSERIFORMES	
Tyrannidae	**Tyrant Flycatchers**
Contopus cooperi	olive-sided flycatcher
Contopus sordidulus	western wood-pewee
Empidonax difficilis	Pacific-slope flycatcher
Empidonax hammondii	Hammond's flycatcher
Empidonax oberholseri	dusky flycatcher
Empidonax traillii	willow flycatcher
Empidonax traillii extimus	southwestern willow flycatcher
Empidonax wrightii	gray flycatcher

BIRDS

Scientific Name	Common Name
Myiarchusf cinerascens	ash-throated flycatcher
Pyrocephalus rubinus	vermillion flycatcher
Sayornis nigricans	black phoebe
Sayornis phoebe	eastern phoebe
Sayornis saya	Say's phoebe
Tyrannus forficatus	scissor-tailed flycatcher
Tyrannus melancholicus	tropical kingbird
Tyrannus tyrannus	eastern kingbird
Tyrannus verticalis	western kingbird
Tyrannus vociferans	Cassin's kingbird
Laniidae	**Shrikes**
Lanius ludovicianus	loggerhead shrike
Vireonidae	**Vireos**
Vireo bellii pusillus	least Bell's vireo
Vireo cassinii	Cassin's vireo
Vireo flavifrons	yellow-throated vireo
Vireo gilvus	warbling vireo
Vireo huttoni	Hutton's vireo
Vireo olivaceus	red-eyed vireo
Vireo plumbeus	plumbeous vireo
Vireo solitarius	blue-headed vireo
Corvidae	**Jays and Crows**
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Nucifraga columbiana	Clark's nutcracker
Alaudidae	**Larks**
Eremophila alpestris	horned lark
Hirundinidae	**Swallows**
Hirundo rustica	barn swallow
Petrochelidon pyrrhonota	cliff swallow
Progne subis	purple martin
Riparia riparia	bank swallow
Stelgidopteryx serripennis	northern rough-winged swallow
Tachycineta bicolor	tree swallow
Tachycineta thalassina	violet-green swallow
Paridae	**Titmice**
Baeolophus inornatus	oak titmouse
Poecile gambeli	mountain chickadee

BIRDS

Scientific Name	Common Name
Aegithalidae	**Bushtits**
Psaltriparus minimus	bushtit
Sittidae	**Nuthatches**
Sitta canadensis	red-breasted nuthatch
Sitta carolinensis	white-breasted nuthatch
Certhiidae	**Creepers**
Certhia americana	brown creeper
Troglodytidae	**Wrens**
Campylorhynchus brunneicapillus	cactus wren
Catherpes mexicanus	canyon wren
Cistothorus palustris	marsh wren
Salpinctes obsoletus	rock wren
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
Polioptilidae	**Gnatcatchers**
Polioptila caerulea	blue-gray gnatcatcher
Polioptila californica californica	coastal California gnatcatcher
Regulidae	**Kinglets**
Regulus calendula	ruby-crowned kinglet
Sylviidae	**Wrentits**
Chamaea fasciata	wrentit
Turdidae	**Thrushes**
Catharus guttatus	hermit thrush
Ixoreus naevius	varied thrush
Sialia currucoides	mountain bluebird
Sialia mexicana	western bluebird
Turdus migratorius	American robin
Mimidae	**Thrashers**
Mimus polyglottos	northern mockingbird
Oreoscoptes montanus	sage thrasher
Toxostoma redivivum	California thrasher
Sturnidae	**Starlings**
* *Sturnus vulgaris*	European starling
Motacillidae	**Pipits**
Anthus cervinus	red-throated pipit
Anthus rubescens	American pipit
Bombycillidae	**Waxwings**
Bombycilla cedrorum	cedar waxing

BIRDS

Scientific Name	Common Name
Ptilogonatidae	**Silky-flycatchers**
Phainopepla nitens	phainopepla
Parulidae	**Wood Warblers**
Cardellina pusilla	Wilson's warbler
Geothlypis tolmiei	MacGillivray's warbler
Geothlypis trichas	common yellowthroat
Icteria virens	yellow-breasted chat
Mniotilta varia	black-and-whie warbler
Oreothlypis celata	orange-crowned warbler
Oreothlypis luciae	Lucy's warbler
Oreothlypis peregrina	Tennessee warbler
Oreothlypis ruficapilla	Nashville warbler
Oreothlypis virginae	Virginia warbler
Parkesia noveboracensis	northern waterthrush
Protonotaria citrea	prothonotary warbler
Seiurus aurocapilla	ovenbird
Setophaga americana	northern parula
Setophaga citrina	hooded warbler
Setophaga coronata	yellow-rumped warbler
Setophaga fusca	Blackburnian warbler
Setophaga magnolia	Magnolia warbler
Setophaga nigrescens	black-throated gray warbler
Setophaga occidentalis	hermit warbler
Setophaga palmarumtanager	palm warbler
Setophaga pensylvanica	chestnut-sided warbler
Setophaga petechia	yellow warbler
Setophaga ruticilla	blackpoll warbler
Setophaga striata	American redstart
Setophaga townsendi	Townsend's warbler
Setophaga virens	black-throated green warbler
Emberizidae	**Emberizine Sparrows and Allies**
Aimophila ruficeps	rufous-crowned sparrow
Aimophila ruficeps canescens	southern California rufous-crowned sparrow
Ammodramus savannarum	grasshopper sparrow
Chondestes grammacus	lark sparrow
Junco hyemalis	dark-eyed junco
Melospiza georgiana	swamp sparrow
Melospiza lincolnii	Lincoln's sparrow
Melospiza melodia	song sparrow
Melozone albicollis	white-throated sparrow
Melozone crissalis	California towhee
Passerella iliaca	fox sparrow

BIRDS

	Scientific Name	Common Name
	Passerculus sandwichensis	savannah sparrow
	Passerculus sandwichensis beldingi	Belding's savannah sparrow
	Pipilo chlorurus	green-tailed towhee
	Pipilo maculatus	spotted towhee
	Pooecetes gramineus	vesper sparrow
	Spizella arborea	American tree sparrow
	Spizella breweri	Brewer's sparrow
	Spizella pallida	clay-colored sparrow
	Spizella passerina	chipping sparrow
	Zonotrichia atricoplilla	golden-crowned sparrow
	Zonotrichia leucophrys	white-crowned sparrow
	Zonotrichia querula	Harris' sparrow
Calcariidae		**Longspurs and Snow Buntings**
	Calcarius lapponicus	lapland longspur
	Calcarius ornatus	chestnut-collared longspur
	Rhynchophanes mccownii	McCown's longspur
Cardinalidae		**Buntings, Grosbeaks, and Tanagers**
	Passerina amoena	Lazuli bunting
	Passerina caerulea	blue grosbeak
	Passerina cyanea	indigo bunting
	Pheucticus ludovicianus	rose-breasted grosbeak
	Pheucticus melanocephalus	black-headed grosbeak
	Piranga ludoviciana	western tanager
	Piranga olivacea	scarlet tanager
	Piranga rubra	summer tanager
Icteridae		**Blackbirds**
	Agelaius phoeniceus	red-winged blackbird
	Agelaius tricolor	tricolored blackbird
	Dolichonyx oryzivorus	bobolink
	Euphagus carolinus	rusty blackbird
	Euphagus cyanocephalus	Brewer's blackbird
	Icterus bullockii	Bullock's oriole
	Icterus cucullatus	hooded oriole
	Icterus galbula	Baltimore oriole
*	*Molothrus ater*	brown-headed cowbird
	Quiscalus mexicanus	great-tailed grackle
	Sturnella neglecta	western meadowlark
	Xanthocephalus xanthocephalus	yellow-headed blackbird

BIRDS

Scientific Name	Common Name
Fringillidae	**Finches**
Carduelis carduelis	European goldfinch
Haemorhous cassinii	Cassin's finch
Haemorhous mexicanus	house finch
Haemorhous purpureus	purple finch
Spinus lawrencei	Lawrence's goldfinch
Spinus pinus	pine siskin
Spinus psaltria	lesser goldfinch
Spinus tristis	American goldfinch
Passeridae	**Old World Sparrows**
* *Passer domesticus*	house sparrow
Ploceidae	**Bishops**
* *Euplectes after*	yellow-crowned bishop
* *Euplectes franciscanus*	northern red bishop
* *Ploceus melanocephalus*	black-headed weaver
Estrildidae	**Mannikins**
* *Amandava amandava*	red avadavat
* *Lonchura punctulata*	scaly-breasted munia/nutmeg mannikin
Viduidae	**Whydahs**
* *Vidua macroura*	pin-tailed whydah

MAMMALS

	Scientific Name	Common Name
	Cervidae	**Deer**
	Odocoileus hemionus	mule deer
	Canidae	**Canines**
	Canis latrans	coyote
	Urocyon cinereoargenteus	gray fox
	Vulpes vulpes	red fox
	Didelphidae	**Opossums**
	Didelphis virginiana	Virginia opossum
	Felidae	**Cats**
	Lynx rufus	bobcat
	Puma concolor	cougar
	Geomyidae	**Pocket Gophers**
	Thomomys bottae	Botta's pocket gopher
	Leporidae	**Hares and Rabbits**
	Oryctolagus cuniculus	European rabbit
	Sylvilagus audubonii	desert cottontail
	Sylvilagus bachmani	brush rabbit
	Mephitidae	**Skunks**
	Mephitis mephitis	striped sunk
	Molossidae	**Free-Tailed Bats**
	Eumops perotis	western mastiff bat
	Tadarida brasiliensis	Mexican free-tailed bat
	Muridae	**Mice, Rats, and Voles**
	Microtus californicus	California vole
*	*Mus musculus*	house mouse
	Neotoma fuscipes	dusky-footed woodrat
	Peromyscus boylii	brush mouse
	Peromyscus fraterculus	Northern Baja deer mouse
	Peromyscus maniculatus	deer mouse
*	*Rattus norvegicus*	brown rat
*	*Rattus rattus*	black rat
	Reithrodontomys megalotis	western harvest mouse
	Otariidae	**Fur Seals and Sea Lions**
	Zalophus californianus	California sea lion
	Phocidae	**Earless Seals**
	Phoca vitulina	harbor seal
	Procyonidae	**Ringtails and Raccoons**
	Procyon lotor	raccoon

MAMMALS

Scientific Name	Common Name
Sciuridae	**Squirrels and Chipmunks**
Sciurus griseus	western gray squirrel
Sciurus niger	fox squirrel
Otospermophilus beecheyi	California ground squirrel
Talpidae	**Moles**
Scapanus latimanus occultus	broad-footed mole
Ursidae	**Bears**
Ursus americanus	black bear
Vespertilionidae	**Evening Bats**
Eptesicus fuscus	big brown bat
Lasiurus blossevillii	western red bat
Lasiurus cinereus	hoary bat
Lasiurus xanthinus	western yellow bat
Myotis californicus	California myotis
Myotis yumanensis	Yuma myotis
Parastrellus hesperus	canyon bat

Reference websites used:

Baldwin Hills Nature. 2020. Wildlife in the Baldwin Hill. https://baldwinhillsnature.bhc.ca.gov/birds/. Website accessed April 14, 2020.

California Academy of Sciences. 2020. iNaturalist. Available online (https://www.inaturalist.org/observations). Website accessed April 13, 2020.

California Department of Fish and Wildlife (CDFW). 2020. California Natural Diversity Database (CNDDB) Rarefind 5. Electronic database, Sacramento, California. Accessed at: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed on April 13, 2020.

The Cornell Lab of Ornithology. 2012. eBird: An Online Database of Bird Distribution and Abundance. eBird Hotspots (http://ebird.org/ebird/hotspots). eBird, Ithaca, New York. Available: http://www.ebird.org. Accessed: April 13, 2020.

Friends of Ballona Wetlands. 2019a. Field Guides. https://www.ballonafriends.org/field-guide-to-the-wetlands.

Friends of Ballona Wetlands. 2019b. Ballona Freshwater Wetlands Bird List. https://static1.squarespace.com/static/5ac288137c932757f60f8e6a/t/5c9aab128165f57143b71281/1553640210715/Freshwater+Wetlands+Bird+List.pdf.

Friends of Griffith Park. 2012. Common Butterflies of Griffith Park. http://www.friendsofgriffithpark.org/GPNHS/ButterfliesGriffithParkFeb2012.pdf.

Magney, David. 2009. Los Angeles County Wildlife - Terrestrial Gastropods (Snails and Slugs). http://magney.org/photofiles/Snails-LosAngelesCounty.htm.

Natural History Museum Los Angeles County. 2020. Backyard Bats. Bats in Southern California Backyards. https://nhm.org/community-science-nhm/backyard-bats. Website accessed April 14, 2020.

Sepulveda Basin Wildlife. 2007. Sepulveda Basin Wildlife Reserve Bird Checklist. https://www.sepulvedabasinwildlife.org/pdf/SepulvedaBasinBirdChecklist2007.pdf

Appendix D
Special-Status Species

ESA

Appendix D: Special-Status Species Occurring or Potentially Occurring within the City of Los Angeles

VASCULAR PLANTS

Scientific Name	Common Name	Agency Listing Status	CNPS Listing Status	Preferred Habitat	Record[1]
Angiosperms (Dicotyledons)					
Asteraceae	**Sunflower Family**				
Baccharis plummerae ssp. *plummerae*	Plummer's baccharis		4.3	Chaparral, broad-leaved upland forest, cismontane woodland, sage scrub; rocky areas.	Santa Monica Mountains
Centromadia parryi ssp. *australis*	southern tarweed		1B.1	Coastal salt marsh (estuaries), valley and foothill grassland vernally mesic), vernal pools.	Ballona Wetlands; San Pedro; Port of Los Angeles; UCLA Campus

Legend

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FPD	Federally Proposed for Delisting	SSC	California Species of Special Concern
		SR	State Rare
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Special-Status Species
Occurring Or Potentially Occurring
Within the City of Los Angeles

VASCULAR PLANTS

Scientific Name	Common Name	Agency Listing Status	CNPS Listing Status	Preferred Habitat	Record[1]
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion		1B.1	Coastal bluff scrub, coastal dunes, sandy sites.	Ballona Lagoon (2010); Ballona Wetlands (2011); Playa del Rey (1958); Manhattan Beach (1929); El Segundo (1935)

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Within the City of Los Angeles

VASCULAR PLANTS

Scientific Name	Common Name	Agency Listing Status	CNPS Listing Status	Preferred Habitat	Record[1]
Deinandra minthornii	Santa Susana tarplant	SR	1B.2	Sage scrub, chaparral.	Chatsworth, Stoney Point
Helianthus nuttallii ssp. *parishii*	Los Angeles sunflower		1A	Marshes and swamps (coastal salt and freshwater).	East Los Angeles (1901); Cienega (1900); Presumed extinct

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VASCULAR PLANTS

Scientific Name	Common Name	Agency Listing Status	CNPS Listing Status	Preferred Habitat	Record[1]
Lasthenia glabrata ssp. *coulteri*	Coulter goldfields		1B.1	Saline places: coastal salt marsh, playas, vernal pools in foothill/valley grassland.	Ballona Wetlands (1906); Playa del Rey (1934); San Pedro (1889); Wilmington (1962); Culver City (1934)
Microseris douglasii var. *platycarpha*	small-flowered microseris		4.2	Cismontane woodland, coastal scrub, valley and foothill grassland/clay.	San Pedro (1889)
Berberidaeeae	**Barberry Family**				
Berberis nevinii	Nevin's barberry	FE, SE	1B.1	Sage scrub, chaparral, cismontane woodland, riparian scrub; sandy or gravelly substrate.	Griffith Park; Pacoima Wash; Sunland
Boraginaceae	**Borage Family**				
Nama stenocarpum	mud nama		2B.2	Marshes and swamps.	Historic record in Bevery Hills quad; Westwood (Soldier's Home) (1889)
Phacelia stellaris	Brand's phacelia		1B.1	Sage scrub, coastal dunes.	Playa del Rey (1943); El Segundo (1932)
Brassicaceae	**Mustard Family**				

Legend

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Special-Status Species
Occurring Or Potentially Occurring
Within the City of Los Angeles

VASCULAR PLANTS

Scientific Name	Common Name	Agency Listing Status	CNPS Listing Status	Preferred Habitat	Record[1]
Dithyrea maritima	beach spectaclepod	ST	1B.1	Coastal dunes.	El Segundo Dunes; Playa del Rey (1903); Hermosa Beach (1902); Redondo Beach (1899)
Lepidium virginicum var. *robinsonii*	Robinson's pepper grass		4.3	Chaparral, coastal scrub.	Downtown LA (1950)
Caryophyllaceae	**Pink Family**				
Arenaria paludicola	marsh sandwort		1B.1	Freshwater marshes and swamps, growing through dense mats of *Typha*, *Juncus*, *Scirpus*, etc.	Cienega (1900); presumed extinct in Los Angeles
Chenopodiaceae	**Goosefoot Family**				
Aphanisma blitoides	aphanisma		1B.2	Coastal shrubland, bluffs, sand, <100m.	White Point
Atriplex coulteri	Coulter's saltbush		1B.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland.	Occurrences reported Coastal bluffs near San Pedro
Atriplex pacifica	south coast salt scale		1B.2	Coastal scrub, coastal bluff scrub, playas, chenopod scrub; alkali soils.	Redondo Beach (1903), San Pedro (1903)
Atriplex parishii	Parish's brittlescale		1B.1	Alkali meadows, vernal pools, chenopod scrub.	Beverly Hills and Redondo Beach quads, exact date and location unknown,
Atriplex serenana var. *davidsonii*	south coast salt scale		1B.2	Alkali meadows, vernal pools, chenopod scrub, playas; drying alkali flats with fine soils.	Cienega (1902), San Pedro (1893)

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VASCULAR PLANTS

Scientific Name	Common Name	Agency Listing Status	CNPS Listing Status	Preferred Habitat	Record[1]
Suaeda esteroa	estuary seablite		1B.2	Coastal bluff scrub, marshes and swamps (coastal salt).	Venice quad; San Pedro (1904)
Suaeda taxifolia	wooly sea-blite		4.2	Coastal bluffs, margins of salt marshes.	Ballon Creek (1930); San Pedro (1923); Redondo Beach (1948); Pacific Palisades (1933)
Convolvulaceae	**Morning-Glory**				
Convolvulus simulans	small-flowered morning glory		4.2	Coastal scrub, valley and foothill grassland/clay, serpentinile seeps.	Griffith Park; San Pedro
Dichondra occidentalis	western dichondra		4.2	Chaparral, Cismontane woodland, Coastal scrub, valley and foothill grasslands.	Ballona wetlands
Crassulaceae	**Stonecrop Family**				
Dudleya cymosa ssp. *ovatifolia*	Santa Monica Mountains dudleya	FT	1B.1	In rock crevices (usually volcanic) in chaparral and coastal scrub.	Topanga Cyn. Blvd., S of Trippet Ranch (1994); Topanga State Park (2003)
Dudleya multicaulis	many-stemmed dudleya		1B.2	California plant communities including sage scrub, valley and foothill grassland; heavy clay soils or rock outcrops; below 2,000 ft..	Chatsworth Reservoir (2007); recorded in eastern Santa Monica Mtns.; historic record in Hollywood
Dudleya virens spp. *virens*	Catalina Island dudleya		1B.2	Chaparral, coastal bluff scrub, coastal sage scrub.	Historic record in San Pedro

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VASCULAR PLANTS

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Dudleya virens spp. *insularis*	island green dudleya		1B.2	Chaparral, coastal bluff scrub, coastal sage scrub.	San Pedro(2012); Palos Verdes Peninsula (2010)
Crossosomataceae	**Crossosoma Family**				
Crossosoma californicum	Catalina crossosoma		1B.2	Dry, rocky slopes, coastal sage scrub, cyns. <500m.	White Point
Fabaceae	**Legume Family**				
Astragalus brauntonii	Braunton's milk-vetch	FE	1B.1	Sage scrub, chaparral, valley and foothill grassland, closed cone coniferous forest; limestone endemic, carbonate soils, recent burns and disturbed areas.	Topanga Canyon State Park, Dayton Canyon, Temescal Ridge, Cienega (1904)
Astragalus pycnostachyus var. *lanosissimus*	Ventura marsh milk-vetch	FE, SE	1B.1	Coastal salt marsh; rarely near seeps on sandy bluffs.	Ballona Creek (1901), Playa del Rey (1951)
Astragalus tener var. *titi*	Coastal dunes milk-vetch	FE, SE	1B.1	Coastal bluff scrub, coastal dunes; often in moist, sandy depressions of bluffs and dunes along the coast.	Los Angeles, near Hyde Park (1903), Playa del Rey (1951); presumed extinct in Los Angeles
Juglandaceae	**Walnut Family**				
Juglans californica	Southern California black walnut		4.2	Sage scrub, chaparral, cismontane woodland; often in association with oaks/oak woodland; frequently found on steep hillsides with northern exposures; deep alluvial soils.	Base of San Gabriel foothills, Los Pinetos Springs (1999)
Lamiaceae	**Mint Family**				

Legend

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VASCULAR PLANTS

Scientific Name	Common Name	Agency Listing Status	CNPS Listing Status	Preferred Habitat	Record[1]
Lepechinia fragrans	fragrant pitcher sage		4.2	Chaparral below 3,000 ft. perennial herb.	Potential where habitat occurs; Topanga Canyon (1981); Big Tujunga Canyon (1975)
Malvaceae	**Mallow Family**				
Lavatera assurgentiflora ssp. *glabra*	southern island mallow		1B.1	Coastal bluff scrub.	Historic records from Playa del Rey (1910) and San Pedro (1906)
Malacothamnus davidsonii	Davidson's bush mallow		1B.2	Sage scrub, chaparral, riparian woodland.	Pacoima Wash (1917); Little Tujunga Wash (1931); Sylmar (1977); O'Melveny Park (1990); Sunland (1997)
Sidalcea neomexicana	Salt spring checkerbloom		2B.2	Alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, desert scrub.	Historic record, Los Angeles, Beverly Hills quads; west of Culver City (1922); Los Angeles (1922)
Montiaceae	**Miner's Lettuce**				

Legend

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VASCULAR PLANTS

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Calandrinia breweri	Brewer's calandrinia		4.2	Chaparral, coastal scrub/disturbed sites, burns.	Del Rey Hills (1928); Griffith Park (1928); Mandeville Canyon (1929); Temescal Canyon (1972); Verdugo Mountains (2000)
Nyctaginaceae	**Four O'Clock Family**				
Abronia maritima	red sand-verbena		4.2	Coastal dunes <100m.	Ballona Wetlands; Venice Beach; Play del Rey; Dockweiler State Beach
Orobanchaceae	**Broom-Rape Family**				
Cordylanthus maritimus ssp. *maritimus*	salt marsh bird's beak	FE, SE	1B.2	Coastal dunes, salt marsh.	Ballona Harbor (1901); Terminal Island (1901); Venice, Topanga and Beverly Hills quads
Polemoniaceae	**Phlox Family**				
Navarretia fossalis	spreading navarretia	FT	1B.1	Chenopod scrub, shallow freshwater marshes, vernal pools.	Inglewood (1906)
Navarretia prostrata	prostrate navarretia		1B.1	Alkaine soils, vernal pools and mesic habitats within coastal scrub and foothill woodlands.	Inglewood (1906); Los Angeles (1907); Western Avenue, Los Angeles (1944); Manhattan Beach (1944)

Legend

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Special-Status Species
Occurring Or Potentially Occurring
Within the City of Los Angeles

VASCULAR PLANTS

Scientific Name	Common Name	Agency Listing Status	CNPS Listing Status	Preferred Habitat	Record[1]
Polygalaceae	**Milkwort Family**				
Polygala cornuta var. *fishiae*	Fish's milkwort		4.3	Shaded rocky places in cyns with cismontane and riparian woodlands, and chaparral between 650 and 3,000 feet.	Topanga State Park
Polygonaceae	**Buckwheat Family**				
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	FPE, SE	1B.1	Coastal scrub, sandy soils.	Ballona Harbor (1901); Chatsworth Park (1901); San Fernando (1922); San Fernando Wash (1913); Little Tujunga Wash (1920)
Dodecahema leptoceras	slender-horned spineflower	FE, SE	1B.1	Alluvial sage scrub vegetation on sandy flood-deposited rivers and washes.	Big Tujunga Canyon; San Fernando (1914); Sun Valley (1906)
Mucronea californica	California spineflower		4.2	Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland.	Potential where habitat occurs; Ballona Harbor (1899); Playa del Rey (1928); Tujunga Wash (1940); Little Tujunga Wash (1931)
Nemacaulis denudata var. *denudata*	coast woolly-heads		1B.2	Coastal dunes.	Potential where habitat occurs; San Pedro (1898)

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Primulaceae	**Primrose Family**				
Rosaceae	**Rose Family**				
Horkelia cuneata var. *puberula*	mesa horkelia		1B.1	Chaparral, cimontane woodlands, coastal scrub.	Beverly Hills, Hollywood and Venice quads; El Segundo (1932)
Rubiaceae	**Madder Family**				
Galium cliftonsmithii	Santa Barbara bedstraw		4.3	Cismontane woodlands.	Potential where suitable habitat occurs; Las Flores Canyon (1929)
Solanaceae	**Nightshade Family**				
Solanum wallacei	Wallace's nightshade		1B.1	Chaparral, cismontane woodland/rocky.	Potential where habitat occurs; Upper Topanga (2018); UCLA (2019)
Angiosperms (Monocotyledons)					
Juncaceae	**Rush Family**				
Juncus acutus var. *leopoldii*	southwestern spiny rush		4.2	Coastal dunes (mesic), meadows (alkali seeps), marshes and swamps (coastal salt).	Potential where habitat occurs; Pacific Palisades (1959); Redondo Beach (1901)

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VASCULAR PLANTS

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Liliaceae	**Lily Family**				
Calochortus catalinae	Catalina mariposa lily		4.2	Openings in chaparral, valley and foothill grassland, cismontane woodland; heavy soils.	Potential where habitat occurs; Cahuenga Pass (1926); Temescal Canyon (1973); Mandeville Canyon (1928)
Calochortus clavatus var. *clavatus*	club-haired mariposa lily		4.3	Coastal sage scrub, clayish flats and slopes.	Mandeville Canyon (1929); Mulholland Drive (1933)
Calochortus clavatus var. *gracilis*	slender mariposa lily		1B.2	Chaparral, especially in foothill cyns.; generally found in shade.	Potential where habitat occurs; Sunshine Canyon (1995); Woolsey Canyon (1998)
Calochortus plummerae	Plummer's mariposa lily		4.2	Sage scrub, valley and foothill grassland, yellow pine forest; dry, rocky or sandy sites, granitic or alluvial soil; to 4,800 feet.	Potential where habitat occurs; Chatsworth (1916); Sepulveda (1956); Griffith Park (2008); Mandeville Canyon (1929)
Lilium humboldtii ssp. *ocellatum*	ocellated Humboldt lily		4.2	Openings in chaparral, cismontane woodland, lower montane coniferous forest, below 5,500 feet.	Potential where habitat occurs; Temescal Canyon (1972); Topanga State Park (1972); La Tuna Canyon (2006)

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Poaceae	**Grass Family**				
Hordeum intercedens	vernal barley		3.2	Vernal pools, valley and foothill grasslands (saline flats and depressions).	Potential where habitat occurs; Ballona Harbor (1901); Los Angeles quad.
Orcuttia californica	California orcutt grass	FE, SE	1B.1	Vernal pools.	Rosecrans Avenue, Los Angeles (1944); Los Angeles (1946).

NOTE:

[1] *Based on occurrence records documented in CNDDB, CNPS Online Inventory, CalFlora, and iNaturalist.*

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INVERTEBRATES

Scientific Name	Common Name	Agency Listing Status	Preferred Habitat	Record
INSECTA –katydids, butterflies, moths				
Order Lepidoptera	**Butterflies and Moths**			
Callophyrs mossii hidakupa	San Gabriel Mountains elfin butterfly	FSC	Rocky outcrops, cliffs where stonecrop grows.	Potential where habitat occurs
Panoquina errans	wandering (salt-marsh) skipper	FSC	Salt marshes, requires moist saltgrass for larval development.	Ballona Wetlands; Santa Monica Mountains
Plejebus saepiolus aureolus	San Gabriel Mountains blue butterfly	FSC	Forest openings, at streamsides, in meadows and alpine fell-fields, from cool coastal areas to upper elevations of the California mountain ranges.	Potential where habitat occurs
Order Orthoptera	**Grasshoppers**			
Neduba longipennis	Santa Monica shieldback katydid	FSC	Near coast in coastal sage scrub, chaparral, and woodlands.	Lower portions of several cyns. in Malibu

VERTEBRATES

Scientific Name	Common Name	Agency Listing Status	Preferred Habitat	Record
Fish				
Catostomidae	**Sucker Family**			
Catostomus santaanae	Santa Ana sucker	FT	Sand, rubble, boulder bottoms; cool, clear water; feed on algae.	Tujunga Canyon
Cyprinidae	**Minnow Family**			
Gila orcutti	arroyo chub	SSC	Slow water sections of streams with mud or sand substrates.	Tujunga Wash
Gobiidae	**Goby Family**			
Eucyclogobius newberryi	tidewater goby	FE, SSC	Shallow lagoon, lower stream, reaches where water is brackish to fresh and slow-moving or fairly still but not stagnant.	Ballona Creek

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VERTEBRATES

Scientific Name	Common Name	Agency Listing Status	Preferred Habitat	Record
Salmonidae	**Salmon and Trout Family**			
Oncorhynchus mykiss	steelhead-Southern California ESU	FE	Cool, clear, well-oxygenated streams with coastal mouths	Topanga Creek (1990); Malibu Creek and Lagoon (1992)
Amphibians				
Pelobatidae	**Spadefoot Toad Family**			
Spea hammondii	western spadefoot	SSC	Open areas with seasonal pools in lowland grasslands, chaparral, and pine-oak woodlands, areas of sandy or gravelly soil in alluvial fans, washes, and floodplains.	Lomita
Ranidae	**True Frog Family**			
Rana draytonii	California red-legged frog	FT, SSC	Humid forests, woodlands, grasslands and streamsides, especially where cattails and other plants provide good cover.	Dalton Canyon, Simi Hills
Rana boylii	foothill yellow-legged frog	SSC	Stream, river of woodland, chaparral and forest.	Potential wherever permanent water pool habitat occurs
Salamandridae	**Newt Family**			
Taricha torosa torosa	coast range newt	SSC	Moist woodlands.	Potential in oak woodland habitat along streams with seasonal pools

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VERTEBRATES

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Reptiles				
Colubridae	**Colubrid Snake Family**			
Diadophis punctatus modestus	San Bernardino ringneck snake	SSC	Riparian woodlands, mixed chaparral, and annual grass habitats.	Santa Monica Mountains
Lampropeltis multifasciata	coast mountain kingsnake	SSC	Moist woods, coniferous forests, woodland and chaparral.	Potential where habitat occurs in Santa Monica Mountains
Thamnophis hammondii	two-striped garter snake	FSC, SSC	Riparian and freshwater marshes with perennial water.	Sepulveda Basin
Emydidae	**Turtle Family**			
Actinemys pallida	southwestern pond turtle	SSC	Ponds, slow moving streams.	Santa Monica Mountains, Santa Susana Mountains
Phrynosomatidae	**Spiny Lizard Family**			
Phrynosoma blainvilli	coast horned lizard	SSC	Valley-foothill hardwood, conifer, and riparian habitats, pine-cypress, juniper and annual grassland habitats below 6,000 feet, open country, especially sandy areas, washes, floodplains, and windblown deposits.	Santa Monica Mountains; Griffith Park; Verdugo Mountains; Simi Hills
Teiidae	**Whiptail Lizard Family**			
Anniella stebbinsi	Southern California legless lizard	SSC	Several habitats but especially in coastal dune, valley-foothill, chaparral, and coastal scrub habitats.	Potential in coastal habitat (e.g., Ballona Lagoon) and within leaf litter of oak woodlands.
Aspidoscelis tigris stejnegeri	coastal whiptail	SSC	Arid and semi-arid desert to open woodlands, where vegetation is sparse.	Santa Monica Mountains; Tujunga Canyon

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VERTEBRATES

Scientific Name	Common Name	Agency Listing Status	Preferred Habitat	Record
Birds				
Charadriidae	**Plover Family**			
Charadrius nivosus nivosus	western snowy plover	FT, SSC	Beaches and sandy flats.	Dockweiler Beach
Laridae	**Gulls and Tern Family**			
Larus californicus	California gull	SSC	Seacoasts, lakes, farms, and urban centers.	Play del Rey Lagoon, Los Angeles River
Sternula antillarum browni	California least tern	FE, SE, SFP	Sea beaches, bays, large rivers, bars.	Venice Beach, Los Angeles Harbor
Phalacrocoracidae	**Cormorant Family**			
Phalacrocorax auritus	double-crested cormorant	SSC	Coasts, bays, lakes, and rivers.	Ballona Creek, Los Angeles River
Pelecanidae	**Pelican Family**			
Pelecanus erythrorhynchos	American white pelican	SSC	Large lakes.	Ballona Wetlands
Pelecanus occidentalis californicus	California brown pelican	FE, SE, SFP	Coastal, salt bays, ocean, and beaches.	Dockweiler Beach
Ardeidae	**Heron Family**			
Ixobrychus exilis	least bittern	SSC	Emergent wetlands of cattails and tules.	Sepulveda Basin, Ballona Wetlands
Threskiornithidae	**Ibises and Spoonbill Family**			
Plegadis chihi	white-faced ibis	ST	Fresh emergent wetland, shallow lacustrine waters, wet meadows, irrigated or flooded pastures and cropland.	Sepulveda Basin, Ballona Wetlands
Cathartidae	**New World Vulture Family**			
Gymnogyps californianus	California condor	FE, SE, SFP	Montane and foothill regions; vast expanses of open savannah, grasslands, and chaparral, with cliffs, large trees, and snags.	Sylmar, San Gabriel Mountains

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VERTEBRATES

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Accipitridae	**Hawks, Kites, Harriers and Eagle Family**			
Accipiter cooperi	Cooper's hawk	SSC	Open woodlands especially riparian woodland.	Santa Monica Mountains, Santa Susan Mountains, Verdugo Mountains
Accipiter striatus	sharp-shinned hawk	SSC	Woodlands; forages over chaparral and other scrublands; prefers riparian habitats and north-facing slopes, with perch sites.	May winter in the Santa Monica Mountains but breeding is unlikely within City boundary.
Aquila chrysaetos	golden eagle	SSC, SFP	Mountains, deserts, and open country; prefer to forage over grasslands, deserts, savannahs and early successional stages of forest and shrub habitats.	May forage in the foothills surrounding the San Fernando Valley but unlikely to nest within the City boundary.
Buteo regalis	ferruginous hawk	SSC	Rivers, lakes, and coasts; open tracts of sparse shrubs and grasslands, and agricultural areas during winter.	No breeding within the City but may be seen during migration.
Buteo swainsoni	Swainson's hawk	ST	Plains, ranges, open hills, sparse trees.	Verdugo Mountains as migrant
Circus hudsonius	northern harrier	SSC	Coastal salt marshes, freshwater marshes, grasslands, and agricultural fields; occasionally forages over open desert and brushlands.	Ballona Wetlands
Elanus leucurus	white-tailed kite	SFP	Grasslands with scattered trees, near marshes, along highways.	Sepulveda Basin, Ballona Wetlands

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Scientific Name	Common Name	Agency Listing Status	Preferred Habitat	Record
Haliaeetus leucocephalus	bald eagle	FT, FPD, SSC, SE	Lakes, reservoirs, rivers, offshore islands, and some rangelands and coastal wetlands in Southern California.	No breeding in City, in transit over Ballona Creek
Pandionidae	**Osprey Family**			
Pandion haliaetus	osprey	SSC	Rivers, lakes, and coasts, mixed conifer.	Observed in much of the LA Basin; Santa Monica Mountains
Strigidae	**True Owl Family**			
Asio flammeus	short-eared owl	SSC	Prairies, marshes (fresh and salt) dunes, tundra.	Playa del Rey
Asio otus	long-eared owl	SSC	Riparian and live oak woodlands.	Baldwin Hills, Verdugo Mountains
Athene cunicularia hypugea	burrowing owl	SSC	Dry grasslands, desert habitats, open pinyon-juniper, and ponderosa pine woodlands below 5,300 feet; berms, ditches, and grasslands adjacent to rivers, agricultural, and scrub areas.	Sepulveda Basin
Falconidae	**Falcon Family**			
Falco columbarius	merlin	SSC	Coastlines, wetlands, woodlands, agricultural fields, and grasslands.	Many observations within the Los Angeles Basin
Falco mexicanus	prairie falcon	SSC	Grasslands, savannahs, rangeland, agricultural fields, and desert scrub; often uses sheltered cliff ledges for cover.	Observed in Warner Center and Verdugo Mountains
Falco peregrinus anatum	American peregrine falcon	SE, SFP,	Coastal estuaries, open country, cliffs to coasts.	Downtown Los Angeles; Santa Monica Mountains; Griffith Park

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Alaudidae	**Lark Family**			
Eremophila alpestris actia	California horned lark	SSC	Open habitats, grasslands along the coast, deserts near sea level to alpine dwarf shrub habitat, uncommon in coniferous and chaparral habitats.	Santa Susana Mountains
Cuculidae	**Cuckoos & Roadrunner Family**			
Icteridae	**Icterid and Blackbird Family**			
Agelaius tricolor	tricolored blackbird	ST	Freshwater marshes and riparian scrub.	Warner Center; Baldwin Hills;
Passerellidae	**New World Sparrow Family**			
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	SSC	Generally, steep, rocky areas within coastal sage scrub and chaparral, often with scattered bunches of grass; prefers relatively recently burned areas.	Santa Susana Mountains
Artemisiospiza belli	Bell's sparrow	SSC	Dense, dry chamise chaparral and coastal slopes of coastal sage scrub.	Simi Hills; Verdugo Mountains
Parulidae	**Wood Warbler Family**			
Setophaga petechia	yellow warbler	SSC	Sparse to dense woodland and forest habitats with or without heavy brush understory.	Potential where habitat occurs in Santa Monica Mountains; Ballona Wetlands, Verdugo Mountains; Sepulveda Basin

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Icteriidae	**Yellow-Breasted Chat Family**			
Icteria virens	yellow-breasted chat	SSC	Riparian woodlands with a thick understory.	Santa Monica Mountains; Verdugo Mountains; Ballona Wetlands
Gaviidae	**Loon Family**			
Gavia immer	common loon	SSC	Coasts, bays, lakes, rivers, and seas.	Ballona Lagoon; Sepulveda Basin
Hirundinidae	**Swallow Family**			
Progne subis	purple martin	SSC	Towns, farms, open or semi-open country.	Simi Hills; Los Angeles River
Riparia riparia	bank swallow	ST	Marshes, ponds, and agricultural fields; frequently over open water.	Sepulveda Basin
Laniidae	**Shrike Family**			
Lanius ludovicianus	loggerhead shrike	SSC	Open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	Chaparral habitats in Santa Susana Mountains, Simi Hills
Polioptilidae	**Gnatcatcher Family**			
Polioptila californica californica	California coastal gnatcatcher	FT, SSC	Coastal sage scrub vegetation below 2,500 feet elevation in Riverside County and generally below 1,000 feet elevation along the coastal slope; generally avoids steep slopes and dense vegetation for nesting.	Sylmar
Troglodytidae	**Wren Family**			
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	SSC	Coastal sage scrub, vegetation with thickets of prickly pear or cholla cactus.	Palos Verdes Peninsula

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Tyrannidae	**Tyrant Flycatcher Family**			
Empidonax traillii	willow flycatcher	SE	Wet meadow and montane riparian habitats, river valleys and large mt. meadows.	Ballona Wetlands; Tujunga Wash
Pyrocephalus rubinus	vermilion flycatcher	SSC	Cottonwood-willow woodland and riparian scrub.	Sepulveda Basin; Baldwin Hills
Vireonidae	**Vireo Family**			
Vireo bellii pusillus	least Bell's vireo	FE, SE	Perennial and intermittent streams with low, dense riparian scrub and riparian woodland habitats below 2,000 feet elevation; nests primarily in willows and forages in the riparian and occasionally in adjoining upland habitats. Associated with willow, cottonwood woodlands.	Los Angeles River
Mammals				
Heteromyidae	**Pocket Mice and Kangaroo Rat Family**			
Perognathus alticola alticola	white-eared pocket mouse	SSC	Ponderosa and Jeffrey pine habitats, mixed chaparral and sagebrush habitats, fallow fields dominated by Russian thistle, requires loose soil for burrows.	Potential where habitat occurs

Legend

Agency Lists

FE	Federally Listed as Endangered	SE	State Listed as Endangered
FT	Federally Listed as Threatened	ST	State Listed as Threatened
FSC	Federal Species of Special Concern	SCE	State Candidate for Endangered
FPE	Federally Proposed as Endangered	SCT	State Candidate for Threatened
FPT	Federally Proposed as Threatened	SSA	State Special Animal
FPD	Federally Proposed for Delisting	SFP	State Fully Protected
		SSC	California Species of Special Concern

Special-Status Species
Occurring Or Potentially Occurring
Within the City of Los Angeles

VERTEBRATES

Scientific Name	Common Name	Agency Listing Status	Preferred Habitat	Record
Perognathus longimembris brevinasus	Los Angeles pocket mouse	SSC	Coastal sage scrub, and grasslands, desert cactus, creosote bush and sagebrush habitats.	Potential where habitat occurs
Neotoma lepida intermedia	San Diego desert woodrat	SSC	Chaparral, coastal sage scrub, and pinyon-juniper woodland.	Santa Monica Mountains
Molossidae	**Free-tailed Bats**			
Eumops perotis californicus	western mastiff bat	SSC	In arid and semi-arid lowlands; roosts in cliffs and rock crevices.	Potential where habitat occurs
Cricetidae	**New World Mice, Rats, and Vole Family**			
Microtus californicus stephensi	south coast marsh vole	SSC	Tidal marshes.	Ballona Wetlands
Procyonidae	**Raccoon Family**			
Bassariscus astutus	ringtail	SFP	Mixture of forest and shrublands in close association with rocky areas or riparian habitats.	San Gabriel Mountains
Vespertilionidae	**Evening Bat Family**			
Antrozous pallidus	pallid bat	SSC	Roosts in cliffs, crevices, mine tunnels, caves, house attics and other man-made structures.	Simi Hills
Myotis ciliolabrum	western small-footed bat	SSA	Primarily found in relatively arid wooded and brushy uplands near water from sea level to 8,900 ft.	Potential where habitat occurs
Leporidae	**Rabbit and Hare Family**			
Lepus californicus bennetti	San Diego black-tailed jackrabbit	SSC	Open brushlands and scrub habitats between sea level and 4,000 feet elevation.	Santa Susana Mountains; Tujunga Canyon
Felidae	**Big Cat Family**			

Legend

Agency Lists

FE	Federally Listed as Endangered	SE	State Listed as Endangered
FT	Federally Listed as Threatened	ST	State Listed as Threatened
FSC	Federal Species of Special Concern	SCE	State Candidate for Endangered
FPE	Federally Proposed as Endangered	SCT	State Candidate for Threatened
FPT	Federally Proposed as Threatened	SSA	State Special Animal
FPD	Federally Proposed for Delisting	SFP	State Fully Protected
		SSC	California Species of Special Concern

Special-Status Species
Occurring Or Potentially Occurring
Within the City of Los Angeles

VERTEBRATES

Scientific Name	Common Name	Agency Listing Status	Preferred Habitat	Record
Puma concolor	mountain lion	SCT	Riparian areas, and brushy stages of most habitats.	Santa Monica, San Gabriel, Verdugo Mountains

Legend

Agency Lists

FE	Federally Listed as Endangered	SE	State Listed as Endangered
FT	Federally Listed as Threatened	ST	State Listed as Threatened
FSC	Federal Species of Special Concern	SCE	State Candidate for Endangered
FPE	Federally Proposed as Endangered	SCT	State Candidate for Threatened
FPT	Federally Proposed as Threatened	SSA	State Special Animal
FPD	Federally Proposed for Delisting	SFP	State Fully Protected
		SSC	California Species of Special Concern

Appendix E
PAW Criteria Matrix

ESA

Appendix E. PAW Criteria Matrix

Area Planning Commission	Proposed PAW*	Mapping Category: 1 = Existing SEA, 2 = Proposed PAW, 3 = Corridor, 4 = Restoration	Criteria 1:	E&T Plants/ Animals	Criteria 2:	Unique/ Restricted Distribution in SoCal	Criteria 3:	Unique/ Restricted Distribution in LA	Criteria 4:	Corridors/ Constrained Corridors	Criteria 5:	Breeding/ Feeding/ Resting/ Migrating Grounds with Limited Availability in SoCal/LA	Criteria 6:	Restoration Foreseeable
A. North Valley														
	Santa Susana Mountains and Simi Hills	1,2,3	x	Braunton's milk-vetch, tricolored blackbird (CNDDB), Braunton's milk-vetch CH, CAGN CH	x	Blochman's dudleya, many-stemmed dudleya, Plummer's mariposa lily, slender mariposa lily, Santa Susana tarplant, western spadefoot, San Diego desert woodrat, western mastiff bat, California Walnut Woodland, Southern Sycamore Alder Riparian Woodland (CNDDB); burrowing owl (eBird)			x	Constrained Corridors; connects to Santa Susana Mountains/Simi Hills SEA, Rim of the Valley Corridor; adjacent to Ventura County Wildlife Corridor, a California Essential Habitat Connectivity area, and a South Coast Wildlands Missing Linkage (Santa Monica-Sierra Madre)	x	142 bird species recorded at Chatsworth Nature Preserve, 94 bird species recorded at Chatsworth Oaks Park, 137 bird species recorded at O'Melveny Park (eBird)		
	Porter Ranch	2,3	x	CAGN CH (at Sesnon Canyon, Mormon Canyon, Browns Creek Park)		Southern Cottonwood Willow Riparian Forest, Southern Sycamore Alder Riparian Woodland (CNDDB)			x	Constrained Corridors; connects to PAW that connects to Santa Susana Mountains/Simi Hills SEA	x	25 bird species recorded at Limekiln Canyon Park (eBird)		
	Saddletree Ranch (*Santa Clara River*)	1,2,3	x	CAGN CH	x	Davidson's bush-mallow, Plummer's mariposa lily, Southern Coast Live Oak Riparian Forest (CNDDB)			x	Constrained Corridors; connects to Santa Clara River SEA, Rim of the Valley Corridor; adjacent to a California Essential Habitat Connectivity area	x	28 bird species recorded at Stetson Ranch Park, 129 bird species recorded at Wilson Canyon Park (eBird)		
	Pacoima Wash	2	x	least Bell's vireo (USFWS, CNDDB)	x	Plummer's mariposa lily (CNDDB)			x	Constrained Corridors; connects to Rim of the Valley Corridor	x	50 bird species recorded at Pacoima Wash (eBird)		
	Tujunga Valley and Hansen Dam	1,2,3	x	coastal California gnatcatcher, least Bell's vireo, Santa Ana sucker (USFWS, CNDDB), slender-horned spineflower, southwestern willow flycatcher (USFWS), southern mountain yellow-legged frog (CNDDB); Santa Ana Sucker CH	x	Davidson's bush-mallow, arroyo chub, Santa Ana speckled dace, California legless lizard, coast horned lizard, coastal whiptail, western pond turtle, San Diego black-tailed jackrabbit, Riversidean Alluvial Fan Sage Scrub, Southern Sycamore Alder Riparian Woodland (CNDDB)			x	Corridor; connects to Tujunga Valley/Hansen Dam SEA, Rim of the Valley Corridor, South Coast Wildlands Missing Linkage	x	281 bird species recorded at Hansen Dam (eBird)		
	San Gabriel Mountains	2,3	x	mountain lion (iNaturalist)	x	Davidson's bush-mallow, Greata's aster, Plummer's mariposa lily, coast horned lizard, Southern Coast Live Oak Riparian Forest, Southern Sycamore Alder Riparian Woodland (CNDDB)			x	Corridor; connects to Tujunga Valley/Hansen Dam SEA and Angeles National Forest, Rim of the Valley Corridor	x	110 bird species recorded at Haines Canyon Debris Basin (Angeles NF) (eBird)		

Appendix E. PAW Criteria Matrix

Area Planning Commission	Proposed PAW*	Mapping Category: 1 = Existing SEA, 2 = Proposed PAW, 3 = Corridor, 4 = Restoration	Criteria 1:	E&T Plants/ Animals	Criteria 2:	Unique/ Restricted Distribution in SoCal	Criteria 3:	Unique/ Restricted Distribution in LA	Criteria 4:	Corridors/ Constrained Corridors	Criteria 5:	Breeding/ Feeding/ Resting/ Migrating Grounds with Limited Availability in SoCal/LA	Criteria 6:	Restoration Foreseeable
	Verdugo Mountains	1,2,3	x	mountain lion (iNaturalist)	x	Davidson's bush-mallow, Plummer's mariposa lily, slender mariposa lily, white rabbit-tobacco, Southern Coast Live Oak Riparian Forest, Southern Sycamore Adler Riparian Woodland (CNDDB)			x	Corridors; connects to Verdugo Mountains SEA, Rim of the Valley Corridor, South Coast Wildlands Missing Linkage				
B. South Valley														
	Santa Susana Mountains and Simi Hills	1, 2	x	Braunton's milk-vetch	x	chaparral nolina, Plummer's mariposa lily, Southern Coast Live Oak Riparian Forest (CNDDB)			x	Constrained Corridors; connects to Santa Susana Mountains/Simi Hills SEA, Rim of the Valley Corridor; adjacent to Ventura County Wildlife Corridor, a California Essential Habitat Connectivity area, and a South Coast Wildlands Missing Linkage (Santa Monica-Sierra Madre).	x	45 bird species recorded at Knapp Ranch Park (eBird)		
	Santa Monica Mountains West	1,2,3	x	mountain lion (iNaturalist)	x	California Walnut Woodland (CNDDB)			x	Constrained Corridor; connects to Santa Monica Mountains SEA, Rim of the Valley Corridor	x	81 bird species recorded at Serrania Avenue Park (eBird)		
	Santa Monica Mountains East	2,3	x	mountain lion (iNaturalist)	x	California Walnut Woodland (CNDDB)			x	Constrained Corridor; connects to PAWs that connects to Santa Monica Mountains SEA and Griffith Park SEA, and Rim of the Valley Corridor				
	Sepulveda Basin Recreation Area	2	x	least Bell's vireo (USFWS, CNDDB)	x	western pond turtle (CNDDB), burrowing owl (eBird)			x	Constrained Corridor; connects to Rim of the Valley Corridor	x	270 bird species recorded at Sepulveda Basin Wildlife Reserve, 216 bird species recorded at Lake Balboa (eBird)		
C. West Los Angeles														
	Santa Monica Mountains West	1,2,3	x	Braunton's milk-vetch, Santa Monica dudleya, steelhead (southern CA DPS) (CNDDB), Braunton's milk-vetch CH, mountain lion (iNaturalist)	x	Plummer's mariposa lily, white-veined monardella, coastal whiptail, two-striped garter snake, western mastiff bat, California Walnut Woodland, Southern Coast Live Oak Riparian Forest, Southern Sycamore Alder Riparian Woodland (CNDDB)			x	Constrained Corridors; connects to Santa Monica Mountains SEA, Rim of the Valley Corridor	x	monarch (overwintering population) (CNDDB); 93 bird species recorded at Will Rogers State Historic Park, 111 bird species recorded at Temescal Gateway State Park, 129 bird species recorded at Topanga State Park, 39 bird species recorded at Topanga State Park (Los Liones Trail) (eBird)		

Appendix E. PAW Criteria Matrix

Area Planning Commission	Proposed PAW*	Mapping Category: 1 = Existing SEA, 2 = Proposed PAW, 3 = Corridor, 4 = Restoration	Criteria 1:	E&T Plants/ Animals	Criteria 2:	Unique/ Restricted Distribution in SoCal	Criteria 3:	Unique/ Restricted Distribution in LA	Criteria 4:	Corridors/ Constrained Corridors	Criteria 5:	Breeding/ Feeding/ Resting/ Migrating Grounds with Limited Availability in SoCal/LA	Criteria 6:	Restoration Foreseeable
	Santa Monica Mountains East	2, 3	x	mountain lion (iNaturalist)	x	Greata's aster, coast horned lizard, California Walnut Woodland (CNDDB)			x	Constrained Corridor; connects to PAWs that connects to Santa Monica Mountains SEA and Griffith Park SEA, and Rim of the Valley Corridor; UCLA 2012 Study	x	Various locations throughout this area with 200+ bird species sighted (eBird)		
	Will Rogers State Beach	2	x	western snowy plover (USFWS), SNPL CH					x	Constrained Corridor; connects to Rim of the Valley Corridor	x	99 bird species recorded at Will Rogers State Beach (eBird)		
	Temescal Canyon	2							x	Constrained Corridor; connects to Rim of the Valley Corridor	x	87 bird species recorded at Temescal Canyon, 39 bird species recorded at Palisades Park (eBird)		
	Brentwood Country Club	2									x	monarch (overwintering population) (CNDDB)		
	Venice Beach	2	x	western snowy plover (USFWS, CNDDB), California least tern (breeding colony) (CNDDB)							x	102 bird species recorded at Venice Beach (eBird)		
	Ballona Lagoon	2	x	California black rail (ST, SFP) (CNDDB), least tern (eBird)	x	Orcutt's pincushion (CNDDB)	x	Venice LCP ESHA			x	130 bird species recorded at Ballona Lagoon (eBird)		
	Ballona Wetlands	1,2,3	x	El Segundo blue butterfly, light-footed Ridgway's rail, least Bell's vireo (USFWS), Belding's savannah sparrow (CNDDB); least tern, snowy plover (eBird)	x	Orcutt's pincushion, southern tarplant, burrowing owl, south coast marsh vole, Southern Coastal Salt Marsh (CNDDB)			x	Corridor; connects to Ballona Wetlands SEA	x	monarch (overwintering population) (CNDDB); 224 bird species recorded at Ballona Wetlands Ecological Reserve (Salt Pan), 259 bird species recorded at Ballona Freshwater Marsh, 221 bird species recorded at Ballona Creek (Lower) (eBird)		
	Ballona Creek	2, 3	x	least tern (eBird)					x	Constrained Corridor; connects to Ballona Wetlands SEA; Waterway for shorebirds and coastal access	x	Various locations along channelized creek with 50-100+ bird species sighted (eBird)		
	Loyola Marymount University	2	x	least Bell's vireo (USFWS, CNDDB)							x	172 bird species recorded at Playa Vista Riparian Corridor, 143 bird species recorded at LMU (eBird)		
	Del Rey Lagoon Park	2	x	least tern (eBird)	x	burrowing owl (eBird)					x	201 bird species recorded at Del Rey Lagoon Park (eBird)		
	Dockweiler State Beach	2	x	El Segundo blue butterfly, western snowy plover (USFWS); least tern (eBird)	x	burrowing owl (eBird)					x	102 bird species recorded at Dockweiler State Beach (eBird)		

Appendix E. PAW Criteria Matrix

Area Planning Commission	Proposed PAW*	Mapping Category: 1 = Existing SEA, 2 = Proposed PAW, 3 = Corridor, 4 = Restoration	Criteria 1:	E&T Plants/ Animals	Criteria 2:	Unique/ Restricted Distribution in SoCal	Criteria 3:	Unique/ Restricted Distribution in LA	Criteria 4:	Corridors/ Constrained Corridors	Criteria 5:	Breeding/ Feeding/ Resting/ Migrating Grounds with Limited Availability in SoCal/LA	Criteria 6:	Restoration Foreseeable
	El Segundo Dunes	1, 2	x	El Segundo blue butterfly (USFWS)	x	Southern Dune Scrub (CNDDB)								
	[Ballona Wetlands – County] (Considered but Rejected; Outside of City Limits)													
	Las Pulgas Canyon (Considered but Rejected)													
	Sepulveda Channel (Considered but Rejected)													
	Marina del Rey Extension (Considered but Rejected)													
	Centinela Creek (Considered but Rejected)													
	LAX North (Considered but Rejected)										x	56 bird species recorded at Los Angeles International Airport (eBird)		
	LAX South (Considered but Rejected)										x	56 bird species recorded at Los Angeles International Airport (eBird)		

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D. Central														
	Santa Monica Mountains East	2,3	x	mountain lion (iNaturalist)					x	Constrained Corridor; connects to PAWs that connects to Santa Monica Mountains SEA and Griffith Park SEA, and Rim of the Valley Corridor				
	Griffith Park and Hollywood Hills	1,2,3	x	Nevin's barberry (CNDDB), mountain lion (iNaturalist)	x	mesa horkelia, Plummer's mariposa lily, slender mariposa lily, San Diego desert woodrat, California Walnut Woodland, Southern Coast Live Oak Riparian Forest, Southern Sycamore Alder Riparian Woodland (CNDDB)			x	Constrained Corridor; connects to Griffith Park SEA, Rim of the Valley Corridor	x	132 bird species recorded at Griffith Park, 25 bird species recorded at Lake Hollywood Park (eBird)		
	Los Angeles River	3,4							x	Constrained Corridor; connects to Griffith Park SEA, Rim of the Valley Corridor	x	110 bird species recorded at Los Angeles River Bike Path (eBird)	x	ARBOR, Los Angeles River Revitalization Master Plan
	MacArthur Park (Considered but Rejected)													
E. East Los Angeles														
	Los Angeles River	3,4	x	mountain lion (Boydston, Ordeñana, and Cooper 2014), least Bell's vireo (anecdotal data that Biologist Daryl Koutnik received from USFWS); From the Los Angeles River Ecosystem Restoration Integrated Feasibility Study (USACE 2015): "least Bell's vireo has been observed within the study area near Taylor Yard (USACE 2009)" and "Protocol level surveys for least Bell's vireo, southwestern willow flycatcher, and California gnatcatcher were completed during the 2005 and 2007 bird-breeding season at USACE-managed areas within Los Angeles County. Least Bell's	x	peregrine falcon and Vaux's swift observed (Field Survey [Biologist Dale Hameister])			x	Constrained Corridor; connects to Griffith Park SEA, Rim of the Valley Corridor			x	ARBOR, Los Angeles River Revitalization Master Plan
	Silver Lake Reservoir	2									x	145 bird species recorded at Silver Lake Reservoir (eBird)		

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Area Planning Commission	Proposed PAW*	Mapping Category: 1 = Existing SEA, 2 = Proposed PAW, 3 = Corridor, 4 = Restoration	Criteria 1:	E&T Plants/ Animals	Criteria 2:	Unique/ Restricted Distribution in SoCal	Criteria 3:	Unique/ Restricted Distribution in LA	Criteria 4:	Corridors/ Constrained Corridors	Criteria 5:	Breeding/ Feeding/ Resting/ Migrating Grounds with Limited Availability in SoCal/LA	Criteria 6:	Restoration Foreseeable
	Echo Park	2									x	140 bird species recorded at Echo Park (eBird)		
	Elysian Park	2				California Walnut Woodland (Field Surveys [Biologist Dale Hameister])			x	Constrained Corridor; connects to Rim of the Valley Corridor	x	133 bird species recorded at Elysian Park (eBird)		
	Elyria Canyon Park	2				California Walnut Woodland (Field Surveys [Biologist Dale Hameister])					x	106 bird species recorded at Elyria Canyon Park (eBird)		
	Ernest E. Debs Regional Park	2			x	California Walnut Woodland (Field Surveys [Biologist Dale Hameister])			x	Constrained Corridor; connects to Rim of the Valley Corridor	x	133 bird species recorded at Ernest E. Debs Regional Park (eBird)		
	Moon Cayon and Heidberg Park	2			x	California Walnut Woodland (Field Surveys [Biologist Dale Hameister])								
	Eagle Rock	2							x	Constrained Corridor; connects to Rim of the Valley Corridor	x	42 bird species recorded at Eagle Rock Canyon Trail (eBird)		
	Fiji Hill (Considered but Rejected)													
	Elephant Hill (Considered but Rejected)										x	43 bird species recorded at Ernest Elephant Hill (eBird)		
	Ascot Hills Park (Considered but Rejected)										x	41 bird species recorded at Ascot Hills Park (eBird)		
F. South Los Angeles														
	Baldwin Hills	2			x	burrowing owl (eBird)					x	175 bird species recorded at Kenneth Hahn State Recreation Area (eBird)		
	South Los Angeles Wetlands Park (Considered but Rejected - Based on Field Verification)	2									x	52 bird species recorded at South Los Angeles Wetland Park (eBird)		
G. Harbor														
	Harbor Lake Regional Park	1,3	x	tricolored blackbird, least tern (CNDDB, eBird); post-breeding foraging ground for Terminal Island terns (CNDDB)	x	Coulter's goldfields, mud nama (CNDDB)			x	Constrained Corridor; this SEA connects to South Harbor Lake	x	250 bird species recorded at Ken Malloy Harbor Regional Park (eBird)		
	South Harbor Lake	2,3	x	CAGN, Palos Verdes blue butterfly (CNDDB)	x	southern tarplant (CNDDB)			x	Constrained Corridor; connects to Harbor Lake SEA				
	Banning Park	2									x	monarch (overwintering population) (CNDDB); 131 bird species recorded at Banning Park (eBird)		

Appendix E. PAW Criteria Matrix

Area Planning Commission	Proposed PAW*	Mapping Category: 1 = Existing SEA, 2 = Proposed PAW, 3 = Corridor, 4 = Restoration	Criteria 1:	E&T Plants/ Animals	Criteria 2:	Unique/ Restricted Distribution in SoCal	Criteria 3:	Unique/ Restricted Distribution in LA	Criteria 4:	Corridors/ Constrained Corridors	Criteria 5:	Breeding/ Feeding/ Resting/ Migrating Grounds with Limited Availability in SoCal/LA	Criteria 6:	Restoration Foreseeable
	White Point	2,3	x	CAGN observed (Field Survey [Biologist Karl Fairchild]); least tern (eBird)	x	burrowing owl (eBird)			x	Corridor; Coastal access between Palos Verdes Peninsula and Coastline SEA and coast/other undeveloped areas to the west	x	126 bird species recorded at White Point, 69 bird species recorded at Royal Palms Beach, 164 bird species recorded at White Point Nature Preserve (eBird)		
	Point Fermin	2	x	Palos Verdes blue butterfly (historic occurrence; potential to bring back with restoration) at Fort MacArthur (CNDDB); least tern (eBird)							x	monarch (historic overwintering population) (CNDDB); 181 bird species recorded at Point Fermin Park, 43 bird species recorded at Angels Gate Park, 60 bird species recorded at Joan Milke Flores Park (eBird)		
	Cabrillo Beach	2		least tern, snowy plover (eBird)							x	California grunion (spawning beach) (Cabrillo Marine Aquarium); 194 bird species recorded at Cabrillo Beach Park (eBird)		
	Terminal Island (Pier 400)	2	x	least tern (historic breeding colony) (anecdotal)										
	Dominguez Channel (Considered but Rejected)													
** Italics indicates that PAWs were adapted from LA County Existing SEAs*														
eBird occurrences of Federal or State listed-species were added when multiple occurrences were documented at a "Birding Hotspot" within an SEA.														

Appendix F

Potential for Medium and Large Mammal Species to Occur within Potential PAWs

ESA

Appendix F. Potential for Medium and Large Mammal Species to Occur within Potential PAW

		Wildlife Species Potential											
		Large Mammals					Medium Mammals						
Area Planning Commission	**Potential PAW***	**Black Bear**	**Bobcat**	**Coyote**	**Mountain Lion**	**Mule Deer**	**American Badger**	**Gray Fox**	**Long-Tailed Weasel**	**Raccoon**	**Striped Skunk**	**Virginia Opossum**	**Notes**
A. North Valley													
	Santa Susana Mountains and Simi Hills	L	H	**H**	H	**H**	L	H	L	**H**	H	H	High potential to support medium and large mammals.
	Porter Ranch	L	L	**H**	L	L	L	L	L	H	M	H	High potential to support medium and large mammals.
	Saddletree Ranch (*Santa Clara River*)	M/L	M	**H**	L	M	L	L	L	H	M	H	High potential to support medium and large mammals.
	Pacoima Wash	L	L	**H**	L	M	L	L	L	H	M	H	High potential to support medium and large mammals.
	Tujunga Valley and Hansen Dam	M	M	**H**	M/L	**H**	L	M/L	L	H	H	**H**	High potential to support medium and large mammals.
	San Gabriel Mountains	H	H	H	H	H	L	H	L	H	H	H	High potential to support medium and large mammals.
	Verdugo Mountains	**H**	**H**	**H**	**H**	**H**	L	**H**	L	**H**	H	**H**	High potential to support medium and large mammals.
B. South Valley													
	Santa Susana Mountains and Simi Hills	L	H	**H**	H	**H**	L	H	L	H	H	H	High potential to support medium and large mammals.
	Santa Monica Mountains West	L	**H**	**H**	**H**	**H**	L	H	L	**H**	H	**H**	High potential to support medium and large mammals.
	Santa Monica Mountains East	L	**H**	**H**	**M**	**H**	L	**M**	L	**H**	**H**	**H**	Moderate to high potential to support medium and large mammals.
	Sepulveda Basin Recreation Area	L	L	**H**	L	L	L	L	L	**H**	M	**H**	High potential to support medium and large mammals.
C. West Los Angeles													
	Santa Monica Mountains West	L	**H**	**H**	**H**	**H**	L	H	L	**H**	H	**H**	High potential to support medium and large mammals.
	Santa Monica Mountains East	L	**H**	**H**	**M**	**H**	L	**M**	L	**H**	**H**	**H**	Moderate to high potential to support medium and large mammals.
	Will Rogers State Beach	L	L	L	L	L	L	L	L	L	L	L	Moderate potential to support medium mammals and a low potential to support large mammals.
	Temescal Canyon	L	M	**H**	L	L	L	L	L	H	M/L	H	High potential to support medium and large mammals.
	Brentwood Country Club	L	L	M/L	L	L	L	L	L	M	L	M	Moderate potential to support medium mammals and a low potential to support large mammals.
	Venice Beach	L	L	L	L	L	L	L	L	L	L	L	Moderate potential to support medium mammals and a low potential to support large mammals.
	Ballona Lagoon	L	L	L	L	L	L	L	L	H	M	H	Moderate potential to support medium mammals and a low potential to support large mammals.
	Ballona Wetlands	L	L	**H**	L	L	L	L	L	**H**	**H**	**H**	High potential to support medium and large mammals.
	Ballona Creek	L	L	L	L	L	L	L	L	**H**	L	H	Moderate potential to support medium mammals and a low potential to support large mammals.
	Loyola Marymount University	L	L	**H**	L	L	L	L	L	**H**	M	H	High potential to support medium and large mammals.
	Del Rey Lagoon Park	L	L	L	L	L	L	L	L	H	M	H	Moderate potential to support medium mammals and a low potential to support large mammals.
	Dockweiler State Beach	L	L	L	L	L	L	L	L	L	L	L	Moderate potential to support medium mammals and a low potential to support large mammals.
	El Segundo Dunes	L	L	L	L	L	L	L	L	M/L	L	M/L	Moderate potential to support medium mammals and a low potential to support large mammals.

Appendix F. Potential for Medium and Large Mammal Species to Occur within Potential PAW

		Wildlife Species Potential											
		Large Mammals					Medium Mammals						
Area Planning Commission	**Potential PAW***	**Black Bear**	**Bobcat**	**Coyote**	**Mountain Lion**	**Mule Deer**	**American Badger**	**Gray Fox**	**Long-Tailed Weasel**	**Raccoon**	**Striped Skunk**	**Virginia Opossum**	**Notes**
D. Central													
	Santa Monica Mountains East	L	**H**	**H**	**M**	**H**	L	**M**	L	**H**	**H**	**H**	Moderate to high potential to support medium and large mammals.
	Griffith Park and Hollywood Hills	L	**H**	**H**	**H**	**H**	L	**H**	L	**H**	**H**	**H**	High potential to support medium and large mammals.
	Los Angeles River	L	**M/L**	**H**	**M/L**	**M/L**	L	**M/L**	L	**H**	**M**	H	Moderate potential to support medium and large mammals.
E. East Los Angeles													
	Los Angeles River	L	**M/L**	**H**	**M/L**	**M/L**	L	**M/L**	L	**H**	**M**	H	Moderate potential to support medium and large mammals.
	Silver Lake Reservoir	L	**H**	**H**	L	L	L	L	L	H	**H**	H	Moderate potential to support medium mammals and a low potential to support large mammals.
	Echo Park	L	L	L	L	L	L	L	L	H	M/L	H	Moderate potential to support medium mammals and a low potential to support large mammals.
	Elysian Park	L	**H**	**H**	L	L	L	**H**	L	**H**	M/L	**H**	High potential to support medium and large mammals.
	Elyria Canyon Park	L	L	**H**	L	L	L	L	L	H	M/L	H	High potential to support medium and large mammals.
	Ernest E. Debs Regional Park	L	**H**	**H**	L	L	L	L	L	**H**	M/L	H	High potential to support medium and large mammals.
	Moon Cayon and Heidberg Park	L	L	**H**	L	L	L	L	L	H	L	H	High potential to support medium and large mammals.
	Eagle Rock	L	**H**	H	L	**H**	L	L	L	M	M	M	High potential to support medium and large mammals.
F. South Los Angeles													
	Baldwin Hills	L	**H**	**H**	L	L	L	L	L	H	**H**	H	High potential to support medium and large mammals.
	South Los Angeles Wetlands Park	L	L	L	L	L	L	L	L	M/L	L	**H**	Low potential to support medium and large mammals.
G. Harbor													
	Harbor Lake Regional Park	L	L	**H**	L	L	L	L	L	**H**	H	M	High potential to support medium and large mammals.
	South Harbor Lake	L	L	**H**	L	L	L	L	L	**H**	**H**	M	High potential to support medium and large mammals.
	Banning Park	L	L	L	L	L	L	L	L	M	L	M	Low potential to support medium and large mammals.
	White Point	L	L	**H**	L	L	L	L	L	M	M/L	M/L	High potential to support medium and large mammals.
	Point Fermin	L	L	**H**	L	L	L	L	L	M	M/L	M/L	Moderate potential to support medium mammals and a low potential to support large mammals.
	Cabrillo Beach	L	L	**H**	L	L	L	L	L	**H**	L	M/L	Moderate potential to support medium mammals and a low potential to support large mammals.
	Terminal Island (Pier 400)	L	L	L	L	L	L	L	L	M/L	L	M/L	Low potential to support medium and large mammals.

**Entries in bold are verified through observations within the PAW and/or immediate vicinity.*

Appendix G
WMP Matrix

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Appendix G. WMP Matrix

WMP #	WMP	Adjacent PAWs	Width (Min. <25 Feet)	Width (Min. 25-100 Feet)	Width (Min. >100 Feet)	Length (Min. <50 Feet)	Length (Min. 50-500 Feet)	Length (Min. >500 Feet)	Vegetative Cover Within WMP	Vegetative Cover Adjacent to WMP	Traffic	Human Activity	Fencing (Through WMP)	Fencing (Adjacent to WMP)	Other Barriers/ Deterrents	Highly Constrained	Constrained	Unconstrained	Notes
1	Valley Circle Boulevard	Santa Susana Mountains and Simi Hills PAW (Dayton Canyon Open Space Preserve) in W; Santa Susana Mountains and Simi Hills PAW (Chatsworth Natura Preserve) in NE		x				x		L	H		x				x		Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic and fencing.
2	Canoga Avenue	Santa Susana Mountains and Simi Hills PAW (Stoney Point Park) in SW; Santa Susana Mountains and Simi Hills PAW (Browns Canyon) in NE		x			x			L/M	M/H	L	x		Noise		x		Wildlife would travel under the State Route 118 bridge to move between undeveloped areas; hazards include road/traffic and some fencing.
3	Moonshine Canyon Park	Porter Ranch PAW (Moonshine Canyon Park) in W; Porter Ranch PAW (Limekiln Canyon Park) in E			x			x	H	H				x				x	Contiguous vegetated undeveloped pathways that would facilitate wildlife movement through surrounding developed areas.
4	Limekiln Canyon Park	Porter Ranch PAW (Moonshine Canyon Park) in W; Porter Ranch PAW (Wilbur Tampa Park) in E			x			x	H	H				x				x	Contiguous vegetated undeveloped pathways that would facilitate wildlife movement through surrounding developed areas.
5	Wilbur Tampa Park	Porter Ranch PAW (Limekiln Canyon Park) in W; Porter Ranch PAW (Aliso Canyon Park) in E			x			x	H	H		L						x	Contiguous vegetated undeveloped pathways that would facilitate wildlife movement through surrounding developed areas.
6	Aliso Canyon Park	Porter Ranch PAW (Wilbur Tampa Park) in W; Santa Susana Mountains and Simi Hills PAW in E			x			x	H	H		L		x				x	Contiguous vegetated undeveloped pathways that would facilitate wildlife movement through surrounding developed areas.
7	Longacre Avenue	Porter Ranch PAW (Aliso Canyon Park) in W; Santa Susana Mountains and Simi Hills PAW in E		x				x	H	H	L	L		x				x	Contiguous vegetated undeveloped pathways that would facilitate wildlife movement through surrounding developed areas; hazards include one residential road.
8	Balboa Boulevard	Santa Susana Mountains and Simi Hills PAW in SW; Saddletree Ranch (Santa Clara River) PAW in NE		x				x		M/H	H				Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic.
9	San Fernando Road	Santa Susana Mountains and Simi Hills PAW in SW; Saddletree Ranch (Santa Clara River) PAW in NE	x					x	L/M	M/H	H				Noise		x		Wildlife would have to travel along developed road and across railroad tracks to move between undeveloped areas; hazards include road/traffic.
10	Tujunga-Verdugo	Tujunga Valley and Hansen Dam PAW in N; Verdugo Mountains PAW in S		x				x	M	H	H	M	x	x	Fragmentation, Noise		x		Wildlife would have to cross multipled roads through marginal habitat areas to move between undeveloped areas; hazards include road/traffic and fencing.
11	La Tuna Canyon Road	Connects two areas of the Verdugo Mountains PAW		x				x		H	H			x	Noise		x		Wildlife would travel under the Interstate 210 bridge to move between undeveloped areas; hazards include road/traffic.
12	Los Angeles River	Sepulveda Basin Recreation Area PAW in W; Los Angeles River PAW in E			x			x	L/M/H	L/M	H	L/M		x	Fragmentation, Noise, Access (Vertical Banks, Gated Culverts)		x		Wildlife would have to travel across developed areas, multiple roads, and/or railroad tracks in some areas to access the river; hazards include road/traffic. Portions of the river are unvegetated concrete-lined channel.
13	Santa Monica Mountains-Griffith Park	Santa Monica Mountains West PAW and Santa Monica Mountains East PAW in W; Griffith Park and Hollywood Hills PAW and Los Angeles River PAW in E	x					x	M/H	M/H	H	M	x	x	Fragmentation	x			Wildlife would have to travel across a fragmented network of developed areas, multiple roads (including major freeways), and/or undeveloped areas; hazards include road/traffic.
14	Mulholland Bridge	Santa Monica Mountains West PAW in W; Santa Monica Mountains East PAW in E		x				x		H	H	M		x	Fragmentation, Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic.
15	Skirball Center Drive	Santa Monica Mountains West PAW in W; Santa Monica Mountains East PAW in E		x				x		H	H				Fragmentation, Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic.
16	Bel Air Crest Road	Santa Monica Mountains West PAW in W; Santa Monica Mountains East PAW in E		x				x		H	H				Fragmentation, Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic.
17	Sepulveda Boulevard	Santa Monica Mountains West PAW in W; Santa Monica Mountains East PAW in E		x				x		H	H				Fragmentation, Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic.
18	Getty Center Drive	Santa Monica Mountains West PAW in W; Santa Monica Mountains East PAW in E			x			x		H	H	M			Fragmentation, Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic.
19	Casiano Road	Connects two areas of the Santa Monica Mountains East PAW			x		x		M	H	L	L	x	x	Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic and fencing.
20	Linda Flora Drive	Connects two areas of the Santa Monica Mountains East PAW			x	x				H	L				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
21	Stone Canyon Road	Connects two areas of the Santa Monica Mountains East PAW			x		x			H	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
22	Fawndale Place	Connects two areas of the Santa Monica Mountains East PAW			x		x		M	M/H		L			Fragmentation			x	Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas.
23	Oakfield Drive	Connects two areas of the Santa Monica Mountains East PAW		x		x				M/H	L	L			Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
24	Camino de la Cumbre	Connects two areas of the Santa Monica Mountains East PAW			x		x			M/H	M	L			Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
25	Beverly Glen Boulevard	Connects two areas of the Santa Monica Mountains East PAW		x			x			M/H	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
26	Stone Canyon Overlook	Connects two areas of the Santa Monica Mountains East PAW			x		x			M/H	H	L			Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
27	N. Beverly Glen Boulevard - A	Connects two areas of the Santa Monica Mountains East PAW			x		x			H	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
28	N. Beverly Glen Boulevard - B	Connects two areas of the Santa Monica Mountains East PAW			x		x			H	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
29	N. Beverly Glen Boulevard - C	Connects two areas of the Santa Monica Mountains East PAW			x		x			H	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
30	Mulholland Drive - A	Connects two areas of the Santa Monica Mountains East PAW		x			x			H	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
31	Benedict Canyon Lane	Connects two areas of the Santa Monica Mountains East PAW		x			x			M/H	L				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
32	Mulholland Drive - B	Connects two areas of the Santa Monica Mountains East PAW		x			x			M	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.

Appendix G. WMP Matrix

WMP #	WMP	Adjacent PAWs	Width (Min. <25 Feet)	Width (Min. 25-100 Feet)	Width (Min. >100 Feet)	Length (Min. <50 Feet)	Length (Min. 50-500 Feet)	Length (Min. >500 Feet)	Vegetative Cover Within WMP	Vegetative Cover Adjacent to WMP	Traffic	Human Activity	Fencing (Through WMP)	Fencing (Adjacent to WMP)	Other Barriers/ Deterrents	Highly Constrained	Constrained	Unconstrained	Notes
33	Mulholland Drive - C	Connects two areas of the Santa Monica Mountains East PAW			x		x			M/H	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
34	Mulholland Drive - D	Connects two areas of the Santa Monica Mountains East PAW			x		x			H	H	L		x	Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
35	Arby Drive	Connects two areas of the Santa Monica Mountains East PAW			x		x		M	L		L			Fragmentation			x	Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas.
36	Summitridge Drive - A	Connects two areas of the Santa Monica Mountains East PAW			x		x			H	L				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
37	Summitridge Drive - B	Connects two areas of the Santa Monica Mountains East PAW			x		x			L	L		x		Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic and fencing.
38	Mulholland Drive - E	Connects two areas of the Santa Monica Mountains East PAW			x		x			L	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
39	Mulholland Drive - F	Connects two areas of the Santa Monica Mountains East PAW			x		x			L/M	H			x	Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
40	Mulholland Drive - G	Connects two areas of the Santa Monica Mountains East PAW		x			x			H	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
41	Laurel Canyon Boulevard	Connects two areas of the Santa Monica Mountains East PAW		x			x			M/H	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
42	Nichols Canyon Road	Connects two areas of the Santa Monica Mountains East PAW			x		x			L/M	M		x		Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic and fencing.
43	Astral Drive	Connects two areas of the Santa Monica Mountains East PAW			x		x			L/M	L		x		Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic and fencing.
44	Mulholland Drive - H	Connects two areas of the Santa Monica Mountains East PAW			x		x			M	H				Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
45	Lakeridge Bridge	Santa Monica Mountains East PAW in W; Griffith Park and Hollywood Hills PAW in E		x			x			M/H	H				Fragmentation, Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic.
46	Pilgrimage Bridge	Santa Monica Mountains East PAW in W; Griffith Park and Hollywood Hills PAW in E		x				x		M	H				Fragmentation, Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic.
47	Forest Lawn Drive	Santa Monica Mountains East PAW in S; Los Angeles River PAW in N		x				x		L	H		x		Fragmentation, Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic and fencing.
48	Los Angeles River Equestrian Trail	Santa Monica Mountains East PAW in S; Los Angeles River PAW in N	x					x	L	L/M	H				Fragmentation, Noise		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic.
49	Corralitas Red Car Trail	Griffith Park and Hollywood Hills PAW in N; Elysian Park PAW in S	x					x	L/M	L/M	H	M/H	x	x	Fragmentation, Noise	x			Wildlife would have to cross multipled roads through marginal habitat areas to move between undeveloped areas; hazards include road/traffic, fencing, and human activity.
50	Park Row Bridge	Connects two areas of the Elysian Park PAW		x			x			L/M	L	M			Fragmentation, Noise	x			Wildlife would have to travel along developed road to move between undeveloped areas; hazards include road/traffic and human activity.
51	Solano Avenue	Connects two areas of the Elysian Park PAW		x			x		L	M/H	M	M			Fragmentation, Noise		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic and human activity.
52	Ballona Creek	Dockweiler State Beach PAW in W; Del Rey Lagoon Park PAW; Ballona Wetland PAW in E		x				x	L	L	L	M/H			Fragmentation		x		Wildlife would have to travel across a fragmented network of developed areas and undeveloped areas; hazards include road/traffic and human activity.
53	E. Pacific Coast Highway	Ballona Wetland PAW in W; Loyola Marymount University PAW in E		x			x			M	H	M/H			Noise		x		Wildlife would travel across a developed road to move between undeveloped areas; hazards include road/traffic.
54	Harbor Lake	Harbor Lake Regional Park PAW in N; South Harbor Lake PAW in S	x				x			L	H	M/H	x	x	Noise		x		Wildlife would travel across a developed road to move between undeveloped areas; hazards include road/traffic, fencing, and human activity.

Appendix H

City of Los Angeles Policy Summary Matrix

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Appendix H. City of Los Angeles Policy Summary Matrix

Policy	Chapter	Page	Source
General Plan Policies			
Goal 1: a city that preserves, protects and enhances its existing natural and related resources.	2 Resource Conservation and Management	II-1	City of Los Angeles General Plan, Conservation Element
Preamble: Conservation is the managed or controlled use of natural, cultural and historical resources. In Los Angeles it includes a diversity of programs, including acquiring, preserving and protecting large tracts of open space for habitat conservation, species protection, watershed maintenance and other purposes; acquiring, preserving and protecting cultural and historical resources; reducing the demand for nonrenewable mineral and petroleum resources, water and other natural resources; recycling water, wood products, metals, glass and other materials. Conservation is addressed by various sections of this element in relation to particular subject matter.	2 Resource Conservation and Management, Section 4 Conservation (Goal 1)	II-6	City of Los Angeles General Plan, Conservation Element
Objective 6: protect and promote the restoration, to the greatest extent practical, of sensitive plant and animal species and their habitats.	2 Resource Conservation and Management, Section 6 Endangered Species (Goal 1)	II-13	City of Los Angeles General Plan, Conservation Element
Policy 6.1: continue to require 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.	2 Resource Conservation and Management, Section 6 Endangered Species	II-14	City of Los Angeles General Plan, Conservation Element
Policy 6.2: continue to administer city-owned and managed properties so as to protect and/or enhance the survival of sensitive plant and animal species to the greatest practical extent.	2 Resource Conservation and Management, Section 6 Endangered Species	II-14	City of Los Angeles General Plan, Conservation Element
Policy 6.3: continue to support legislation that encourages and facilitates protection of endangered, threatened, sensitive and rare species and their habitats and habitat corridors.	2 Resource Conservation and Management, Section 6 Endangered Species	II-14	City of Los Angeles General Plan, Conservation Element
Objective 8: protect the coastline and watershed from erosion and inappropriate sedimentation that may or has resulted from human actions.	2 Resource Conservation and Management, Section 8 Erosion (Goal 1)	II-19	City of Los Angeles General Plan, Conservation Element

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Policy	Chapter	Page	Source
Policy 8.2: continue to prevent or reduce erosion that will damage the watershed or beaches or will result in harmful sedimentation that might damage beaches or natural areas.	2 Resource Conservation and Management, Section 8 Erosion	II-22	City of Los Angeles General Plan, Conservation Element
Policy 9.1: continue to implement and to cooperate with lake fish stocking or enhancement programs.	2 Resource Conservation and Management, Section 9 Fisheries	II-25	City of Los Angeles General Plan, Conservation Element
Policy 9.2: continue to consider and implement measures that will mitigate potential damage to and will encourage maintenance or restoration of fisheries.	2 Resource Conservation and Management, Section 9 Fisheries	II-26	City of Los Angeles General Plan, Conservation Element
Objective 10: retain the forests as primary watershed, open space and recreational resources for the region.	2 Resource Conservation and Management, Section 10 Forest (Goal 1)	II-28	City of Los Angeles General Plan, Conservation Element
Policy 10.1: continue to support the preservation and protection of Angeles Forest and Santa Clarita Woodlands.	2 Resource Conservation and Management, Section 10 Forest	II-28	City of Los Angeles General Plan, Conservation Element
Preamble: The general plan Safety Element addresses seismic, geologic, flood, fire and other natural hazards, including identified risk areas within fault zones, potential liquefaction and landslide areas and flood plains. The general plan Infrastructure Systems Element will address associated facilities and systems.	2 Resource Conservation and Management, Section 11 Geologic Hazard	II-29	City of Los Angeles General Plan, Conservation Element
Preamble: Los Angeles has a rich biodiversity, principally within mountain and coastal habitats. Many of the natural areas are threatened by urbanization which encroaches upon, reduces and fragments them and severs connecting habitat corridors that are essential for the survival of some species.	2 Resource Conservation and Management, Section 12 Habitats	II-29	City of Los Angeles General Plan, Conservation Element
Objective 12: preserve, protect, restore and enhance natural plant and wildlife diversity, habitats, corridors and linkages so as to enable the healthy propagation and survival of native species, especially those species that are endangered, sensitive, threatened or species of special concern.	2 Resource Conservation and Management, Section 12 Habitats (Goal 1)	II-35	City of Los Angeles General Plan, Conservation Element
Policy 12.1: continue to identify significant habitat areas, corridors and buffers and to take measures to protect, enhance and/or restore them.	2 Resource Conservation and Management, Section 12 Habitats	II-35	City of Los Angeles General Plan, Conservation Element

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Policy	Chapter	Page	Source
Policy 12.2: continue to protect, restore and/or enhance habitat areas, linkages and corridor segments, to the greatest extent practical, within city owned or managed sites.	2 Resource Conservation and Management, Section 12 Habitats	II-35	City of Los Angeles General Plan, Conservation Element
Policy 12.3: continue to work cooperatively with other agencies and entities in protecting local habitats and endangered, threatened, sensitive and rare species.	2 Resource Conservation and Management, Section 12 Habitats	II-35	City of Los Angeles General Plan, Conservation Element
Policy 12.4: continue to support legislation that encourages and facilitates protection of local native plant and animal habitats.	2 Resource Conservation and Management, Section 12 Habitats	II-35	City of Los Angeles General Plan, Conservation Element
Objective 15: protect and reinforce natural and scenic vistas as irreplaceable resources and for the aesthetic enjoyment of present and future generations.	2 Resource Conservation and Management, Section 15 Land Form and Scenic Vistas (Goal 1)	II-48	City of Los Angeles General Plan, Conservation Element
Policy 15.1: continue to encourage and/or require property owners to develop their properties in a manner that will, to the greatest extent practical, retain significant existing land forms (e.g., ridge lines, bluffs, unique geologic features) and unique scenic features (historic, ocean, mountains, unique natural features) and/or make possible public view or other access to unique features or scenic views.	2 Resource Conservation and Management, Section 15 Land Form and Scenic Vistas	II-48	City of Los Angeles General Plan, Conservation Element
Policy 16.2: continue to support legislation and to seek funding and legislation intended for bay and coastal protection, enhancement and habitat restoration.	2 Resource Conservation and Management, Section 16 Ocean	II-55	City of Los Angeles General Plan, Conservation Element
Preamble: It is important to conserve natural open space lands and enhance urban open spaces. "Open space" is a broad term that can include virtually anything from a sidewalk or lawn to the mountains and ocean. It is defined by the California general plan law (Government Code Section 65560) as "any parcel or area of land or water that essentially is unimproved and devoted to an open-space use," whether for preservation and protection of natural resources or for human activity. Virtually every section of this element includes some aspect of open space protection, conservation or enhancement. The general plan Open Space Element will discuss the open space aspects of the city, including park sites and urbanized spaces, e.g., streets. The Public Facilities Element will address the human use aspects of city park sites. The Conservation Element primarily addresses conservation aspects of the natural open spaces that are addressed by the various subjects contained in this element.	2 Resource Conservation and Management, Section 17 Open Space/Parks	II-56	City of Los Angeles General Plan, Conservation Element

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Policy	Chapter	Page	Source
Goal 3A: A physically balanced distribution of land uses that contributes towards and facilitates the City's long-term fiscal and economic viability, revitalization of economically depressed areas, conservation of existing residential neighborhoods, equitable distribution of public resources, conservation of natural resources, provision of adequate infrastructure and public services, reduction of traffic congestion and improvement of air quality, enhancement of recreation and open space opportunities, assurance of environmental justice and a healthful living environment, and achievement of the vision for a more liveable city.	3 Land Use, Distribution of Land Use	NA	City of Los Angeles General Plan, Framework Element
Objective 3.1: Accommodate a diversity of uses that supports the needs of the City's existing and future residents, businesses, and visitors.	3 Land Use, Distribution of Land Use	NA	City of Los Angeles General Plan, Framework Element
Goal 3.1.3: Identify areas for the establishment of new open space opportunities to serve the needs of existing and future residents. These opportunities may include a citywide linear network of parklands and trails, neighborhood parks, and urban open spaces. (P1, P2, P19, P59)	3 Land Use, Distribution of Land Use	NA	City of Los Angeles General Plan, Framework Element
Goal 6A: An integrated citywide/regional public and private open space system that serves and is accessible by the City's population and is unthreatened by encroachment from other land uses.	6 Open Space and Conservation	NA	City of Los Angeles General Plan, Framework Element
Objective 6.1: Protect the City's natural settings from the encroachment of urban development, allowing for the development, use, management, and maintenance of each component of the City's natural resources to contribute to the sustainability of the region.	6 Open Space and Conservation, Resource and Conservation Management	NA	City of Los Angeles General Plan, Framework Element
Policy 6.1.1: Consider appropriate methodologies to protect significant remaining open spaces for resource protection and mitigation of environmental hazards, such as flooding, in and on the periphery of the City, such as the use of tax incentives for landowners to preserve their lands, development rights exchanges in the local area, participation in land banking, public acquisition, land exchanges, and Williamson Act contracts. (P2)	6 Open Space and Conservation, Resource and Conservation Management	NA	City of Los Angeles General Plan, Framework Element
Policy 6.1.2: Coordinate City operations and development policies for the protection and conservation of open space resources, by: a. Encouraging City departments to take the lead in utilizing water re-use technology, including graywater and reclaimed water for public landscape maintenance purposes and such other purposes as may be feasible; b. Preserving habitat linkages, where feasible, to provide wildlife corridors and to protect natural animal ranges; and c. Preserving natural viewsheds, whenever possible, in hillside and coastal areas. (P2, P9, P59, P60)	6 Open Space and Conservation, Resource and Conservation Management	NA	City of Los Angeles General Plan, Framework Element
Policy 6.1.3: Reassess the environmental importance of the County of Los Angeles designated Significant Ecological Areas (SEAs) that occur within the City of Los Angeles and evaluate the appropriateness of the inclusion of other areas that may exhibit equivalent environmental value. (P2, P59)	6 Open Space and Conservation, Resource and Conservation Management	NA	City of Los Angeles General Plan, Framework Element

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Policy	Chapter	Page	Source
Policy 6.1.4: Conserve, and manage the undeveloped portions of the City's watersheds, where feasible, as open spaces which protect, conserve, and enhance natural resources. (P2, P8)	6 Open Space and Conservation, Resource and Conservation Management	NA	City of Los Angeles General Plan, Framework Element
Policy 6.1.5: Provide for an on-site evaluation of sites located outside of targeted growth areas, as specified in amendments to the community plans, for the identification of sensitive habitats, sensitive species, and an analysis of wildlife movement, with specific emphasis on the evaluation of areas identified on the Biological Resource Maps contained in the Framework Element's Technical Background Report and Environmental Impact Report (Figures BR1A-D). (P2)	6 Open Space and Conservation, Resource and Conservation Management	NA	City of Los Angeles General Plan, Framework Element
Policy 6.1.6: Consider preservation of private land open space to the maximum extent feasible. In areas where open space values determine the character of the community, development should occur with special consideration of these characteristics. (P70)	6 Open Space and Conservation, Resource and Conservation Management	NA	City of Los Angeles General Plan, Framework Element
Policy 6.1.7: Encourage an increase of open space where opportunities exist throughout the City to protect wild areas such as the Sepulveda Basin and Chatsworth Reservoir. (P1, P2, P59)	6 Open Space and Conservation, Resource and Conservation Management	NA	City of Los Angeles General Plan, Framework Element
Objective 6.2: Maximize the use of the City's existing open space network and recreation facilities by enhancing those facilities and providing connections, particularly from targeted growth areas, to the existing regional and community open space system.	6 Open Space and Conservation, Outdoor Recreation	NA	City of Los Angeles General Plan, Framework Element

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Policy	Chapter	Page	Source
Policy 6.2.1: Establish, where feasible, the linear open space system represented in the Citywide Greenways Network map, to provide additional open space for active and passive recreational uses and to connect adjoining neighborhoods to one another and to regional open space resources (see Figure 6-1). This Citywide Greenways Network is hierarchical and is composed of three levels: regional, community, and local/ neighborhood. While these levels are of equal importance, they vary in scale and the degree to which they impact the City at large. Additionally, while these levels overlap one another, they can still be differentiated and broken down as follows: a. The regional component of the network is composed of the beaches, the mountains, and the Los Angeles River system - the three most continuous natural features of the urban region and thus the primary elements of the network; river tributaries, arroyos and washes that take storm water to the ocean; rail lines and utility corridors, where feasible without compromising public safety or facility security, that may serve multiple purposes to become connectors to the beaches and the river and link adjacent districts to each other through the network; and all regional parks made accessible from the network. While considering open space improvements of the River and drainages, their primary purpose for flood control shall be considered. b. The community component is composed of parks and civic open spaces connected to the network, including elements such as community and neighborhood parks, connected by linear, non-motorized transportation linkages such as walking and hiking trails and local bike paths. c. The local/neighborhood components include pedestrian-supporting streets, open space associated with public facilities such as schools, small parks, and community gardens. (P2) (Figure 6-1 Greenways Network Map)	6 Open Space and Conservation, Outdoor Recreation	NA	City of Los Angeles General Plan, Framework Element
Policy 6.2.2: Protect and expand equestrian resources, where feasible, and maintain safe links in major public open space areas such as Hansen Dam, Sepulveda Basin, Griffith Park, and the San Gabriel, Santa Monica, Santa Susanna Mountains and the Simi Hills. a. Maintain the equestrian facilities on publicly owned lands, such as Hansen Dam and the Los Angeles Equestrian Center. b. Preserve, where feasible, the "Horsekeeping Supplemental Use District" ("K" District), with links to major open areas. c. Support the policies and objectives of the Rim of the Valley Trail Corridor Master Plan, the Urban Greenways Plan, and the Major Equestrian and Hiking Trails Plan (and all amendments) as a foundation for promoting and maintaining a trail system within the City. (P1, P58, P59)	6 Open Space and Conservation, Outdoor Recreation	NA	City of Los Angeles General Plan, Framework Element
Objective 6.3: Ensure that open space is managed to minimize environmental risks to the public.	6 Open Space and Conservation, Public Safety	NA	City of Los Angeles General Plan, Framework Element
Policy 6.3.1: Preserve flood plains, landslide areas, and steep terrain areas as open space, wherever possible, to minimize the risk to public safety. (P1, P2)	6 Open Space and Conservation, Public Safety	NA	City of Los Angeles General Plan, Framework Element

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Policy	Chapter	Page	Source
Policy 6.5.2: Establish programs for financing open space acquisition, development and maintenance.	6 Open Space and Conservation, Resource and Conservation Management	NA	City of Los Angeles General Plan, Framework Element
Goal 9J: Every neighborhood has the necessary level of fire protection service, emergency medical service (EMS) and infrastructure.	9 Infrastructure and Public Services, Fire	NA	City of Los Angeles General Plan, Framework Element
Objective 9.17: Assure that all areas of the City have the highest level of fire protection and EMS, at the lowest possible cost, to meet existing and future demand.	9 Infrastructure and Public Services, Fire	NA	City of Los Angeles General Plan, Framework Element
Policy 9.17.4: Consider the Fire Department's concerns and, where feasible adhere to them, regarding the quality of the area's fire protection and emergency medical services when developing general plan amendments and zone changes, or considering discretionary land use permits. (P1, P2, P18)	9 Infrastructure and Public Services, Fire	NA	City of Los Angeles General Plan, Framework Element
Goal 9Q: A sustainable urban forest that contributes to overall quality of life.	9 Infrastructure and Public Services, Urban Forest	NA	City of Los Angeles General Plan, Framework Element
Objective 9.41: Ensure that the elements of urban forestry are included in planning and programming of infrastructure projects which involve modification of dedicated parkway, sidewalk and/or raised median islands.	9 Infrastructure and Public Services, Urban Forest	NA	City of Los Angeles General Plan, Framework Element
Policy 9.41.2: Encourage the use of permeable paving wherever possible. (P24)	9 Infrastructure and Public Services, Urban Forest	NA	City of Los Angeles General Plan, Framework Element
Goal G-1: To insure the preservation and conservation of sufficient open space to serve the recreational, environmental, health and safety needs of the City.	NA	3	City of Los Angeles General Plan, Open Space Element
Goal G-2: To conserve unique natural features, scenic areas, cultural and appropriate historical monuments for the benefit and enjoyment of the public.	NA	3	City of Los Angeles General Plan, Open Space Element
Goal G-3: To conserve unique natural features, scenic areas, cultural and appropriate historical monuments for the benefit and enjoyment of the public.	NA	3	City of Los Angeles General Plan, Open Space Element
Goal G-4: To conserve and / or preserve those open space areas containing the City's environmental resources including air and water.	NA	3	City of Los Angeles General Plan, Open Space Element
Goal G-5: To provide access, where appropriate, to open space lands.	NA	3	City of Los Angeles General Plan, Open Space Element
Objective O-1: To establish standards, criteria and an order of importance for the location, quantity, quality, conservation and preservation of open space.	NA	4	City of Los Angeles General Plan, Open Space Element

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Policy	Chapter	Page	Source
Objective O-4: To develop programs and techniques to encourage private land owners to create and/or preserve open space areas and/or linear strips of land connecting open space areas.	NA	4	City of Los Angeles General Plan, Open Space Element
Objective O-5: To identify, preserve and/or conserve ecologically important areas within the City which are worthy of preservation and protection.	NA	4	City of Los Angeles General Plan, Open Space Element
Objective O-6: To identify unique natural features, scenic areas and historical sites which ore desirable for preservation.	NA	4	City of Los Angeles General Plan, Open Space Element
Objective O-7: To identify, preserve and/or conserve those lands necessary as open space land in order to protect the public health and safety.	NA	4	City of Los Angeles General Plan, Open Space Element
Objective O-8: To emphasize the importance of, and to preserve open space and natural features in private and public development.	NA	4	City of Los Angeles General Plan, Open Space Element
Policy 2.1: Ecologically important areas are generally considered as open space and shall be so designated. The following shall apply: a. To the extent feasible, ecologically important areas should be kept in a natural state. b. In the event a project is proposed within an ecologically important area, an environmental impact report shall be prepared. c. The construction of roads through ecologically important areas should be closely controlled in order to protect these areas.	NA	5	City of Los Angeles General Plan, Open Space Element
Policy 2.2: Flood endangered areas should be set aside for appropriate open space uses.	NA	5	City of Los Angeles General Plan, Open Space Element
Policy 2.3: Alteration of drainage patterns shall be minimized in the development of any land in mountain areas.	NA	5	City of Los Angeles General Plan, Open Space Element
Policy 2.4: Stream and wash areas should be conserved except where improvements are necessary to protect life and property.	NA	5	City of Los Angeles General Plan, Open Space Element
Policy 2.6: 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.	NA	5	City of Los Angeles General Plan, Open Space Element
Policy 2.13: Beaches and ocean areas containing abundant plant and marine life should be identified and, where appropriate, protected.	NA	5	City of Los Angeles General Plan, Open Space Element
Policy 2.15: When acting upon a specific plan on any matter pertaining to projects located in either the open space land or desirable open space areas shown in this Plan and where the Environmental Impact Report for the subject specific Plan has indicated that a significant environmental impact will occur if the resulting development or action is allowed to take place, the City Planning Commission and Council shall make findings showing the reasons for their action. If the Council does not adopt the Commission's findings and recommendations, the Council shall make its own findings.	NA	6	City of Los Angeles General Plan, Open Space Element

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Policy	Chapter	Page	Source
Policy 2.16: Subdivision and zoning regulations should provide standards emphasizing natural and topographic values and constraints through: density and/or intensity limitations, establishment of access standards, availability of public services, consideration of natural hazards, employment of aesthetic as well as safety aspects of grading practices and environmental preservation. This is especially important with respect lo preservation of vegetative cover and minimization of sheet erosion.	NA	7	City of Los Angeles General Plan, Open Space Element
Policy 2.18: Private development should be encouraged to provide ample landscaped spaces, molls, fountains, rooftop green areas and other aesthetic features which emphasize open space values through incentive zoning practices or other practicable means.	NA	7	City of Los Angeles General Plan, Open Space Element
Policy 2.19: Where development is allowed in ecologically important areas, the intensity of development should be kept at o minimum consistent with reasonable uses of the land. All measures should be taken to protect these areas including buffering ecologically important areas from conflicting or detrimental uses.	NA	7	City of Los Angeles General Plan, Open Space Element
Policy 2.20: Hazardous open space areas; including property especially subject to fire, steeply sloping hillsides and geologically unstable lands; are threats lo the public safety. Proposals for their use should be evaluated in light of more restrictive grading requirements, better provision for access and lower densities and/or intensities of development.	NA	7	City of Los Angeles General Plan, Open Space Element
Policy 2.22: Private development which occurs in proximity to desirable open space areas should include roads and trails adequate to serve both that development and the immediately adjacent recreation and open space areas.	NA	7	City of Los Angeles General Plan, Open Space Element
Policy 2.23: In desirable open space, areas with unique natural features or ecologically important areas, a preliminary development plan shall be provided. Proposals should include: zoning, subdivision, grading, design, landscaping, public improvements and phasing. Also included should be an Environmental Impact Report dealing in particular with open space concerns.	NA	8	City of Los Angeles General Plan, Open Space Element
Policy 2.32: Roads and other transportation systems through open spaces shall be compatible with the special nature of these lands. These roads shall be individually designed to emphasize scenic values and conform to the unique topography and setting of areas traversed. The standards and criteria set forth in the Scenic Highways Element of the General Plan should be applied, as appropriate, to roads within open space areas.	NA	8	City of Los Angeles General Plan, Open Space Element
Policy 2.33: Multiple use of land adjacent to reservoirs, land reclamation sites, spreading grounds, power line rights-of-way and flood control channels is encouraged consistent with meeting public health and safety standards and the primary functions of these resources. Operating agencies should enter into agreement with the agency responsible for administration of open space in each case, wherever feasible.	NA	9	City of Los Angeles General Plan, Open Space Element

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Policy	Chapter	Page	Source
Policy 3.5: Density and intensity of development in open space areas are indicated on the appropriate Community, District or Area Plan. However, dwelling unit density and intensity of development indicated therein may be further reduced if dictated by the following land carrying capability considerations: • Topography (slope) • Geology (slides, soil) • Vehicular access • Public facilities and services (availability) • Ground coverage of proposed improvements • Scenic values • Fire hazard • Earthquake hazard	NA	12	City of Los Angeles General Plan, Open Space Element
Policy 3.12: Lands subject to natural or manmade hazards, detrimental to life and property should be left in their natural state, where feasible, and considered as open space.	NA	13	City of Los Angeles General Plan, Open Space Element
Policy 3.13: Land, essentially in open space use, serving to enhance and protect the public health and welfare should be considered open space. Those lands in impacted areas are especially important.	NA	13	City of Los Angeles General Plan, Open Space Element
Policy 3.14: Open areas which preserve or protect environmental quality or the ecological balance should be considered open space.	NA	13	City of Los Angeles General Plan, Open Space Element
Policy 3.15: Scenic, historic, cultural, archaeological or geological sites and natural formations which are "unique," "one of a kind" or non-replaceable should be considered as open space.	NA	13	City of Los Angeles General Plan, Open Space Element
Policy 3.2: The order of importance for the creation, preservation, conservation or acquisition of open space areas or lands is as follows: • 1st Areas which should be maintained as open space in order to provide for public health and safety. This includes lands needed for life support systems such as the water supply, water recharge, water quality protection, wastewater disposal, solid waste disposal, air quality protection, energy production and noise prevention. Natural drainage channels, flood plains, fire hazard areas, airport clear zones and geological hazard areas are also open space necessary to the maintenance of public safety. • 2nd Scenic features, historic sites, natural resources, and other significant areas which are considered unique or irreplaceable in nature. This includes ecologically important areas. • 3rd Land well suited to recreational uses either through public acquisition or by privately owned and operated recreational facilities. • 4th Those lands in open space use which serve to link larger open space areas and the community and give form and identity to urban areas. The groupings indicated above are general in nature and do not reflect differences in quality or intensity of a particular need or area. Areas of open space which satisfy more than one of the above groupings should be given greater importance.	NA	14	City of Los Angeles General Plan, Open Space Element

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Policy	Chapter	Page	Source
Goal 1: A city where potential injury, loss of life, property damage and disruption of the social and economic life of the City due to fire, water related hazard, seismic event, geologic conditions or release of hazardous materials disasters is minimized.	NA	III-1	City of Los Angeles General Plan, Safety Element
Policy 1.15: Reduce potential risk hazards due to natural disaster to the greatest extent feasible within the resources available, including provision of information and training. [All programs that incorporate current data, knowledge and technology in revising and implementing plans (including this Safety Element), codes, standards and procedures that are designed to reduce potential hazards and risk from hazards potentially associated with natural disasters implement this policy.]	NA	III-1	City of Los Angeles General Plan, Safety Element
Community Plan Policies[1]			
Designated Open Space Lands are not intended to be developed for residential or other urban uses. These lands should be considered for recreation, wildlife refuge and preservation areas, and zoned appropriately depending on public or private ownership.	3 (Land Use Policies)	III-4	Bel Air-Beverly Crest Community Plan
The intensity of land use in the mountain and hillside areas and the density of the population which can be accommodated thereon, should be limited in accordance with the following: -The adequacy of the existing and assured street circulation system, both within the area and in peripheral areas, to accommodate traffic. -The availability of sewers, drainage facilities, fire protection services and facilities, and other public facilities. -The requirements of the City's Hillside Ordinance. -The suitability of the area for development, and the steepness of the natural topography. In areas designated for Minimum Density Housing, the dwelling unit density shall not exceed that allowed by the following formula, but in any case shall not be greater than one dwelling unit per acre nor less than 0.05 dwelling units per acre: D = (50-S)/35 Where D = The maximum number of dwelling units per gross acre allowable, and S = The average natural slope of the land in percent. -The use of landform grading techniques on prominent slopes, or slopes which are visible from scenic corridors and major public ways, according to the Landform Grading Manual adopted by the City Council. -The compatibility of proposed developments with existing adjacent development.	3 (Land Use Policies)	III-1	Bel Air-Beverly Crest Community Plan

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Policy	Chapter	Page	Source
Use of the "cluster concept" is to be considered for new residential development in hillside areas in order to preserve the natural terrain, minimize the amount of grading required, and provide more recreational land and open space. However, development by conventional subdivision should not be precluded. The "cluster" concept is defined as the grouping of residential structures on the more level parts of the terrain while retaining a large area (75 to 80 percent) in its natural state or in a park-like setting. Density patterns indicated on the Plan Map may be rearranged to facilitate cluster developments provided that the total number of dwelling units indicated in any development is not increased from that depicted on the Plan Map. Cluster developments should not be granted unless they are in general conformance with the following requirements: -Design should minimize adverse visual impact on neighboring single family uses. -Adequate access should be provided from at least two directions. -Grading should be controlled in accordance with the following criteria: -A detailed grading plan showing the amount of cut and fill within 10% accuracy to be required upon submission of any tentative tract map or change of zone request. -With the exception of roads and necessary drainage facilities, natural terrain to be retained and grading limited to the actual building site. -Setback requirements of the applicable zone should not be waived. -No more than 20% of the total land in a development should be in residential use. -At least 15% of the open land (5% slope or less), should be devoted to recreational activities. -Open space, and park and recreation lands, whether deeded to the City or privately held as Open Space Land, should be considered in calculating the potential density in associated subdivisions, and should be protected by provisions which would prohibit any future construction of non-recreational buildings on the protected areas.	3 (Land Use Policies)	III-2	Bel Air-Beverly Crest Community Plan
4-1.1 Natural resources should be conserved on privately-owned land of open space quality and preserved on state parkland. City parks should be further developed as appropriate.	3 (Land Use Policies and Programs)	III-13	Brentwood-Pacific Palisades Community Plan
Objective 7: To encourage open space for recreational uses, and to promote the preservation of views, natural character and topography of mountainous parts of the Community for the enjoyment of both local residents and persons throughout the Los Angeles region.	NA	2	Chatsworth-Porter Ranch Community Plan
Objective 13: To further define the link between the Chatsworth Reservoir, wildlife corridors, and the community by identifying natural wildlife habitats, migration paths, and archaeological/paleontological sites and planning for their preservation;	NA	3	Chatsworth-Porter Ranch Community Plan

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Policy	Chapter	Page	Source
The northwest border of the City of Los Angeles includes a wildlife migration corridor. The wildlife corridor through the Simi Hills and Santa Susana Mountains to the Santa Monica Mountains could be endangered by development and transportation arteries cutting through this vital link. The Plan encourages preservation by both public and private agencies of this critical natural feature. Within the Plan area, the Simi Freeway presents the most difficult barrier to wildlife. While there are several passes both under and over the freeway, they are predominately used by automobile traffic which presents a danger to wildlife. Culverts should be under the freeway west of Topanga Canyon Boulevard, constructed for wildlife and equestrians, and connected to trails.	NA	3	Chatsworth-Porter Ranch Community Plan
Policy 3: The steepness of the topography of the various parts of the area and the suitability of the geology of the area for development shall be guided by the following: In areas designated for Minimum density housing, the dwelling unit density shall not exceed that allowed by the slope density ordinance (LAMC Section 17.05 C). Hillside areas designated Very Low I or Very Low II on the Plan Map which contain limited areas of exceptionally steep topography should be restricted to even lower densities. It is the policy of the Planning Commission that the Deputy Advisory Agency must consider lower densities, including Minimum density, when considering applications for development of such areas. Factors to be considered should include, but not be limited to steepness of slope, amount of grading, soil stability, erosion, land division patterns, vehicular access, etc.	NA	5	Chatsworth-Porter Ranch Community Plan
Policy 3: A minimum 100-foot buffer zone should be designated from the top of a channel bank for all riparian habitats. Projects that affect wetlands or natural waterways should comply with requirements of the California Department of Fish and Game and U.S. Army Corps of Engineers.	NA	13	Chatsworth-Porter Ranch Community Plan
Wildlife. A detailed rare plant and wildlife survey should be conducted where there are existing native open spaces in the Santa Susana Mountains. Specific mitigation measures shall be developed for any sensitive species found on a given site. In developing specific mitigation measures, the following measures should be considered in descending order: • Avoid direct or indirect impacts. • Reduce or minimize impacts to an insignificant level by preserving a viable portion of the population. • Compensate for the impacts by transplanting, or by habitat enhancement elsewhere, or the preservation of population elsewhere.	3 (Land Use Policies and Programs)	III-9	Granada Hills-Knollwood Community Plan
Goal 4: Safe, well-designed hillside development that complements Granada Hills-Knollwood's natural environment and preserves the scenic vistas, foothills, and vast open spaces.	3 Land Use and Design	3-14	Granada Hills-Knollwood Community Plan
Policy 4.1: Hillside Density. Limit the intensity and density in hillside areas to that which can be reasonably accommodated by infrastructure and natural topography. Notwithstanding any land use designation maps to the contrary, all projects with average natural slopes in excess of 15 percent, including Tract Maps and Parcel Maps, shall be limited to the minimum density housing category for the purposes of enforcing the slope density formula of LAMC Sections 17.05C and 17.50E (including as may be amended from time to time).	3 Land Use and Design	3-14	Granada Hills-Knollwood Community Plan

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Policy	Chapter	Page	Source
Policy 4.3: Topography Preservation. Use the natural topography as the primary criteria to determine the placement and/or alignment of houses, roads, drainage facilities, equestrian facilities, and other necessary structures. Design developments to be integrated with and visually subordinate to natural features and terrain. Condition new development in the hills to protect views from public roadways and parklands to the maximum extent feasible.	3 Land Use and Design	3-14	Granada Hills-Knollwood Community Plan
Policy 4.4: Slope Preservation and Grading. Cluster houses on those portions of undeveloped hillside areas that have less than a 15 percent slope in order to retain the steeper slopes in their natural state or in a natural park-like setting, minimize the amount of grading and the alteration of the natural topography, and provide more open space opportunities for recreation and equestrian use. The density pattern indicated in the Plan may be adjusted to facilitate development on the more level portions of the terrain provided that the total number of dwelling units indicated in any development is not increased over that allowed by the Plan based on the net area of development.	3 Land Use and Design	3-14	Granada Hills-Knollwood Community Plan
Policy 4.5: Mountain Viewshed Protection. Design development near ridgelines so as to avoid breaking the mountain silhouette of a significant ridgeline. Discourage building and grading on ridgelines to protect ridges and environmentally sensitive areas, and to prevent erosion associated with development and visual interruption of the ridge profile.	3 Land Use and Design	3-14	Granada Hills-Knollwood Community Plan
Policy 4.6: Landscaping. Incorporate landscaping that supports slope stability and provides fire protection.	3 Land Use and Design	3-15	Granada Hills-Knollwood Community Plan
Goal 6: A community with sufficient open space in balance with new development to serve the recreational, environmental, health and safety needs of the area and to protect environmental and aesthetic resources.	5 Community Facilities, Infrastructure, Open Space	5-23	Granada Hills-Knollwood Community Plan
Policy 6.1: Conservation. Preserve passive and visual open space that provides wildlife habitat and corridors, wetlands, watersheds, groundwater recharge areas, and other natural resource areas.	5 Community Facilities, Infrastructure, Open Space	5-23	Granada Hills-Knollwood Community Plan
Policy 6.4: Natural Drainage. Minimize the alteration of natural drainage patterns, canyons, and water courses, except where improvements are necessary to protect life and property	5 Community Facilities, Infrastructure, Open Space	5-23	Granada Hills-Knollwood Community Plan
Policy 6.6: Ecologically Sensitive Area. Coordinate with the County of Los Angeles in identifying significant ecological areas featuring ecological or scenic resources that should be preserved and protected within State reserves, preserves, parks, or natural wildlife refuges.	5 Community Facilities, Infrastructure, Open Space	5-23	Granada Hills-Knollwood Community Plan
Goal 8: A healthy and safe tree population in all neighborhoods to maximize the benefits gained from the urban forest, such as air quality improvement and aesthetic enhancement, and pedestrian-friendly shade in Granada Hills-Knollwood.	5 Community Facilities, Infrastructure, Open Space	5-26	Granada Hills-Knollwood Community Plan

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Policy	Chapter	Page	Source
Policy 8.4: Native Trees. Encourage the use of plant communities native to Los Angeles which achieve native biodiversity and enhance existing wildlife habitats.	5 Community Facilities, Infrastructure, Open Space	5-27	Granada Hills-Knollwood Community Plan
Goal LU1: Complete, livable and quality residential neighborhoods that provide a variety of housing types, densities, forms, and designs and a mix of uses and services that support the needs of residents throughout Hollywood.	3 (Land Use Policies and Programs)	3-10	Hollywood Community Plan (Proposed Update)
Policy LU1.4: Limit density in hillside areas. Notwithstanding any land use designation maps to the contrary, all projects with average natural slopes in excess of 15 percent, including both Tract Maps and Parcel Maps, shall be limited to the minimum density housing category for the purposes of enforcing the slope density formula of LAMC Section 17.05 and 17.50E.	3 (Land Use Policies and Programs)	3-10	Hollywood Community Plan (Proposed Update)
Policy LU1.5: Condition the approval of lot line adjustments, where either lot is subject to the Slope Density Ordinance prior to the lot adjustment, to document existing average natural slopes for the entire parcel and maintaining overall density restrictions pursuant to the intent of the slope density formula of Section 17.05.	3 (Land Use Policies and Programs)	3-10	Hollywood Community Plan (Proposed Update)
Goal PR.3: New and improved open space and public parks that provide opportunities for recreation and social gathering.	3 (Land Use Policies and Programs)	4-9	Hollywood Community Plan (Proposed Update)
Policy PR3.1: Preserve open space. Maintain, preserve, and enhance open space, and recreational facilities, and park space within the Hollywood Community Plan Area. Encourage the retention of passive open space which provides a balance to the urban development of the Community Plan Area.	3 (Land Use Policies and Programs)	4-9	Hollywood Community Plan (Proposed Update)
Policy PR3.2: Green space and plazas. Develop new public green spaces and public plazas where possible.	3 (Land Use Policies and Programs)	4-9	Hollywood Community Plan (Proposed Update)
Policy PR3.3: Site remediation. Pursue resources to clean up land, especially brown-fields, that could safely be used for public recreation or open space.	3 (Land Use Policies and Programs)	4-9	Hollywood Community Plan (Proposed Update)
Policy PR3.4: Open space easements. Support the rezoning of paper streets for open space easements that can be used to connect trails and access recreational uses.	3 (Land Use Policies and Programs)	4-9	Hollywood Community Plan (Proposed Update)
Policy PR3.5: Preserve easements. Discourage the paving over of easements.	3 (Land Use Policies and Programs)	4-9	Hollywood Community Plan (Proposed Update)
Policy PR3.6: Underutilized rights-of-way. Identify opportunities to increase recreational resources by converting underutilized rights-of-way like railroads and powerlines to accommodate greenways and bicycle trails, and by utilizing public easements for community gardens. Promote resource efficient new infill development that creates recreational open space and creative placemaking projects in public rights of way.	3 (Land Use Policies and Programs)	4-9	Hollywood Community Plan (Proposed Update)

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Policy	Chapter	Page	Source
Policy PR3.8: Acquire vacant land. Encourage and support continuing efforts of non-profits in partnership with County, State and Federal agencies to acquire vacant land for publicly owned open space.	3 (Land Use Policies and Programs)	4-9	Hollywood Community Plan (Proposed Update)
Policy PR3.10: Access to open space. Maintain and improve access to existing open space and new open space including walking, hiking, and equestrian trails. Maintain and improved bicycle access to open space. Support the connection of existing walking, hiking and equestrian trail segments in the Plan Area, including the Rim of the Valley trails corridor, where feasible.	3 (Land Use Policies and Programs)	4-10	Hollywood Community Plan (Proposed Update)
Policy PR3.11: Rooftops. Support the use of rooftops for Open Space, including running tracks, gardens and other recreational purposes, where public safety permits.	3 (Land Use Policies and Programs)	4-10	Hollywood Community Plan (Proposed Update)
Policy PR3.12: Rivers and streams. Maintain and expand public green space around rivers and streams.	3 (Land Use Policies and Programs)	4-10	Hollywood Community Plan (Proposed Update)
Policy PR3.13: Los Angeles River. Support recommendations of the Los Angeles River Revitalization Master Plan for establishing parks, walking paths, bicycle trails, gathering spaces, and public art along the Los Angeles River.	3 (Land Use Policies and Programs)	4-10	Hollywood Community Plan (Proposed Update)
Policy PR3.14: Los Angeles River Improvement Overlay (RIO) Zone. Observe guidelines for mobility, watershed management and urban design as established by the Los Angeles RIO Zone.	3 (Land Use Policies and Programs)	4-10	Hollywood Community Plan (Proposed Update)
Policy PR3.16: Headworks Reservoir. Support the plans of LADWP to provide parkland on top of the proposed Headworks Reservoir in Griffith Park between Ventura Freeway and Forest Lawn Drive and in future infrastructure projects, where apprpriate.	3 (Land Use Policies and Programs)	4-10	Hollywood Community Plan (Proposed Update)
Policy PR4.5: Open space designations. Maintain all open space designations within the Hollywood Community Plan Area. Designate parkland as Open Space as it is acquired by the Department of Recreation and Parks.	3 (Land Use Policies and Programs)	4-11	Hollywood Community Plan (Proposed Update)
Policy PR5.5: Improve accessibility. Prioritize and improve accessibility to recreational uses in Griffith Park suing tools such as easements and trail and greenway linkages.	3 (Land Use Policies and Programs)	4-11	Hollywood Community Plan (Proposed Update)
Policy PR5.6: Greenways and trail systems. Preserve and encourage acquisition, development and funding of new recreational facilities and park space with the goal of creating greenways and trail systems.	3 (Land Use Policies and Programs)	4-11	Hollywood Community Plan (Proposed Update)
Goal PR6: Protect existing natural areas and wildlife habitat.	3 (Land Use Policies and Programs)	4-12	Hollywood Community Plan (Proposed Update)
Policy PR6.1: Wildlife habitats. Evaluate existing conditions and identify areas important for supporting habitat and movement for wildlife.	3 (Land Use Policies and Programs)	4-12	Hollywood Community Plan (Proposed Update)

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Policy	Chapter	Page	Source
Policy PR6.2: Conservation. Preserve passive and visual open space that provides wildlife habitat and corridors, wetlands, watershed, groundwater recharge areas, and other natural resources areas.	3 (Land Use Policies and Programs)	4-12	Hollywood Community Plan (Proposed Update)
Policy PR6.4: Ecologically sensitive areas. Coordinate with the County of Los Angeles in identifying significant ecological areas featuring ecological or scenic resources that should be preserved and protected within State reserves, preserves, parks, or natural wildlife refuges.	3 (Land Use Policies and Programs)	4-12	Hollywood Community Plan (Proposed Update)
5-1.2 Protect significant environmental resources from environmental hazards.	3 (Land Use Policies and Programs)	III-18	San Pedro Community Plan
5-1.5 The alteration of natural drainage patterns, canyons, and water courses shall be minimized except where improvements are necessary to protect life and property.	3 (Land Use Policies and Programs)	III-19	San Pedro Community Plan
5-1.7 Offshore oil drilling be strictly controlled in the immediate area off San Pedro so as to safeguard against oil spillage, prevent interference with shipping lanes, preserve the scenic value of the coastline, and protect ecologically important areas and designated wildlife refuges.	3 (Land Use Policies and Programs)	III-19	San Pedro Community Plan
5-1.8 Coastal areas containing ecological or scenic resources be preserved and protected within State reserves, preserves, parks, or natural wildlife refuges.	3 (Land Use Policies and Programs)	III-19	San Pedro Community Plan
Goal 1: A safe, secure, and high quality residential environment for all economic, age, and ethnic segments of the community.	3 (Land Use Policies and Programs)	III-2	Sun Valley-La Tuna Canyon Community Plan
Objective 1-6: To limit residential density and minimize grading in hillside areas.	3 (Land Use Policies and Programs)	III-5	Sun Valley-La Tuna Canyon Community Plan
Policy 1-6.3: Minimize grading. Require that grading be minimized to reduce the effects on environmentally sensitive areas.	3 (Land Use Policies and Programs)	III-5	Sun Valley-La Tuna Canyon Community Plan
Goal 6: Facilitate the provision of public schools and adequate school facilities to serve every neighborhood in the Westchester-Playa Del Rey community plan area.	3 (Land Use Policies and Programs)	III-24	Westchester-Playa Del Rey Community Plan
Objective 6-4: Coordinate and integrate the development and operation of the Loyola Marymount University (LMU) campus into the surrounding Westchester-Playa del Rey community.	3 (Land Use Policies and Programs)	III-26	Westchester-Playa Del Rey Community Plan
Policy 6-4.2: Protect sensitive terrain and nearby natural habitats, such as blufflines and wetland environments, from potentially adverse impacts during all phases of development and operation of the University.	3 (Land Use Policies and Programs)	III-27	Westchester-Playa Del Rey Community Plan
Objective 10-2: Operate the Hyperion Treatment Plant in a manner that is safe and protective of the fragile coastal ecosystem.	3 (Land Use Policies and Programs)	III-32	Westchester-Playa Del Rey Community Plan

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Policy	Chapter	Page	Source
Goal 18: Protect Westchester-Playa Del Rey's unique coastal qualities by maintaining the coastal zone in an environmentally sensitive manner and preserving the scenic views of the area, while ensuring access and public use of coastal resources.	3 (Land Use Policies and Programs)	III-52	Westchester-Playa Del Rey Community Plan
Objective 18-2: Protect, maintain, and where feasible enhance and restore the quality of the Coastal Zone environment and its natural resources. Assure the orderly and balanced use and conservation of coastal ecological amenities, taking into account the social and economic needs of the people of the region.	3 (Land Use Policies and Programs)	III-53	Westchester-Playa Del Rey Community Plan
Policy 18-2.1: New development should be located in a manner that best preserves identified coastal resources, including wetland and support areas. Promote the concentration or grouping of structures to retain larger areas of open land. Open space buffer areas should be established between new development and sensitive ecological environments.	3 (Land Use Policies and Programs)	III-53	Westchester-Playa Del Rey Community Plan
Policy 18-2.2: Wetland preservation. Preserve and enhance Ballona Wetlands by consolidating and restoring all wetlands and environmentally sensitive habitats within the Ballona area.	3 (Land Use Policies and Programs)	III-53	Westchester-Playa Del Rey Community Plan
Policy 18-2.3: Preserve and enhance Del Rey Lagoon as a community and visitor serving park with significant ecological functions.	3 (Land Use Policies and Programs)	III-54	Westchester-Playa Del Rey Community Plan
Policy 18-2.4: Wildlife protection. Preserve and protect the unique and distinctive landforms of Playa del Rey Coastal Bluffs, which remain habitat to birds, small mammals, and native plants.	3 (Land Use Policies and Programs)	III-54	Westchester-Playa Del Rey Community Plan
Goal 4: Adequate recreation and park facilities which meet the needs of the residents in the plan area.	3 (Land Use Policies and Programs)	III-19	Wilmington-Harbor City Community Plan
Objective 4-6: Preserve wildlife habitats. To preserve unique wildlife habitats and ecologically important areas within parks and recreation areas in a natural state, for the protection of plant and animal species, and for public enjoyment, health and safety.	3 (Land Use Policies and Programs)	III-21	Wilmington-Harbor City Community Plan
Policy 4-6.1: Identify and preserve wildlife habitats and ecologically improved areas in a natural state, consistent with the public need, health and safety.	3 (Land Use Policies and Programs)	III-21	Wilmington-Harbor City Community Plan
Policy 5-1.2: Protect significant environmental resources from environmental hazards.	3 (Land Use Policies and Programs)	III-22	Wilmington-Harbor City Community Plan
Policy 4: Zoning amendments. Consider possible amendments to the Zoning and/or Building Codes to limit the quantity of cut and fill grading in hillside and mountainous areas.	3 (Land Use Policies and Programs)		Venice Community Plan
Policy 18-1.2: The protection of estuaries and wetlands and the restoration and protection of the Venice Canals.	3 (Land Use Policies and Programs)	III-36	Venice Community Plan

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Policy	Chapter	Page	Source
Public works improvements in the study area shall be designed to protect sensitive habitat resources, accommodate new development permitted in the area and provide for future public access needs.	3 (Land Use Policies and Programs)	III-38	Venice Community Plan
Specific Plan Policies[1]			
7. Provide well-designed, energy efficient, architectural and landscape lighting that contributes to a safe and inviting atmosphere without casting light into the night sky, adjacent properties, or sensitive habitat areas.	2 (Zoning and Standards)	2-39	Cornfield Arroyo Seco Specific Plan
6. Provide open space areas that provide for native habitat and facilitate the migration of local species.	2 (Zoning and Standards)	2-55	Cornfield Arroyo Seco Specific Plan
Restoration and Maintenance of the Preserve. The Dunes Habitat Preserve, as shown on the Map, shall be restored as reasonably feasible to natural state for the express purpose of providing a permanent preserve for dune-dependent species. The Executive Director of the Department of Airports (Executive Director) and the General Manager of the Department of Environmental Affairs (General Manager) shall prepare a report describing a program for the phased restoration and maintenance of the Preserve consistent with this Specific Plan. Within 180 days of the approval of the Specific Plan by the Coastal Commission, the Executive Director shall submit the Executive Director's and General Manager's Report (Report) to the Board of Airport Commissioners (Board) for its approval. Within 90 days of the receipt of the Report, the Board shall submit the Report to the Coastal Commission for its review and comment. The Board shall initiate the Program within 180 days of the completion of the Coastal Commission review of the Report. The General Manager and the Board shall have responsibility for the restoration of the Preserve as funding for restoration efforts become available. The Board and the General Manager may seek funding for the Program from any available source. The Board shall have the responsibility for operation and maintenance of the Preserve. The General Manager, the Board, and the Executive Director (upon approval of the Board) may retain parties to assist in carrying out their duties and responsibilities under the Program and this Specific Plan. The General Manager shall submit an annual report to the Coastal Commission on the progress of the restoration Program.	3 (Land Use Regulations)	4-5	Los Angeles Airport/El Segundo Dunes Specific Plan
Access to the Preserve shall be restricted consistent with the site's environmental sensitivity. Regulations for such access (including hours and terms of supervision) shall be approved by the Board. Access may also be restricted by the Board and/or Executive Director based on the security needs of the Department of Airports. Principal uses within the Preserve shall be limited to habitat restoration and maintenance directed primarily toward enhancement for threatened and endangered species; scientific research; and education. Except when associated with habitat restoration and maintenance, site alteration shall be kept to an absolute minimum. Existing Airport navigational and safety facilities are permitted. To the extent consistent with Federal laws and legally enforceable Federal regulations, development of additional navigational and safety facilities shall require a Coastal Development Permit. Placement of such facilities shall be compatible with the preservation of habitat values. The Federal Aviation Administration's			

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Policy	Chapter	Page	Source
Very-High Omni Range (VOR) Navigation Beacon and the remote antennae shall have their own security and access provisions. Routine operations and maintenance of the VOR area shall be conducted in such manner as to minimize disruption to adjacent habitat			
4. Relocation and Remove. No Native Tree or Significant Tree may be relocated or removed except as provided in Article 7 of Chapter I or Article 6 of Chapter IV of the LAMC or unless a Project Permit is obtained pursuant to Section 8 of this Plan. Removal shall include any act which will cause a Native or Significant Tree to die, including but not limited to acts which inflict damage upon the root system or other part of tree by fire, application of toxic substances, operation of equipment or machinery, or by changing the natural grade of land by excavation or filling dripline area around the trunk, or by changing the local drainage pattern, either inside or outside the dripline, such that it significantly affects the amount of water that reaches the tree roots.	6.F (Landscaping and Preservation, Relocation, and Removal of Native and Significant Trees)	7	Mount Washington/Glassell Park Specific Plan
2. Streams. No project shall be constructed and no more than 100 cubic yards of earth shall be moved within 100 feet of either stream bank without the prior written approval of the Director pursuant to Section 11. In granting an approval, the Director shall make the following findings: a. The applicant has employed a biologist to prepare a report which contains the following: the location(s) of the stream's banks, an assessment of the riparian resources, an evaluation of the project's impact on the riparian resources and a recommendation of feasible mitigation measures. b. The applicant has submitted to the Director for his approval, a copy of the biologist's report and a covenant and agreement which runs with the land and which states that the mitigation measures recommended by the biologist and approved by the Director will be incorporated in the project and maintained. The covenant and agreement shall be recorded by the applicant. c. The project preserves the natural vegetation and the existing ecological balance. d. The project protects prominent ridges, streams, and environmentally sensitive areas and the aquatic, biologic geologic and topographic features therein. e. The project will not damage the integrity of a stream.	5.B (Environmental Protection Measures)	10	Mulholland Scenic Parkway Specific Plan
3. Projects Near Parklands. No project shall be erected and no earth shall be graded within 200 feet of the boundaries of any public parkland without the prior written approval of the Director pursuant to Section 11. The Director may approve the construction of a project or grading within 200 feet of public parkland after making the following findings: a. The project preserves the residential character along the right-of-way. b. The project will minimize erosion. c. The project preserves the natural vegetation and the existing ecological balance. d. The project protects identified archaeological and paleontological sites. e. The project minimizes driveway access into the right-of-way	5.B (Environmental Protection Measures)	10-11	Mulholland Scenic Parkway Specific Plan

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Policy	Chapter	Page	Source
4. Oak Trees. No oak tree (*quercus agrifolia*, *lobata*, *q. virginiana*) shall be removed, cut down or moved without the prior written approval of the Director. The Director may approve the removal, cutting down or moving of an oak tree after making the following findings: a. The removal, cutting down or moving of an oak tree will not result in an undesirable, irreversible soil erosion through diversion or increased flow of surface waters. b. The oak tree is not located with reference to other trees or monuments in such a way as to acquire a distinctive significance at said location.	5.B (Environmental Protection Measures)	11	Mulholland Scenic Parkway Specific Plan
No building permit shall be issued for any building, structure or other development property within the Specific Plan Area unless and until Community Plan policies with respect to the preparation of the Habitat Management Plan for the Ballona Wetlands and the funding thereof, the funding for the restoration of the Ballona Wetlands in accordance with such Plan, and the conveyance of fee title to the Habitat Management Area to the designated owner/manager, have been implemented. (This prohibition shall not apply to building permits for Southern California Gas Company for the maintenance and operation of its existing gas storage facility.) Such Habitat Management Plan for the Ballona Wetlands will be prepared and submitted to the City Council for approval. The Habitat Management Plan must be consistent with Los Angeles County's Marina del Rey/Ballona Land Use Plan (LUP) approved by the California Coastal Commission on December 9, 1986 and the City's Playa Vista Land Use Plan, and must provide for the consolidation and restoration of all wetlands and environmentally sensitive habitats within the Ballona area as part of a single management unit located within the area designated OS(PV) on the Map, including the restoration of 175.4 acres of wetlands and 21.6 acres of ecological support area. The Habitat Management Plan also shall include the following specific objectives: ***(see Specific Plan)***	10 (The Ballona Wetlands Habitat Management Program)	17	Playa Vista Area B Specific Plan
(c) Public Open Space Area: In approving any subdivision of property in Subareas A or B, the Advisory Agency must find that the Applicant has set aside as recreation area the areas identified as public open space on the Chatsworth-Porter Ranch Community Plan land use map within the Specific Plan area. The Applicant shall make an irrevocable offer to dedicate this property to the City of Los Angeles. Except for the equestrian and hiking trails, this area, combined with park lands along the northern and western boundaries of the Specific Plan area already owned by the City, shall remain in a substantially natural state and serve as a wildlife corridor. The dedication of property as public open space as required pursuant to this paragraph may be used as a set-off against the requirements of LAMC Section 17.12 for dedication of real property for park and recreational purposes, or for payment of an in lieu fee, in connection with the construction or development of any and all dwelling units within the Specific Plan area.	8 (Advisory Agency Approvals)	24	Porter Ranch Specific Plan
1. No Project may be constructed within any Prominent Ridgeline Protection Area or portion of the area except as permitted pursuant to Section 6 B. Prominent Ridgeline Protection Area. The area 60 vertical feet from any point along the long axis of the crest of a Prominent Ridgeline and designated on Map No. 2 as a shaded area. Final determination of the Prominent Ridgeline Protection Area is made by the Director of Planning or the Advisory Agency using a topographic survey provided by the applicant as part of any Project Permit Compliance Review or subdivision action.	6. Prominent Ridgeline Protection	7	San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan

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Policy	Chapter	Page	Source
2. No Project shall be constructed so that the highest point of the roof, structure, or parapet wall, is less than 25 vertical feet from the designated Prominent Ridgeline directly above the highest point of the building or structure.	6. Prominent Ridgeline Protection	7	San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan
3. Where Prominent Ridgeline Protection Areas are shown on only one side of a ridge line, buildings or structures built on the portion of the Site without Prominent Ridgeline Protection Areas shall not be allowed to break the silhouette of the applicable protected ridge.	6. Prominent Ridgeline Protection	8	San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan
4. No grading or berming shall occur that alters the elevation of the crest of the Prominent Ridgeline on the Site.	6. Prominent Ridgeline Protection	8	San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan
5. Graded slopes should be Landform Graded where practical in accordance with the provisions of the Department of City Planning's Landform Grading Manual. In order to create slopes that reflect as closely as possible the surrounding natural hills, graded hillsides should have a variety of slope ratios, should not exceed a ratio of 2:1, and should transition to the natural slope in a manner that produces a natural appearance.	6. Prominent Ridgeline Protection	8	San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan
6. No native vegetation shall be removed within any Prominent Ridgeline Protection Area, except for driveways, building footprints and any required equine pad or stable areas, or as necessary to meet fire safety and brush clearance regulations, to develop recreational trails, or for landscaping associated with residential lots.	6. Prominent Ridgeline Protection	8	San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan
B. Oak Trees. Notwithstanding L.A.M.C. Section 46.00 to the contrary, no oak tree (*Quercus agrifolia, Q. lobata*) of eight inches or more as measured four and one-half feet above the ground level at the base of the tree shall be removed, cut down or moved without the prior written approval of the Director or the Advisory Agency on lots 20,000 square feet or larger. The Director or the Advisory Agency may approve the removal, cutting down or moving of an oak tree if one of the following findings can be made: 1. It is necessary to remove the oak tree because its continued existence at its present location prevents the reasonable development of the subject property; or 2. The oak tree shows a substantial decline from a condition of normal health and vigor, and restoration, through appropriate and economically reasonable preservation procedures and practices, is not advisable (as evidenced by an oak tree report); or 3. Because of an existing and irreversible adverse condition of the oak tree, the tree is in danger of falling, notwithstanding the tree having been designated an Historical Monument or as part of an Historic Preservation Overlay Zone; or 4. The presence of the oak tree interferes with utility services and roadways within or without the subject property and the only reasonable alternative to the interference is the removal of the tree; or 5. It has no apparent aesthetic value that will contribute to the appearance and design of the surrounding properties, or is not located with reference to other trees or monuments in such a way as to acquire a distinctive significance at that location. If an approval to remove an oak tree has been obtained from the Director or Advisory Agency, no further approval is required from the Board of Public Works.	8. General Development Standards	13	San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan

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C. Prohibited Plant Materials. The following plant materials shall be prohibited within the Plan area for all new Projects (as defined in Section 4): *Acacia* green wattle *Ailanthus altissima* tree of heaven *Arundinaria pygmaea* *Arundo donax* giant reed *Atriplex semibaccata* Australia saltbush *Avena* spp. wild oats *Brassica* spp. (non-native) mustard *Bromus rubens* red brome *Centranthus ruber* Jupiter's beard *Cypressus sempervirens* Italian cypress *Cortaderia jubata* pampas grass *Cortaderia sellowiana* pampas grass *Cytisus canariensis* Canary Island broom *Cytisus scoparius* Scotch broom *Cytisus spachianus* (*Genista racemosa*) broom *Erodium botrys* storksbill *Erodium cicutarium* storksbill *Erodium cygnorum* storksbill *Erodium malacoides* storksbill *Erodium moschatum* storksbill *Eucalytpus globulus* blue gum *Lolium perenne* perennial ryegrass *Malva parvifolia* cheeseweed *Pennisetum setaceum* fountain grass *Ricinus communis* castor bean *Robinia pseudoacacia* black locust *Schinus molle* California pepper *Schinus terebinthefolius* Brazilian pepper *Spartium junceum* Spanish broom *Tamarix* sp. salt cedar *Vulpia megalura* foxtail fescue palm	8. General Development Standards	13-14	San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan

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Policy	Chapter	Page	Source
Lots located between Topsail Street and Via Marina: (2) No development other than public access improvements and habitat restoration shall be permitted within the easterly fifteen-foot portion of the 25-foot required setback area. The City may require dedication of easements as a condition of development if the City finds that there is a nexus between the impacts of the Venice Coastal Development Project and the need to protect the Lagoon Buffer Strip for public access improvements and habitat restoration.	10 (Land Use and Development Regulations for Subareas)	12	Venice Coastal Zone Specific Plan
Lots located north of Ironsides Street: 3. Fill. No Fill shall be permitted in the lagoon and buffer area, except for the minimum amount necessary for habitat restoration and public access.	10 (Land Use and Development Regulations for Subareas)	13	Venice Coastal Zone Specific Plan
Lots fronting on the lagoon and lots adjacent to Esplanade East: (1) Lagoon Buffer Strip. No Venice Coastal Development Project other than public access improvements and habitat restoration shall be permitted within a 40-foot strip immediately adjacent to the Ballona Lagoon, as established by the amended Coastal Permit A-266-77. The City right-of-way (Esplanade) comprises part of the 40-foot wide buffer, with the remainder comprised of 24 to 30-foot wide portions of the lagoon fronting lots over which easements have been, or shall be, dedicated to the City for open space and public access per the requirements of amended Coastal Permit A-266-77. The City may require dedication of easements as a condition of development if the City finds that there is a nexus between the impacts of the Venice Coastal Development Project and the need to protect the Lagoon Buffer Strip for public access improvements and habitat restoration.	10 (Land Use and Development Regulations for Subareas)	14	Venice Coastal Zone Specific Plan
7. Light. Lighting from commercial Venice Coastal Development Projects shall be directed away from residential Venice Coastal Development Projects and Environmentally Sensitive Habitat Areas.	11 (Commercial and Industrial Design Standards)	22	Venice Coastal Zone Specific Plan

NOTES:

[1] Some community and specific plans do not contain wildlife-/habitat-related policies and, therefore, are not referenced herein.

Appendix I
Best Practice Policy Matrix

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Appendix I. Best Practice Policy Matrix

Topic	Best Practice Policies	Source	Justification/Benefit
Open Space/Wildlife Habitat Preservation	6.1.1 Consider appropriate methodologies to protect significant remaining open spaces for resource protection and mitigation of environmental hazards, such as flooding, in and on the periphery of the City, such as the use of tax incentives for landowners to preserve their lands, development rights exchanges in the local area, participation in land banking, public acquisition, land exchanges, and Williamson Act contracts.	City of Los Angeles General Plan, Framework Element (Chapter 6, Open Space and Conservation)	These existing City policies appropriately focus on continued study of potential conservation areas as well as promoting the consideration of a variety of mechanisms for securing and financing acquisitions. One consideration related to policy 6.5.2 are standardized development fees earmarked for conservation efforts. East Contra County Ordinance 2007-53 provides an example of development fees which are used to implement the County's NCCP/HCP.
	6.1.5 Provide for an on-site evaluation of sites located outside of targeted growth areas, as specified in amendments to the community plans, for the identification of sensitive habitats, sensitive species, and an analysis of wildlife movement, with specific emphasis on the evaluation of areas identified on the Biological Resource Maps contained in the Framework Element's Technical Background Report and Environmental Impact Report (Figures BR1A-D).		
	6.5.2 Establish programs for financing open space acquisition, development and maintenance.		
	Objective 1.1. Protect a range of environmental gradients (such as slope, elevation, aspect) across a diversity of natural communities within the conservation zones.	East Alameda County Conservation Strategy (Section 3.5.1 Landscape-Level Goals and Objectives)	These objectives ensure that habitat preservation targets a range of habitat types and that preserved areas are managed to ensure habitat integrity/quality is maintained.
	Objective 1.3. Allow natural disturbance regimes required for natural community regeneration and structural diversity and native species germination and recruitment to occur on protected lands within the study area or implement management actions that mimic those natural disturbances.		
	Objective 1.4. Eradicate or reduce the cover, biomass, and distribution of targeted nonnative invasive plants and reduce the number and distribution of nonnative invasive animals using Integrated Pest Management (IPM) principles to enhance natural communities and native species habitat on protected lands within the study area.		

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Topic	Best Practice Policies	Source	Justification/Benefit
Open Space/Wildlife Habitat Preservation (cont.)	Buffer widths for fish and wildlife habitat conservation areas shall be determined by the department, based on a critical area report prepared by a qualified professional pursuant to this chapter and in consideration of the following factors: 1. Research and evaluation of best available science sources relevant to species and habitat present within the city, as documented in City of Kent Best Available Science Review for Fish and Wildlife Habitat Conservation Areas, 2004, or amendments thereto. 2. Species-specific management guidelines of the Washington Department of Fish and Wildlife. 3. Recommendations contained in the wildlife study submitted by a qualified professional, following the reporting requirements of these regulations. 4. The nature and intensity of land uses and activities occurring on the site and on adjacent sites. Buffers are encouraged but are not required for secondary habitat.	City of Kent (WA) Municipal Code (Section 11.06.720)	Buffer zones between open space/wildlife habitat and development, minimize edge effects associated with human activity (e.g., noise, light, invasive/non-native species). Buffer zones may include managed natural habitat areas (e.g., fuel modification zones) or passive park/landscaped areas that are vegetated with native species.
	Volunteer Preserve Monitor. Encourage the formation of volunteer preserve managers that are incorporated into each community planning group to supplement professional enforcement staff	County of San Diego General Plan (Chapter 5; Policy COS-1.11)	Open space management is vital to maintaining functionality but costly on local agencies. Seeking volunteer or other partnerships can mitigate staff/budgetary limitations.
Habitat Linkage Preservation	Discretionary development shall be sited a minimum of 100 feet from significant wetland habitats to mitigate the potential impacts on said habitats. Buffer areas may be increased or decreased upon evaluation and recommendation by a qualified biologist and approval by the decision-making body. Factors to be used in determining adjustment of the 100 foot buffer include soil type, slope stability, drainage patterns, presence or absence of endangered, threatened or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area. The requirement of a buffer (setback) shall not preclude the use of replacement as a mitigation when there is no other feasible alternative to allowing a permitted use, and if the replacement results in no net loss of wetland habitat. Such replacement shall be "in kind" (i.e. same type and acreage), and provide wetland habitat of comparable biological value. On-site replacement shall be preferred wherever possible. The replacement plan shall be developed in consultation with California Department of Fish and Game.	County of Ventura General Plan (Biological Resources; Section 1.5.2; Policy 4)	Waterways and associated riparian habitat are considered important habitat linkages. Wetland buffers can benefit the functionality of waterways/riparian habitat to function as a wildlife movement corridor by limiting edge effects (e.g., noise and light) that could deter wildlife use of the habitat.

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Topic	Best Practice Policies	Source	Justification/Benefit
Habitat Linkage Preservation (cont.)	Identify and rank the relative importance of potential wildlife road crossings statewide based on the structural suitability of adjacent habitat.	Vermont Fish and Wildlife Department Habitat Block Report (Objective 3; p. 2).	When properly designed, man-made features, such as constructed undercrossings/overcrossings to link open space separated by transportation corridors, can be important linkages between habitat blocks.
	Based on the review and recommendation of a qualified biologist, the design of road and floodplain improvements shall incorporate all feasible measures to accommodate wildlife passage.	County of Ventura General Plan (Biological Resources; Section 1.5.2; Policy 6)	
Native Tree Preservation	Maintain and plant additional trees along the City's sidewalks, civic places, parks, and in private developments to support the health and diversity of wildlife, sequester GHG emissions, and contribute to the reduction of the urban heat-island.	City of Pasadena General Plan (Land Use Element; Section 1; Policy 10.13)	Native trees provide is nesting and roosting habitat for birds. Even trees outside of open space areas can provide nesting and roosting habitat for urban-adapted avian species. While the City's municipal code does contain provision for protecting the more prominent native trees within the region (oak, walnut, sycamore and California bay laurel trees), prescribing planting and maintenance/avoidance of native trees can further promote preservation and establishment of such trees.
	No Native Tree or Significant Tree may be relocated or removed except as provided in Article 7 of Chapter I or Article 6 of Chapter IV of the LAMC or unless a Project Permit is obtained pursuant to Section 8 of this Plan. Removal shall include any act which will cause a Native or Significant Tree to die, including but not limited to acts which inflict damage upon the root system or other part of tree by fire, application of toxic substances, operation of equipment or machinery, or by changing the natural grade of land by excavation or filling dripline area around the trunk, or by changing the local drainage pattern, either inside or outside the dripline, such that it significantly affects the amount of water that reaches the tree roots.	Mount Washington/Glassell Park Specific Plan (Section 6.F - Landscaping and Preservation, Relocation, and Removal of Native and Significant Trees; Policy 4)	
	If the loss of any significant native trees is determined unavoidable, the Specific Plan requires that they be replaced by new trees of the same species at a ratio of two-to-one. Additional replacement trees may be recommended to mitigate the loss of native trees.	Mulholland Scenic Parkway Specific Plan - Design and Preservation Guidelines; Guideline 55)	

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Topic	Best Practice Policies	Source	Justification/Benefit
Design Guidelines/ Mitigation Requirements	**Drainage.** All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. These systems should be maintained approximately once a year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g., clay compounds) when necessary and appropriate. **Toxics**. Land uses, such as recreation and agriculture, that use chemicals or generate by-products such as manure, that are potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. Such measures should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials. Regular maintenance should be provided. Where applicable, this requirement should be incorporated into leases on publicly owned property as leases come up for renewal. **Lighting**. Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.	City of San Diego Multiple Species Conservation Plan Subarea Plan (Section 1.4.3). See also Western Riverside Multiple Species Habitat Conservation Plan (Section 6.1.4).[1]	Specific design guidelines and mitigation measures can bolster protection of wildlife resources by ensuring new development projects are constructed in a habitat-/wildlife-friendly manner.

[1] For brevity sake, the land use adjacency guidelines from the City of San Diego's MSCP Subarea Plan are presented herein; the Urban Wildland Interface Guidelines in Section 6.1.4 of the Western Riverside MSHCP are similar in nature and should be referred to in the drafting of design guidelines.

Appendix I. Best Practice Policy Matrix

Topic	Best Practice Policies	Source	Justification/Benefit
Design Guidelines/ Mitigation Requirements (cont.)	**Noise**. Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year. **Barriers**. New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation. **Invasives**. No invasive non-native plant species shall be introduced into areas adjacent to the MHPA. **Brush Management**. New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size that is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party. For existing project and approved projects, the brush management zones, standards and locations, and clearing techniques will not change from those required under existing regulations.		

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Topic	Best Practice Policies	Source	Justification/Benefit
	Grading/Land Development. Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.		
Design Guidelines/ Mitigation Requirements (cont.)	Discretionary development which could potentially impact biological resources shall be evaluated by a qualified biologist to assess impacts and, if necessary, develop mitigation measures. Discretionary development shall be sited and designed to incorporate all feasible measures to mitigate any significant impacts to biological resources. If the impacts cannot be reduced to a less than significant level, findings of overriding considerations must be made by the decision-making body.	County of Ventura General Plan (Biological Resources; Section 1.5.2; Policy 1 and 2)	Requirements for new development projects to provide mitigation for habitat/wildlife impacts can ensure no-net-loss of resources.

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	Policy C/NR 3.9: Consider the following in the design of a project that is located within an SEA, to the greatest extent feasible: • Preservation of biologically valuable habitats, species, wildlife corridors and linkages; • Protection of sensitive resources on the site within open space; • Protection of water sources from hydromodification in order to maintain the ecological function of riparian habitats; • Placement of the development in the least biologically sensitive areas on the site (prioritize the preservation or avoidance of the most sensitive biological resources onsite); • Design required open spaces to retain contiguous undisturbed open space that preserves the most sensitive biological resources onsite and/or serves to maintain regional connectivity; • Maintenance of watershed connectivity by capturing, treating, retaining, and/or infiltrating storm water flows on site; and • Consideration of the continuity of onsite open space with adjacent open space in project design. Policy C/NR 3.10: Require environmentally superior mitigation for unavoidable impacts on biologically sensitive areas, and permanently preserve mitigation sites.	County of Los Angeles General Plan (Chapter 9; Section III; Policy C/NR 3.9 and 3.10)	Discourage development in areas with identified significant biological resources, such as SEAs, and provides requirements for new development projects to provide environmentally superior mitigation for unavoidable impacts on biologically sensitive areas, and permanently preserve mitigation sites.
Regional Planning	Support the acquisition of new available open space areas. Augment this strategy by leveraging County resources in concert with the compatible open space stewardship actions of other agencies, as feasible and appropriate.	County of Los Angeles General Plan (Chapter 9; Section II; Policy C/NR 1.3)	A regional-level planning approach to open space conservation is important as wildlife populations are not bound by land ownership/political boundaries. Also, geographic shifts and harm to wildlife and their associated habitats resulting from climate change requires a regional planning approach. Leveraging City resources in concert with the compatible open space stewardship actions of other public and private partners can lead to more meaningful conservation efforts.
	COS-1.5 Regional Funding. Collaborate with other jurisdictions and federal, state, and local agencies to identify regional, long-term funding mechanisms that achieve common resource management goals.	County of San Diego General Plan (Chapter 5; Policy COS-1.5)	
	Objective 6.3: Collaborate to develop cross-jurisdictional conservation plans to protect and restore connectivity and other landscape-scale components of resilience. Protecting and restoring corridors (passageways that connect habitat patches) and connectivity across landscapes will require strong collaboration with partners and programs Recent Progress on Wildlife Corridor and Ecological Connectivity Policy 2007-2010 Center for Large Landscape Conservation 13 to share knowledge, develop repositories of genetic	National Park Service, “Climate Change Response Strategy”, September 2010.	

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	resources, and, where appropriate, develop cross-jurisdictional conservation.		
	ER 2.1.14 Climate Change-Related Habitat Shifts. The City shall support the efforts of The Natomas Basin Conservancy and other habitat preserve managers to adaptively manage wildlife preserves to ensure adequate connectivity, habitat range, and diversity of topographic and climatic conditions are provided for species to move as climate shifts.	City of Sacramento General Plan (Part 2, Environmental Resources)	Coordinating planning in a manner that accounts for climate change is important to ensure habitats and wildlife are able to adapt on a regional scale.
Regional Planning (cont.)	Option 5: Promote Regional Partnerships for Species Migration and Relocation. Promote regional partnerships to enhance the success of species migration and relocation in response to climate change.	Report of the Subcommittee on Land and Water Management, an Analysis of Climate Change Impacts and Options Relevant to the Department of Interior's Managed Lands and Waters. 2008.	
	6.1.3 Reassess the environmental importance of the County of Los Angeles designated Significant Ecological Areas (SEAs) that occur within the City of Los Angeles and evaluate the appropriateness of the inclusion of other areas that may exhibit equivalent environmental value.	City of Los Angeles General Plan, Framework Element (Chapter 6, Open Space and Conservation)	This existing policy is in the process of being implemented. It is a good example of supporting/coordinating other regional planning efforts to improve/modify conservation priorities based on City-level analysis.