



**ADVANCE MITIGATION PROGRAM**  
**Thirteen Ecoregion Subsections of the**  
**Southern California Coast and Southern**  
**California Mountains and Valleys**  
**Regional Advance Mitigation Needs**  
**Assessment**  
**Appendices**

Version 1.0

**Establishing Caltrans' Need for Advance Mitigation**  
**for Caltrans District 7 and Surroundings**  
**forecast fiscal years 2019/2020 to 2028/2029**

**California Department of Transportation – District 7**

December 2021

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## **APPENDIX A: GIS SOURCES**

This RAMNA relies on maps to convey information. At the bottom of each map figure is a citation that lists the GIS source identification numbers. These source identification numbers refer to Table A-1, where the metadata documentation is provided. When available, the source date and/or website address to access the data layer online are also provided.

**Table A-1. District 7 RAMNA GIS Sources**

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
1	State Highway Network	Caltrans	8/1/2018	10/11/2018	<a href="http://www.dot.ca.gov/hq/tsip/gis/datalibrary/Metadata/NHS.html">http://www.dot.ca.gov/hq/tsip/gis/datalibrary/Metadata/NHS.html</a>
2	SHOPP	Caltrans	2019/2020 Q2	2/2/2021	Caltrans System Planning
3	Ecoregion Section (GAI)	USFS	1/26/2021	1/26/2021	<a href="https://data.fs.usda.gov/geodata/edw/data-sets.php?xmlKeyword=Ecomap">https://data.fs.usda.gov/geodata/edw/data-sets.php?xmlKeyword=Ecomap</a>
4	Ecological Subsections	USFS	5/1/2017	10/17/2018	<a href="https://data.fs.usda.gov/geodata/edw/data-sets.php?xmlKeyword=Ecomap">https://data.fs.usda.gov/geodata/edw/data-sets.php?xmlKeyword=Ecomap</a>
5	Calfish PAD (Passage Assessment Database)	Calfish	10/3/2019	12/15/2019	<a href="https://map.dfg.ca.gov/metadata/ds0069.html?5.84.18vo">https://map.dfg.ca.gov/metadata/ds0069.html?5.84.18vo</a>
6	ACE Climate Resilience	CDFW	2/22/2018	10/17/2018	<a href="https://map.dfg.ca.gov/metadata/ds2738.html?5.66.18">https://map.dfg.ca.gov/metadata/ds2738.html?5.66.18</a>
7	CEHC	CDFW	10/1/2017	10/17/2018	Layer is a merge of Essential Connectivity Areas and Landscape Blocks
8	Essential Connectivity Areas – CEHC	CDFW	1/1/2014	10/17/2018	<a href="https://map.dfg.ca.gov/metadata/ds0620.html?5.66.18">https://map.dfg.ca.gov/metadata/ds0620.html?5.66.18</a>
9	Natural Landscape Blocks – CEHC	CDFW	10/1/2017	10/17/2018	<a href="https://map.dfg.ca.gov/metadata/ds0621.html?5.66.18">https://map.dfg.ca.gov/metadata/ds0621.html?5.66.18</a>
10	Potential Riparian Connections – CEHC	CDFW	3/1/2010	10/17/2018	<a href="https://map.dfg.ca.gov/metadata/ds0622.html?5.66.18">https://map.dfg.ca.gov/metadata/ds0622.html?5.66.18</a>
11	SWAP Terrestrial Targets – 2015	CDFW	2/1/2018	10/29/2018	<a href="https://map.dfg.ca.gov/metadata/ds1966.html?5.66.18">https://map.dfg.ca.gov/metadata/ds1966.html?5.66.18</a>
12	CalWater Hydrologic Areas	California Department of Forestry and Fire Protection	11/1/2016	10/19/2018	<a href="https://frap.fire.ca.gov/mapping/gis-data/">https://frap.fire.ca.gov/mapping/gis-data/</a>
13	California Conservation Easements	California Protected Areas Database	12/1/2020	2/2/2021	<a href="http://www.calands.org/cced">http://www.calands.org/cced</a>

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
14	California Protected Areas Holdings	California Protected Areas Database	2/10/2021	2/10/2021	<a href="http://www.calands.org/data">http://www.calands.org/data</a>
15	Tribal Land Boundaries	Bureau of Indian Affairs	5/16/2017	10/11/2018	<a href="https://hub.arcgis.com/items/2e915ef3df48422283e5b2c7d89dfcba">https://hub.arcgis.com/items/2e915ef3df48422283e5b2c7d89dfcba</a>
16	U.S. Military Installations	U.S. Census Bureau	12/1/2017	10/11/2018	<a href="https://www.census.gov/cgi-bin/geo/shapefiles/index.php">https://www.census.gov/cgi-bin/geo/shapefiles/index.php</a>
17	County Boundaries	U.S. Census Bureau	7/8/2016	10/11/2018	<a href="https://data.ca.gov/dataset/ca-geographic-boundaries">https://data.ca.gov/dataset/ca-geographic-boundaries</a>
18	County Parcels (Santa Barbara, Ventura, Los Angeles, Orange, San Diego, Riverside, San Bernardino, Kern)	Listed Counties	4/30/2019	4/30/2019	Parcel data are distributed by the Department of Technology to internal Caltrans users through an FTP
19	USFWS Critical Habitat	FWS	10/1/2018	2/2/2021	<a href="https://ecos.fws.gov/ecp/report/table/critical-habitat.html">https://ecos.fws.gov/ecp/report/table/critical-habitat.html</a>
20	National Watershed Boundary Dataset	USGS	9/26/2014	10/19/2018	<a href="https://www.usgs.gov/core-science-systems/ngp/national-hydrography">https://www.usgs.gov/core-science-systems/ngp/national-hydrography</a>
21	Corps Regulatory In-Lieu Fee & Bank Information Tracking System	Mitigation Service Banks	Not available	1/28/2019	<a href="https://ribits.usace.army.mil/ribits_apex/f?p=107:2">https://ribits.usace.army.mil/ribits_apex/f?p=107:2</a>
22	CDFW Approved Mitigation Service Areas	Mitigation Service Banks	7/23/2018	1/28/2019	<a href="https://map.dfg.ca.gov/metadata/ds2782.html?5.76.22">https://map.dfg.ca.gov/metadata/ds2782.html?5.76.22</a>
23	Southern Coast Missing Linkages (ds419)	South Coast Wildlands	12/2/2008	3/18/2019	<a href="https://map.dfg.ca.gov/metadata/ds2698.html?5.89.14c">https://map.dfg.ca.gov/metadata/ds2698.html?5.89.14c</a>
24	Conservation Plan Boundaries, HCP and NCCP	CDFW, FWS	12/12/2017	1/28/2019	<a href="https://map.dfg.ca.gov/metadata/ds0760.html?5.80.28l">https://map.dfg.ca.gov/metadata/ds0760.html?5.80.28l</a>
25	Vegetation D05/D06/D07/D08/D11/D12 in Caltrans District 7 Geospatial Data for the Advance Mitigation Needs Assessment for the Second Quarter of FY 2019/2020	SAMNA	1/1/2017	2/2/2021	<a href="http://www.dot.ca.gov/env/advancemitigation/">http://www.dot.ca.gov/env/advancemitigation/</a>

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
26	Waters and Wetlands D05/D06/D07/D08/D11/D12 in Caltrans District 7 Geospatial Data for the Advance Mitigation Needs Assessment for the Second Quarter of FY 2019/2020	SAMNA	1/1/2017	2/2/2021	<a href="http://www.dot.ca.gov/env/advancemitigati on/">http://www.dot.ca.gov/env/advancemitigati on/</a>
27	National Flood Hazard Layer	Federal Emergency Management Agency	6/29/2018	9/25/2019	<a href="https://www.fema.gov/national-flood-hazard-layer-nfh/">https://www.fema.gov/national-flood-hazard-layer-nfh/</a>
28	RCIS Draft Boundaries	CDFW	9/10/2019	9/25/2019	Requested on 9/25/19, source date is 9/10/2019
29	Terrestrial Connectivity – ACE [ds2734]	CDFW	8/28/2019	9/25/2019	<a href="https://map.dfg.ca.gov/metadata/ds2734.html?5.80.28">https://map.dfg.ca.gov/metadata/ds2734.html?5.80.28</a>
30	Terrestrial Biodiversity Summary – ACE [ds2739]	CDFW	2/22/2018	7/3/2019	<a href="https://map.dfg.ca.gov/metadata/ds2739.html?5.80.28">https://map.dfg.ca.gov/metadata/ds2739.html?5.80.28</a>
31	Aquatic Biodiversity Summary – ACE [ds2768]	CDFW	2/22/2018	7/3/2019	<a href="https://map.dfg.ca.gov/metadata/ds2768.html?5.80.28">https://map.dfg.ca.gov/metadata/ds2768.html?5.80.28</a>
32	Coastal Zone and LCP Layer	California Coastal Commission	3/1/2018	3/1/2018	<a href="https://www.coastal.ca.gov/maps/czb/http://www.coastal.ca.gov/maps/lcp/">https://www.coastal.ca.gov/maps/czb/http://www.coastal.ca.gov/maps/lcp/</a>
33	National Hydrology Dataset	USGS	9/26/2014	10/19/2018	<a href="https://www.usgs.gov/core-science-systems/ngp/national-hydrography">https://www.usgs.gov/core-science-systems/ngp/national-hydrography</a>
34	303(d) List of Impaired Waterbodies	State Water Board	2014 -2016	4/7/2020	<a href="https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml">https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml</a>
35	Zipcodes	U.S. Postal Service	2/11/2020	3/11/2020	<a href="https://www.arcgis.com/home/item.html?id=8d2012a2016e484dafaac0451f9aea24">https://www.arcgis.com/home/item.html?id=8d2012a2016e484dafaac0451f9aea24</a>
36	Vernal Pools – ACE [ds2732]	CDFW	2/13/2020	1/29/2021	<a href="https://map.dfg.ca.gov/metadata/ds2732.html?5.94.01">https://map.dfg.ca.gov/metadata/ds2732.html?5.94.01</a>

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
37	National Wild and Scenic Rivers	National Wild and Scenic Rivers System	11/1/2016	10/15/2020	<a href="https://www.rivers.gov/rivers/big-sur.php">https://www.rivers.gov/rivers/big-sur.php</a>
38	Areas of Special Biological Significance	State Water Board	1/1/2005	10/15/2020	<a href="https://www.waterboards.ca.gov/water_issues/programs/ocean/asbs_map.shtml">https://www.waterboards.ca.gov/water_issues/programs/ocean/asbs_map.shtml</a>

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## APPENDIX B: ECOREGION SUBSECTION DESCRIPTIONS

This RAMNA uses the USFS ecosystem classification and mapping hierarchy to describe the GAI. Documented in Cleland et al. (2007), 13 subsections occur in the portions of the Southern California Coast and Southern California Mountains and Valleys ecoregion sections that make up the GAI. Each subsection's brief description, from Cleland et al. (2007), is provided in Table B-1.

**Table B-1. Ecoregion Subsection Descriptions**

Ecoregion Section	Subsection	Code <sup>a</sup>	Brief Description	Acreage <sup>b</sup>	Subsection as Percentage of GAI
Southern California Coast	Santa Ynez Valleys and Hills	261Ba	The Santa Ynez Hills and Valleys subsection is in the northwestern part of the Transverse Ranges. The subsection contains the Santa Ynez River and associated floodplains with sand dunes and beaches along the coast. It is dominated by coast live oak vegetation communities.	613,552	8
Southern California Coast	Santa Ynez-Sulphur Mountains	261Bb	The Santa Ynez-Sulphur Mountains subsection includes the Santa Ynez Mountains, Ojai Valley, and Sulphur Mountains. The climate is hot to temperate and subhumid. Dominant vegetation communities include coast live oak, big-cone Douglas fir-canyon live oak, chamise, and mixed chaparral shrublands.	821,262	11
Southern California Coast	Oxnard Plain-Santa Paula Valley	261Bd	The Oxnard Plain-Santa Paula Valley subsection includes the valleys of the Santa Clara River and Calleguas Creek. The climate is hot and subhumid and heavily influenced by the marine air. The subsection is characterized by level floodplains and gently sloping alluvial fans and terraces.	245,997	3

<b>Ecoregion Section</b>	<b>Subsection</b>	<b>Code<sup>a</sup></b>	<b>Brief Description</b>	<b>Acreage<sup>b</sup></b>	<b>Subsection as Percentage of GAI</b>
Southern California Coast	Simi Valley-Santa Susana Mountains	261Be	The Simi Valley-Santa Susana Mountains subsection include the Santa Susana Mountains, Oak Ridge, Simi Hills and associated valleys, and Conejo Mountains. Dominant vegetation communities include California sagebrush, mixed sage, chamise, mixed scrub oak, and coast live oak.	342,315	4
Southern California Coast	Santa Monica Mountains	261Bf	The Santa Monica Mountains subsection includes the Santa Monica Mountains bounded by the ocean, plains, and valleys. The subsection is characterized by steep mountains with narrow to broad summits and narrow canyons.	259,691	3
Southern California Coast	Los Angeles Plain	261Bg	The Los Angeles Plain subsection includes the Los Angeles Plain, San Fernando Valley, Verdugo Mountains, San Rafael Hills, and Palos Verdes Hills. The climate is hot and subhumid and influenced by the marine air. Dominant vegetation communities include California sagebrush-California buckwheat and mixed sage.	1,316,340	17
Southern California Coast	San Rafael-Topatopa Mountains	M262Ba	The San Rafael-Topatopa Mountains subsection includes the Coast Ranges northwest of the Big Pine fault, the Transverse Ranges south of the Santa Ynez fault, and an area between the Big Pine and Santa Ynez faults. The subsection is characterized by steep mountains with narrow to rounded summits and narrow canyons. Dominant natural vegetation communities include chamise, scrub oak, and mixed chaparral shrublands.	1,046,504	13

Ecoregion Section	Subsection	Code <sup>a</sup>	Brief Description	Acreage <sup>b</sup>	Subsection as Percentage of GAI
Southern California Mountains and Valleys	Northern Transverse Ranges	M262Bb	The Northern Transverse Ranges subsection is characterized by steep mountains with narrow to rounded summits and narrow canyons, with a few broad valleys and alluvial plains. The climate is mostly hot to temperate, but cold at higher elevations, and subhumid.	806,180	10
Southern California Mountains and Valleys	Sierra Pelona-Mint Canyon	M262Bc	The Sierra Pelona-Mint Canyon subsection includes the Sierra Pelona and a part of the northeastern Transverse Ranges between the Sierra Pelona and the San Gabriel Mountains. The dominant natural vegetation communities include chamise, mixed chaparral shrublands, and coast live oak.	331,064	4
Southern California Mountains and Valleys	San Gabriel Mountains	M262Bd	The San Gabriel Mountains subsection includes the lower and warmer parts of the San Gabriel Mountains. The climate is hot to temperate, and subhumid. The subsection is characterized by steep mountains with moderate summits and narrow canyons. The dominant vegetation communities include chamise, chamise-hoaryleaf ceanothus, live oak, mixed chaparral, ponderosa pine, bigcone Douglas-fir, canyon live oak, Jeffrey pine, and California juniper.	570,166	7
Southern California Mountains and Valleys	Upper San Gabriel Mountains	M262Be	The Upper San Gabriel Mountains subsection includes the higher and cooler parts of the San Gabriel Mountains. The climate is temperate to cold and subhumid. The dominant natural vegetation communities are Coulter pine, mixed conifer, and Jeffrey pine.	276,218	4

Ecoregion Section	Subsection	Code <sup>a</sup>	Brief Description	Acreage <sup>b</sup>	Subsection as Percentage of GAI
Southern California Mountains and Valleys	Santa Ana Mountains	M262Bf	The Santa Ana Mountains subsection includes the Puente and Chino Hills and most of the Santa Ana Mountains. The subsection is characterized by steep mountains and narrow canyons, with rolling plateau surfaces.	510,723	7
Southern California Mountains and Valleys	Fontana Plain-Calimesa Terraces	M262Bj	The Fontana Plain-Calimesa Terraces subsection comprises the lower and warmer parts of the San Bernardino Mountains. The dominant vegetation communities include chamise, live oak-chaparral shrublands, and mixed chaparral shrublands.	666,799	9
<b>Total</b>				<b>7,806,811</b>	<b>100%</b>

Source: Griffith et al. (2016)

<sup>a</sup> USFS ecological unit subsection codes

<sup>b</sup> Numbers were rounded to the nearest whole number.

## References

- Cleland, D. T., J. A. Freeouf, J. E. Keys, Jr., G. J. Nowacki, C. A. Carpenter, and W. H. McNab. 2007. *Ecological Subregions: Sections and Subsections of the Conterminous United States* [1:3,500,000] [CD ROM]. Gen. Tech. Report WO-76D. Washington, D.C.: USDA, USFS.
- Griffith, G. E., J. M. Omernik, D. W. Smith, T. D. Cook, E. Tallyn, K. Moseley, and C. B. Johnson. 2016. "Ecoregions of California (poster)." USGS Open-File Report 2016-1021. Accessed October 2019. <https://www.calflora.org/entry/help/epa-er4.html>.

## APPENDIX C: LAND COVER TYPES

Land cover types in the GAI were excerpted from the SAMNA Reporting Tool's vegetation layer, which was developed by merging CDFW's CWHR Vegetation Classification and Mapping Program GIS database, the USFS Classification and Assessment with LandSat of Visible Ecological Groupings, and the California Department of Forestry and Fire Protection vegetation layer (Caltrans 2021a, 2021b). A general description of each land cover type found in the GAI is provided below, and complete descriptions can be found in Mayer and Laudenslayer (1988). Table C-1 indicates which USFS subsections of the Southern California Coast and Southern California Mountains and Valleys sections these habitat types occur in; subsection names and numbers are provided.

A key map is provided after Table C-1 that references mapbook pages including zoomed-in views of locations in the GAI and mapped land cover types (page C-7). These 52 maps correspond with the aquatic resources maps in Appendix H and the certified LCP maps in Appendix D. Land cover types that occur in the GAI, based on the SAMNA Reporting Tool, are generally described below (CDFW 2019). Table C-1 indicates which subecoregion each of these habitat types occur in.

**Tree-dominated Habitats:** Tree-dominated habitats have at least 10 percent total tree canopy crown closure. In the GAI, tree-dominated habitats include blue oak woodland, blue oak-foothill pine, closed-cone pine-cypress, coastal oak woodland, desert riparian, Eastside pine, eucalyptus, Jeffrey pine, Joshua tree, juniper, montane hardwood, montane hardwood-conifer, montane riparian, palm oasis, pinyon-juniper, ponderosa pine, Sierran mixed conifer, subalpine conifer, valley foothill riparian, valley oak woodland, and white fir, which are found in all 13 subecoregions.

**Shrub-dominated Habitats:** Shrub-dominated habitats have at least 10 percent total cover by shrub species and less than 10 percent cover by tree species. In the GAI, shrub-dominated habitats include alkali desert scrub, bitterbrush, chamise-redshank chaparral, coastal scrub, desert scrub, desert wash, mixed chaparral, montane chaparral, and sagebrush, which are found in all 13 subecoregions.

**Herbaceous-dominated Habitats:** Herbaceous-dominated habitats have at least 2 percent total cover by herbaceous species and less than 10 percent total cover by tree or shrub species. In the GAI, herbaceous-dominated habitats include annual grassland, fresh emergent wetland, pasture, perennial grassland, saline emergent wetland, and wet meadow, which are found in all 13 subecoregions.

**Aquatic Habitats:** Aquatic habitats have at least 98 percent total cover by open water and no more than 2 percent total cover by vegetation in the continually exposed shore zone. In the GAI, aquatic habitats include lacustrine, marine, riverine, and water, which are found in all 13 subecoregions.

**Developed Habitats:** Developed habitats have at least 2 percent total cover by non-wildland vegetation grown for food, fiber, or landscaping and do not meet criteria for any wildland habitat. In the GAI, developed habitats include cropland, deciduous orchard,

evergreen orchard, orchard-vineyard, rice, urban, and vineyard, which are found in all 13 subecoregions.

**Non-vegetated Habitats:** Non-vegetated habitats include barren areas, characterized by less than 2 percent cover by herbaceous species. In the GAI, non-vegetated habitats consist of barren areas, which are found in 13 subecoregions.

## References

- Caltrans (California Department of Transportation). 2021a.  
“Vegetation\_D5/D7/D8/D11/D12 in Caltrans District 7 Geospatial Data for the Advance Mitigation Needs Assessment for the Second Quarter of FY 2019/2020” (data file). Accessed February 2, 2021.  
<http://www.dot.ca.gov/env/advancemitigation/>.
- . 2021b. *Statewide Advance Mitigation Needs Assessment Report*. State Highway Operation and Protection Program Ten-Year Project Book Second Quarter 2019/2020 Fiscal Year. Caltrans Headquarters Office of Strategic Biological Planning, Advance Mitigation and Innovation, Division of Environmental Analysis. Sacramento, California.
- CDFW (California Department of Fish and Wildlife). 2019. *California Wildlife Habitat Relationships (CWHR) System*. Supported by the California Interagency Wildlife Task Group and maintained by the CDFW. Database Version 9.0.
- Mayer, Kenneth E., and William F. Laudenslayer, Jr., eds. 1988. “A Guide to Wildlife Habitats of California.” State of California, Resources Agency, Department of Fish and Game. Sacramento, California. Including revisions and updates. Accessed February 6, 2019. <https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats>.

Table C-1. Land Cover Types in the Southern California Coast and Southern California Mountains and Valleys Sections within the GAI

Land Cover Type	Santa Ynez Valleys and Hills Subcoregion (261Ba)	Santa Ynez-Sulphur Mountains Subcoregion (261Bb)	Oxnard Plain-Santa Paula Valley Subcoregion (261Bd)	Simi Valley-Santa Susana Mountains Subcoregion (261Be)	Santa Monica Mountains Subcoregion (261Bf)	Los Angeles Plain Subcoregion (261Bg)	San Rafael-Topatopa Mountains Subcoregion (M262Ba)	Northern Transverse Ranges Subcoregion (M262Bb)	Sierra Pelona-Mint Canyon Subcoregion (M262Bc)	San Gabriel Mountains Subcoregion (M262Bd)	Upper San Gabriel Mountains Subcoregion (M262Be)	Santa Ana Mountains Subcoregion (M262Bf)	Fontana Plain-Calimesa Terraces Subcoregion (M262Bj)
Tree-dominated Habitats	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Blue Oak Woodland	Present	Present	Present	NP	Present	NP	Present	Present	Present	NP	NP	NP	NP
Blue Oak-Foothill Pine	Present	Present	NP	NP	NP	NP	Present	Present	NP	NP	NP	NP	NP
Closed-Cone Pine-Cypress	Present	Present	NP	NP	NP	NP	Present	NP	NP	NP	Present	Present	NP
Coastal Oak Woodland	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Desert Riparian	NP	NP	NP	NP	NP	NP	Present	Present	NP	Present	NP	NP	NP
Eastside Pine	NP	NP	NP	NP	NP	NP	Present	Present	NP	Present	Present	NP	NP
Eucalyptus	Present	Present	Present	Present	Present	Present	Present	NP	Present	Present	NP	Present	Present
Jeffrey Pine	NP	NP	NP	NP	NP	NP	Present	Present	NP	Present	Present	NP	NP
Joshua Tree	NP	NP	NP	NP	NP	NP	NP	Present	Present	Present	NP	NP	NP
Juniper	NP	NP	NP	NP	NP	NP	Present	Present	Present	Present	NP	NP	Present
Montane Hardwood	Present	Present	NP	NP	Present	Present	Present	Present	Present	Present	Present	Present	Present
Montane Hardwood-Conifer	Present	Present	NP	Present	NP	NP	Present	Present	Present	Present	Present	Present	NP
Montane Riparian	NP	Present	Present	NP	Present	Present	Present	Present	Present	Present	Present	Present	Present
Palm Oasis	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	Present
Pinyon-Juniper	NP	NP	NP	NP	NP	NP	Present	Present	Present	Present	Present	NP	NP
Ponderosa Pine	NP	NP	NP	NP	NP	NP	NP	Present	NP	Present	Present	NP	NP
Sierran Mixed Conifer	Present	Present	NP	Present	NP	NP	Present	Present	Present	Present	Present	Present	Present
Subalpine Conifer	NP	NP	NP	NP	NP	NP	NP	Present	NP	NP	Present	NP	NP
Valley Foothill Riparian	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Valley Oak Woodland	Present	Present	Present	Present	Present	Present	Present	Present	Present	NP	NP	NP	NP
White Fir	NP	NP	NP	NP	NP	NP	Present	Present	NP	Present	NP	NP	NP

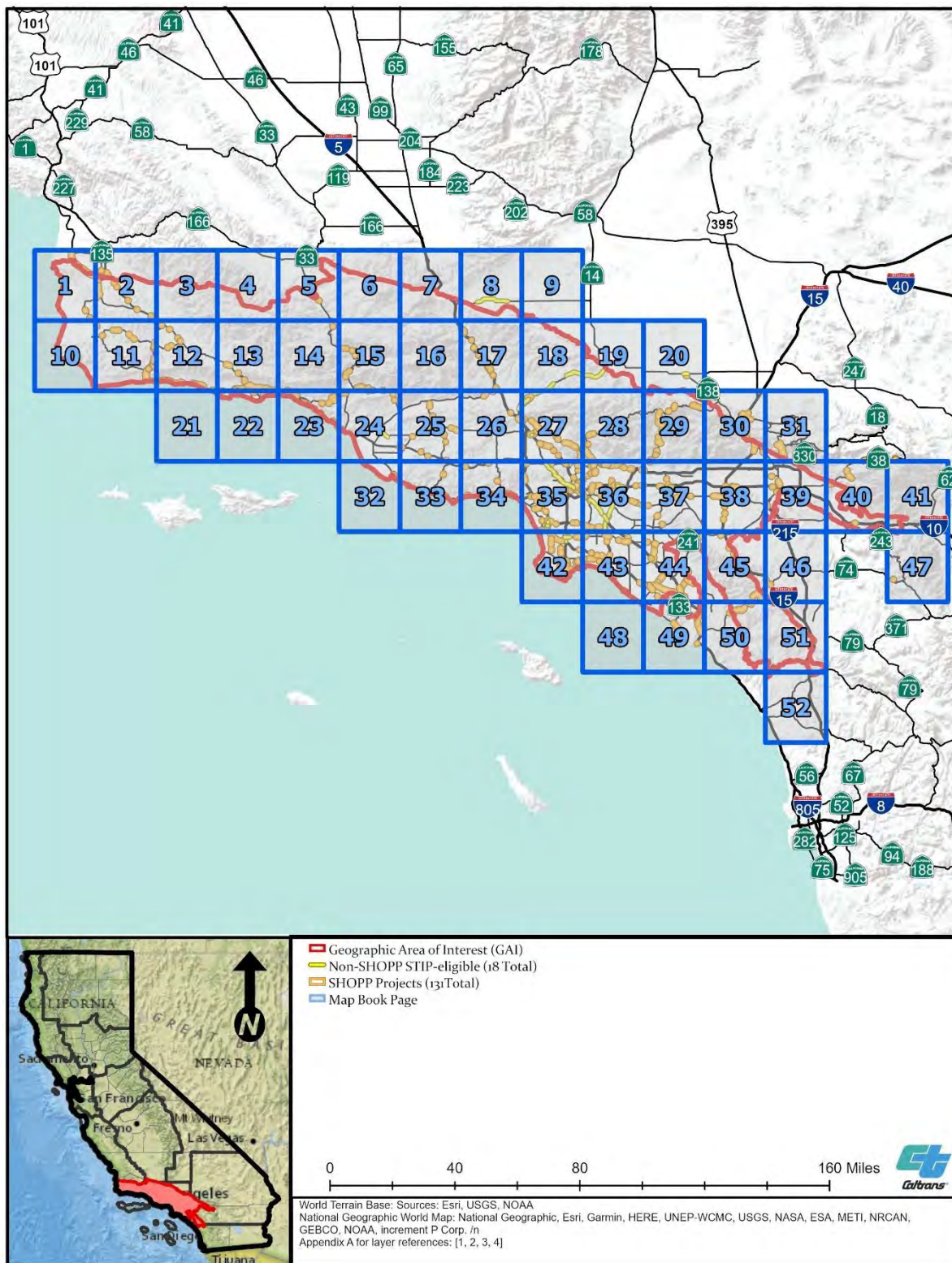
Land Cover Type	Santa Ynez Valleys and Hills Subcoregion (261Ba)	Santa Ynez-Sulphur Mountains Subcoregion (261Bb)	Oxnard Plain-Santa Paula Valley Subcoregion (261Bd)	Simi Valley-Santa Susana Mountains Subcoregion (261Be)	Santa Monica Mountains Subcoregion (261Bf)	Los Angeles Plain Subcoregion (261Bg)	San Rafael-Topatopa Mountains Subcoregion (M262Ba)	Northern Transverse Ranges Subcoregion (M262Bb)	Sierra Pelona-Mint Canyon Subcoregion (M262Bc)	San Gabriel Mountains Subcoregion (M262Bd)	Upper San Gabriel Mountains Subcoregion (M262Be)	Santa Ana Mountains Subcoregion (M262Bf)	Fontana Plain-Calimesa Terraces Subcoregion (M262Bj)
<b>Shrub-dominated Habitats</b>	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Alkali Desert Scrub	NP	NP	NP	NP	NP	NP	NP	Present	Present	NP	NP	NP	NP
Bitterbrush	NP	NP	NP	NP	NP	NP	Present	Present	NP	Present	NP	NP	NP
Chamise-Redshank Chaparral	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Chamise-Redshank Chaparral; Mixed Chaparral	NP	NP	NP	NP	NP	NP	NP	Present	NP	Present	NP	NP	NP
Coastal Scrub	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Desert Scrub	NP	NP	NP	NP	NP	Present	NP	Present	Present	Present	Present	NP	Present
Desert Wash	Present	Present	Present	Present	NP	Present	Present	Present	Present	Present	Present	Present	Present
Mixed Chaparral	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Montane Chaparral	NP	NP	NP	NP	NP	NP	Present	Present	Present	Present	Present	Present	NP
Sagebrush	NP	Present	NP	NP	NP	NP	Present	Present	Present	Present	Present	NP	NP
<b>Herbaceous-dominated Habitats</b>	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Annual Grassland	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Fresh Emergent Wetland	Present	Present	Present	Present	NP	Present	Present	Present	Present	Present	NP	Present	Present
Pasture	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	NP	Present	Present
Perennial Grassland	NP	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Saline Emergent Wetland	Present	Present	Present	NP	Present	Present	NP	NP	NP	NP	NP	NP	NP
Wet Meadow	Present	NP	Present	NP	NP	NP	Present	Present	Present	Present	Present	Present	Present
<b>Aquatic Habitats</b>	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Lacustrine	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Marine	NP	Present	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP

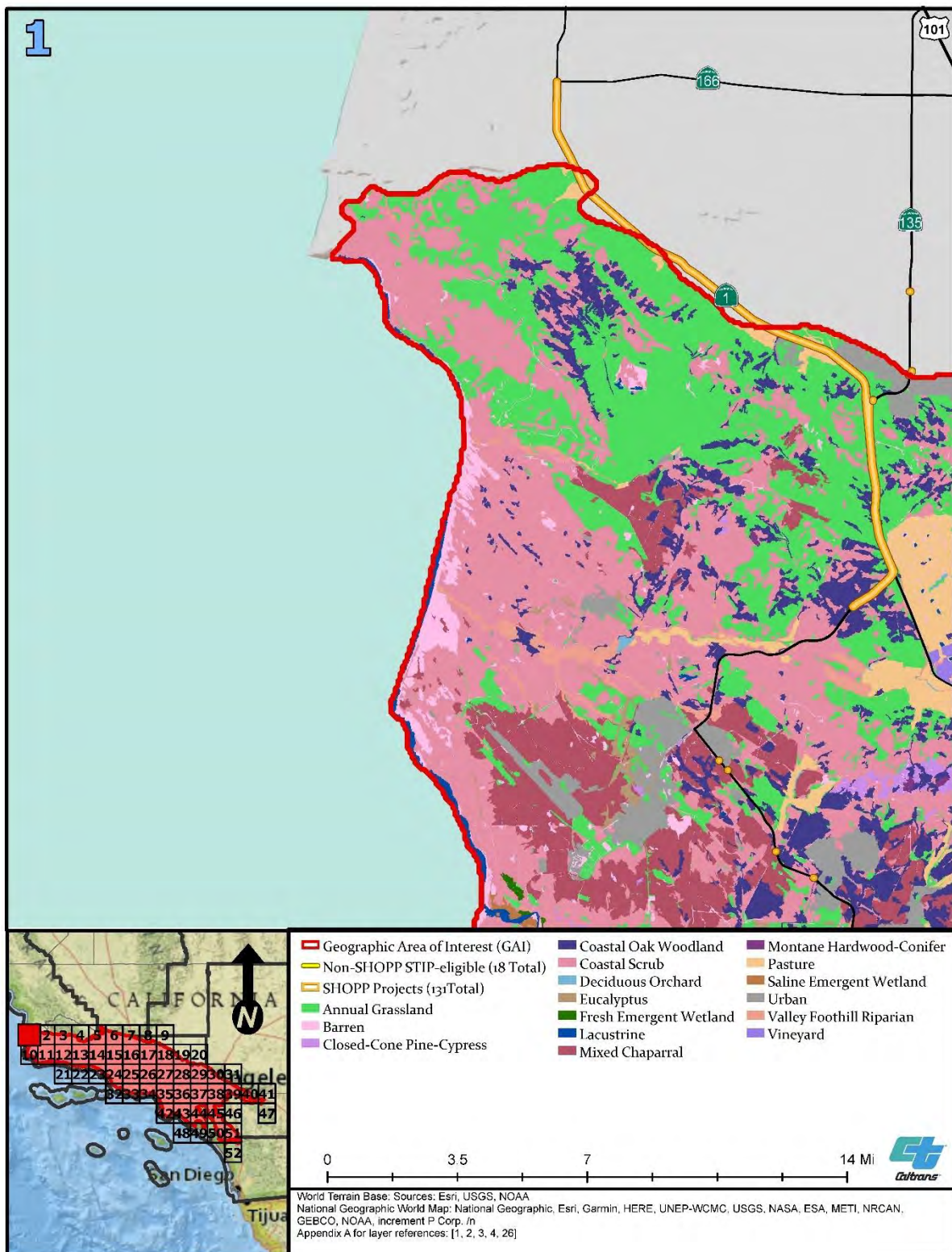


Land Cover Type	Santa Ynez Valleys and Hills Subcoregion (261Ba)	Santa Ynez-Sulphur Mountains Subcoregion (261Bb)	Oxnard Plain-Santa Paula Valley Subcoregion (261Bd)	Simi Valley-Santa Susana Mountains Subcoregion (261Be)	Santa Monica Mountains Subcoregion (261Bf)	Los Angeles Plain Subcoregion (261Bg)	San Rafael-Topatopa Mountains Subcoregion (M262Ba)	Northern Transverse Ranges Subcoregion (M262Bb)	Sierra Pelona-Mint Canyon Subcoregion (M262Bc)	San Gabriel Mountains Subcoregion (M262Bd)	Upper San Gabriel Mountains Subcoregion (M262Be)	Santa Ana Mountains Subcoregion (M262Bf)	Fontana Plain-Calimesa Terraces Subcoregion (M262Bj)
Riverine	Present	NP	NP	NP	NP	NP	Present	Present	NP	Present	Present	NP	Present
Riverine; Lacustrine	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	Present	NP
Water	NP	NP	Present	NP	NP	Present	NP	NP	NP	NP	NP	NP	NP
Developed Habitats	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Cropland	Present	Present	NP	NP	NP	NP	NP	NP	NP	Present	Present	Present	Present
Cropland; Orchard-Vineyard	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	Present	Present
Deciduous Orchard	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	NP	Present	Present
Evergreen Orchard	Present	Present	Present	Present	Present	Present	Present	Present	NP	NP	NP	Present	Present
Rice	NP	NP	Present	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Urban	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Vineyard	Present	Present	Present	Present	Present	Present	Present	NP	Present	Present	NP	Present	Present
Non-vegetated Habitats	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Barren	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present

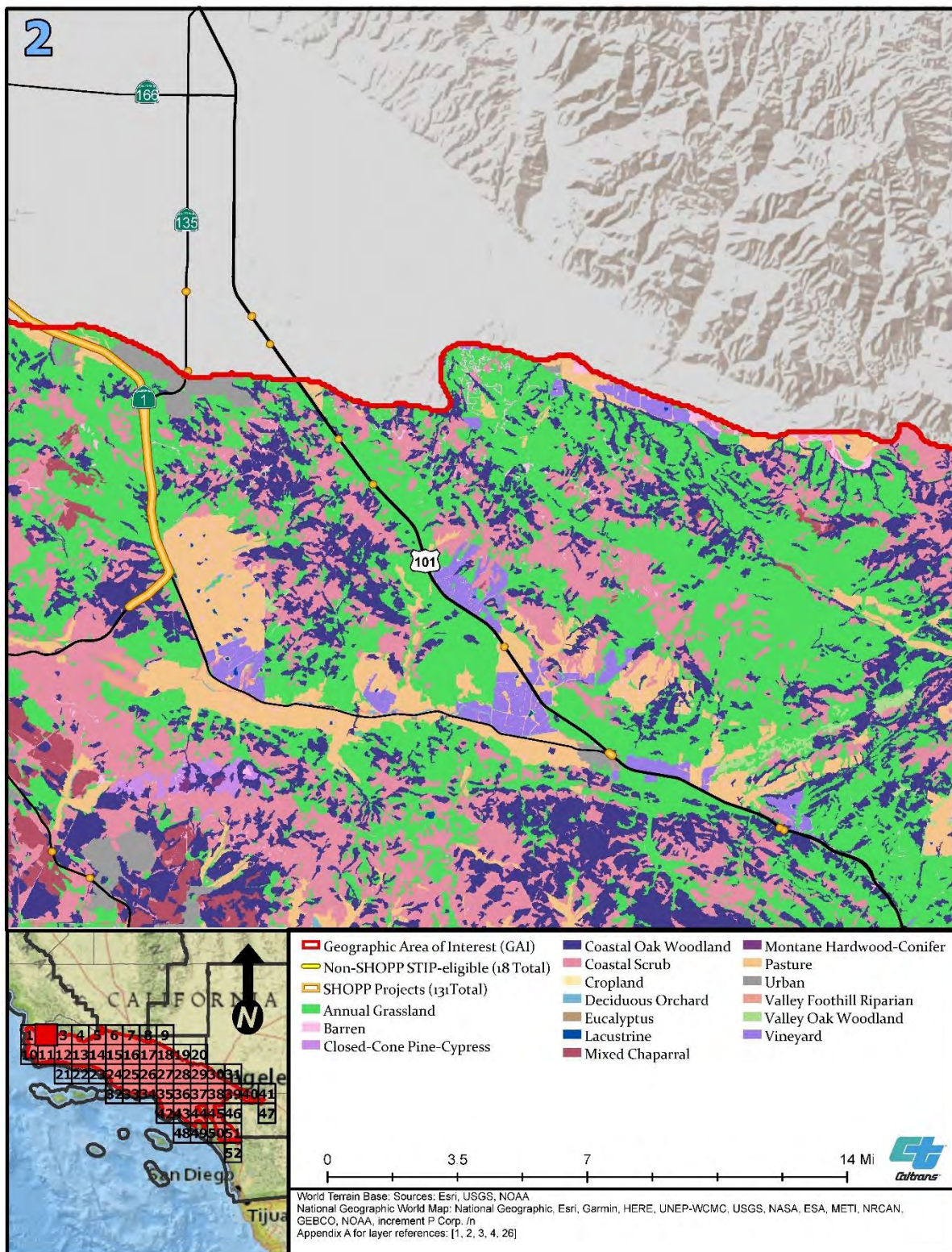
Sources: Caltrans 2021a, 2021b  
Note: NP = Not Present

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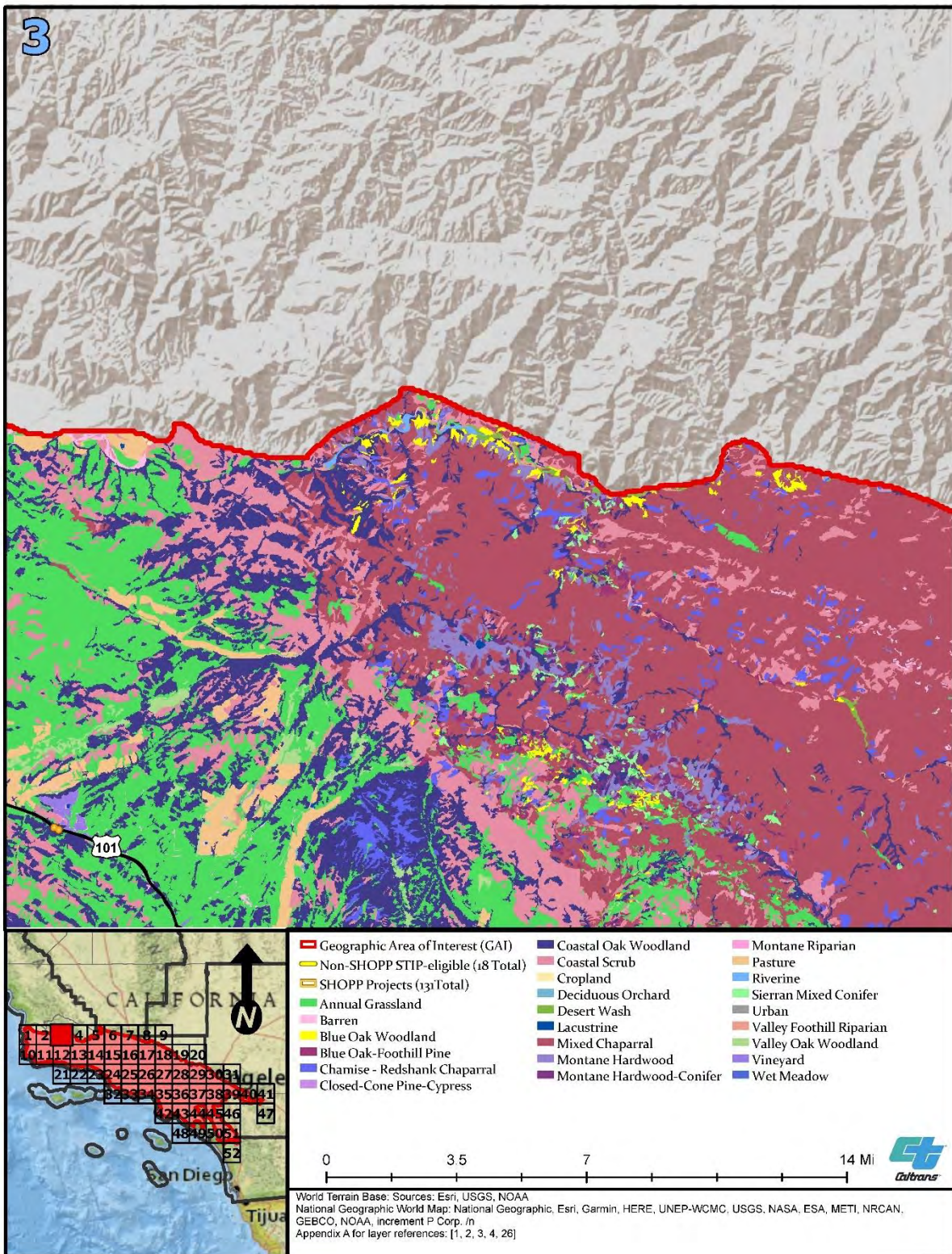




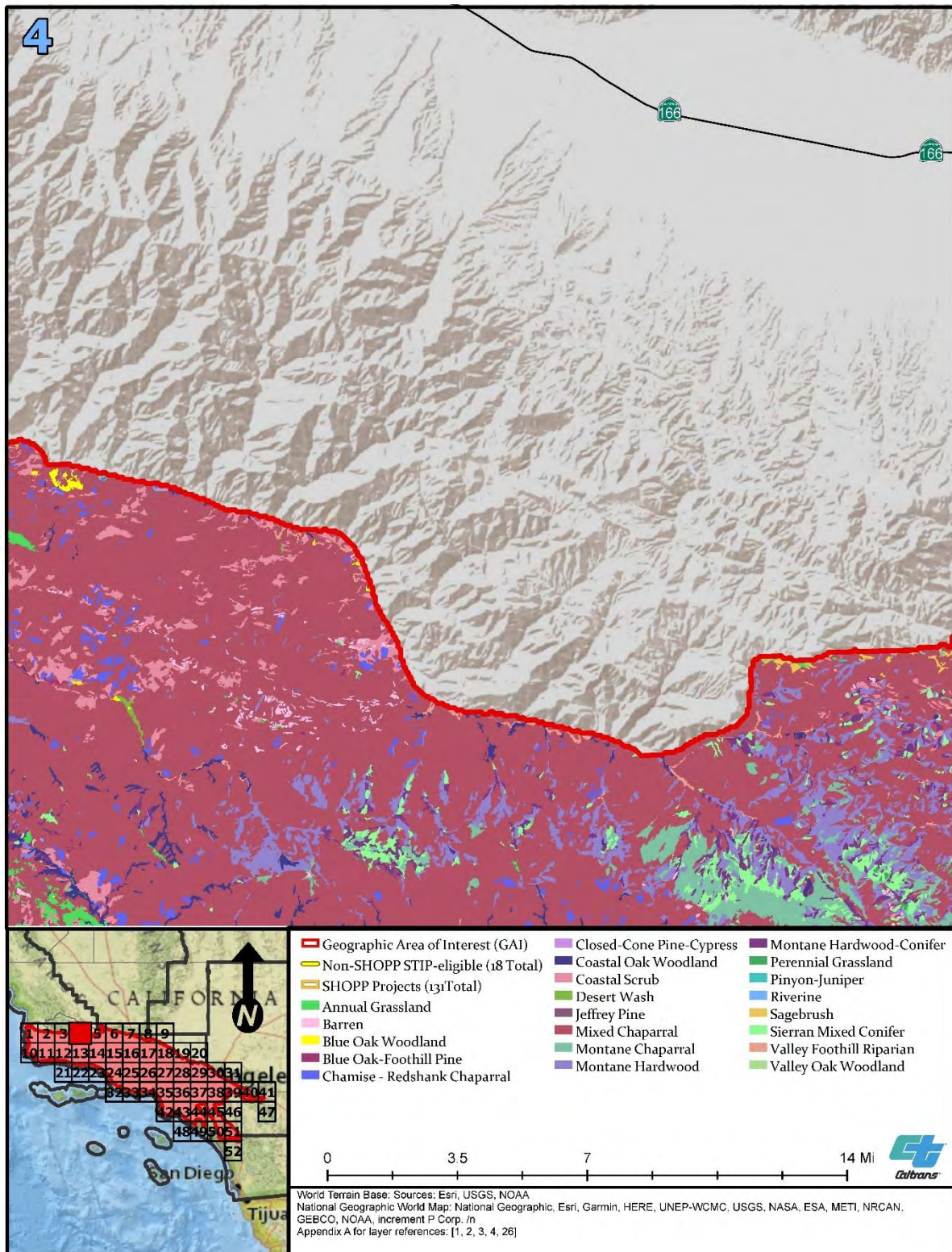




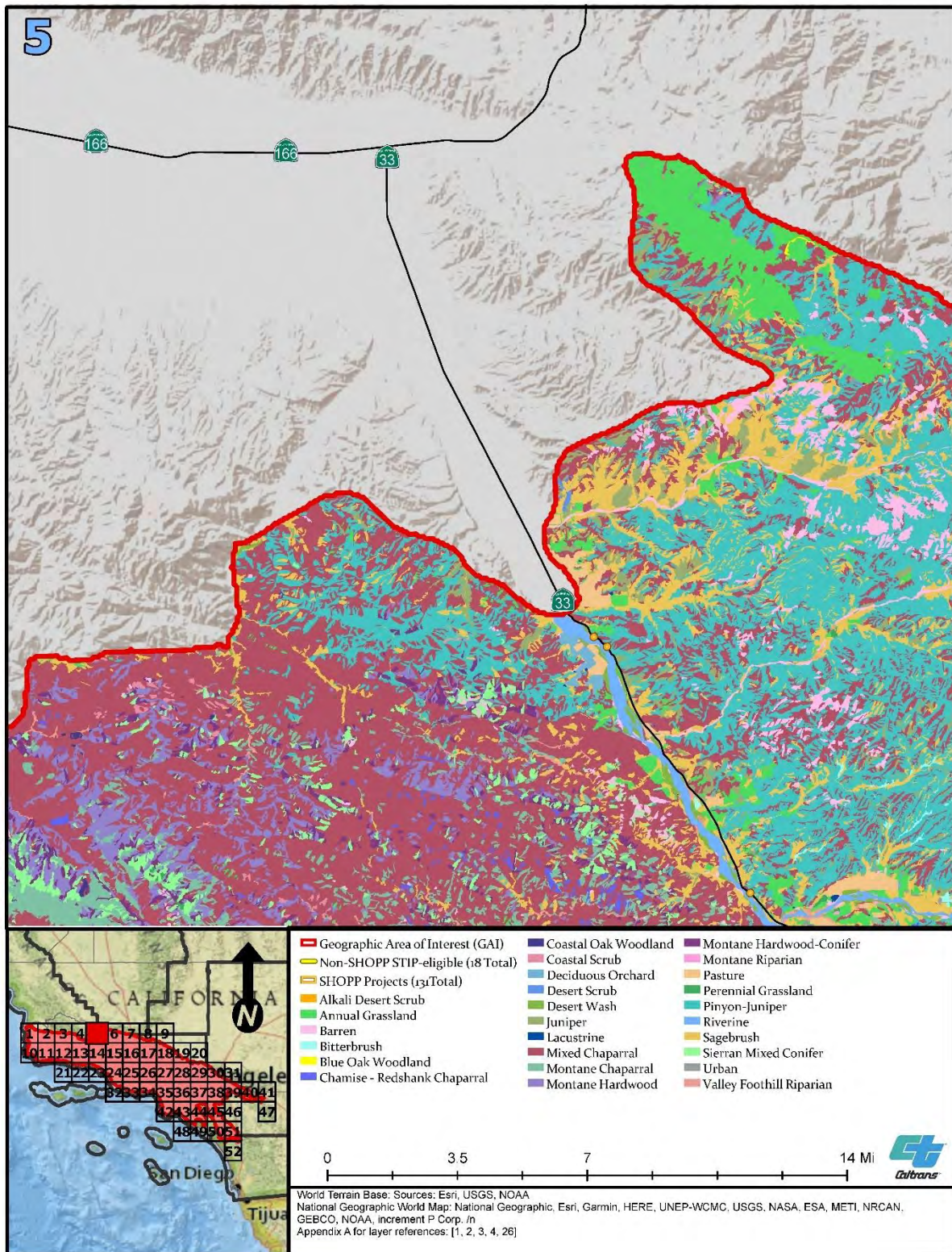




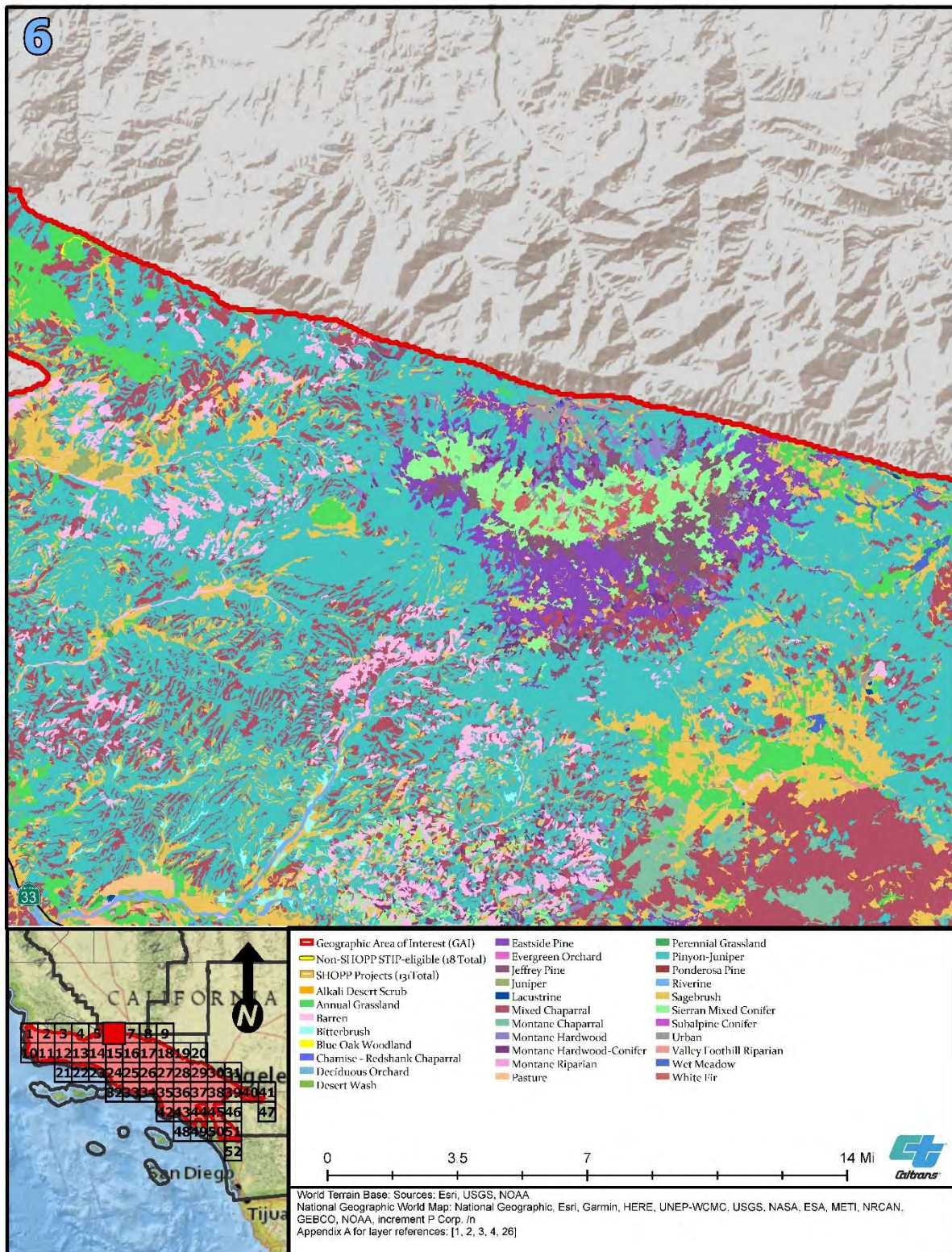




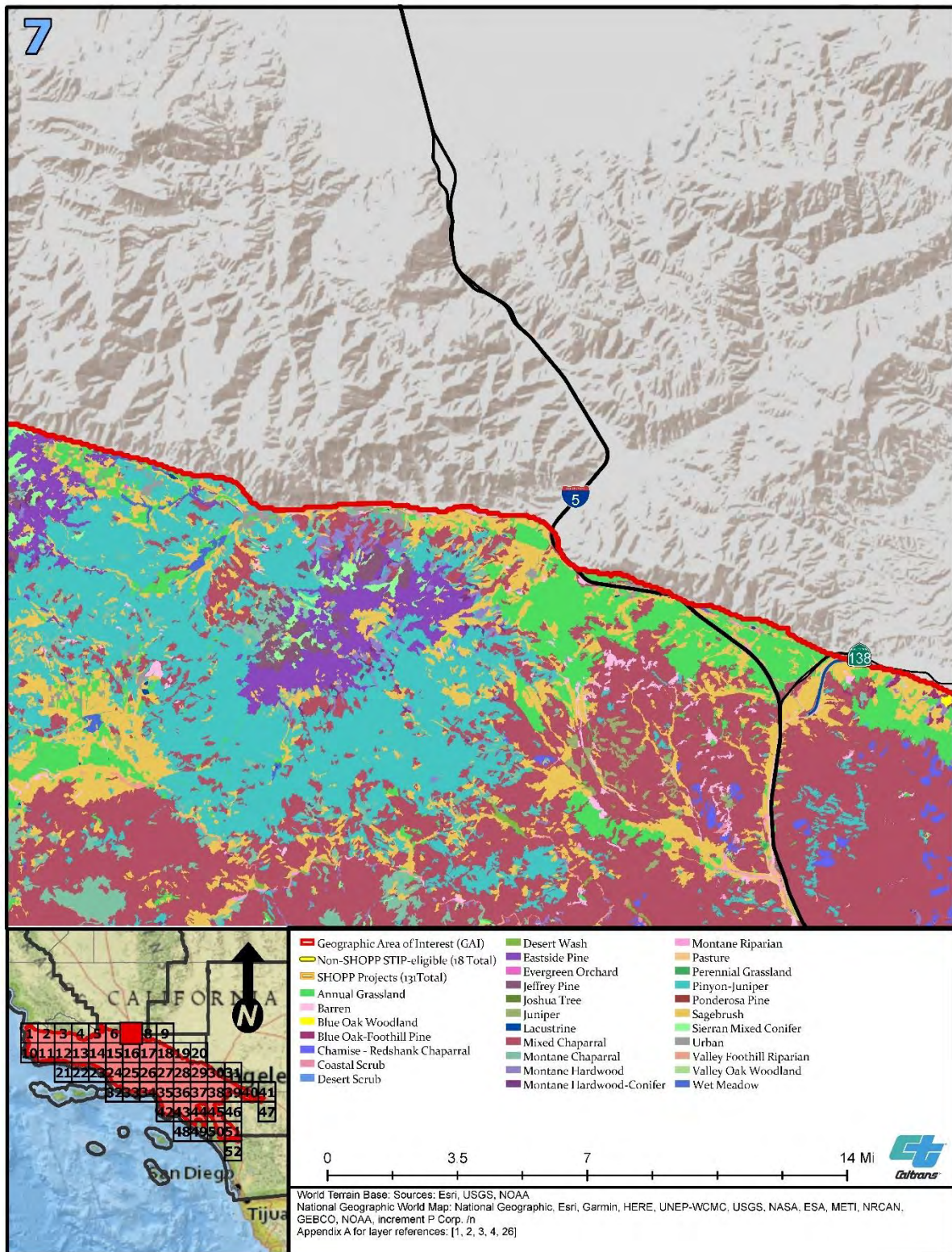




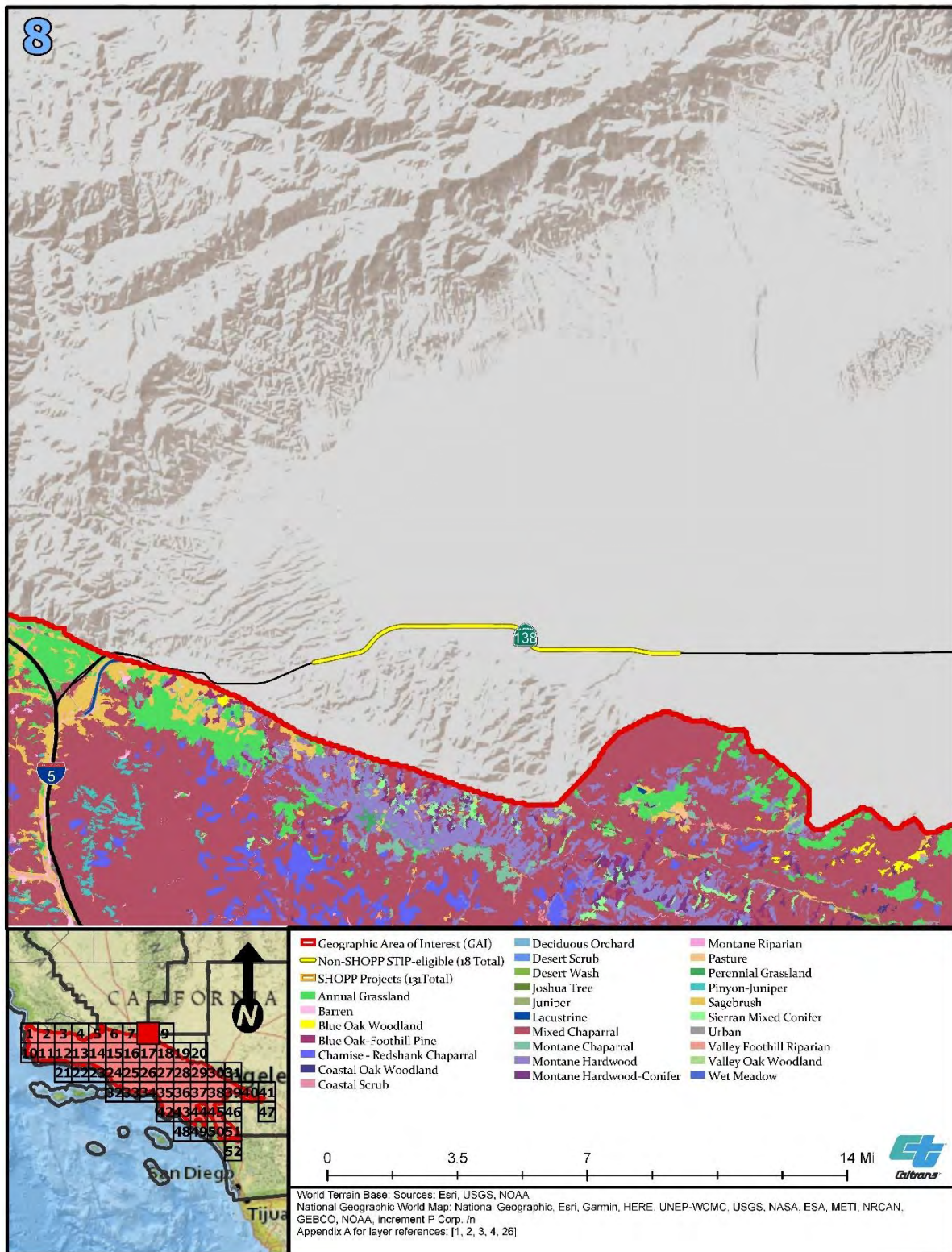


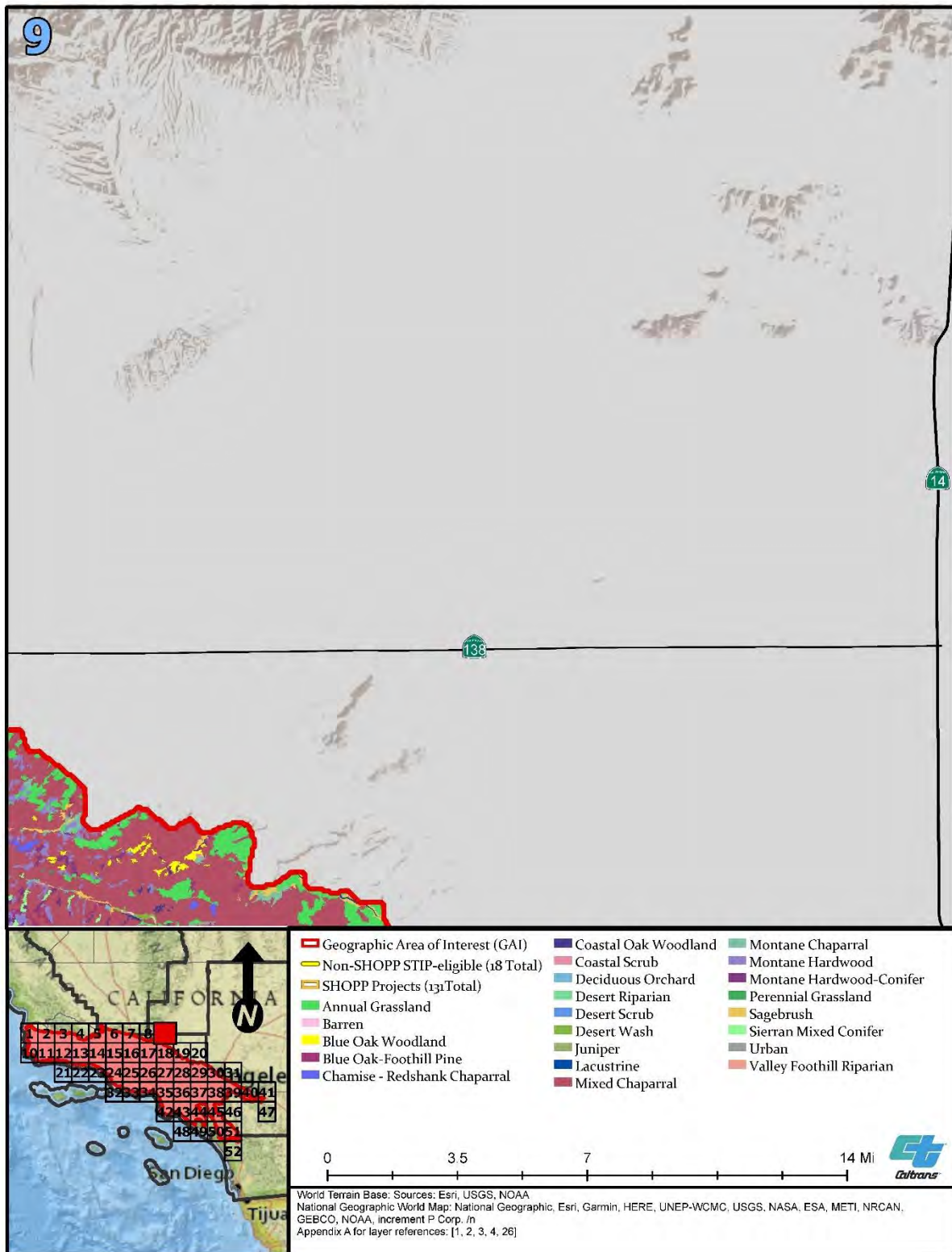




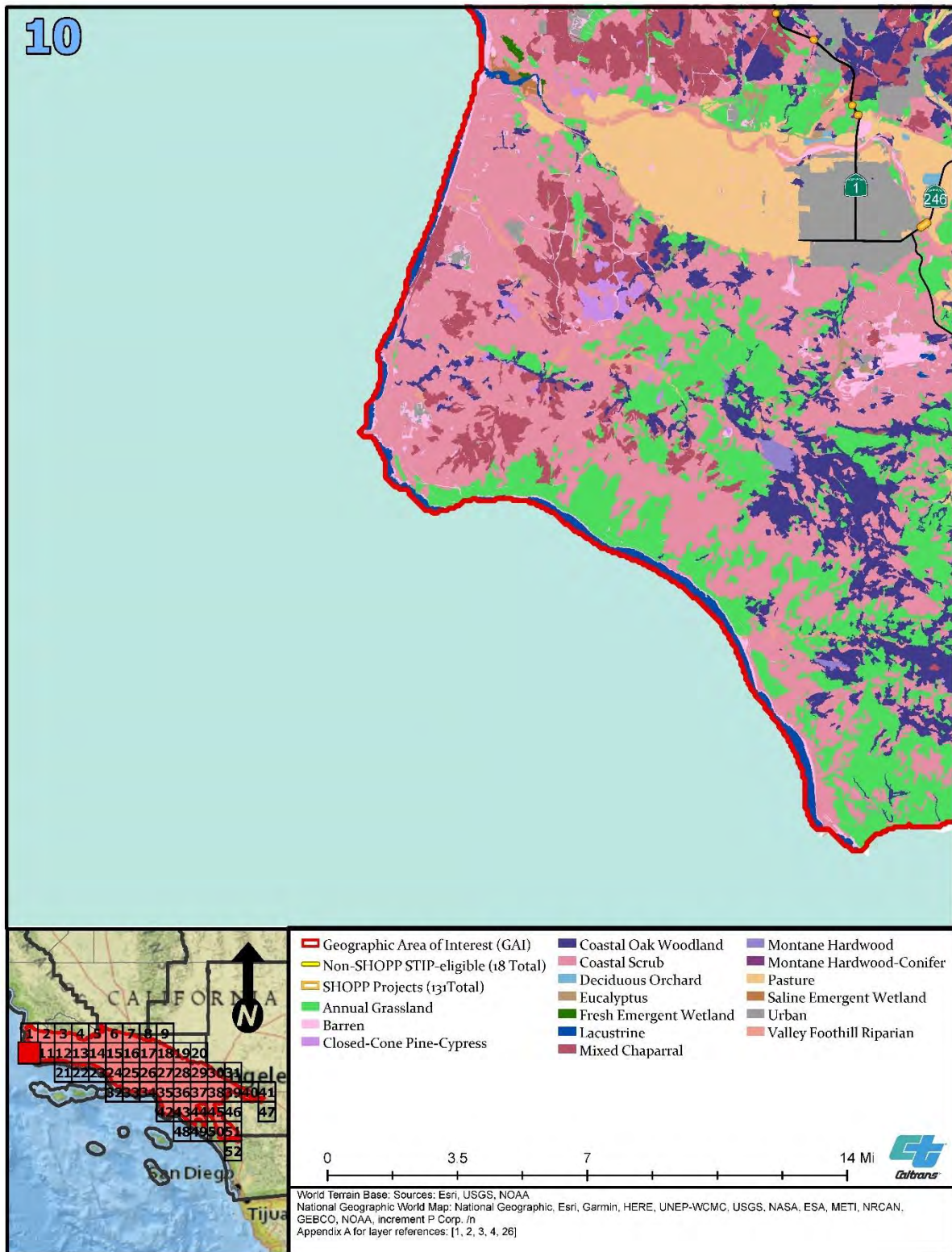




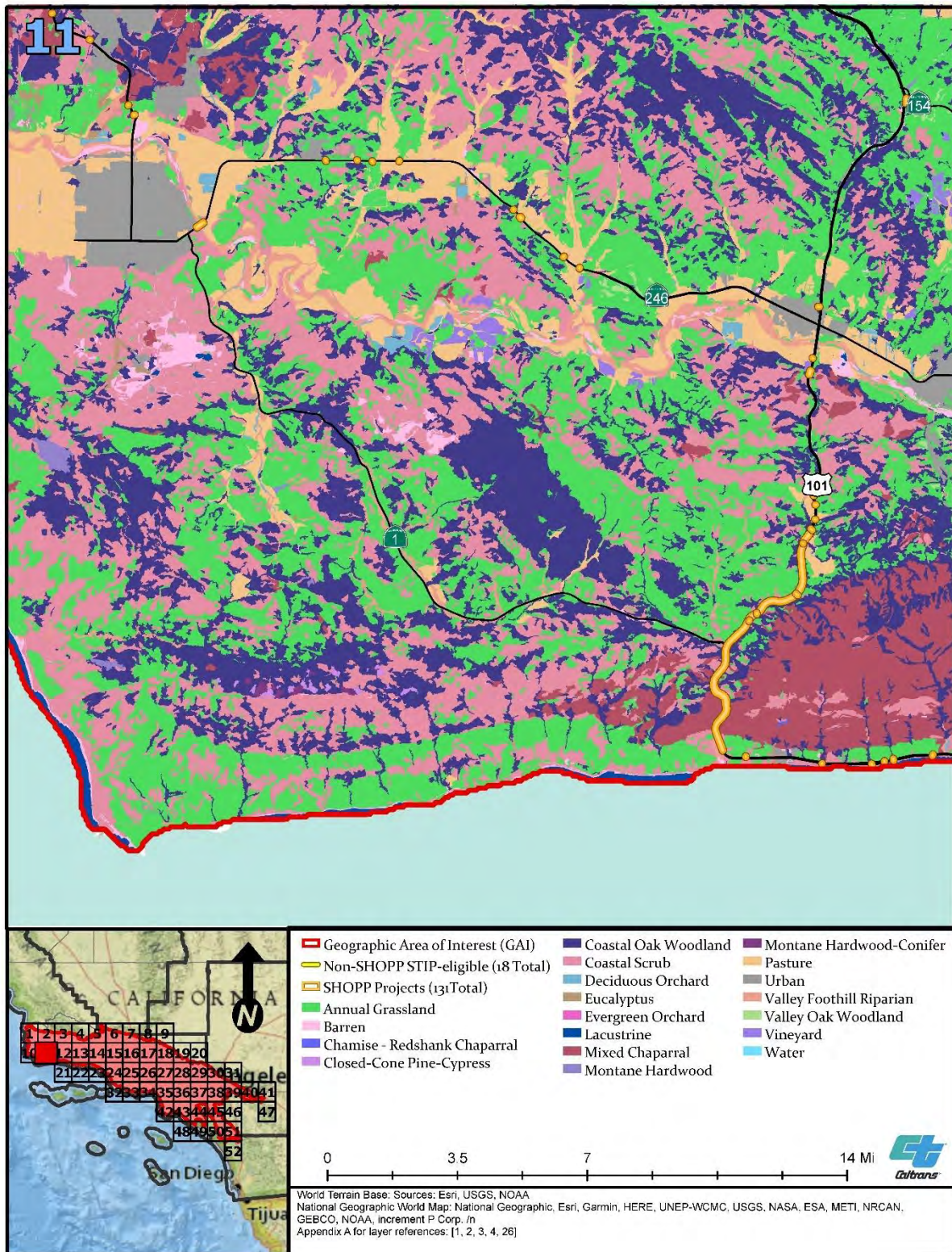




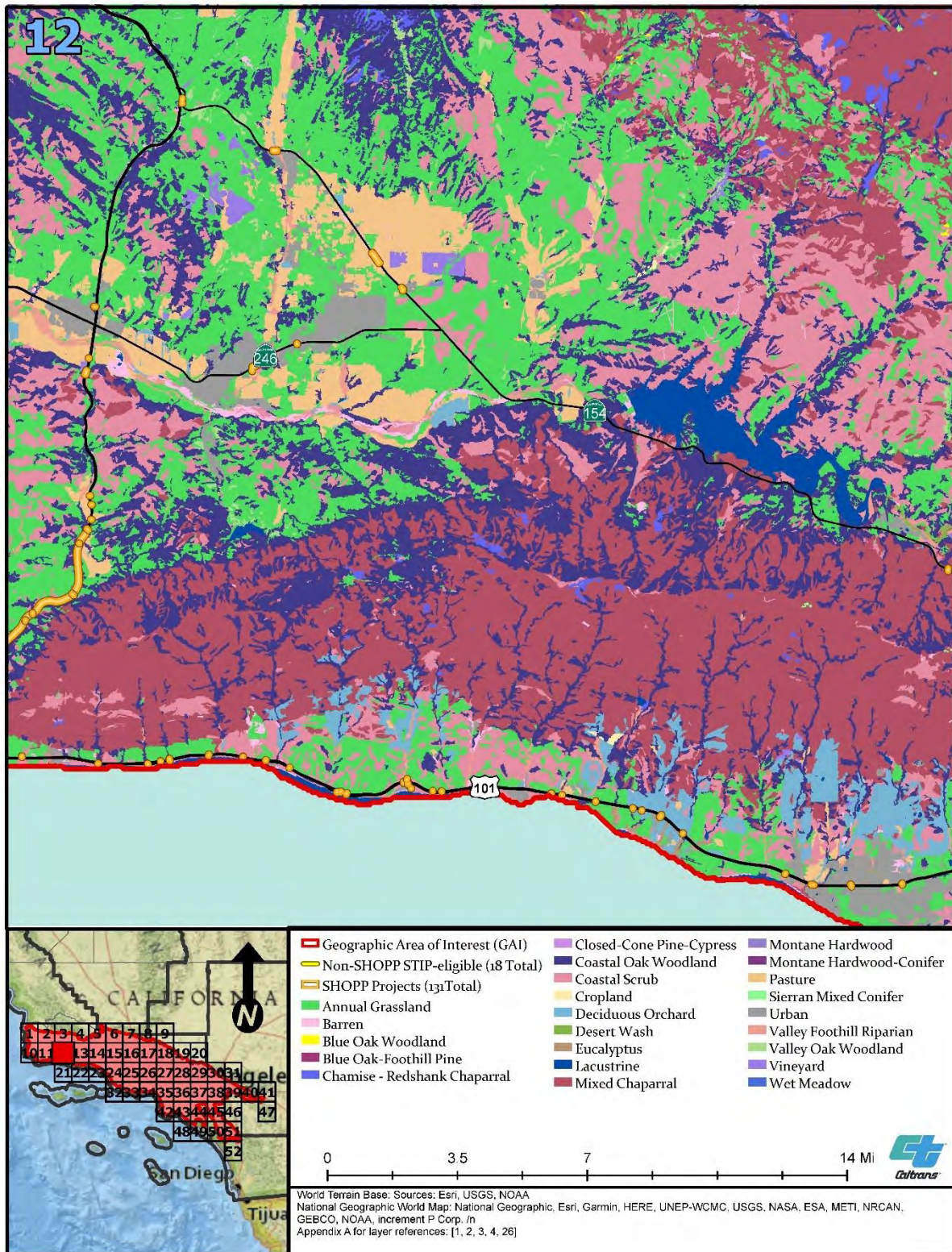




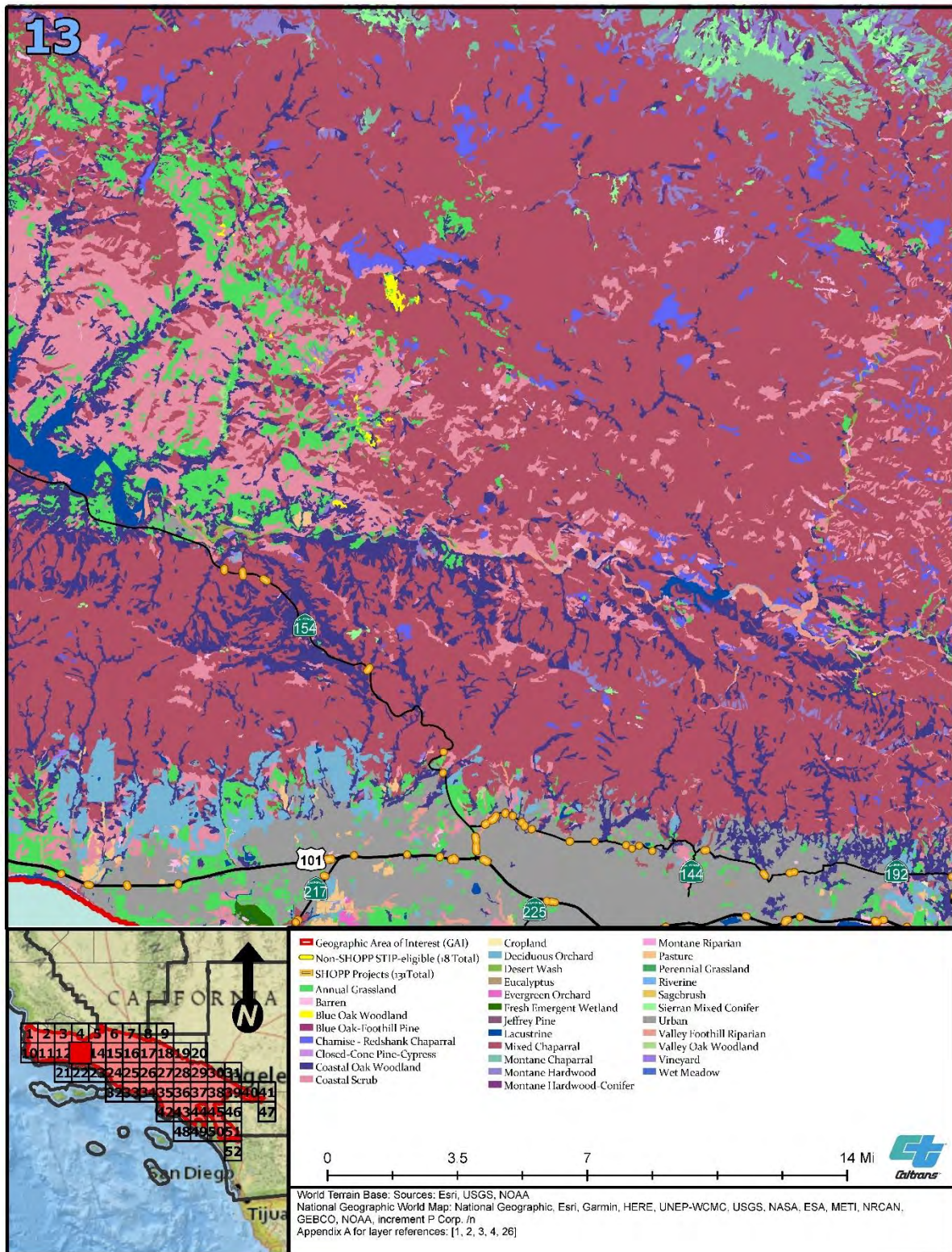




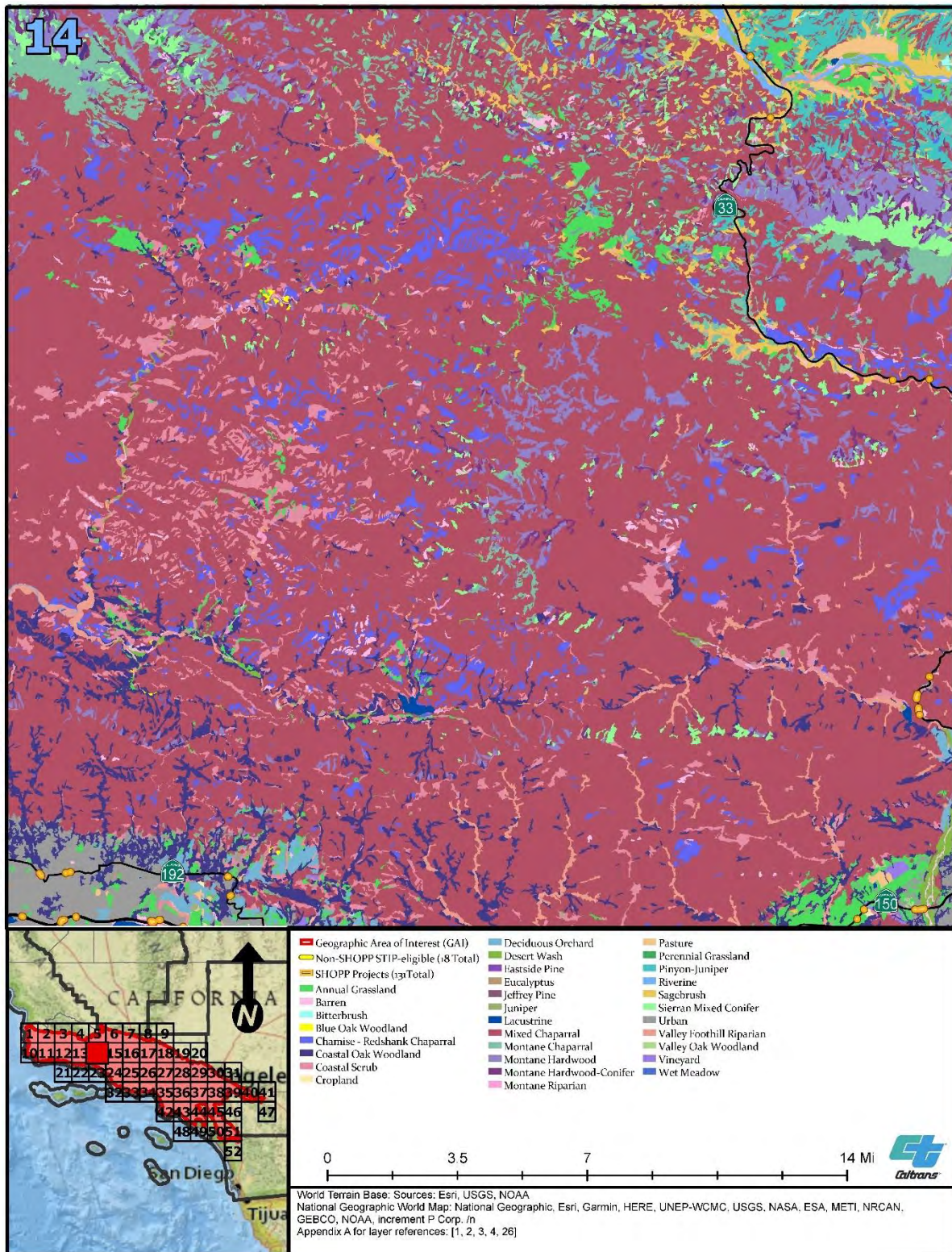




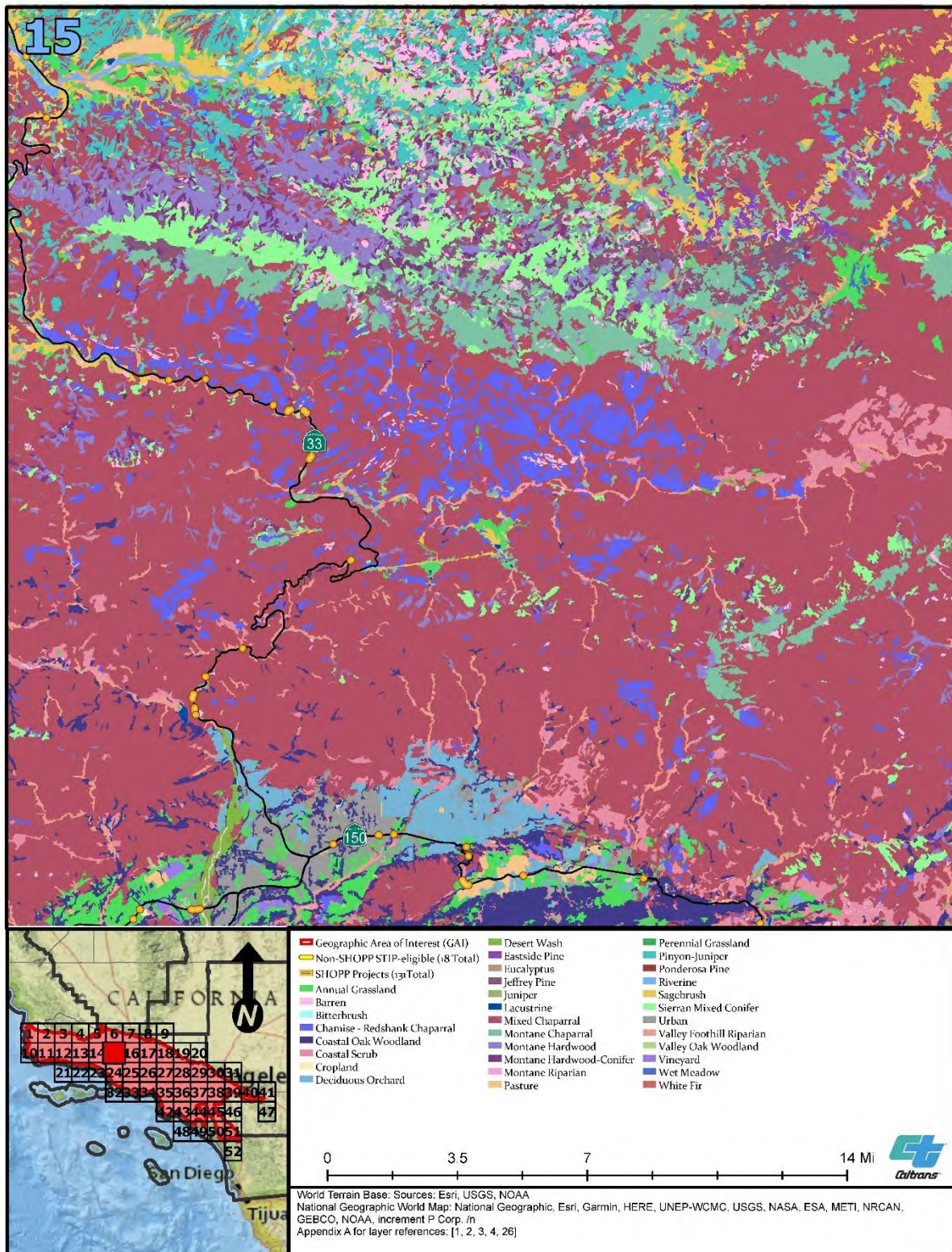




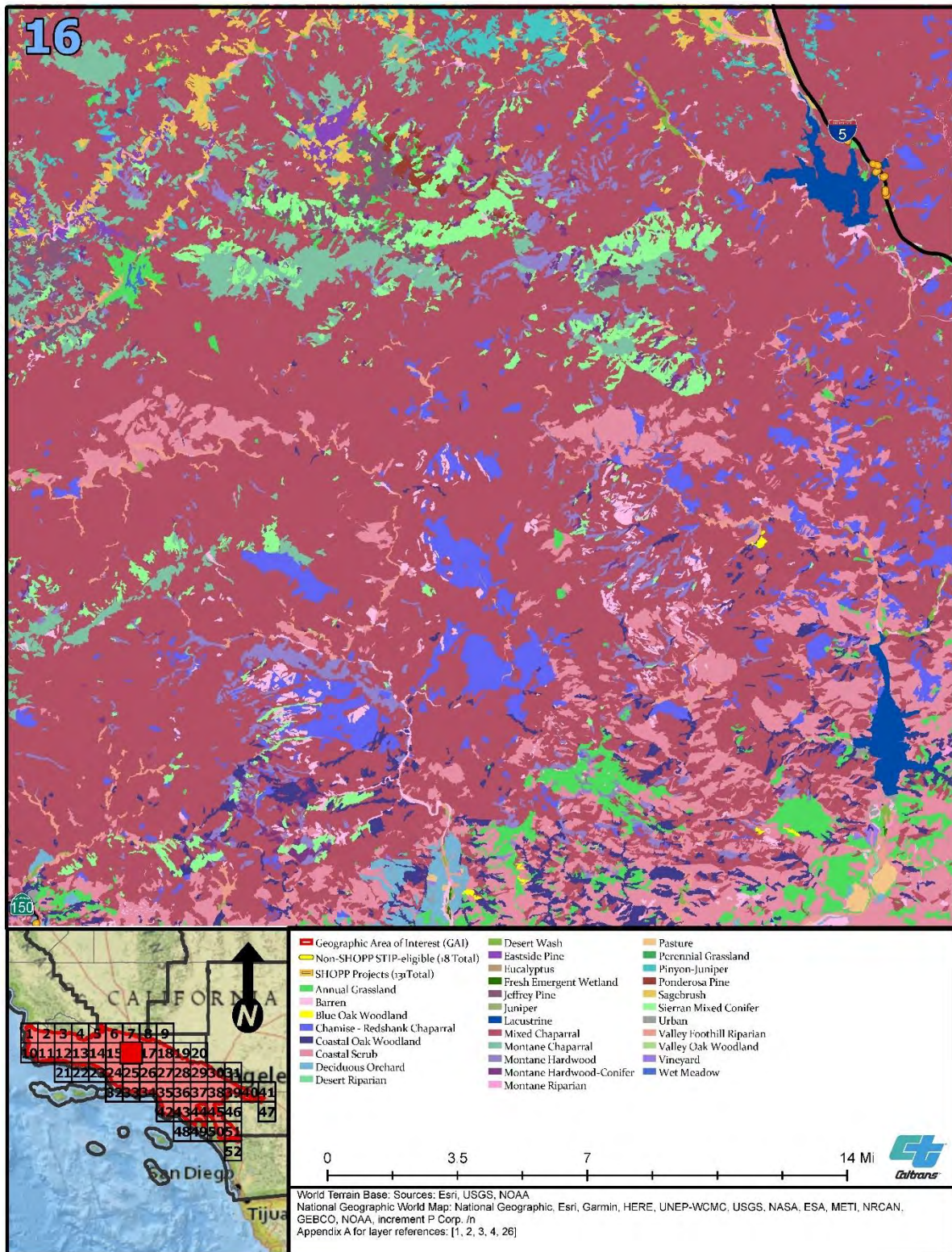




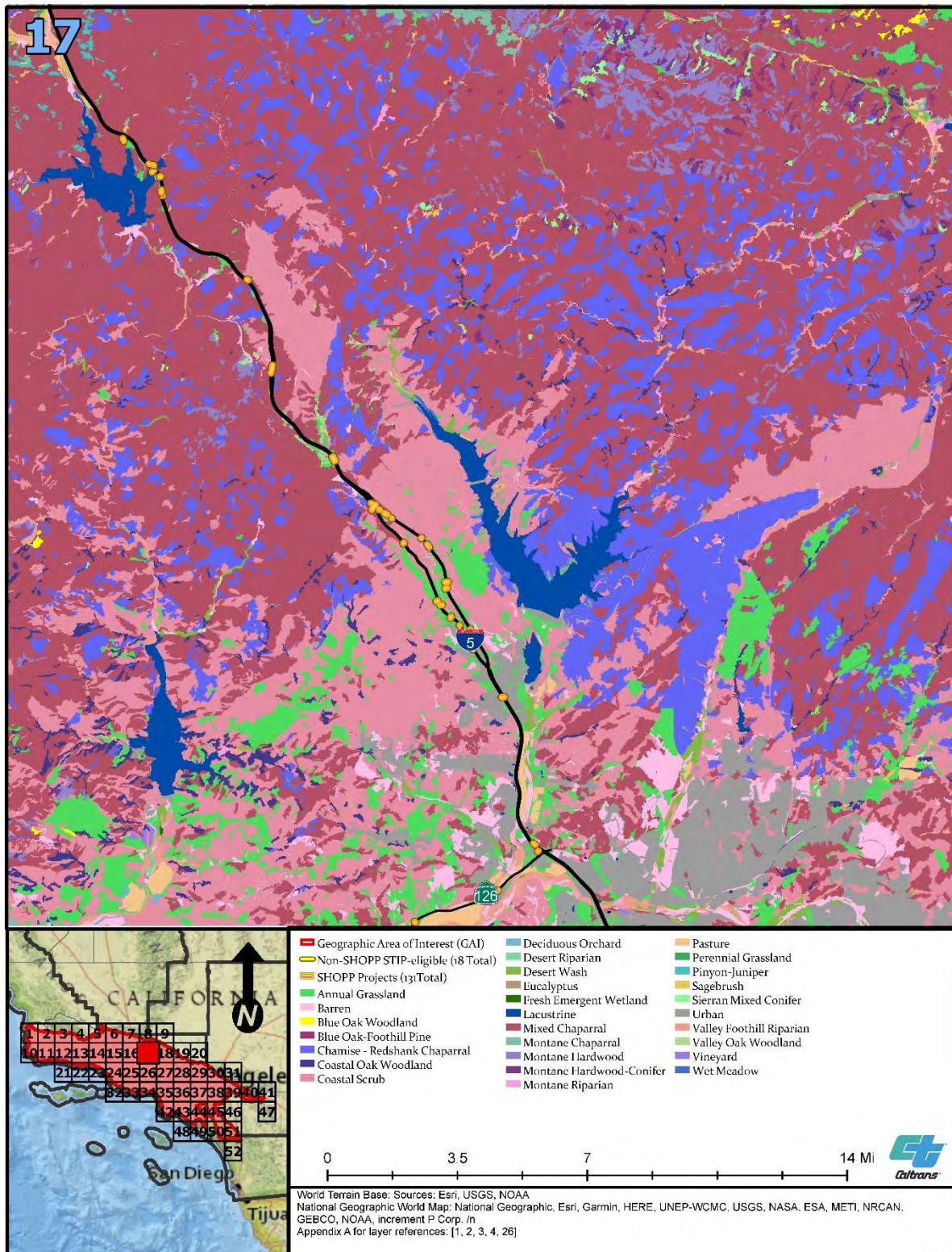




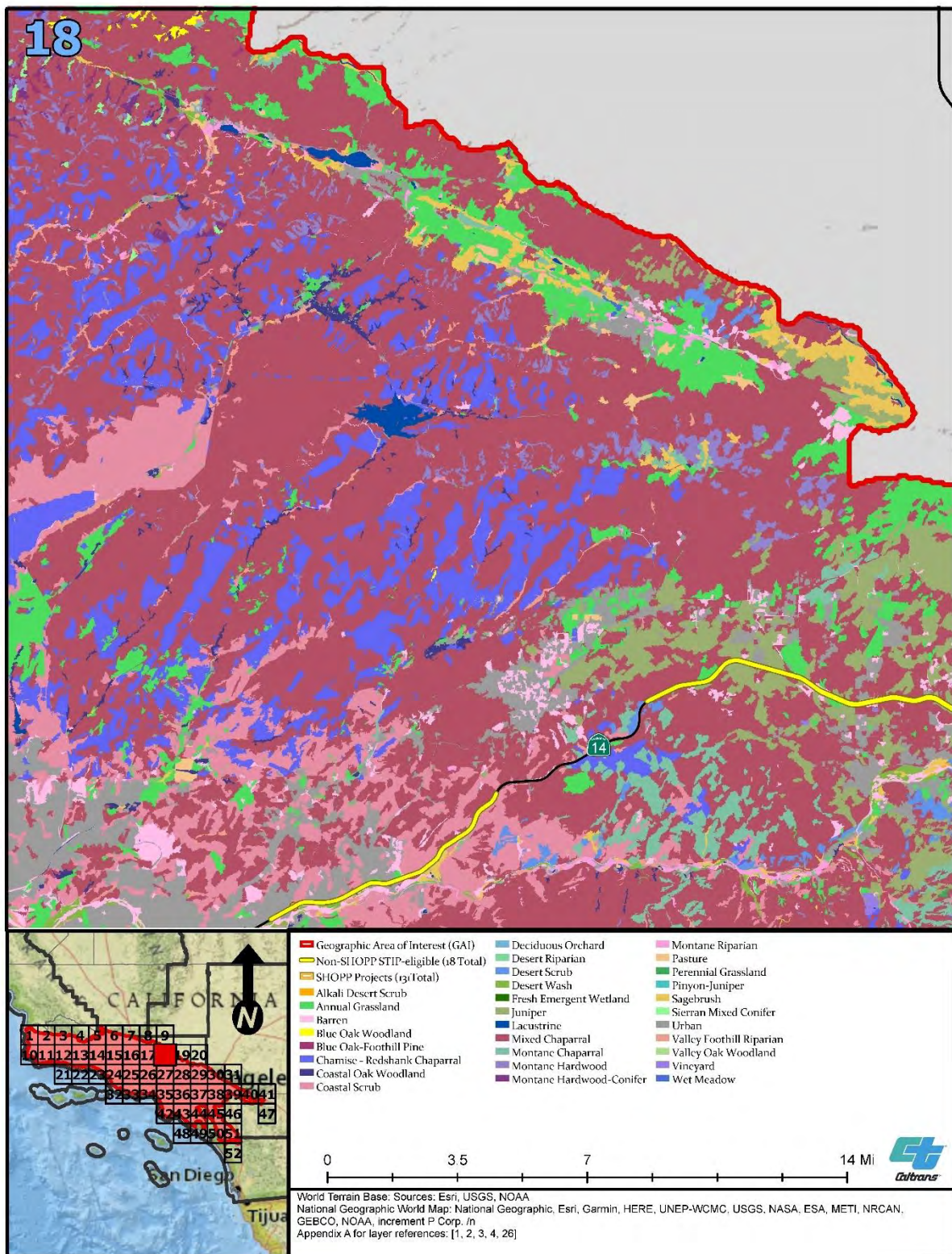




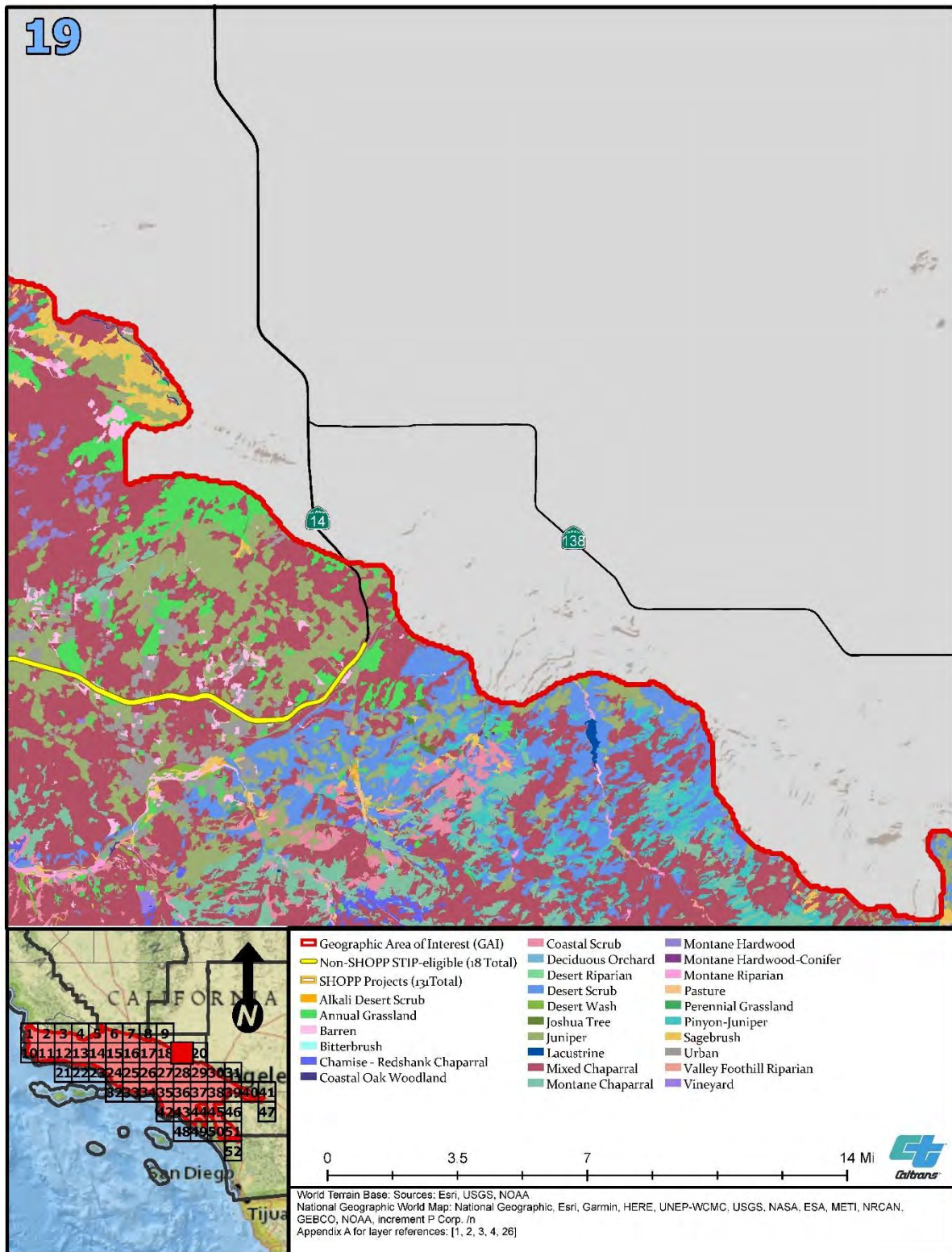


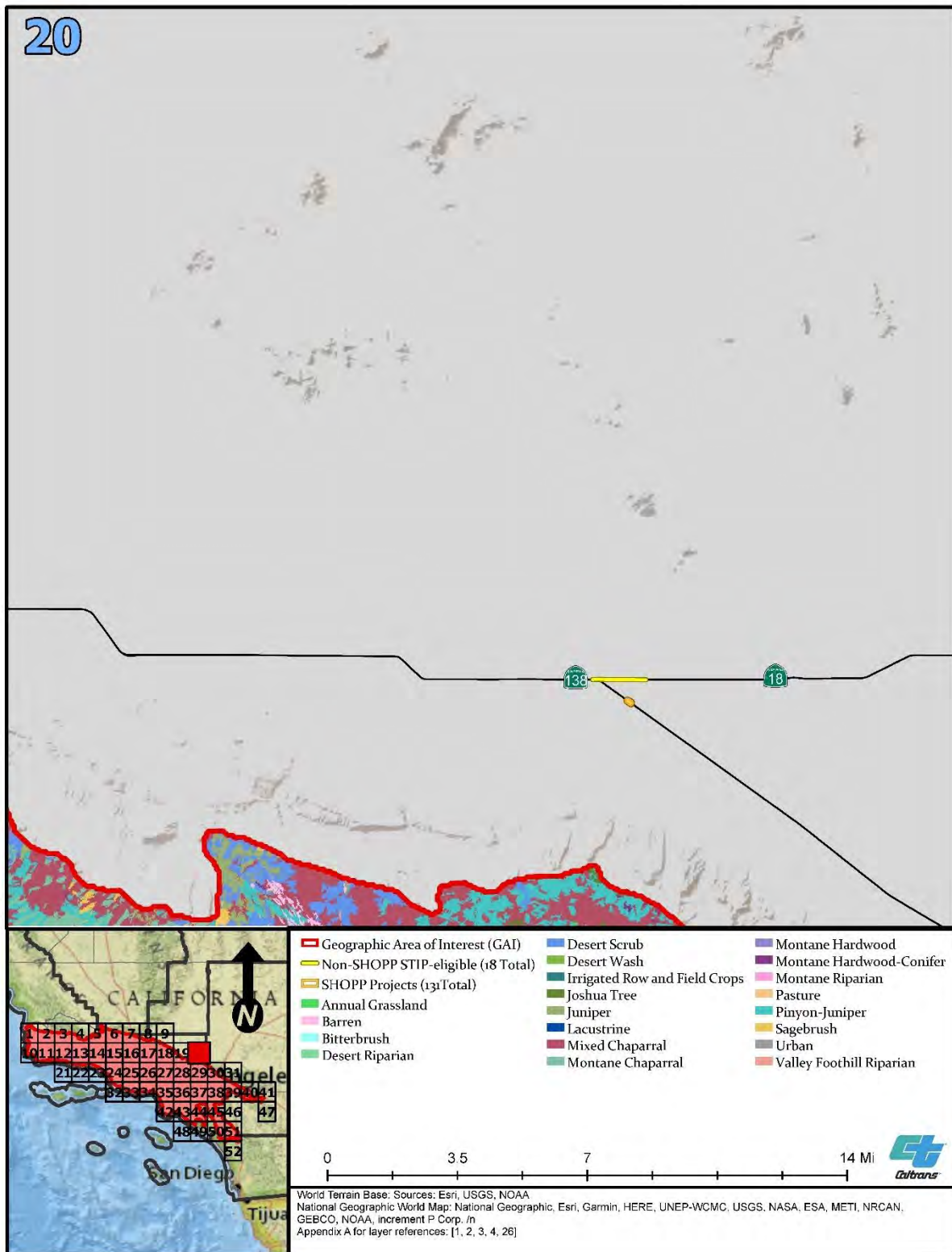






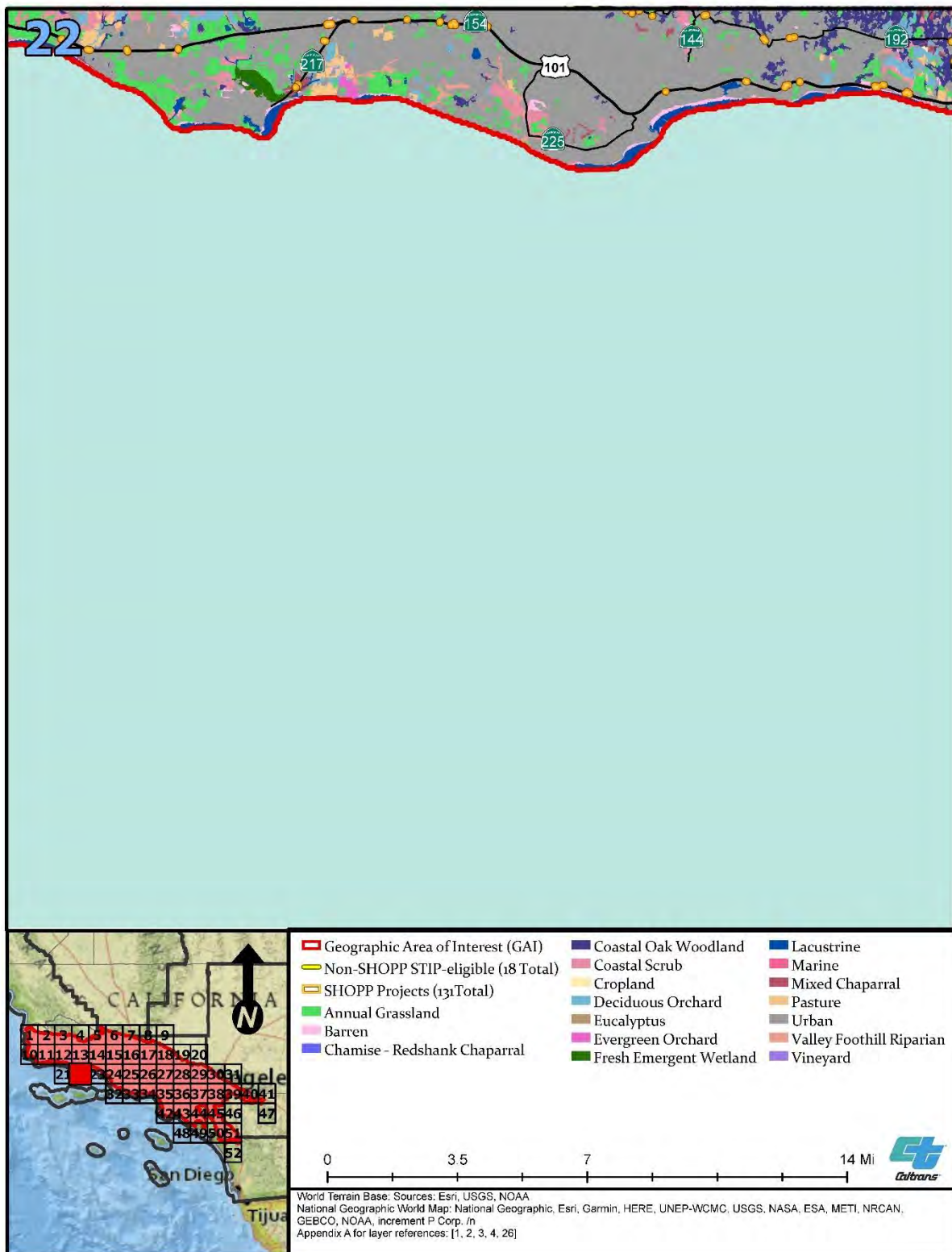


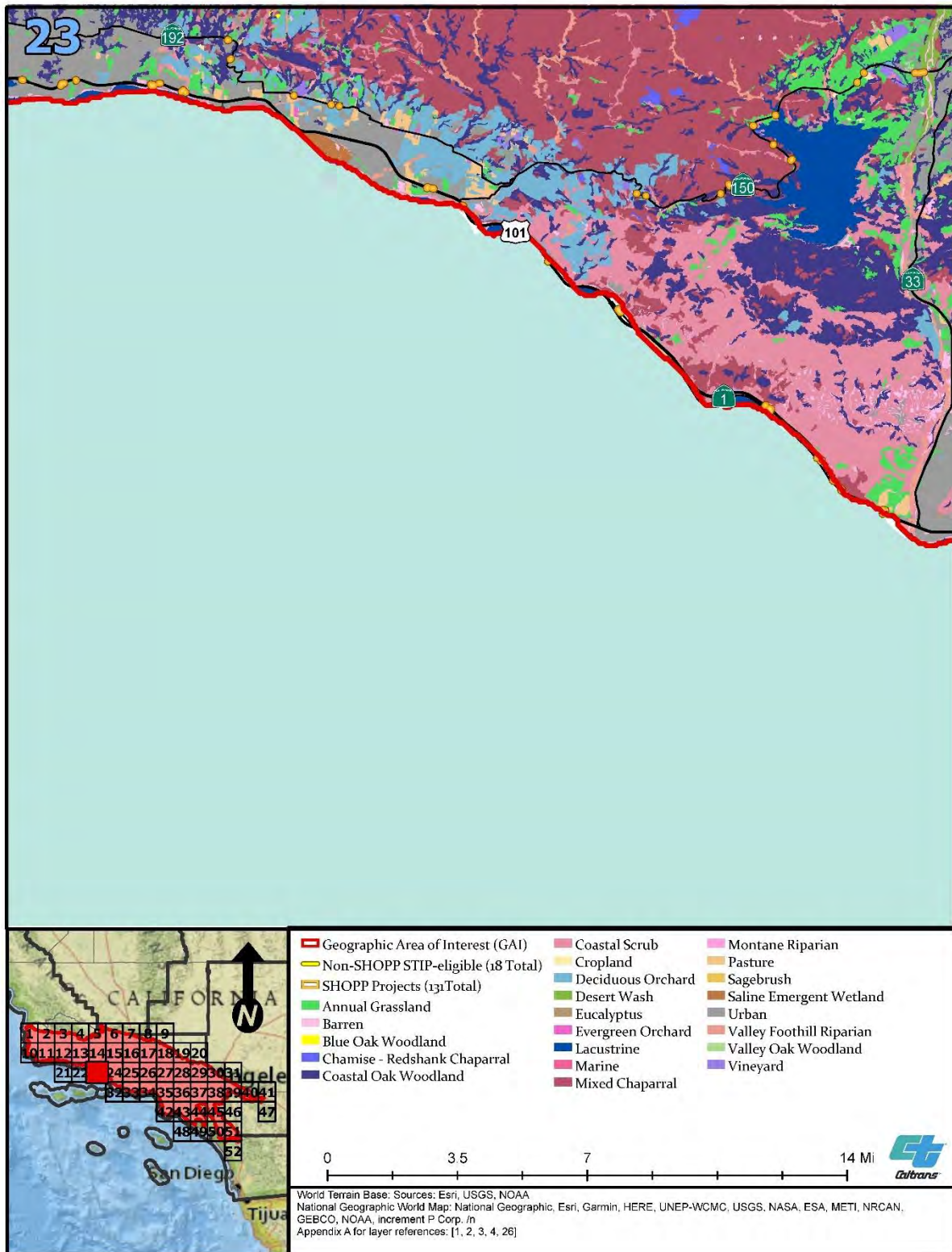




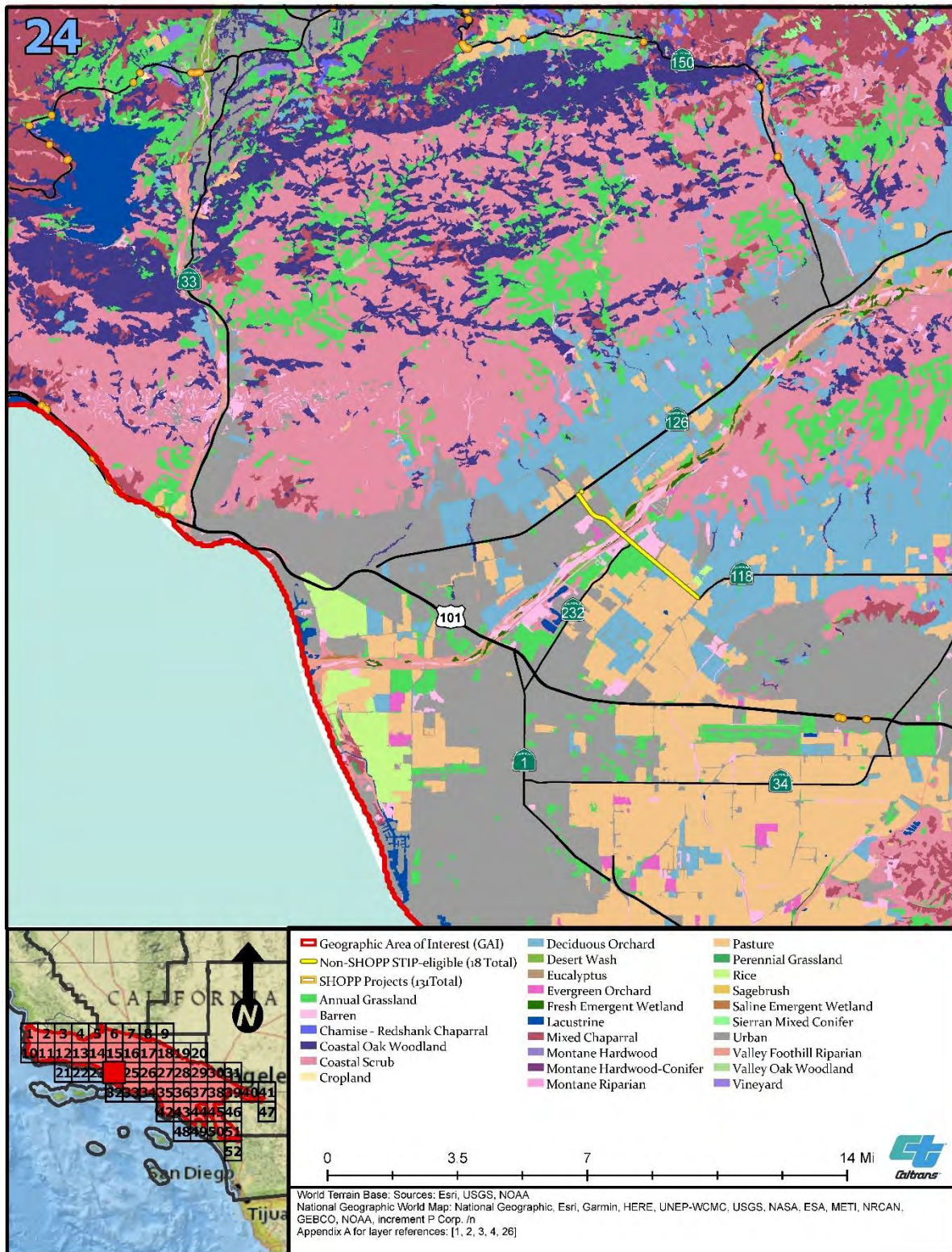




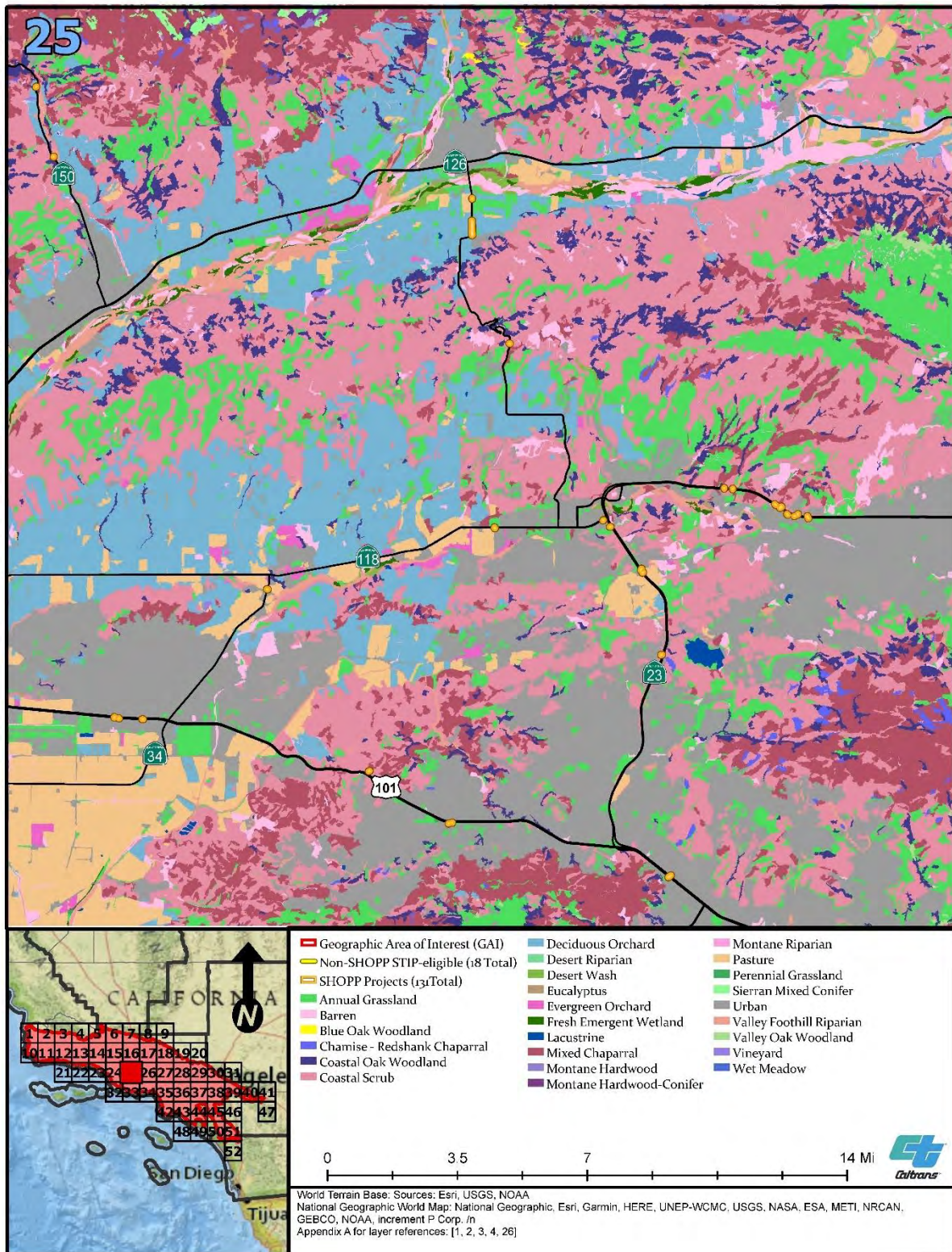




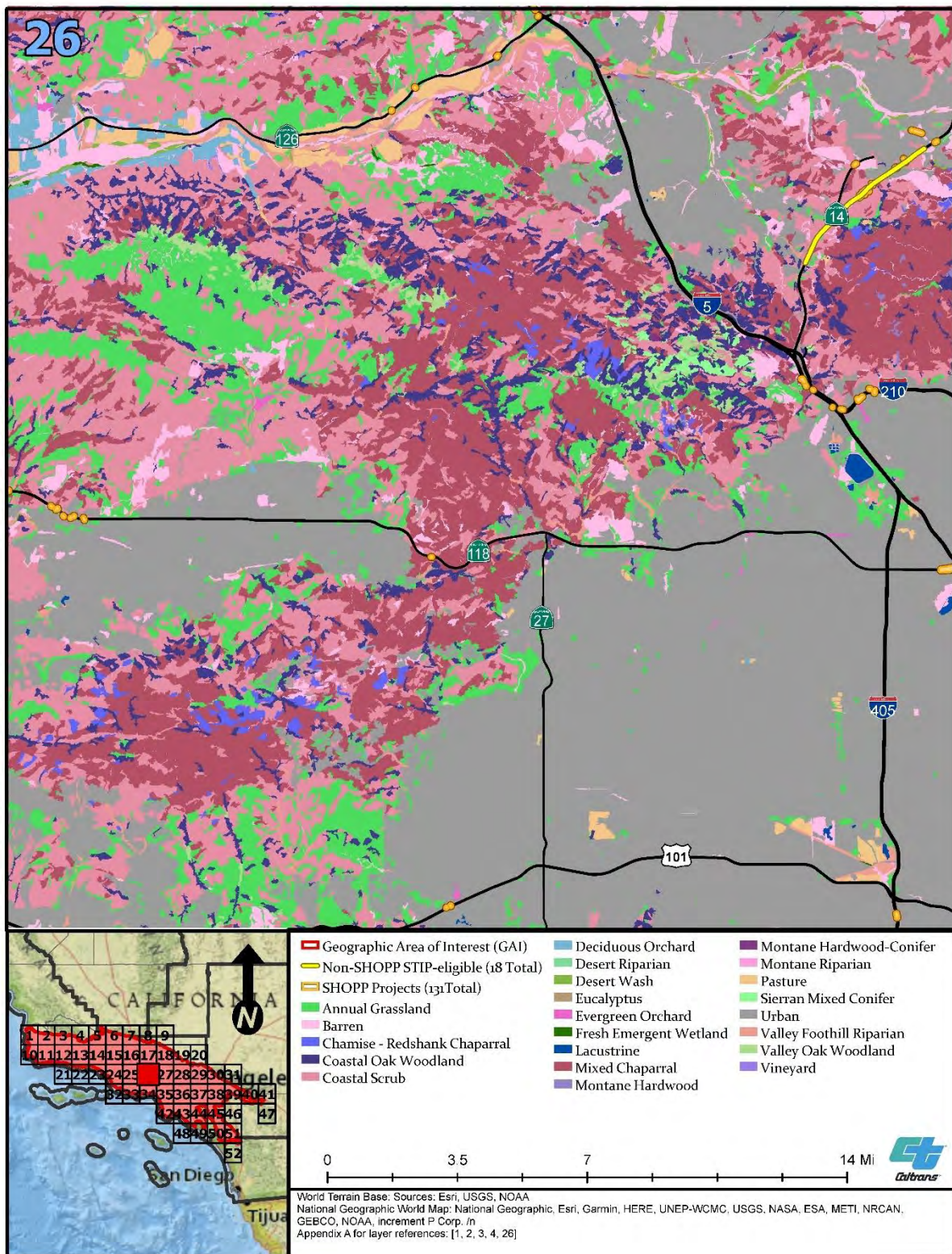




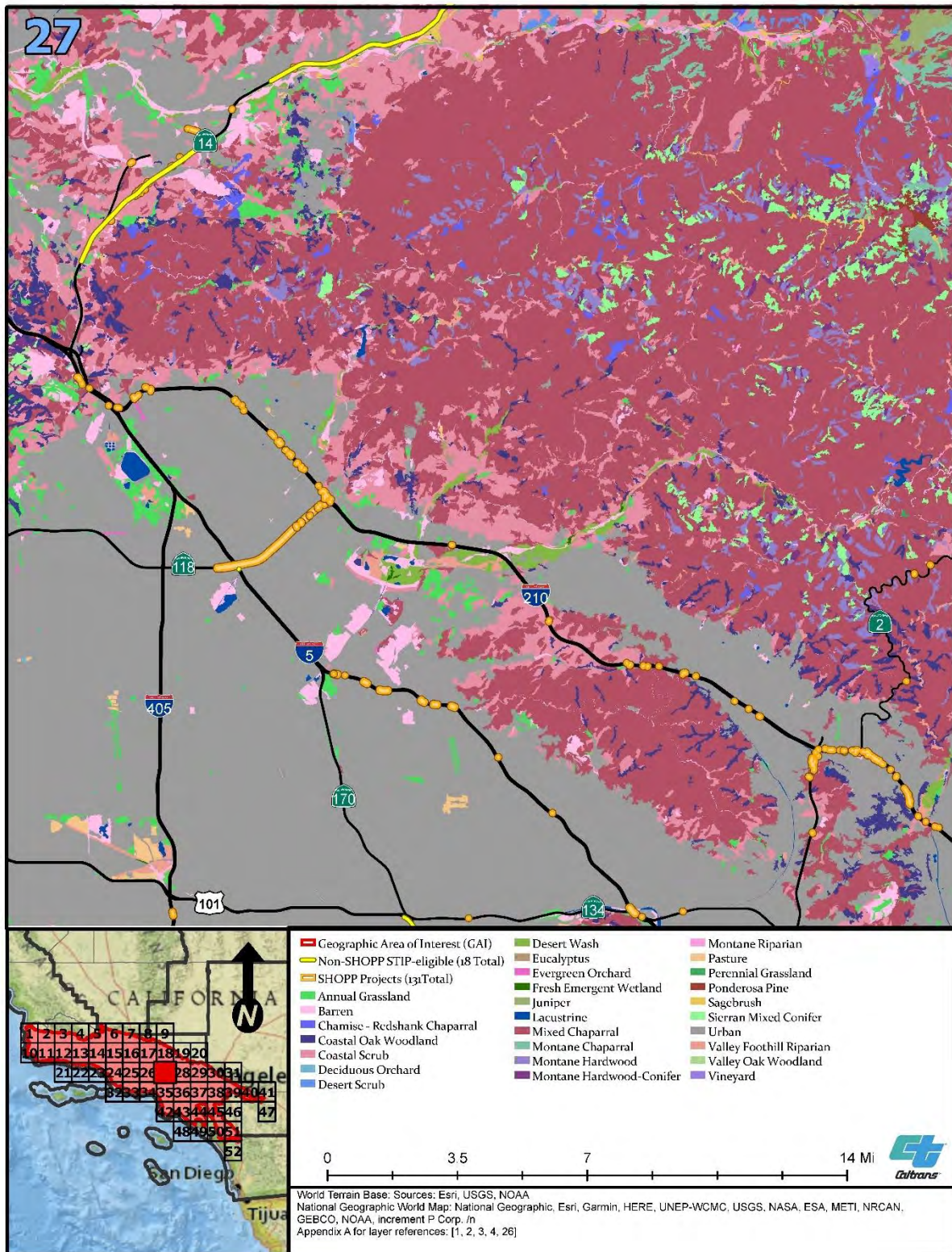




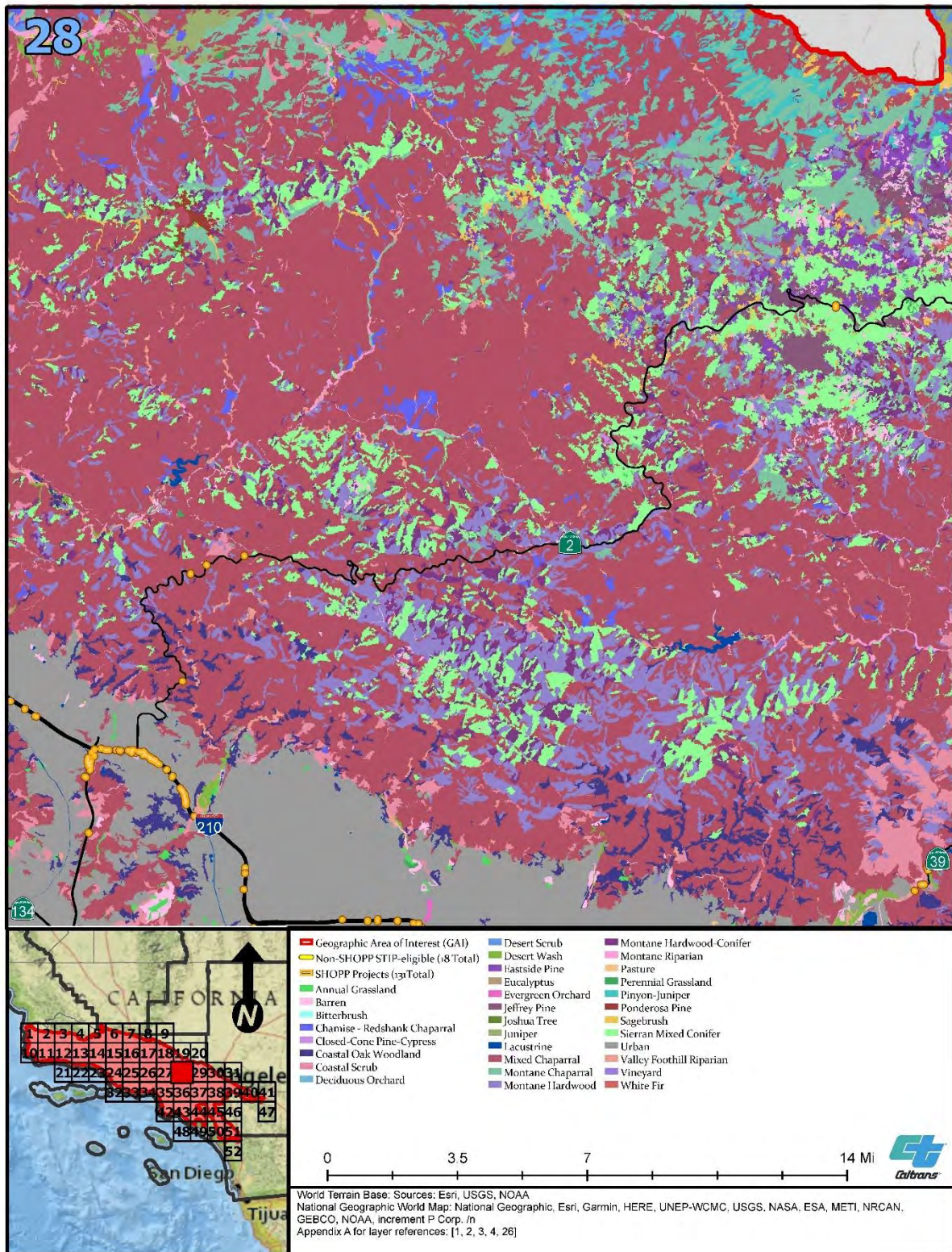




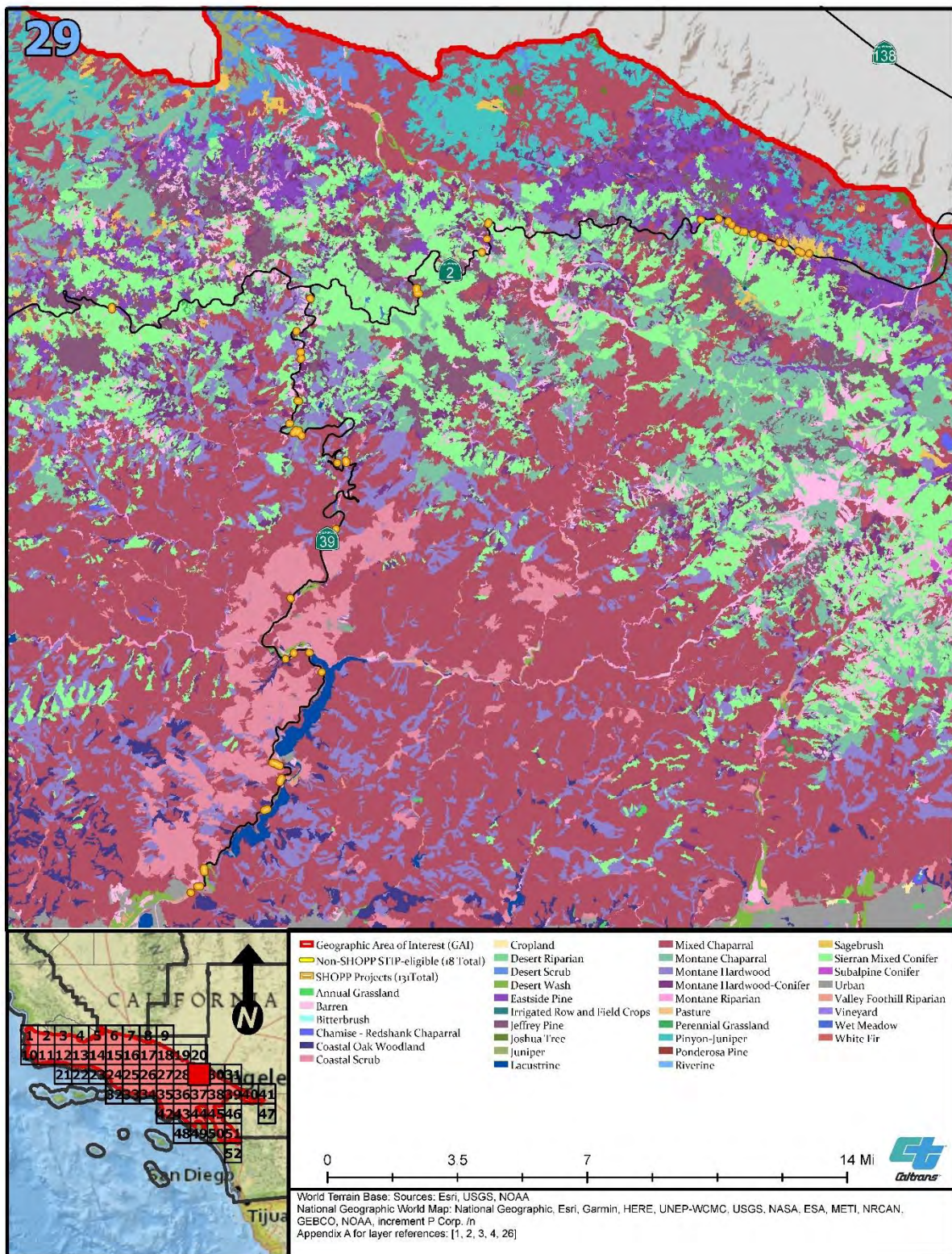




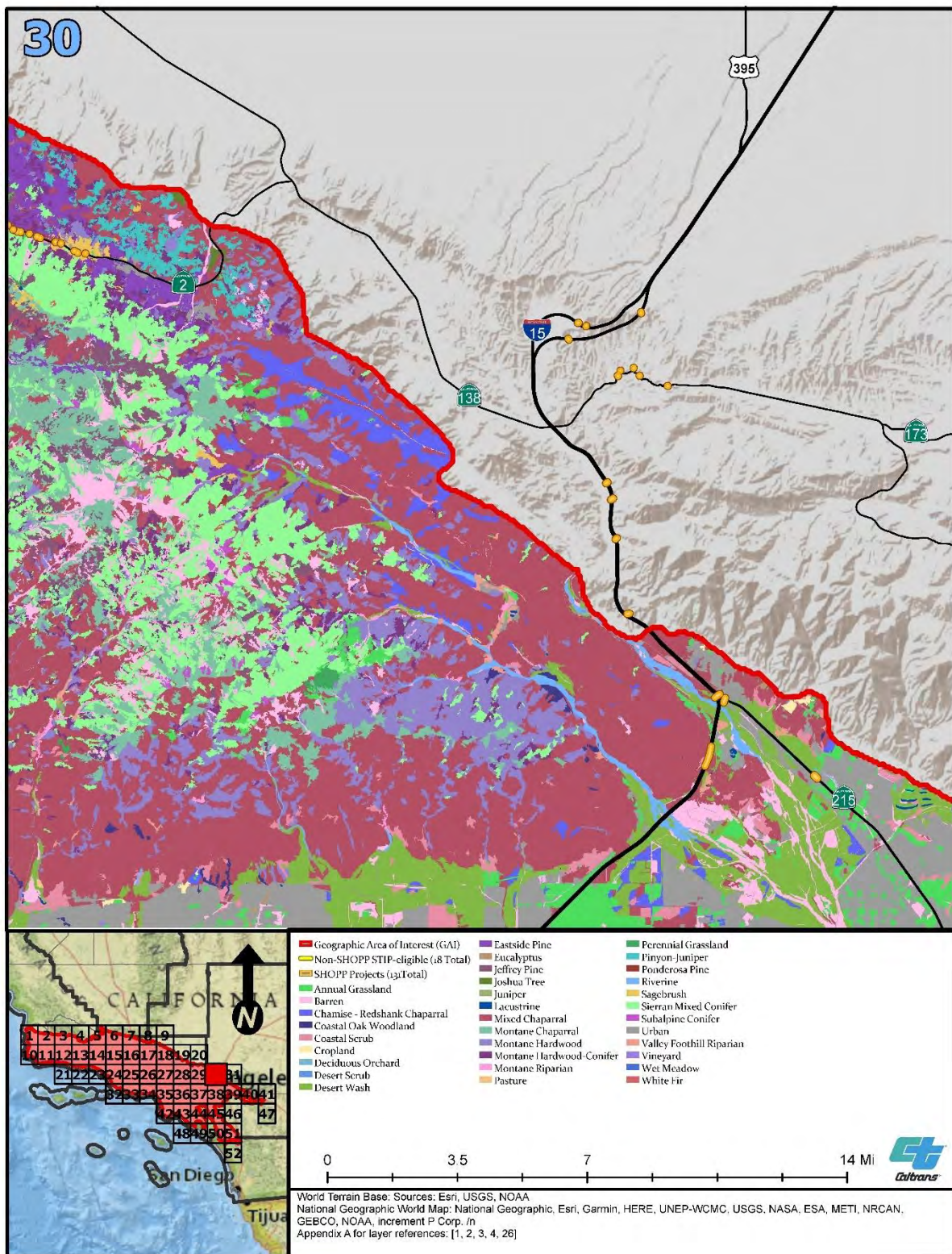




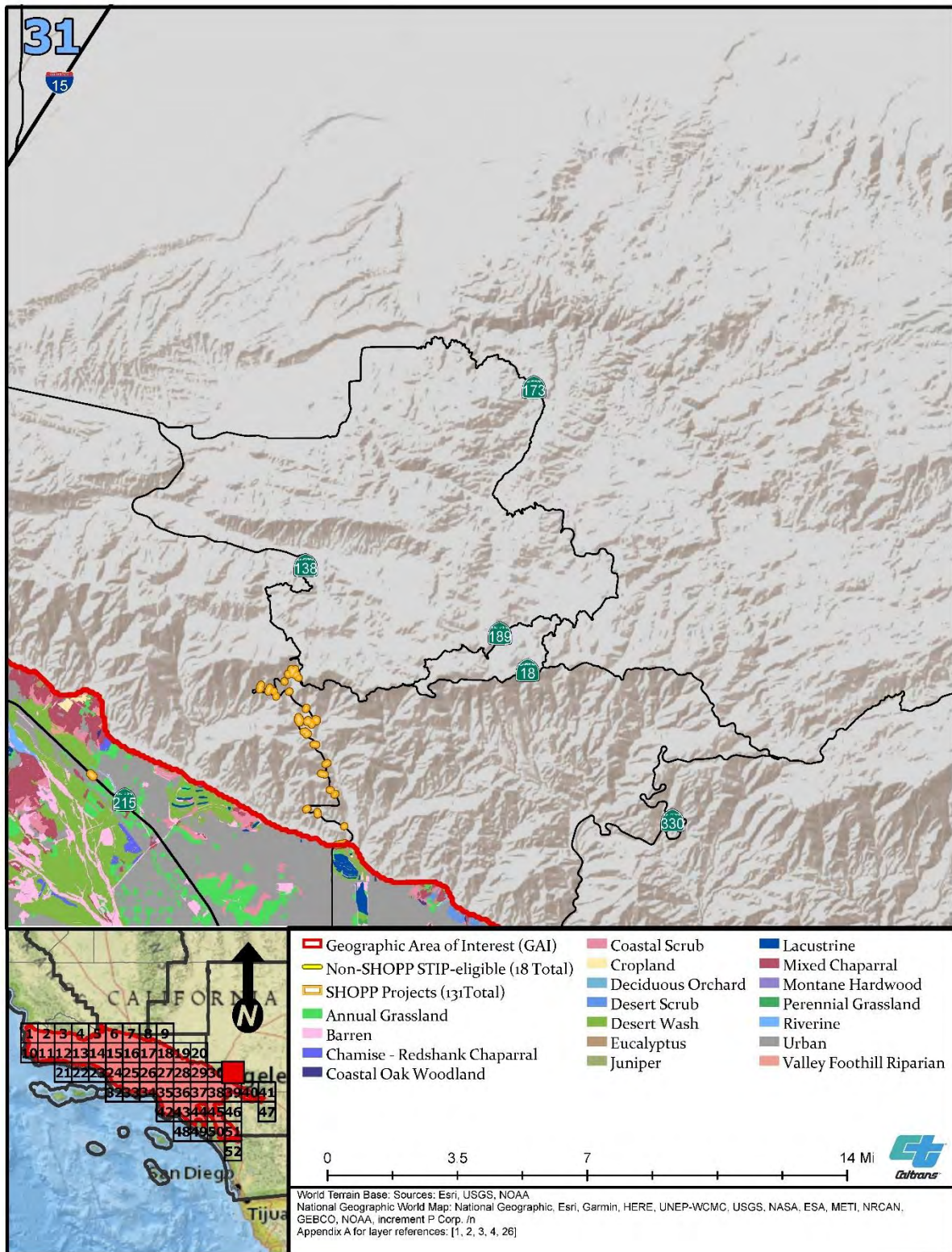


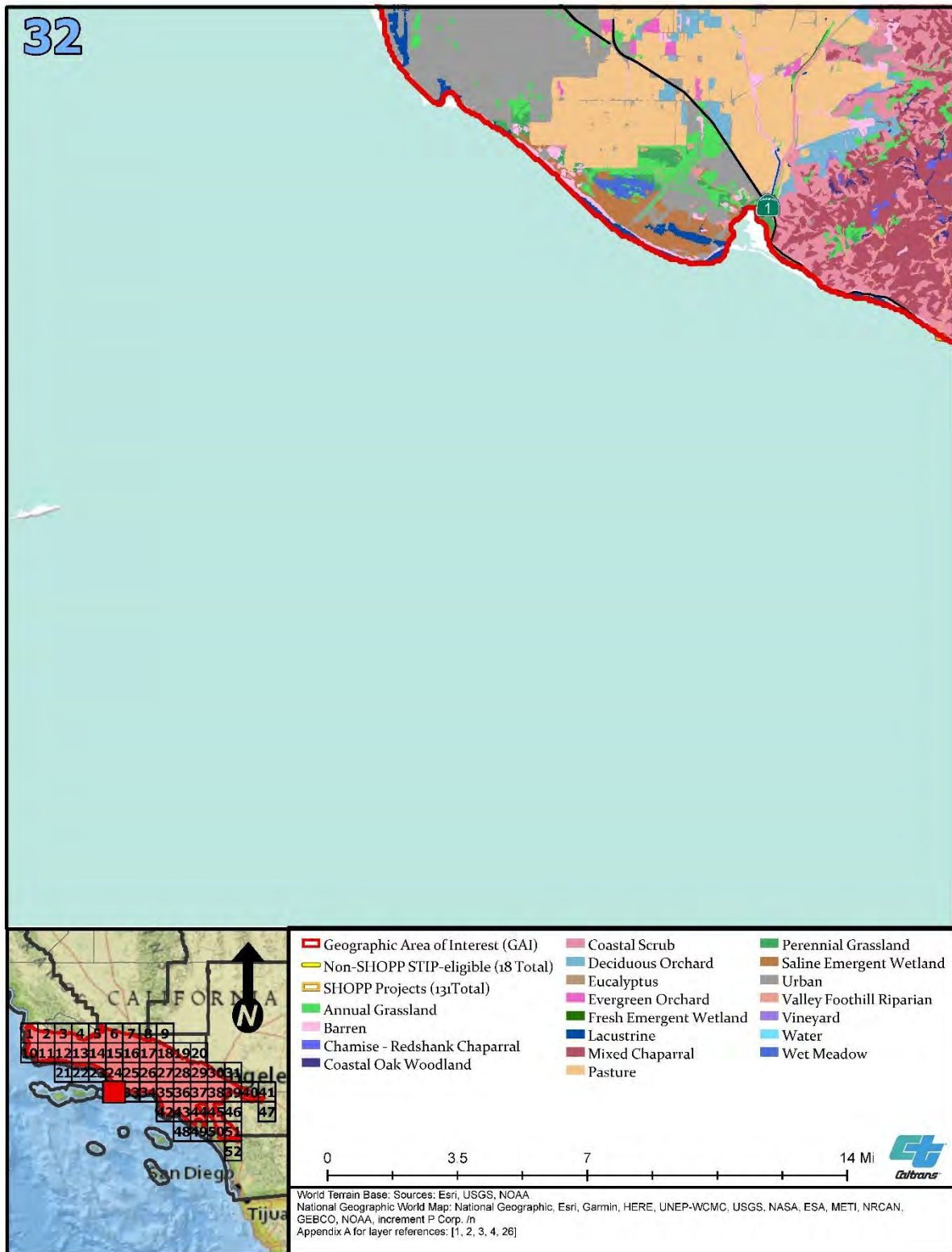




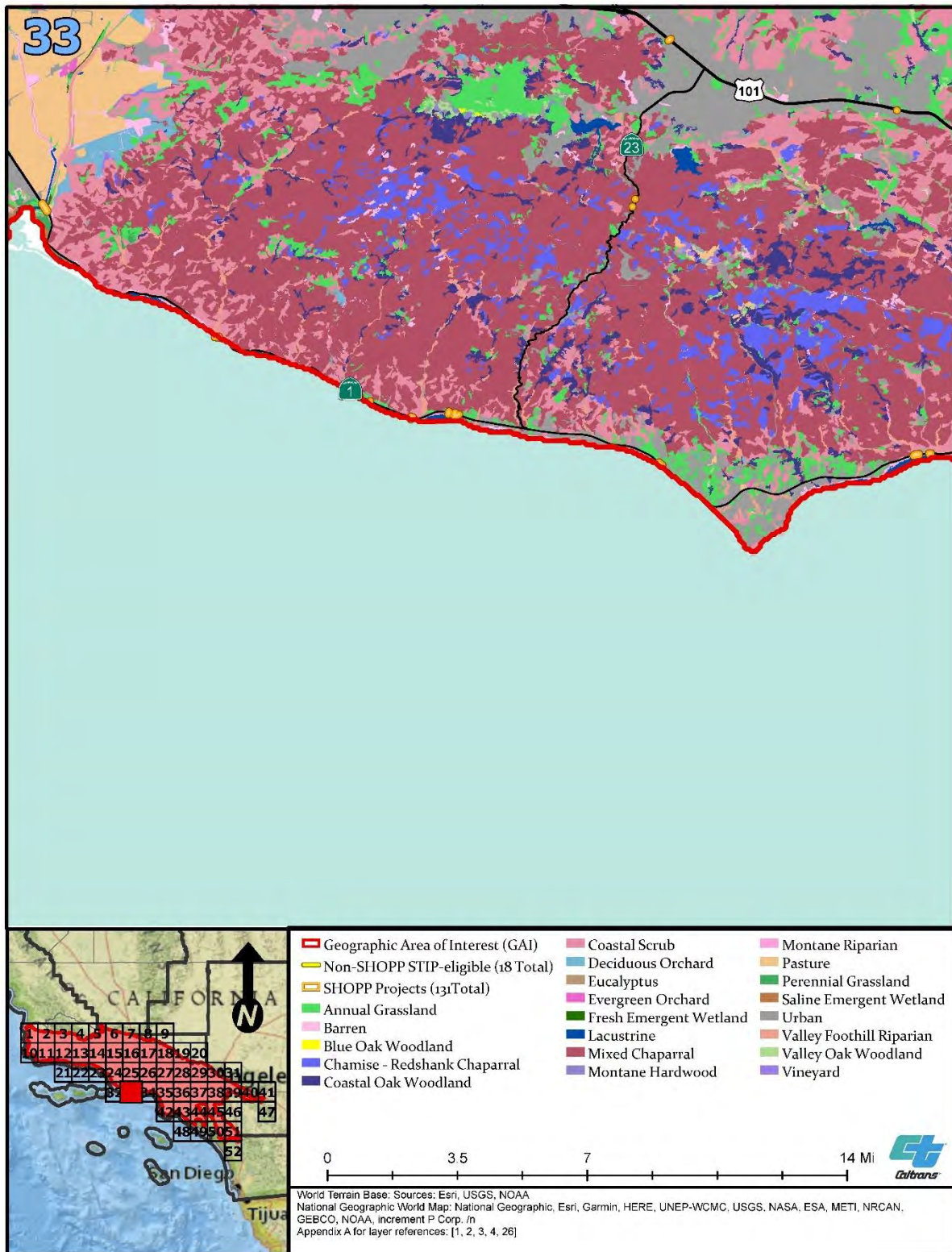


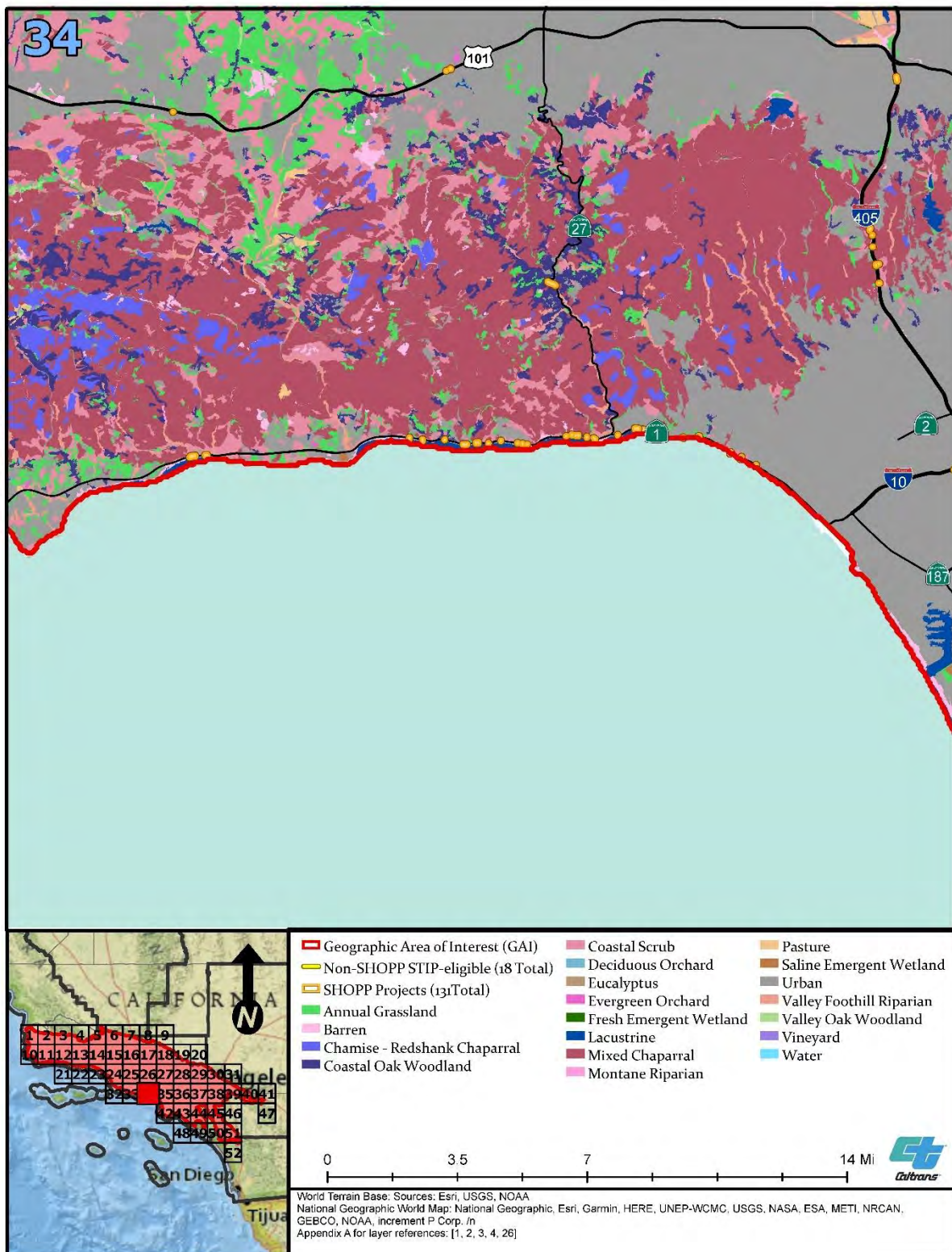




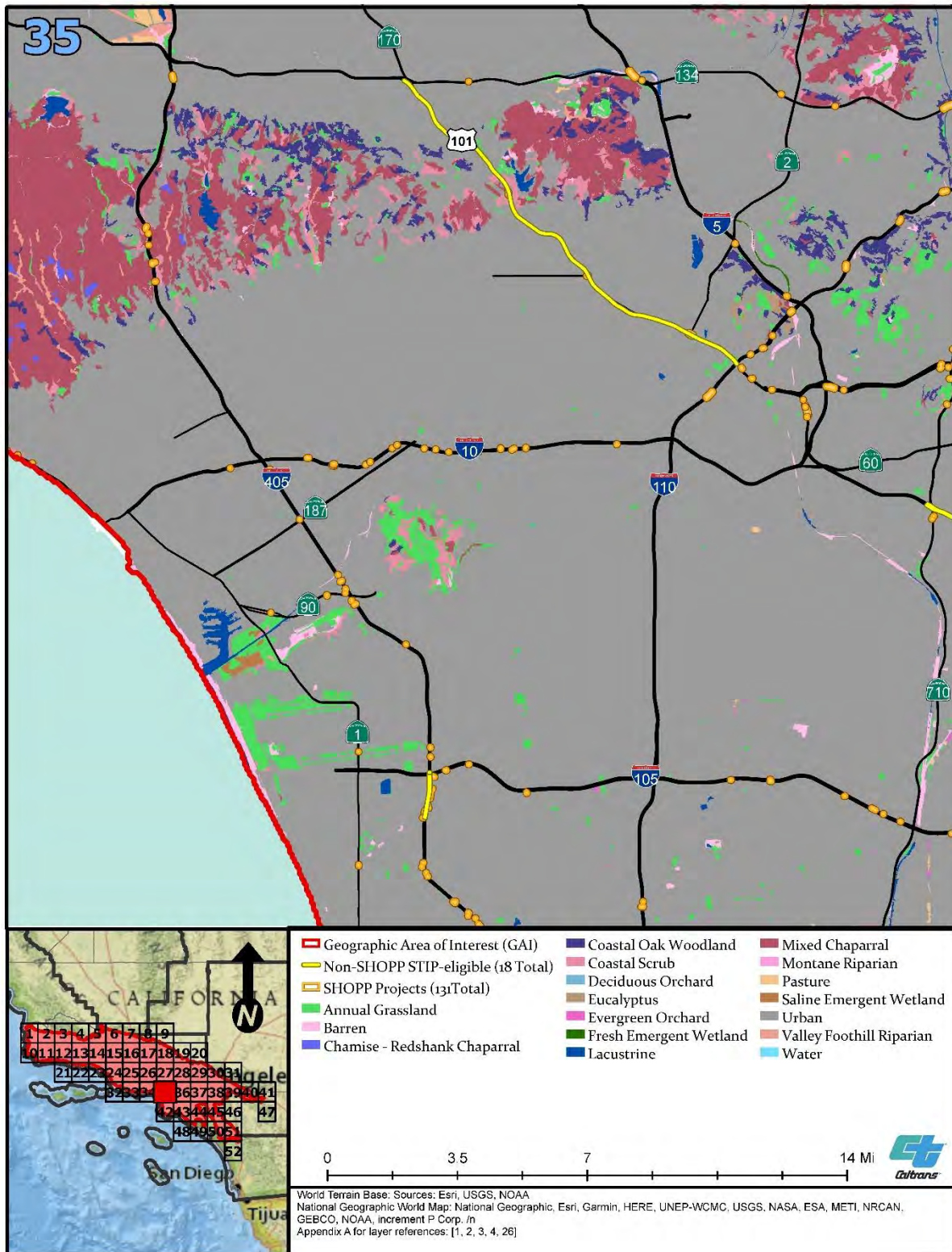


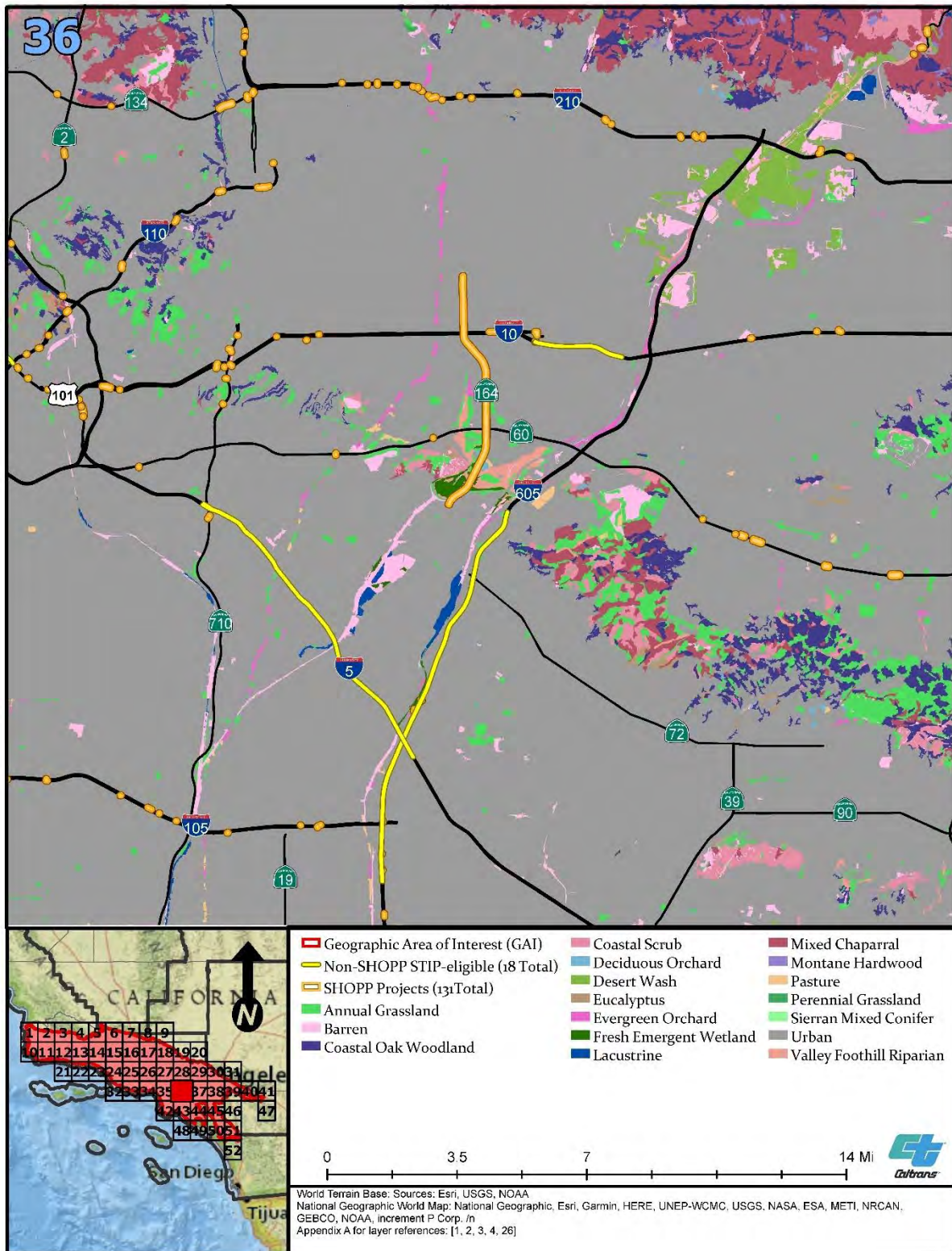




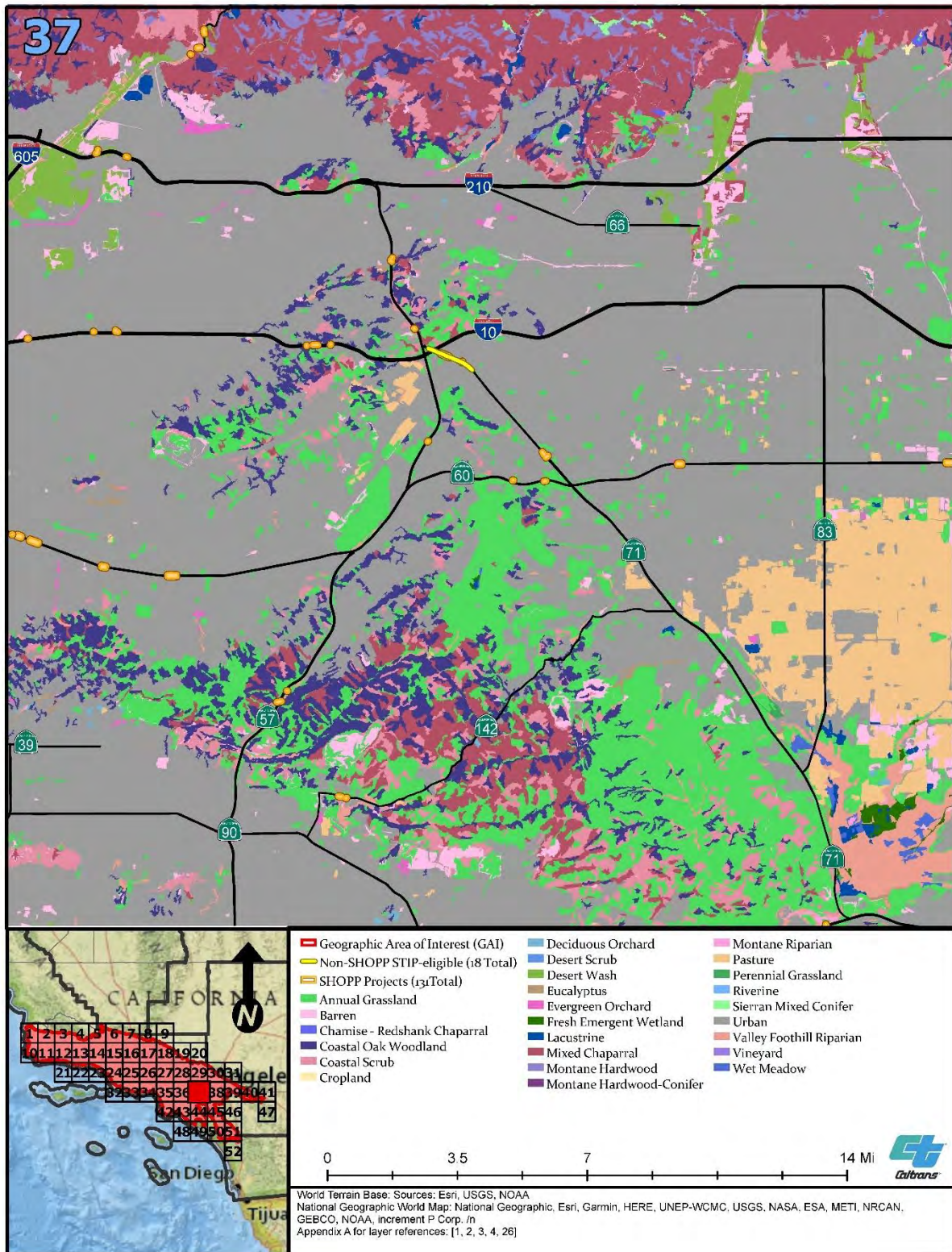




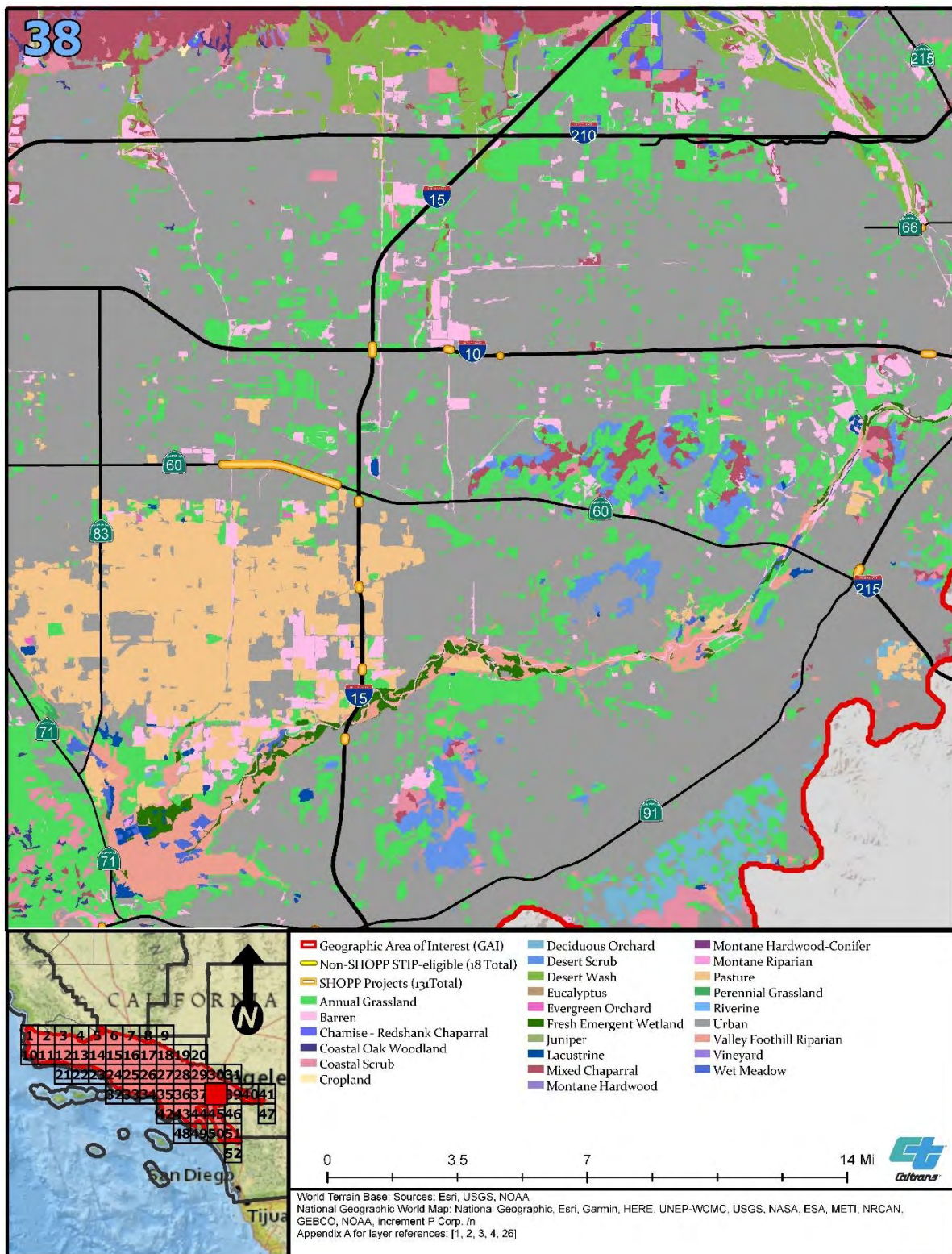




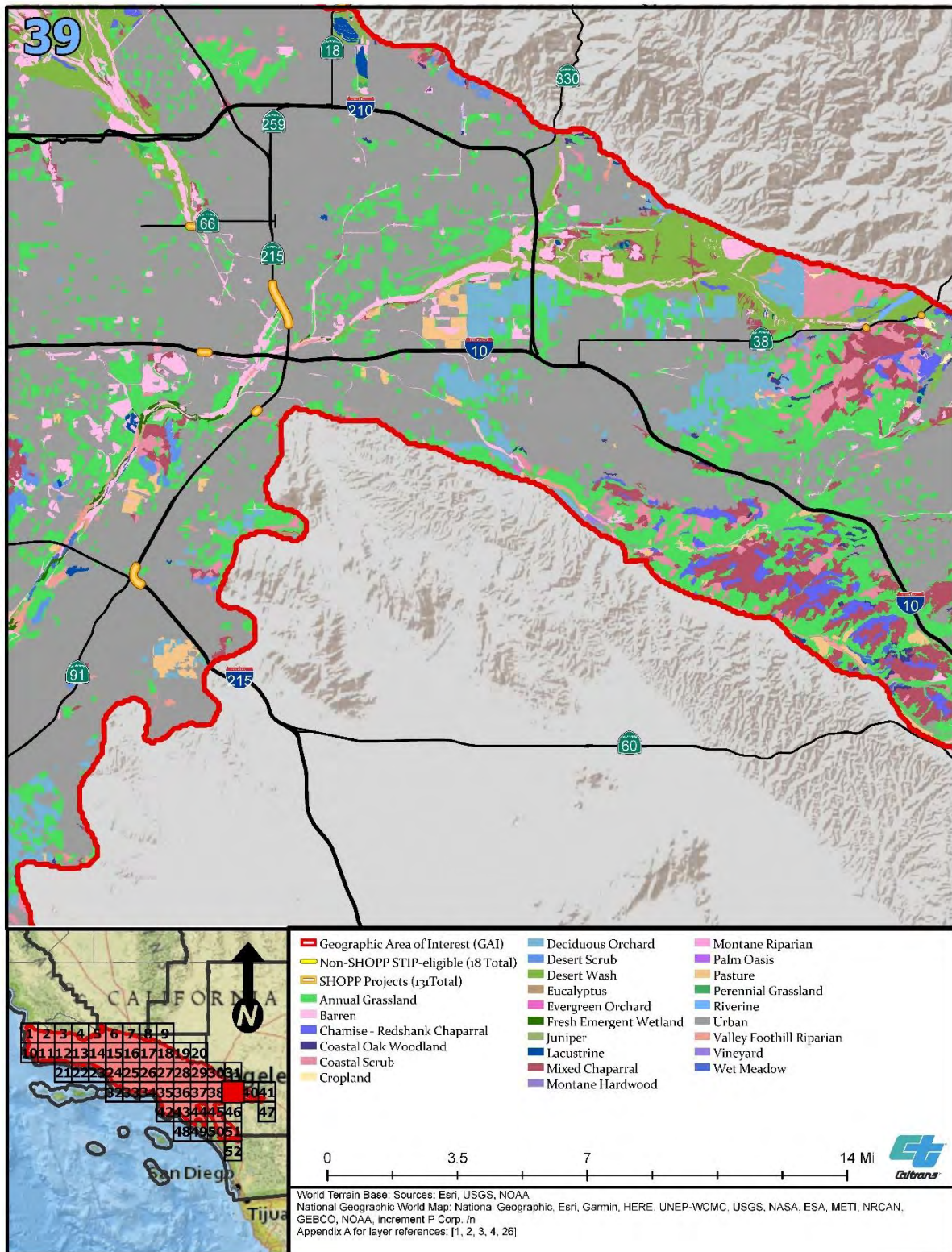




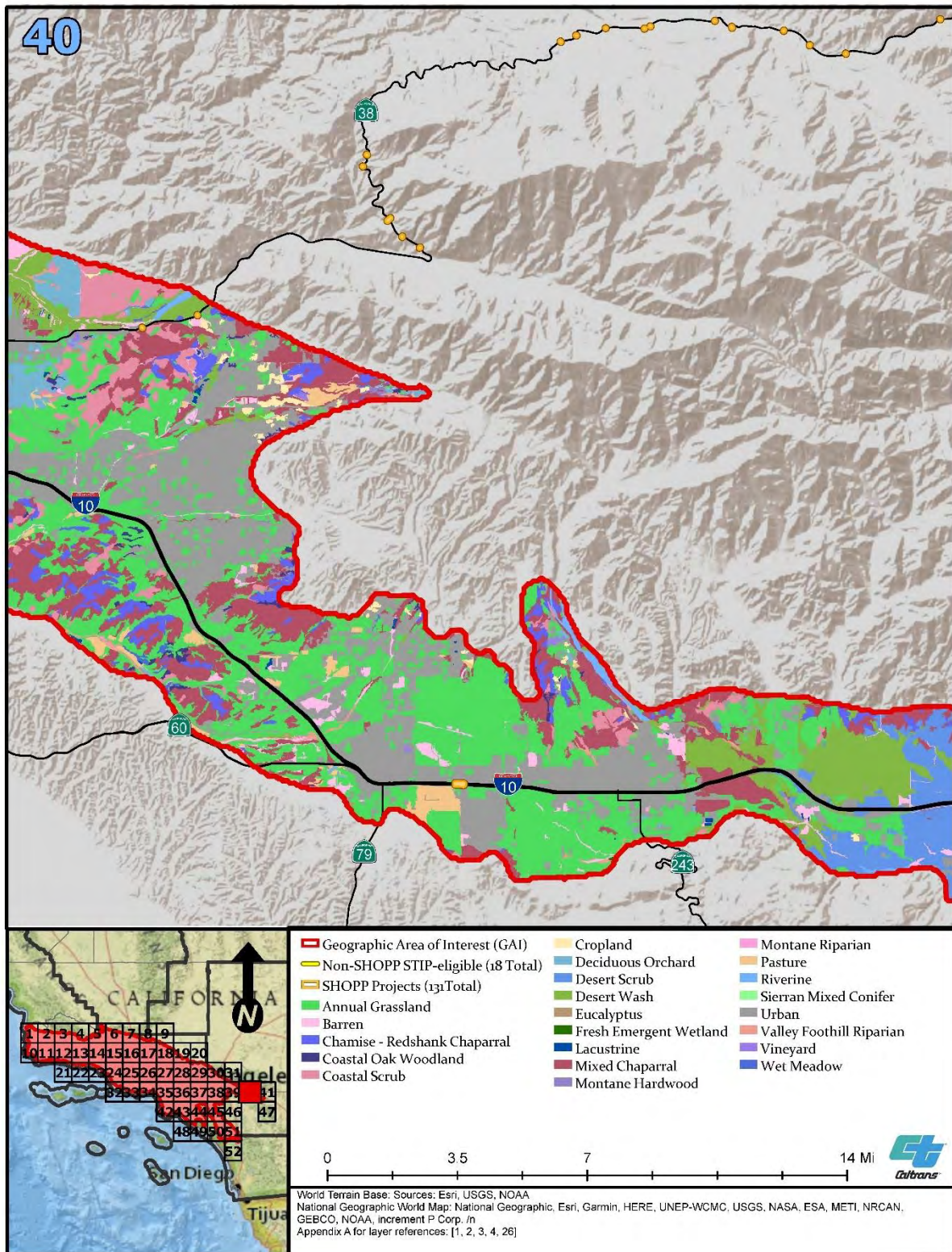




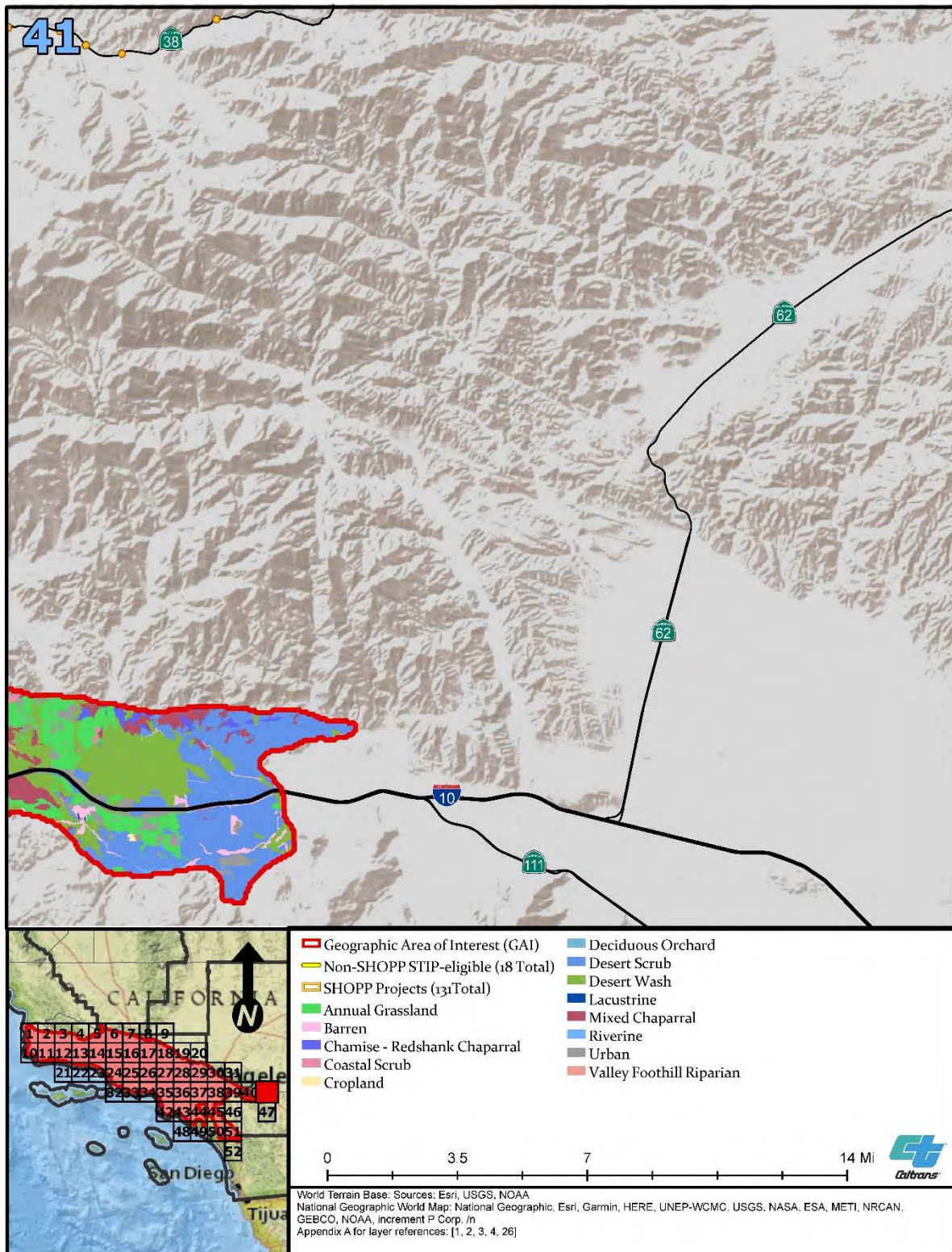




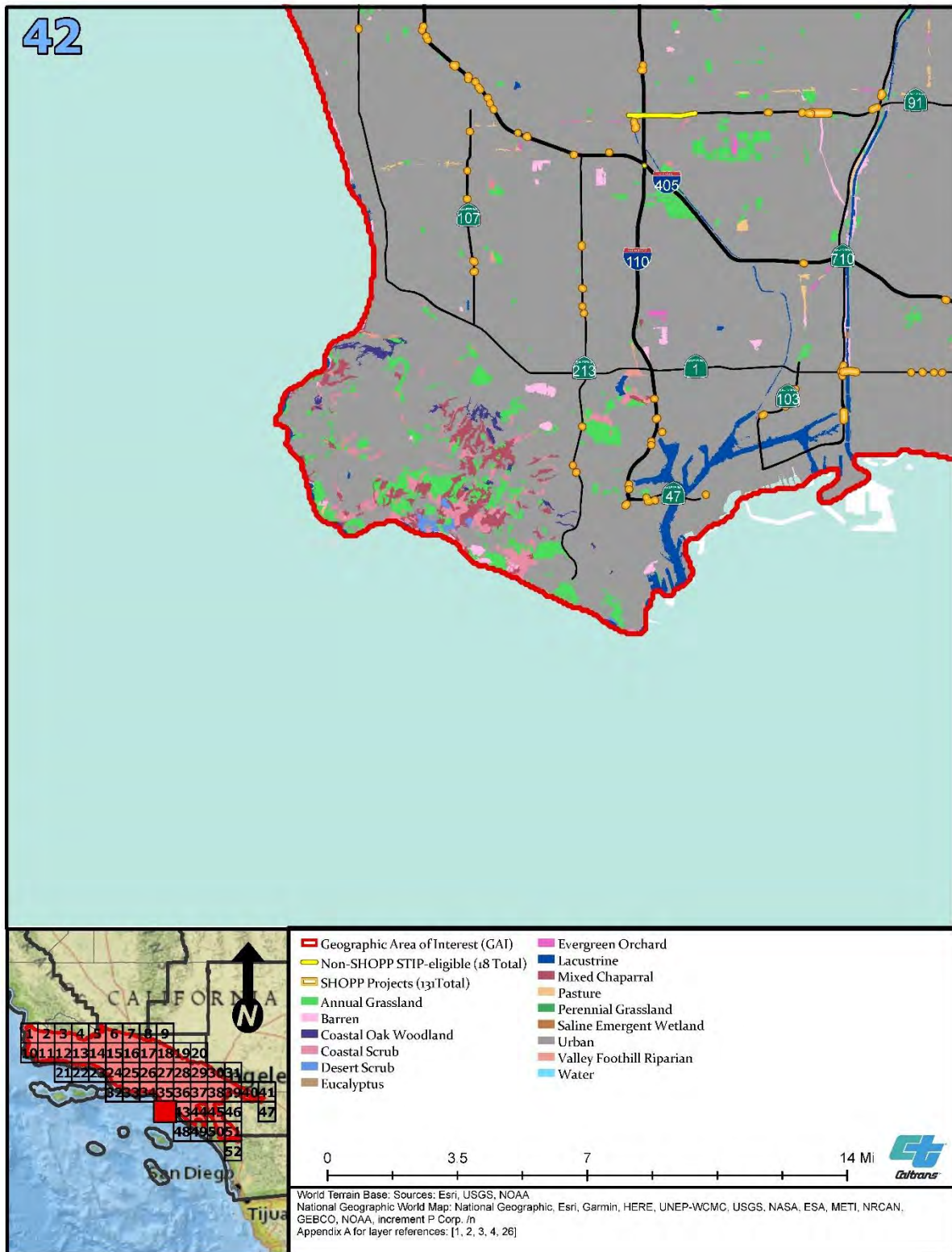


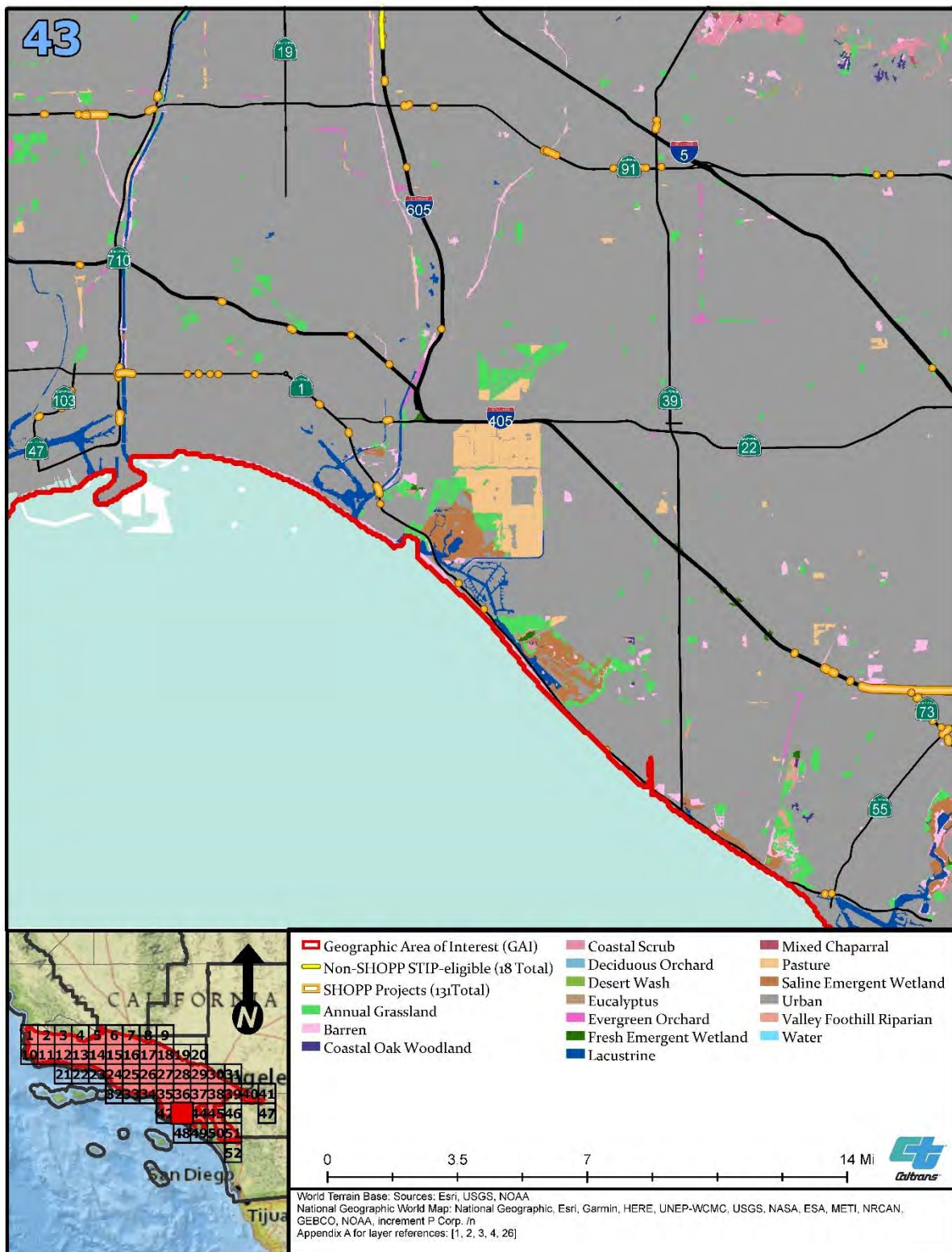




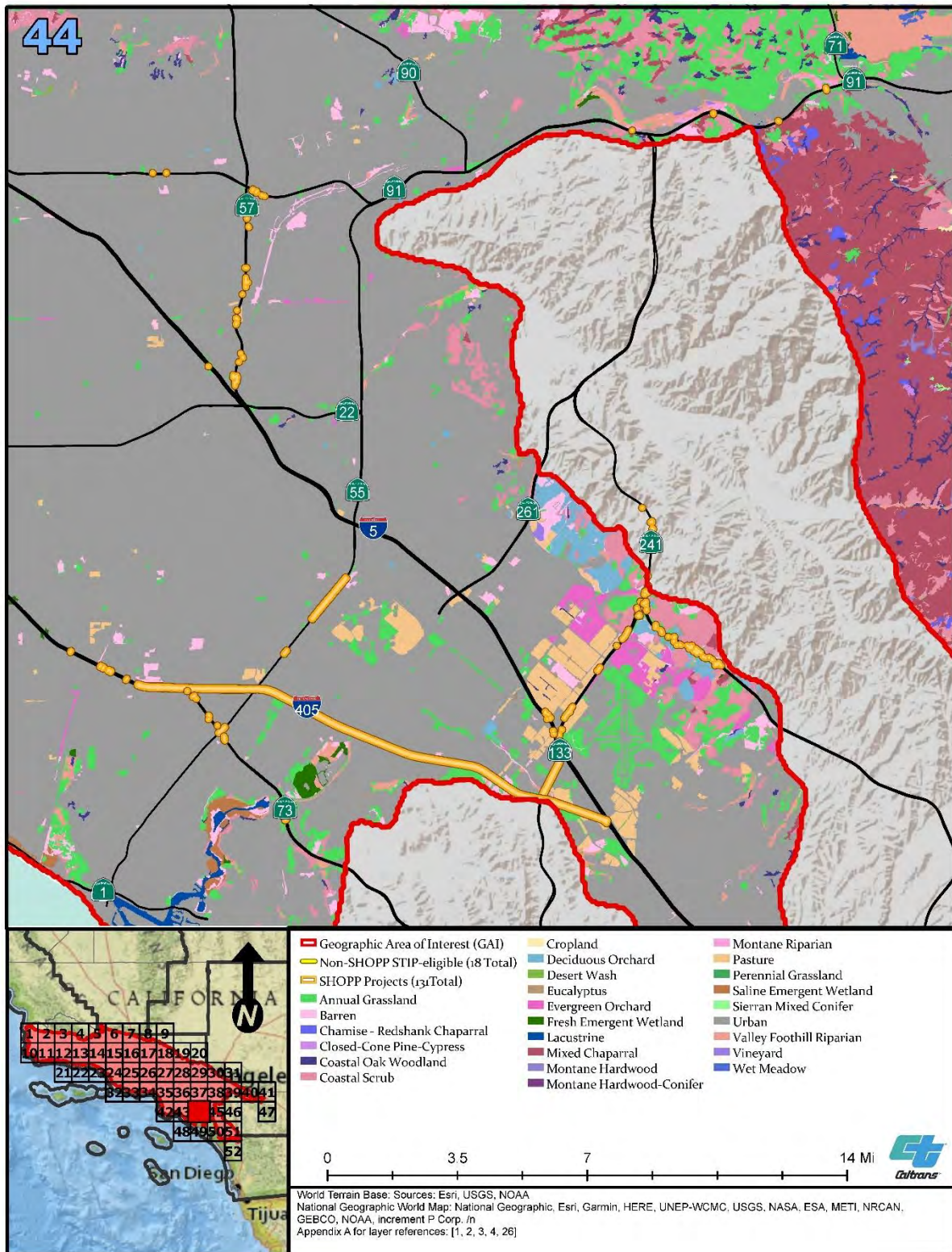




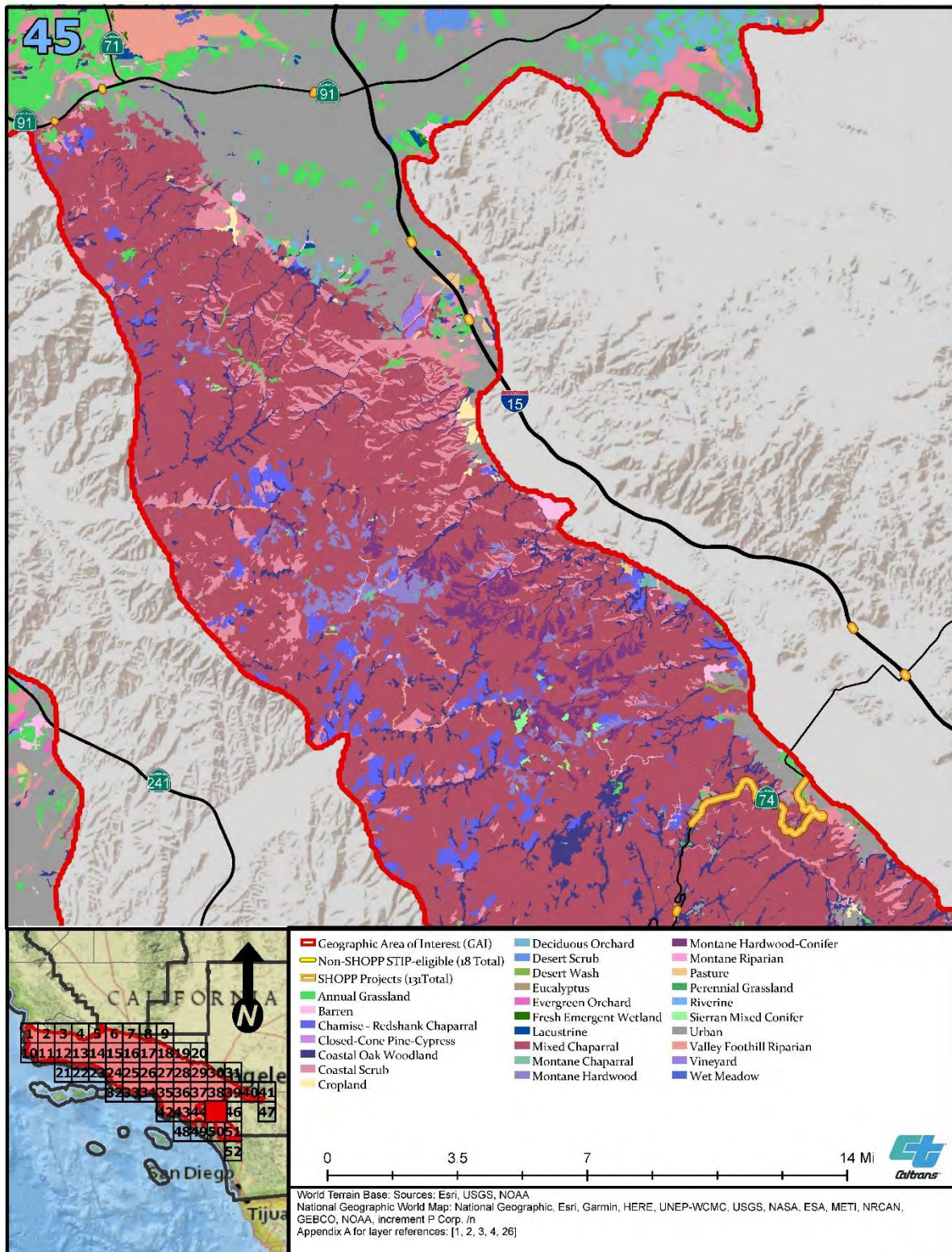




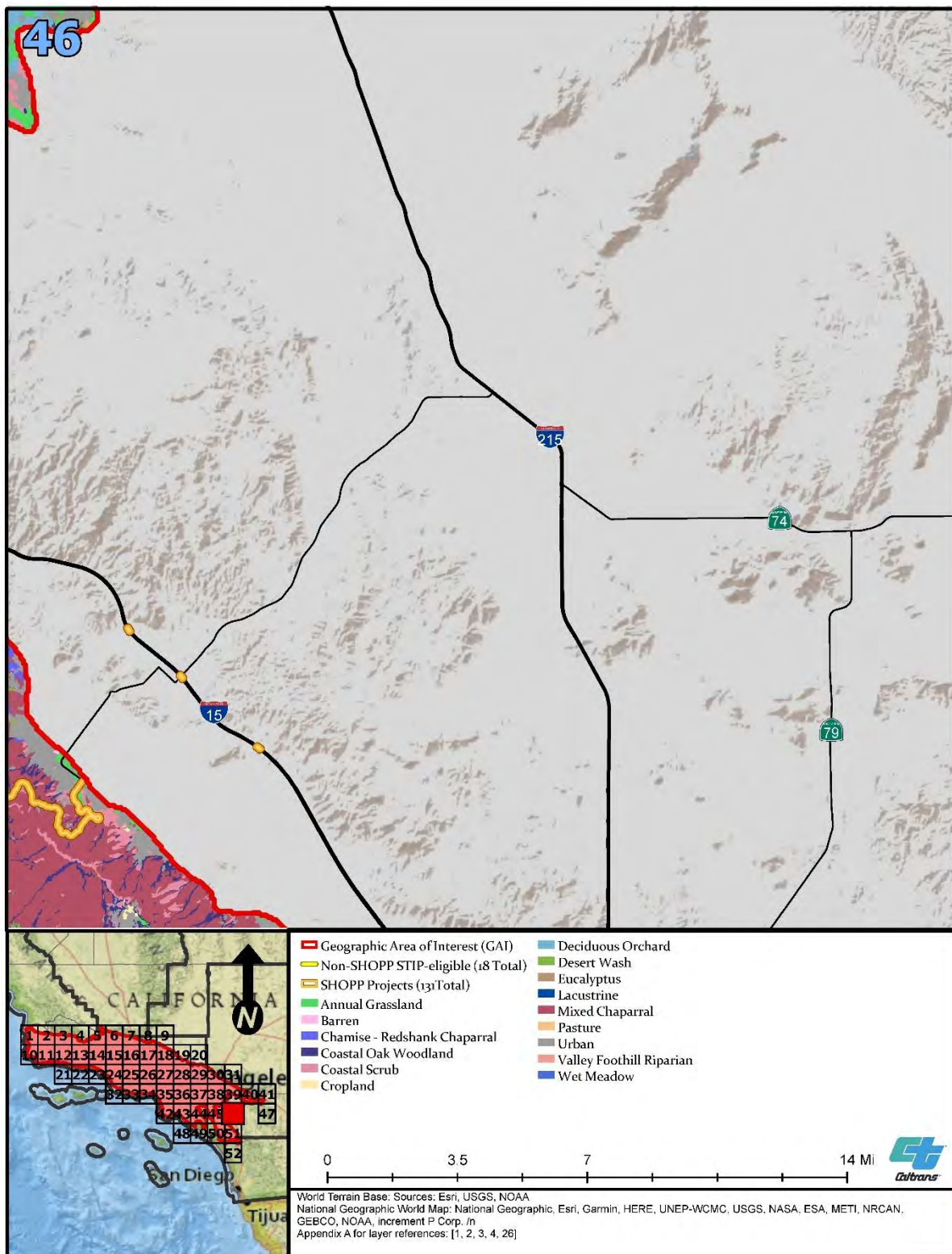


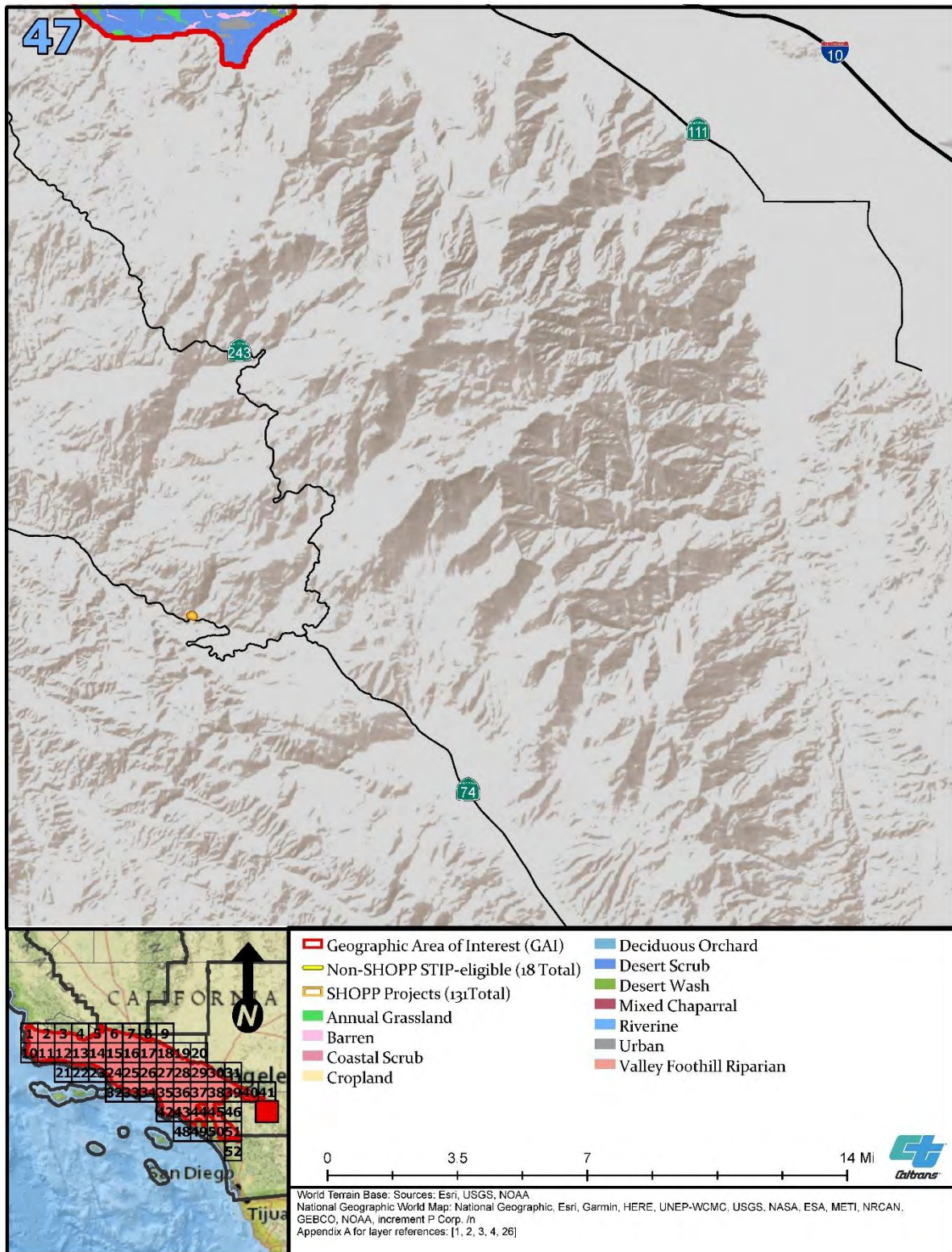






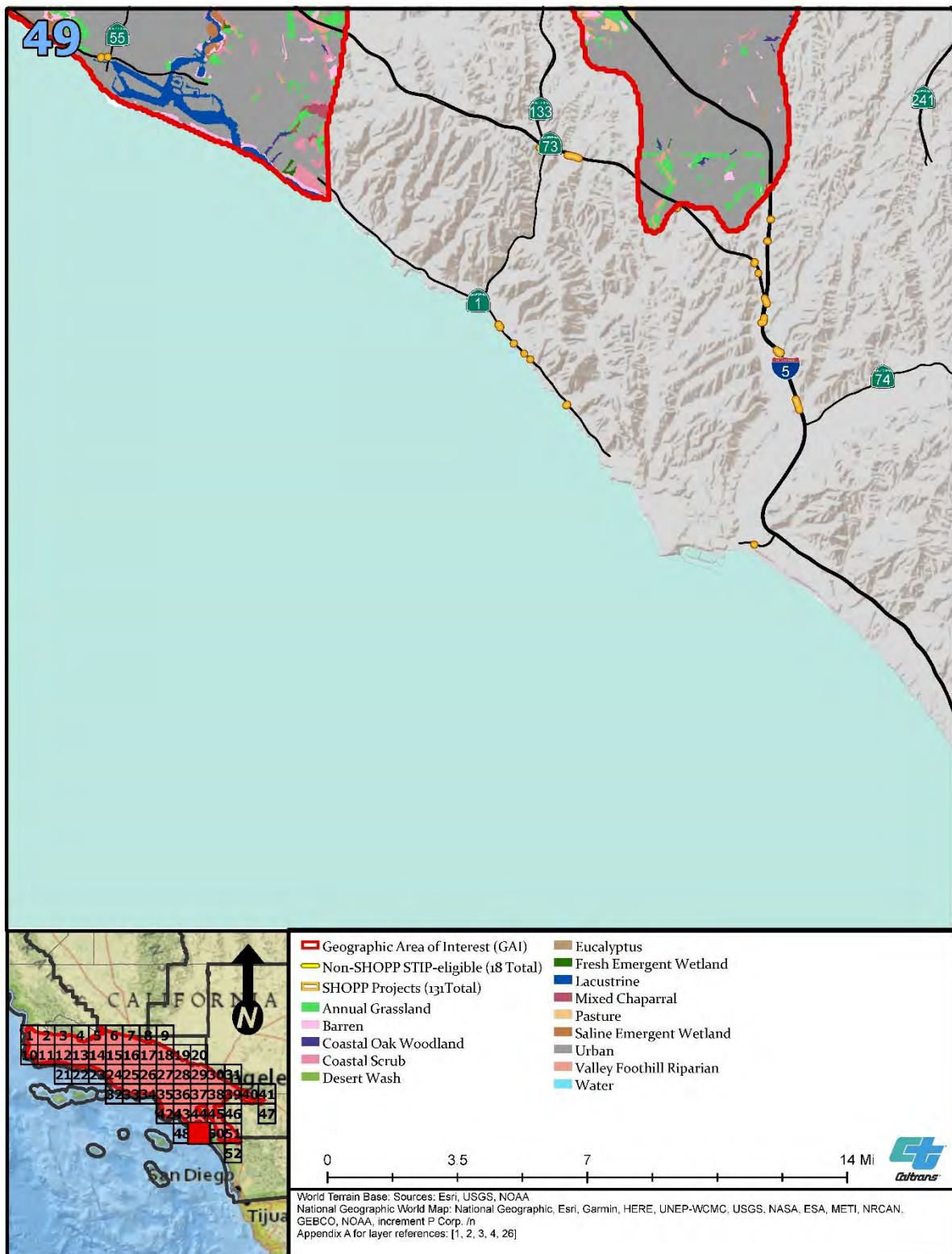




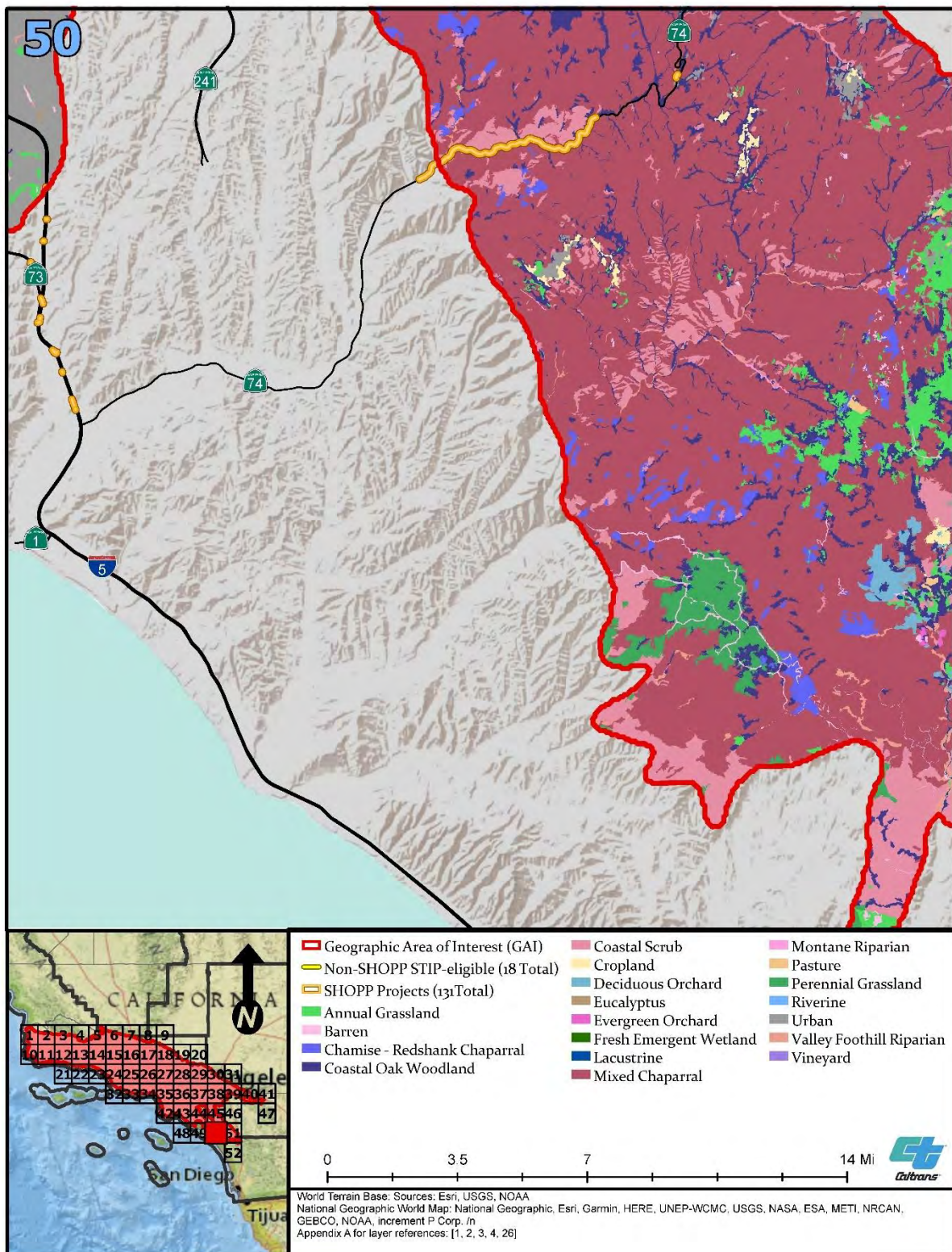




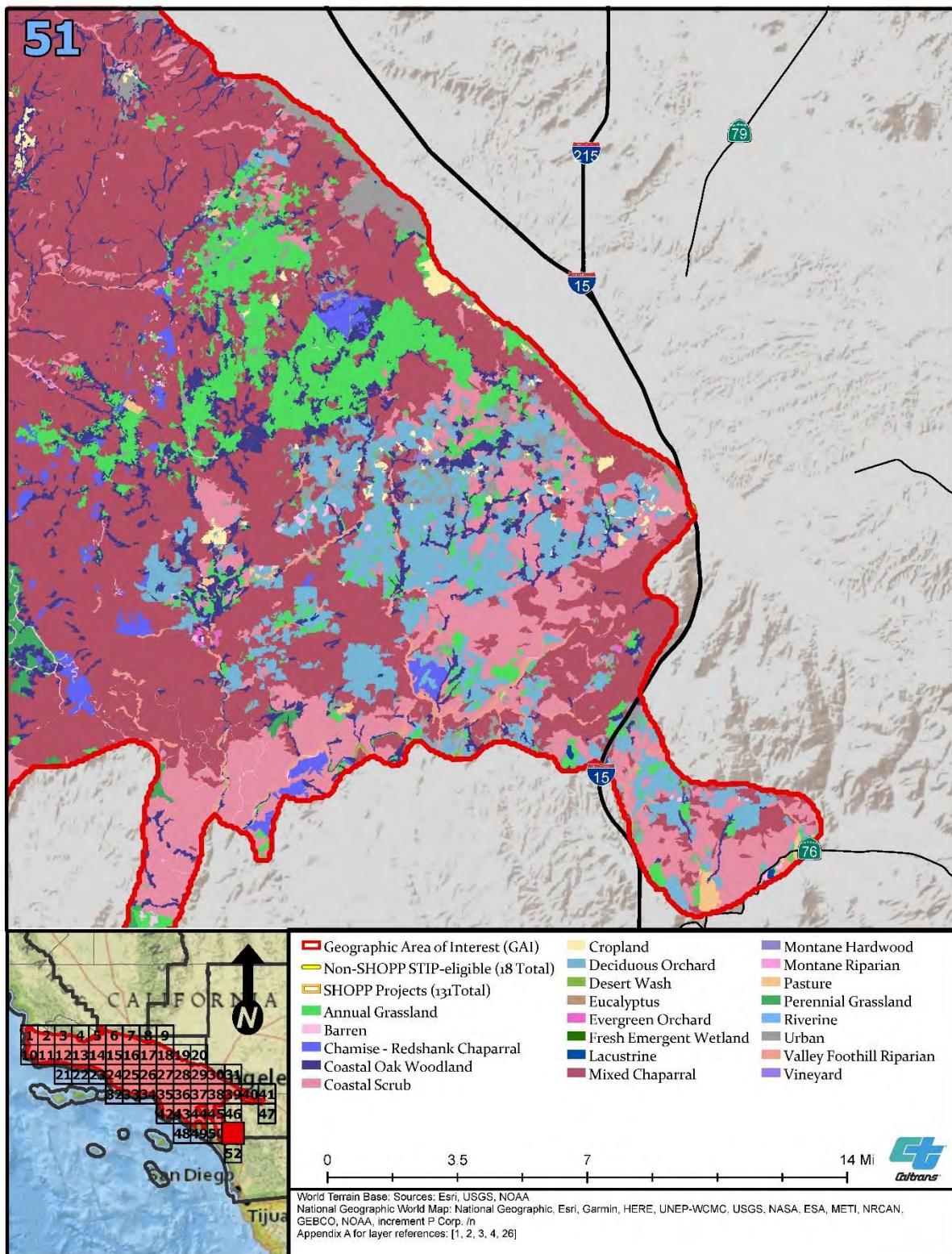




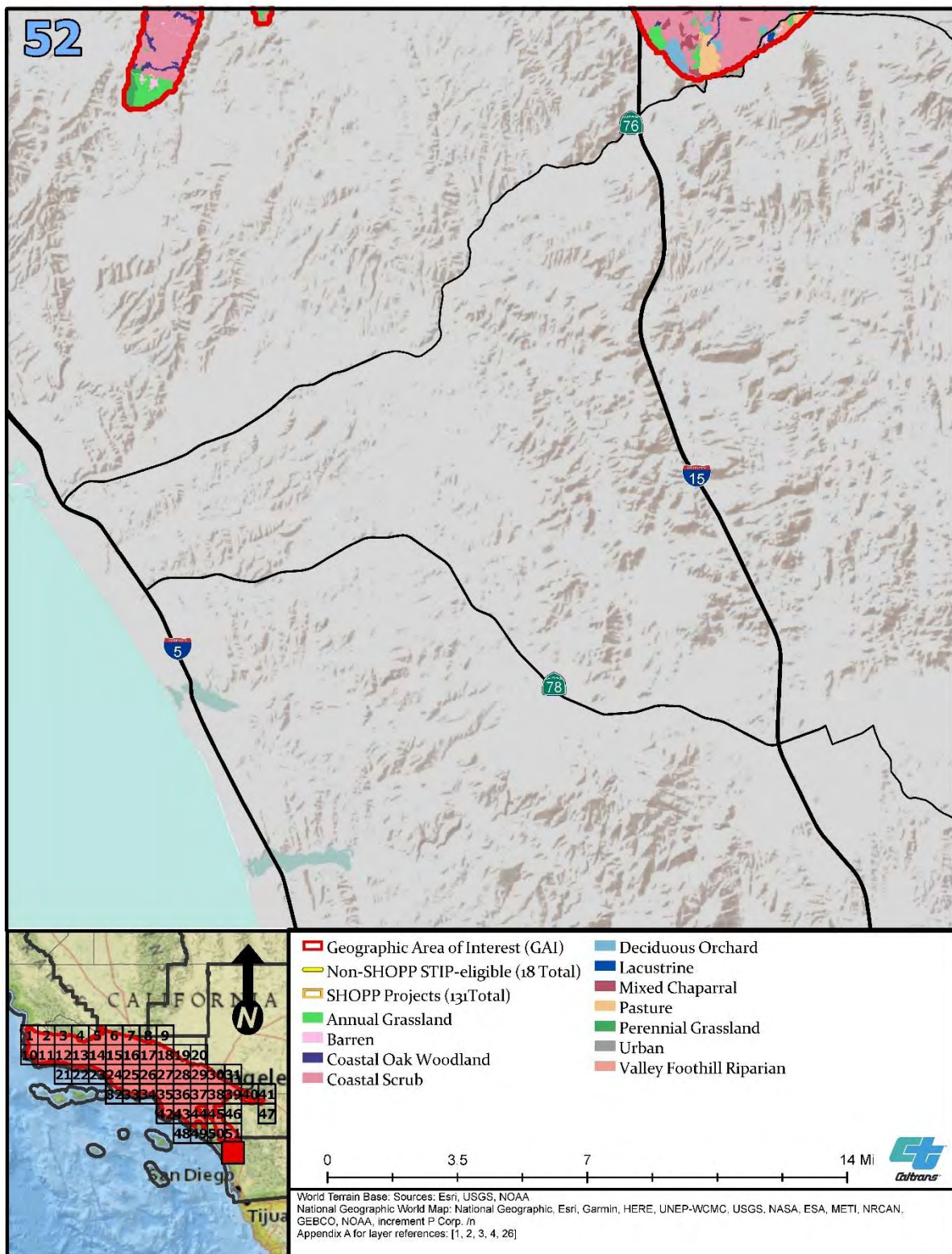












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## APPENDIX D: CERTIFIED LOCAL COASTAL PROGRAMS

The Coastal Act allows any local government to develop a Local Coastal Program (LCP), which is a planning and regulatory tool used to guide and permit development<sup>1</sup> in a local government's coastal zone. LCPs contain policies that determine the use and conservation of coastal resources by specifying the appropriate location, type, and scale of development. An LCP generally consists of one or more land use plans ("LUPs") and implementation plans ("IPs"). LCP jurisdictions and associated LCP plans in the GAI are listed by HUC-8 in Table D-1. Certified LCPs were excerpted from the CCC's LCP areas maps by county (CCC 2018). A key map is provided after Table D-1 that references mapbook pages. These zoomed-in mapbook pages include LCP areas, segments, areas of deferred certification ("ADCs"), and other uncertified areas ("UAs") within the coastal zone in the GAI. LCPs also address some specific aquatic resources in the coastal zone. Locations of aquatic resources, excerpted from the SAMNA Reporting Tool's water and wetland layers, are shown by HUC-8 sub-basin in Appendix H (Caltrans 2021a, 2021b).

LCPs convey some general restoration/conservation goals, but they do not necessarily reflect current priorities or targeted goals, and should not be interpreted as a conclusive guide to CCC's or a local government's conservation goals and objectives. However, LCPs include relevant information to consider while scoping and planning an advance mitigation project, including:

- Conservation and restoration policies.
- Any specific areas that have been prioritized for restoration or conservation, which may provide useful targets for advance mitigation projects.
- Definitions or maps of Environmentally Sensitive Habitat Areas ("ESHAs"). Enhancement or expansion of existing ESHAs could offer a significant mitigation opportunity. However, for some advance mitigation proposals (for example, those that involve substantial disruption of existing habitat), it may be important to avoid areas of existing ESHAs to prevent ESHA removal or habitat type conversion. ESHA determinations are made on a case-by-case basis, so not all ESHAs are necessarily captured in the LCP.
- Policies on allowable uses in ESHAs.
- Land use designations (for example, agricultural use, industrial use, residential development) that could conflict with habitat projects, making certain areas infeasible for mitigation projects.

It will be important to consult with CCC and local government staff in interpreting LCP goals and policies when scoping advance mitigation projects.

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<sup>1</sup> Development is defined broadly under Public Resources Code Section 30106, and includes many habitat restoration activities

## References

- Caltrans (California Department of Transportation). 2021a. "Waters\_D5/D7/D8/D11/D12 in Caltrans District 7 Geospatial Data for the Advance Mitigation Needs Assessment for the Second Quarter of FY 2019/2020" (data file). Accessed February 2, 2021. <http://www.dot.ca.gov/env/advancemitigation/>.
- . 2021b. "Wetlands\_D5/D7/D8/D11/D12 in Caltrans District 7 Geospatial Data for the Advance Mitigation Needs Assessment for the Second Quarter of FY 2019/2020" (data file). Accessed February 2, 2021. <http://www.dot.ca.gov/env/advancemitigation/>.
- CCC (California Coastal Commission). 2018. "Maps: Local Coast Program Areas." Accessed March 12, 2021. <https://www.coastal.ca.gov/maps/lcp/>.



**Table D-1. Local Coastal Programs and Uncertified Areas in the GAI, by HUC-8**

Mapbook Grid Number	HUC-8 Name	LCP Jurisdiction	LCP/LUP/LRDP Name	Description	Status	Segments/ Areas Identified on Maps	Uncertified Areas (ADCs and Others) <sup>a</sup>	Federal Lands	Website	Total Acres of LCP <sup>b</sup>
1–9	Mojave, San Antonio, Santa Barbara Coastal	County of Santa Barbara	<i>Santa Barbara County Coastal Land Use Plan</i> (1982, republished 2019)	Coastal LUP for Santa Barbara County, which includes the LCP. Requires a minimum 100-foot buffer area adjacent to wetlands and major streams. Vandenberg Air Force Base, including the area from Jalama Beach County Park north to the State Park near Point Sal, and the Point Conception Coast Guard Reserve are exempt from local land use controls and are not covered by the LCP for Santa Barbara County.	Certified	County of Santa Barbara	None	Vandenberg Air Force Base (United States Air Force), Point Conception Coast Guard Reserve (United States Coast Guard)	<a href="https://www.countyofsb.org/plndev/policy/comprehensiveplan/CLUP.sbc">https://www.countyofsb.org/plndev/policy/comprehensiveplan/CLUP.sbc</a>	86,300
4, 5, 7, 8	Santa Barbara Coastal	City of Goleta	<i>City of Goleta General Plan/Coastal Land Use Plan</i> (2006, amended 2021)	Coastal LUP for the City of Goleta. Includes coastal-dependent and coastal-related uses land use policies.	Not certified	City of Goleta, Haskell's Beach <sup>c</sup>	None	None	<a href="https://www.cityofgoleta.org/city-hall/planning-and-environmental-review/general-plan">https://www.cityofgoleta.org/city-hall/planning-and-environmental-review/general-plan</a>	990
5, 6, 8, 9	Santa Barbara Coastal	City of Santa Barbara	<i>City of Santa Barbara Local Coastal Program Coastal Land Use Plan</i> (updated 2019)	LCP for the City of Santa Barbara. Requires a minimum 100-foot buffer from estuaries, lagoons, wetlands, and monarch butterfly aggregation sites, a 25-foot habitat buffer from major creeks, and a 50-foot buffer from native grasslands and oak woodlands.	Certified	City Segment	None	None	<a href="https://www.santabarbaraca.gov/services/planning/mpe/lcp/clup/dclup.asp">https://www.santabarbaraca.gov/services/planning/mpe/lcp/clup/dclup.asp</a>	1,816
4, 5, 7, 8	Santa Barbara Coastal	City of Santa Barbara	<i>City of Santa Barbara Coastal Plan: Airport and Goleta Slough</i> (1982, amended 2003)	Not subject to the City of Santa Barbara Coastal LUP, Santa Barbara Airport is regulated by the airport LCP. Requires a minimum 100-foot buffer from wetlands.	Certified	Airport Segment	None	None	<a href="https://www.santabarbaraca.gov/civica/x/files/lebank/blobdload.aspx?BlobID=16924">https://www.santabarbaraca.gov/civica/x/files/lebank/blobdload.aspx?BlobID=16924</a>	878
4, 5, 7, 8	Santa Barbara Coastal	University of California Santa Barbara	<i>2010 UC Santa Barbara Long Range Development Plan</i> (2014, amended 2017)	This plan governs development on the campus in compliance with the Coastal Act. Requires a minimum 100-foot buffer from wetlands, 200-foot buffer from brackish marshes, and 300 feet from eucalyptus raptor trees.	Certified	Main Campus, West Campus	None	None	<a href="https://sam.ucsb.edu/campus-planning-design/2010-long-range-development-plan">https://sam.ucsb.edu/campus-planning-design/2010-long-range-development-plan</a>	1,164
9	Ventura	City of Carpinteria	<i>City of Carpinteria General Plan/Local Coastal Land Use Plan &amp; Environmental Impact Report</i> (updated 2003)	LCP for the City of Carpinteria. Requires a minimum 20-foot setback from ESHAs and 100-foot buffer from wetlands.	Certified	City of Carpinteria	None	None	<a href="https://carpinteriaca.gov/wp-content/uploads/2020/03/cd_General-Plan.pdf">https://carpinteriaca.gov/wp-content/uploads/2020/03/cd_General-Plan.pdf</a>	1,607
9-12	Ventura, Santa Clara, Calleguas, Santa Monica Bay	Ventura County	<i>Ventura County General Plan Coastal Area Plan</i> (1981, amended 2017); <i>Channel Islands Harbor Public Works Plan</i> (1986, amended 2016)	LCP for Ventura County. Requires a minimum 100-foot buffer from streams or riparian habitats. Channel Islands Beach is associated with the County's Silver Strand unincorporated beach residential area. Jurisdiction of the Channel Islands Harbor is shared between Ventura County and the City of Oxnard. Hollywood by the Sea is an unincorporated beach residential area. The Point Mugu Naval Air Station/Pacific Missile Test Center is located within federal lands and is excluded from the County of Ventura LCP jurisdiction.	Certified	Ventura County, Channel Islands Beach, Channel Islands Harbor, Hollywood by the Sea	None	Point Mugu Naval Air Station/Pacific Missile Test Center (United States Navy)	<a href="http://docs.vcrma.org/images/pdf/planning/plans/Coastal_Area_Plan_07-01-2017_ver.pdf">http://docs.vcrma.org/images/pdf/planning/plans/Coastal_Area_Plan_07-01-2017_ver.pdf</a> ; <a href="https://www.channelislandsharbor.org/wp-content/uploads/2017/11/PWPA7-Fishermans-Wharf-for-CCC-7.19.2016-PWPA6-MODS-INCLUDED.pdf">https://www.channelislandsharbor.org/wp-content/uploads/2017/11/PWPA7-Fishermans-Wharf-for-CCC-7.19.2016-PWPA6-MODS-INCLUDED.pdf</a>	24,579
9, 10	Ventura, Calleguas	City of Ventura	<i>City of San Buenaventura Comprehensive Plan: Update to the Year 2010</i> (updated 1989)	The LCP for the City of Ventura is included in the Land Use Element prepared for the updated 2005 General Plan. However, that plan has not been certified by the CCC, so development within the coastal zone is subject to the 1989 Comprehensive Plan.	Certified	City of Ventura, Ventura Harbor	None	None	<a href="https://www.cityofventura.ca.gov/485/General-Plan">https://www.cityofventura.ca.gov/485/General-Plan</a>	2,094

Mapbook Grid Number	HUC-8 Name	LCP Jurisdiction	LCP/LUP/LRDP Name	Description	Status	Segments/ Areas Identified on Maps	Uncertified Areas (ADCs and Others) <sup>a</sup>	Federal Lands	Website	Total Acres of LCP <sup>b</sup>
10, 11	Calleguas	City of Oxnard	<i>City of Oxnard Coastal Land Use Plan</i> (1982)	LCP for the City of Oxnard.	Certified	City of Oxnard	None	None	<a href="https://www.oxnard.org/wp-content/uploads/2016/03/CoastalLandUsePlan.pdf">https://www.oxnard.org/wp-content/uploads/2016/03/CoastalLandUsePlan.pdf</a>	2,564
10, 11	Calleguas	City of Port Hueneme	<i>City of Port Hueneme Local Coastal Plan</i> (1984, amended 2006)	LCP for the City of Port Hueneme. Port Master Plan certified in May 1979 for the Port of Hueneme is incorporated within the LCP for the City of Port Hueneme. The Port Hueneme Construction Battalion is located within federal lands and is excluded from the City of Port Hueneme LCP jurisdiction.	Certified	City of Port Hueneme, Port of Port Hueneme	None	Port Hueneme Construction Battalion (United States Navy)	<a href="https://www.ci.port-hueneme.ca.us/DocumentCenter/View/1386/Local-Coastal-Program">https://www.ci.port-hueneme.ca.us/DocumentCenter/View/1386/Local-Coastal-Program</a>	620
12, 13	Santa Monica Bay	City of Malibu	<i>City of Malibu Local Coastal Program Land Use Plan</i> (2002, amended 2020)	LCP for the City of Malibu. Requires a minimum 100-foot buffer from ESHAs.	Certified	City of Malibu	None	None	<a href="https://www.malibucity.org/372/Local-Coastal-Program">https://www.malibucity.org/372/Local-Coastal-Program</a>	12,650
12, 13	Santa Monica Bay	Los Angeles County	<i>Santa Monica Mountains Land Use Plan</i> (updated 2018)	LCP for the Santa Monica Mountains Coastal Zone. Requires a minimum 100-foot buffer from sensitive habitats, including natural surface waters.	Certified	Malibu Santa Monica Mountains	None	None	<a href="https://planning.lacounty.gov/assets/upl/project/coastal_amended-LUP-maps.pdf">https://planning.lacounty.gov/assets/upl/project/coastal_amended-LUP-maps.pdf</a>	51,352
13, 14	Santa Monica Bay	Los Angeles County	<i>Marina del Rey Land Use Plan</i> (updated 2012)	LCP for the Marina del Rey Segment of Los Angeles County. There is no certified LCP for the Playa Vista A segment.	Partially certified	Marina del Rey, Playa Vista A <sup>c</sup>	None	None	<a href="https://planning.lacounty.gov/assets/upl/data/pd_marina-del-rey-2012.pdf">https://planning.lacounty.gov/assets/upl/data/pd_marina-del-rey-2012.pdf</a> ; <a href="https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf">https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf</a>	856
13	Santa Monica Bay	Pepperdine University	<i>Pepperdine University Long Range Development Plan</i> (1990)	CCC-certified Long Range Development Plan for Pepperdine University that guides development of the campus.	Certified	Pepperdine University	None	None	<a href="https://planning.lacounty.gov/assets/upl/data/pd_pepperdine-lrdp.pdf">https://planning.lacounty.gov/assets/upl/data/pd_pepperdine-lrdp.pdf</a>	704
13-16	Santa Monica Bay, San Gabriel	City of Los Angeles	<i>Venice Local Coastal Program Land Use Plan</i> (2001)  <i>Los Angeles Airport/El Segundo Dunes Specific Plan</i> (1992)	The Los Angeles Airport/El Segundo Dunes Specific Plan (1992) includes regulations for the restoration and maintenance of the Dunes Habitat Preserve.	Not certified	Venice <sup>c</sup> , Pacific Palisades <sup>c</sup> , Playa Vista Areas B and C <sup>c</sup> , Del Rey Lagoon <sup>c</sup> , Dockweiler State Beach <sup>c</sup> Airport/El Segundo Dunes <sup>c</sup> , San Pedro <sup>c</sup>	Playa del Rey – Vista del Mar Bluffs UA, Westchester Bluffs UA, White Point Transfer UA, Wilmington UA, Palms/Mar Vista UA	Fort MacArthur Lower and Upper Reservations (United States Navy), Middle Reservation (United States Air Force)	<a href="https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf">https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf</a> ; <a href="https://www.lawa.org/-/media/lawa-web/lawa-our-lax/laxdunes.ashx">https://www.lawa.org/-/media/lawa-web/lawa-our-lax/laxdunes.ashx</a> ; <a href="https://planning.lacity.org/odocument/06cdf5fd-888b-4412-b5b4-2a69a35f500c/San_Pedro_Specific_Plan_.pdf">https://planning.lacity.org/odocument/06cdf5fd-888b-4412-b5b4-2a69a35f500c/San_Pedro_Specific_Plan_.pdf</a>	11,311
13, 14	Santa Monica Bay	City of Santa Monica	<i>City of Santa Monica Local Coastal Program Update Land Use Plan</i> (2018)	LCP for the City of Santa Monica. Requires a minimum 50-foot buffer from ESHAs.	Not certified	City of Santa Monica	Beach/Beach Overlay Zone LUP ADC <sup>b</sup> , Civic Center LUP ADC	None	<a href="https://www.smgov.net/Departments/PCD/Plans/L">https://www.smgov.net/Departments/PCD/Plans/L</a> ; <a href="https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf">https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf</a>	741
14, 15	Santa Monica Bay	City of El Segundo	<i>City of El Segundo Local Coastal Program</i> (1980, amended 1998)	LCP for the City of El Segundo.	Certified	City of El Segundo	None	None	<a href="https://www.elsegundo.org/Home/ShowDocument?id=352">https://www.elsegundo.org/Home/ShowDocument?id=352</a>	72
14, 15	Santa Monica Bay	City of Manhattan Beach	<i>City of Manhattan Beach Local Coastal Program</i> (1994)	LCP for the City of Manhattan Beach.	Certified	City of Manhattan Beach	None	None	<a href="https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf">https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf</a>	376



Mapbook Grid Number	HUC-8 Name	LCP Jurisdiction	LCP/LUP/LRDP Name	Description	Status	Segments/ Areas Identified on Maps	Uncertified Areas (ADCs and Others) <sup>a</sup>	Federal Lands	Website	Total Acres of LCP <sup>b</sup>
15	Santa Monica Bay	City of Hermosa Beach	<i>City of Hermosa Beach Local Coastal Plan</i> (1981, amended 2004)	LCP for the City of Hermosa Beach.	Not certified	City of Hermosa Beach	None	None	<a href="https://www.hermosabeach.gov/our-government/community-development/applications-forms-handouts/local-coastal-plan">https://www.hermosabeach.gov/our-government/community-development/applications-forms-handouts/local-coastal-plan</a>	415
15	Santa Monica Bay	City of Redondo Beach	<i>Redondo Beach Certified Local Coastal Program</i> (2012)	LCP for the City of Redondo Beach.	Certified	City of Redondo Beach	None	None	<a href="https://www.redondo.org/depts/community_development/planning/general_plan/default.asp">https://www.redondo.org/depts/community_development/planning/general_plan/default.asp</a>	674
15	Santa Monica Bay	City of Torrance	None	None	Not certified	City of Torrance	None	None	<a href="https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf">https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf</a>	133
15	Santa Monica Bay	City of Palos Verdes Estates	City of Palos Verdes Municipal Code Title 19	The LCP for the City of Palos Verdes Estates is included in Title 19 of the municipal code.	Certified	City of Palos Verdes Estates	None	None	<a href="https://www.codepublishing.com/CA/PalosVerdesEstates/#!/PalosVerdes19/PalosVerdes19.html">https://www.codepublishing.com/CA/PalosVerdesEstates/#!/PalosVerdes19/PalosVerdes19.html</a>	308
15	Santa Monica Bay	City of Rancho Palos Verdes	<i>Rancho Palos Verdes Coastal Specific Plan</i> (1978, updated 2015)	LCP for the City of Rancho Palos Verdes.	Certified	City of Rancho Palos Verdes	None	None	<a href="https://www.rpvca.gov/DocumentCenter/View/6112/Local-Coastal-Specific-Plan-adopted-1978-updated-2015-PDF">https://www.rpvca.gov/DocumentCenter/View/6112/Local-Coastal-Specific-Plan-adopted-1978-updated-2015-PDF</a>	1,075
15, 16	San Gabriel	City of Long Beach	<i>City of Long Beach Local Coastal Program: An Element of the City General Plan</i> (1980)	LCP for the City of Long Beach.	Certified	City of Long Beach, Port of Long Beach	Southeast Area Development and Improvement Plan (Cerritos Wetlands) ADC	None	<a href="https://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/general-plan/local-coastal-program-with-seasp-and-pd-2">https://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/general-plan/local-coastal-program-with-seasp-and-pd-2</a>	6,094
15, 16	San Gabriel	Port of Los Angeles	<i>Port Master Plan Port of Los Angeles</i> (1980, updated 2018)	LCP for the Port of Los Angeles.	Certified	Port of Los Angeles	None	United States Reservation (Department of Justice)	<a href="https://kentico.portoflosangeles.org/getmedia/adf788d8-74e3-4fc3-b774-c6090264f8b9/port-master-plan-update-with-no-29_9-20-2018">https://kentico.portoflosangeles.org/getmedia/adf788d8-74e3-4fc3-b774-c6090264f8b9/port-master-plan-update-with-no-29_9-20-2018</a> ; <a href="https://www.dcms.uscg.mil/Our-Organization/Director-of-Operational-Logistics-DOL/Bases/Base-Los-Angeles-Long-Beach/">https://www.dcms.uscg.mil/Our-Organization/Director-of-Operational-Logistics-DOL/Bases/Base-Los-Angeles-Long-Beach/</a>	4,137
16-19	Santa Ana	City of Newport Beach	<i>City of Newport Beach Local Coastal Program Coastal Land Use Plan</i> (2005, amended 2018)	LCP for the City of Newport Beach. Requires a minimum 50-foot buffer from terrestrial ESHAs.	Certified	City of Newport Beach	Banning Ranch ADC	None	<a href="https://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/local-coastal-program/coastal-land-use-plan">https://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/local-coastal-program/coastal-land-use-plan</a> ; <a href="https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf">https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf</a>	10,489

Mapbook Grid Number	HUC-8 Name	LCP Jurisdiction	LCP/LUP/LRDP Name	Description	Status	Segments/ Areas Identified on Maps	Uncertified Areas (ADCs and Others) <sup>a</sup>	Federal Lands	Website	Total Acres of LCP <sup>b</sup>
16-19	Seal Beach	City of Huntington Beach	<i>City of Huntington Beach Coastal Element</i> (2001), <i>Brightwater Specific Plan, Windward Specific Plan SP 16</i> (2018)	LCP for the City of Huntington Beach. There is no certified LCP for the Sunset Beach Annexation segment within Huntington Beach.	Partially certified	City of Huntington Beach, Sunset Beach Annexation <sup>c</sup> , Parkside (Shea), Sandover, The Ridge	Hearthside/ Brightwater Annexation UA	None	<a href="https://www.huntingtonbeachca.gov/government/departments/Planning/gp/coastal_element.cfm">https://www.huntingtonbeachca.gov/government/departments/Planning/gp/coastal_element.cfm</a> ; <a href="https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf">https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf</a> ; <a href="https://documents.coastal.ca.gov/reports/2018/12/W24a/W24a-12-2018%20-%20report.pdf">https://documents.coastal.ca.gov/reports/2018/12/W24a/W24a-12-2018%20-%20report.pdf</a>	5,184
16-19	Santa Ana, Seal Beach, Newport Bay	Orange County	<i>Newport Coast Segment Local Coastal Program</i> (1988, amended 1996)	LCP for the Newport Coast Segment. There are no certified LCPs for the Santa Ana River, Bolsa Chica, and Santa Ana Heights segments.	Partially certified	Newport Coast, Santa Ana River <sup>c</sup> , Bolsa Chica <sup>c</sup> , Santa Ana Heights <sup>c</sup> ,	None	None	<a href="https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf">https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf</a>	12,772
16	Seal Beach	City of Seal Beach	None	The LCP for the City of Seal Beach is in preparation. The Seal Beach United States Naval Weapons Station is located within federal lands and is not subject to Seal Beach LCP jurisdiction. The National Wildlife Refuge is excluded from all development activities.	Not certified	City of Seal Beach	None	National Wildlife Refuge (United States Naval Weapons Station)	<a href="https://www.sealbeachca.gov/Departments/Community-Development/Local-Coastal-Plan-Project">https://www.sealbeachca.gov/Departments/Community-Development/Local-Coastal-Plan-Project</a> ; <a href="https://www.sealbeachca.gov/Portals/0/Documents/Land%20Use%20Element.pdf">https://www.sealbeachca.gov/Portals/0/Documents/Land%20Use%20Element.pdf</a>	975
16, 17	Santa Ana	City of Costa Mesa	None	There is no certified LCP for the City of Costa Mesa.	Not certified	City of Costa Mesa	None	None	<a href="https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf">https://documents.coastal.ca.gov/assets/rflg/LCPStatusSummaryChart_October%202020.pdf</a>	151
17	Newport Bay	City of Irvine	<i>City of Irvine Local Coastal Plan</i> (1982)	LCP for the City of Irvine.	Certified	City of Irvine	None	None	<a href="https://documents.coastal.ca.gov/reports/2016/9/w6a-9-2016.pdf">https://documents.coastal.ca.gov/reports/2016/9/w6a-9-2016.pdf</a>	259

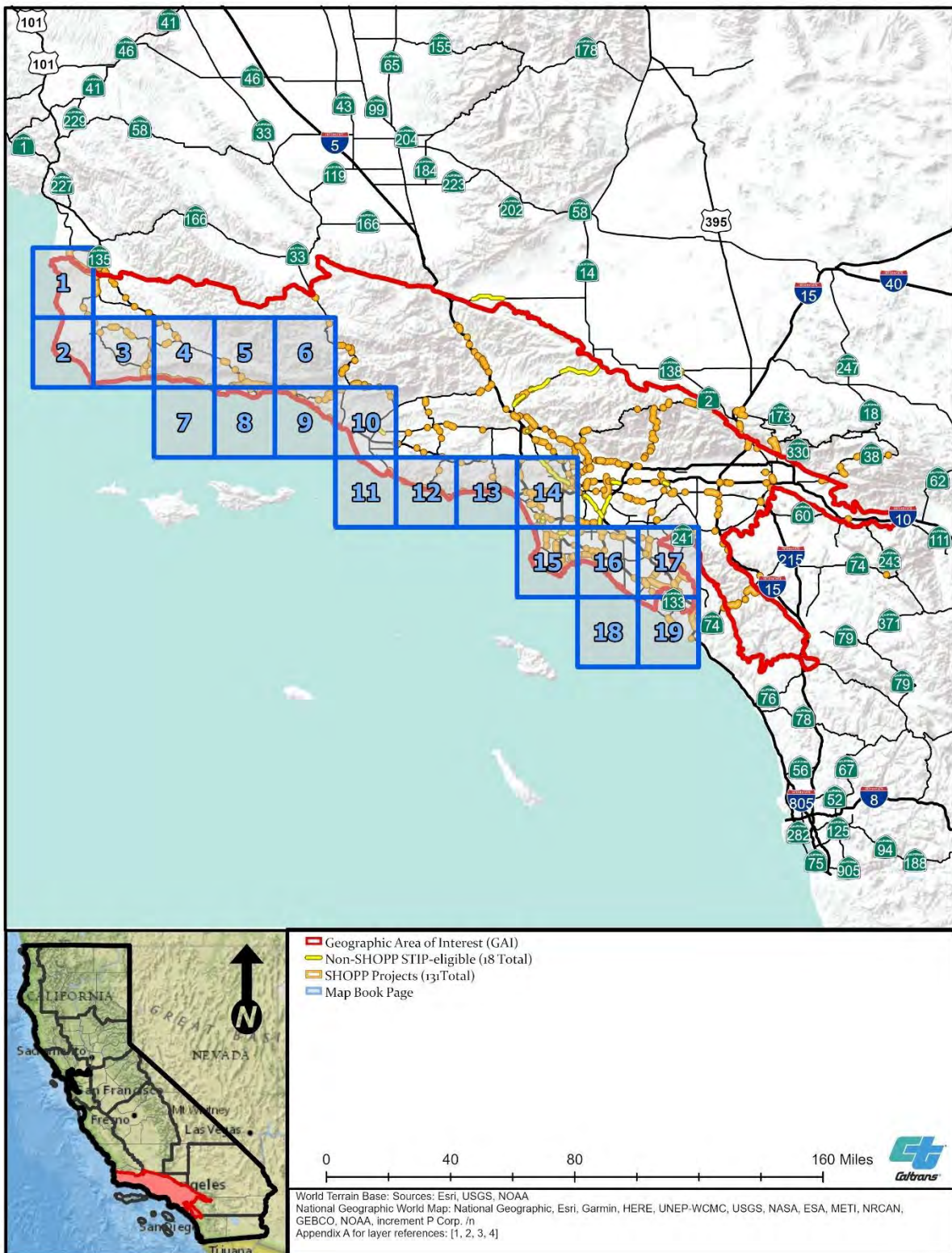
Source: CCC 2018

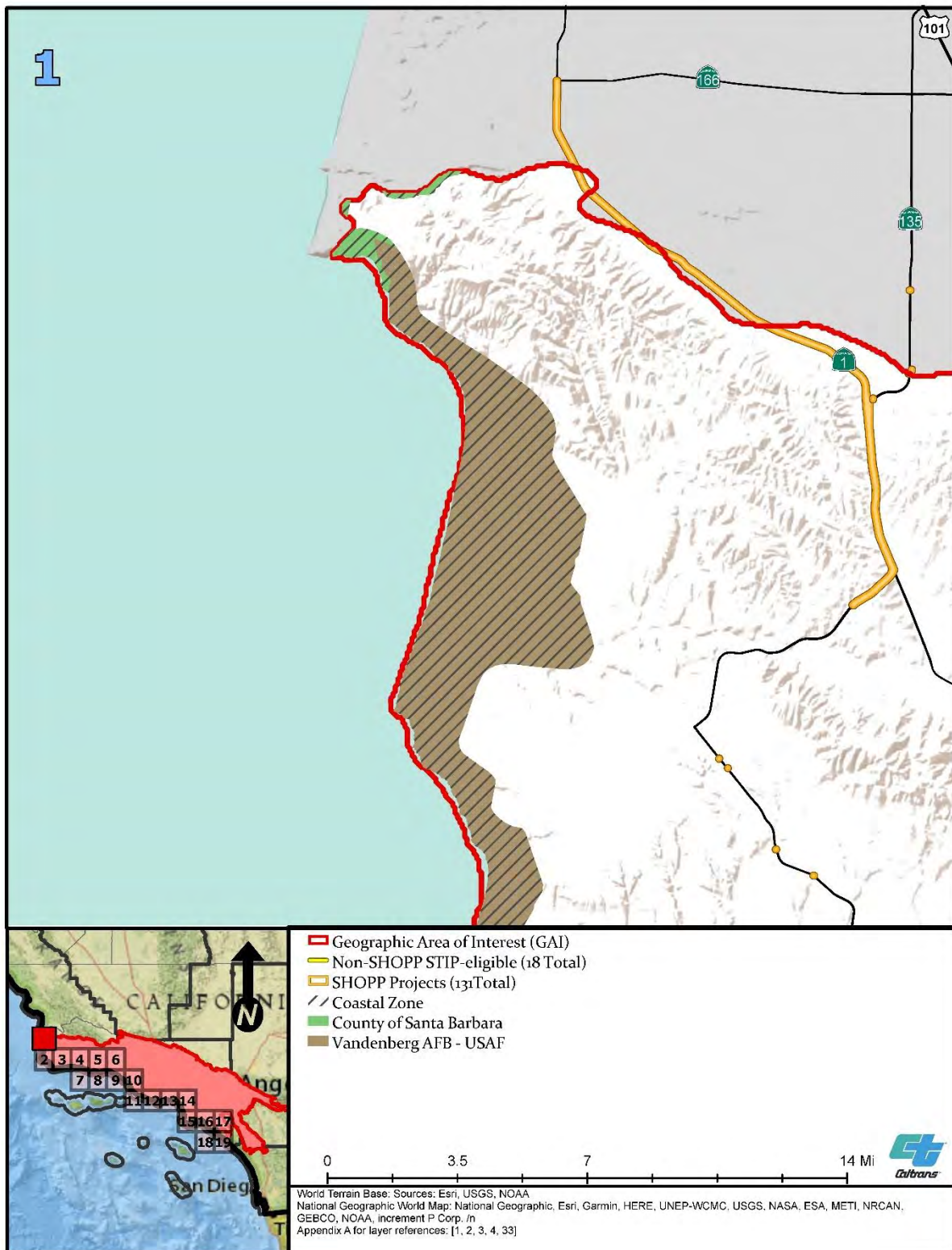
<sup>a</sup> ADC: Refers to a geographic area that has not been officially segmented for purposes of LCP preparation and, during certification review of the LCP, was not certified. A UA may be an area that was created through annexation or was subsequently identified but may not have been included in any LCP segment. The CCC retains permit authority until an LCP is effectively certified for these areas.

<sup>b</sup> Numbers were rounded to the nearest whole number. Excludes UAs and federal lands.

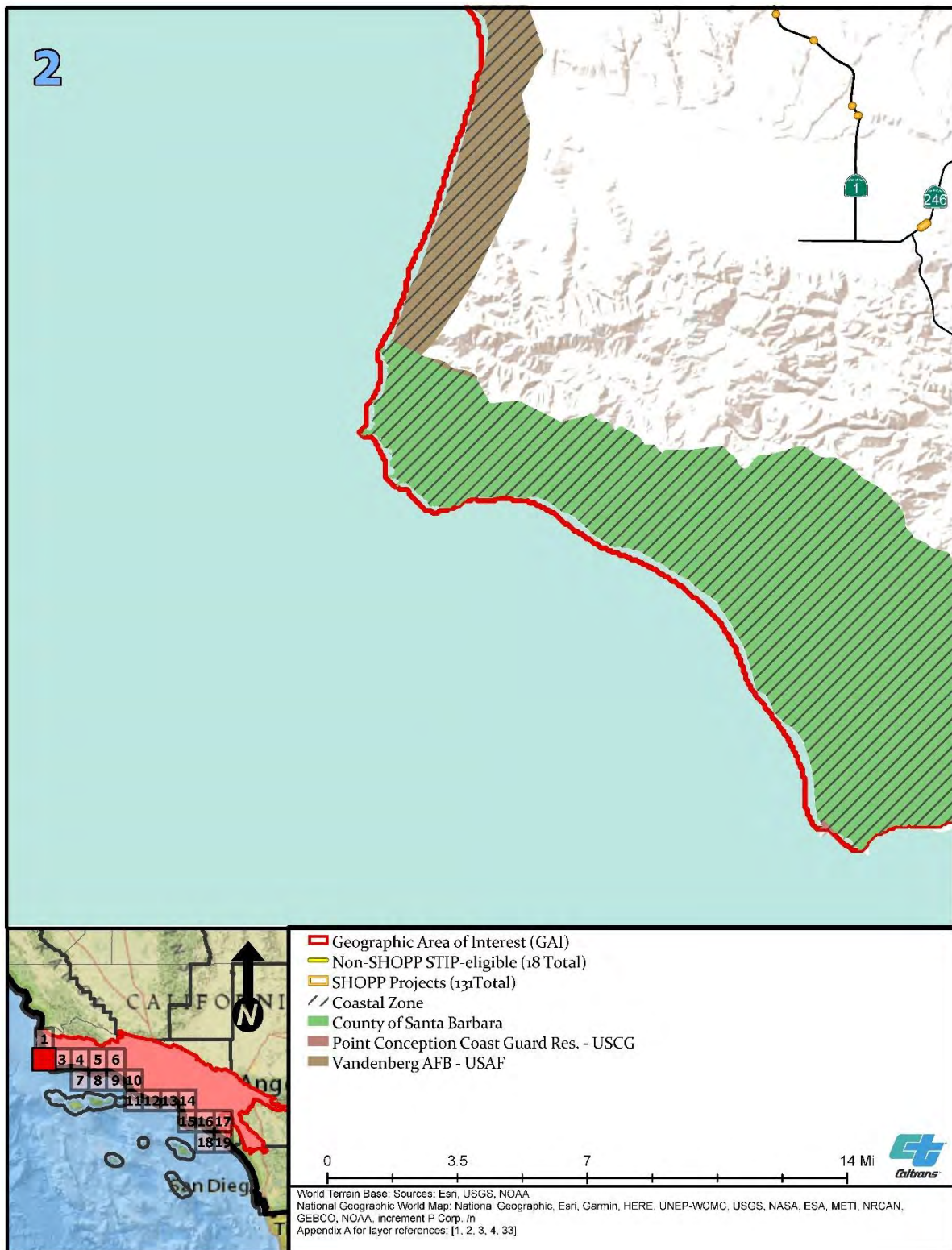
<sup>c</sup> LCP for this segment has not been certified by the CCC at this time.

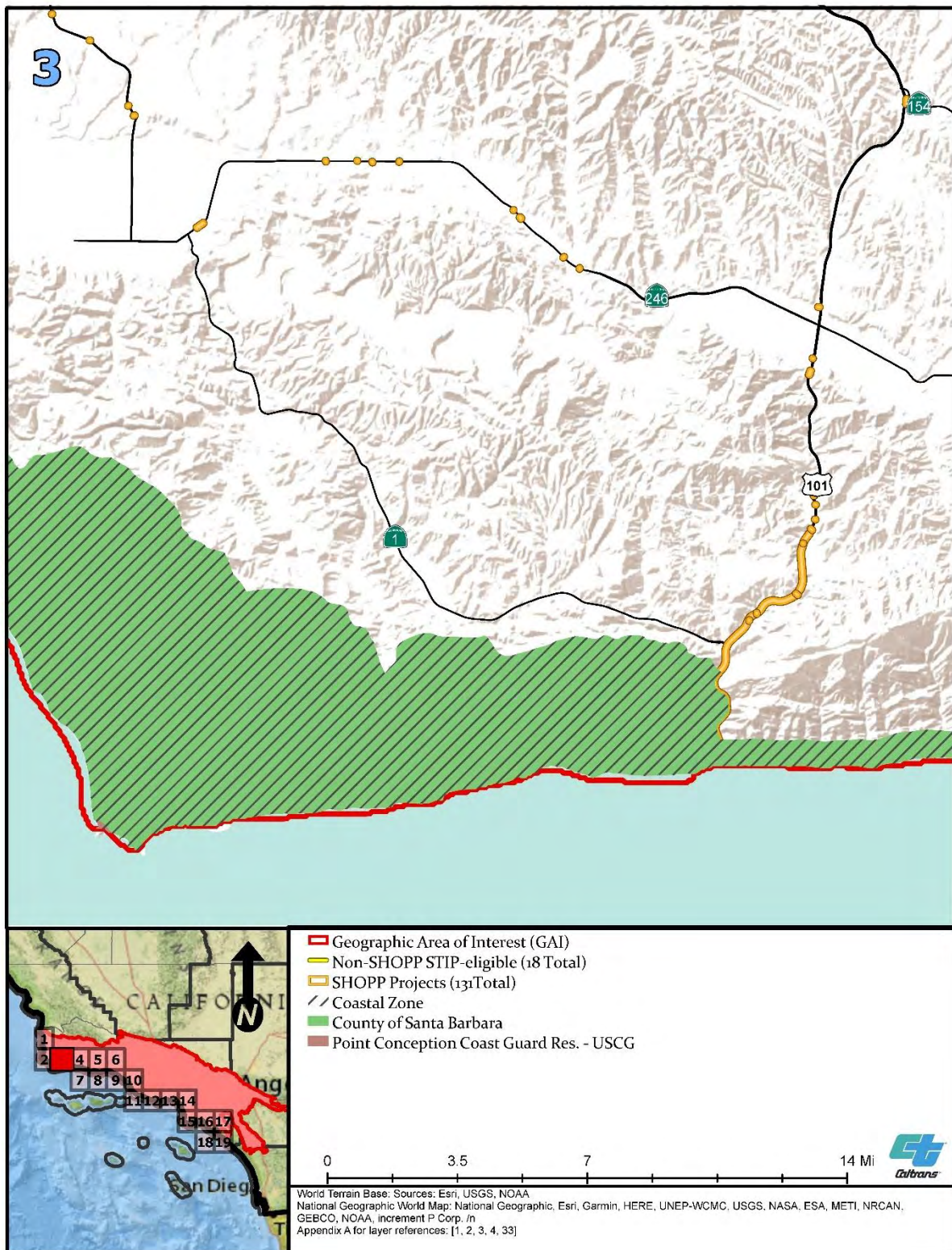




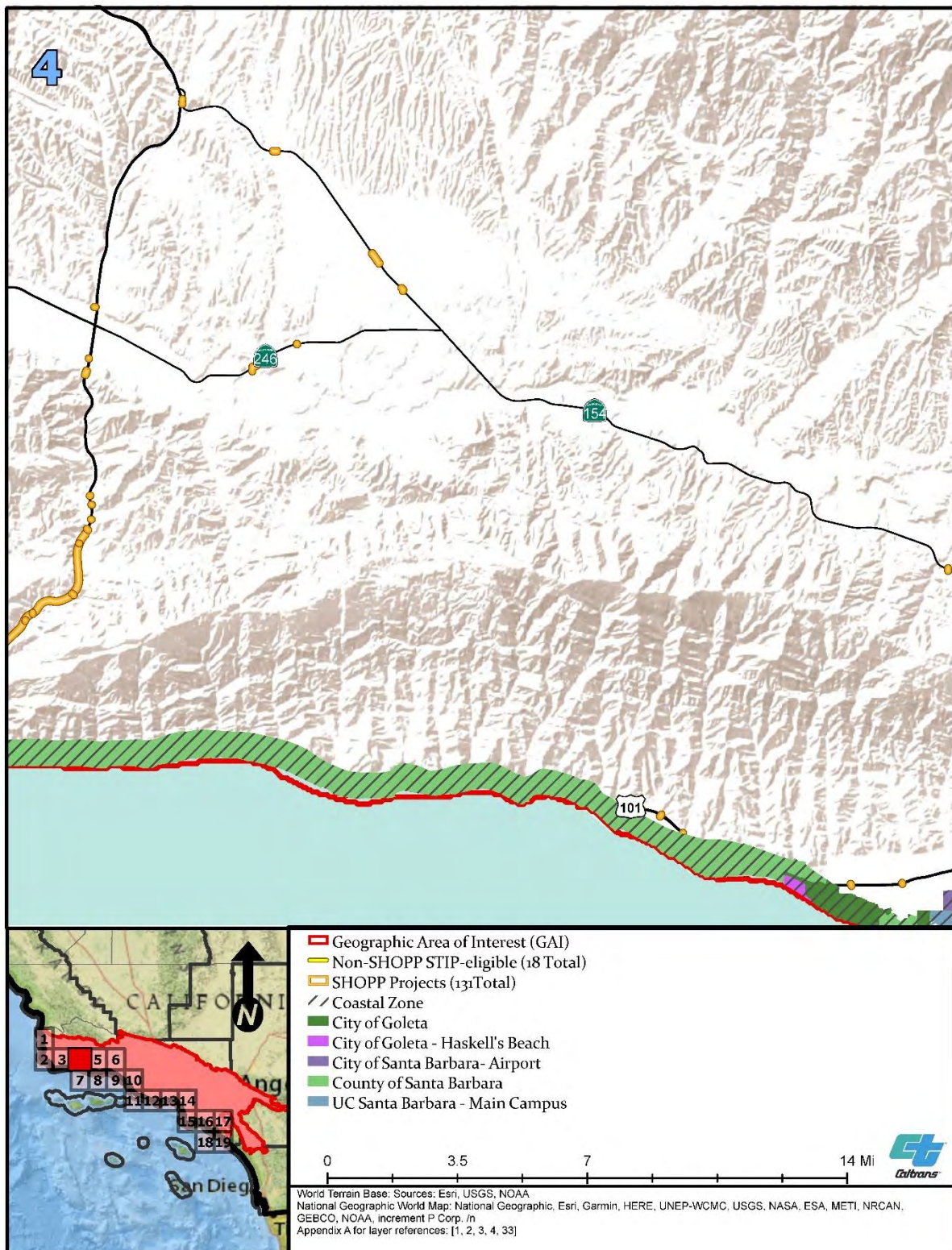




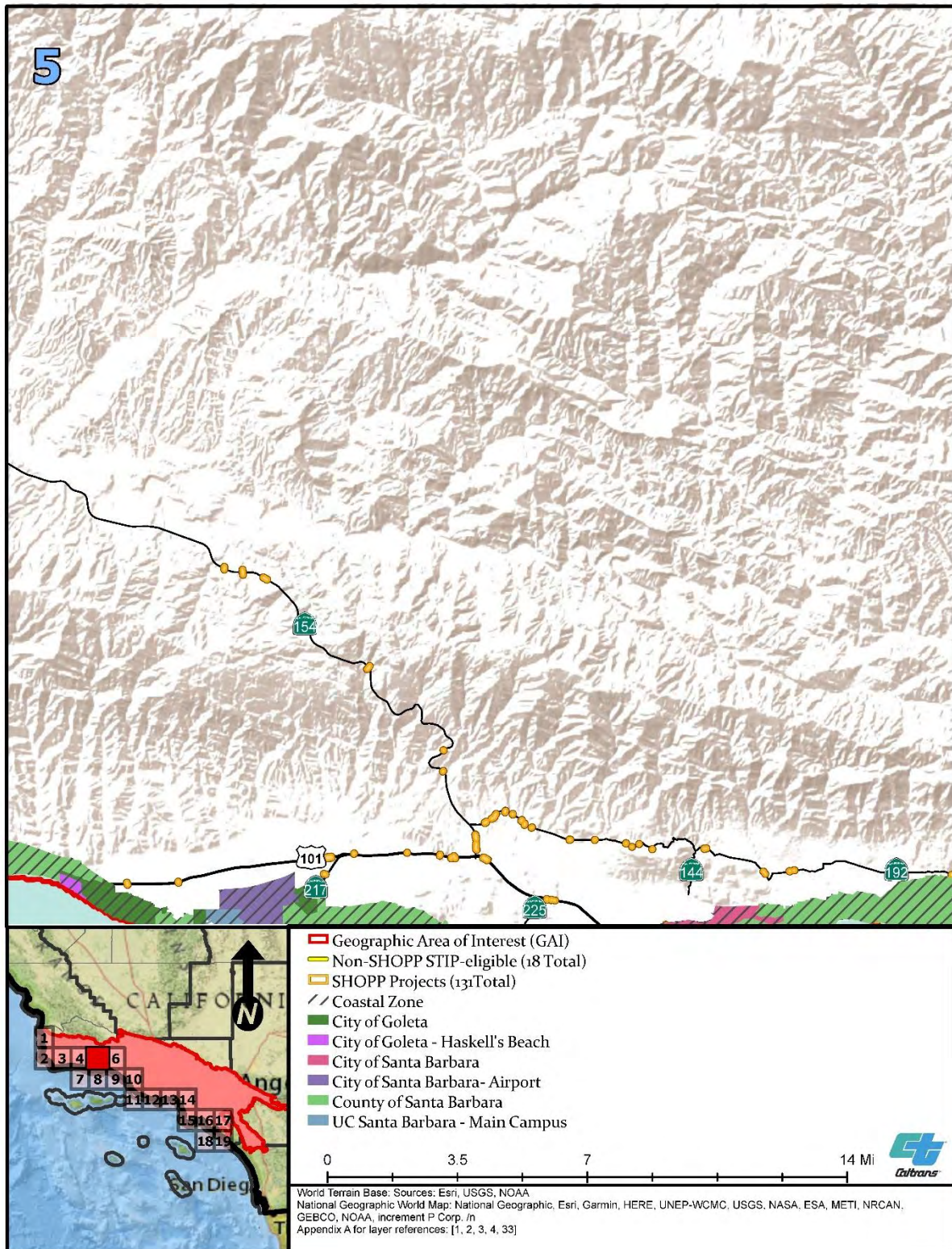




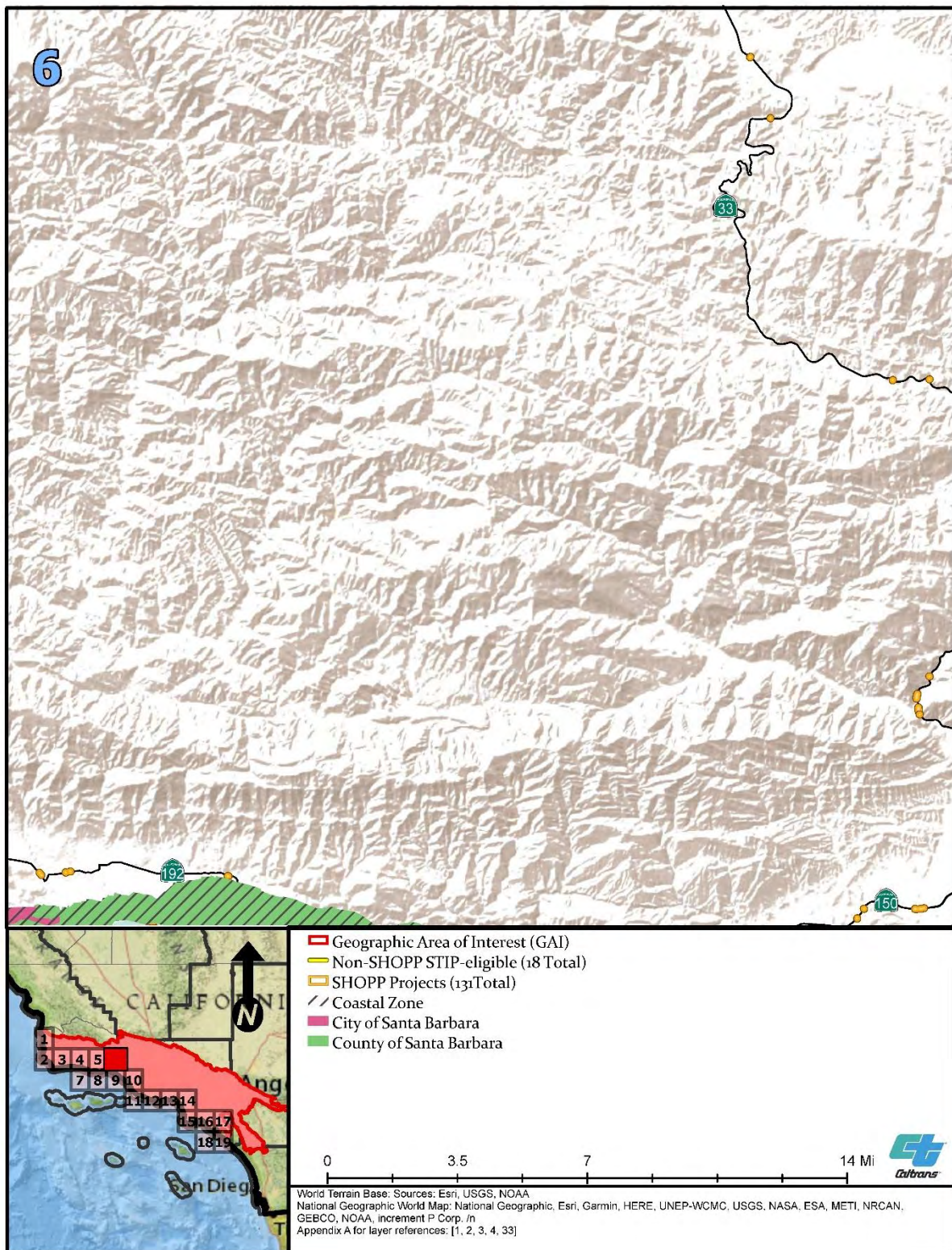






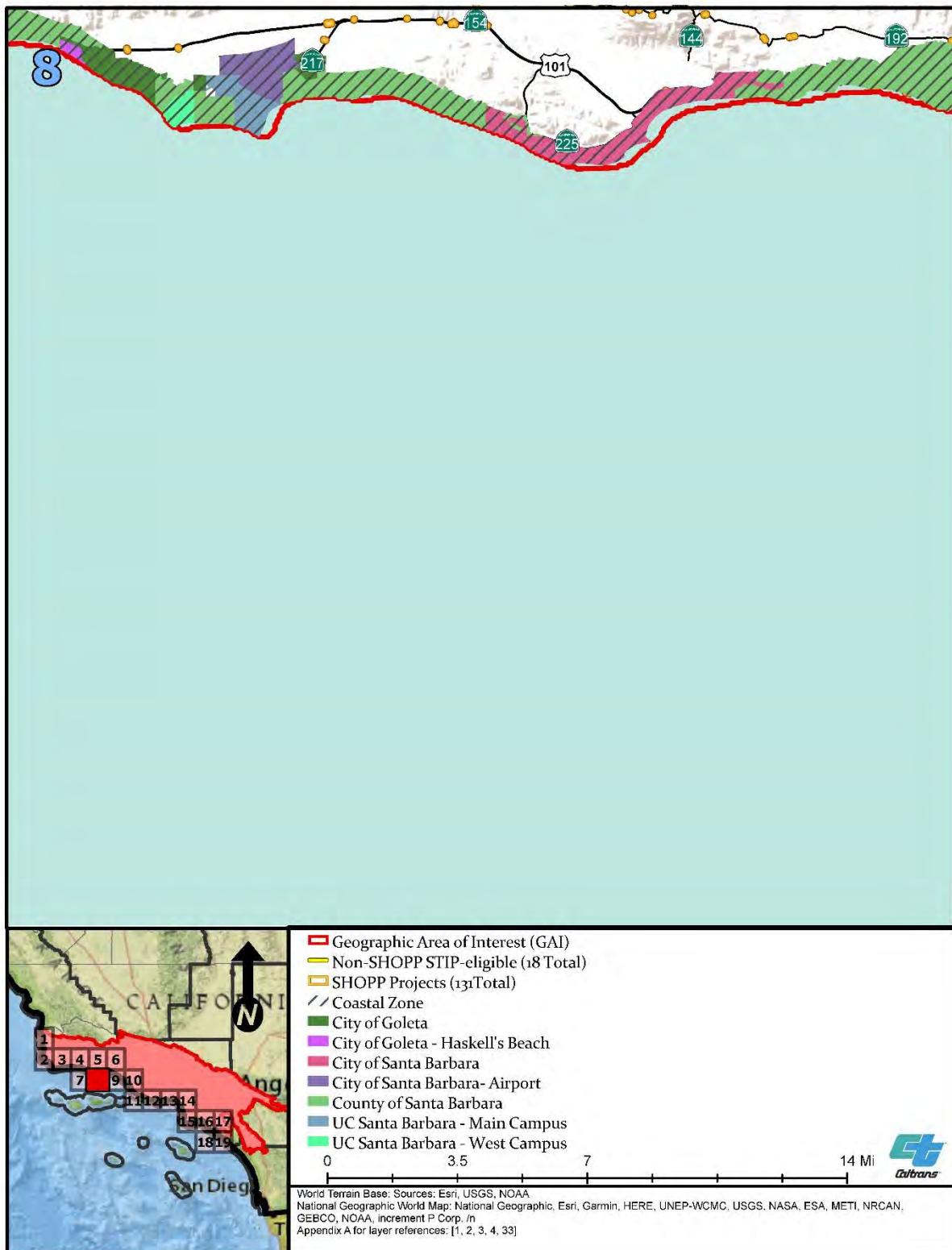






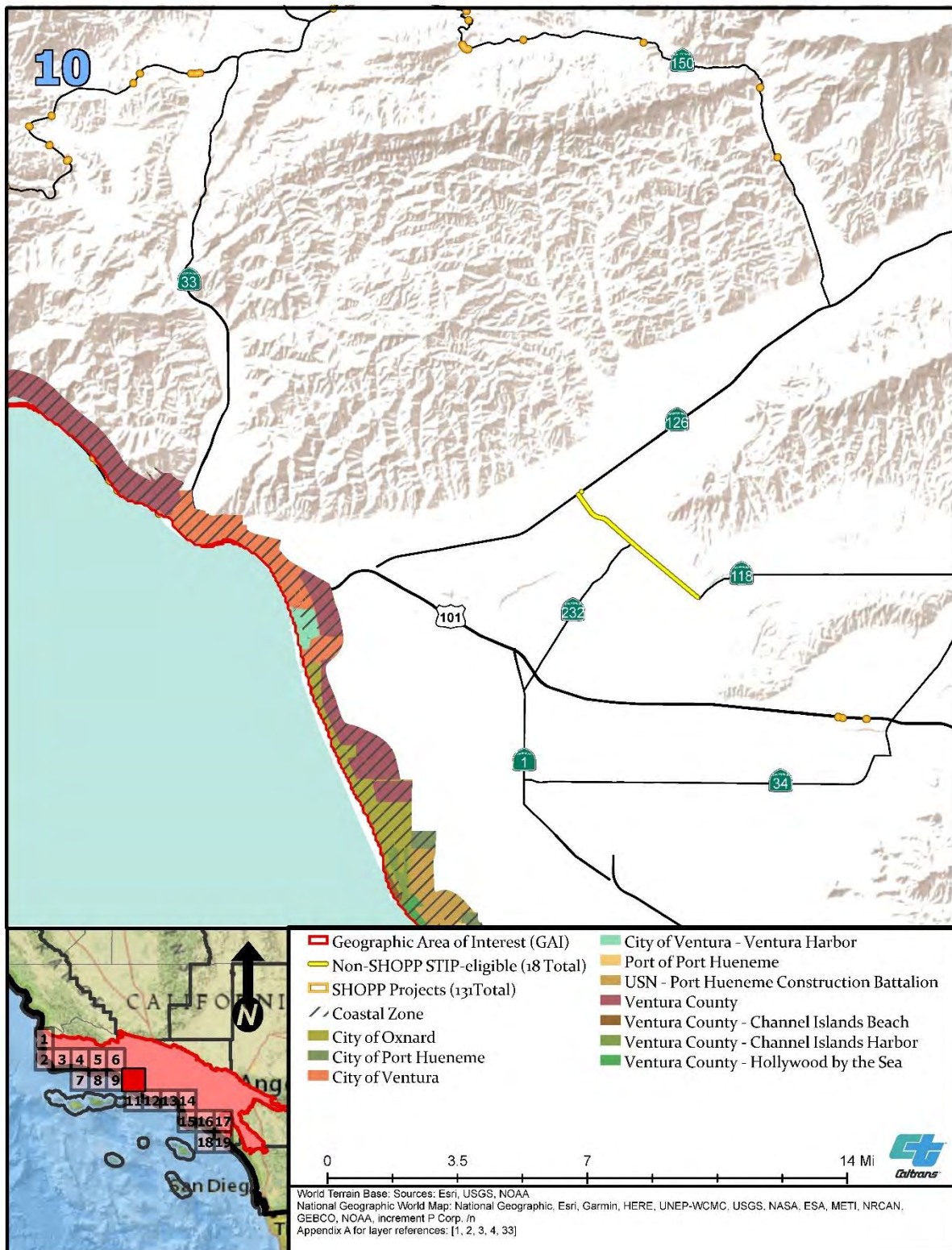


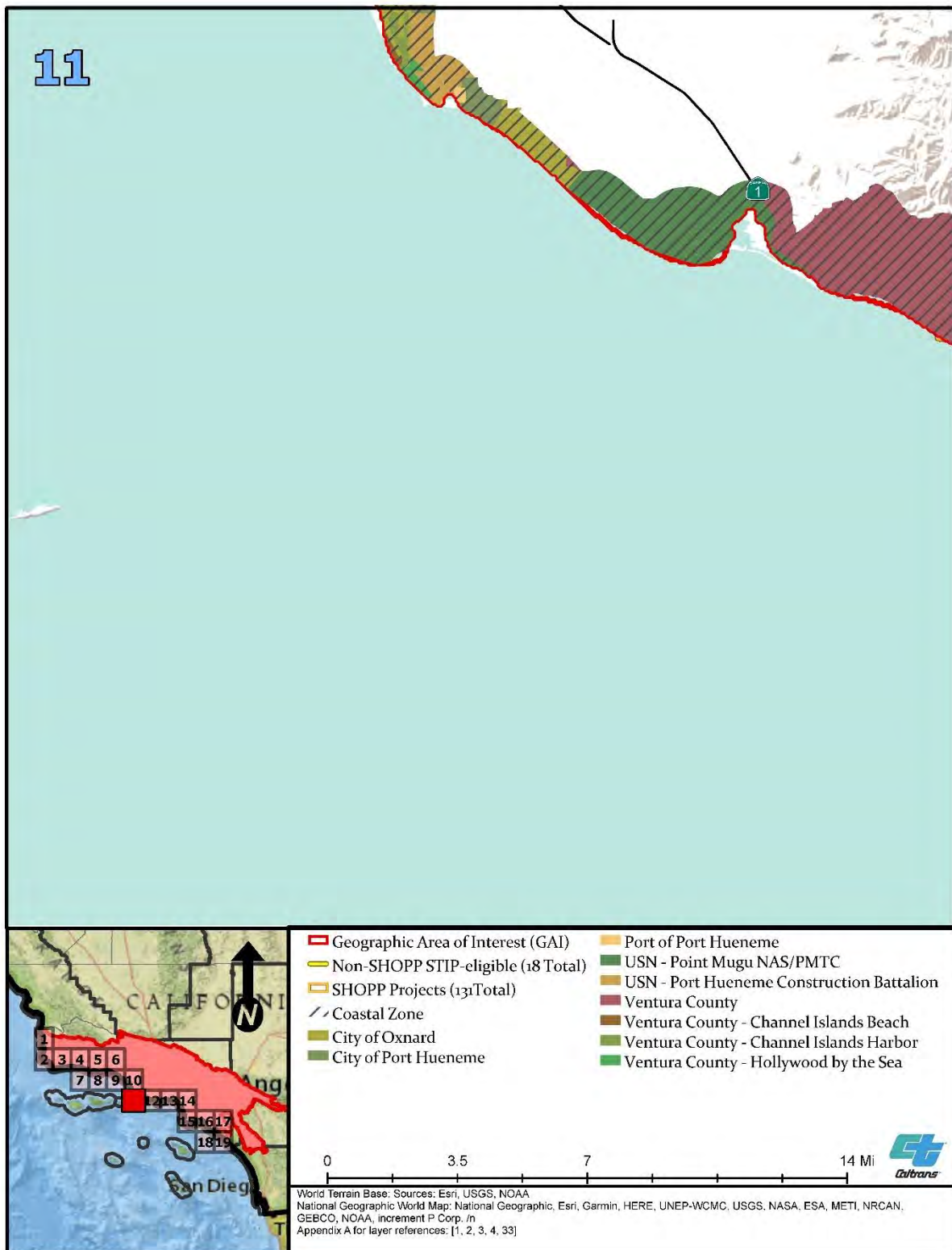




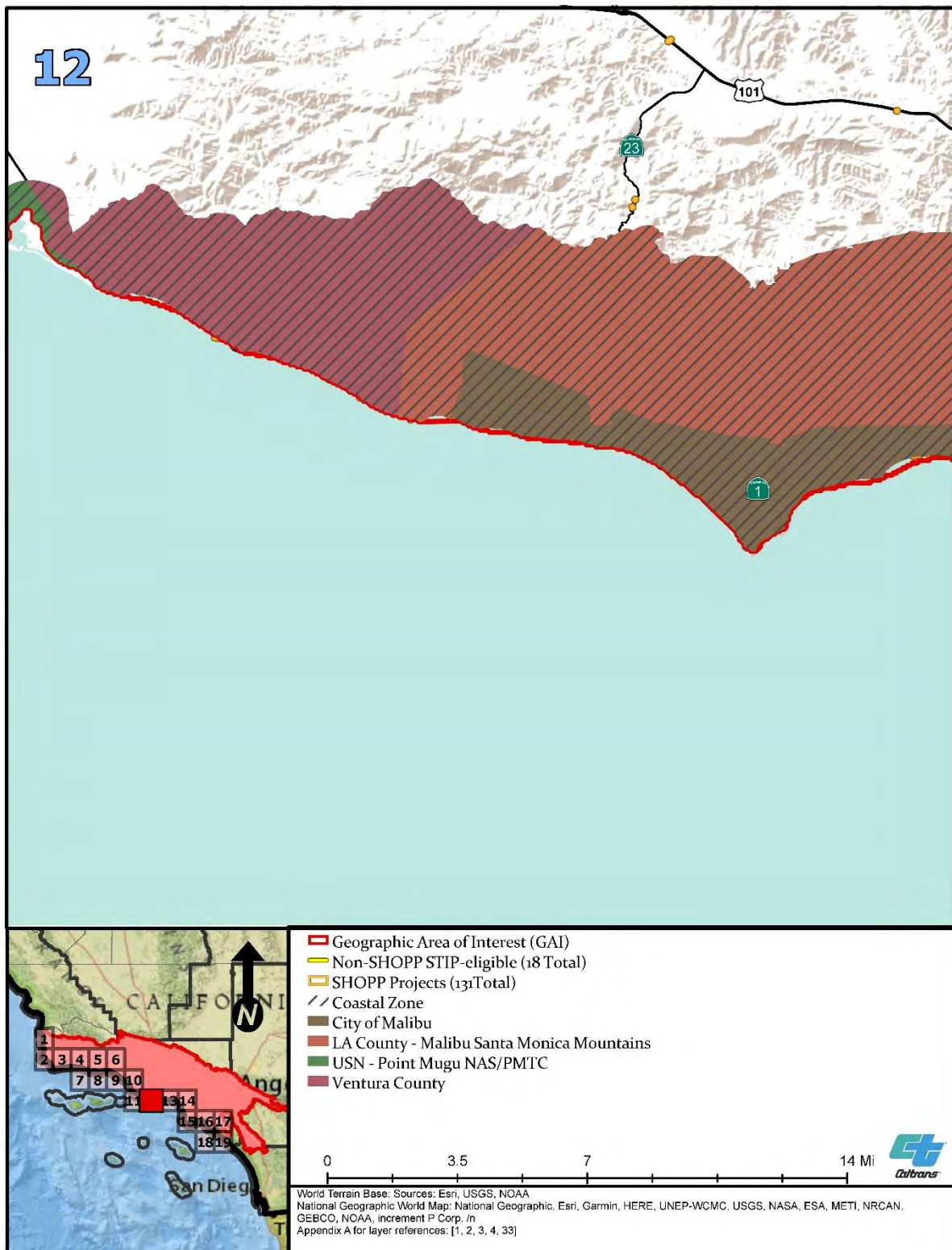


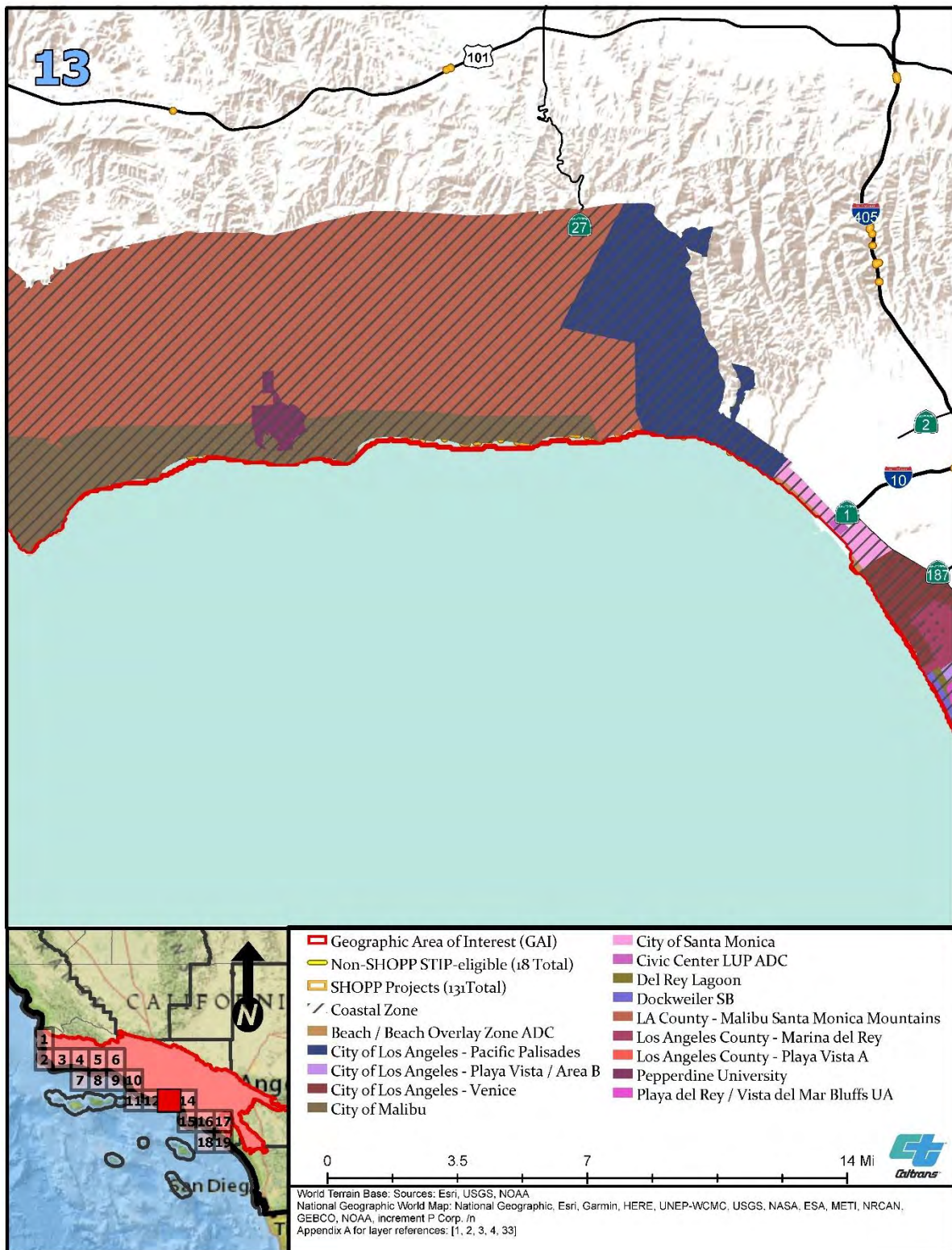




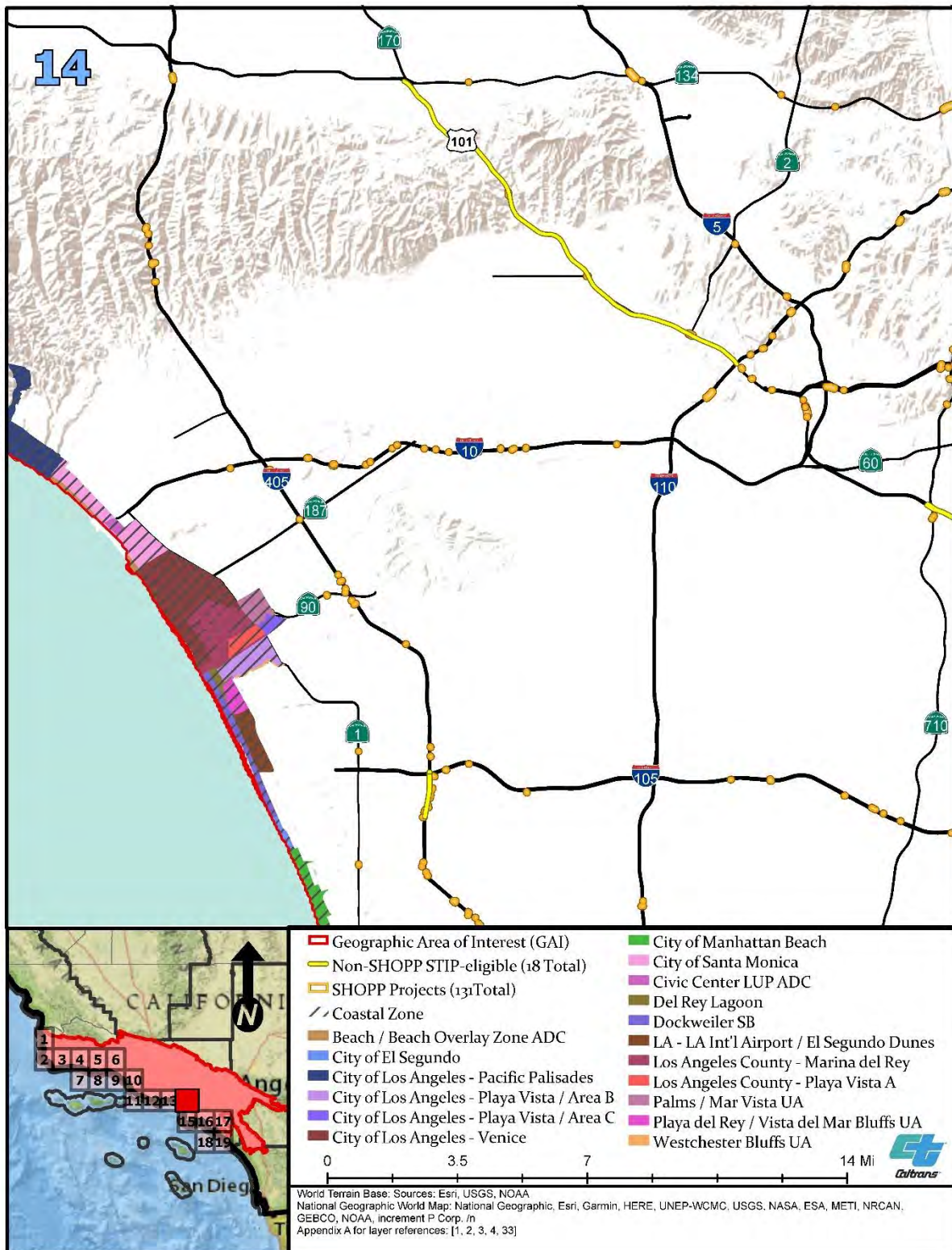


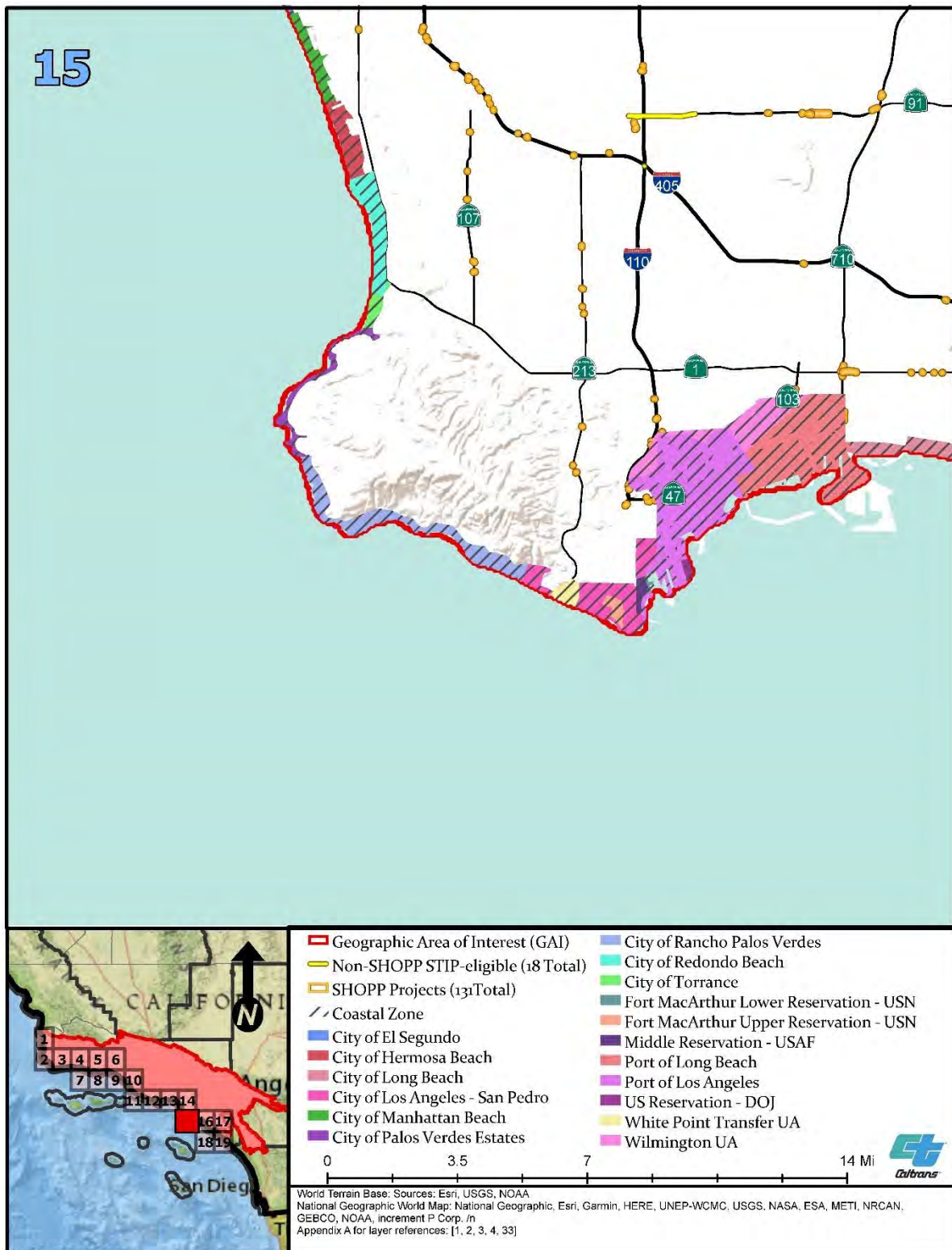




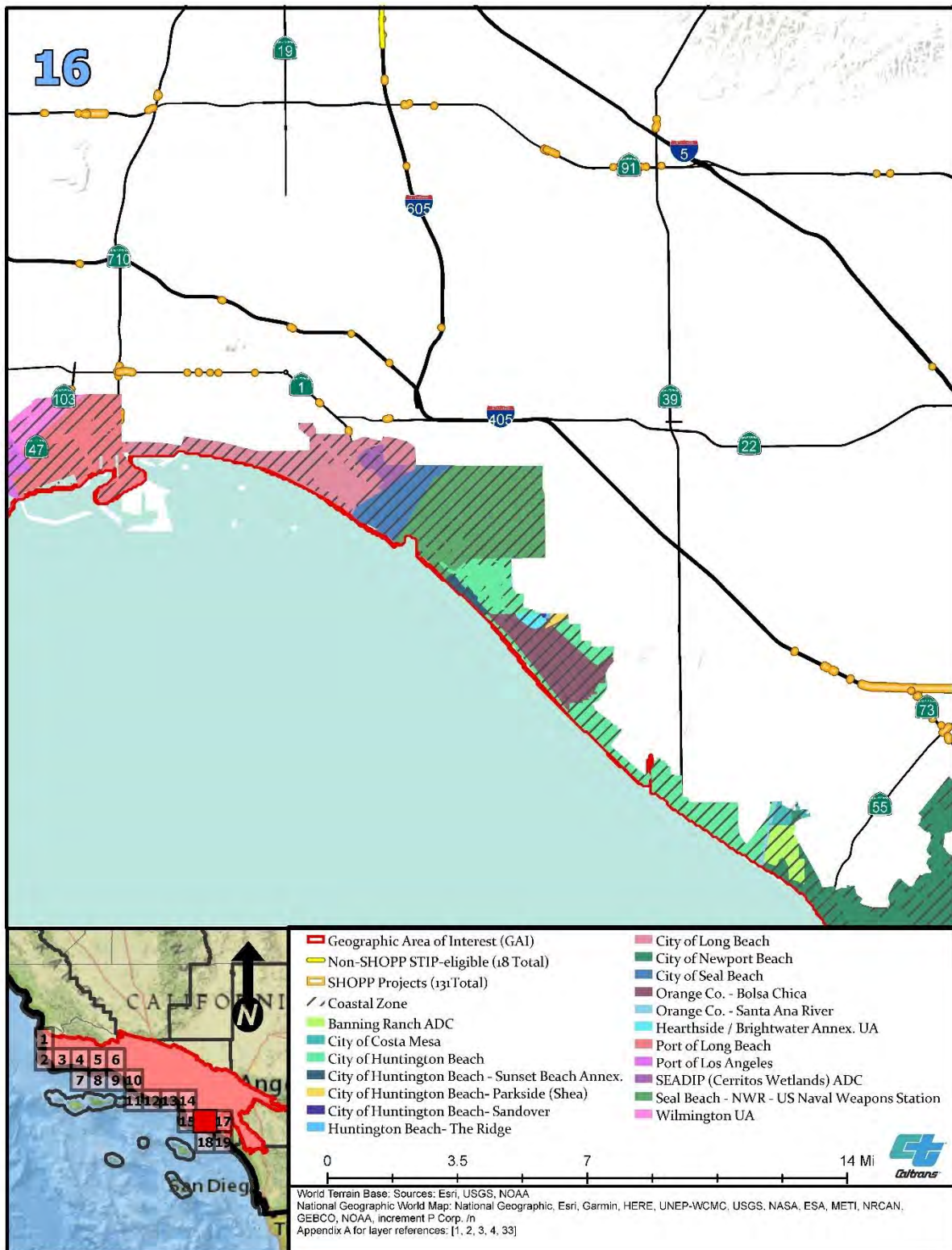


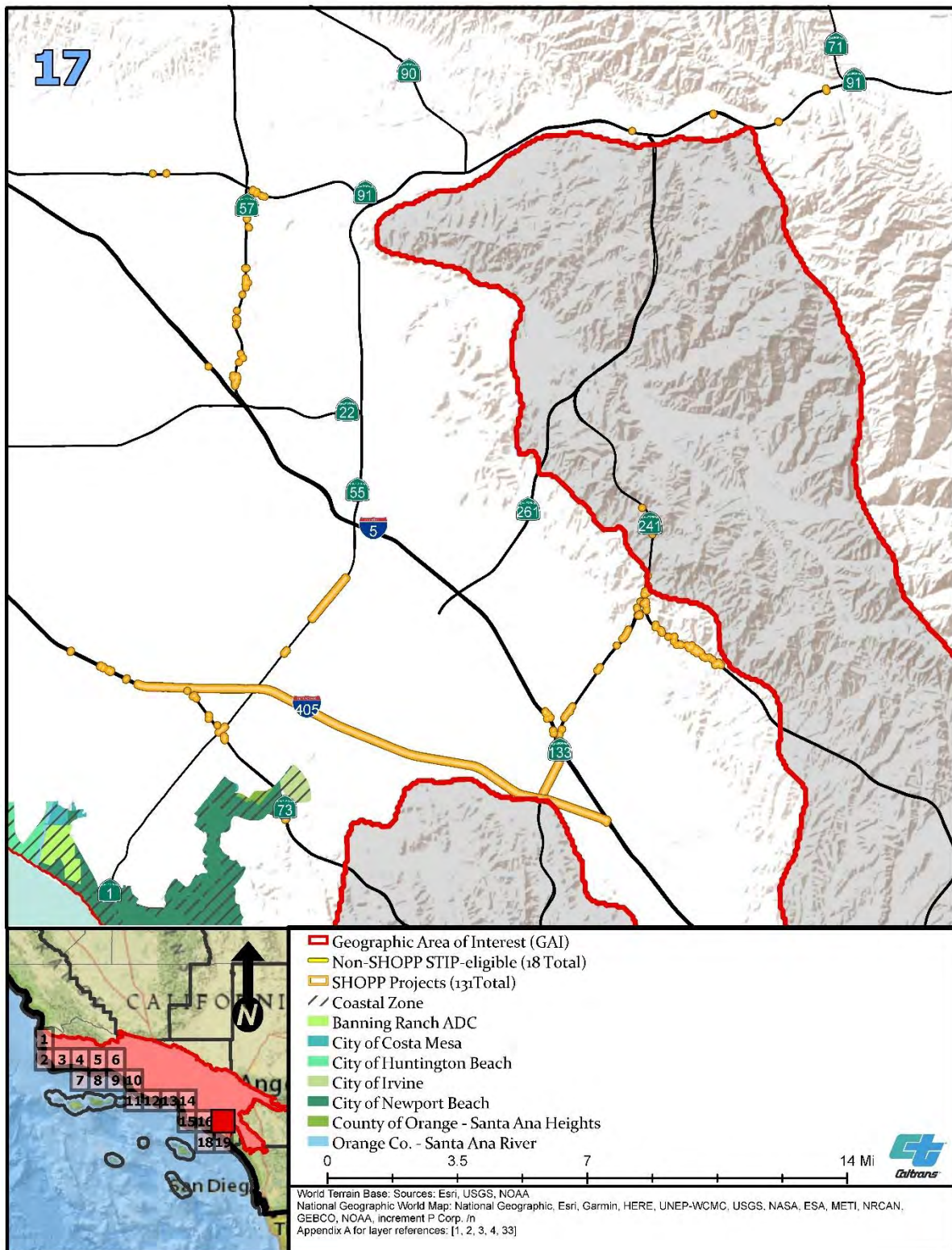




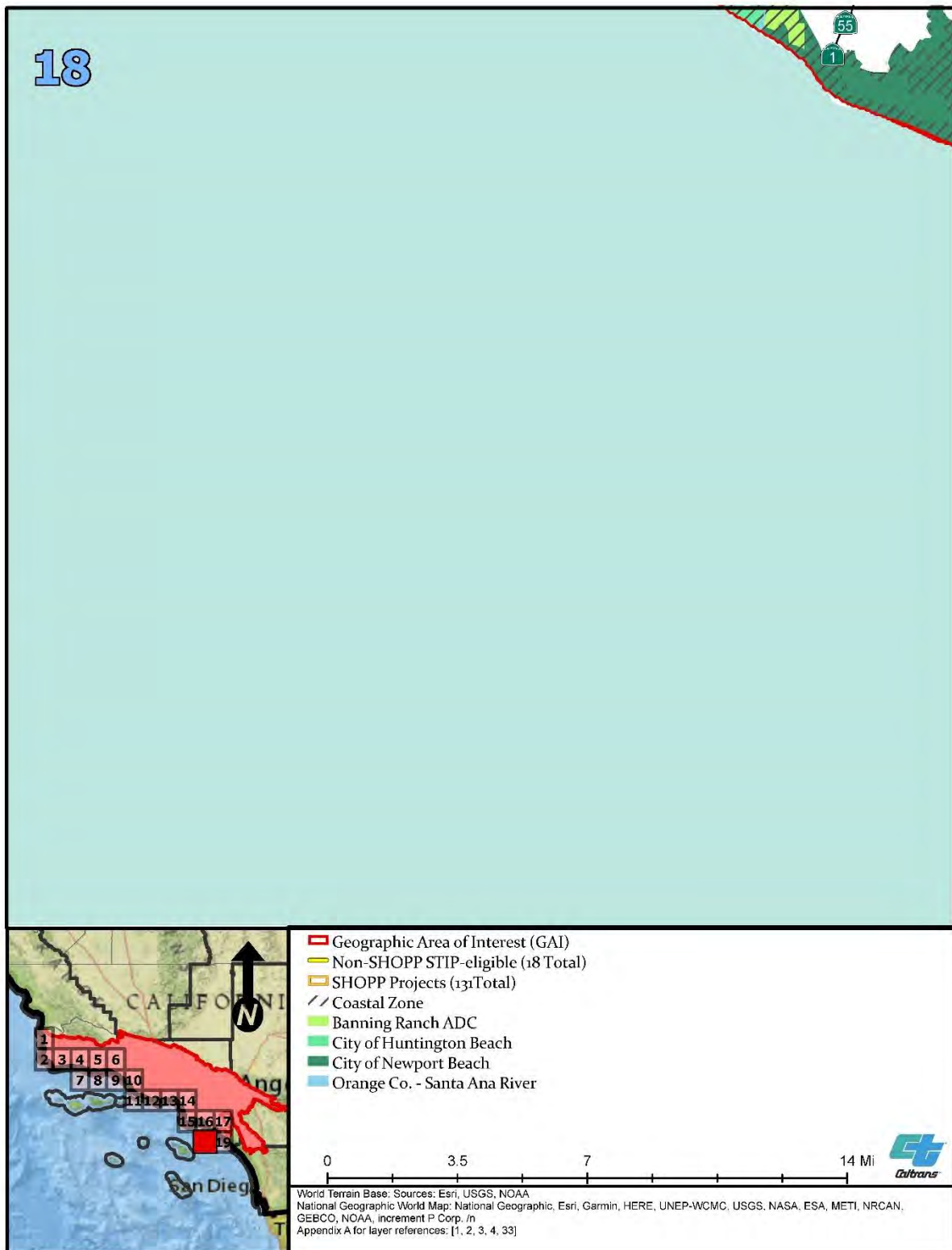
















## APPENDIX E: COMPLETE SAMNA SPECIES RESULTS

Complete terrestrial species SAMNA results for the GAI are provided in Tables E-1 and E-2. Table E-1 consists of SAMNA results for the seven subsections within the Southern California Coast Ecoregion Section within the GAI. Table E-2 consists of the SAMNA results for the six subsections within the Southern California Mountains and Valleys Ecoregion Section within the GAI. The tables list the species for which the SAMNA has enough and the right kind of information to forecast potential impacts from transportation projects conceptualized in long-range transportation plans (Caltrans 2021).

SAMNA results are only as accurate as their foundational data and have not been ground-truthed.

- Species without CWHR system-supplied home ranges but identified by the California Natural Diversity Database as potentially present will be incorporated into the analysis of specific advance mitigation projects and future transportation projects.
- Subspecies may or may not have CWHR-supplied or other document sources of home ranges. When a subspecies did not have home range information suitable for input into the SAMNA model, SAMNA results are provided at the species level, which may include both special-status and non-special-status species and, hence, the number of species that have the potential to be affected may be overestimated.
- If impacts were estimated, additional information sources were consulted to determine whether special-status subspecies are located in the GAI, and the SAMNA results are usable for this analysis. Footnotes have been added to the tables where data input limitations and modeling assumptions resulted in identification of potential impacts to species or subspecies that are not present in the GAI.
- When species of mitigation need impact forecasts were not sensible (for example, no impacts were forecast), the spatial overlay was redone using FWS-provided range maps (FWS 2021a, 2021b). Least bell's vireo and Southwestern willow flycatcher impact estimates reflect FWS range maps and not CWHR home ranges.
- When no impacts for a potentially present species are estimated for any habitat, the species is retained in this appendix.

When no impacts are estimated for any habitat, for any species, and the species is not potentially present, the habitat was excluded from this appendix.

Total habitat impacts for each special-status species are indicated in the far-right column of each table. Total habitat impacts in the bottom row of each table indicate the total anticipated impacts for each habitat type and are not additive across all special-status species because each habitat type may provide suitable habitat for more than one special-status subspecies.

Habitats referenced in Tables E-1 and E-2 are mapped in Appendix C. As discussed in Chapter 5, while coastal California gnatcatcher, California red-legged frog, least Bell's

vireo, southwestern willow flycatcher, and mountain lion are the species of mitigation need identified for this GAI, several other special-status species share habitat with these species of mitigation need and may be affected by Caltrans future transportation projects. Advance mitigation planning will consider the special-status species that co-occur in habitats that may also benefit from advance mitigation project planning and scoping, in order to improve the conservation benefits of compensatory mitigation in the GAI. For example, advance mitigation established for California red-legged frog impacts may also provide mitigation to compensate for impacts on other species.

## References

- Caltrans (California Department of Transportation). 2021. *Statewide Advance Mitigation Needs Assessment Report*. State Highway Operation and Protection Program. Ten-Year Project Book. Second Quarter 2019/2020 Fiscal Year. May. Sacramento, California.
- FWS (U.S. Fish and Wildlife Service). 2021a. *Least Bell's Vireo Complete Current Range*. Ecological Services Division. Fort Collins, Colorado. August 13, 2021.
- . 2021b. *Southwestern Willow Flycatcher Complete Current Range*. Ecological Services Division. Fort Collins, Colorado. August 13, 2021.



Table E-1. Complete SAMNA Results for the Southern California Coast Ecoregion Section in District 7, by Land Cover (acres)

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Plants	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
San Mateo thorn-mint <sup>a</sup>	<i>Acanthomintha duttonii</i>	FE, SE	49.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	49.76
San Diego thorn-mint <sup>a</sup>	<i>Acanthomintha ilicifolia</i>	FT, SE	9.86	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	16.32
Munz's onion <sup>a</sup>	<i>Allium munzii</i>	FE, ST	9.86	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	16.32
Sonoma alopecurus <sup>a</sup>	<i>Alopecurus aequalis</i> var. <i>sonomensis</i>	FE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.91
San Diego ambrosia <sup>a</sup>	<i>Ambrosia pumila</i>	FE	9.86	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	16.32
Franciscan manzanita <sup>a</sup>	<i>Arctostaphylos franciscana</i>	FE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Del Mar manzanita <sup>a</sup>	<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	FE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	1.46
Hearsts' manzanita <sup>a</sup>	<i>Arctostaphylos hookeri</i> ssp. <i>hearthiorum</i>	SE	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	49.91
San Bruno mountain manzanita <sup>a</sup>	<i>Arctostaphylos imbricata</i>	SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Presidio manzanita <sup>a</sup>	<i>Arctostaphylos montana</i> ssp. <i>ravenii</i>	FE, SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Morro manzanita <sup>a</sup>	<i>Arctostaphylos morroensis</i>	FT	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Pacific manzanita <sup>a</sup>	<i>Arctostaphylos pacifica</i>	SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Marsh sandwort	<i>Arenaria paludicola</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
Braunton's milk-vetch	<i>Astragalus brauntonii</i>	FE	12.13	0.00	0.00	0.00	5.82	0.00	0.00	0.00	0.00	0.00	0.00	5.73	0.00	0.00	0.00	0.00	0.00	0.00	23.68

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Ventura marsh milk-vetch	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	FE, SE	0.00	0.00	0.00	0.00	4.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>4.61</b>
Coastal dunes milk-vetch	<i>Astragalus tener</i> var. <i>titi</i>	FE, SE	0.00	0.00	0.00	0.00	4.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>4.76</b>
San Jacinto Valley crownscale <sup>a</sup>	<i>Atriplex coronata</i> var. <i>notatior</i>	FE	8.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>8.44</b>
Encinitas baccharis <sup>a</sup>	<i>Baccharis vanessae</i>	FT, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	<b>1.46</b>
Nevin's barberry	<i>Berberis nevinii</i>	FE, SE	0.00	0.00	0.00	0.00	5.82	0.00	0.00	0.00	0.00	0.00	0.00	5.73	0.00	0.00	0.00	0.00	0.00	0.00	<b>11.55</b>
Point Reyes blennosperma <sup>a</sup>	<i>Blennosperma nanum</i> var. <i>robustum</i>	SR	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.15</b>
Dwarf goldenstar <sup>a</sup>	<i>Bloomeria humilis</i>	SR, FS	55.34	0.00	0.00	0.00	16.85	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00	0.00	<b>73.03</b>
Thread-leaved brodiaea	<i>Brodiaea filifolia</i>	FT, SE	9.86	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	<b>16.32</b>
Tiburon mariposa lily <sup>a</sup>	<i>Calochortus tiburonensis</i>	FT, ST	49.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>49.71</b>
Dunn's mariposa lily <sup>a</sup>	<i>Calochortus dunnii</i>	SR, FS	2.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>2.14</b>
California jewelflower	<i>Caulanthus californicus</i>	FE, SE	2.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>2.26</b>
Hearsts' ceanothus <sup>a</sup>	<i>Ceanothus hearstiorum</i>	SR, FS	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.20</b>
Maritime ceanothus <sup>a</sup>	<i>Ceanothus maritimus</i>	SR	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	<b>49.91</b>
Santa Lucia purple amole <sup>a</sup>	<i>Chlorogalum purpureum</i> var. <i>purpureum</i>	FT	52.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00	<b>52.84</b>
Camatta canyon amole <sup>a</sup>	<i>Chlorogalum purpureum</i> var. <i>reductum</i>	FT, SR	52.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>52.05</b>



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Salt marsh bird's-beak	<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	FE, SE	0.00	0.00	0.00	0.00	4.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76
Orcutt's spineflower <sup>a</sup>	<i>Chorizanthe orcuttiana</i>	FE, SE	0.00	0.00	0.00	0.00	4.61	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	6.07
San Fernando valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	FS, SE	2.26	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.21
Monterey spineflower <sup>a</sup>	<i>Chorizanthe pungens</i> var. <i>pungens</i>	FT, FS	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	49.91
Robust spineflower <sup>a</sup>	<i>Chorizanthe robusta</i> var. <i>robusta</i>	FE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Sonoma spineflower <sup>a</sup>	<i>Chorizanthe valida</i>	FE, SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
San Luis Obispo fountain thistle <sup>a</sup>	<i>Cirsium fontinale</i> var. <i>obispoense</i>	FE, SE	52.05	0.00	0.00	0.00	16.73	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00	69.57
Surf thistle	<i>Cirsium rhotophilum</i>	FS, ST	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
La Graciosa thistle	<i>Cirsium scariosum</i> var. <i>loncholepis</i>	FE, ST	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	49.91
Presidio clarkia <sup>a</sup>	<i>Clarkia franciscana</i>	FE, SE	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.86
Pismo clarkia <sup>a</sup>	<i>Clarkia speciosa</i> ssp. <i>immaculata</i>	FE, SR	49.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.71
Seaside bird's-beak	<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i>	FS, SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Otay tarplant <sup>a</sup>	<i>Deinandra conjugens</i>	FT, SE	9.86	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.86
Gaviota tarplant	<i>Deinandra increscens</i> ssp. <i>villosa</i>	FE, SE	8.44	0.00	0.00	0.00	4.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.05
Santa Susana tarplant	<i>Deinandra minthornii</i>	SR	0.00	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	5.40
Mojave tarplant <sup>a</sup>	<i>Deinandra mohavensis</i>	FS, SE	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.58

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Baker's larkspur <sup>a</sup>	<i>Delphinium bakeri</i>	FE, SE	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.86
Cuyamaca larkspur <sup>a</sup>	<i>Delphinium hesperium</i> ssp. <i>cuyamacae</i>	FS, SR	2.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.14
Golden larkspur <sup>a</sup>	<i>Delphinium luteum</i>	FE, SR	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Vandenberg monkeyflower	<i>Diplacus vanderbergensis</i>	FE	0.00	0.00	0.00	0.00	16.73	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00	17.52
Beach spectaclerpod	<i>Dithyrea maritima</i>	ST	0.00	0.00	0.00	0.00	4.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76
Slender-horned spineflower	<i>Dodecahema leptoceras</i>	FE, SE	0.00	0.00	0.00	0.00	5.82	0.00	0.00	0.00	0.00	0.00	0.00	5.73	0.00	0.00	0.00	0.00	0.00	0.00	11.55
Cuyamaca Lake downingia <sup>a</sup>	<i>Downingia concolor</i> var. <i>brevior</i>	SE	2.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.14
Short-leaved dudleya <sup>a</sup>	<i>Dudleya brevifolia</i>	SE	0.00	0.00	0.00	0.00	4.61	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	6.07
Marcescent dudleya	<i>Dudleya cymosa</i> ssp. <i>agourensis</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.89	0.00	0.00	0.00	0.00	0.00	0.00	8.89
Santa Monica dudleya	<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	FT	0.00	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	5.40
Conejo dudleya	<i>Dudleya parva</i>	FT	2.26	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.21
Laguna Beach dudleya	<i>Dudleya stolonifera</i>	FT, ST	8.44	0.00	0.00	0.00	4.61	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	14.51
Verity's dudleya	<i>Dudleya verityi</i>	FT	0.00	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	5.40
Santa Ana river woollystar <sup>a</sup>	<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	FE, SE	0.00	0.00	0.00	0.00	4.61	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	6.07
Indian knob mountainbalm	<i>Eriodictyon altissimum</i>	FE, SE	0.00	0.00	0.00	0.00	16.73	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00	17.52
Lompoc yerba santa	<i>Eriodictyon capitatum</i>	FE, SR	0.00	0.00	0.00	0.00	17.80	0.00	0.00	0.00	0.00	0.00	0.00	5.29	0.00	0.00	0.00	0.00	0.00	0.00	23.09
Butterworth's buckwheat <sup>a</sup>	<i>Eriogonum butterworthianum</i>	FS, SR	52.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00	52.84



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Conejo buckwheat	<i>Eriogonum crocatum</i>	SR	2.26	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.00	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	7.66
Southern mountain buckwheat <sup>a</sup>	<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.45	0.00	0.00	0.00	0.00	119.19	0.00	123.64
San Diego button-celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE, SE	9.86	0.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.86
Menzies' wallflower <sup>a</sup>	<i>Erysimum menziesii</i>	FE, SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Roderick's fritillary	<i>Fritillaria roderickii</i>	SE	67.47	0.00	0.00	0.00	22.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.14
Monterey gilia <sup>a</sup>	<i>Gilia tenuiflora</i> ssp. <i>arenaria</i>	FE, ST	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Orcutt's hazardia <sup>a</sup>	<i>Hazardia orcuttii</i>	ST	0.00	0.00	0.00	0.00	4.61	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	6.07
Gowen cypress <sup>a</sup>	<i>Hesperocyparis goveniana</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Marin western flax <sup>a</sup>	<i>Hesperolinon congestum</i>	FT, ST	49.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	49.76
Santa Cruz tarplant <sup>a</sup>	<i>Holocarpha macradenia</i>	FT, SE	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.86
Contra Costa goldfields <sup>a</sup>	<i>Lasthenia conjugens</i>	FE	58.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.15
Beach layia	<i>Layia carnosa</i>	FE, SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Coast yellow leptosiphon <sup>a</sup>	<i>Leptosiphon croceus</i>	SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
San Francisco lessingia <sup>a</sup>	<i>Lessingia germanorum</i>	FE, SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Parish's meadowfoam <sup>a</sup>	<i>Limnanthes alba</i> ssp. <i>parishii</i>	FS, SE	2.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.14
Point Reyes meadowfoam <sup>a</sup>	<i>Limnanthes douglasii</i> ssp. <i>sulphurea</i>	SE	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.86

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Nipomo mesa lupine <sup>a</sup>	<i>Lupinus nipomensis</i>	FE, SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Tidestrom's lupine <sup>a</sup>	<i>Lupinus tidestromii</i>	FE, SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Willowy monardella <sup>a</sup>	<i>Monardella viminea</i>	FE, SE	0.00	0.00	0.00	0.00	4.61	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.42	6.49
Spreading navarretia	<i>Navarretia fossalis</i>	FT	64.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.18
California Orcutt grass	<i>Orcuttia californica</i>	FE, SE	12.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.13
Baja California birdbush <sup>a</sup>	<i>Ornithostaphylos oppositifolia</i>	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	1.46
Dudley's lousewort <sup>a</sup>	<i>Pedicularis dudleyi</i>	FS, SR	55.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.00	0.07	0.00	0.00	56.25
White-rayed pentachaeta <sup>a</sup>	<i>Pentachaeta bellidiflora</i>	FE, SE	49.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.71
Lyon's pentachaeta	<i>Pentachaeta lyonii</i>	FE, SE	10.70	0.00	0.00	0.00	5.43	0.00	0.00	0.00	0.00	0.00	0.00	5.73	0.00	0.00	0.00	0.00	0.00	0.00	21.86
Yadon's rein orchid <sup>a</sup>	<i>Piperia yadonii</i>	FE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.20
San Francisco popcornflower <sup>a</sup>	<i>Plagiobothrys diffusus</i>	SE	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.86
San Diego mesa mint <sup>a</sup>	<i>Pogogyne abramsii</i>	FE, SE	8.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.44
Santa Lucia mint <sup>a</sup>	<i>Pogogyne clareana</i>	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.79
Otay Mesa mint <sup>a</sup>	<i>Pogogyne nudiuscula</i>	FE, SE	8.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.44
Hickman's cinquefoil <sup>a</sup>	<i>Potentilla hickmanii</i>	FE, SE	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Small-leaved rose <sup>a</sup>	<i>Rosa minutifolia</i>	SE	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55
Adobe sanicle	<i>Sanicula maritima</i>	FS, SR	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	49.91



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Cuesta Pass checkerbloom <sup>a</sup>	<i>Sidalcea hickmanii</i> ssp. <i>anomala</i>	FS, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.79</b>
Parish's checkerbloom <sup>a</sup>	<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	FS, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.23	0.00	0.00	0.00	0.00	0.00	0.00	<b>5.23</b>
Tiburon jewelflower <sup>a</sup>	<i>Streptanthus glandulosus</i> ssp. <i>niger</i>	FE, SE	49.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>49.71</b>
Santa Ynez false lupine	<i>Thermopsis macrophylla</i>	FS, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	<b>4.45</b>
Two-fork clover <sup>a</sup>	<i>Trifolium amoenum</i>	FE	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>49.86</b>
Pacific Grove clover <sup>a</sup>	<i>Trifolium polyodon</i>	FS, SR	49.71	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>49.86</b>
Big-leaved crownbeard	<i>Verbesina dissita</i>	FT, ST	0.00	0.00	0.00	0.00	4.61	0.00	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	0.00	0.00	<b>6.07</b>
<b>Invertebrates</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	48.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>48.71</b>
Riverside fairy shrimp	<i>Streptocephalus woottoni</i>	FE	1.61	0.00	0.00	0.00	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>2.48</b>
<b>Amphibians</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>	<b>See below</b>
California tiger salamander	<i>Ambystoma californiense</i>	FE, ST	52.15	0.00	0.00	3.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>55.51</b>
Southern California slender salamander <sup>b</sup>	<i>Batrachoseps major</i>	FE, SE	0.00	0.96	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>1.01</b>
Coast range newt [California newt]	<i>Taricha torosa</i>	SSC	3.14	0.00	0.00	2.47	5.54	0.00	0.00	0.77	0.00	0.40	0.47	5.34	0.00	0.00	0.00	0.00	0.00	0.64	<b>18.77</b>
Ensatina	<i>Ensatina eschscholtzii</i>	FS	0.00	0.00	0.00	6.25	21.06	0.00	0.00	0.12	0.00	0.00	0.00	6.08	0.00	0.00	0.00	0.07	0.00	1.60	<b>35.18</b>
Western spadefoot	<i>Spea hammondi</i>	FS, SSC	67.47	0.00	0.07	6.21	22.67	2.64	0.00	0.77	0.01	0.40	0.66	6.28	0.00	0.00	0.06	0.00	0.00	0.00	<b>107.24</b>

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Arroyo toad	<i>Anaxyrus californicus</i>	FE, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.48	0.00	0.00	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.25	1.98
Foothill yellow-legged frog	<i>Rana boylei</i>	FS, SE <sup>c</sup>	5.54	0.00	0.07	2.59	7.89	0.00	0.00	0.12	0.00	0.00	0.00	5.56	0.00	0.00	0.00	0.07	0.00	0.66	22.50
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	67.47	0.00	0.00	6.36	22.67	0.00	0.00	0.77	0.00	0.40	0.66	6.57	0.03	0.00	0.06	0.00	0.00	1.85	106.84
Reptiles	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Coast horned lizard [Blainville's horned lizard]	<i>Phrynosoma blainvillii</i>	FS, SCC	67.47	0.00	0.07	6.36	22.67	0.00	0.00	0.77	0.00	0.00	0.00	6.57	0.00	0.00	0.06	0.00	0.00	1.85	105.82
Western skink <sup>d</sup>	<i>Plestiodon skiltonianus</i>	FS	67.47	0.00	0.07	6.36	22.67	2.64	0.00	0.77	0.01	0.00	0.00	6.57	0.03	22.70	0.06	0.07	0.00	1.85	131.27
California legless lizard	<i>Anniella pulchra</i>	FS, SSC	0.00	0.00	0.07	6.36	22.67	0.00	0.29	0.77	0.00	0.00	0.00	6.57	0.00	0.00	0.06	0.00	0.00	1.85	38.64
Orange-throated whiptail	<i>Aspidoscelis hyperythra</i>	FS	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55
Ring-necked snake	<i>Diadophis punctatus</i>	FS	67.47	0.00	0.07	6.36	22.67	0.00	0.00	0.77	0.00	0.40	0.00	6.57	0.03	22.70	0.06	0.07	260.35	1.85	389.37
Striped racer <sup>e</sup>	<i>Masticophis [Coluber] lateralis</i>	FT, ST	0.00	0.00	0.07	6.36	22.67	0.00	0.00	0.77	0.00	0.00	0.00	6.57	0.03	0.00	0.00	0.07	0.00	1.85	38.39
Western patch-nosed snake	<i>Salvadora hexalepis</i>	SSC	63.82	34.36	0.07	6.23	22.14	0.00	0.29	0.12	0.00	0.00	0.00	6.18	0.00	0.00	0.00	0.00	0.00	0.87	134.08
Gophersnake	<i>Pituophis catenifer</i>	None	67.47	0.00	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.40	0.00	6.57	0.03	22.70	0.06	0.07	260.35	1.85	392.31
California mountain kingsnake <sup>f</sup>	<i>Lampropeltis zonata</i>	FS	4.62	0.00	0.00	2.89	0.00	0.00	0.00	0.12	0.00	0.00	0.00	6.03	0.00	0.00	0.00	0.07	0.00	0.71	14.44
Coast [California] mountain kingsnake (San Diego population) <sup>f</sup>	<i>Lampropeltis multifasciata [zonata pulchra]<sup>c</sup></i>	FS	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.03	0.80
Common gartersnake	<i>Thamnophis sirtalis</i>	SSC	67.47	0.00	0.07	6.36	22.67	2.64	0.00	0.77	0.01	0.40	0.66	6.57	0.03	22.70	0.06	0.07	0.00	1.85	132.33



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Two-striped gartersnake	<i>Thamnophis hammondi</i>	FS, SSC	67.47	0.00	0.07	6.36	22.67	0.00	0.00	0.77	0.00	0.40	0.66	6.57	0.03	0.00	0.00	0.00	0.00	1.85	106.85
Red diamond rattlesnake	<i>Crotalus ruber</i>	FS, SSC	4.98	0.33	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.86
Birds	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Common loon <sup>g</sup>	<i>Gavia immer</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
American white pelican <sup>h</sup>	<i>Pelecanus erythrorhynchos</i>	SSC	0.00	34.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	35.60
Brown pelican	<i>Pelecanus occidentalis</i>	FS, SFP	0.00	1.20	0.00	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75
Least bittern	<i>Ixobrychus exilis</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06
Great blue heron	<i>Ardea herodias</i>	SFS	67.47	0.00	0.00	6.36	22.67	0.00	0.00	0.77	0.00	0.40	0.66	0.00	0.03	0.00	0.06	0.07	260.35	1.85	360.69
Great egret	<i>Ardea alba</i>	SFS	67.47	0.00	0.00	6.36	0.00	0.00	0.00	0.77	0.00	0.40	0.66	0.00	0.03	0.00	0.06	0.00	260.35	1.85	337.95
Redhead	<i>Aythya americana</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
California condor	<i>Gymnogyps californianus</i>	FE, SE	1.96	0.00	0.00	0.28	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	2.99
Osprey	<i>Pandion haliaetus</i>	SFS	67.47	34.94	0.00	6.36	0.00	0.00	0.29	0.77	0.00	0.40	0.66	6.57	0.03	0.00	0.06	0.07	0.00	1.85	119.47
White-tailed kite	<i>Elanus leucurus</i>	FS, SFP	67.47	34.94	0.07	6.36	22.67	2.64	0.00	0.77	0.01	0.40	0.00	6.57	0.00	0.00	0.06	0.00	260.35	1.85	404.16
Bald eagle	<i>Haliaeetus leucocephalus</i>	FS, SE	67.47	34.94	0.07	6.36	22.67	0.00	0.00	0.77	0.00	0.40	0.66	6.57	0.03	0.00	0.06	0.07	0.00	1.85	141.92
Northern harrier	<i>Circus hudsonius [cyaneus]<sup>c</sup></i>	SSC	67.47	34.94	0.07	6.36	22.67	2.64	0.29	0.77	0.00	0.40	0.66	6.57	0.03	0.00	0.06	0.07	260.35	1.85	405.20
Golden eagle	<i>Aquila chrysaetos</i>	FS, SFP	58.46	34.05	0.07	6.25	21.06	0.00	0.24	0.12	0.00	0.03	0.00	6.08	0.00	21.65	0.00	0.07	230.49	1.60	380.17
Peregrine falcon	<i>Falco peregrinus</i>	SFP	67.47	34.94	0.07	6.36	22.67	0.00	0.00	0.77	0.00	0.40	0.66	6.57	0.03	0.00	0.06	0.07	260.35	1.85	402.27
California quail <sup>i</sup>	<i>Callipepla californica</i>	SSC	67.47	0.00	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.00	0.00	6.57	0.03	0.00	0.06	0.07	260.35	1.85	369.21
Snowy plover	<i>Charadrius nivosus</i>	FT, SSC	0.00	31.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.22
Mountain plover	<i>Charadrius montanus</i>	FS, SSC	46.23	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.40

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Least tern	<i>Sternula antillarum</i>	FE, SE	0.00	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52
Black skimmer	<i>Rynchops niger</i>	SSC	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
Burrowing owl	<i>Athene cunicularia</i>	FS, SSC	61.01	4.50	0.02	2.03	8.59	0.00	0.29	0.77	0.00	0.00	0.00	1.63	0.00	17.07	0.06	0.00	252.35	0.61	348.93
Spotted owl	<i>Strix occidentalis</i>	FT, ST	0.00	0.00	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.11	1.03
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	0.00	0.00	0.00	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.11	1.69
Long-eared owl	<i>Asio otus</i>	SSC	58.41	0.00	0.07	5.95	0.00	0.00	0.00	0.12	0.00	0.00	0.00	5.78	0.00	21.65	0.00	0.07	0.00	1.57	93.62
Short-eared owl	<i>Asio flammeus</i>	SSC	52.73	0.00	0.02	2.59	8.52	0.00	0.00	0.12	0.00	0.03	0.00	5.37	0.00	0.00	0.06	0.00	195.11	0.39	264.94
Olive-sided flycatcher	<i>Contopus cooperi</i>	SSC	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	5.56	0.00	0.00	0.00	0.07	0.00	0.00	5.82
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Purple martin	<i>Progne subis</i>	SSC	3.76	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.07	148.91	0.49	155.26
Cactus wren	<i>Campylorhynchus brunneicapillus</i>	None	0.00	0.00	0.00	0.00	4.23	0.00	0.29	0.00	0.00	0.00	0.00	1.69	0.00	0.00	0.00	0.00	224.11	0.00	230.32
San Diego cactus wren	<i>Campylorhynchus brunneicapillus sandiegensis</i>	FS, SSC	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.67	0.00	101.22
Bewick's wren <sup>j</sup>	<i>Thryomanes bewickii</i>	SSC	0.00	0.00	0.07	6.36	22.67	2.64	0.29	0.77	0.00	0.00	0.00	6.57	0.03	0.00	0.00	0.00	260.35	1.85	301.60
Common yellowthroat	<i>Cistothorus palustris</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.03	0.00	0.00	0.00	0.00	1.85	2.28
Loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	67.47	34.94	0.07	6.36	22.67	2.64	0.29	0.77	0.00	0.00	0.00	6.57	0.03	0.00	0.06	0.00	260.35	1.85	404.07
Hutton's vireo <sup>k</sup>	<i>Vireo huttoni</i>	SSC	0.00	0.00	0.07	6.36	22.67	2.64	0.00	0.77	0.00	0.00	0.00	6.57	0.03	0.00	0.00	0.07	247.14	1.85	288.17
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.87	1.87
Yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.00	0.07	6.36	22.67	2.64	0.29	0.77	0.00	0.00	0.00	6.57	0.03	0.00	0.00	0.07	260.35	1.85	301.67
Common yellowthroat <sup>l</sup>	<i>Geothlypis trichas</i>	SSC	67.47	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.00	0.40	0.00	0.00	0.03	0.00	0.06	0.00	0.00	1.85	70.58



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Yellow-breasted chat	<i>Icteria virens</i>	SSC	0.00	0.00	0.00	0.00	22.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	1.85	24.23
Spotted towhee <sup>m</sup>	<i>Pipilo maculatus</i>	SSC	0.00	0.00	0.07	6.36	22.67	2.64	0.29	0.77	0.00	0.00	0.00	6.57	0.03	0.00	0.00	0.07	260.35	1.85	301.67
California towhee <sup>n</sup>	<i>Melozone [Pipilo] crissalis<sup>c</sup></i>	FT, SE	0.00	0.00	0.07	6.36	22.67	2.64	0.00	0.77	0.00	0.00	0.00	6.57	0.03	0.00	0.00	0.00	260.35	1.85	301.31
Rufous-crowned sparrow <sup>o</sup>	<i>Aimophila ruficeps</i>	SSC	67.47	0.00	0.07	0.00	22.67	0.00	0.00	0.77	0.00	0.00	0.00	6.57	0.00	0.00	0.06	0.00	0.00	1.85	99.46
Bell's sparrow <sup>p</sup>	<i>Artemisiospiza belli</i>	FT, SSC	0.00	0.00	0.07	0.00	4.91	0.00	0.00	0.00	0.00	0.00	0.00	1.60	0.00	0.00	0.00	0.00	0.00	0.00	6.58
Savannah sparrow	<i>Passerculus sandwichensis</i>	SE	67.47	0.00	0.07	6.36	22.67	2.64	0.29	0.77	0.00	0.00	0.00	6.57	0.00	22.70	0.06	0.00	0.00	1.85	131.45
Bryant's savannah sparrow	<i>Passerculus sandwichensis alaudinus</i>	SSC	48.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.12	0.00	0.00	0.00	0.00	63.59
Grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC	64.47	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	64.59
Song sparrow <sup>q</sup>	<i>Melospiza melodia</i>	SSC	67.47	0.00	0.07	6.36	22.67	2.64	0.00	0.77	0.00	0.40	0.66	6.57	0.03	0.00	0.06	0.07	260.35	1.85	369.97
Red-winged blackbird <sup>r</sup>	<i>Agelaius phoeniceus</i>	SSC	67.47	0.00	0.00	0.00	22.67	2.64	0.00	0.77	0.00	0.40	0.00	0.00	0.03	0.00	0.06	0.00	260.35	1.85	356.24
Tricolored blackbird	<i>Agelaius tricolor</i>	FS, ST	63.86	0.00	0.00	0.00	0.00	2.45	0.00	0.65	0.00	0.37	0.00	0.00	0.00	0.00	0.06	0.00	229.38	1.48	298.25
Clapper rail	<i>Rallus obsoletus [longirostris]<sup>f</sup></i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Light-footed clapper rail	<i>Rallus obsoletus [longirostris] levipes<sup>c</sup></i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
Vesper sparrow	<i>Poocetes gramineus</i>	None	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Oregon vesper sparrow	<i>Poocetes gramineus affinis</i>	SSC	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.92
Coastal California gnatcatcher	<i>Polioptila californica</i>	FT, SSC	10.95	0.00	0.00	0.62	3.96	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.00	0.00	0.06	0.00	0.00	0.22	16.90

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Fork-tailed storm-petrel <sup>s</sup>	<i>Hydrobates furcatus</i> [ <i>Oceanodroma furcata</i> ] <sup>c</sup>	FS, SSC	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
Ashy storm-petrel <sup>l</sup>	<i>Hydrobates</i> [ <i>Oceanodroma</i> ] <i>homochroa</i> <sup>c</sup>	FS, SSC	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
Black storm-petrel <sup>u</sup>	<i>Hydrobates</i> [ <i>Oceanodroma</i> ] <i>melania</i> <sup>c</sup>	SSC	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
Mammals	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Ornate shrew	<i>Sorex ornatus</i>	SSC	67.47	0.00	0.00	6.36	22.67	0.00	0.00	0.77	0.00	0.40	0.00	6.57	0.03	0.00	0.06	0.07	0.00	1.85	106.25
Broad-footed mole <sup>v</sup>	<i>Scapanus latimanus</i>	SSC	67.47	0.00	0.00	6.36	22.67	2.64	0.00	0.77	0.01	0.00	0.00	0.00	0.03	22.70	0.06	0.07	0.00	1.85	124.63
Spotted bat	<i>Euderma maculatum</i>	FS, SSC	2.87	0.00	0.00	0.26	2.86	0.00	0.05	0.48	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	191.68	0.07	198.30
Yuma myotis	<i>Myotis yumanensis</i>	FS	67.47	0.00	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.40	0.66	6.57	0.03	22.70	0.06	0.07	260.35	1.85	392.97
Long-eared myotis	<i>Myotis evotis</i>	FS	0.00	34.94	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.40	0.66	6.57	0.03	22.70	0.06	0.07	0.00	1.85	100.09
Fringed myotis	<i>Myotis thysanodes</i>	FS	67.47	34.94	0.07	6.36	22.67	0.00	0.29	0.77	0.00	0.00	0.66	6.57	0.03	22.70	0.06	0.07	260.35	1.85	424.86
Small-footed myotis	<i>Myotis ciliolabrum</i>	FS	67.47	34.94	0.07	6.36	22.67	2.64	0.00	0.77	0.01	0.40	0.66	6.57	0.03	22.70	0.06	0.07	260.35	1.85	427.62
Western red bat	<i>Lasiurus blossevillei</i>	SSC	67.47	0.00	0.07	6.36	22.67	0.00	0.00	0.77	0.00	0.40	0.66	6.57	0.03	22.70	0.06	0.07	260.35	1.85	390.03
Western yellow bat	<i>Lasiurus xanthinus</i>	SSC	0.00	0.00	0.00	0.10	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.40
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	67.47	34.94	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.00	0.00	6.57	0.03	22.70	0.06	0.07	260.35	1.85	426.85
Pallid bat	<i>Antrozous pallidus</i>	FS, SSC	67.47	34.94	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.00	0.00	6.57	0.03	22.70	0.06	0.07	260.35	1.85	426.85
Western mastiff bat	<i>Eumops perotis</i>	FS, SSC	67.47	34.94	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.40	0.00	6.57	0.03	22.70	0.06	0.00	260.35	1.85	427.18
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	SSC	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	104.56	0.00	105.12
Brush rabbit <sup>w</sup>	<i>Sylvilagus bachmani</i>	FE, SE	67.47	0.00	0.07	6.36	22.67	2.64	0.00	0.77	0.01	0.00	0.00	6.57	0.03	22.70	0.06	0.07	260.35	1.85	391.62



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Black-tailed jackrabbit	<i>Lepus californicus</i>	SSC	67.47	0.00	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.00	0.00	6.57	0.03	22.70	0.06	0.07	260.35	1.85	391.91
California pocket mouse	<i>Chaetodipus californicus</i>	SSC	67.47	0.00	0.07	6.36	22.67	0.00	0.00	0.77	0.00	0.00	0.00	6.57	0.00	0.00	0.00	0.00	0.00	0.00	103.91
Heermann's kangaroo rat <sup>x</sup>	<i>Dipodomys heermanni</i>	FE, SE	52.82	0.00	0.00	4.11	12.30	0.00	0.00	0.00	0.00	0.00	0.00	3.28	0.00	19.01	0.00	0.00	0.00	0.00	91.52
Deer mouse <sup>y</sup>	<i>Peromyscus maniculatus</i>	SSC	67.47	34.94	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.40	0.00	6.57	0.03	22.70	0.06	0.07	260.35	1.85	427.25
Desert woodrat	<i>Neotoma lepida</i>	SSC	0.00	0.00	0.07	0.00	22.67	0.00	0.29	0.00	0.00	0.00	0.00	6.57	0.00	0.00	0.00	0.00	0.00	0.00	29.60
California vole	<i>Microtus californicus</i>	SSC	67.47	0.00	0.00	6.36	22.67	2.64	0.00	0.77	0.01	0.40	0.00	6.57	0.03	22.70	0.06	0.07	260.35	1.85	391.95
Red fox <sup>z</sup>	<i>Vulpes vulpes</i>	FPE, ST, FS	0.69	1.67	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	1.87	0.00	0.02	0.06	0.07	0.00	0.00	4.44
Ringtail	<i>Bassariscus astutus</i>	SFP	67.47	34.94	0.07	6.36	22.67	0.00	0.29	0.77	0.00	0.00	0.00	6.57	0.03	22.70	0.06	0.07	0.00	1.85	163.85
American badger	<i>Taxidea taxus</i>	SSC	67.47	34.94	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.00	0.00	6.57	0.03	22.70	0.06	0.07	0.00	1.85	166.50
Western spotted skunk <sup>aa</sup>	<i>Spilogale gracilis</i>	SSC	67.47	0.00	0.07	6.36	22.67	2.64	0.00	0.77	0.01	0.00	0.00	6.57	0.03	22.70	0.06	0.07	260.35	1.85	391.62
Mountain lion	<i>Puma concolor</i>	ST	58.46	0.00	0.07	6.25	21.06	2.08	0.24	0.12	0.00	0.00	0.00	6.08	0.00	21.65	0.00	0.07	0.00	1.60	117.68
Big-eared woodrat <sup>bb</sup>	<i>Neotoma macrotis</i>	FS, SSC	0.00	0.00	0.07	6.36	22.67	0.00	0.00	0.77	0.00	0.00	0.00	6.57	0.03	0.00	0.06	0.07	0.00	1.85	38.45
Little pocket mouse	<i>Perognathus longimembris</i>	SSC	0.00	0.00	0.00	0.10	1.34	0.00	0.05	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	1.98
San Diego pocket mouse	<i>Chaetodipus fallax</i>	SSC	0.47	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48
Stephens' kangaroo rat	<i>Dipodomys stephensi</i>	FE, ST	0.47	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48
Southern grasshopper mouse	<i>Onychomys torridus</i>	SSC	9.25	0.00	0.00	0.00	1.34	0.00	0.05	0.00	0.00	0.00	0.00	0.55	0.03	0.00	0.00	0.00	0.00	0.25	11.47
Guadalupe fur-seal	<i>Arctocephalus townsendi</i>	FT, ST, SFP	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
California sea-lion	<i>Zalophus californianus</i>	None	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Deciduous Orchard	Desert Wash	Eucalyptus	Evergreen Orchard	Fresh Emergent Wetland	Lacustrine	Mixed Chaparral	Montane Riparian	Pasture	Perennial Grassland	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Harbor seal	<i>Phoca vitulina</i>	None	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
Northern elephant seal	<i>Mirounga angustirostris</i>	SFP	0.00	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
Bighorn sheep	<i>Ovis canadensis</i>	FS, SFP	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Not applicable	Not applicable	Total	67.47	34.94	0.07	6.36	22.67	2.64	0.29	0.77	0.01	0.40	0.66	8.89	0.03	22.70	0.06	0.07	260.35	1.87	430.25

Notes: FE = federally endangered; FPE = federally proposed endangered; FS = federally sensitive (USFS and/or BLM sensitive); FT = federally threatened; SC = state candidate; SCE = state candidate endangered; SE = state endangered; SFP = state fully protected; SFS = state fire sensitive; SR = state rare; SSC = species of special concern (CDFW); ST= state threatened

<sup>a</sup> This plant species does not occur in the Southern California Coast Ecoregion Section within the GAI.

<sup>b</sup> Southern California slender salamander: Only the desert subspecies is special status, and it does not occur in the GAI.

<sup>c</sup> Latin name or regulatory status has changed since August 20, 2019, when the SAMNA model was run (Caltrans 2019).

<sup>d</sup> Western skink: Only the Coronado subspecies is special status, and it does not occur in the GAI (ranges into San Diego County but south of the GAI).

<sup>e</sup> Striped racer: Only the Alameda subspecies is special status, and it does not occur in the GAI (East Bay).

<sup>f</sup> California [Coast] mountain kingsnake: Updated taxonomy and added status (California mountain kingsnake has been split from coast mountain kingsnake, California has no special status, coast is currently listed as BLM and USFS sensitive).

<sup>g</sup> Common loon: This species is only considered special status in the portion of its range where it nests, and it does not nest in the GAI.

<sup>h</sup> American white pelican: This species is only considered special status in the portion of its range where it nests, and it does not nest in the GAI.

<sup>i</sup> California quail: Only the Catalina subspecies is special status, and it does not occur in the GAI.

<sup>j</sup> Bewick's wren: Only the San Clemente subspecies is special status, and it does not occur in the GAI (was endemic to San Clemente Island and is now extinct).

<sup>k</sup> Hutton's vireo: Only the Catalina subspecies is special status, and it does not occur in the GAI.

<sup>l</sup> Common yellowthroat: Only the San Francisco/Saltmarsh subspecies is special status, and it does not occur in the GAI.

<sup>m</sup> Spotted towhee: Only the San Clemente subspecies is special status, and it does not occur in the GAI.

<sup>n</sup> California towhee: Only the Inyo subspecies is special status, and it does not occur in the GAI.

<sup>o</sup> Rufous-crowned sparrow: Only Santa Cruz Island subspecies is special status, and it does not occur in the GAI.

<sup>p</sup> Bell's sparrow: Only the San Clemente subspecies is special status, and it does not occur in the GAI.

<sup>q</sup> Song sparrow: There are five special-status subspecies of song sparrow, none of which occur in the GAI.

<sup>r</sup> Red-winged blackbird: Only the Kern subspecies is special status, and it does not occur in the GAI (restricted to Lake Isabella and Walker Basin).

<sup>s</sup> Fork-tailed storm-petrel: This species is only considered special status in the portion of its range where it nests, and it does not nest in the GAI.

<sup>t</sup> Ashy storm-petrel: This species is only considered special status in the portion of its range where it nests, and it does not nest in the GAI.

<sup>u</sup> Black storm-petrel: This species is only considered special status in the portion of its range where it nests, and it does not nest in the GAI.

<sup>v</sup> Broad-footed mole: Only the Alameda Island sub-species is special status, and it does not occur in the GAI.

<sup>w</sup> Brush rabbit: Only the riparian brush rabbit is special status and it does not occur in the GAI.

<sup>x</sup> Heermann's kangaroo rat: Only the Morro Bay sub-species is special status and it does not occur in the GAI.

<sup>y</sup> Deer mouse: Only the Channel Islands subspecies are special status, and they do not occur in the GAI.

<sup>z</sup> Red fox: Only the sierra Nevada subspecies is special status and it does not occur in the GAI.

<sup>aa</sup> Western spotted skunk: Only the Channel Islands subspecies is special status, and it does not occur in the GAI.

<sup>bb</sup> Big-eared woodrat: Only the Monterey subspecies is special status and it does not occur in the GAI.



Table E-2. Complete SAMNA Results for the Southern California Mountains and Valleys Ecoregion Section in District 7, by Land Cover (acres)

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Plants	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
San Diego thorn-mint <sup>a</sup>	<i>Acanthomintha ilicifolia</i>	FT, SE	1.62	0.00	0.00	0.00	7.02	0.00	0.00	0.00	0.00	0.00	13.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.65
Munz's onion <sup>a</sup>	<i>Allium munzii</i>	FE, ST	1.62	0.00	0.00	0.00	7.02	0.00	0.00	0.00	0.00	0.00	13.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.65
San Diego ambrosia <sup>a</sup>	<i>Ambrosia pumila</i>	FE	1.62	0.00	0.00	0.00	7.02	0.00	0.00	0.00	0.00	0.00	13.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.65
Del Mar manzanita <sup>a</sup>	<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	FE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Marsh sandwort <sup>a</sup>	<i>Arenaria paludicola</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Braunton's milk-vetch	<i>Astragalus brauntonii</i>	FE	3.03	0.00	0.00	0.00	8.99	0.00	0.00	0.00	0.00	0.00	17.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.08
Ventura marsh milk-vetch <sup>a</sup>	<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	FE, SE	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
Coastal dunes milk-vetch <sup>a</sup>	<i>Astragalus tener</i> var. <i>titi</i>	FE, SE	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
San Jacinto Valley crownscale	<i>Atriplex coronata</i> var. <i>notatior</i>	FE	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05
Encinitas baccharis <sup>a</sup>	<i>Baccharis vanessae</i>	FT, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.01
Nevin's barberry	<i>Berberis nevinii</i>	FE, SE	0.00	0.00	0.00	0.00	8.99	0.00	0.00	0.00	0.00	0.00	17.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.42
Thread-leaved brodiaea	<i>Brodiaea filifolia</i>	FT, SE	1.66	0.00	0.00	0.00	7.02	0.00	0.00	0.00	0.00	0.00	13.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.05
Dunn's mariposa lily	<i>Calochortus dunnii</i>	FS, SR	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.72
Ash-gray paintbrush	<i>Castilleja cinerea</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.41

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Mt. Gleason paintbrush	<i>Castilleja gleasoni</i>	FS, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	1.69
Vail Lake ceanothus	<i>Ceanothus ophiochilus</i>	FT, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91
California jewelflower	<i>Caulanthus californicus</i>	FE, SE	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41
Salt marsh bird's-beak <sup>a</sup>	<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	FE, SE	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
Orcutt's spineflower <sup>a</sup>	<i>Chorizanthe orcuttiana</i>	FE, SE	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
San Fernando valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	FS, SE	1.41	0.00	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.03
Otay tarplant <sup>a</sup>	<i>Deinandra conjugens</i>	FT, SE	1.62	0.00	0.00	0.00	7.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.64
Gaviota tarplant <sup>a</sup>	<i>Deinandra increscens</i> ssp. <i>villosa</i>	FE, SE	1.05	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34
Santa Susana tarplant	<i>Deinandra minthornii</i>	SR	0.00	0.00	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.23
Mojave tarplant <sup>a</sup>	<i>Deinandra mohavensis</i>	FS, SE	0.00	0.00	0.00	0.00	6.86	0.00	0.00	0.00	0.00	0.00	13.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.13
Cuyamaca larkspur <sup>a</sup>	<i>Delphinium hesperium</i> ssp. <i>cuyamacae</i>	FS, SR	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81
Mt. Laguna aster <sup>a</sup>	<i>Dieteria asteroides</i> var. <i>lagunensis</i>	FS, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91
Beach spectaclepod <sup>a</sup>	<i>Dithyrea maritima</i>	ST	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
Slender-horned spineflower	<i>Dodecahema leptoceras</i>	FE, SE	0.00	0.00	0.00	0.00	8.99	0.00	0.00	0.00	0.00	0.00	17.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.42
Cuyamaca Lake downingia <sup>a</sup>	<i>Downingia concolor</i> var. <i>brevior</i>	SE	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Short-leaved dudleya <sup>a</sup>	<i>Dudleya brevifolia</i>	SE	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
Marcescent dudleya <sup>a</sup>	<i>Dudleya cymosa</i> ssp. <i>agourensis</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.22
Santa Monica dudleya	<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	FT	0.00	0.00	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.23
Conejo dudleya	<i>Dudleya parva</i>	FT	1.41	0.00	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.03
Laguna Beach dudleya <sup>a</sup>	<i>Dudleya stolonifera</i>	FT, ST	1.05	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.44
Verity's dudleya <sup>a</sup>	<i>Dudleya verityi</i>	FT	0.00	0.00	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.23
Big Bear Valley sandwort <sup>a</sup>	<i>Eremogone ursina</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.41
Santa Ana River woollystar	<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	FE, SE	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
Lompoc yerba santa	<i>Eriodictyon capitatum</i>	FE, SR	0.00	0.00	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.23
Conejo buckwheat <sup>a</sup>	<i>Eriogonum crocatum</i>	SR	1.41	0.00	0.00	0.00	1.62	0.00	0.00	0.00	0.00	0.00	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.64
Southern mountain buckwheat	<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.43	0.00	10.40
San Diego button-celery	<i>Eryngium aristulatum</i> var. <i>parishii</i>	FE, SE	1.62	0.00	0.00	0.00	7.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.64
Mexican flannelbush	<i>Fremontodendron mexicanum</i>	FE, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91
Roderick's fritillary	<i>Fritillaria roderickii</i>	SE	3.07	0.00	0.00	0.00	8.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.06
Orcutt's hazardia <sup>a</sup>	<i>Hazardia orcuttii</i>	ST	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
Contra Costa goldfields <sup>a</sup>	<i>Lasthenia conjugens</i>	FE	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Parish's meadowfoam	<i>Limnanthes alba ssp. parishii</i>	FS, SE	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81
Willow monardella	<i>Monardella viminea</i>	FE, SE	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.57
Spreading navarretia	<i>Navarretia fossalis</i>	FT	3.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07
Dehesa nolina <sup>a</sup>	<i>Nolina interrata</i>	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91
California Orcutt grass	<i>Orcuttia californica</i>	FE, SE	3.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.03
Baja California birdbush <sup>a</sup>	<i>Ornithostaphylos oppositifolia</i>	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Gander's ragwort	<i>Packera ganderi</i>	FS, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.91
Lyon's pentachaeta	<i>Pentachaeta lyonii</i>	FE, SE	2.46	0.00	0.00	0.00	1.92	0.00	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.08
San Bernardino Mountains bladderpod <sup>a</sup>	<i>Physaria kingii ssp. bernardina</i>	FE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36
San Diego mesa mint <sup>a</sup>	<i>Pogogyne abramsii</i>	FE, SE	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05
Otay Mesa mint <sup>a</sup>	<i>Pogogyne nudiuscula</i>	FE, SE	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05
Small-leaved rose <sup>a</sup>	<i>Rosa minutifolia</i>	SE	0.00	0.00	0.00	0.00	6.86	0.00	0.00	0.00	0.00	0.00	12.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.77
Parish's checkerbloom	<i>Sidalcea hickmanii ssp. parishii</i>	FS, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.97
Bird-foot checkerbloom <sup>a</sup>	<i>Sidalcea pedata</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.41
Santa Ynez false lupine	<i>Thermopsis macrophylla</i>	FS, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.61
Big-leaved crownbeard <sup>a</sup>	<i>Verbesina dissita</i>	FT, ST	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Invertebrates	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Riverside fairy shrimp	<i>Streptocephalus woottoni</i>	FE	0.35	0.00	0.00	0.00	3.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.60
Delhi sands flower-loving fly	<i>Rhaphiomidas terminatus abdominalis</i>	FE	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
Amphibians	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Coast range newt [California newt]	<i>Taricha torosa</i>	SSC	0.29	0.00	0.00	4.11	7.26	0.00	0.00	0.00	0.00	0.00	14.40	0.00	0.00	0.20	0.00	0.00	0.00	0.13	0.00	1.18	27.57
Southern California slender salamander <sup>b</sup>	<i>Batrachoseps major</i>	FE, SE	0.00	1.03	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49
San Gabriel slender salamander	<i>Batrachoseps gabrieli</i>	FS	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.20	0.00	0.00	0.00	0.13	0.00	0.00	2.32
Ensatina	<i>Ensatina eschscholtzii</i>	FS	0.00	0.00	0.00	4.55	8.99	0.00	0.00	0.00	0.00	0.00	17.06	0.25	0.50	0.24	0.00	0.00	0.00	0.38	0.00	1.98	33.95
Western spadefoot	<i>Spea hammondi</i>	FS, SSC	2.74	0.00	0.01	1.07	8.23	0.00	0.00	0.04	0.00	0.00	11.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.05
Arroyo toad	<i>Anaxyrus californicus</i>	FE, SSC	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.03	17.28	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	1.90	19.74
Foothill yellow-legged frog	<i>Rana boylei</i>	FS, SE <sup>c</sup>	0.19	0.00	0.14	0.24	0.08	0.00	0.00	0.00	0.00	0.00	1.32	0.08	0.39	0.20	0.00	0.00	0.00	0.13	0.00	0.65	3.42
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	3.07	0.00	0.00	4.55	8.99	0.00	0.00	0.04	0.00	0.03	17.43	0.00	0.50	0.24	0.00	0.00	0.00	0.00	0.00	1.98	36.83
Southern mountain yellow-legged frog	<i>Rana muscosa</i>	FE, FS, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.49	0.23	0.00	0.00	0.00	0.38	0.00	0.00	1.14
Reptiles	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Blainville's horned lizard	<i>Phrynosoma blainvillii</i>	FS, SSC	3.07	0.00	0.15	4.55	8.99	0.00	0.00	0.00	0.00	0.00	17.43	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	1.98	36.41



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Western skink <sup>d</sup>	<i>Plestiodon skiltonianus</i>	FS	3.07	0.00	0.15	4.55	8.99	0.00	0.00	0.00	0.00	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.00	0.38	0.00	1.98	37.82
California legless lizard	<i>Anniella pulchra</i>	FS, SSC	0.00	0.00	0.15	4.55	8.99	0.52	0.00	0.00	0.00	0.00	17.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98	33.62
Common sagebrush lizard <sup>e</sup>	<i>Sceloporus graciosus</i>	FS	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.04	0.00	3.12	0.25	0.50	0.24	0.00	0.02	0.24	0.38	0.00	0.00	4.92
Desert night lizard <sup>f</sup>	<i>Xantusia vigilis</i>	FS, SSC	1.41	0.00	0.00	0.00	0.00	0.07	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.22	0.00	0.00	0.00	1.85
Orange-throated whiptail	<i>Aspidoscelis hyperythra</i>	FS	0.00	0.00	0.00	4.05	6.81	0.00	0.00	0.00	0.00	0.00	13.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.05
Coachwhip <sup>g</sup>	<i>Masticophis [Coluber] flagellum</i>	SSC	3.07	0.00	0.15	4.55	8.99	0.52	0.00	0.00	0.00	0.00	17.43	0.00	0.00	0.00	0.26	0.02	0.24	0.00	0.00	1.98	37.21
California mountain kingsnake <sup>h</sup>	<i>Lampropeltis zonata</i>	FS	0.03	0.00	0.00	3.06	0.00	0.00	0.00	0.00	0.04	0.00	3.98	0.25	0.50	0.24	0.00	0.00	0.00	0.38	0.00	1.33	9.81
Coast [California] mountain kingsnake (San Bernardino population) <sup>h</sup>	<i>Lampropeltis multifasciata [zonata parviruba]</i>	FS	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.04	0.00	1.54	0.25	0.50	0.24	0.00	0.00	0.00	0.38	0.00	0.26	3.27
Coast [California] mountain kingsnake (San Diego population) <sup>h</sup>	<i>Lampropeltis multifasciata [zonata pulchra]</i>	FS	0.15	0.00	0.00	4.05	0.00	0.00	0.00	0.00	0.00	0.00	12.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	17.13
Red diamond rattlesnake	<i>Crotalus ruber</i>	FS, SSC	1.13	0.01	0.00	4.10	6.86	0.00	0.00	0.00	0.00	0.00	12.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	26.08
Ring-necked snake	<i>Diadophis punctatus</i>	FS	3.07	0.00	0.15	4.55	8.99	0.00	0.00	0.04	0.00	0.00	17.39	0.00	0.48	0.15	0.26	0.00	0.00	0.08	75.83	1.98	112.97
Striped racer <sup>i</sup>	<i>Coluber lateralis</i>	FT, ST	0.00	0.00	0.15	4.55	8.99	0.00	0.00	0.00	0.00	0.00	17.43	0.25	0.50	0.24	0.00	0.00	0.00	0.38	0.00	1.98	34.47
Western patch-nosed snake	<i>Salvadora hexalepis</i>	SSC	3.07	2.94	0.15	4.55	8.99	0.52	0.00	0.00	0.00	0.00	17.43	0.25	0.00	0.00	0.00	0.02	0.24	0.00	0.00	1.98	40.14
Gophersnake	<i>Pituophis catenifer</i>	None	3.07	0.00	0.15	4.55	8.99	0.52	0.13	0.04	0.04	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	114.93
Common gartersnake	<i>Thamnophis sirtalis</i>	SSC	2.82	0.00	0.15	4.55	8.94	0.00	0.00	0.04	0.00	0.03	16.25	0.00	0.10	0.00	0.26	0.02	0.06	0.00	0.00	1.90	35.12

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Two-striped gartersnake	<i>Thamnophis hammondi</i>	FS, SSC	3.07	0.00	0.15	4.55	8.99	0.00	0.00	0.04	0.04	0.03	17.43	0.25	0.50	0.24	0.00	0.00	0.00	0.00	0.00	1.98	37.27
Birds	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
American white pelican <sup>l</sup>	<i>Pelecanus erythrorhynchos</i>	SSC	0.00	2.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.96
Least bittern	<i>Ixobrychus exilis</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Great blue heron	<i>Ardea herodias</i>	SFS	3.07	0.00	0.00	4.55	8.99	0.00	0.13	0.04	0.00	0.03	0.00	0.00	0.50	0.24	0.00	0.02	0.00	0.38	76.14	1.98	96.07
Great egret	<i>Ardea alba</i>	SFS	2.74	0.00	0.00	4.49	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.77	1.72	82.76
Redhead	<i>Aythya americana</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
California condor	<i>Gymnogyps californianus</i>	FE, SE	1.41	0.09	0.15	0.39	0.62	0.00	0.00	0.00	0.00	0.03	2.61	0.00	0.00	0.00	0.00	0.02	0.06	0.00	0.00	0.00	5.38
Osprey	<i>Pandion haliaetus</i>	SFS	2.74	2.87	0.00	4.55	0.00	0.52	0.13	0.04	0.04	0.00	16.16	0.25	0.50	0.24	0.00	0.00	0.20	0.38	0.00	1.98	30.60
White-tailed kite	<i>Elanus leucurus</i>	FS, SFP	3.07	2.15	0.15	4.49	8.48	0.00	0.00	0.04	0.00	0.00	15.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.85	1.72	110.83
Bald eagle	<i>Haliaeetus leucocephalus</i>	FS, SE	3.07	2.94	0.15	4.55	8.99	0.00	0.13	0.04	0.04	0.03	17.43	0.25	0.50	0.24	0.00	0.02	0.24	0.38	0.00	1.98	40.98
Northern harrier	<i>Circus hudsonius</i> <sup>c</sup>	SSC	3.07	2.19	0.15	4.55	8.94	0.47	0.05	0.04	0.00	0.03	17.21	0.00	0.11	0.01	0.00	0.02	0.24	0.15	75.73	1.95	114.91
Golden eagle	<i>Aquila chrysaetos</i>	FS, SFP	3.07	2.94	0.15	4.55	8.99	0.52	0.13	0.04	0.04	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	117.87
Peregrine falcon	<i>Falco peregrinus</i>	FS	3.07	2.94	0.15	4.55	8.99	0.00	0.13	0.04	0.04	0.03	17.43	0.25	0.50	0.24	0.00	0.02	0.24	0.38	76.14	1.98	117.12
California quail <sup>k</sup>	<i>Callipepla californica</i>	SSC	3.07	0.00	0.15	4.55	8.99	0.52	0.13	0.00	0.00	0.00	17.43	0.25	0.50	0.24	0.00	0.02	0.24	0.38	76.14	1.98	114.59
Mountain plover	<i>Charadrius montanus</i>	FS, SSC	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
Burrowing owl	<i>Athene cunicularia</i>	FS, SSC	0.81	1.03	0.00	0.00	0.22	0.46	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.91	0.12	66.16
Spotted owl	<i>Strix occidentalis</i>	FT, ST	0.00	0.00	0.00	0.30	0.00	0.00	0.13	0.00	0.04	0.00	0.00	0.00	0.50	0.24	0.00	0.00	0.00	0.38	0.00	0.91	2.50
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	0.00	0.00	0.00	0.30	0.00	0.00	0.13	0.00	0.04	0.00	0.00	0.00	0.50	0.24	0.00	0.00	0.00	0.38	0.00	0.91	2.50
Long-eared owl	<i>Asio otus</i>	SSC	3.07	0.00	0.15	4.55	0.00	0.00	0.13	0.00	0.00	0.00	17.43	0.25	0.50	0.24	0.26	0.00	0.24	0.38	0.00	1.98	29.18

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Short-eared owl	<i>Asio flammeus</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.77	0.00	1.77
Olive-sided flycatcher	<i>Contopus cooperi</i>	SSC	0.00	0.00	0.15	0.00	0.00	0.00	0.13	0.00	0.04	0.00	5.25	0.00	0.50	0.24	0.00	0.00	0.00	0.38	0.00	0.00	6.19
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Purple martin	<i>Progne subis</i>	SSC	1.06	0.00	0.00	4.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.23	0.00	0.00	0.00	0.22	60.85	1.27	68.28
Cactus wren	<i>Campylorhynchus brunneicapillus</i>	None	0.00	0.00	0.00	0.00	8.99	0.52	0.00	0.00	0.00	0.00	17.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.14	0.00	103.08
San Diego cactus wren	<i>Campylorhynchus brunneicapillus sandiegensis</i>	FS	0.00	0.00	0.00	0.00	2.12	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.33	0.00	10.72
Bewick's wren <sup>l</sup>	<i>Thryomanes bewickii</i>	SSC	0.00	0.00	0.15	4.55	8.99	0.52	0.00	0.00	0.00	0.00	17.43	0.25	0.50	0.24	0.00	0.02	0.00	0.00	76.14	1.98	110.77
Marsh wren	<i>Cistothorus palustris</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	1.94
Loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	3.07	2.94	0.15	4.55	8.99	0.52	0.13	0.00	0.04	0.00	17.43	0.00	0.50	0.24	0.00	0.02	0.24	0.00	76.14	1.98	116.94
Hutton's vireo <sup>m</sup>	<i>Vireo huttoni</i>	SSC	0.00	0.00	0.14	4.55	7.35	0.00	0.00	0.00	0.00	0.00	15.12	0.00	0.10	0.00	0.00	0.00	0.00	0.00	69.95	1.90	99.11
Yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.00	0.15	4.55	8.99	0.52	0.13	0.00	0.04	0.00	17.43	0.25	0.50	0.24	0.00	0.00	0.00	0.38	76.14	1.98	111.30
Common yellowthroat <sup>n</sup>	<i>Geothlypis trichas</i>	SSC	3.07	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	5.01
Yellow-breasted chat	<i>Icteria virens</i>	SSC	0.00	0.00	0.00	0.00	8.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.72	10.20
Spotted towhee <sup>o</sup>	<i>Pipilo maculatus</i>	SSC	0.00	0.00	0.15	4.55	8.99	0.52	0.13	0.00	0.04	0.00	17.43	0.25	0.50	0.24	0.00	0.02	0.24	0.38	76.14	1.98	111.56
California towhee <sup>p</sup>	<i>Melozona [Pipilo] crissalis<sup>c</sup></i>	FT, SE	0.00	0.00	0.15	4.55	8.99	0.00	0.00	0.00	0.00	0.00	17.43	0.25	0.50	0.24	0.00	0.00	0.00	0.00	76.14	1.98	110.23
Rufous-crowned sparrow <sup>q</sup>	<i>Aimophila ruficeps</i>	SSC	3.07	0.00	0.15	0.00	8.94	0.00	0.00	0.00	0.00	0.00	17.17	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	1.90	31.29
Bell's sparrow <sup>r</sup>	<i>Artemisiospiza belli</i>	FT, SSC	0.00	0.00	0.15	0.00	8.99	0.00	0.13	0.00	0.00	0.00	17.43	0.25	0.00	0.00	0.00	0.02	0.24	0.00	0.00	0.00	27.21



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Savannah sparrow <sup>s</sup>	<i>Passerculus sandwichensis</i>	SSC	3.07	0.00	0.15	4.55	8.99	0.52	0.00	0.00	0.00	0.00	17.43	0.00	0.00	0.00	0.26	0.02	0.24	0.00	0.00	1.98	37.21
Grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06
Song sparrow <sup>t</sup>	<i>Melospiza melodia</i>	SSC	3.07	0.00	0.15	4.55	8.99	0.00	0.13	0.04	0.04	0.03	17.43	0.00	0.50	0.24	0.00	0.02	0.00	0.38	76.14	1.98	113.69
Vesper sparrow	<i>Poocetes gramineus</i>	None	1.66	0.00	0.00	4.10	0.00	0.00	0.00	0.00	0.00	0.00	13.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.03
Oregon vesper sparrow	<i>Poocetes gramineus affinis</i>	SSC	1.66	0.00	0.00	4.10	0.00	0.00	0.00	0.00	0.00	0.00	13.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.03
Red-winged blackbird <sup>u</sup>	<i>Agelaius phoeniceus</i>	SSC	3.07	0.00	0.00	0.00	8.99	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.14	1.98	90.22
Tricolored blackbird	<i>Agelaius tricolor</i>	FS, ST	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.27	1.07	61.40
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56
Northern goshawk	<i>Accipiter gentilis</i>	FS, SSC	0.00	0.00	0.14	0.00	0.00	0.00	0.13	0.00	0.04	0.00	0.36	0.25	0.40	0.24	0.00	0.00	0.18	0.38	0.00	0.14	2.26
Black swift	<i>Cypseloides niger</i>	SSC	0.00	0.98	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.08	0.49	0.20	0.00	0.00	0.00	0.13	41.74	0.18	45.05
Coastal California gnatcatcher	<i>Polioptila californica</i>	FT, SSC	2.72	0.00	0.15	3.92	7.75	0.00	0.00	0.00	0.00	0.00	13.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	29.13
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	FT, FS, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07
Bell's vireo	<i>Vireo bellii</i>	None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	1.22
Mammals	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Ornate shrew	<i>Sorex ornatus</i>	SSC	3.07	0.00	0.00	4.55	8.99	0.00	0.00	0.04	0.00	0.00	17.43	0.25	0.00	0.24	0.00	0.00	0.00	0.38	0.00	1.98	36.93
Broad-footed mole <sup>v</sup>	<i>Scapanus latimanus</i>	SSC	3.07	0.00	0.00	4.55	8.99	0.00	0.13	0.00	0.04	0.00	0.00	0.00	0.50	0.24	0.26	0.00	0.00	0.38	0.00	1.98	20.14

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Yuma myotis	<i>Myotis yumanensis</i>	FS	3.07	0.00	0.15	4.55	8.99	0.52	0.13	0.04	0.04	0.03	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	114.96
Long-eared myotis	<i>Myotis evotis</i>	FS	0.00	2.94	0.15	4.55	8.99	0.52	0.13	0.04	0.04	0.03	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	0.00	1.98	38.69
Fringed myotis	<i>Myotis thysanodes</i>	FS	3.07	2.94	0.15	4.55	8.99	0.52	0.13	0.00	0.04	0.03	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	117.86
Small-footed myotis	<i>Myotis ciliolabrum</i>	FS	3.07	2.94	0.15	4.55	8.99	0.00	0.13	0.04	0.04	0.03	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	117.38
Western red bat	<i>Lasiurus blossevillii</i>	SSC	3.03	0.00	0.15	4.49	8.65	0.00	0.00	0.04	0.00	0.03	16.11	0.00	0.00	0.00	0.26	0.02	0.00	0.00	72.10	1.90	106.78
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	3.07	2.94	0.15	4.55	8.99	0.52	0.13	0.00	0.04	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	117.83
Pallid bat	<i>Antrozous pallidus</i>	FS, SSC	3.07	2.94	0.15	4.55	8.99	0.52	0.13	0.00	0.04	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	117.83
Pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.71	0.00	58.71
Western mastiff bat	<i>Eumops perotis</i>	FS, SSC	3.07	2.94	0.15	4.55	8.99	0.52	0.00	0.04	0.00	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.00	0.00	76.14	1.98	117.08
Western yellow bat	<i>Lasiurus xanthinus</i>	SSC	0.00	0.00	0.00	4.16	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	5.92
Spotted bat	<i>Euderma maculatum</i>	FS, SSC	3.07	0.00	0.00	4.14	6.08	0.52	0.13	0.00	0.04	0.00	0.00	0.25	0.00	0.24	0.00	0.00	0.18	0.38	66.09	0.62	81.74
Brush rabbit <sup>w</sup>	<i>Sylvilagus bachmani</i>	FE, SE	3.07	0.00	0.15	4.55	8.94	0.00	0.00	0.00	0.00	0.00	17.17	0.00	0.11	0.00	0.26	0.00	0.00	0.00	75.61	1.90	111.76
Black-tailed jackrabbit	<i>Lepus californicus</i>	SSC	3.07	0.00	0.15	4.55	8.99	0.52	0.05	0.00	0.00	0.00	17.41	0.08	0.50	0.21	0.26	0.02	0.24	0.28	76.07	1.95	114.35
Lodgepole chipmunk	<i>Neotamias [Tamias] speciosus<sup>c</sup></i>	None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.31
Northern flying squirrel	<i>Glaucomys sabrinus</i>	None	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.02	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.00	0.08	0.34
San Bernardino flying squirrel	<i>Glaucomys oregonensis californicus</i>	FS, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.02	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.10	0.00	0.08	0.34

Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redhank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Stephens' kangaroo rat	<i>Dipodomys stephensi</i>	FE, ST	1.66	0.00	0.00	0.00	6.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.52
Merriam's kangaroo rat	<i>Dipodomys merriami</i>	None	0.60	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
San Bernardino kangaroo rat	<i>Dipodomys merriami parvus</i>	FE, SCE, SSC	0.60	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
Little pocket mouse	<i>Perognathus longimembris</i>	SSC	0.00	0.00	0.00	0.26	1.50	0.46	0.00	0.00	0.00	0.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.87
San Joaquin pocket mouse	<i>Perognathus inornatus</i>	FS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
San Diego pocket mouse	<i>Chaetodipus fallax</i>	SSC	1.66	0.00	0.00	0.00	6.86	0.46	0.00	0.00	0.00	0.00	13.31	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	22.47
California pocket mouse	<i>Chaetodipus californicus</i>	SSC	3.07	0.00	0.15	4.55	8.99	0.00	0.00	0.00	0.00	0.00	17.43	0.25	0.50	0.00	0.00	0.00	0.24	0.00	0.00	0.00	35.18
Deer mouse <sup>x</sup>	<i>Peromyscus maniculatus</i>	SSC	3.07	2.94	0.15	4.55	8.99	0.52	0.13	0.04	0.04	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	117.87
Southern grasshopper mouse	<i>Onychomys torridus</i>	SSC	3.07	0.00	0.00	0.00	8.98	0.52	0.00	0.00	0.00	0.00	16.31	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	1.33	30.39
Desert woodrat	<i>Neotoma lepida</i>	SSC	0.00	0.00	0.15	0.00	8.99	0.52	0.00	0.00	0.00	0.00	17.43	0.25	0.50	0.24	0.00	0.02	0.24	0.00	0.00	0.00	28.34
Dusky-footed woodrat <sup>y</sup>	<i>Neotoma fuscipes</i>	SSC	0.00	0.00	0.14	0.24	0.01	0.00	0.00	0.00	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.65	1.87
Big-eared woodrat <sup>z</sup>	<i>Neotoma macrotis</i>	FS, SSC	0.00	0.00	0.01	4.31	8.98	0.00	0.00	0.00	0.00	0.00	16.66	0.25	0.50	0.24	0.00	0.00	0.18	0.38	0.00	1.33	32.84
California vole	<i>Microtus californicus</i>	SSC	3.07	0.00	0.00	4.55	8.99	0.00	0.13	0.04	0.00	0.00	17.43	0.25	0.50	0.24	0.26	0.00	0.24	0.38	76.14	1.98	114.20
Red fox <sup>aa</sup>	<i>Vulpes vulpes</i>	FPE, ST, FS	0.00	0.02	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
Ringtail	<i>Bassariscus astutus</i>	SFP	3.07	2.94	0.15	4.55	8.99	0.52	0.13	0.00	0.04	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	0.00	1.98	41.69
American badger	<i>Taxidea taxus</i>	SSC	3.07	2.94	0.15	4.55	8.99	0.52	0.13	0.00	0.04	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	0.00	1.98	41.69
Western spotted skunk <sup>bb</sup>	<i>Spilogale gracilis</i>	SSC	3.07	0.00	0.15	4.55	8.99	0.00	0.13	0.00	0.04	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	114.37



Common Name	Scientific Name	Status	Annual Grassland	Barren	Chamise-Redshank Chaparral	Coastal Oak Woodland	Coastal Scrub	Desert Wash	Eastside Pine	Fresh Emergent Wetland	Jeffrey Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Pasture	Pinyon-Juniper	Sagebrush	Sierran Mixed Conifer	Urban	Valley Foothill Riparian	Total
Mountain lion	<i>Puma concolor</i>	ST	3.07	0.00	0.15	4.55	8.99	0.52	0.13	0.00	0.04	0.00	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	0.00	1.98	38.75
Bighorn sheep	<i>Ovis canadensis</i>	FS, SFP	0.00	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45
Not applicable	Not applicable	Total	3.07	2.94	0.15	4.55	8.99	0.52	0.13	0.04	0.04	0.03	17.43	0.25	0.50	0.24	0.26	0.02	0.24	0.38	76.14	1.98	117.90

Notes: FE = federally endangered; FPE = federally proposed endangered; FS = federally sensitive (USFS and/or BLM sensitive); FT = federally threatened; SCE = state candidate endangered; SE = state endangered; SFP = state fully protected; SFS = state fire sensitive; SR = state rare; SSC = species of special concern (CDFW); ST= state threatened

<sup>a</sup> This plant species does not occur in the Central California Coast Ranges Ecoregion Section.

<sup>b</sup> Southern California slender salamander: Only the desert subspecies is special status, and it does not occur in the GAI.

<sup>c</sup> Latin name or regulatory status has changed since August 20, 2019, when the SAMNA model was run (Caltrans 2019).

<sup>d</sup> Western skink: Only the Coronado subspecies is special status, and it does not occur in the GAI (ranges into San Diego County but south of the GAI).

<sup>e</sup> Common sagebrush lizard: Only the northern sagebrush lizard is special status, and it does not occur in the GAI.

<sup>f</sup> Desert night lizard: Only the Sierra night lizard is special status, and it does not occur in the GAI.

<sup>g</sup> Coachwhip: Only the San Joaquin and Baja California coachwhip are special status and they do not occur in the GAI.

<sup>h</sup> California [Coast] mountain kingsnake: Updated taxonomy and added status (California mountain kingsnake has been split from coast mountain kingsnake, California has no special status, coast is currently listed as BLM and USFS sensitive).

<sup>i</sup> Striped racer: Only the Alameda subspecies is special status, and it does not occur in the GAI (East Bay).

<sup>j</sup> American white pelican: This species is only considered special status in the portion of its range where it nests, and it does not nest in the GAI.

<sup>k</sup> California quail: Only the Catalina subspecies is special status, and it does not occur in the GAI.

<sup>l</sup> Bewick's wren: Only the San Clemente subspecies is special status, and it does not occur in the GAI (was endemic to San Clemente Island and is now extinct).

<sup>m</sup> Hutton's vireo: Only the Catalina subspecies is special status, and it does not occur in the GAI.

<sup>n</sup> Common yellowthroat: Only the San Francisco/Saltmarsh subspecies is special status, and it does not occur in the GAI.

<sup>o</sup> Spotted towhee: Only the San Clemente subspecies is special status, and it does not occur in the GAI.

<sup>p</sup> California towhee: Only the Inyo subspecies is special status, and it does not occur in the GAI.

<sup>q</sup> Rufous-crowned sparrow: Only the Santa Cruz Island subspecies is special status, and it does not occur in the GAI.

<sup>r</sup> Bell's sparrow: Only the San Clemente subspecies is special status, and it does not occur in the GAI.

<sup>s</sup> Savannah sparrow: Three special-status subspecies of savannah sparrow occur in the GAI, but only in the Southern California Coast Ecoregion. Savannah sparrows occurring in the Southern California Mountain and Valley Ecoregion are not special status.

<sup>t</sup> Song sparrow: There are five special-status subspecies of song sparrow, none of which occur in the GAI.

<sup>u</sup> Red-winged blackbird: Only the Kern subspecies is special status, and it does not occur in the GAI (restricted to Lake Isabella and Walker Basin).

<sup>v</sup> Broad-footed mole: Only the Alameda Island sub-species is special status, and it does not occur in the GAI.

<sup>w</sup> Brush rabbit: Only the riparian brush rabbit is special status, and it does not occur in the GAI.

<sup>x</sup> Deer mouse: Only the Channel Islands subspecies are special status, and they do not occur in the GAI.

<sup>y</sup> Dusky-footed woodrat: Only the San Francisco and riparian subspecies are special status and they do not occur in the GAI.

<sup>z</sup> Big-eared woodrat: Only the Monterey subspecies is special status and it does not occur in the GAI.

<sup>aa</sup> Red fox: Only the sierra Nevada subspecies is special status and it does not occur in the GAI.

<sup>bb</sup> Western spotted skunk: Only the Channel Islands subspecies is special status, and it does not occur in the GAI.

## APPENDIX F: HYDROLOGIC UNITS

### Sub-basin Descriptions

The GAI overlaps 22 sub-basins. A description of each sub-basin is provided in the following sections. A crosswalk between the HUC-8 sub-basins and HUs is provided in Table F-1, provided at the end of this appendix.

#### ***Aliso-San Onofre Sub-basin***

The Aliso-San Onofre Sub-basin drains an area of approximately 1,815 acres (2.8 square miles) and includes 12,476 rivers and streams that traverse 1,679 miles (Table 2-6 of the main text). As noted in Table F-1, the Aliso-San Onofre Sub-basin includes portions of the Santa Ana River, San Jacinto Valley, San Juan, and Santa Margarita HUs. Descriptions of these HUs are provided below and may include features that occur outside of the Aliso-San Onofre Sub-basin or GAI.

The Santa Ana River HU is associated with the upper and lower Santa Ana River watersheds. The Santa Ana River, the primary waterbody in the HU, generally flows from the headwaters in the San Bernardino Mountains southwest for approximately 100 miles to the Pacific Ocean (Santa Ana RWQCB 2016).

The San Jacinto Valley HU is associated with the San Jacinto River Basin and watershed. The San Jacinto River originates in the San Jacinto Mountains and follows the San Jacinto Valley, flowing into Mystic Lake and Canyon Lake before reaching Lake Elsinore. Major tributaries to the San Jacinto River include Bautista Creek, Poppet Creek, Potrero Creek, Perris Valley Drain, and Salt Creek (San Jacinto River Watershed Council 2005).

The San Juan HU includes San Juan and San Mateo Creeks, two major channels that originate in the southern Santa Ana Mountains. The GAI includes only the upper portions of the San Juan Creek and San Mateo Creek watersheds. San Juan Creek divides Dana Point and Capistrano Beach before ultimately draining into the Pacific Ocean at Doheny Beach State Park. San Mateo Creek flows southwest through a valley between the Santa Ana Mountains and Santa Margarita Mountains before draining into the ocean via a saltwater tidal marsh on the Camp Pendleton Naval Reservation (San Diego RWQCB 2016).

The Santa Margarita HU includes the Santa Margarita River, Murrieta Creek, and Temecula River, originating in the Aguanga Mountains. The headwaters of the Santa Margarita River are at the confluence of Murrieta Creek and Temecula River. The Santa Margarita River ultimately discharges into the Pacific Ocean through the Santa Margarita Lagoon on the Camp Pendleton Naval Reservation (San Diego RWQCB 2016).

#### ***Antelope-Fremont Valleys Sub-basin***

The Antelope-Fremont Valleys Sub-basin drains an area of approximately 2,636 acres (4.1 square miles) and includes 577 rivers and streams that traverse 437 miles (Table 2-6 of the main text). As noted in Table F-1, the Antelope-Fremont Valleys Sub-basin includes portions of the Santa Clara-Calleguas, San Gabriel River, Los Angeles River, Grapevine,

Antelope, and Mojave HUs. Descriptions of these HUs are provided below and may include features that occur outside of the Antelope-Fremont Valleys sub-basin or GAI.

The Santa Clara-Calleguas HU contains the Santa Clara River watershed and portions of the Calleguas Creek watershed. The headwaters of the Santa Clara River originate on the northern slope of the San Gabriel Mountains. The Santa Clara River ultimately discharges into the Pacific Ocean between the cities of Ventura and Oxnard (Kamer and Fairey 2005).

The San Gabriel River HU includes the San Gabriel River, which originates in the San Gabriel Mountains where the upper reaches of the river are in undisturbed riparian and woodland habitats. The middle reaches of the river have been modified to control flood and debris flows and to recharge groundwater. The lower reaches are concrete-lined, flowing through urban areas of Los Angeles, ultimately discharging into the Pacific Ocean near the city of Long Beach (Los Angeles RWQCB 2014).

The Los Angeles River HU is associated with the Los Angeles River, Big Tujunga Creek, and Rio Hondo watersheds. The Los Angeles River is approximately 55 miles long and originates in the Santa Monica, Santa Susana, and San Gabriel Mountains, flowing from areas covered by forest or open space land through highly urbanized areas. Lower parts of the river are highly modified and lined with concrete (Los Angeles RWQCB 2014).

The Grapevine HU includes the Tehachapi Creek, Tejon Creek, and San Emigdio watersheds. The GAI includes only the southern portion of the San Emigdio watershed.

The Antelope HU corresponds to the Antelope Valley basin, an enclosed inland basin that is bounded by the Tehachapi Mountains and Garlock Fault Zone to the north and west, and the San Gabriel Mountains and San Andreas Rift Zone to the south and west. Streams originate in the mountains and foothills surrounding the valley and eventually pond in dry lakes (Los Angeles County Department of Public Works 1987). The GAI includes only the southern portion of this HU.

The Mojave HU is associated with the Mojave River, its surface waters originating on the northern slope of the San Bernardino Mountains, flowing approximately 110 miles through the Mojave Desert, ultimately terminating at Soda Lake. The main stem forms upstream of the Mojave Forks Dam north of the GAI at the confluence of Deep Creek, a perennial stream, and the West Fork Mojave River, typically an ephemeral stream (Lahontan RWQCB 2019). The GAI includes only the extreme southern portion of this HU.

### ***Calleguas Sub-basin***

The Calleguas Sub-basin drains an area of approximately 8,159 acres (12.7 square miles) and includes 7,991 rivers and streams that traverse 1,204 miles (Table 2-6 of the main text). As noted in Table F-1, the Calleguas Sub-basin includes portions of the Santa Clara-Calleguas, Santa Monica Bay, Calleguas, Ventura Coastal Streams, Oxnard, and Los Angeles River HUs. Descriptions of the Santa Clara-Calleguas and Los Angeles River HUs are provided in the Antelope-Fremont Valleys Sub-basin section.



The Santa Monica Bay HU is associated with the Santa Monica Bay Watershed Management Area, which extends from the Santa Monica Mountains in the north, southward and westward across the Los Angeles Plain, including the area east of Ballona Creek and north of the Baldwin Hills. The HU includes several watersheds, with Malibu Creek to the northwest and Ballona Creek to the south being the largest. Both watersheds are in highly urbanized areas with streams within the Ballona Creek watershed predominantly channelized (Los Angeles RWQCB 2018a).

The Calleguas HU is bounded by the Santa Susana Mountains to the north and the Simi Hills and Santa Monica Mountains to the south. The HU generally consists of Calleguas Creek and its major tributaries, including Revolon Slough, Conejo Creek, and Arroyo Simi. Calleguas Creek ultimately drains into the Pacific Ocean at Mugu Lagoon near the Point Mugu Naval Air Base (Los Angeles RWQCB 2014).

The Ventura Coastal Streams HU contains several watersheds, including runoff channels and stream courses such as La Jolla Canyon, Big Sycamore Canyon, Little Sycamore Canyon, Deer Creek Canyon, and Arroyo Sequit-Triunfo Canyon Creek. These streams drain the western extent of the Santa Monica Mountains (Ventura County Public Works Agency 2020).

The Oxnard HU is positioned between the floodplains of the Santa Clara River and Calleguas Creek. This plain was formed by deposition of sediments from these two watersheds before flowing into the Pacific Ocean. This area has since been largely converted to agricultural uses, which has reduced the extent of coastal marshes, sloughs, and lagoons as well as groundwater supply (Los Angeles RWQCB 2014).

### ***Cuyama Sub-basin***

The Cuyama Sub-basin drains an area of approximately 5,441 acres (8.5 square miles) and includes 1,985 rivers and streams that traverse 1,127 miles (Table 2-6 of the main text). As noted in Table F-1, the Cuyama Sub-basin includes portions of the Santa Maria, Santa Ynez, Santa Clara-Calleguas, and Grapevine HUs. Descriptions of the Santa Clara-Calleguas and Grapevine HUs are provided in the Antelope-Fremont Valleys Sub-basin section.

The Santa Maria HU includes the watersheds of the Cuyama, Sisquoc, and Santa Maria Rivers. Surface water flows from the headwaters of the Cuyama and Sisquoc Rivers in the Los Padres National Forest, which join approximately 7 miles southeast of Santa Maria to form the Santa Maria River. Twitchell Reservoir is located on the Cuyama River, 6 miles above the headwaters of the Santa Maria River. Nipomo and Orcutt-Solomon Creeks join the Santa Maria River just west of Highway 101 and near the outlet to the Pacific Ocean, respectively. Oso Flaco Lake is also located in the Santa Maria HU, north of the Santa Maria Estuary (Central Coast Water Quality Preservation, Inc. 2018).

The Santa Ynez HU is associated with the Santa Ynez River, which is heavily modified by dams and reservoirs. The headwaters are located in the uplands of the Santa Ynez Mountains. From there, the Santa Ynez River flows into the Gibraltar Reservoir and the

Cachuma Reservoir, discharging to the Pacific Ocean west of Lompoc through a large tidal marsh. Major tributaries include the Salsipuedes, Cachuma, Santa Cruz, and Indian Creeks (Central Coast RWQCB 2016).

### ***Los Angeles Sub-basin***

The Los Angeles Sub-basin drains an area of approximately 12,085 acres (19 square miles) and includes 2,226 rivers and streams that traverse 1,103 miles (Table 2-6 of the main text). As noted in Table F-1, the Los Angeles Sub-basin includes portions of the Santa Clara-Calleguas, Santa Monica Bay, San Gabriel River, Calleguas, Dominguez Channel, Los Angeles River, and Antelope HUs. Descriptions of the Santa Clara-Calleguas, San Gabriel River, Los Angeles River, and Antelope HUs are provided in the Antelope-Fremont Valleys Sub-basin section. Descriptions of the Santa Monica Bay and Calleguas HUs are provided in the Calleguas Sub-basin section.

The Dominguez Channel HU is associated with the Dominguez Channel and Los Angeles/Long Beach Harbors Watershed Management Area. Historically, the HU consisted of marshes and mudflats containing the Dominguez Slough to the north with flow from the Los Angeles River. Currently, the area is highly urbanized and all marshes have been filled, channels dredged, and the Los Angeles River diverted. The Dominguez Channel begins in Hawthorne and discharges into Los Angeles Harbor. Los Angeles and Long Beach Harbors are located in the southern portion of the watershed management area (Los Angeles RWQCB 2018b).

### ***Middle Kern-Upper Tehachapi-Grapevine Sub-basin***

The Middle Kern-Upper Tehachapi-Grapevine Sub-basin drains an area of approximately 621 acres (1 square mile) and includes 308 rivers and streams that traverse 167 miles (Table 2-6 of the main text). As noted in Table F-1, the Middle Kern-Upper Tehachapi-Grapevine Sub-basin includes portions of the Santa Maria, Santa Clara-Calleguas, and Grapevine HUs. A description of the Santa Maria HU is provided in the Cuyama Sub-basin section. Descriptions of the Santa Clara-Calleguas and Grapevine HUs are provided in the Antelope-Fremont Valleys Sub-basin section.

### ***Mojave Sub-basin***

The Mojave Sub-basin drains an area of approximately 122 acres (0.2 square mile) and includes 28 rivers and streams that traverse 22 miles (Table 2-6 of the main text). As noted in Table F-1, the Mojave Sub-basin includes portions of the San Gabriel River, Antelope, Mojave, and Santa Ana River HUs. Descriptions of the San Gabriel River, Antelope, and Mojave HUs are provided in the Antelope-Fremont Valleys Sub-basin section. A description of the Santa Ana River HU is provided in the Aliso-San Onofre Sub-basin section.

### ***Newport Bay Sub-basin***

The Newport Bay Sub-basin drains an area of approximately 2,208 acres (3.5 square miles) and includes 240 rivers and streams that traverse 104 miles (Table 2-6 of the main text). As noted in Table F-1, the Newport Bay Sub-basin includes portions of the Santa

Ana River and San Juan HUs. A description of the Santa Ana River HU is provided in the Aliso-San Onofre Sub-basin section. A description of the San Juan HU is provided in the Antelope-Fremont Valleys Sub-basin section.

### ***San Antonio Sub-basin***

The San Antonio Sub-basin drains an area of approximately 4,478 acres (7 square miles) and includes 8,118 rivers and streams that traverse 1,267 miles (Table 2-6 of the main text). As noted in Table F-1, the San Antonio Sub-basin includes portions of the Santa Maria, San Antonio, and Santa Ynez HUs. Descriptions of the Santa Maria and Santa Ynez HUs are provided in the Cuyama Sub-basin section.

The San Antonio HU is associated with the San Antonio Creek watershed. The primary water body, San Antonio Creek, generally flows from east to west to the Pacific Ocean. It is primarily ephemeral, with tributaries including Cañada de las Flores and Harris Canyon Creek. Because of consolidated marine deposits, a 660-acre marshland, Barka Slough, contributes to the perennial flow of San Antonio Creek downstream of the slough (USGS n.d.).

### ***San Gabriel Sub-basin***

The San Gabriel Sub-basin drains an area of approximately 14,114 acres (22 square miles) and includes 2,086 rivers and streams that traverse 1,147 miles (Table 2-6 of the main text). As noted in Table F-1, the San Gabriel Sub-basin includes portions of the San Gabriel River, Santa Monica Bay, Dominguez Channel, Los Angeles River, Santa Ana River, Antelope, and Mojave HUs. Descriptions of the San Gabriel River, Los Angeles River, Antelope, and Mojave HUs are provided in the Antelope-Fremont Valleys Sub-basin section. A description of the Santa Monica Bay HU is provided in the Calleguas Sub-basin section. A description of the Dominguez Channel HU is provided in the Los Angeles Sub-basin section. A description of the Santa Ana River HU is provided in the Aliso-San Onofre Sub-basin section.

### ***San Jacinto Sub-basin***

The San Jacinto Sub-basin drains an area of approximately 274 acres (0.4 square mile) and includes 121 rivers and streams that traverse 42 miles (Table 2-6 of the main text). As noted in Table F-1, the San Jacinto Sub-basin includes portions of the Whitewater, Santa Ana River, San Jacinto Valley, San Juan, and Santa Margarita HUs. Descriptions of the Santa Ana River, San Jacinto Valley, and Santa Margarita HUs are provided in the Aliso-San Onofre Sub-basin section. A description of the San Juan HU is provided in the Antelope-Fremont Valleys Sub-basin section.

The Whitewater HU begins approximately 1.5 miles north of Whitewater and 3.5 miles upstream from the San Gorgonio River, east of the GAI. The primary stream within the HU is the Whitewater River that flows throughout the Coachella Valley. Perennial flow is observed in the mountainous areas and becomes ephemeral farther downstream (Colorado River RWQCB 2019). Only the far western extent of the Whitewater HU is included in the GAI.



### ***San Luis Rey-Escondido Sub-basin***

The San Luis Rey-Escondido Sub-basin drains an area of approximately 138 acres (0.2 square mile) and includes 289 rivers and streams that traverse 73 miles (Table 2-6 of the main text). As noted in Table F-1, the San Luis Rey-Escondido Sub-basin includes portions of the Santa Margarita and San Luis Rey HUs. A description of the Santa Margarita HU is provided in the Aliso-San Onofre Sub-basin section.

The San Luis Rey HU includes the San Luis Rey River, which occurs south of the GAI, originating in the Palomar and Hot Springs Mountains and extending approximately 55 miles to the Pacific Ocean in the city of Oceanside (San Diego RWQCB 2016).

### ***Santa Ana Sub-basin***

The Santa Ana Sub-basin drains an area of approximately 24,363 acres (38 square miles) and includes 3,366 rivers and streams that traverse 1,540 miles (Table 2-6 of the main text). As noted in Table F-1, the Santa Ana Sub-basin includes portions of the San Gabriel River, Santa Ana River, Mojave, Whitewater, San Jacinto Valley, and San Juan HUs. Descriptions of the San Gabriel River, Mojave, and San Juan HUs are provided in the Antelope-Fremont Valleys Sub-basin section. Descriptions of the Santa Ana River and San Jacinto Valley HUs are provided in the Aliso-San Onofre Sub-basin section. A description of the Whitewater HU is provided in the San Jacinto Sub-basin section.

### ***Santa Barbara Coastal Sub-basin***

The Santa Barbara Coastal Sub-basin drains an area of approximately 6,396 acres (10 square miles) and includes 1,955 rivers and streams that traverse 1,048 miles (Table 2-6 of the main text). As noted in Table F-1, the Santa Barbara Sub-basin includes portions of the Santa Ynez and South Coast HUs. A detailed description of the Santa Ynez HU is provided in the Cuyama Sub-basin section.

The South Coast HU consists of small coastal watersheds with headwaters in the southern part of the Los Padres National Forest and ultimately drains into the Pacific Ocean near Santa Barbara. The majority of the streams originate in steep chaparral, southern coastal scrub, and woodland habitats, flowing through flat coastal terraces to the ocean. In addition, the streams that flow through urbanized floodplains are channelized, including Arroyo Burro, Mission, Sycamore, San Ysidro, Romero, Toro, Arroyo Paredon, Santa Monica, and Franklin Creeks. The Goleta Slough watershed includes Los Carneros, Glen Annie, San Jose, San Pedro, Atascadero, and Maria Ygnacio Creeks. These streams flow through the urban areas of Goleta and are also channelized (Central Coast RWQCB 2007).

### ***Santa Clara Sub-basin***

The Santa Clara Sub-basin drains an area of approximately 28,544 acres (45 square miles) and includes 21,532 rivers and streams that traverse 6,838 miles (Table 2-6 of the main text). As noted in Table F-1, the Santa Clara Sub-basin includes portions of the Santa Maria, Santa Ynez, Ventura River, Santa Clara-Calleguas, Buenaventura, Calleguas, Los Angeles River, Grapevine, and Antelope HUs. Descriptions of the Santa

Maria and Santa Ynez HUs are provided in the Cuyama Sub-basin section. Descriptions of the Santa Clara-Calleguas, Grapevine, Los Angeles River, and Antelope HUs are provided in the Antelope-Fremont Valleys Sub-basin section. A description of the Calleguas HU is provided in the Calleguas Sub-basin section.

The Ventura River HU is associated with the Ventura River watershed. The primary waterbody, the Ventura River, is approximately 16.2 miles long and flows through the Ventura River estuary before discharging into the Pacific Ocean. The drainage system includes five tributaries: Matilija Creek, North Fork Matilija Creek, San Antonio Creek, Coyote Creek, and Canada Larga. Headwaters of the watershed are located in the Transverse Ranges, at the confluence of Matilija Creek and North Fork Matilija Creek (Ventura River Watershed Council 2015).

The Buenaventura HU is situated between the Ventura River and the Santa Clara River. It includes minor streams that drain the foothills and enter storm drains in developed areas that outlet to the Pacific Ocean (Los Angeles RWQCB 2014).

### ***Santa Margarita Sub-basin***

The Santa Margarita Sub-basin drains an area of approximately 1,585 acres (2.5 square miles) and includes 6,950 rivers and streams that traverse 1,030 miles (Table 2-6 of the main text). As noted in Table F-1, the Santa Margarita Sub-basin includes portions of the San Jacinto Valley, San Juan, Santa Margarita, and San Luis Rey HUs. Descriptions of the San Jacinto Valley and Santa Margarita HUs are provided in the Aliso-San Onofre Sub-basin section. A description of the San Juan HU is provided in the Antelope-Fremont Valleys Sub-basin section. A description of the San Luis Rey HU is provided in the San Luis Rey-Escondido Sub-basin section.

### ***Santa Maria Sub-basin***

The Santa Maria Sub-basin drains an area of approximately 2,610 acres (4.1 square miles) and includes 2,420 rivers and streams that traverse 922 miles (Table 2-6 of the main text). As noted in Table F-1, the Santa Maria Sub-basin includes portions of the Santa Maria, San Antonio, and Santa Ynez HUs. Descriptions of the Santa Maria and Santa Ynez HUs are provided in the Cuyama Sub-basin section. A description of the San Antonio HU is provided in the San Antonio Sub-basin section.

### ***Santa Monica Bay Sub-basin***

The Santa Monica Bay Sub-basin drains an area of approximately 6,737 acres (10.5 square miles) and includes 9,367 rivers and streams that traverse 1,955 miles (Table 2-6 of the main text). As noted in Table F-1, the Santa Monica Bay Sub-basin includes portions of the Santa Monica Bay, Calleguas, Ventura Coastal Streams, Dominguez Channel, and Los Angeles River HUs. Descriptions of the Santa Monica Bay, Calleguas, and Ventura Coastal Streams HUs are provided in the Calleguas Sub-basin section. A description of the Dominguez Channel HU is provided in the Los Angeles Sub-basin section. A description of the Los Angeles River HU is provided in the Antelope-Fremont Valleys Sub-basin section.

### ***Santa Ynez Sub-basin***

The Santa Ynez Sub-basin drains an area of approximately 13,765 acres (22 square miles) and includes 14,765 rivers and streams that traverse 3,930 miles (Table 2-6 of the main text). As noted in Table F-1, the Santa Ynez Sub-basin includes portions of the Santa Maria, San Antonio, Santa Ynez, South Coast, Ventura River, and Santa Clara-Calleguas HUs. Descriptions of the Santa Maria and Santa Ynez HUs are provided in the Cuyama Sub-basin section. A description of the San Antonio HU is provided in the San Antonio Sub-basin section. A description of the South Coast HU is provided in the Santa Barbara Coastal Sub-basin section. A description of the Ventura River HU is provided in the Santa Clara Sub-basin section. A description of the Santa Clara-Calleguas HU is provided in the Antelope-Fremont Valleys Sub-basin section.

### ***Seal Beach Sub-basin***

The Seal Beach Sub-basin drains an area of approximately 2,315 acres (3.6 square miles) and includes 55 rivers and streams that traverse 35 miles (Table 2-6 of the main text). As noted in Table F-1, the Seal Beach Sub-basin includes portions of the San Gabriel River and Santa Ana River HUs. A description of the San Gabriel River HU is provided in the Antelope-Fremont Valleys Sub-basin section. A description of the Santa Ana River HU is provided in the Aliso-San Onofre Sub-basin section.

### ***Ventura Sub-basin***

The Ventura Sub-basin drains an area of approximately 5,295 acres (8.3 square miles) and includes 5,498 rivers and streams that traverse 1,324 miles (Table 2-6 of the main text). As noted in Table F-1, the Ventura Sub-basin includes portions of the Santa Ynez, South Coast, Pitas Point, Ventura River, Santa Clara-Calleguas, and Buenaventura HUs. A description of the Santa Ynez HU is provided in the Cuyama Sub-basin section. A description of the South Coast HU is provided in the Santa Barbara Coastal Sub-basin section. A description of the Ventura River HU is provided in the Santa Clara Sub-basin section. A description of the Santa Clara-Calleguas HU is provided in the Antelope-Fremont Valleys Sub-basin section. A description of the Buenaventura HU is provided in the Santa Clara Sub-basin section.

The Pitas Point HU is located in western Ventura County, extending from Rincon Point to the Ventura River. There are small canyons throughout the HU that drain the southern slopes of the coastal hills in the area (Los Angeles RWQCB 2014).

### ***Whitewater River Sub-basin***

The Whitewater River Sub-basin drains an area of approximately 951 acres (1.5 square miles) and includes 110 rivers and streams that traverse 88 miles (Table 2-6 of the main text). As noted in Table F-1, the Whitewater River Sub-basin includes portions of the Whitewater, San Jacinto Valley, and Santa Ana River HUs. A description of the Whitewater HU is provided in the San Jacinto Sub-basin section. A description of the San Jacinto Valley HU is provided in the Aliso-San Onofre Sub-basin section. A description of the Santa Ana River HU is provided in the Aliso-San Onofre Sub-basin section.



## Crosswalk: HUC-8s to HUs

The SAMNA Reporting Tool expresses the landscape in terms of USGS HUC-8 sub-basins (Caltrans 2021; USGS 2014). However, the State Water Board considers beneficial uses in terms of HUs (California Department of Water Resources 2016). Table F-1 provides a crosswalk between the HUC-8 and HU classification systems for the GAI.

**Table F-1. Crosswalk Table of HUC-8 Sub-basins with HUs in the GAI**

HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18070301	Aliso-San Onofre	394,508	801	Santa Ana River	781,049
18070301	Aliso-San Onofre	394,508	802	San Jacinto Valley	508,352
18070301	Aliso-San Onofre	394,508	901	San Juan	193,211
18070301	Aliso-San Onofre	394,508	902	San Juan	193,774
18070301	Aliso-San Onofre	394,508	902	Santa Margarita	193,774
18090206	Antelope-Fremont Valleys	2,155,258	403	Santa Clara - Calleguas	627,323
18090206	Antelope-Fremont Valleys	2,155,258	404	Santa Clara - Calleguas	567,432
18090206	Antelope-Fremont Valleys	2,155,258	405	San Gabriel River	454,267
18090206	Antelope-Fremont Valleys	2,155,258	412	Los Angeles River	533,853
18090206	Antelope-Fremont Valleys	2,155,258	556	Grapevine	73,158
18090206	Antelope-Fremont Valleys	2,155,258	626	Antelope	715,313
18090206	Antelope-Fremont Valleys	2,155,258	627	Antelope	265,344
18090206	Antelope-Fremont Valleys	2,155,258	628	Mojave	663,203
18070103	Calleguas	280,116	403	Santa Clara - Calleguas	627,323
18070103	Calleguas	280,116	404	Santa Clara - Calleguas	567,432
18070103	Calleguas	280,116	404	Santa Monica Bay	567,432
18070103	Calleguas	280,116	408	Calleguas	220,179
18070103	Calleguas	280,116	409	Ventura Coastal Streams	22,477
18070103	Calleguas	280,116	410	Oxnard	18,722
18070103	Calleguas	280,116	412	Los Angeles River	533,853
18060007	Cuyama	731,931	312	Santa Maria	577,178
18060007	Cuyama	731,931	315	Santa Ynez	507,471
18060007	Cuyama	731,931	403	Santa Clara - Calleguas	627,323
18060007	Cuyama	731,931	556	Grapevine	73,158

HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18070105	Los Angeles	531,818	404	Santa Clara - Calleguas	567,432
18070105	Los Angeles	531,818	404	Santa Monica Bay	567,432
18070105	Los Angeles	531,818	405	San Gabriel River	454,267
18070105	Los Angeles	531,818	405	Santa Monica Bay	454,267
18070105	Los Angeles	531,818	408	Calleguas	220,179
18070105	Los Angeles	531,818	411	Dominguez Channel	81,764
18070105	Los Angeles	531,818	412	Los Angeles River	533,853
18070105	Los Angeles	531,818	627	Antelope	265,344
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	312	Santa Maria	577,178
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	403	Santa Clara - Calleguas	627,323
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	556	Grapevine	73,158
18090208	Mojave	2,955,740	405	San Gabriel River	454,267
18090208	Mojave	2,955,740	626	Antelope	715,313
18090208	Mojave	2,955,740	627	Antelope	265,344
18090208	Mojave	2,955,740	628	Mojave	663,203
18090208	Mojave	2,955,740	801	Santa Ana River	781,049
18090208	Mojave	2,955,740	802	Santa Ana River	508,352
18070204	Newport Bay	124,258	801	Santa Ana River	781,049
18070204	Newport Bay	124,258	901	San Juan	193,211
18060009	San Antonio	190,079	312	Santa Maria	577,178
18060009	San Antonio	190,079	313	San Antonio	135,634
18060009	San Antonio	190,079	314	Santa Ynez	308,729
18070106	San Gabriel	579,966	405	San Gabriel River	454,267
18070106	San Gabriel	579,966	405	Santa Monica Bay	454,267
18070106	San Gabriel	579,966	406	San Gabriel River	34,096
18070106	San Gabriel	579,966	411	Dominguez Channel	81,764
18070106	San Gabriel	579,966	412	Los Angeles River	533,853
18070106	San Gabriel	579,966	481	Santa Ana River	16,686
18070106	San Gabriel	579,966	627	Antelope	265,344

HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18070106	San Gabriel	579,966	628	Mojave	663,203
18070106	San Gabriel	579,966	801	Santa Ana River	781,049
18070106	San Gabriel	579,966	845	San Gabriel River	1,944
18070106	San Gabriel	579,966	846	San Gabriel River	53,702
18070202	San Jacinto	489,767	719	Whitewater	103,672
18070202	San Jacinto	489,767	801	Santa Ana River	781,049
18070202	San Jacinto	489,767	802	San Jacinto Valley	508,352
18070202	San Jacinto	489,767	802	Santa Ana River	508,352
18070202	San Jacinto	489,767	901	San Juan	193,211
18070202	San Jacinto	489,767	902	Santa Margarita	193,774
18070303	San Luis Rey-Escondido	531,676	902	Santa Margarita	193,774
18070303	San Luis Rey-Escondido	531,676	903	San Luis Rey	113,010
18070303	San Luis Rey-Escondido	531,676	903	Santa Margarita	113,010
18070203	Santa Ana	1,084,242	405	San Gabriel River	454,267
18070203	Santa Ana	1,084,242	406	San Gabriel River	34,096
18070203	Santa Ana	1,084,242	481	Santa Ana River	16,686
18070203	Santa Ana	1,084,242	628	Mojave	663,203
18070203	Santa Ana	1,084,242	719	Whitewater	103,672
18070203	Santa Ana	1,084,242	801	Santa Ana River	781,049
18070203	Santa Ana	1,084,242	802	San Jacinto Valley	508,352
18070203	Santa Ana	1,084,242	802	Santa Ana River	508,352
18070203	Santa Ana	1,084,242	846	San Gabriel River	53,702
18070203	Santa Ana	1,084,242	901	San Juan	193,211
18060013	Santa Barbara Coastal	429,168	314	Santa Ynez	308,729
18060013	Santa Barbara Coastal	429,168	315	Santa Ynez	507,471
18060013	Santa Barbara Coastal	429,168	315	South Coast	507,471
18070102	Santa Clara	1,040,516	312	Santa Maria	577,178
18070102	Santa Clara	1,040,516	315	Santa Ynez	507,471
18070102	Santa Clara	1,040,516	402	Ventura River	144,672
18070102	Santa Clara	1,040,516	403	Santa Clara - Calleguas	627,323
18070102	Santa Clara	1,040,516	404	Santa Clara - Calleguas	567,432



HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18070102	Santa Clara	1,040,516	407	Buenaventura	13,226
18070102	Santa Clara	1,040,516	408	Calleguas	220,179
18070102	Santa Clara	1,040,516	412	Los Angeles River	533,853
18070102	Santa Clara	1,040,516	556	Grapevine	73,158
18070102	Santa Clara	1,040,516	626	Antelope	715,313
18070102	Santa Clara	1,040,516	627	Antelope	265,344
18070302	Santa Margarita	474,279	802	San Jacinto Valley	508,352
18070302	Santa Margarita	474,279	901	San Juan	193,211
18070302	Santa Margarita	474,279	902	Santa Margarita	193,774
18070302	Santa Margarita	474,279	903	San Luis Rey	113,010
18070302	Santa Margarita	474,279	903	Santa Margarita	113,010
18060008	Santa Maria	437,829	312	Santa Maria	577,178
18060008	Santa Maria	437,829	313	San Antonio	135,634
18060008	Santa Maria	437,829	314	Santa Ynez	308,729
18060008	Santa Maria	437,829	315	Santa Ynez	507,471
18070104	Santa Monica Bay	430,958	404	Santa Monica Bay	567,432
18070104	Santa Monica Bay	430,958	405	Santa Monica Bay	454,267
18070104	Santa Monica Bay	430,958	408	Calleguas	220,179
18070104	Santa Monica Bay	430,958	409	Ventura Coastal Streams	22,477
18070104	Santa Monica Bay	430,958	411	Dominguez Channel	81,764
18070104	Santa Monica Bay	430,958	412	Los Angeles River	533,853
18060010	Santa Ynez	573,821	312	Santa Maria	577,178
18060010	Santa Ynez	573,821	313	San Antonio	135,634
18060010	Santa Ynez	573,821	314	Santa Ynez	308,729
18060010	Santa Ynez	573,821	315	Santa Ynez	507,471
18060010	Santa Ynez	573,821	315	South Coast	507,471
18060010	Santa Ynez	573,821	402	Ventura River	144,672
18060010	Santa Ynez	573,821	403	Santa Clara - Calleguas	627,323
18070201	Seal Beach	81,521	405	San Gabriel River	454,267
18070201	Seal Beach	81,521	801	Santa Ana River	781,049

HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18070201	Seal Beach	81,521	846	San Gabriel River	53,702
18070101	Ventura	214,558	315	Santa Ynez	507,471
18070101	Ventura	214,558	315	South Coast	507,471
18070101	Ventura	214,558	401	Pitas Point	14,051
18070101	Ventura	214,558	402	Ventura River	144,672
18070101	Ventura	214,558	403	Santa Clara - Calleguas	627,323
18070101	Ventura	214,558	407	Buenaventura	13,226
18100201	Whitewater River	960,338	719	Whitewater	103,672
18100201	Whitewater River	960,338	802	San Jacinto Valley	508,352
18100201	Whitewater River	960,338	802	Santa Ana River	508,352

Source: Caltrans 2021

<sup>a</sup> Numbers were rounded to the nearest whole number.

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## APPENDIX G: LIST OF 303(d) IMPAIRED WATERS

Section 303(d) of the CWA requires that every 2 years, each state submit to EPA a list of rivers, lakes, and reservoirs in the state for which pollution control or requirements have failed to meet water quality standards. Waterbodies in the GAI that are included on the Section 303(d) list of impaired waters, their impairments, and whether total maximum daily loads (“TMDLs”) have been established are provided Table G-1 (State Water Board 2018).

**Table G-1. Impaired Waters in the GAI**

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Central Coast	Sycamore Creek	pH, Dissolved Oxygen, Fecal Coliform, Chloride, Sodium, Turbidity	Required, not established yet	Yes
Central Coast	Shuman Canyon Creek	Sedimentation/Siltation	Required, not established yet	Yes
Central Coast	Tecolote Creek (Santa Barbara County)	Chloride, Sodium, Fecal Coliform	Required, not established yet	Yes
Central Coast	Arroyo Paredon	Boron, Fecal Coliform, Chloride, Sodium, E. coli	Required, not established yet	Yes
Central Coast	Arroyo Paredon	Toxicity, <sup>b</sup> Nitrate, Diazinon	Being addressed with EPA-approved TMDL	Yes
Central Coast	Atascadero Creek (Santa Barbara County)	Enterococcus, Nitrate, pH, E. coli, Fecal Coliform, Water Temperature, Chloride, Sodium, Dissolved Oxygen, Toxicity, Benthic Community Effects	Required, not established yet	Yes
Central Coast	Santa Ynez (Cachuma Lake to below city of Lompoc)	Sedimentation/Siltation, Water Temperature, Sodium, Total Dissolved Solids (“TDS”), Toxicity	Required, not established yet	Yes
Central Coast	Sisquoc River	pH	Required, not established yet	Yes
Central Coast	Tecolotito Creek	Sodium, Chloride, Fecal Coliform, E. coli, Enterococcus	Required, not established	Yes
Central Coast	Tecolotito Creek	Nitrate	Being addressed with EPA-approved TMDL	Yes
Central Coast	Carpinteria Creek (below Gobernadora Creek)	E. coli, Fecal Coliform, Toxicity, Chloride, Nitrate, Sodium, Dissolved Oxygen	Required, not established yet	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Central Coast	Casmalia Canyon Creek	Sedimentation/Siltation	Required, not established yet	Yes
Central Coast	Cieneguitas Creek	Water Temperature, Dissolved Oxygen, E. coli, Enterococcus	Required, not established yet	Yes
Central Coast	Cuyama River (above Twichell Reservoir)	Chloride, Turbidity, Specific Conductivity, Sodium, pH, Boron	Required, not established yet	Yes
Central Coast	Cuyama River (above Twichell Reservoir)	Fecal Coliform	Being addressed with EPA-approved TMDL	No
Central Coast	Devereux Creek	Fecal Coliform, Dissolved Oxygen	Required, not established yet	Yes
Central Coast	Dos Pueblos Canyon Creek	Sodium	Required, not established yet	Yes
Central Coast	Franklin Creek (Santa Barbara County)	Nitrate, E. coli, Sodium, pH, Fecal Coliform, Toxicity	Required, not established yet	Yes
Central Coast	Glen Annie Canyon Creek	Toxicity, E. coli, Enterococcus, Mercury	Required, not established yet	Yes
Central Coast	Glen Annie Canyon	Nitrate	Being addressed with EPA-approved TMDL	Yes
Central Coast	Jalama Creek	Sodium, Chloride	Being addressed with EPA-approved TMDL	Yes
Central Coast	Maria Ygnacio Creek	Turbidity, pH, Fecal Coliform, Enterococcus, Sodium, E. coli	Required, not established yet	Yes
Central Coast	Mission Creek (Santa Barbara County)	Fecal Coliform, Toxicity, Dissolved Oxygen, E. coli	Required, not established yet	Yes
Central Coast	Pacific Ocean at East Beach (mouth of Mission Creek, Santa Barbara County)	Total Coliform, Fecal Coliform, Enterococcus	Required, not established yet	No
Central Coast	Pacific Ocean at Goleta Beach (Santa Barbara County)	Total Coliform	Required, not established yet	No
Central Coast	Pacific Ocean at Hammonds Beach (Santa Barbara County)	Total Coliform, Fecal Coliform	Required, not established yet	No

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Central Coast	Pacific Ocean at Hope Ranch Beach (Santa Barbara County)	Total Coliform, Fecal Coliform	Required, not established yet	No
Central Coast	Pacific Ocean at Jalama Beach (Santa Barbara County)	Total Coliform, Fecal Coliform	Required, not established yet	No
Central Coast	Pacific Ocean at Leadbetter Beach (Santa Barbara County)	Enterococcus, Total Coliform	Required, not established yet	No
Central Coast	Pacific Ocean at Ocean Beach (Santa Barbara County)	Total Coliform, Fecal Coliform	Required, not established yet	No
Central Coast	Pacific Ocean at Refugio Beach (Santa Barbara County)	Total Coliform	Required, not established yet	No
Central Coast	Rincon Creek	Boron, Toxicity, Dissolved Oxygen, Sodium, E. coli, Nitrate, Fecal Coliform, Chloride	Required, not established yet	Yes
Central Coast	Romero Creek	pH	Required, not established yet	Yes
Central Coast	Salsipuedes Creek (Santa Barbara County)	Fecal Coliform, Sodium, Turbidity, Chloride	Required, not established yet	Yes
Central Coast	San Jose Creek (Santa Barbara County)	Chloride, Water Temperature, pH, Fecal Coliform, Enterococcus, Sodium, Specific Conductivity, E. coli	Required, not established yet	Yes
Central Coast	San Miguelito Creek	pH, Nitrate, Sodium, Sodium, Water Temperature, Fecal Coliform, Toxicity, Dissolved Oxygen, Chloride	Required, not established yet	Yes
Central Coast	San Pedro Creek (Santa Barbara County)	Enterococcus, Sodium, E. coli, Fecal Coliform, Water Temperature, pH	Required, not established yet	Yes
Central Coast	Santa Monica Creek	Fecal Coliform, pH	Required, not established yet	Yes



Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Central Coast	Santa Ynez River (above Lake Cachuma)	Water Temperature, Toxicity	Required, not established yet	Yes
Central Coast	Santa Ynez River (below city of Lompoc to Ocean)	Sedimentation/Siltation, Nitrate, pH, Sodium, Fecal Coliform, E. coli, Dissolved Oxygen, TDS, Water Temperature, Chloride, Toxicity	Required, not established yet	Yes
Central Coast	Arroyo Burro Creek	E. coli, Dissolved Oxygen, Fecal Coliform	Required, not established yet	Yes
Central Coast	Sloans Canyon Creek	Turbidity, pH, Ammonia	Required, not established yet	Yes
Central Coast	Bell Creek (Santa Barbara County)	Fecal Coliform, Toxicity	Required, not established yet	Yes
Central Coast	Bell Creek (Santa Barbara County)	Nitrate	Being addressed with EPA-approved TMDL	Yes
Central Coast	Bradley Canyon Creek	pH, Water Temperature, Turbidity	Required, not established yet	Yes
Central Coast	Bradley Canyon Creek	Ammonia, Fecal Coliform, Dissolved Oxygen, Nitrate, Chloropyrifos	Being addressed with EPA-approved TMDL	Yes
Central Coast	Canada De La Gaviota	Boron, Sodium, Fecal Coliform, E. coli, Chloride	Required, not established yet	Yes
Central Coast	Canada Del Capitan	Toxicity	Required, not established yet	Yes
Central Coast	Canada Del Refugio	Fecal Coliform, Chloride, Sodium	Required, not established yet	Yes
Central Coast	Carneros Creek (Santa Barbara County)	Enterococcus, E. coli, Specific Conductivity, pH	Required, not established yet	Yes
Central Coast	Carneros Creek (Santa Barbara County)	Nitrate	Being addressed with EPA-approved TMDL	Yes
Central Coast	San Antonio Creek (San Antonio Watershed, Rancho del las Flores Bridge at Highway 135 to downstream at railroad bridge)	Boron, Sodium, Chloride, E. coli, Fecal Coliform, Dissolved Oxygen	Required, not established yet	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Central Coast	San Antonio Creek (San Antonio Watershed, Rancho del las Flores Bridge at Highway 135 to downstream at railroad bridge)	Nitrate	Being addressed by action other than TMDL	Yes
Central Coast	Toro Canyon Creek	Fecal Coliform	Required, not established yet	No
Los Angeles	Fox Barranca (tributary to Calleguas Creek Reach 6)	Dichlorodiphenyldichloroethane ("DDD")	Required, not established yet	Yes
Los Angeles	Fox Barranca (tributary to Calleguas Creek Reach 6)	Nitrate and Nitrite, Boron, TDS, Sulfates, Chlordane, Dichlorodiphenyl-trichloroethane ("DDT"), Dichlorodiphenyldichloroethylene ("DDE")	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Palo Comado Creek	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Robert H. Meyer Memorial Beach	DDT, Polychlorinated biphenyls ("PCBs")	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Santa Clara River Reach 5 (Blue Cut gaging station to West Pier Highway 99 Bridge)	Chloride, Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Santa Clara River Reach 5 (Blue Cut gaging station to West Pier Highway 99 Bridge)	Iron	Required, not established yet	Yes
Los Angeles	Santa Clara River Reach 5 (Blue Cut gaging station to West Pier Highway 99 Bridge)	Trash	Being addressed by action other than TMDL	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Ventura River Reach 3 (Weldon Canyon to confluence with Coyote Creek)	Indicator Bacteria, Toxicity	Required, not established yet	Yes
Los Angeles	Abalone Cove Beach	PCBs, DDT	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Alhambra Wash	Ammonia	Required, not established yet	Yes
Los Angeles	Arundell Barranca (Ventura County)	Indicator Bacteria	Required, not established yet	No
Los Angeles	Cabrillo Beach (Other)	PCBs, DDT	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 10	Indicator Bacteria, Trash, Malathion	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 10	Nitrogen and Nitrate, Dieldrin, Chlordane, Ammonia, Chlorpyrifos, Toxicity, Diazinon, PCBs, TDS, Toxaphene (tissue and sediment), DDT (tissue), Chloride, Chema (tissue), Sulfates	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 11	Indicator Bacteria, Sedimentation/Siltation	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 11	TDS, Ammonia, Toxaphene (tissue and sediment), PCBs, Chema (tissue), Chlordane, Toxicity, Dieldrin, Sulfates, Endosulfan (tissue), DDT (tissue)	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 12	Dieldrin, Toxaphene, TDS, PCBs, Chlordane (tissue), DDT (tissue), Sulfates	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Dominguez Creek (lined portion above Vermont Ave.)	Indicator Bacteria	Required, not established yet	No
Los Angeles	Dominguez Creek (lined portion above Vermont Ave.)	Zinc, Copper, Lead, Toxicity	Being addressed with EPA-approved TMDL	Yes



Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Dry Canyon Creek	Total Selenium	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Dry Canyon Creek	Indicator Bacteria	Required, not established yet	No
Los Angeles	Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No. 2	Bifenthrin	Required, not established yet	Yes
Los Angeles	Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No. 2	ChemA, Toxicity, Chlordane, Toxaphene, Nitrogen, DDT, DDE	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Point Dume Beach	DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	San Buenaventura Beach	Indicator Bacteria	Required, not established yet	No
Los Angeles	San Jose Creek Reach 1 (SG Confluence to Temple St.)	Toxicity, pH, TDS	Required, not established yet	Yes
Los Angeles	San Jose Creek Reach 1 (SG Confluence to Temple St.)	Ammonia	Being addressed with EPA-approved TMDL	Yes
Los Angeles	San Jose Creek Reach 1 (SG Confluence to Temple St.)	Indicator Bacteria	Being addressed by action other than TMDL	No
Los Angeles	Santa Clara River Reach 6 (W. Pier Highway 99 to Bouquet Canyon Rd.)	Chlorpyrifos, Toxicity, Water Temperature	Required, not established yet	Yes
Los Angeles	Santa Clara River Reach 6 (W. Pier Highway 99 to Bouquet Canyon Rd.)	Chloride	Being addressed with EPA-approved TMDL	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Santa Paula Creek Reach 1 (Confluence with Santa Clara River to Diversion Dam)	Trash	Being addressed by action other than TMDL	Yes
Los Angeles	Timber Canyon	Chlorpyrifos	Required, not established yet	Yes
Los Angeles	Tujunga Wash (L.A. River to Hansen Dam)	Phosphorus, Ammonia, Trash, Copper, Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Verdugo Wash Reach 2 (Above Verdugo Road)	Indicator Bacteria, Trash	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Amarillo Beach	DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Bull Creek	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Calleguas Creek Reach 6	Indicator Bacteria, Sedimentation/Siltation	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 6	Ammonia, Nitrate and Nitrite, Chlordane, Toxicity, Chlorpyrifos, Chloride, Dieldrin, Sulfates, TDS	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Carbon Beach	DDT, PCBs, Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Castlerock Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Ellsworth Barranca	Chlorpyrifos	Required, not established yet	Yes
Los Angeles	Escondido Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	J Street Drain (Ventura County)	Trash	Being addressed by action other than TMDL	Yes
Los Angeles	La Costa Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Los Angeles River Reach 4 (Sepulveda Drive to Sepulveda Dam)	Trash, Nutrients (Algae)	Being addressed with EPA-approved TMDL	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Los Angeles River Reach 4 (Sepulveda Drive to Sepulveda Dam)	Indicator Bacteria, Toxicity	Required, not established yet	Yes
Los Angeles	Port Hueneme Beach Park	Indicator Bacteria	Required, not established yet	No
Los Angeles	San Gabriel River Estuary	Nickel, Dissolved Oxygen, Dioxin	Required, not established yet	Yes
Los Angeles	San Gabriel River Estuary	Copper, Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	San Gabriel River Reach 1 (Estuary to Firestone)	pH, Water Temperature	Required, not established yet	Yes
Los Angeles	Sanjon Barranca Creek	Trash	Being addressed by action other than TMDL	Yes
Los Angeles	Sanjon Barranca Creek	E. coli	Required, not established yet	No
Los Angeles	Santa Clara River Reach 1 (Estuary to Highway 101 Bridge)	Toxicity, Dissolved Oxygen, pH	Required, not established yet	Yes
Los Angeles	Santa Clara River Reach 1 (Estuary to Highway 101 Bridge)	Trash	Being addressed by action other than TMDL	Yes
Los Angeles	Santa Clara River Reach 3 (Freeman Diversion to A Street)	TDS, Toxicity, Selenium	Required, not established yet	Yes
Los Angeles	Santa Clara River Reach 3 (Freeman Diversion to A Street)	Chloride, Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Santa Clara River Reach 3 (Freeman Diversion to A Street)	Trash	Being addressed by action other than TMDL	Yes
Los Angeles	Sawpit Creek	bis(2ethylhexyl)phthalate, Indicator Bacteria	Required, not established yet	Yes



Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Topanga Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Ventura River Reach 1 and 2 (Estuary to Weldon Canyon)	Algae, Benthic Community Effects	Required, not established yet	Yes
Los Angeles	Bull Creek (Los Angeles County)	Toxicity	Required, not established yet	Yes
Los Angeles	Bull Creek (Los Angeles County)	Ammonia	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Channel Islands Harbor Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Las Flores Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Mint Canyon Creek Reach 1 (Confluence to Rowler Canyon)	Nitrate and Nitrite	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Resort Point Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Rio Hondo Reach 2 (at Spreading Grounds)	Coliform Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Rio Hondo Reach 2 (at Spreading Grounds)	Cyanide	Required, not established yet	Yes
Los Angeles	Santa Clara River Reach 3 (Freeman Diversion to A Street)	TDS, Toxicity, Selenium	Required, not established yet	Yes
Los Angeles	Santa Clara River Reach 3 (Freeman Diversion to A Street)	Chloride, Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Santa Clara River Reach 3 (Freeman Diversion to A Street)	Trash	Being addressed by action other than TMDL	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Sepulveda Canyon	Indicator Bacteria, Selenium, Copper, Lead, Zinc	Being addressed by action other than TMDL	Yes
Los Angeles	Topanga Canyon Creek	Lead	Required, not established yet	Yes
Los Angeles	Bell Creek	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Calleguas Creek Reach 5	Nitrogen, Diazinon, Trash, Chlordane (tissue and sediment), PCBs (tissue), DDT (tissue and sediment), Dieldrin (tissue), Toxaphene (tissue and sediment), Chlorpyrifos (tissue), Chema (tissue), Toxicity, Endosulfan (tissue and sediment)	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 5	Sedimentation/Siltation	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 7	Ammonia, Chlorpyrifos, Boron, Toxicity, Organophosphorus Pesticides, Diazinon, TDS, Chloride, Sulfates	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 7	Indicator Bacteria, Sedimentation/Siltation, Trash	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 13 (Conejo Creek South Fork)	Ammonia, DDT (tissue), Chlordane, Toxicity, Endosulfan (tissue), Toxaphene (tissue and sediment), Dieldrin, PCBs, Chloride, Chema (tissue), TDS, Sulfates	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Canada Larga (Ventura River Watershed)	Indicator Bacteria, TDS	Required, not established yet	Yes
Los Angeles	Canada Larga (Ventura River Watershed)	Dissolved Oxygen	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Flat Rock Point Beach Area	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Lindero Creek Reach 2 (above lake)	Selenium	Required, not established yet	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Lindero Creek Reach 2 (above lake)	Indicator Bacteria, Algae, Trash, Scum/Foam-unnatural	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Los Angeles River Reach 5 (within Sepulveda Basin)	Ammonia, Copper, Lead, Trash, Nutrients (Algae)	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Los Angeles River Reach 5 (within Sepulveda Basin)	Oil, Toxicity, Benthic Community Effects	Required, not established yet	Yes
Los Angeles	Medea Creek Reach 2 (above confluence with Lindero)	Sedimentation/Siltation, Indicator Bacteria, Trash, Algae	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Medea Creek Reach 2 (above confluence with Lindero)	Trash, Benthic Community Effects, Selenium	Required, not established yet	Yes
Los Angeles	Pole Creek (tributary to Santa Clara River Reach 3)	TDS, Sulfates	Required, not established yet	Yes
Los Angeles	Puerco Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Rio Hondo Reach 1 (Confluence L.A. River to Santa Ana Freeway)	pH, Lead, Copper, Indicator Bacteria, Trash, Zinc	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Rio Hondo Reach 1 (Confluence L.A. River to Santa Ana Freeway)	Toxicity	Required, not established yet	Yes
Los Angeles	San Jose Creek Reach 2 (Temple to I-10 at White Avenue)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Tapo Canyon	Chlordane, Chloride, DDD, Malathion, Sulfates, TDS, Toxicity, DDE	Required, not established yet	Yes



Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Calleguas Creek Reach 8	DDT, Dieldrin, Toxaphene, Chlorpyrifos, PCBs, Chlordane, Diazinon, TDS, Sulfates, Boron, Chloride	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 8	Sedimentation/Siltation	Required, not established yet	Yes
Los Angeles	Coyote Creek, North Fork	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Coyote Creek, North Fork	Selenium	Required, not established yet	Yes
Los Angeles	Dan Blocker Memorial (Coral) Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Las Tunas Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Los Angeles River Reach 6 (above Sepulveda Flood Control Basin)	Selenium, Indicator Bacteria, Copper	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Los Angeles River Reach 6 (above Sepulveda Flood Control Basin)	Toxicity	Required, not established yet	Yes
Los Angeles	Lunada Bay Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Malaga Cove Beach	DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Monrovia Canyon Creek	Lead	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Nicholas Canyon Beach	DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Ormond Beach	Indicator Bacteria	Required, not established yet	No
Los Angeles	Oxnard Drain	pH, E. coli, Nitrogen, Nitrate	Required, not established yet	Yes
Los Angeles	Oxnard Drain	Trash	Being addressed by action other than TMDL	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Rio Hondo Reach 3 (above Spreading Grounds)	Iron, Dissolved Oxygen	Required, not established yet	Yes
Los Angeles	Rio Hondo Reach 3 (above Spreading Grounds)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam)	Lead	Being addressed with EPA-approved TMDL	Yes
Los Angeles	San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam)	Cyanide, Water Temperature	Required, not established yet	Yes
Los Angeles	Torrance Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Wheeler Canyon/Todd Barranca	Sulfates, TDS, Chlordane, Cypermethrin, Toxaphene, DDT, Toxicity	Required, not established yet	Yes
Los Angeles	Wheeler Canyon/Todd Barranca	Nitrate and Nitrite	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Arroyo Seco Reach 2 (West Hollywood Avenue to Devils Gate Dam)	Indicator Bacteria, Trash	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Malibu Beach	Indicator Bacteria, DDT	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Paradise Cove Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Portuguese Bend Beach	DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	San Gabriel River Reach 3 (Wittier Narrows to Ramona)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Sespe Creek (from 500 feet below confluence with Little Sespe Creek to headwaters)	pH, Chloride	Required, not established yet	Yes
Los Angeles	Torrance Carson Channel	Lead, Copper	Required, not established yet	Yes
Los Angeles	Torrance Carson Channel	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Will Rogers Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Boulder Creek (Ventura County)	Bifenthrin, Toxicity	Required, not established yet	Yes
Los Angeles	Bouquet Canyon Creek (below Bouquet Reservoir)	Water Temperature	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 3	Nitrate and Nitrite, Toxaphene, Ammonia, Dieldrin, DDT, Chlordane, TDS, Chloride, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 3	Sedimentation/Siltation, Trash, Indicator Bacteria	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 4	Indicator Bacteria, Fecal Coliform, Sedimentation/Siltation	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 4	Nitrate as NO <sub>3</sub> , Chlordane (tissue and sediment), Toxicity, Toxaphene (tissue and sediment), Nitrogen, Dieldrin (tissue), Endosulfan (tissue and sediment), PCBs (tissue), Diazinon, Total DDT (sum of 4,4'- and 2,4'- isomers of DDT, DDE, and DDD), Chema (tissue), Trash	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Dockweiler Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Hopper Creek	Sulfates, TDS	Required, not established yet	Yes
Los Angeles	Long Point Beach	DDT, PCBs	Being addressed with EPA-approved TMDL	Yes



Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	McCoy Canyon Creek	Indicator Bacteria	Required, not established yet	No
Los Angeles	McCoy Canyon Creek	Nitrogen, Nitrate, Total Selenium	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Santa Clara River Reach 11 (Piru Creek, from confluence with Santa Clara River Reach 4 to gaging station below Santa Felicia Dam)	Sulfates, Boron, TDS, Specific Conductance	Required, not established yet	Yes
Los Angeles	Santa Clara River Reach 4A (A Street, Fillmore to Piru Creek)	Trash	Being addressed by action other than TMDL	Yes
Los Angeles	Santa Monica Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Santa Monica Canyon	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Santa Monica Canyon	Lead	Required, not established yet	Yes
Los Angeles	Venice Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Ventura River Estuary	Indicator Bacteria	Required, not established yet	No
Los Angeles	Ventura River Estuary	Eutrophic, Algae, Trash	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Arroyo Seco Reach 1 (L.A. River to West Hollywood Avenue)	Indicator Bacteria, Trash	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Ventura River Reach 4 (Coyote Creek to Camino Cielo Road)	Water Temperature	Required, not established yet	Yes
Los Angeles	Whites Point Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Aliso Canyon Wash	Indicator Bacteria, Copper, Selenium	Being addressed with EPA-approved TMDL	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Ballona Creek	Copper, Trash, Zinc, Viruses (enteric), Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Ballona Creek	Cyanide	Required, not established yet	Yes
Los Angeles	Ballona Creek Estuary	PCBs, Zinc, Chlordane, Indicator Bacteria, DDT, Cadmium, Polycyclic Aromatic Hydrocarbons ("PAHs"), Silver, Toxicity, Copper, Lead	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Brown Barranca/ Long Canyon	Nitrate and Nitrite	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Burbank Western Channel	Copper, Lead, Trash, Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Burbank Western Channel	Cyanide, Selenium	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 9A	Indicator Bacteria, Trash	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 9A	PCBs (tissue), Nitrate, Chlordane (tissue), Nitrite, Toxicity, ChemA (tissue), TDS, DDT (tissue), Chlorpyrifos, Lindane/gamma-Hexachlorocyclohexane ("gamma-HCH") (tissue), Endosulfan (tissue), Diazinon, Toxaphene (tissue and sediment), Sulfates	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 9B	Indicator Bacteria, Trash	Required, not established yet	Yes
Los Angeles	Calleguas Creek Reach 9B	Dieldrin, PCBs, DDT (tissue), Ammonia, Toxicity, Chlorpyrifos, ChemA (tissue), Chlordane, Endosulfan (tissue), Toxaphene (tissue and sediment) Diazinon, Sulfates, TDS, Chloride	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Hobie Beach (Channel Islands Harbor)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Hueneme Drain	Trash	Being addressed by action other than TMDL	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Hueneme Drain	E. coli	Required, not established yet	Yes
Los Angeles	Las Virgenes Creek	Indicator Bacteria, Trash, Nutrients (Algae), Scum/Foam-unnatural, Organic Enrichment/Low Dissolved Oxygen, Benthic Community Effects, Sedimentation/Siltation	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Las Virgenes Creek	Invasive Species, Selenium	Required, not established yet	Yes
Los Angeles	Lindero Creek Reach 1	Indicator Bacteria, Algae, Scum/Foam-unnatural	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Lindero Creek Reach 1	Selenium, Invasive Species, Benthic Community Effects	Required, not established yet	Yes
Los Angeles	Los Angeles River Reach 1 (Estuary to Carson Street)	Dissolved Copper, Dissolved Zinc, Cadmium, pH, Ammonia, Nutrients (Algae), Indicator Bacteria, Trash, Lead	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Los Angeles River Reach 1 (Estuary to Carson Street)	Cyanide	Required, not established yet	Yes
Los Angeles	Los Angeles River Reach 2 (Carson to Figueroa Street)	Trash, Ammonia, Nutrients (Algae), Copper, Lead, Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Los Angeles River Reach 2 (Carson to Figueroa Street)	Oil	Required, not established yet	Yes
Los Angeles	Los Angeles River Reach 3 (Figueroa Street to Riverside Street)	Trash, Ammonia, Copper, Nutrients (Algae), Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Los Angeles River Reach 3 (Figueroa Street to Riverside Street)	Toxicity	Required, not established yet	Yes
Los Angeles	Malibu Creek	Sulfates, Selenium, Fish Barriers (Fish Passage), Invasive Species, Toxicity	Required, not established yet	Yes



Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Malibu Creek	Indicator Bacteria, Sedimentation/Siltation, Scum/Foam-unnatural, Nutrients (Algae), Benthic Community Effects, Trash	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Malibu Lagoon Beach (Surfrider)	Coliform Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Marina del Rey Harbor Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Medea Creek Reach 1 (Lake to confluence with Lindero)	Indicator Bacteria, Sedimentation/Siltation, Trash, Algae	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Medea Creek Reach 1 (Lake to confluence with Lindero)	Selenium	Required, not established yet	Yes
Los Angeles	Paradise Cove Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Piru Creek (from gaging station below Santa Felicia Dam to headwaters)	Chloride, pH, Toxicity	Required, not established yet	Yes
Los Angeles	Point Fermin Park Beach	DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Point Vicente Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Potrero Canyon Creek	Dissolved Oxygen	Required, not established yet	Yes
Los Angeles	Puente Creek	Selenium, Indicator Bacteria	Required, not established yet	Yes
Los Angeles	Redondo Beach	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Rincon Beach	Boron, Toxicity, Dissolved Oxygen, Sodium, E. coli, Nitrate, Fecal Coliform, Chloride	Required, not established yet	Yes
Los Angeles	Royal Palms Beach	DDT, PCBs	Being addressed with EPA-approved TMDL	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	San Antonio Creek (Tributary to Ventura River Reach 4)	TDS, Indicator Bacteria	Required, not established yet	Yes
Los Angeles	San Antonio Creek (Tributary to Ventura River Reach 4)	Nitrogen	Being addressed with EPA-approved TMDL	Yes
Los Angeles	San Gabriel River, East Fork	Trash	Being addressed with EPA-approved TMDL	Yes
Los Angeles	San Gabriel River, East Fork	Benthic Community Effects	Required, not established yet	Yes
Los Angeles	San Jose Creek Reach 2 (Temple to Interstate 10 at White Avenue)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Santa Clara River Reach 7 (Bouquet Canyon Road to above Lang Gaging Station)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	South San Jose Creek (Los Angeles County)	Toxicity, pH, Ammonia	Required, not established yet	Yes
Los Angeles	Stokes Creek	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Torrey Canyon Creek	Nitrate, Nitrite	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Trancas Beach (Broad Beach)	Indicator Bacteria, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Triunfo Canyon Creek Reach 1	Lead, Mercury, Sedimentation/Siltation, Benthic Community Effects	Required, not established yet	Yes
Los Angeles	Verdugo Wash Reach 1 (L.A. River to Verdugo Road)	Indicator Bacteria, Copper, Trash	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Walnut Creek Wash (Drains from Puddingstone Reservoir)	pH, Indicator Bacteria, Benthic Community	Required, not established yet	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Wilmington Drain	Indicator Bacteria	Required, not established yet	No
Los Angeles	Big Rock Beach	Fecal Coliform, DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Compton Creek	pH, Lead, Trash, Copper, Zinc	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Compton Creek	Indicator Bacteria, Benthic Community Effects	Required, not established yet	Yes
Los Angeles	Coyote Creek	Dissolved Copper, Indicator Bacteria	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Coyote Creek	pH, Toxicity, Malathion, Iron	Required, not established yet	Yes
Los Angeles	Rio De Santa Clara/Oxnard Drain No. 3	Chlordane (tissue), ChemA (tissue), DDT (tissue), PCBs, Toxicity, Nitrogen, DDD, DDE	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Rio De Santa Clara/Oxnard Drain No. 3	Toxaphene, Ammonia	Required, not established yet	Yes
Los Angeles	Surfers Point at Seaside	Indicator Bacteria	Required, not established yet	No
Los Angeles	Artesia-Norwalk Drain	Selenium	Required, not established yet	Yes
Los Angeles	Artesia-Norwalk Drain	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Los Angeles	Bluff Cove Beach	DDT, PCBs	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 2 (estuary to Potrero Rd)	DDT, Copper, Ammonia, Endosulfan, Toxicity, ChemA, Toxaphene, PCBs, Dieldrin, Chlordane	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Calleguas Creek Reach 2 (estuary to Potrero Rd)	Indicator Bacteria, Sedimentation/Siltation, Trash	Required, not established yet	Yes
Los Angeles	Honda Barranca	Chlorpyrifos, Chlordane, DDT, DDD, DDE	Being addressed with EPA-approved TMDL	Yes
Los Angeles	Honda Barranca	Bifenthrin	Required, not established yet	Yes
Los Angeles	Long Beach City Beach	Indicator Bacteria	Being addressed with EPA-approved TMDL	No



Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Los Angeles	Santa Clara River Reach 10 (Sespe Creek, from confluence with Santa Clara River Reach 3 to above gaging station – 500 feet downstream from Little Sespe Creek)	Trash	Being addressed by action other than TMDL	Yes
Los Angeles	Triunfo Canyon Creek Reach 2	Sedimentation/Siltation, Mercury, Lead, Benthic Community Effects	Required, not established yet	Yes
San Diego	San Mateo Creek	Trash	Being addressed by action other than TMDL	No
San Diego	San Mateo Creek	Diazinon	Being addressed with EPA-approved TMDL	Yes
San Diego	Rainbow Creek	Iron, Aluminum, Sulfates, TDS	Required, not established yet	Yes
San Diego	Rainbow Creek	Nitrogen, Phosphorus	Being addressed with EPA-approved TMDL	Yes
San Diego	Murrieta Creek	Phosphorus, Chlorpyrifos, Copper, Indicator Bacteria, Iron, Manganese, Nitrogen, Toxicity	Required, not established yet	Yes
San Diego	San Luis Rey River, Upper (east Interstate 15)	Indicator Bacteria, Phosphorus, Total Nitrogen as N	Required, not established yet	Yes
San Diego	Santa Margarita River (Upper)	Phosphorus, Toxicity, Indicator Bacteria, Iron, Manganese, Nitrogen	Required, not established yet	Yes
San Diego	Bell Canyon Creek	Toxicity	Required, not established yet	Yes
San Diego	De Luz Creek	Iron, Manganese, Nitrogen, Sulfates	Required, not established yet	Yes
San Diego	Aliso Creek	Phosphorus, Selenium, Toxicity, Benthic Community Effects, Malathion, Nitrogen	Required, not established yet	Yes
San Diego	Aliso Creek	Indicator Bacteria	Being addressed with EPA-approved TMDL	No

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
San Diego	English Canyon	Selenium, Toxicity, Benthic Community Effects, Benzo[b]fluoranthene, Dieldrin, Phosphorus, Total Nitrogen as N	Required, not established yet	Yes
San Diego	Arroyo Trabuco Creek	Toxicity, Benthic Community Effects, Indicator Bacteria, Malathion, Nitrogen, Phosphorus	Required, not established yet	Yes
San Diego	Sandia Creek	Iron, Sulfates, TDS, Aluminum, Ammonia (Unionized), Manganese, Nitrogen, Selenium, Silver	Required, not established yet	Yes
Santa Ana	Bolsa Chica Channel	Ammonia (Unionized), pH, Indicator Bacteria	Required, not established yet	Yes
Santa Ana	Mill Creek (Prado Area)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Santa Ana	Mill Creek (Prado Area)	Nutrients, Total Suspended Solids	Required, not established yet	Yes
Santa Ana	Mill Creek Reach 1	Indicator Bacteria	Required, not established yet	No
Santa Ana	Newport Slough	Indicator Bacteria	Required, not established yet	No
Santa Ana	San Timoteo Creek Reach 3 (Yucaipa Creek to headwaters)	Indicator Bacteria	Required, not established yet	No
Santa Ana	Cucamonga Creek Reach 2 (Mountain Reach)	pH	Required, not established yet	Yes
Santa Ana	San Diego Creek Reach 1	Nutrients, Sedimentation/Siltation, Toxaphene, DDT	Being addressed with EPA-approved TMDL	Yes
Santa Ana	San Diego Creek Reach 1	Selenium, Indicator Bacteria, Toxicity, Benthic Community Effects, Malathion	Required, not established yet	Yes
Santa Ana	Peters Canyon Channel	Toxaphene, pH	Required, not established yet	Yes
Santa Ana	Peters Canyon Channel	DDT	Being addressed with EPA-approved TMDL	Yes
Santa Ana	Seal Beach	PCBs, Indicator Bacteria	Required, not established yet	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Santa Ana	Serrano Creek	Ammonia (Unionized), pH, Indicator Bacteria, Toxicity, Benthic Community Effects	Required, not established yet	Yes
Santa Ana	Santa Ana River Reach 3	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Santa Ana	Santa Ana River Reach 3	Lead, Copper	Required, not established yet	Yes
Santa Ana	Borrego Creek (from State Route 241 to Irvine Boulevard)	Dissolved Oxygen, Water Temperature, pH, Ammonia (Unionized)	Required, not established yet	Yes
Santa Ana	Chino Creek Reach 2 (beginning of concrete channel to confluence with San Antonio Creek)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Santa Ana	Chino Creek Reach 2 (beginning of concrete channel to confluence with San Antonio Creek)	pH	Required, not established yet	Yes
Santa Ana	East Garden Grove Wintersburg Channel	Ammonia (Unionized)	Required, not established yet	Yes
Santa Ana	Morning Canyon Creek	Indicator Bacteria	Required, not established yet	No
Santa Ana	San Diego Creek Reach 2	Nutrients, Sedimentation/Siltation, Toxicity	Being addressed with EPA-approved TMDL	Yes
Santa Ana	San Diego Creek Reach 2	Indicator Bacteria, Benthic Community Effects	Required, not established yet	Yes
Santa Ana	San Timoteo Creek Reach 1A (Santa Ana River to Confluence to Barton Road)	Indicator Bacteria	Required, not established yet	No



Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Santa Ana	San Timoteo Creek Reach 2 (Gage at San Timoteo to confluence with Yucaipa Creek)	Indicator Bacteria	Required, not established yet	No
Santa Ana	Balboa Beach	DDT, PCBs, Dieldrin	Required, not established yet	Yes
Santa Ana	Bolsa Chica State Beach	Nickel, Copper	Required, not established yet	Yes
Santa Ana	Bonita Creek	Toxicity, Benthic Community Effects	Required, not established yet	Yes
Santa Ana	Buck Gully Creek	Indicator Bacteria	Required, not established yet	No
Santa Ana	Chino Creek Reach 1A (Santa Ana River R5 confluence to just downstream of confluence with Mill Creek)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Santa Ana	Chino Creek Reach 1A (Santa Ana River R5 confluence to just downstream of confluence with Mill Creek)	Nutrients	Required, not established yet	Yes
Santa Ana	Cucamonga Creek Reach 1 (Valley Reach)	Zinc, Copper, Cadmium, Lead	Required, not established yet	Yes
Santa Ana	Goldenstar Creek	Indicator Bacteria	Required, not established yet	No
Santa Ana	San Antonio Creek	pH	Required, not established yet	Yes
Santa Ana	Santa Ana River Reach 4	Indicator Bacteria	Required, not established yet	No
Santa Ana	Santiago Creek Reach 4	Salinity/TDS/Chlorides, Toxicity	Required, not established yet	Yes
Santa Ana	Silverado Creek	Salinity/TDS/Chlorides	Required, not established yet	Yes
Santa Ana	Talbert Channel (Orange County)	Toxicity	Required, not established yet	Yes

Sub-basin	Impaired Water	Impairment(s)	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Santa Ana	Warm Creek	Indicator Bacteria	Required, not established yet	No
Santa Ana	Chino Creek Reach 1B (Mill Creek confluence to start of concrete-lined channel)	Indicator Bacteria	Being addressed with EPA-approved TMDL	No
Santa Ana	Chino Creek Reach 1B (Mill Creek confluence to start of concrete-lined channel)	Chemical Oxygen Demand, Nutrients	Required, not established yet	Yes
Santa Ana	Little Corona Del Mar Beach	Indicator Bacteria	Required, not established yet	No

Source: State Water Board 2018

<sup>a</sup> TMDLs relevant to the RAMNA reflect impaired aquatic resource-related beneficial uses.

<sup>b</sup> Refers to toxicity to aquatic organisms

## References

State Water Board (State Water Resources Control Board). 2018. "2014 and 2016 California Integrated Report." Clean Water Act Sections 303(d) and 305(b). Accessed March 12, 2021.  
[https://www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2014\\_2016.shtml](https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml).

## APPENDIX H: AQUATIC RESOURCE LOCATIONS

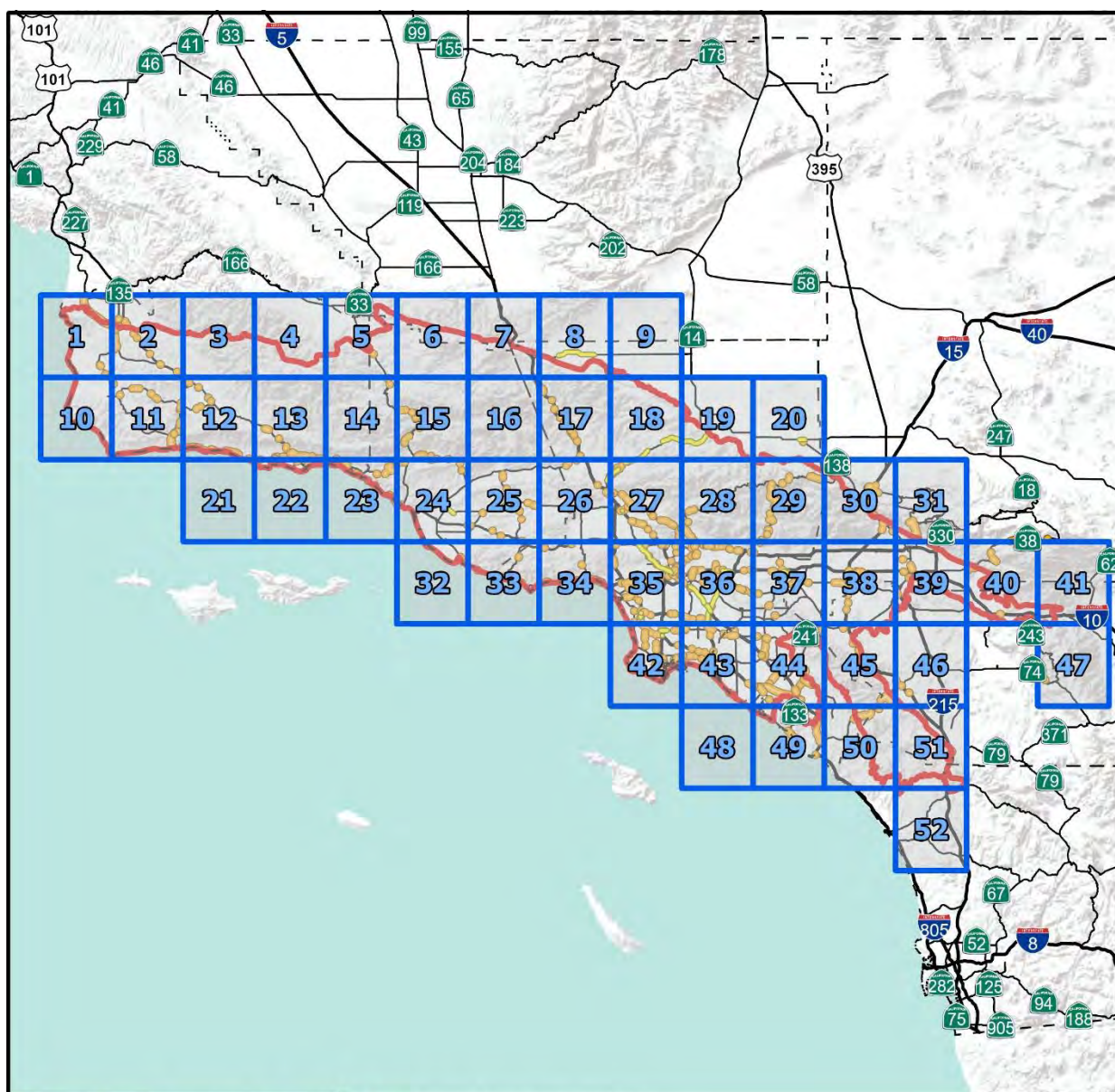
Aquatic resource locations are shown by HUC-8 sub-basin and HU in the following maps, which also include the coastal zone and major landmarks for perspective. These locations were excerpted from the SAMNA Reporting Tool's water and wetland layers (Caltrans 2021a, 2021b). Hydrologic units are described in Appendix F, which includes a crosswalk table of HUC-8 subbasins and HUs. These 52 maps correspond with the land cover maps in Appendix C and the certified LCP maps in Appendix D.

Few sources of information are known to be available that can be used to describe existing and relevant wetland, riparian, and littoral resources. The FWS National Wetlands Inventory (2017) and the San Francisco Estuary Institute California Aquatic Resource Inventory (2018) are the only known datasets that include the distribution, extent, and types of aquatic resources in the GAI, and the SAMNA Reporting Tool relies upon them (Caltrans 2021a, 2021b).

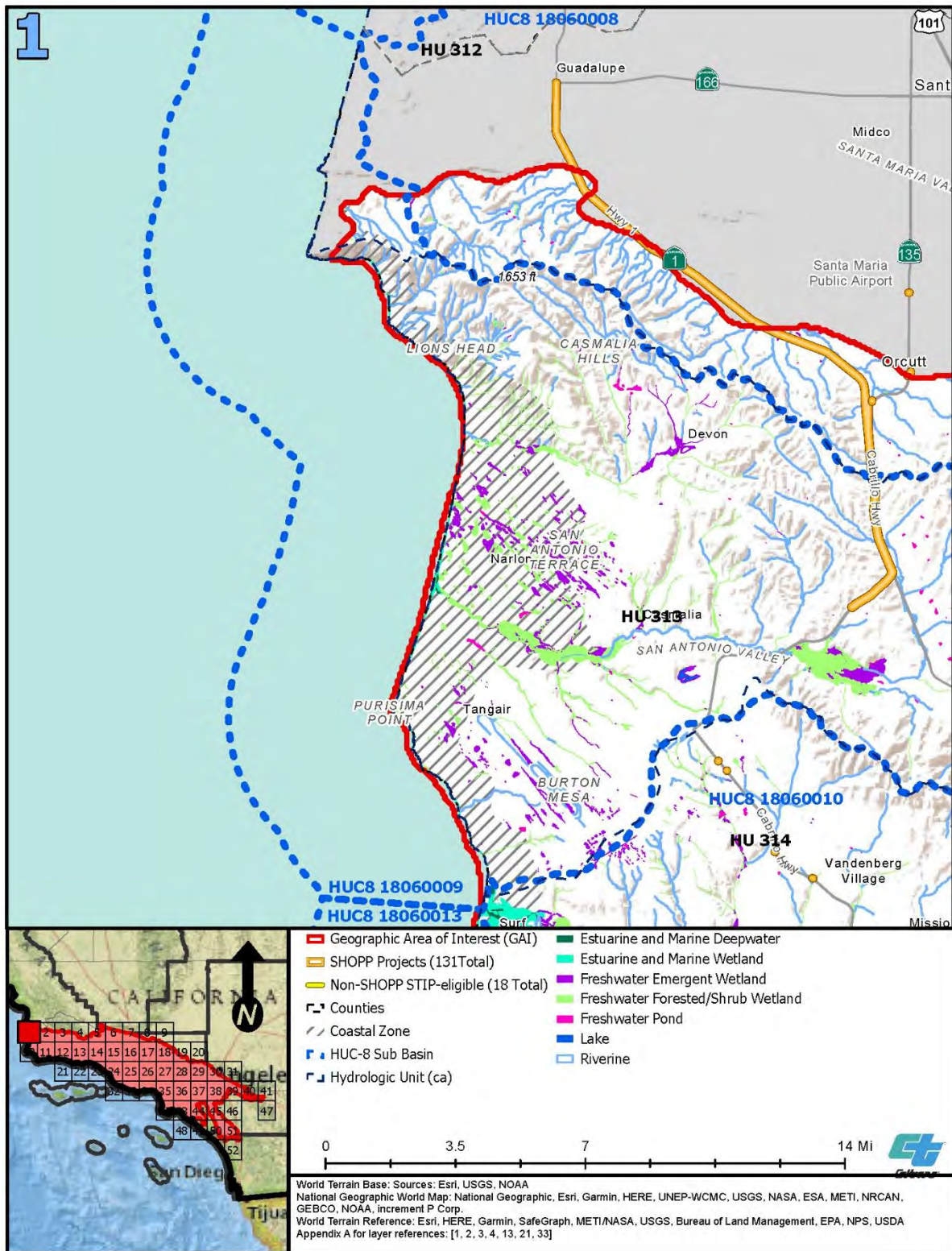
### References

- Caltrans (California Department of Transportation). 2021a. "Waters\_D5/D7/D8/D11/D12 in Caltrans District 7 Geospatial Data for the Advance Mitigation Needs Assessment for the Second Quarter of FY 2019/2020" (data file). Accessed February 2, 2021. <http://www.dot.ca.gov/env/advancemitigation/>.
- . 2021b. "Wetlands\_D5/D7/D8/D11/D12 in Caltrans District 7 Geospatial Data for the Advance Mitigation Needs Assessment for the Second Quarter of FY 2019/2020" (data file). Accessed February 2, 2021. <http://www.dot.ca.gov/env/advancemitigation/>.
- FWS (U.S. Fish and Wildlife Service). 2017. "National Wetlands Inventory. Wetlands Mapper." Accessed February 19, 2019. <https://www.fws.gov/wetlands/data/mapper.html>.
- San Francisco Estuary Institute. 2018. "California Aquatic Resource Inventory (CARI)." Accessed February 28, 2019. <https://www.sfei.org/cari#sthash.SnPvzyAU.dpbs>.

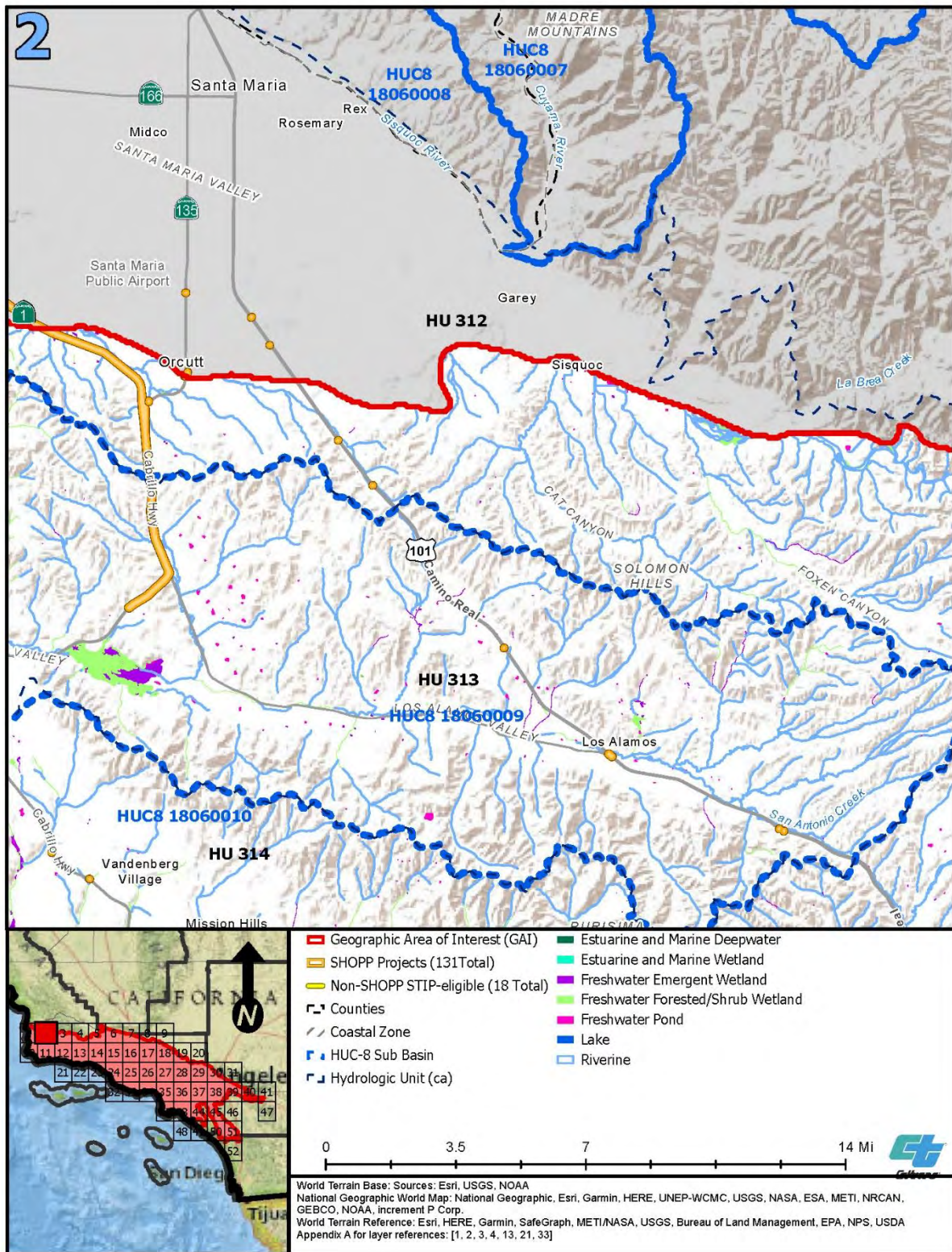




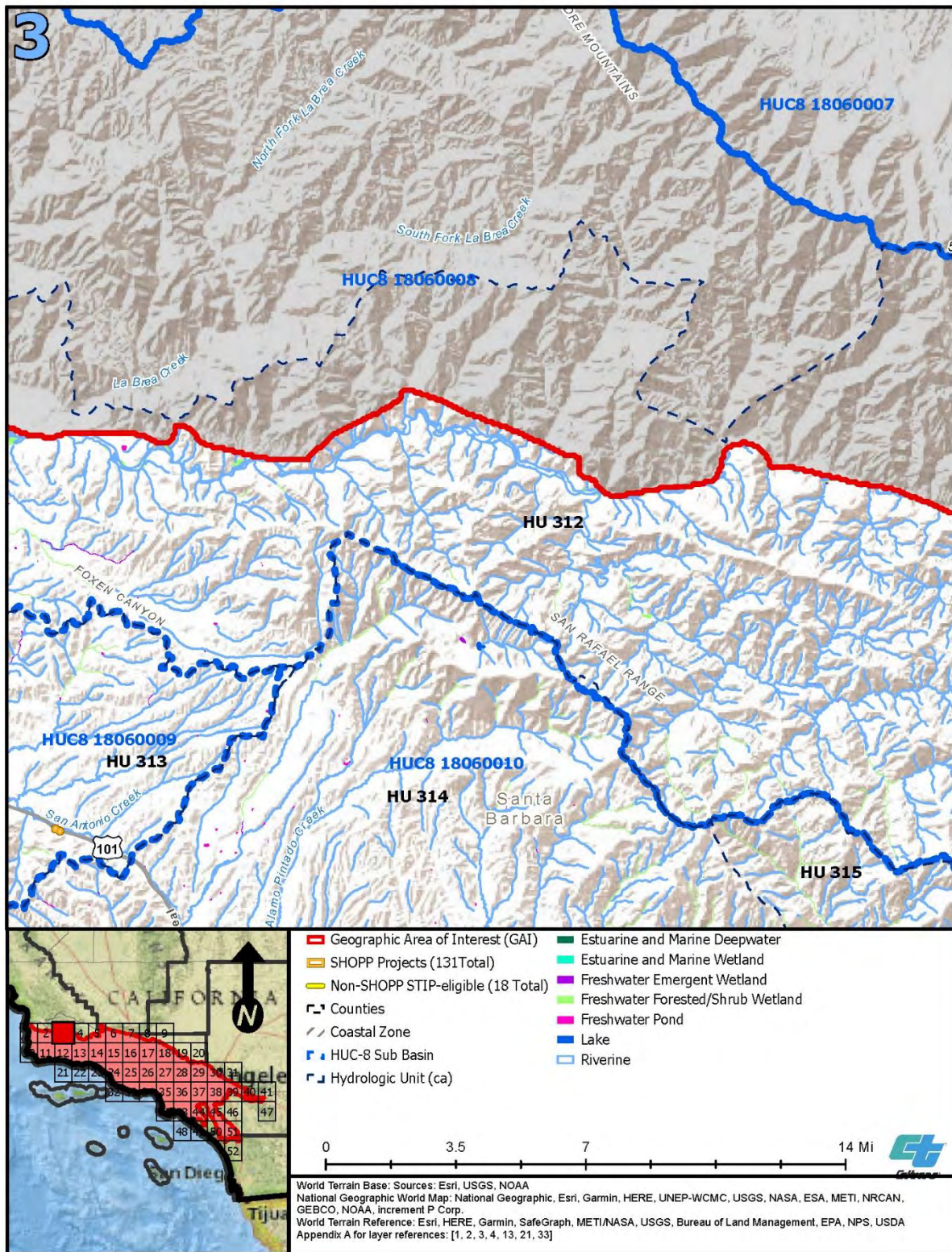




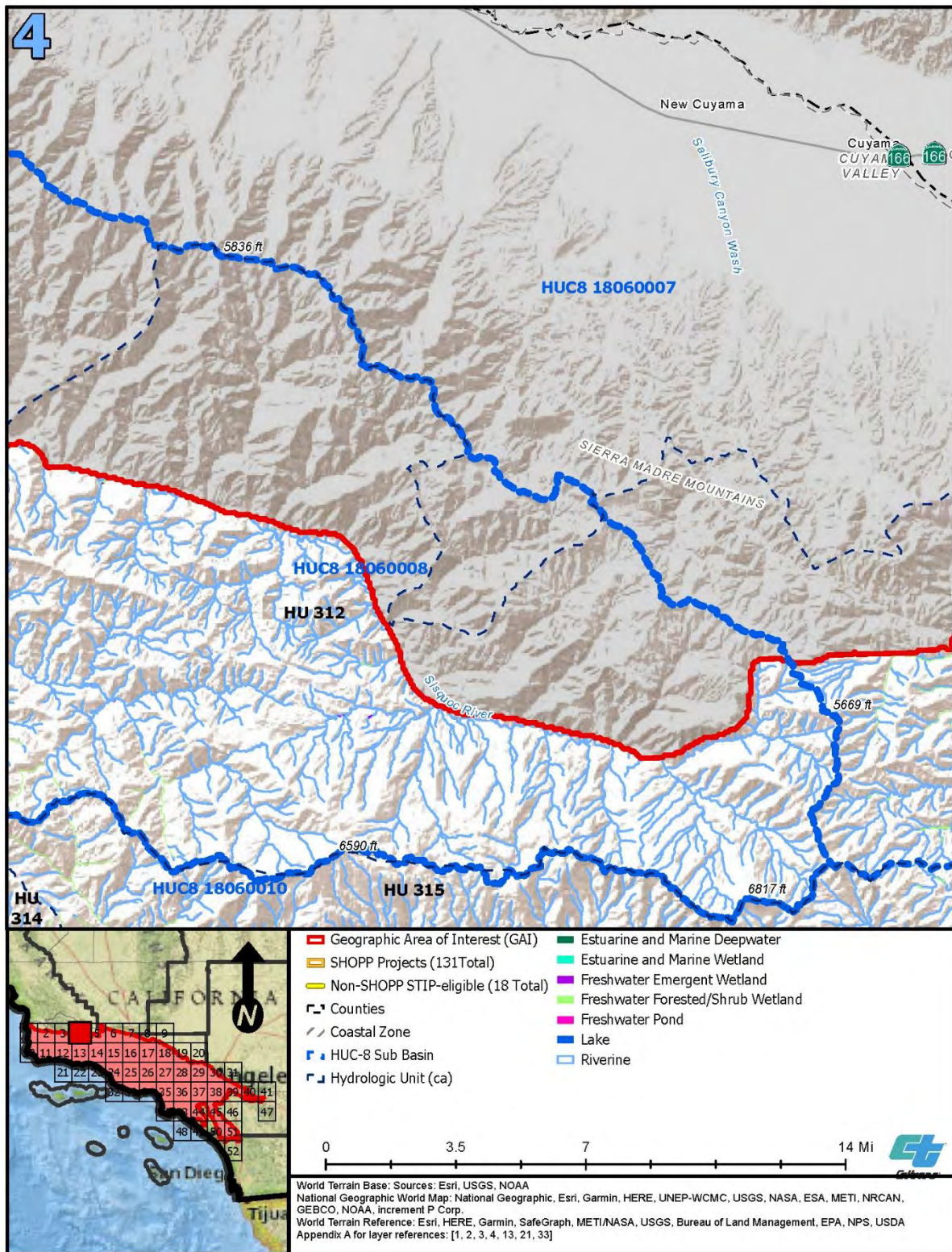




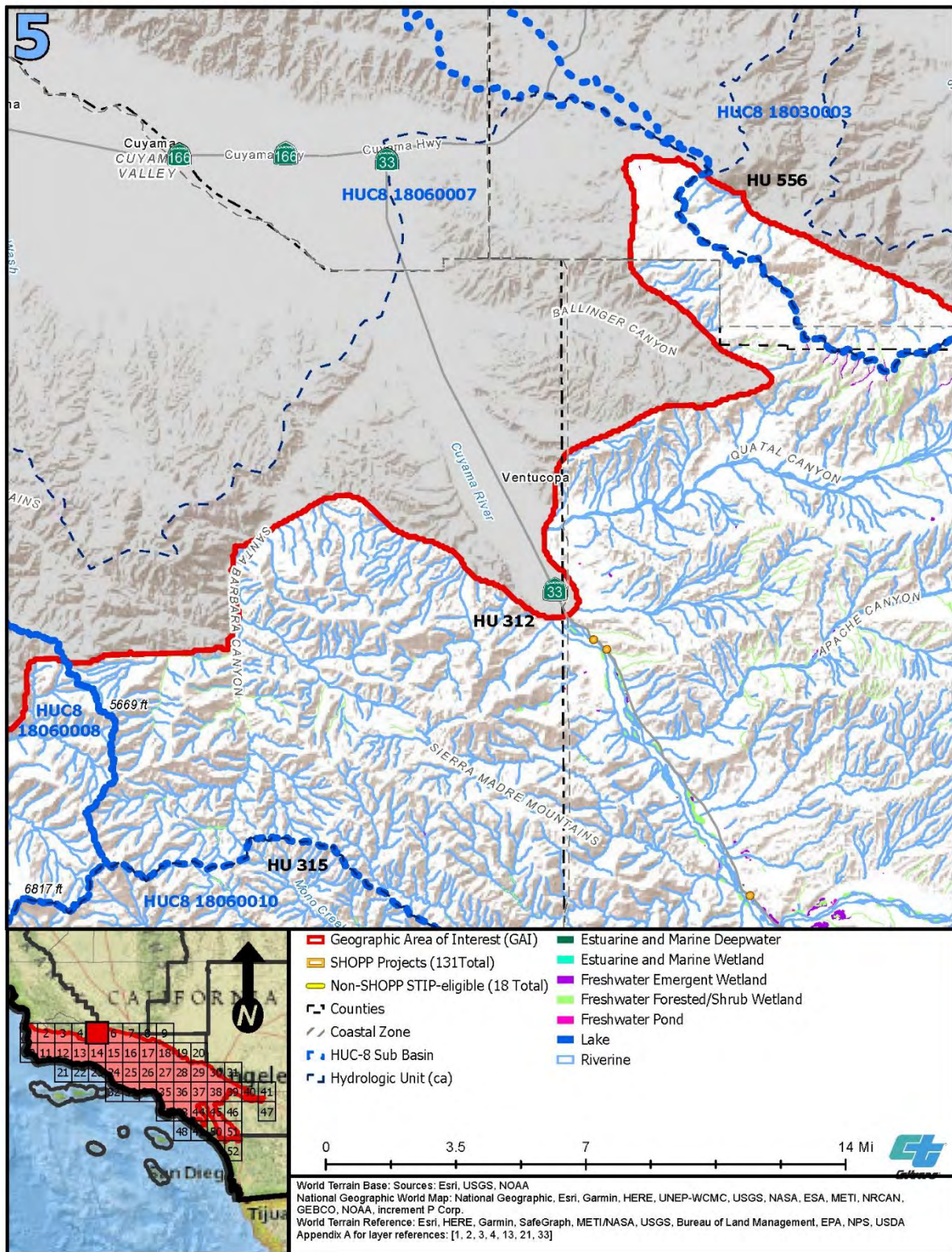




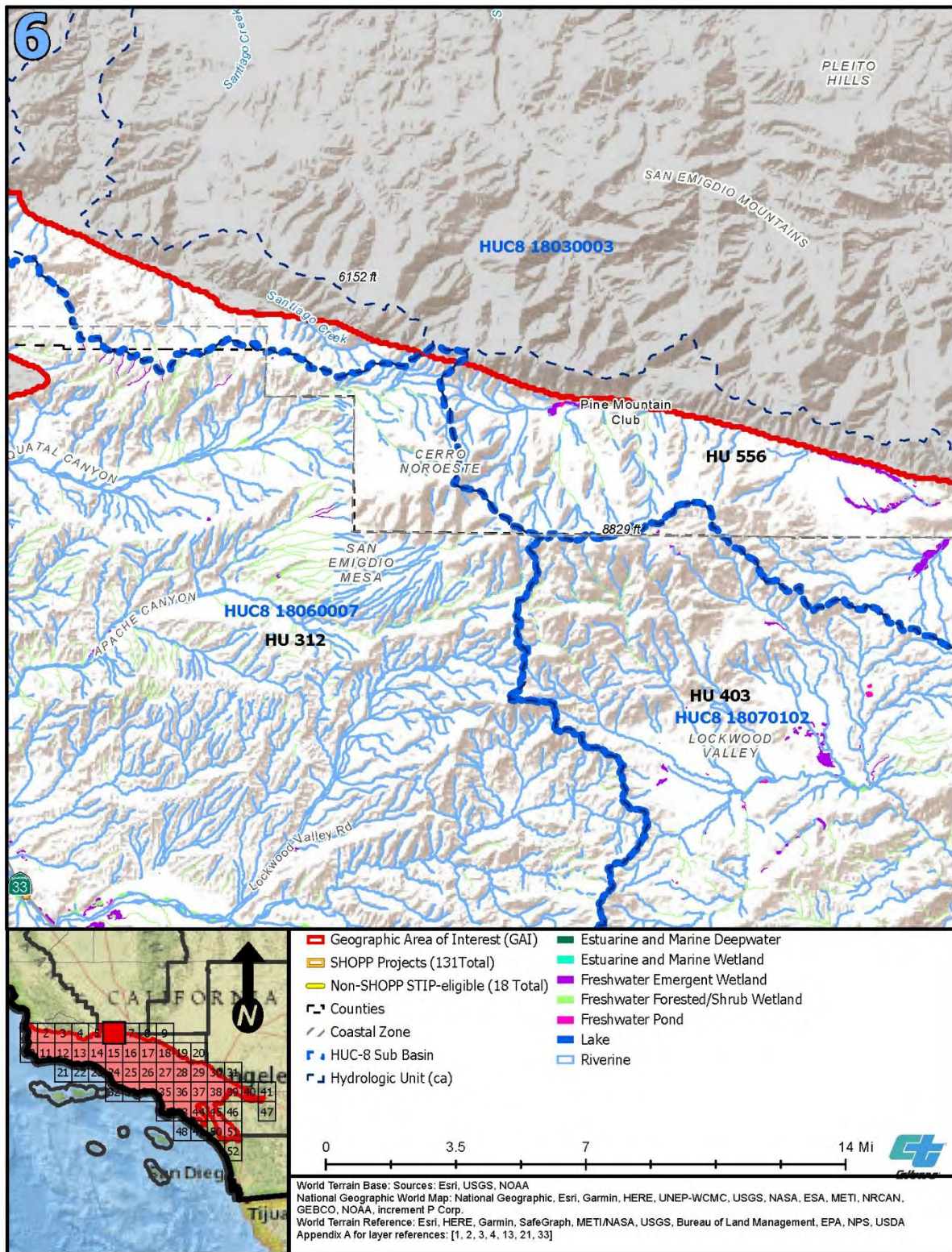




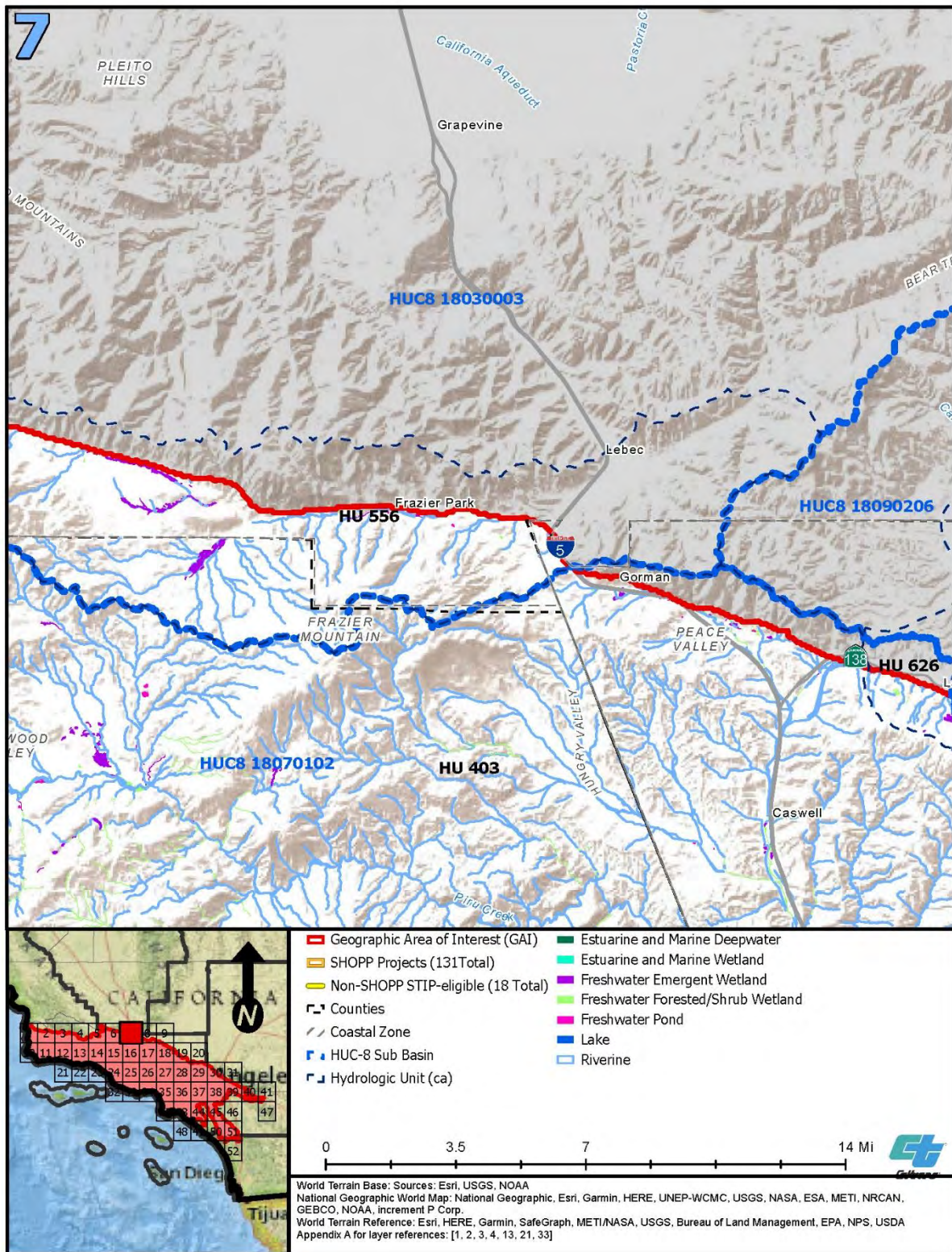




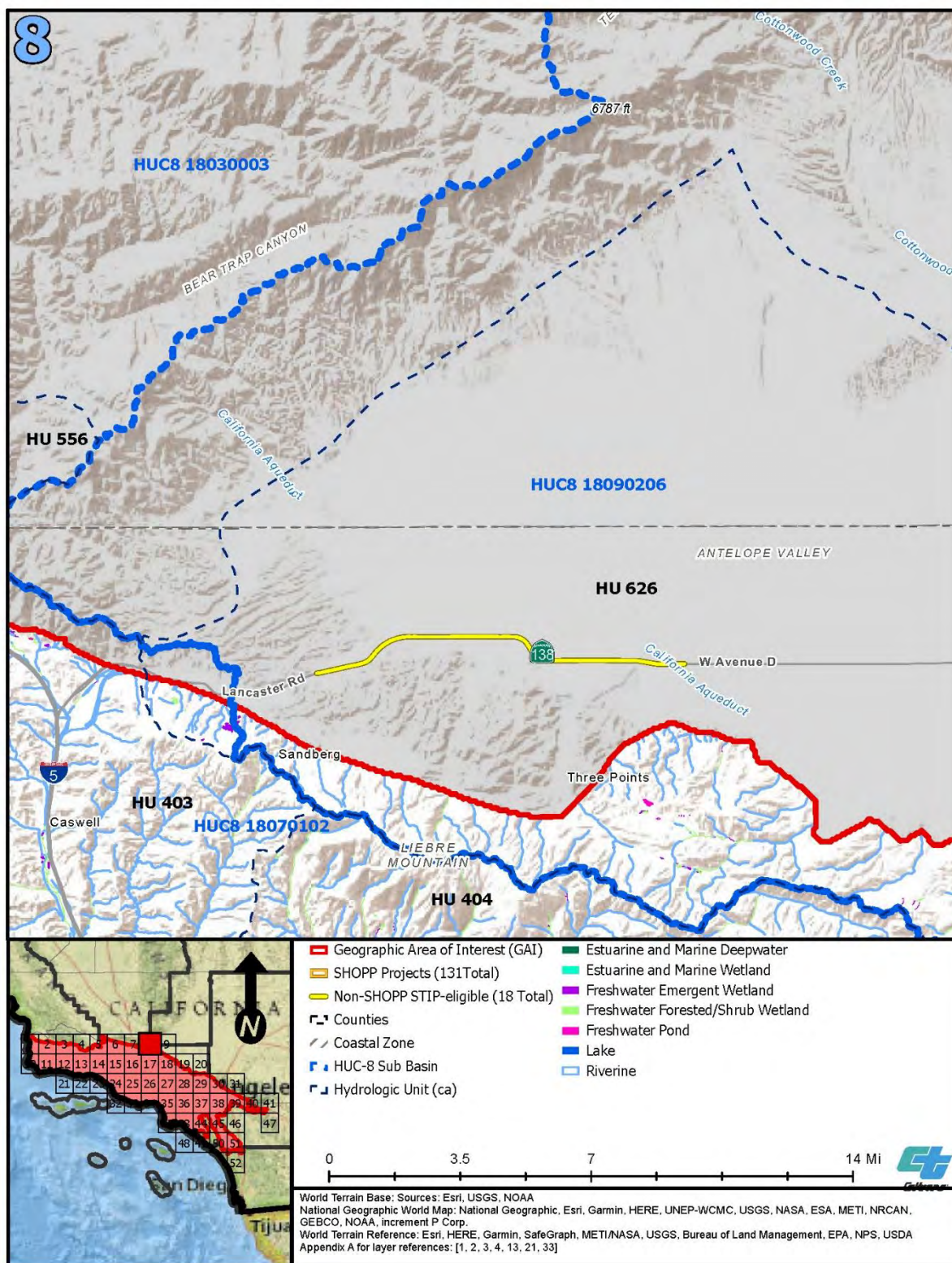




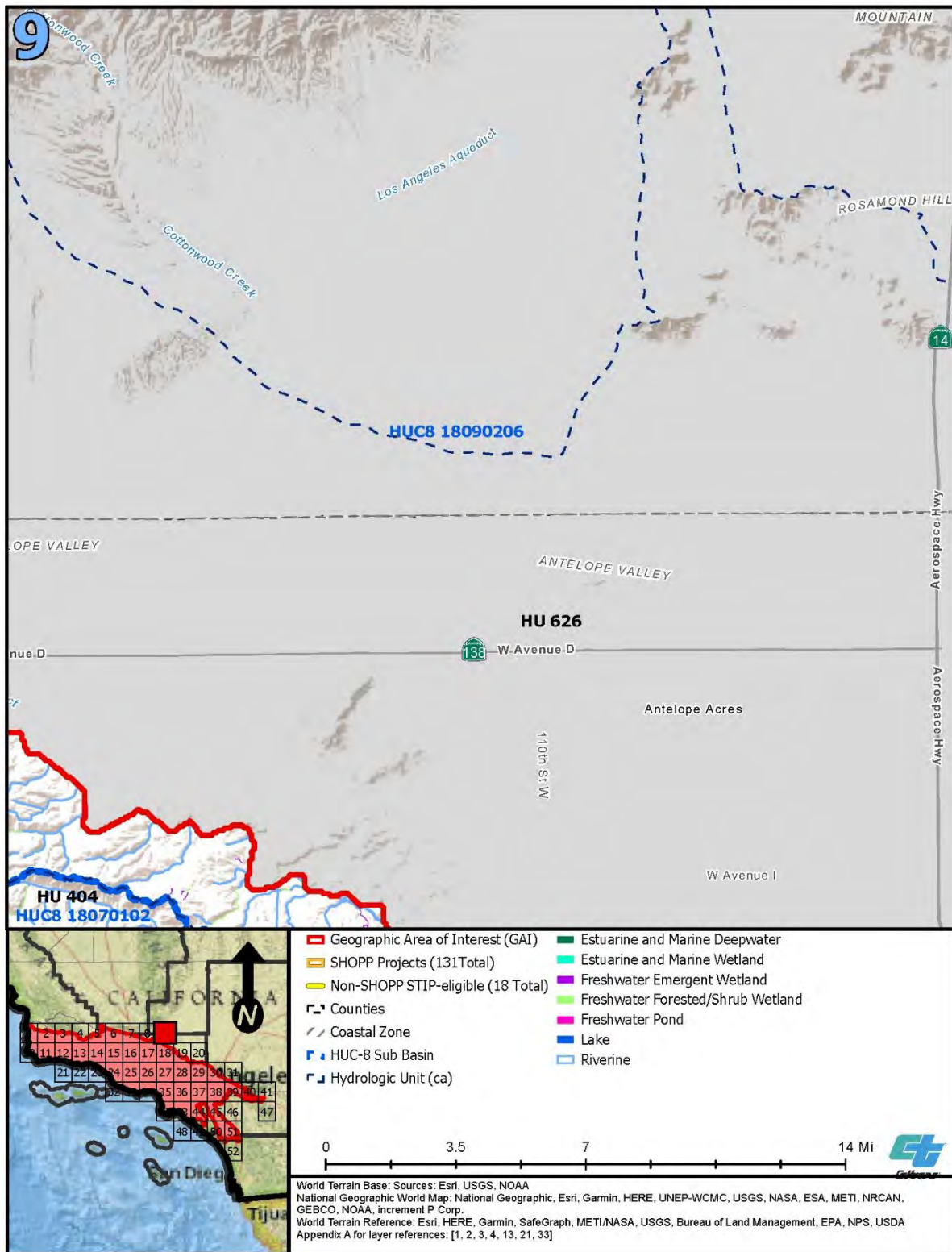


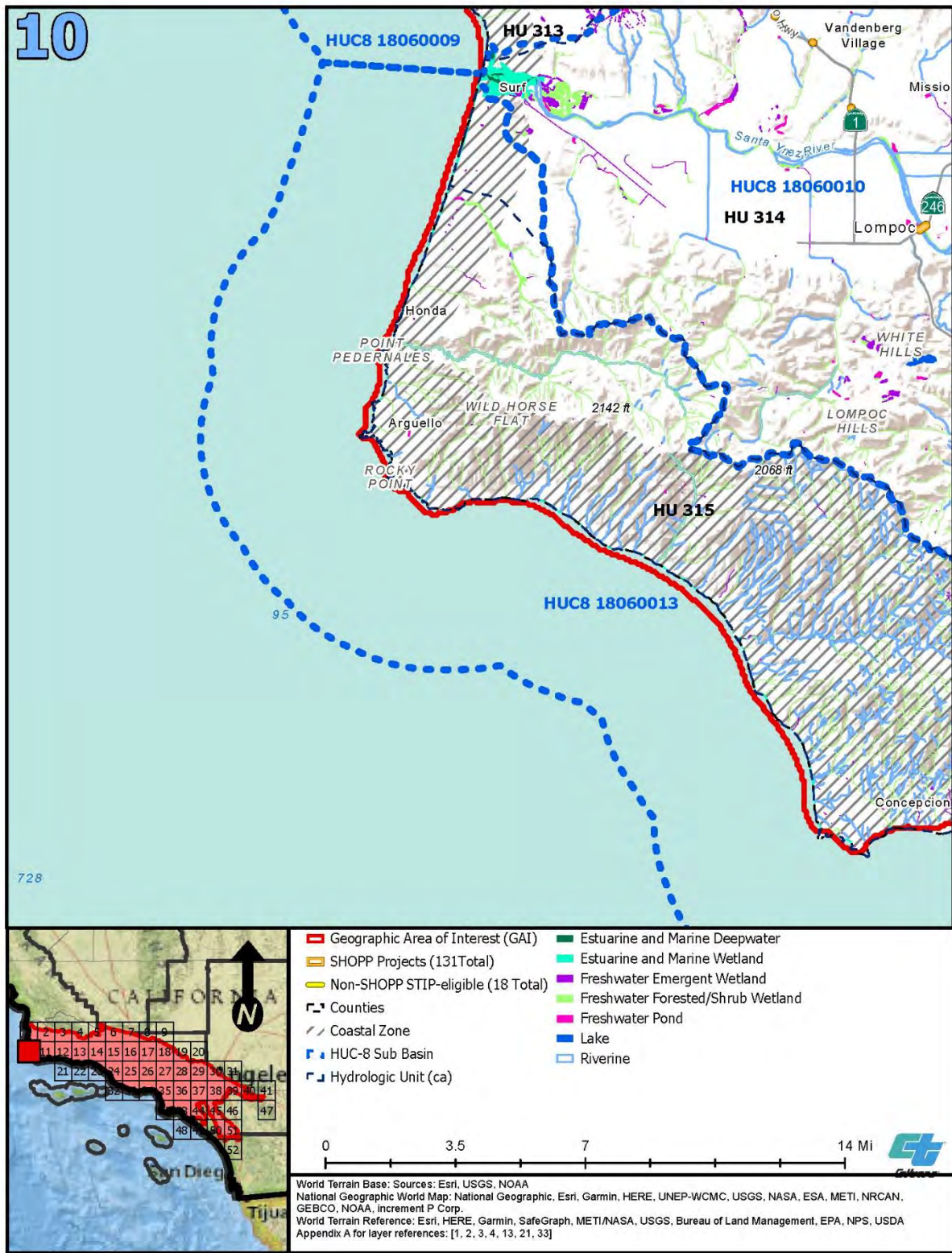




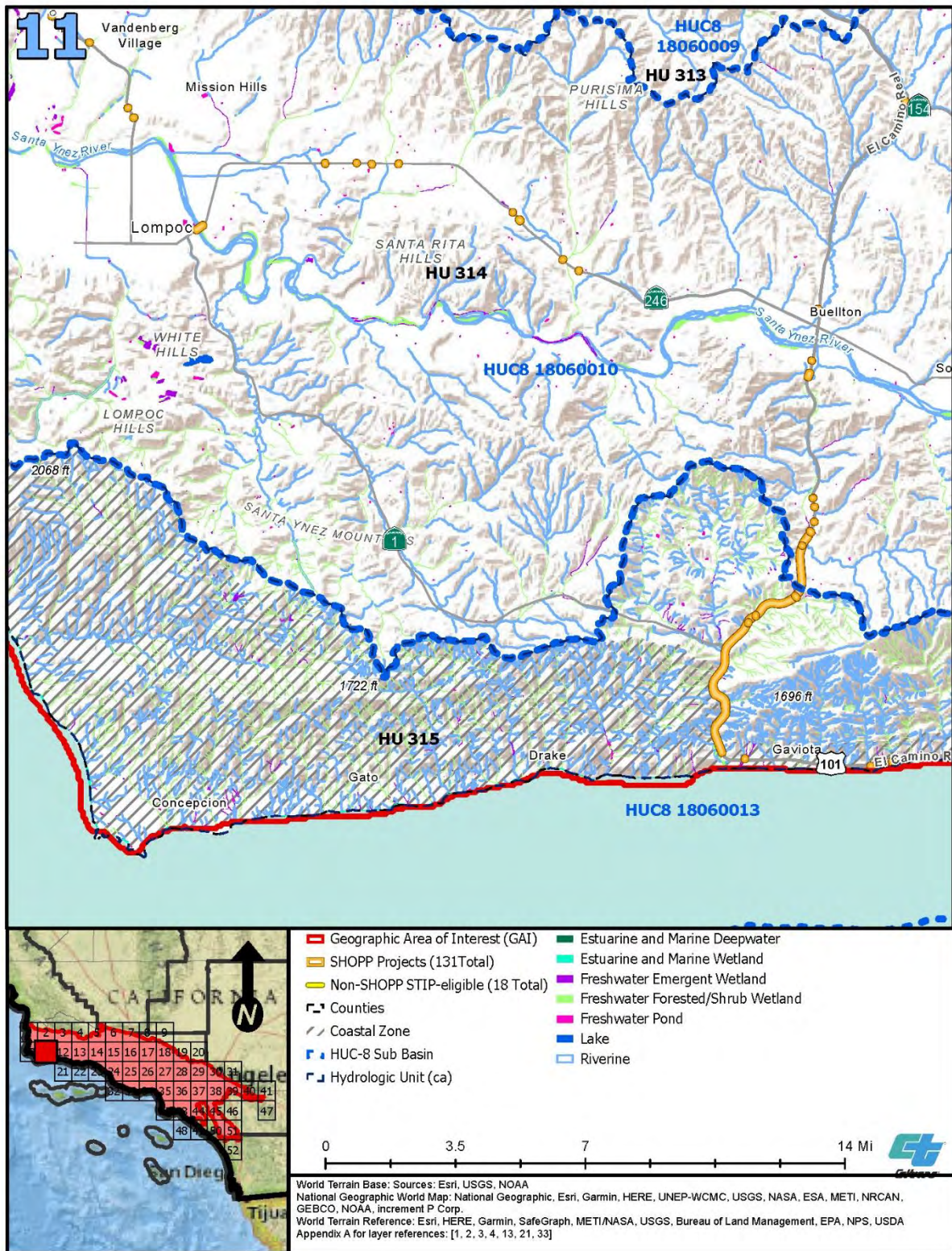




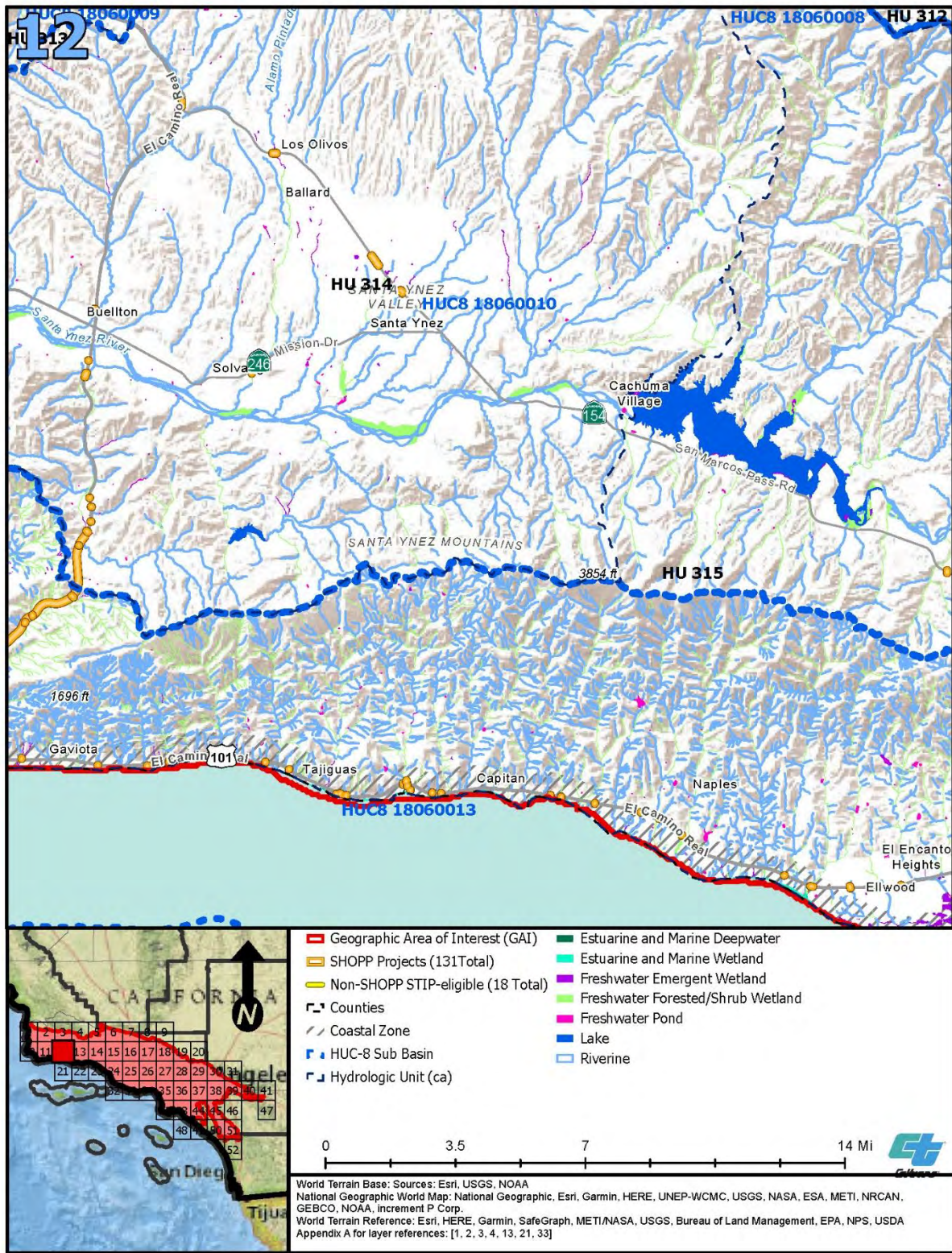




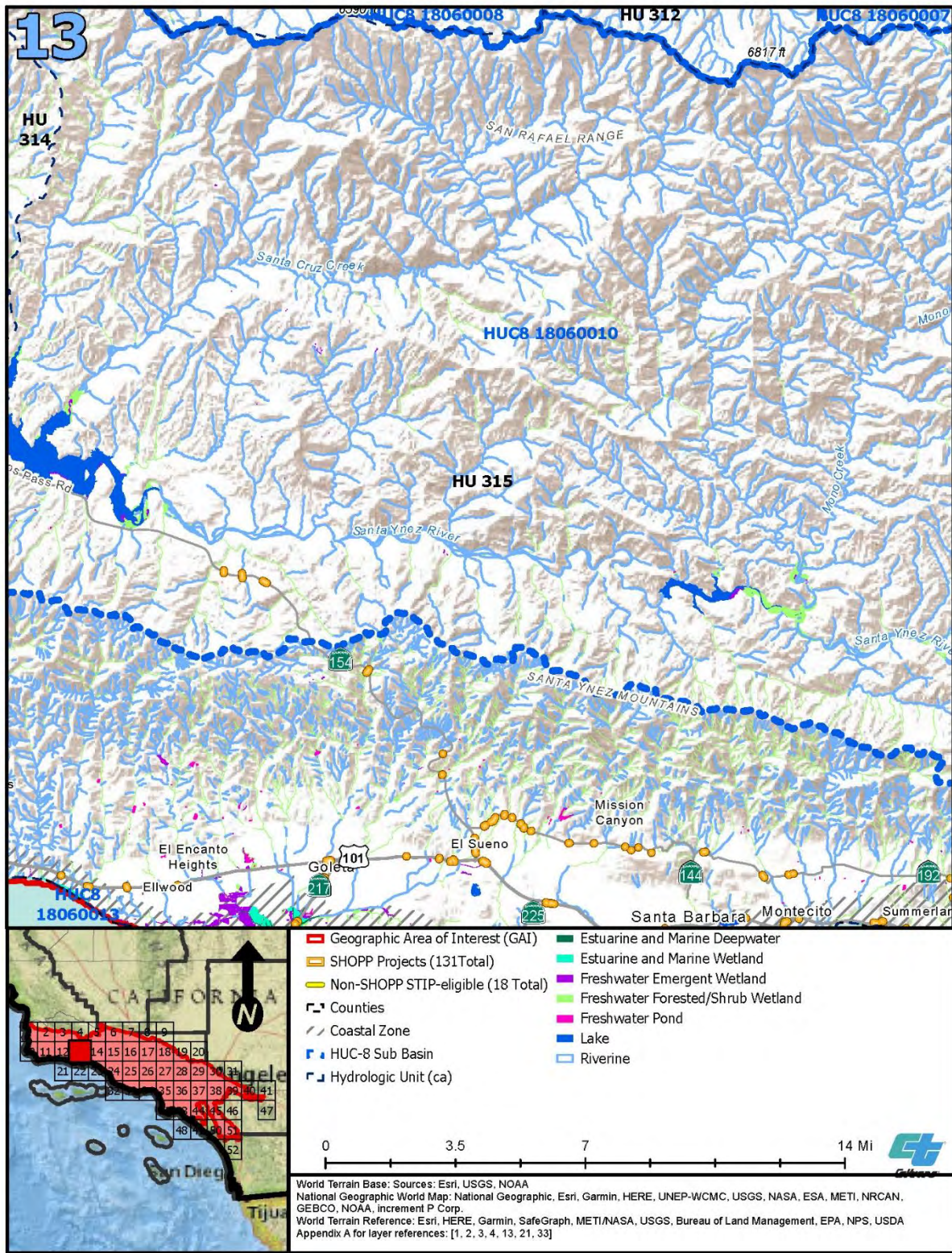




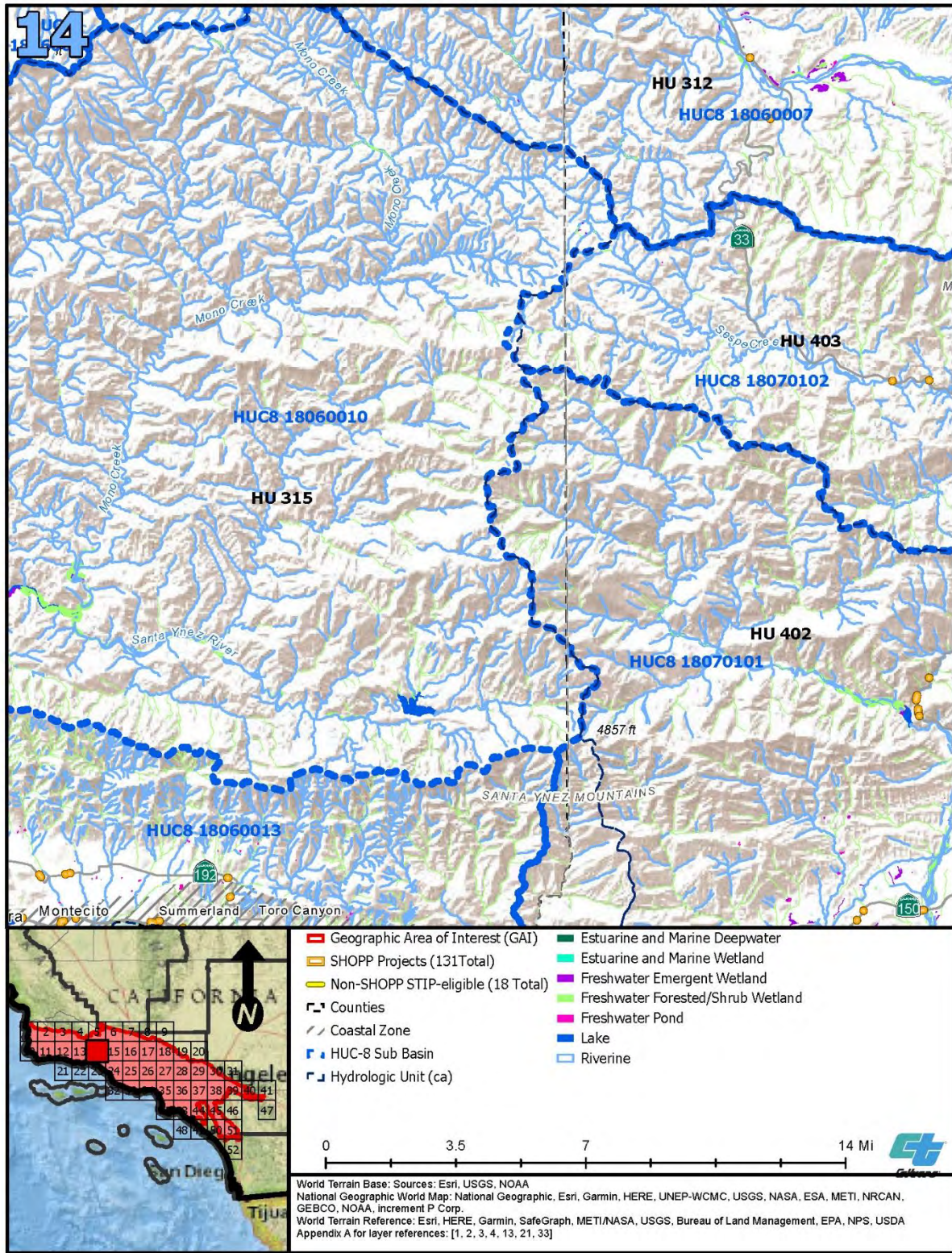




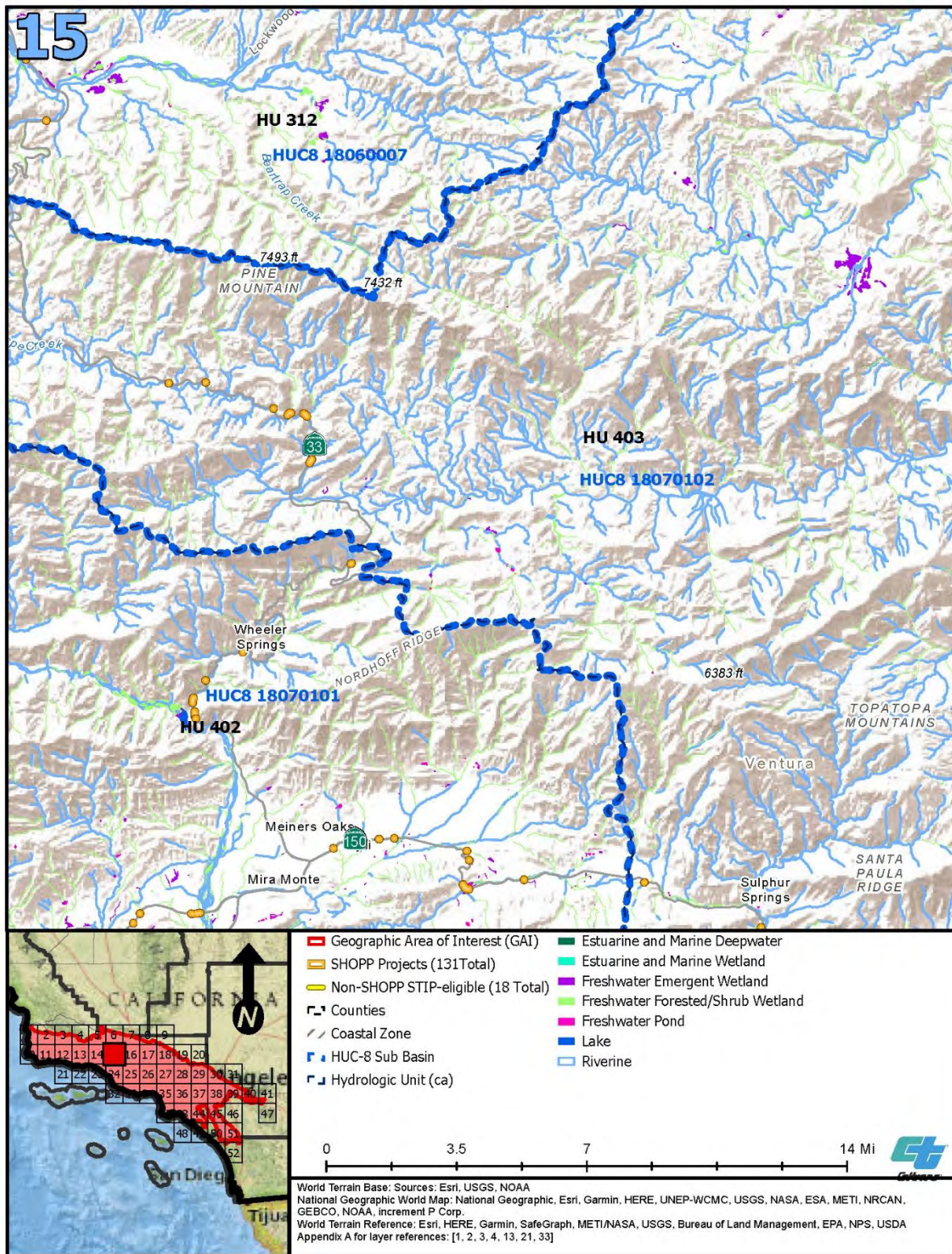




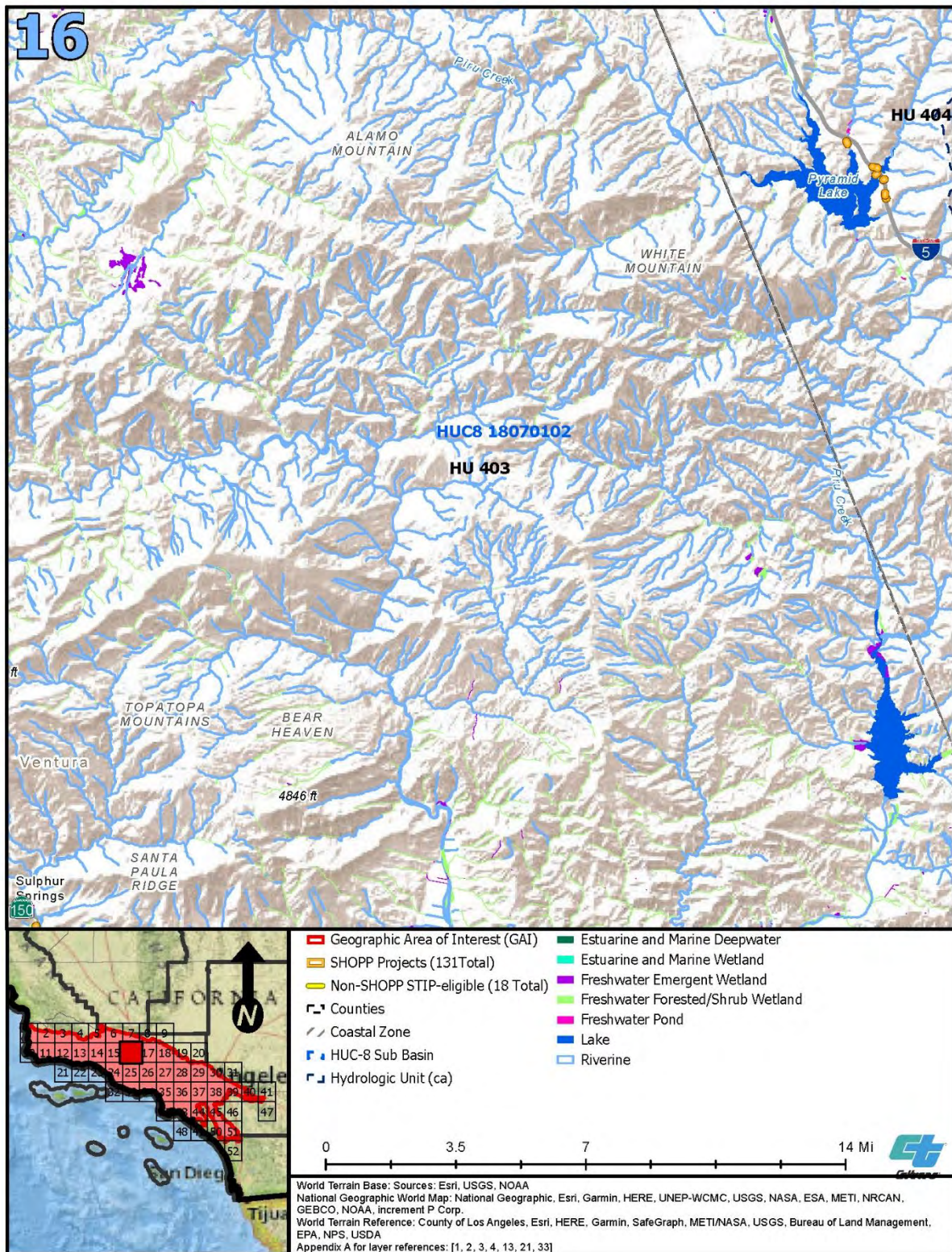




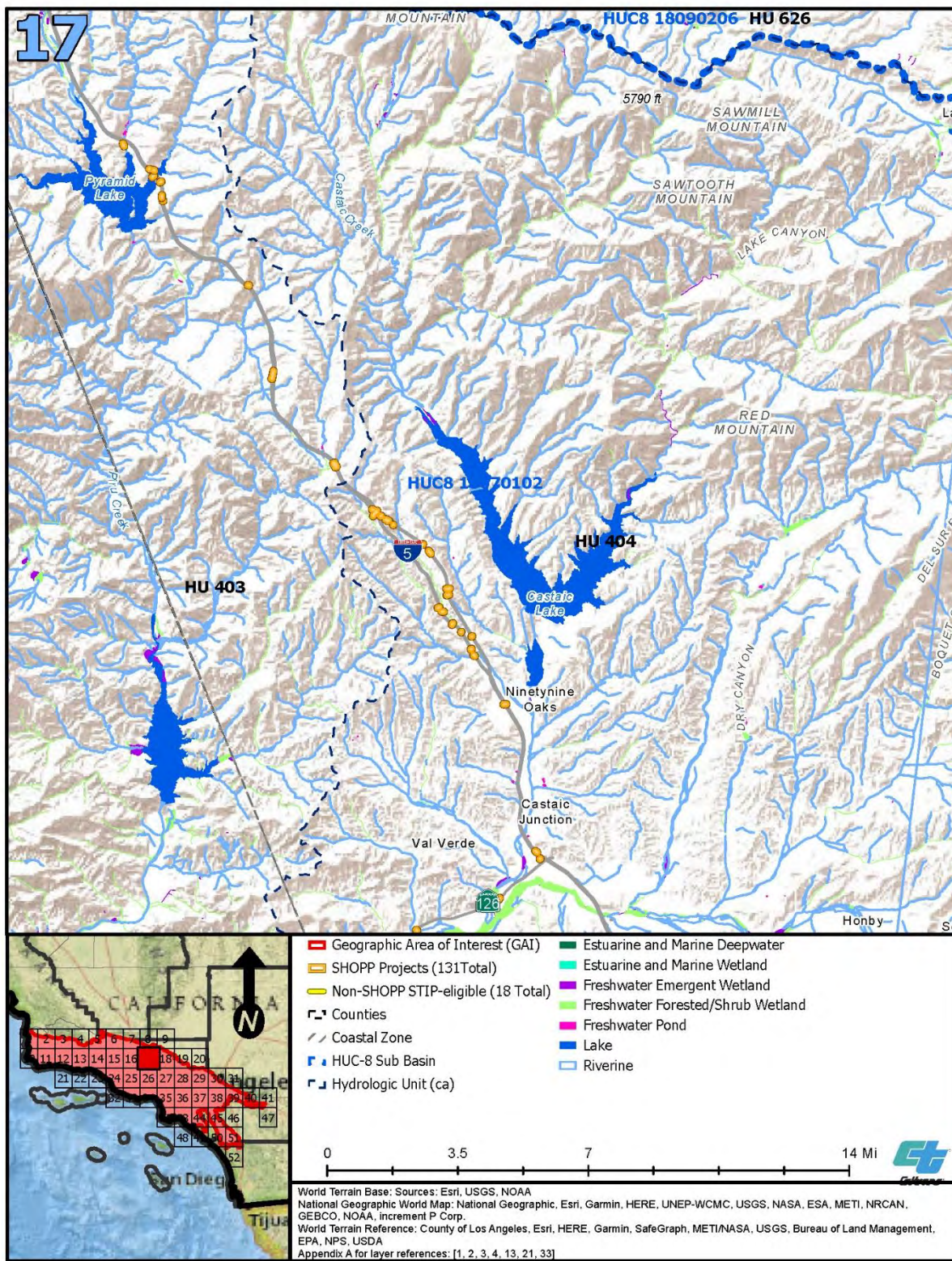




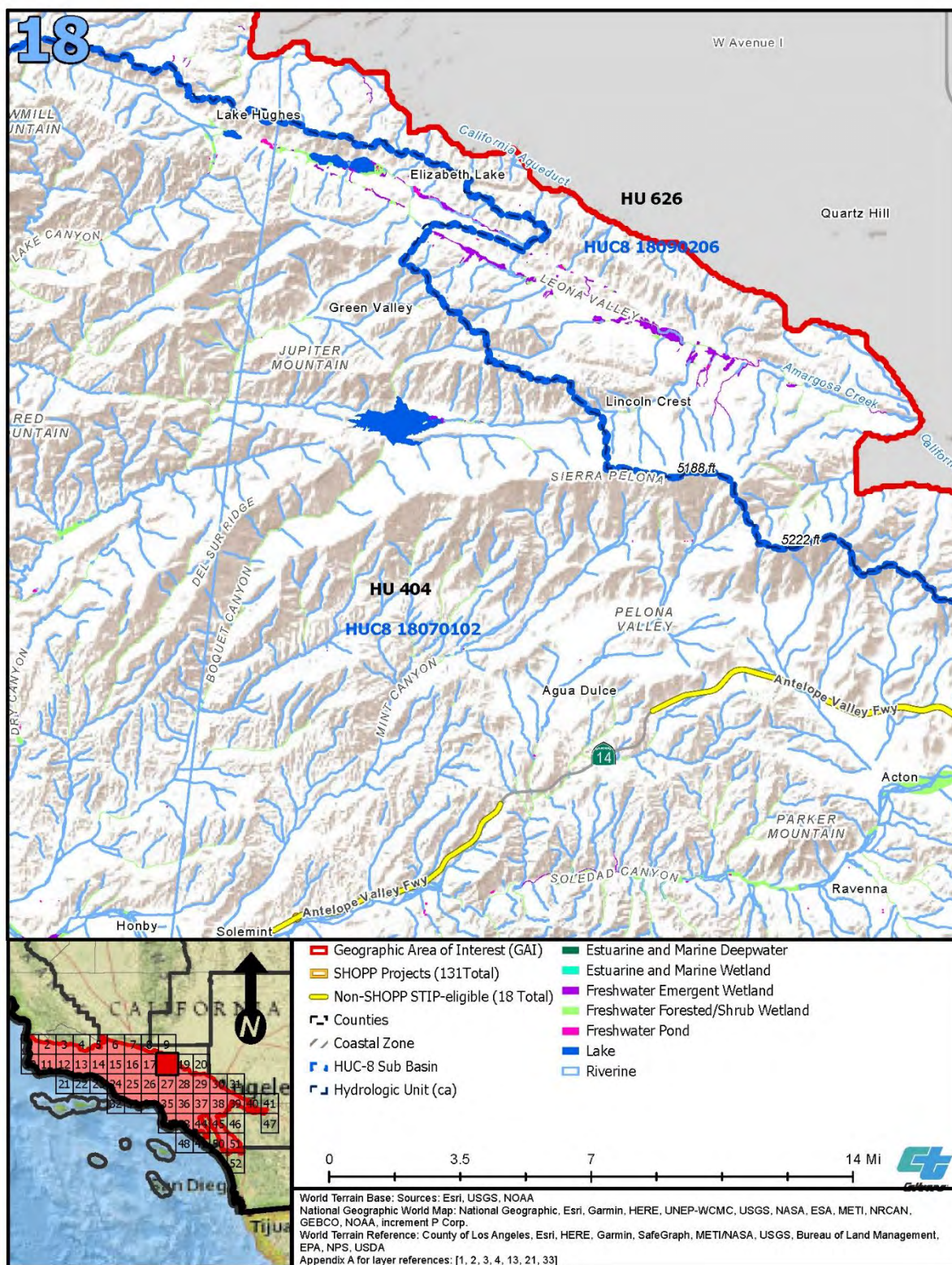




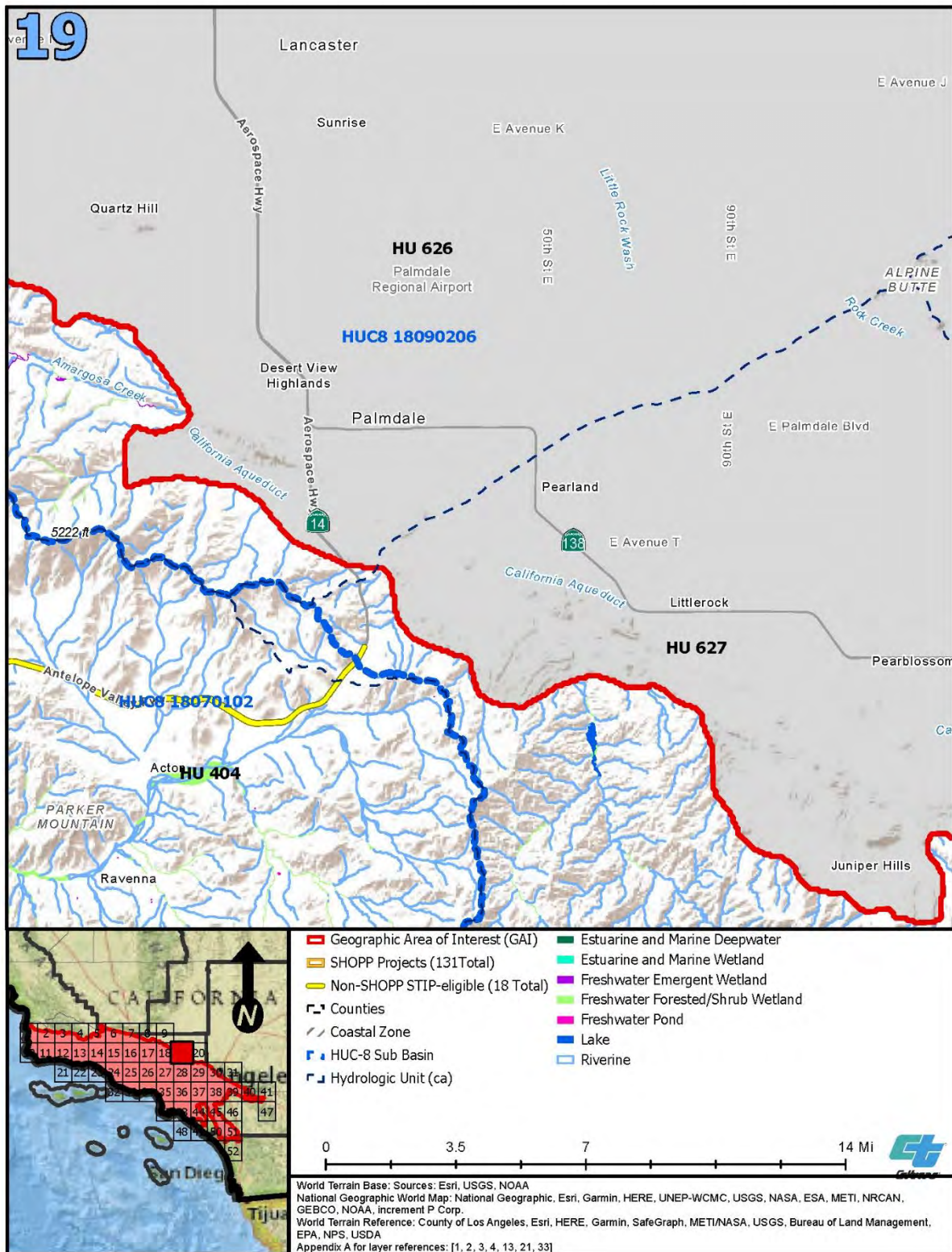


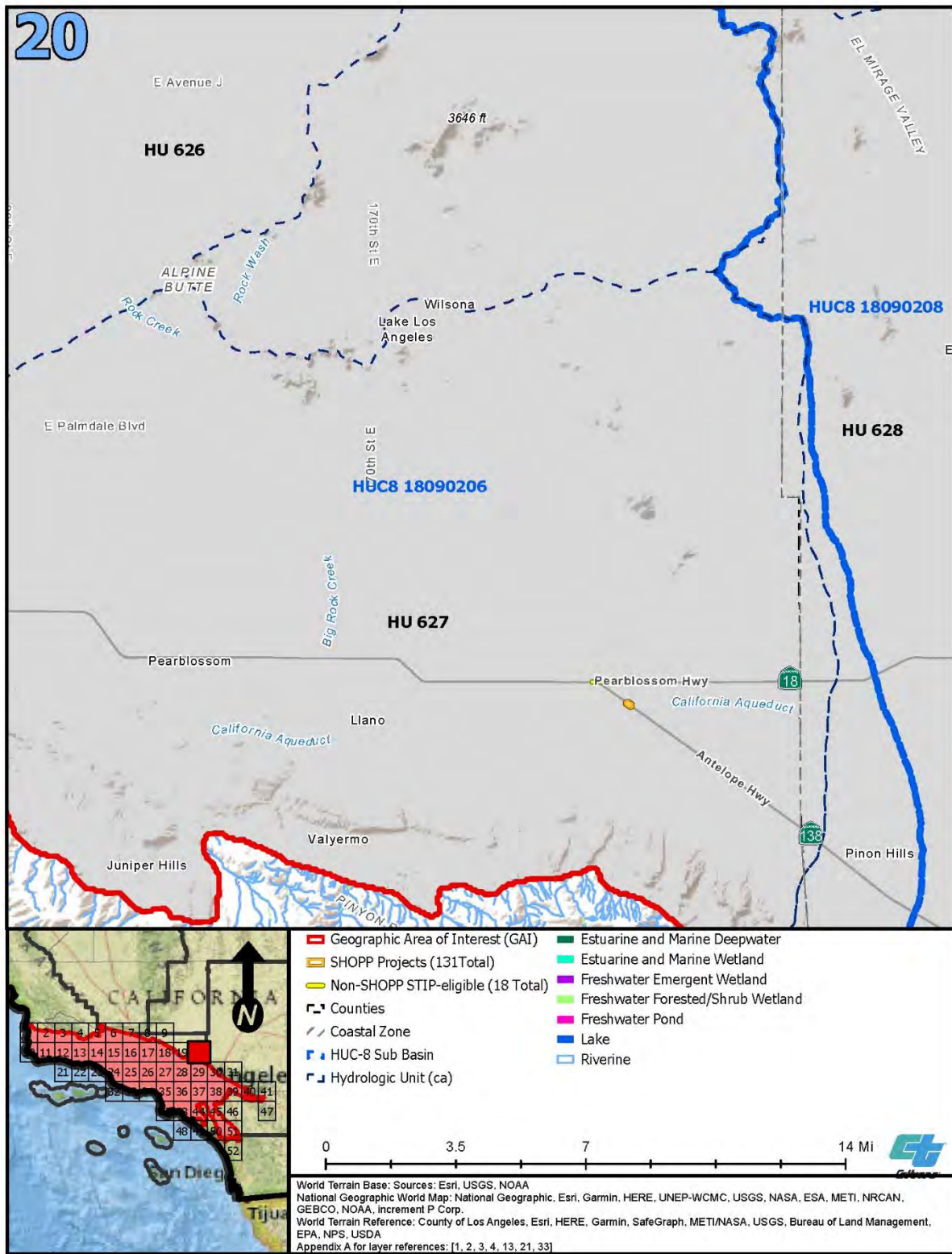




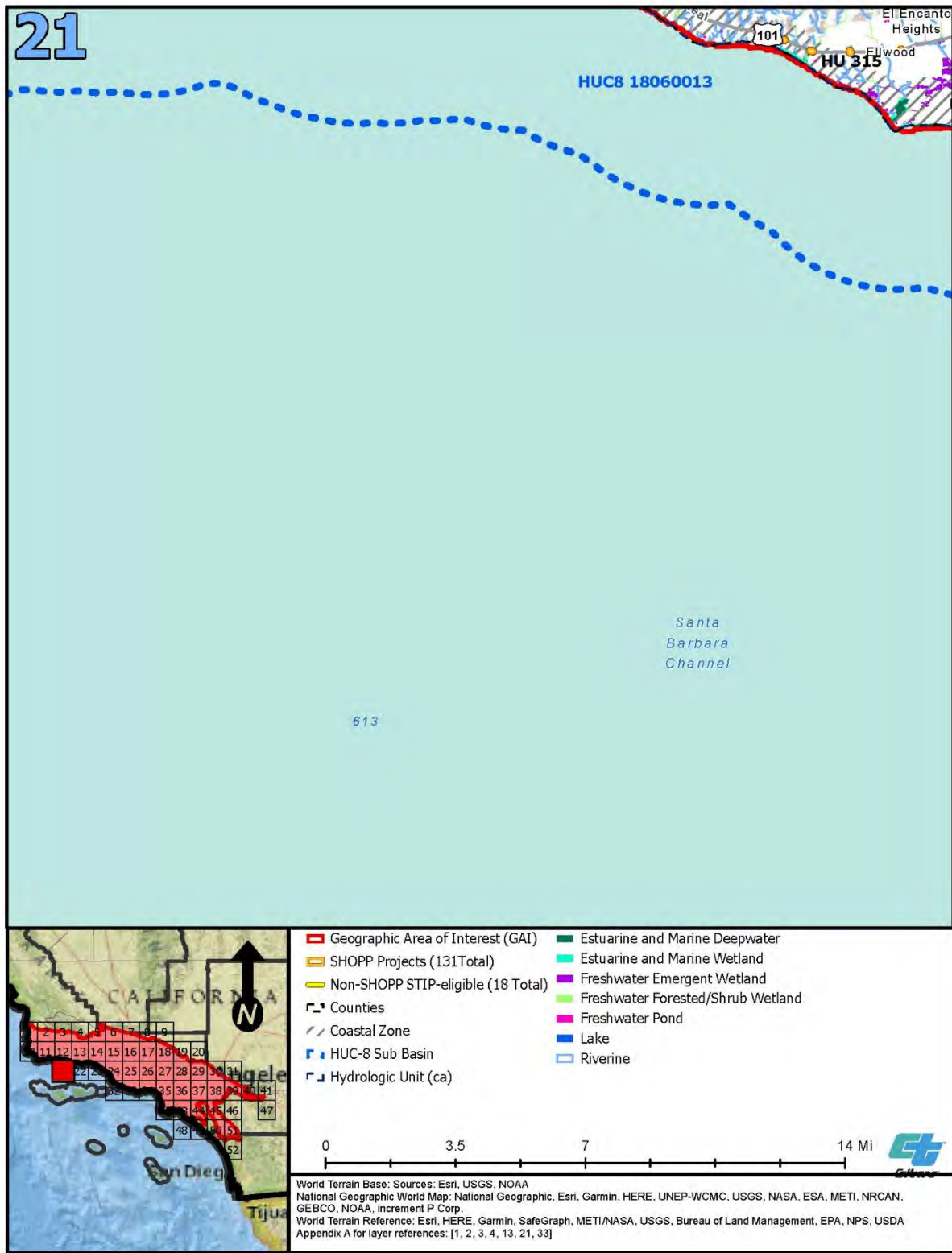


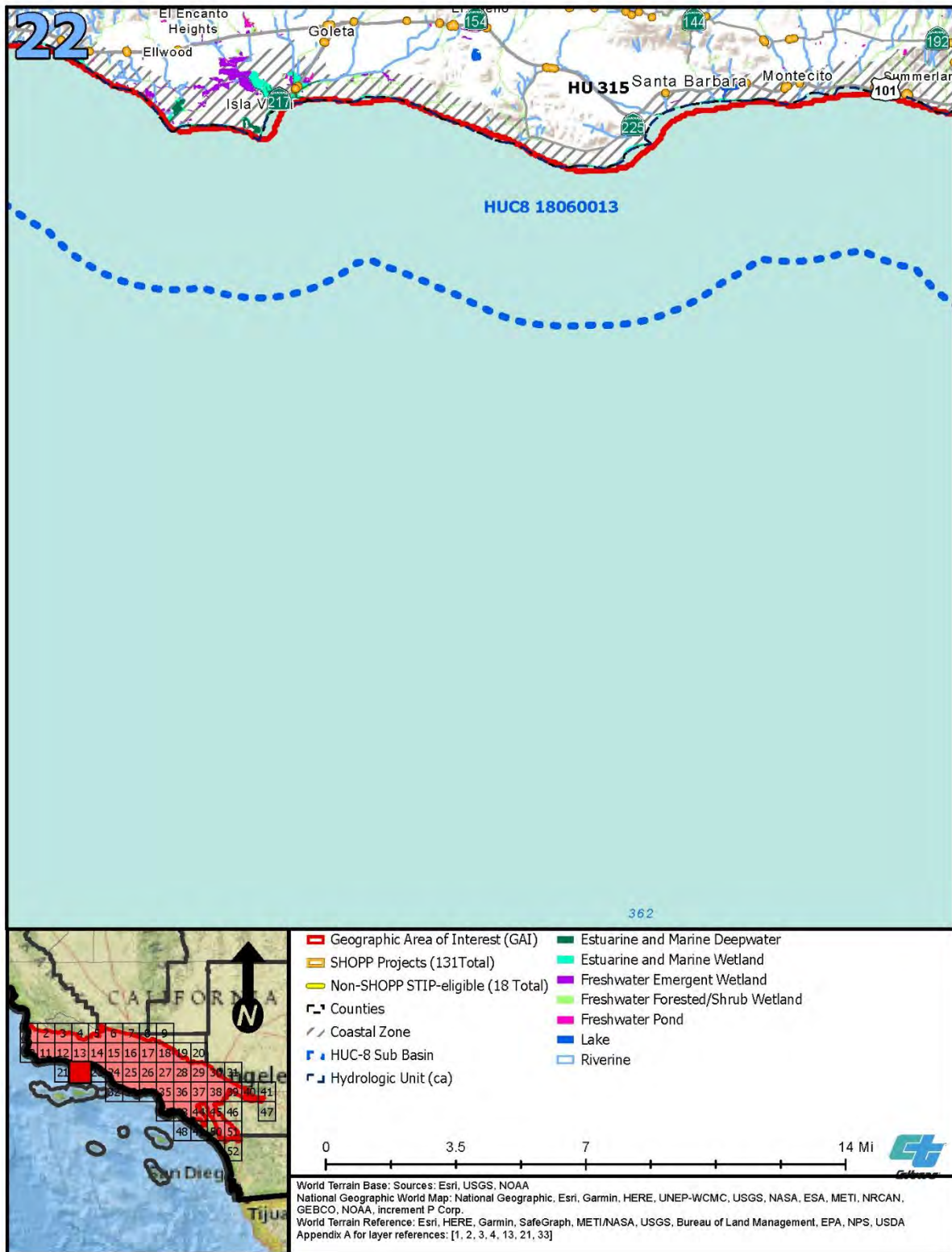






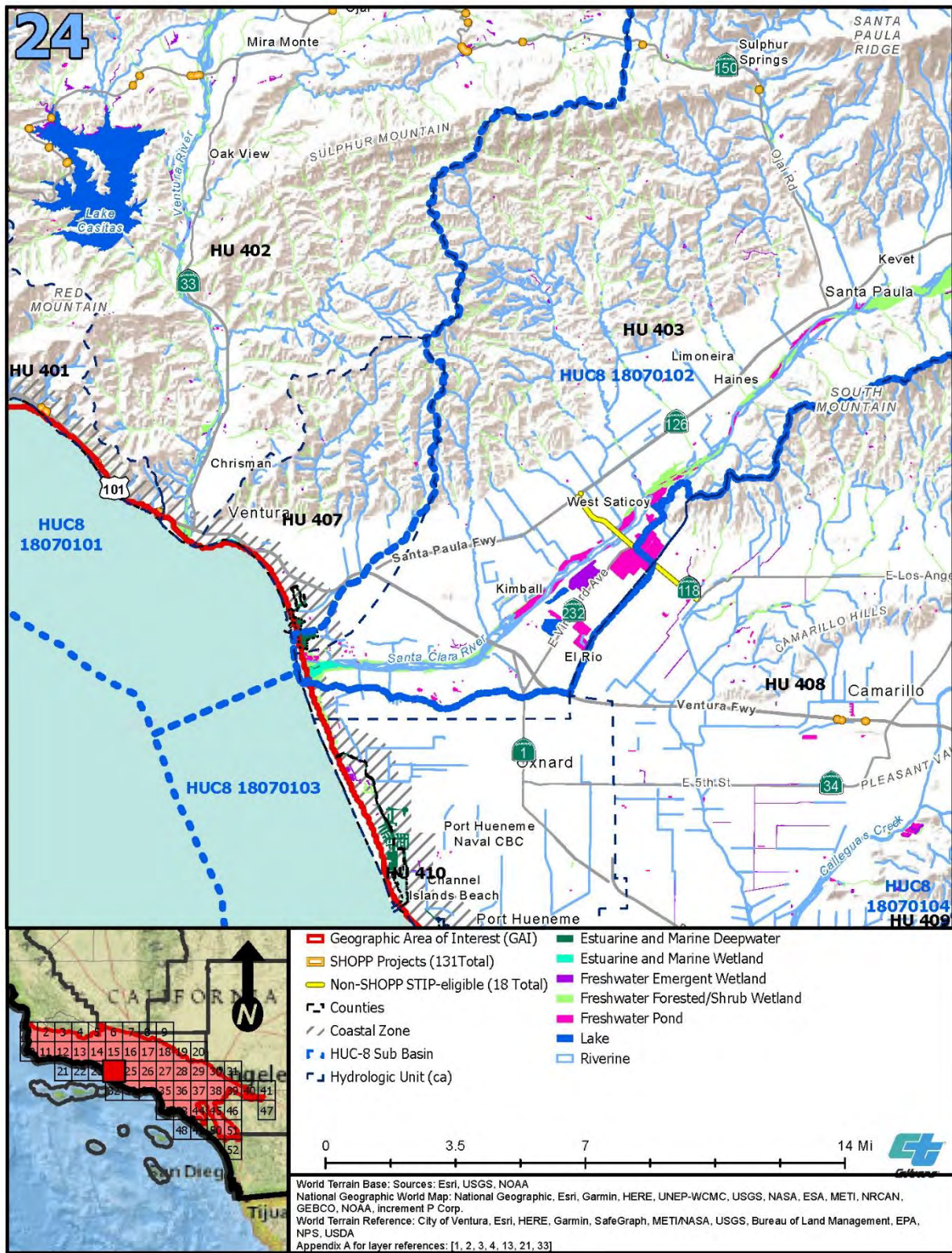




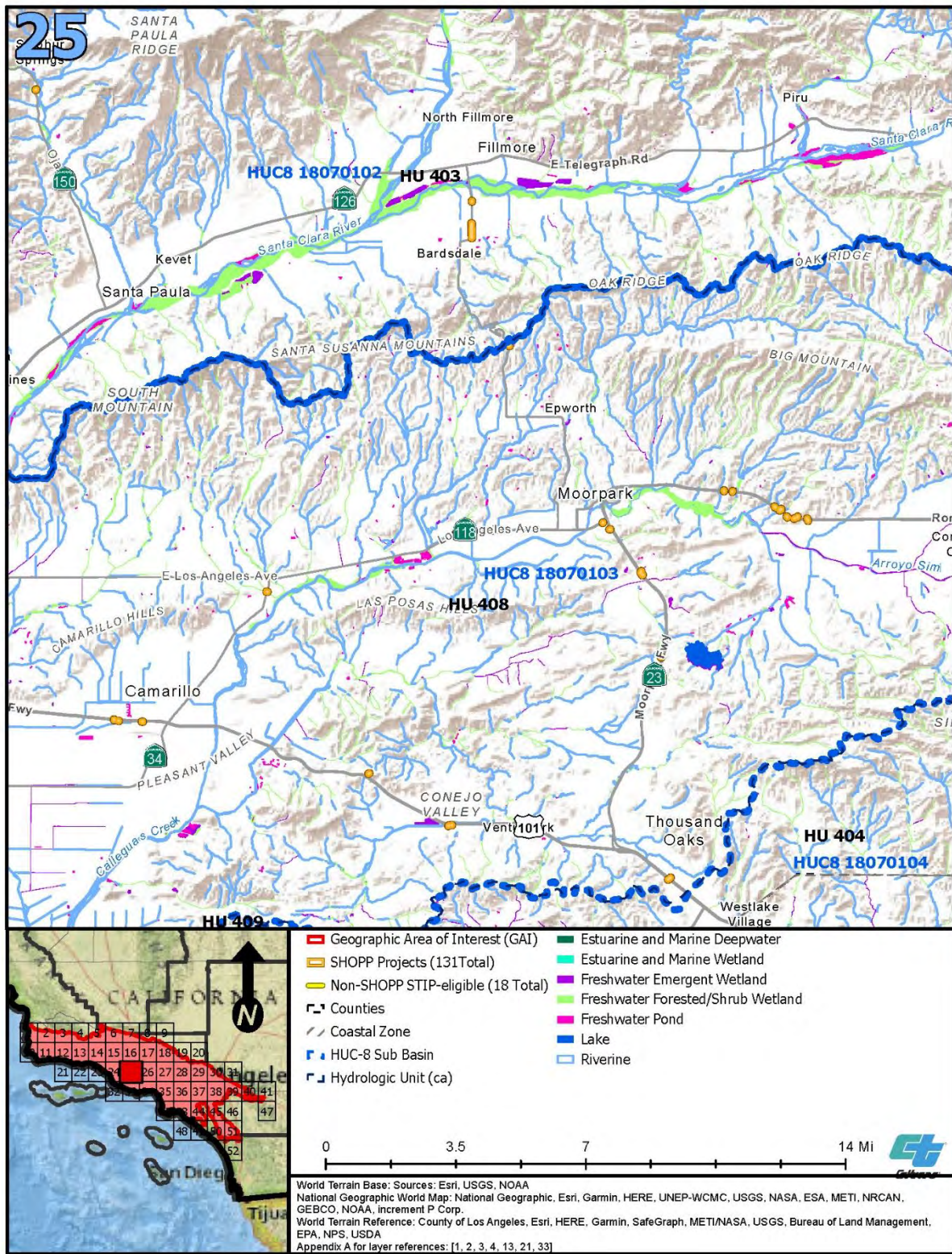




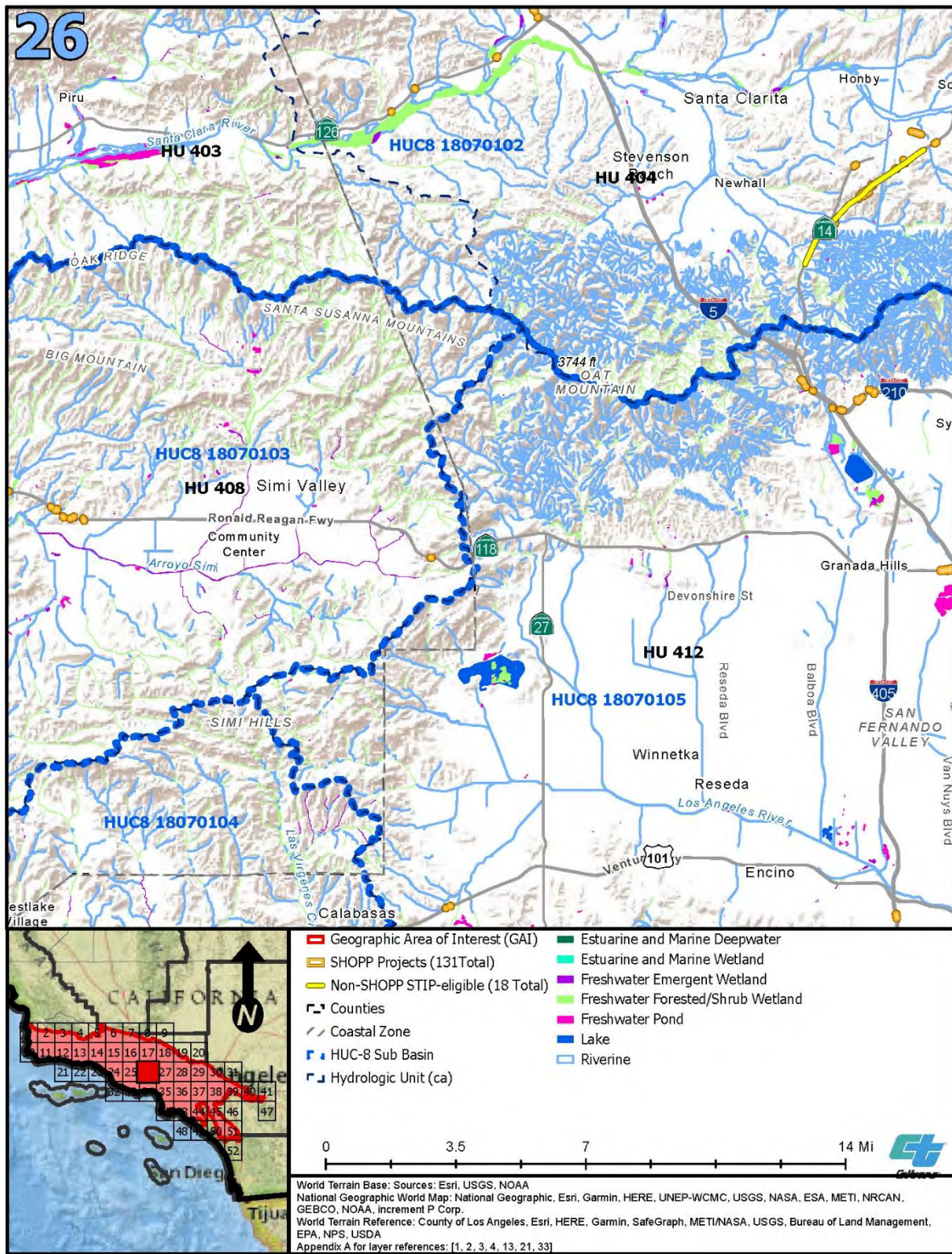




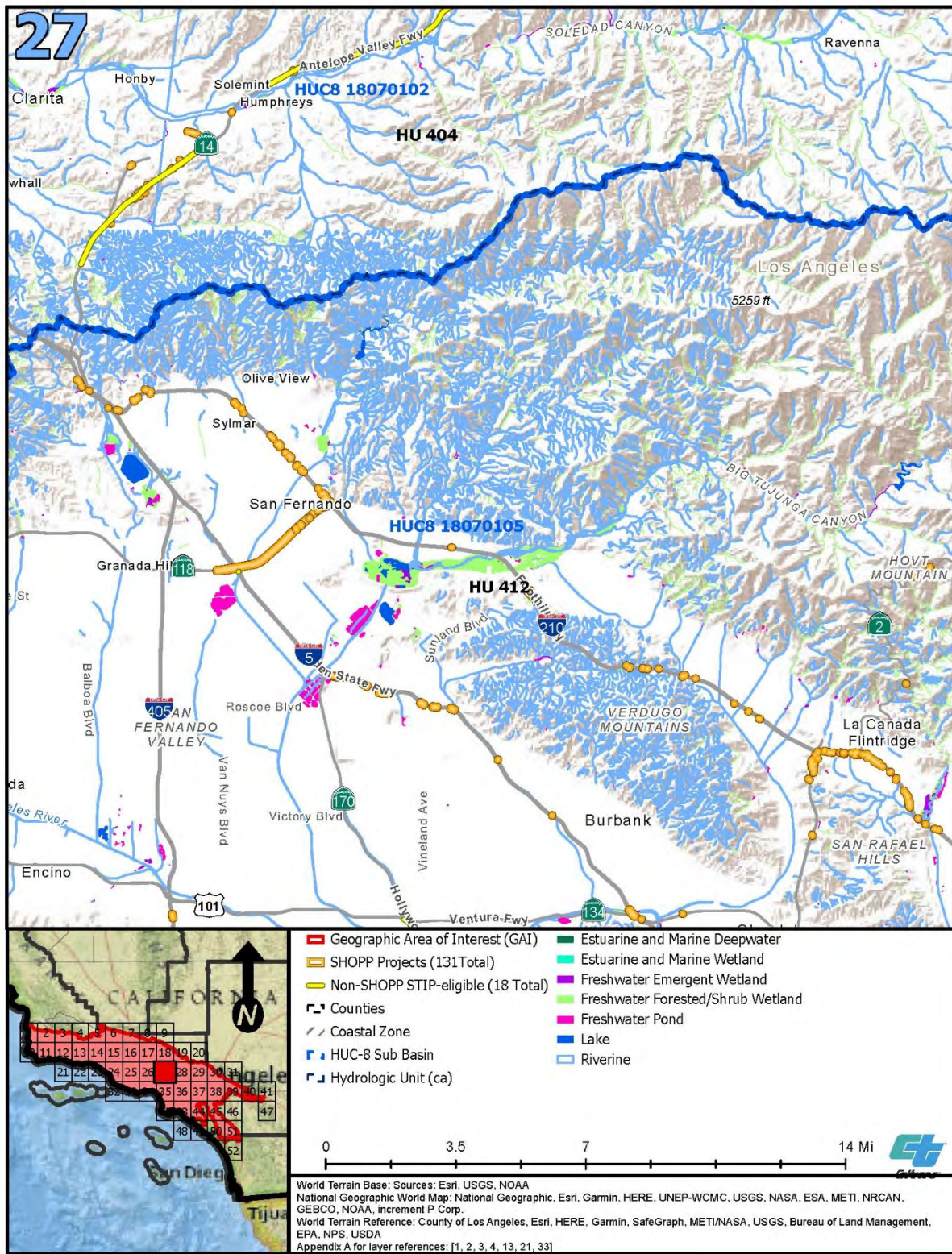




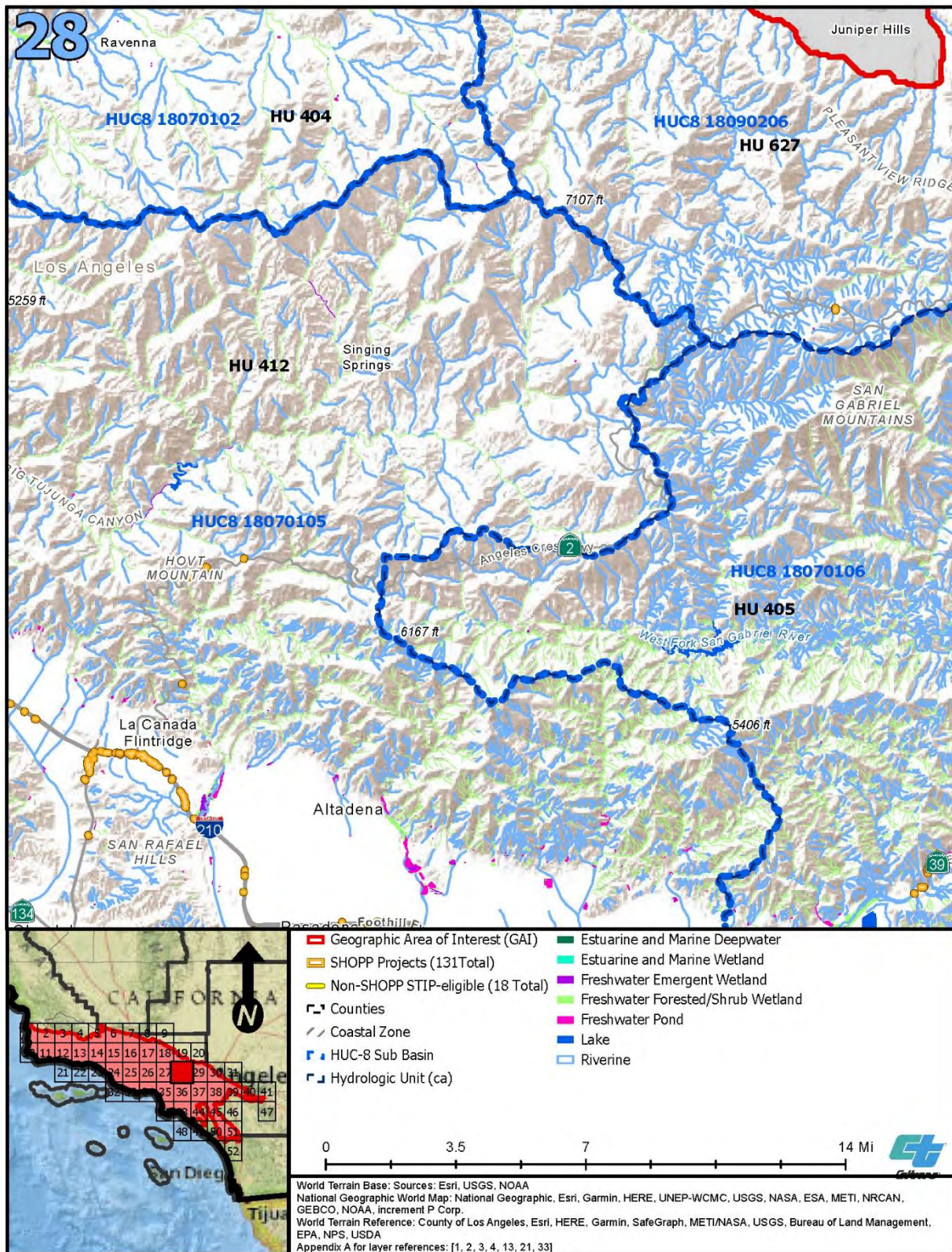




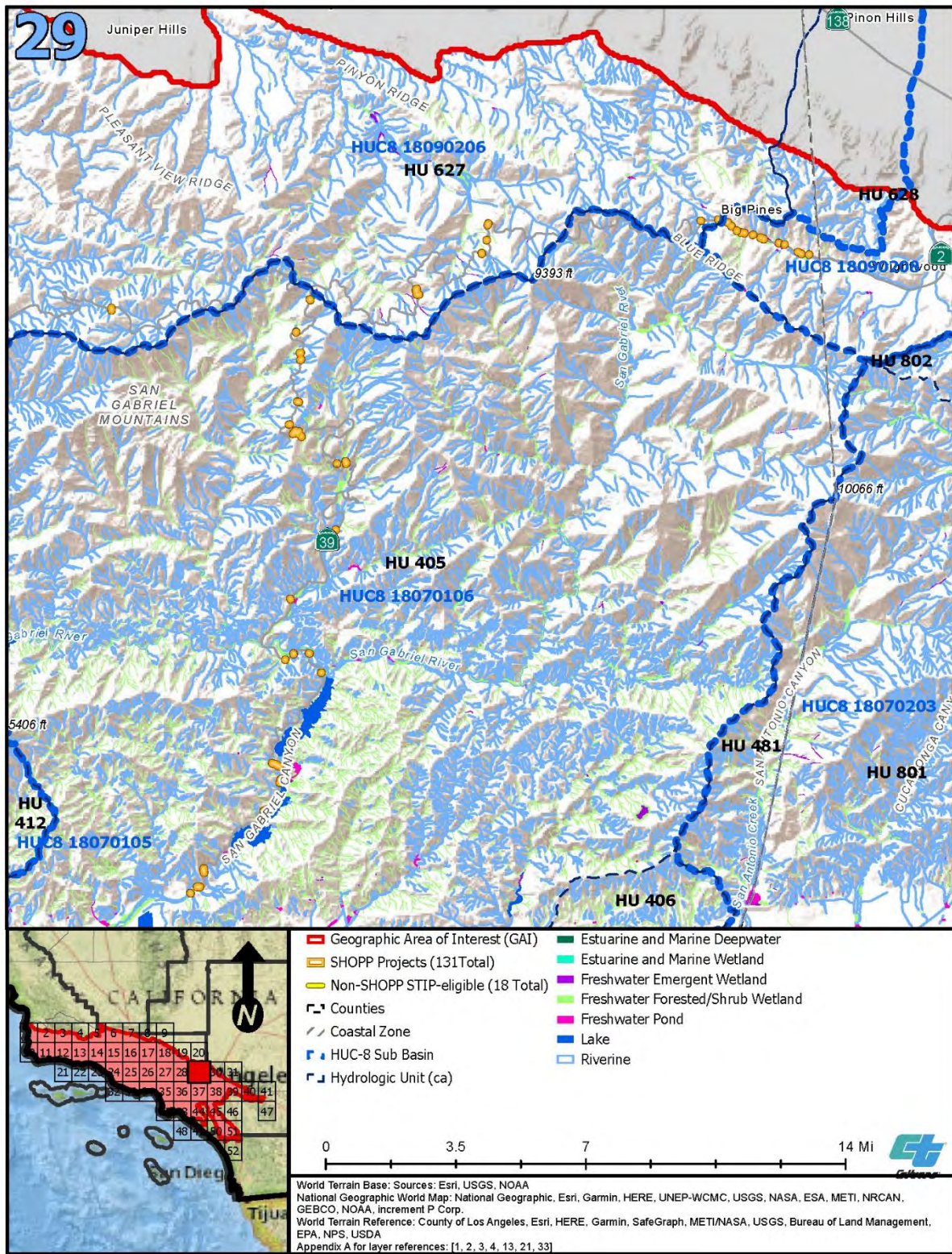




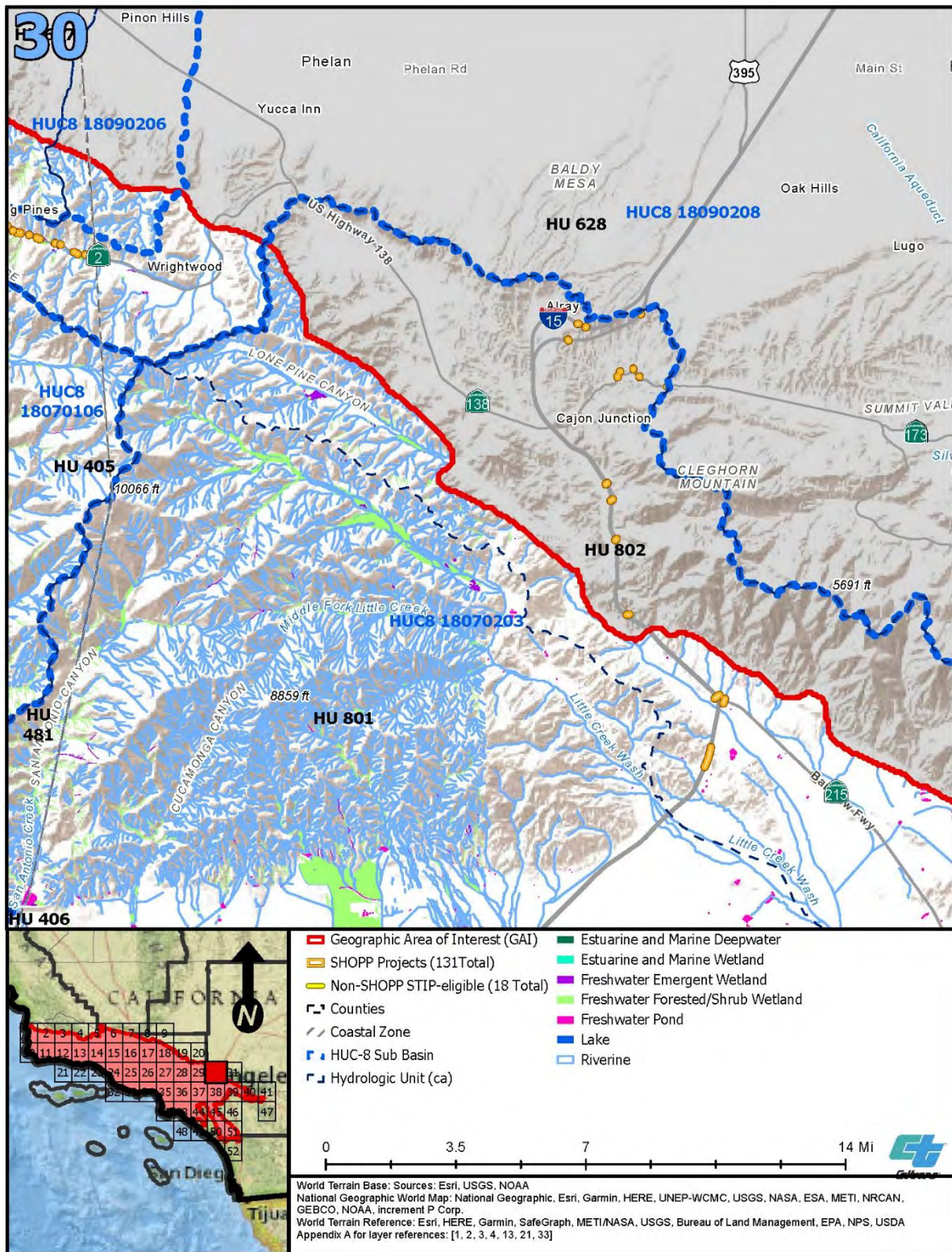




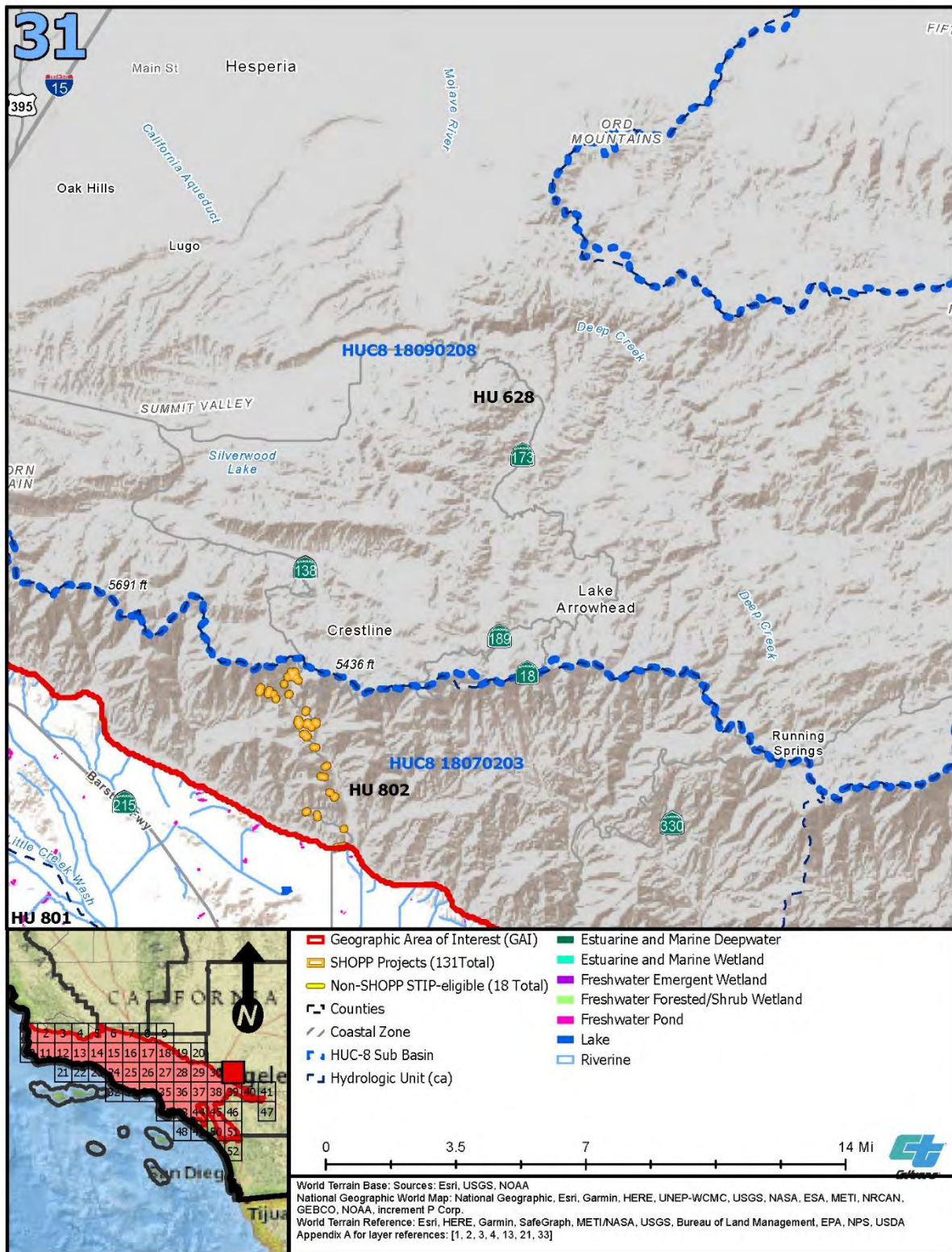


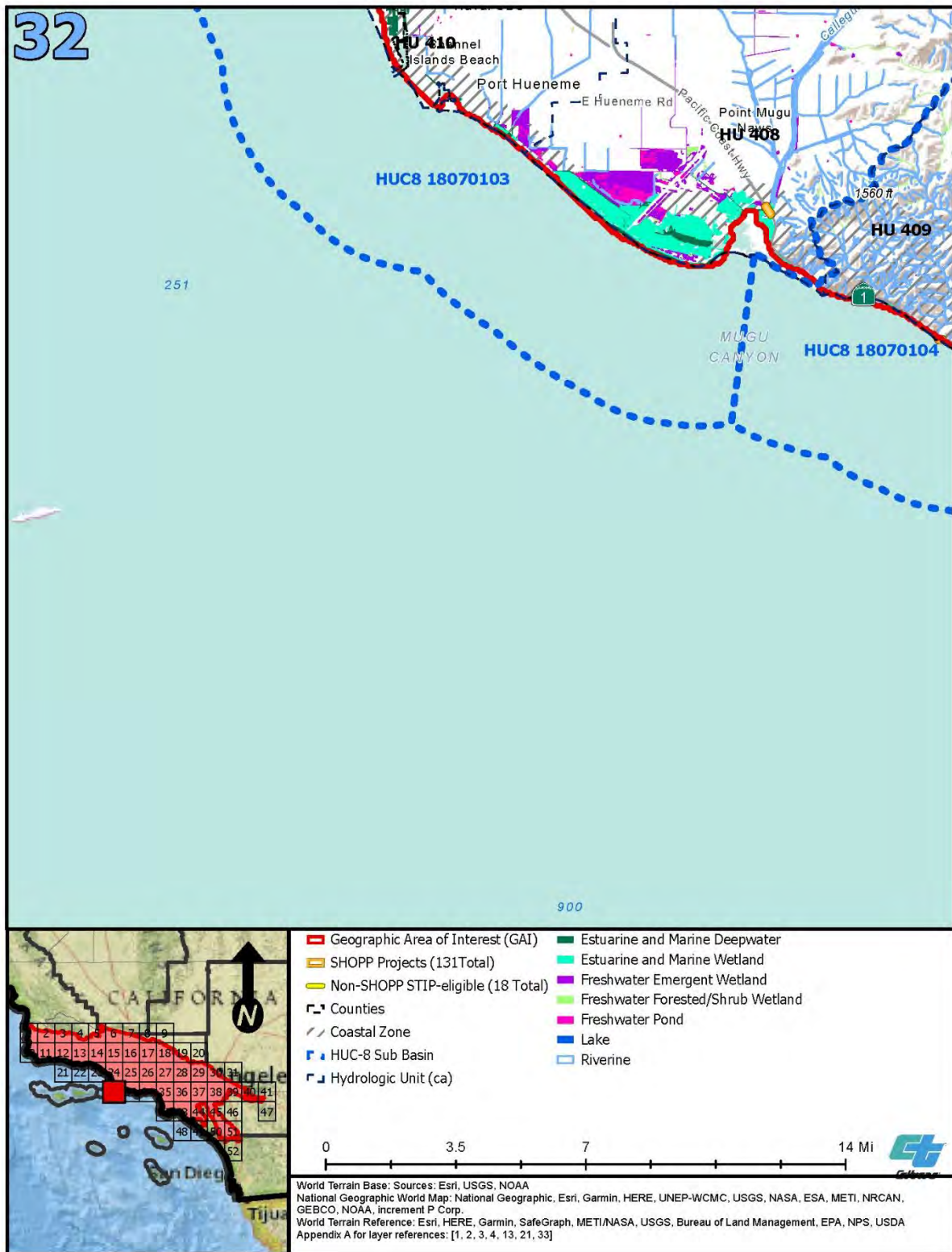




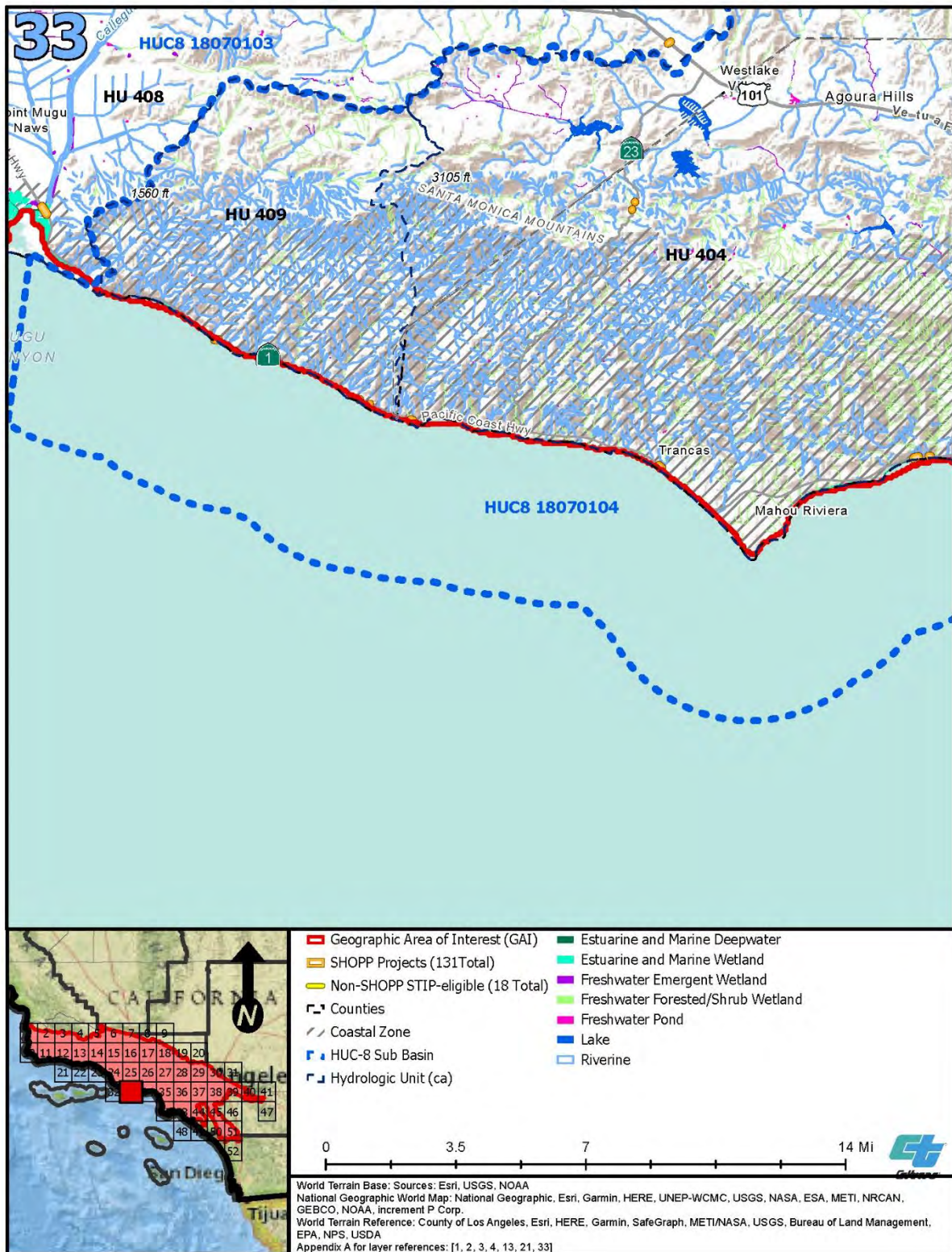




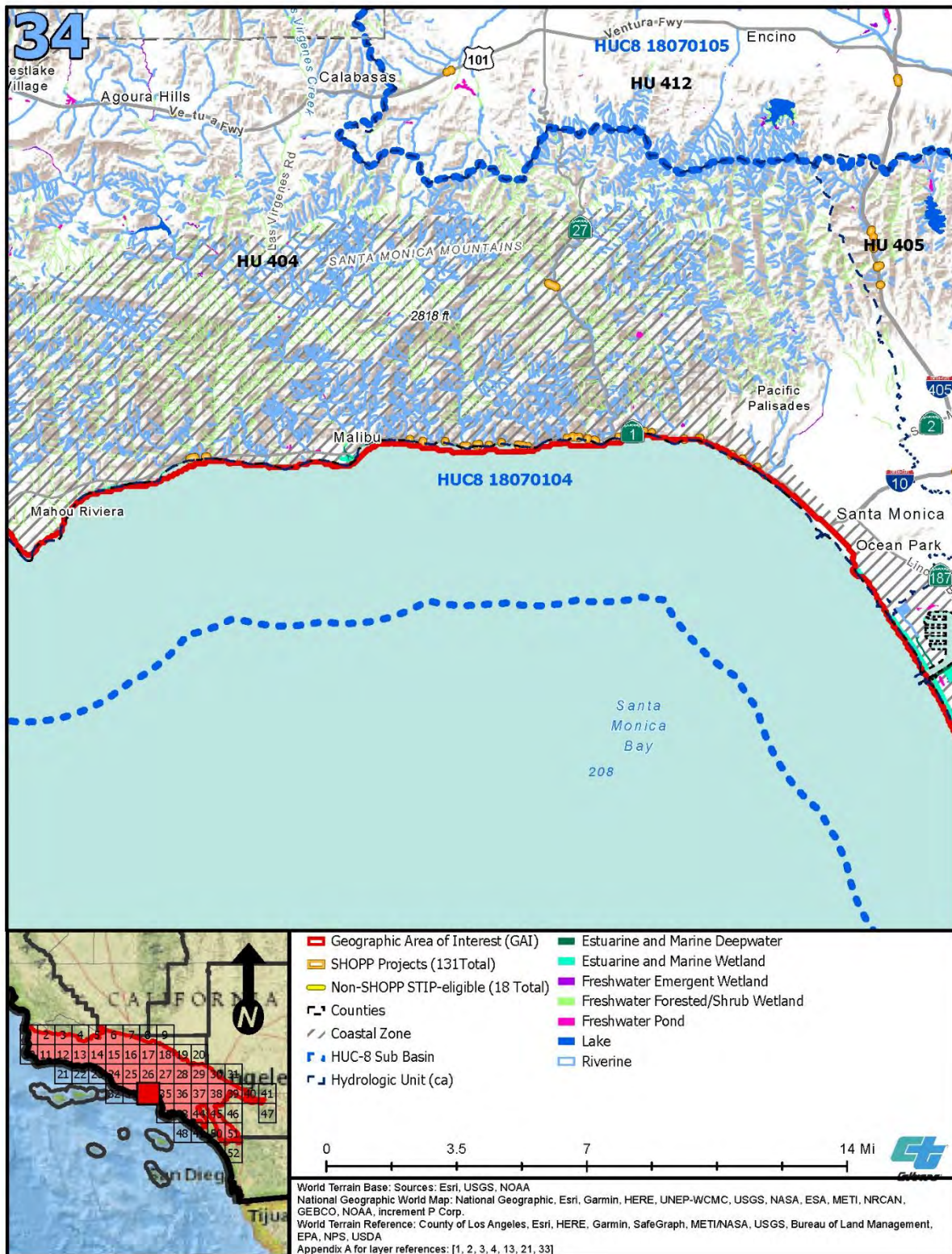




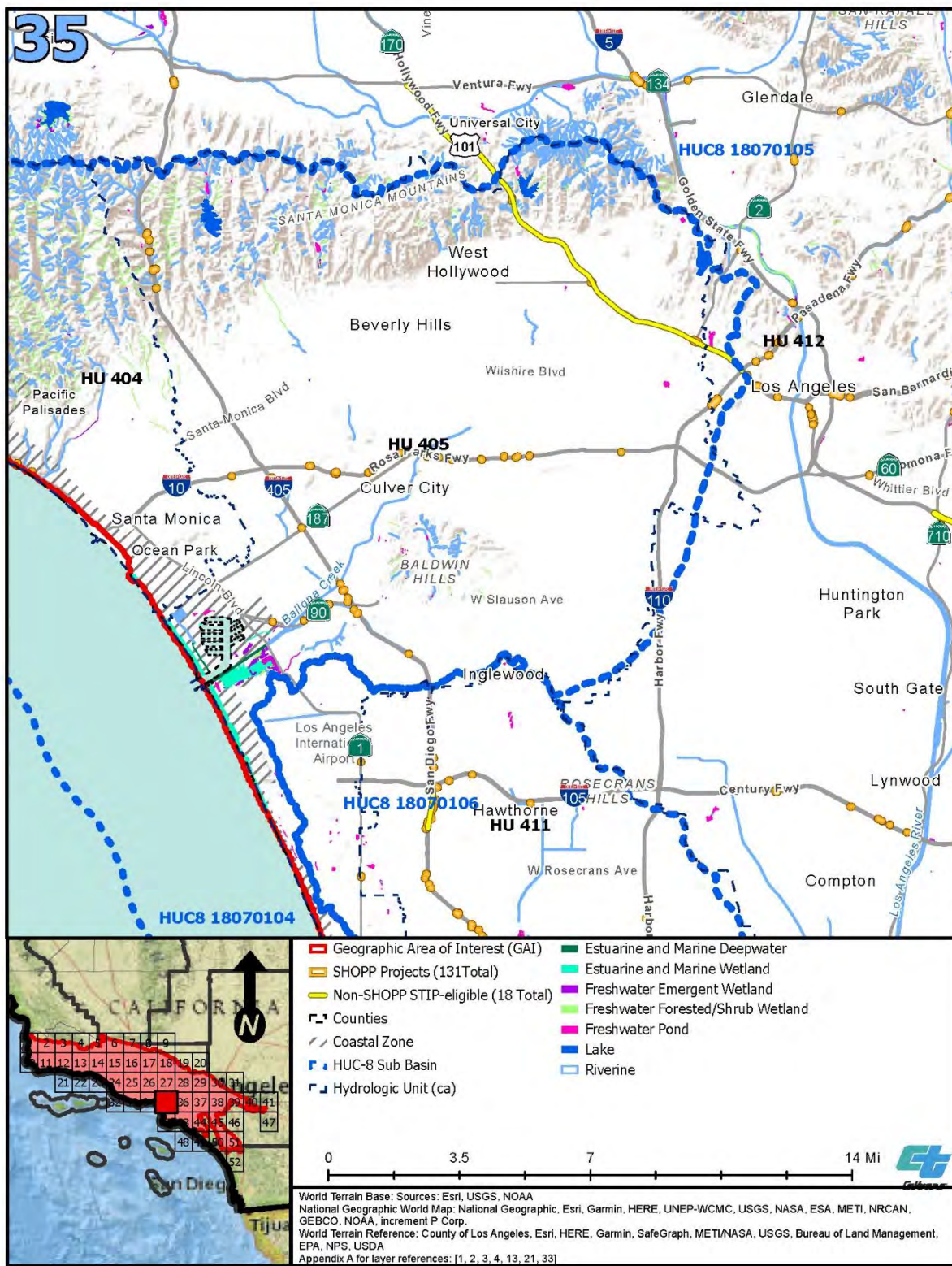




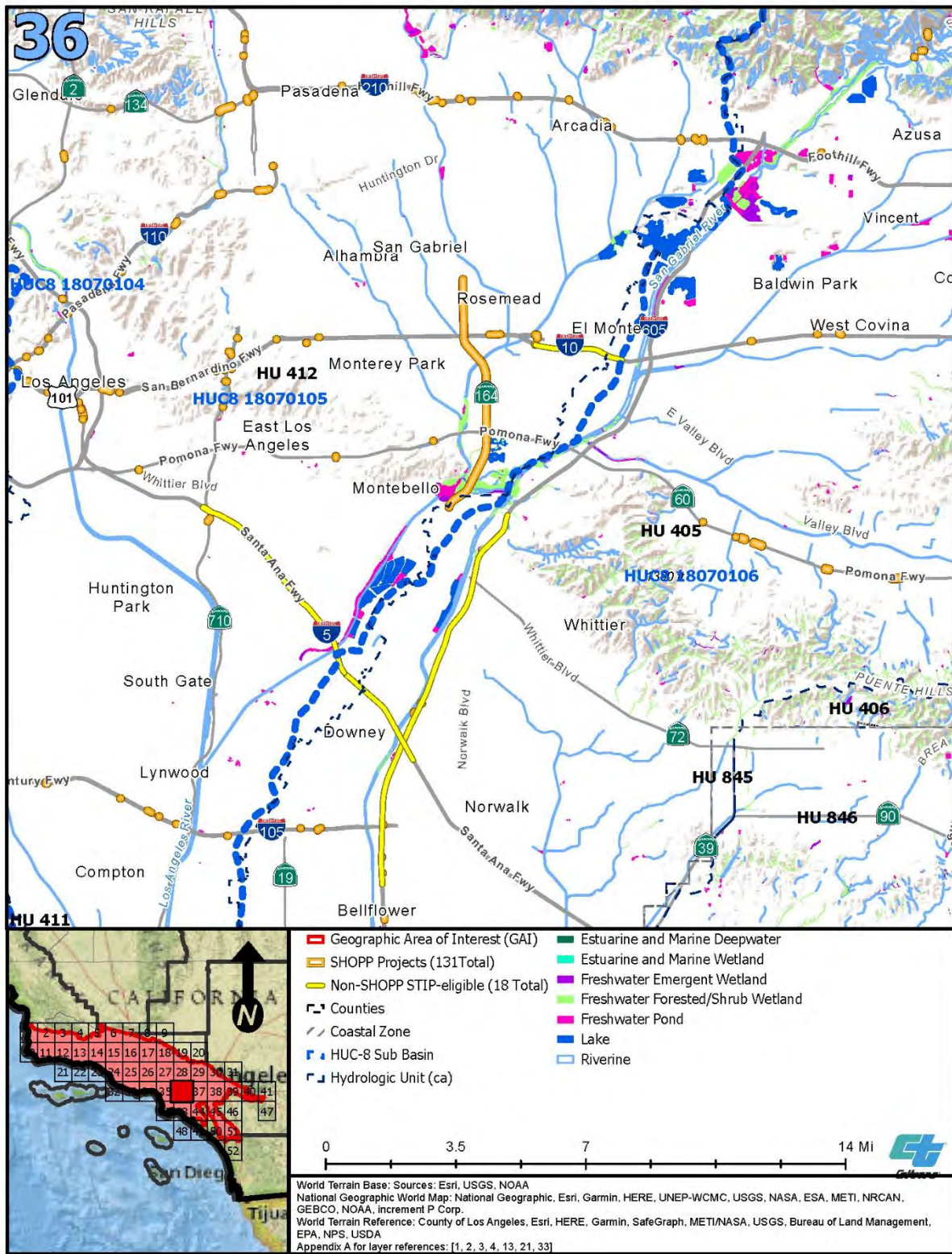




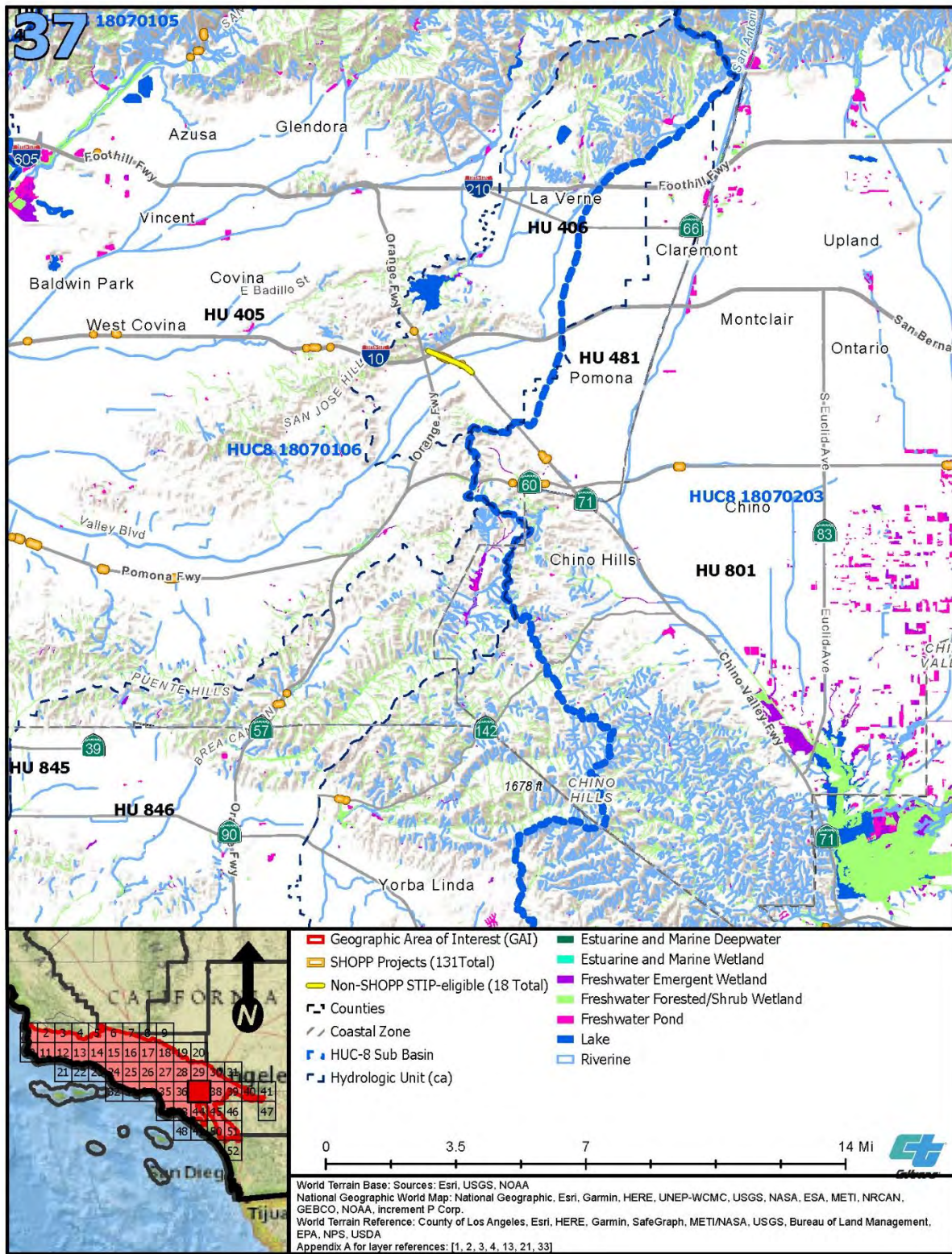




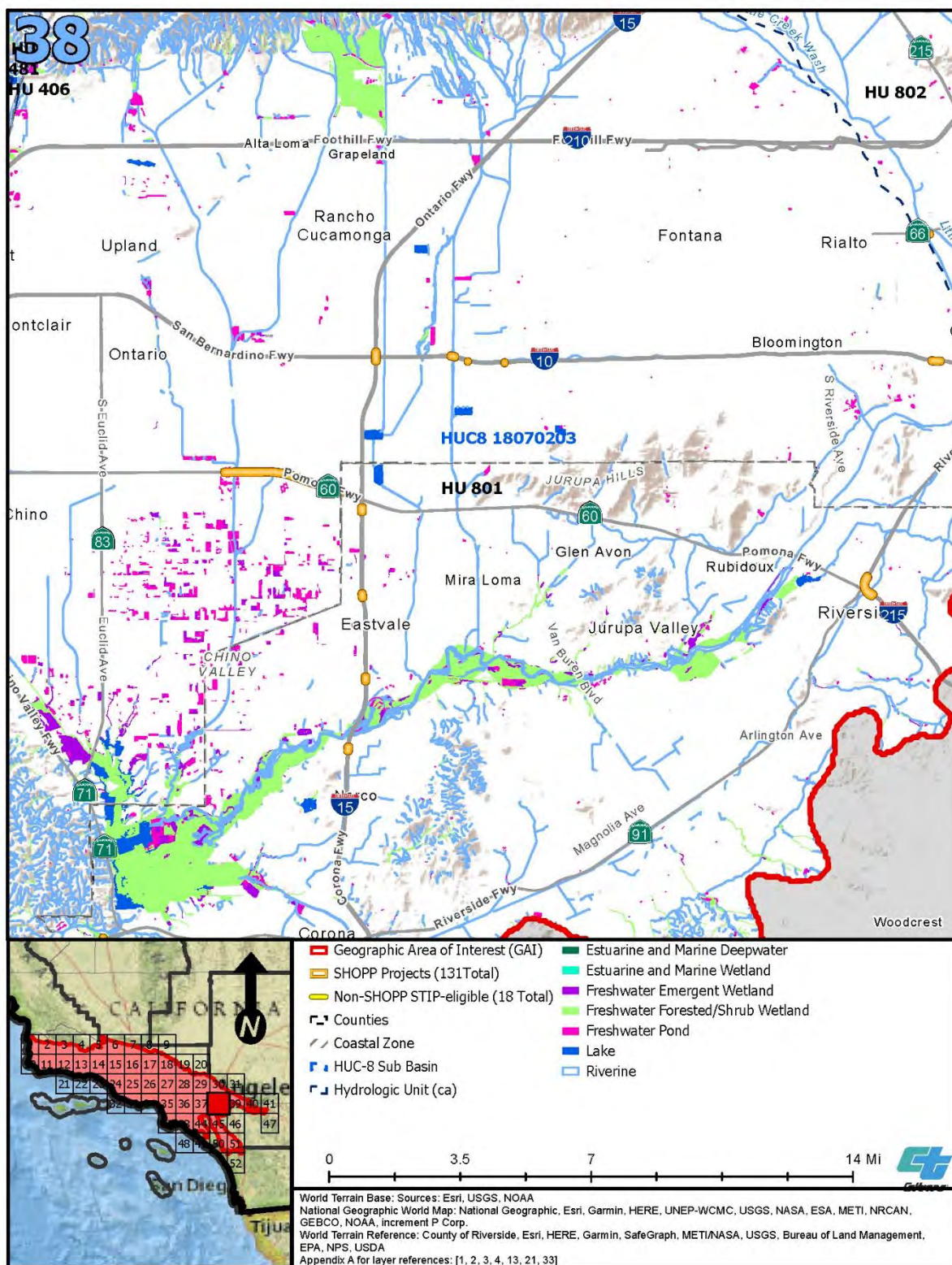




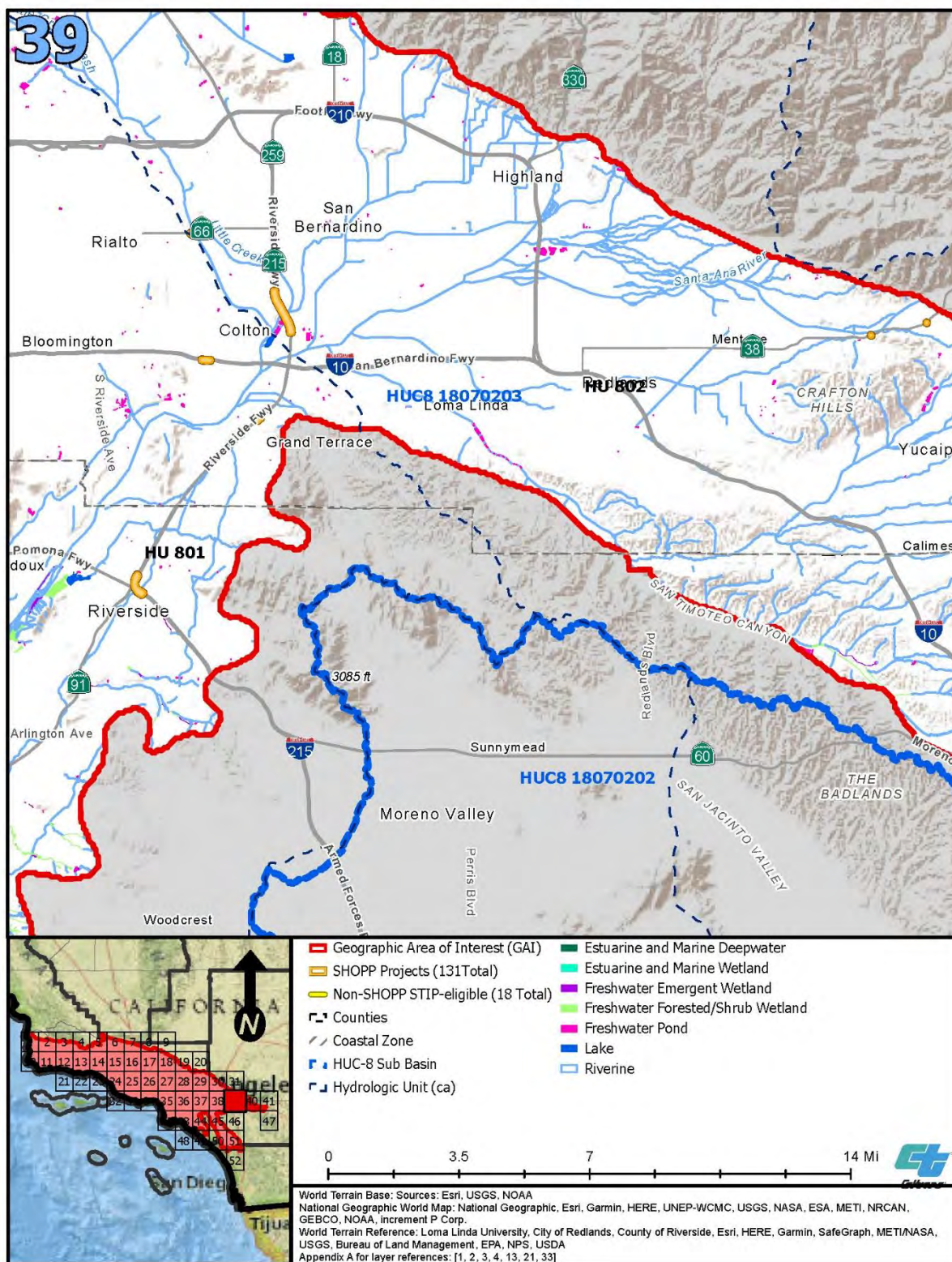




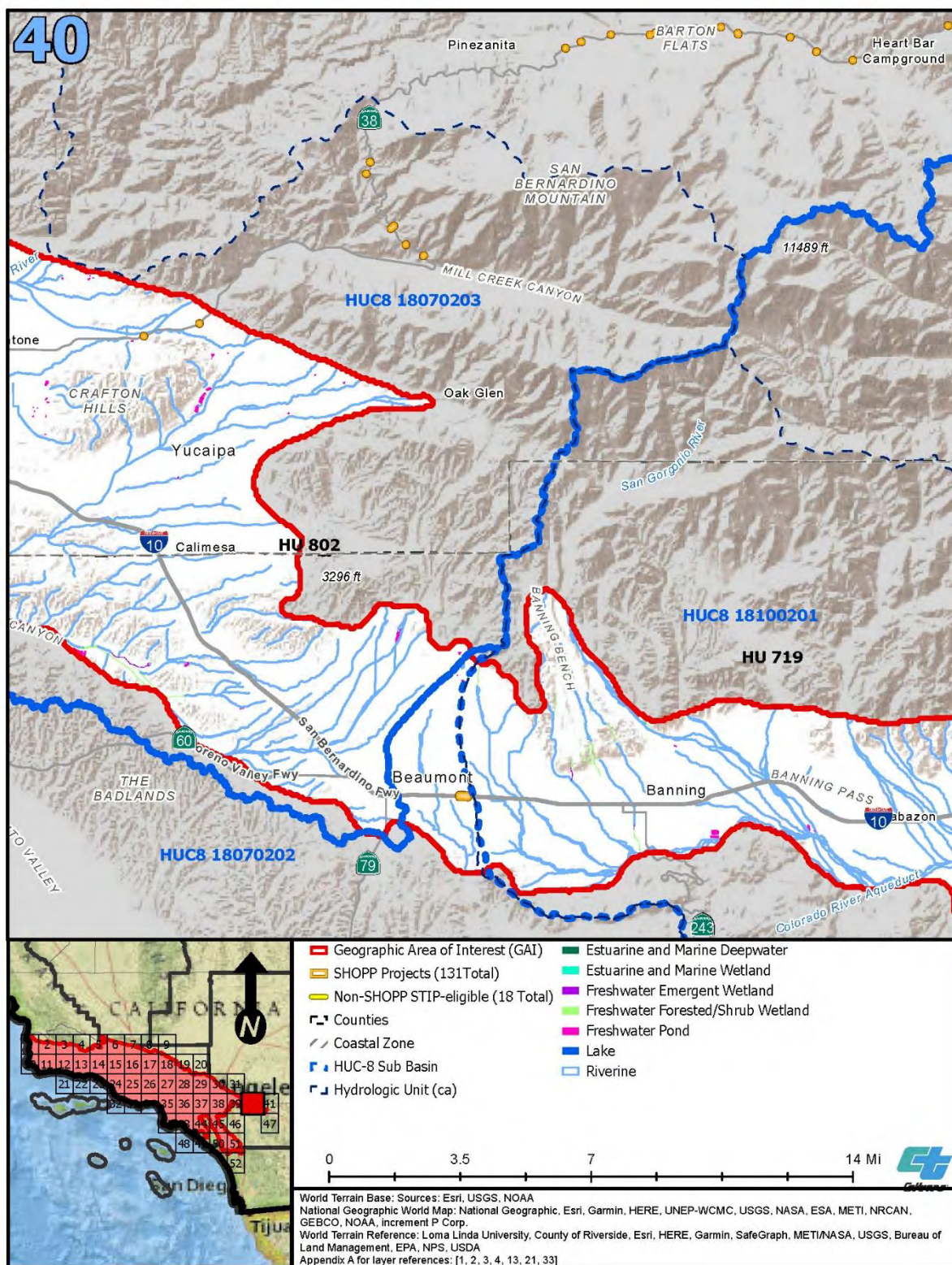




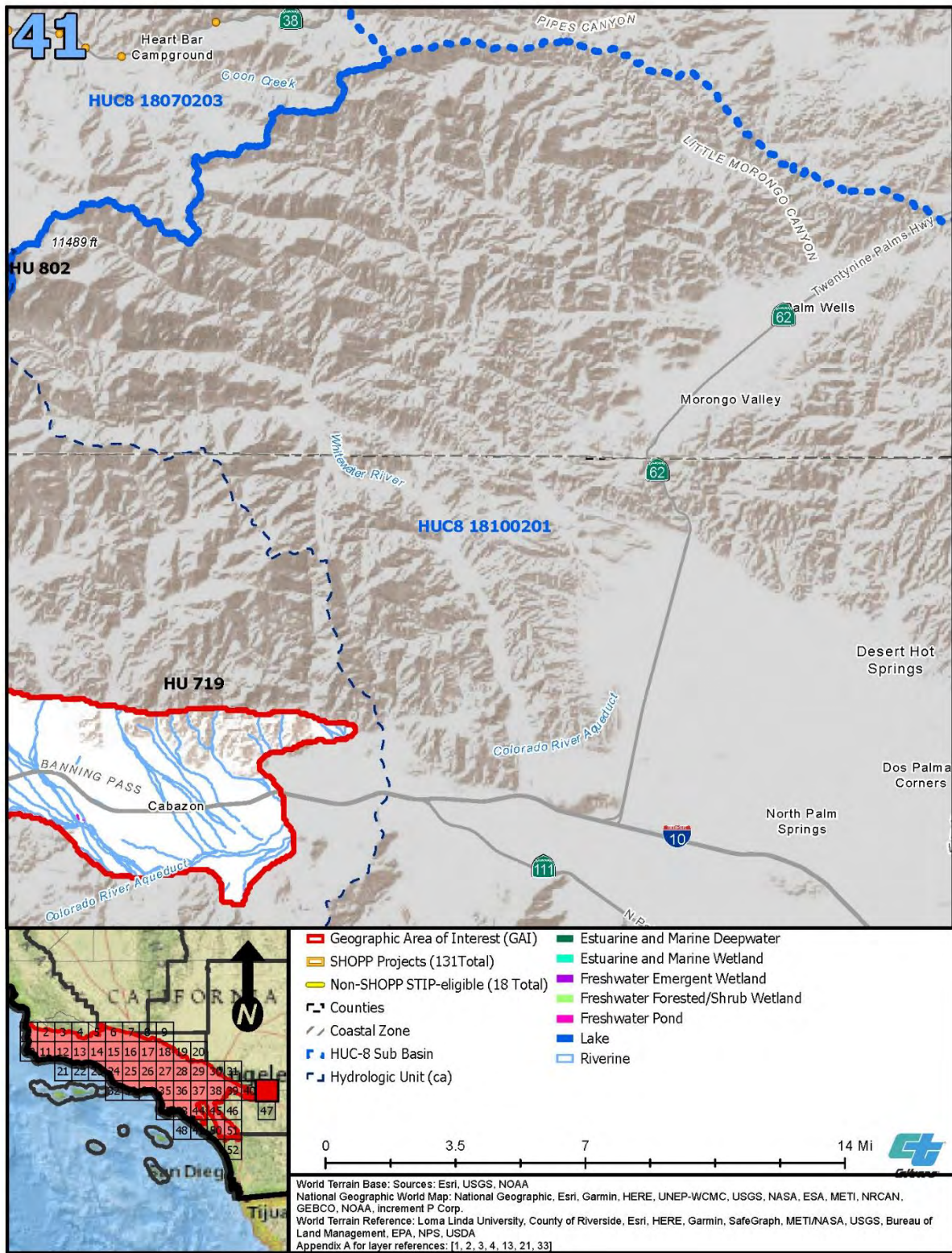










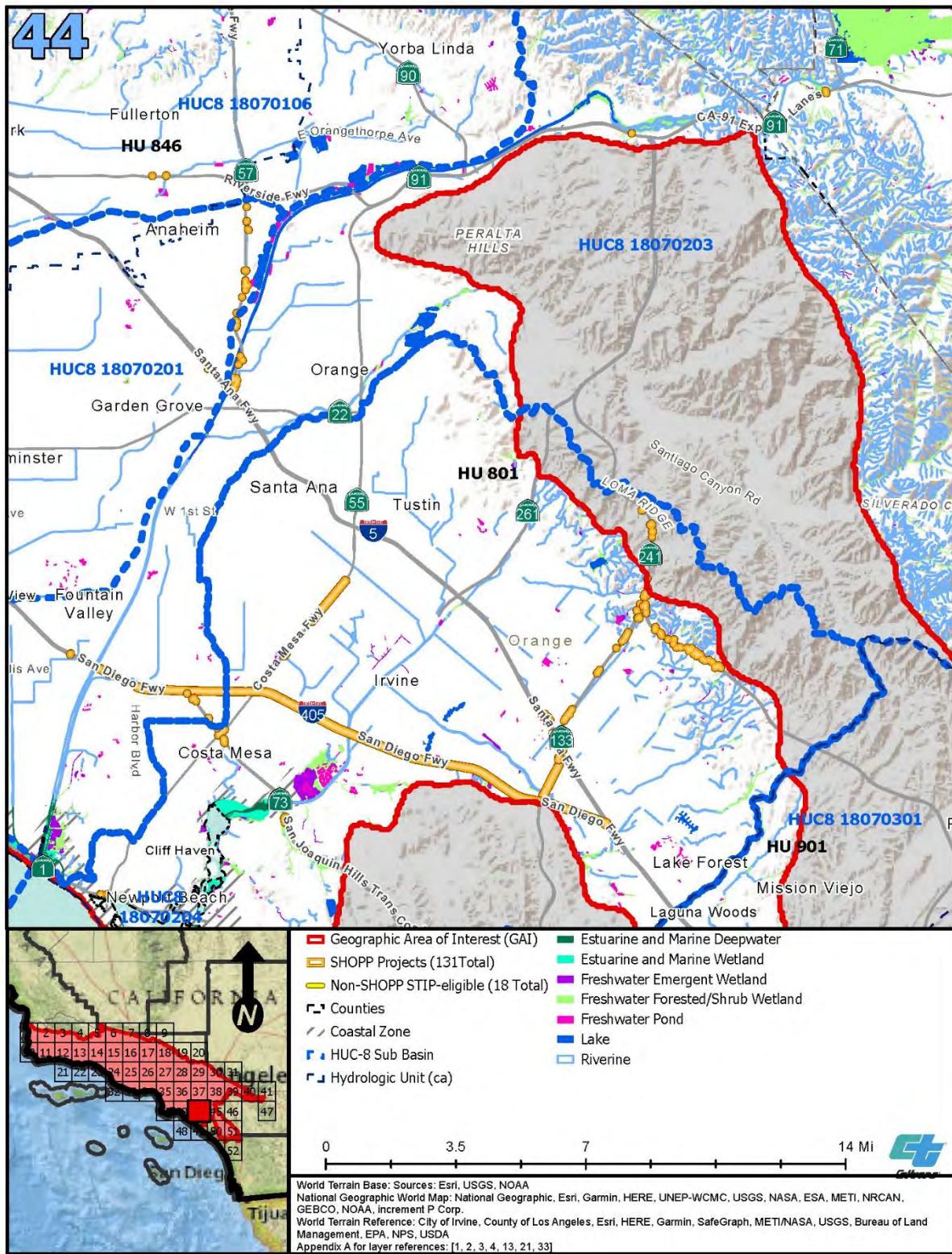




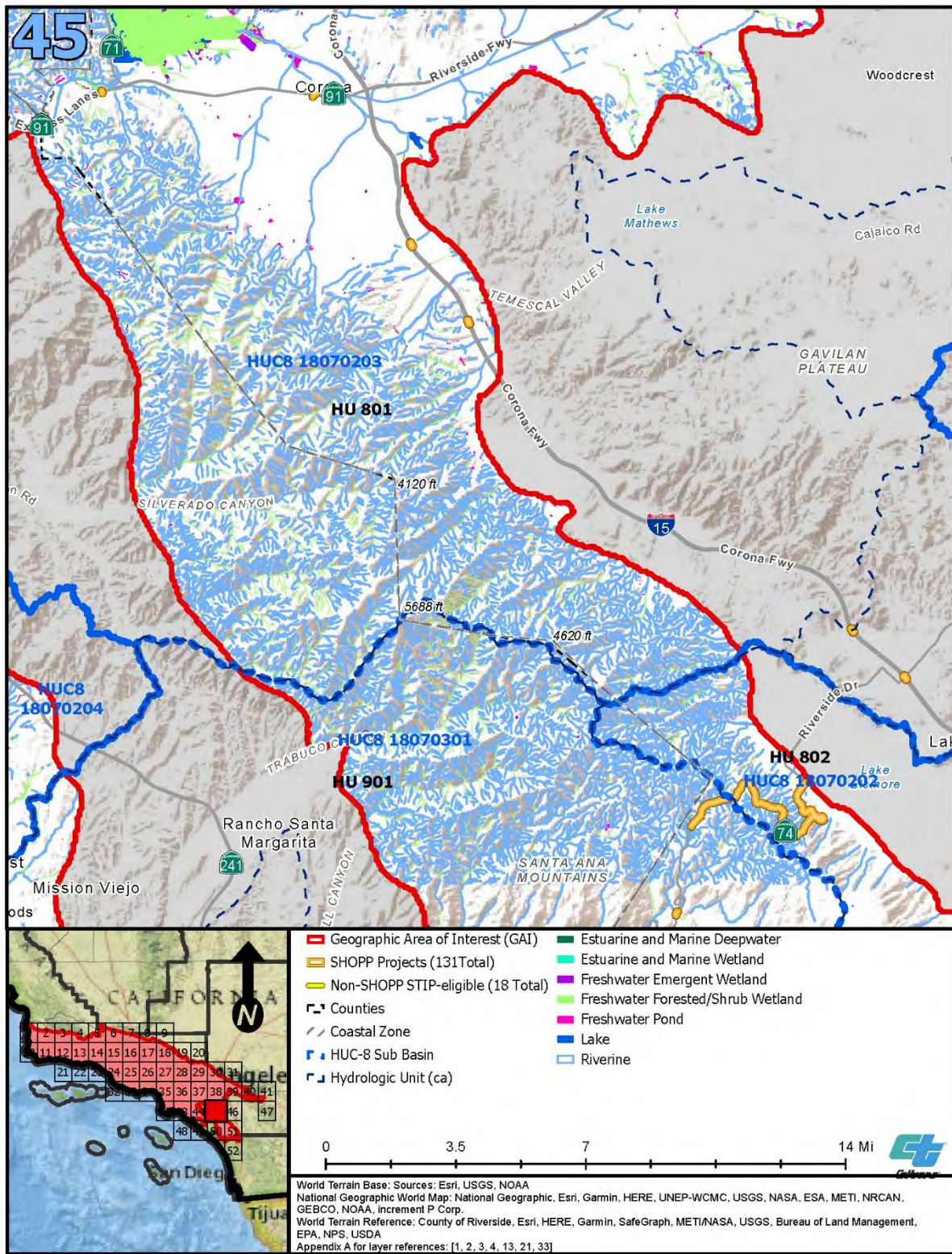




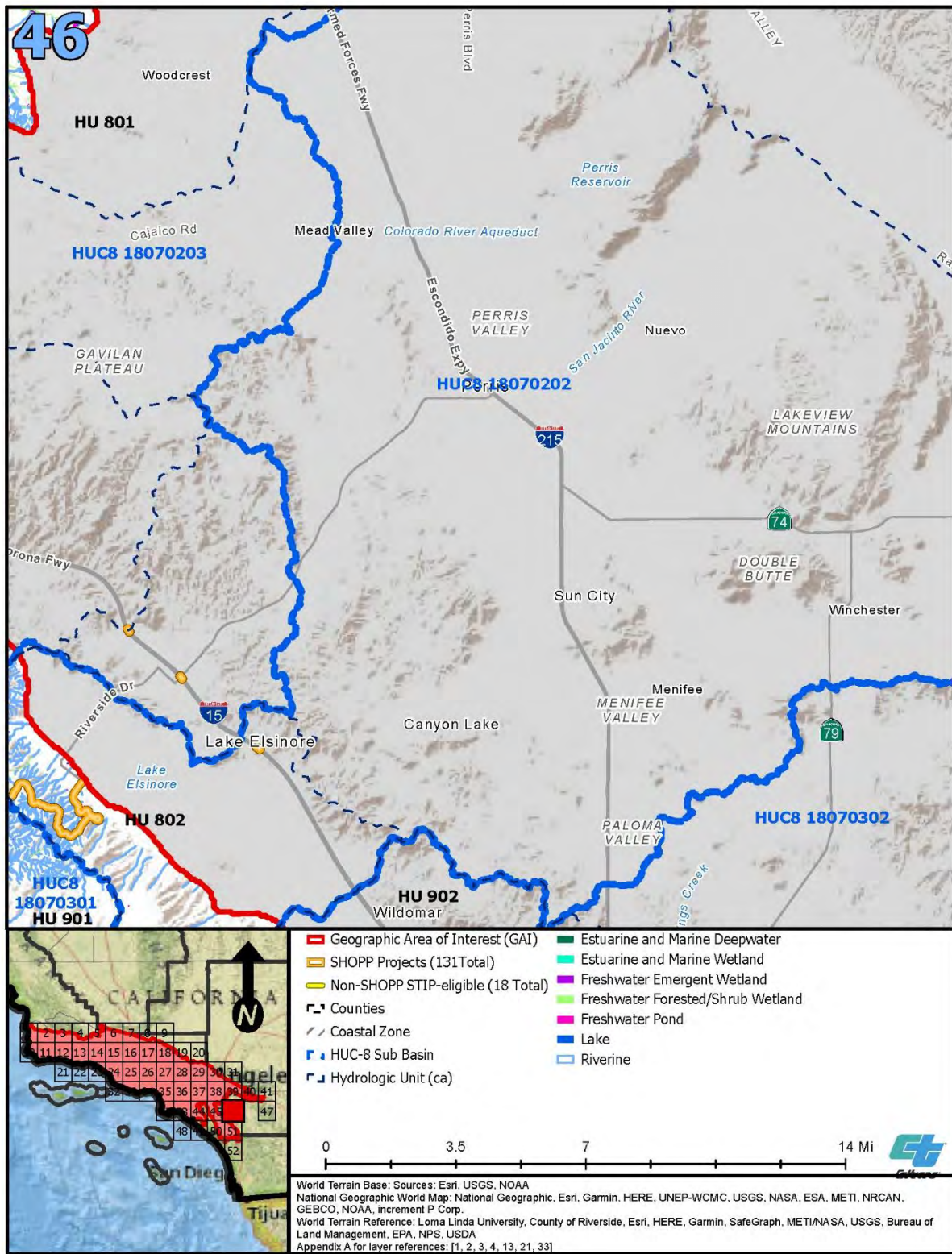




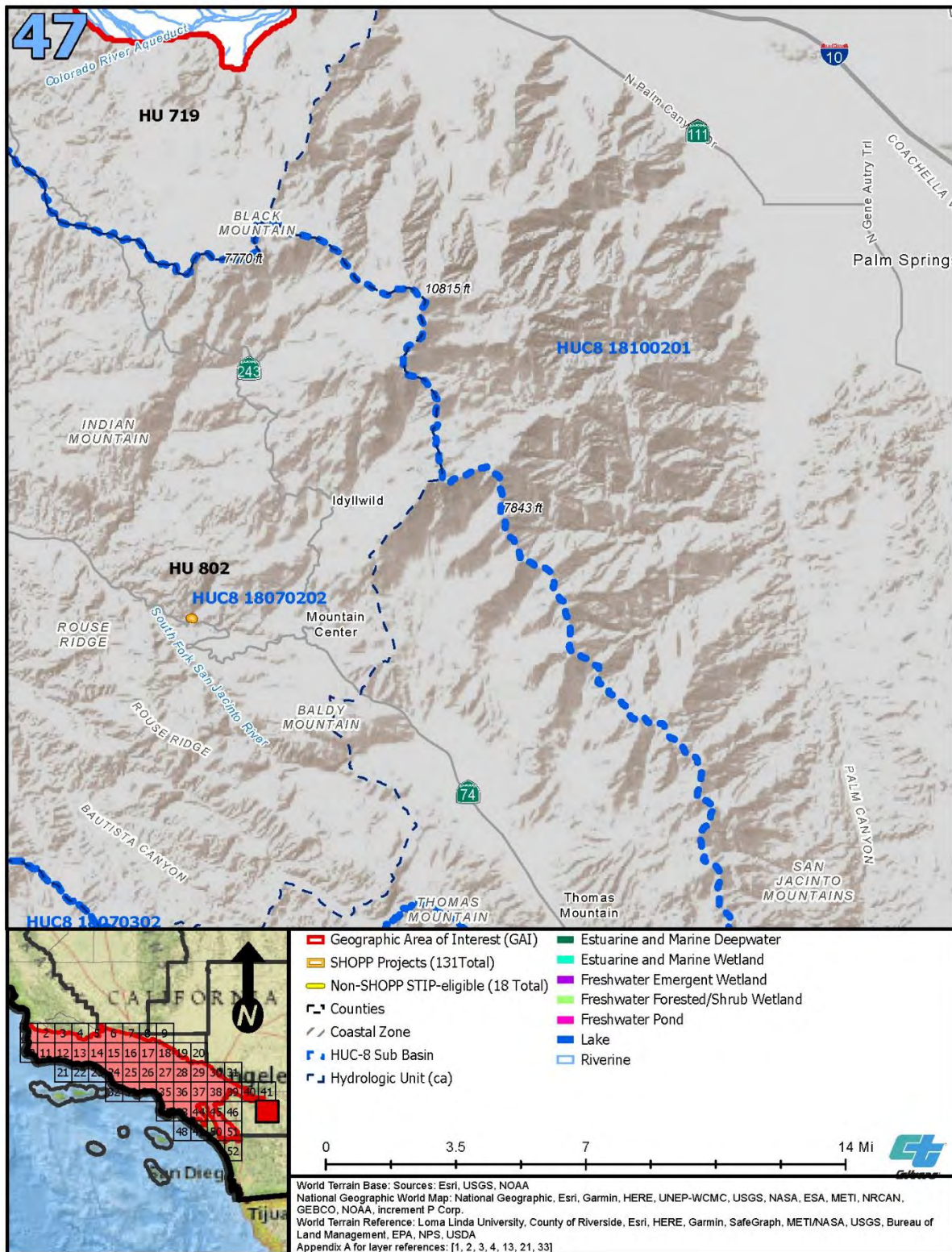




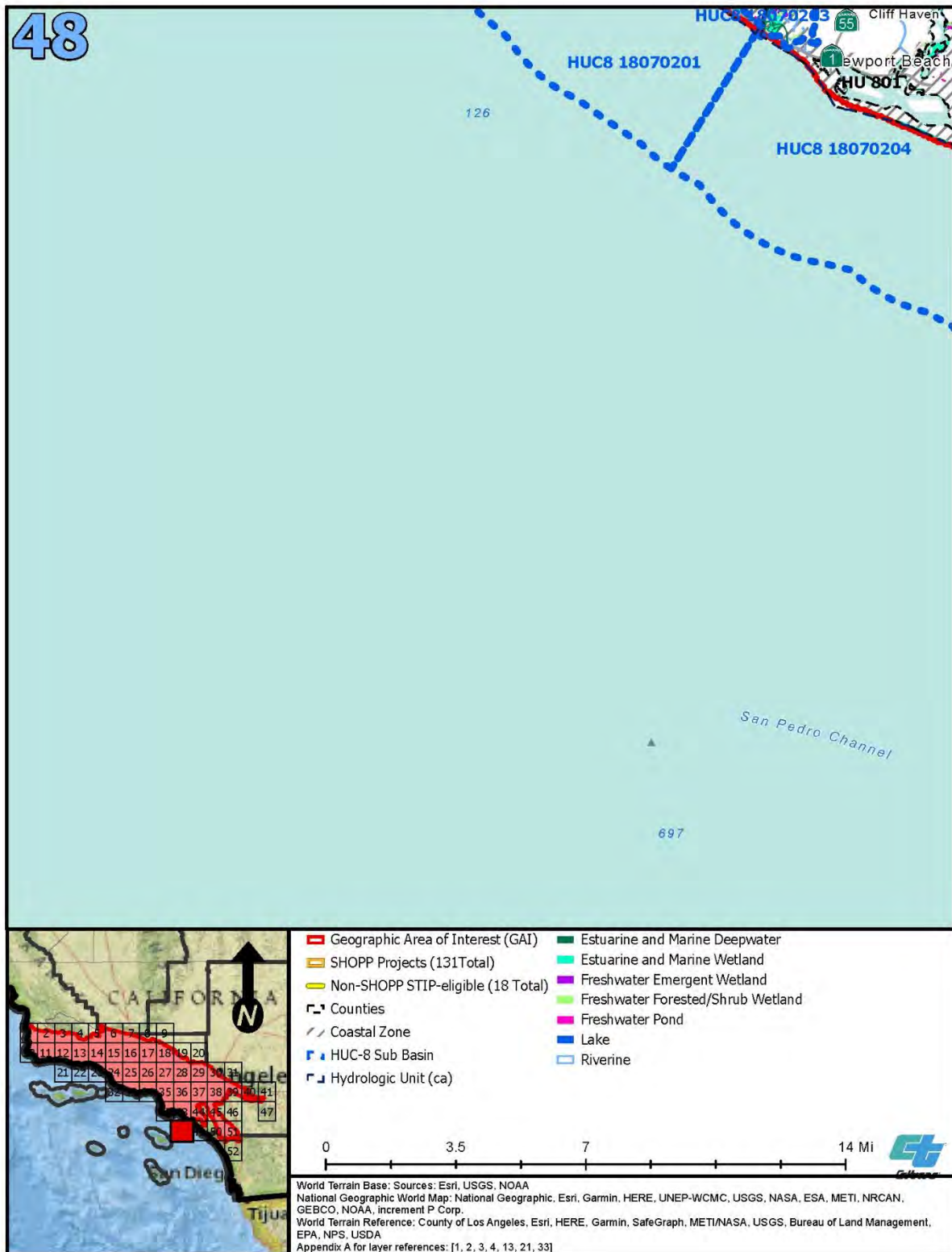


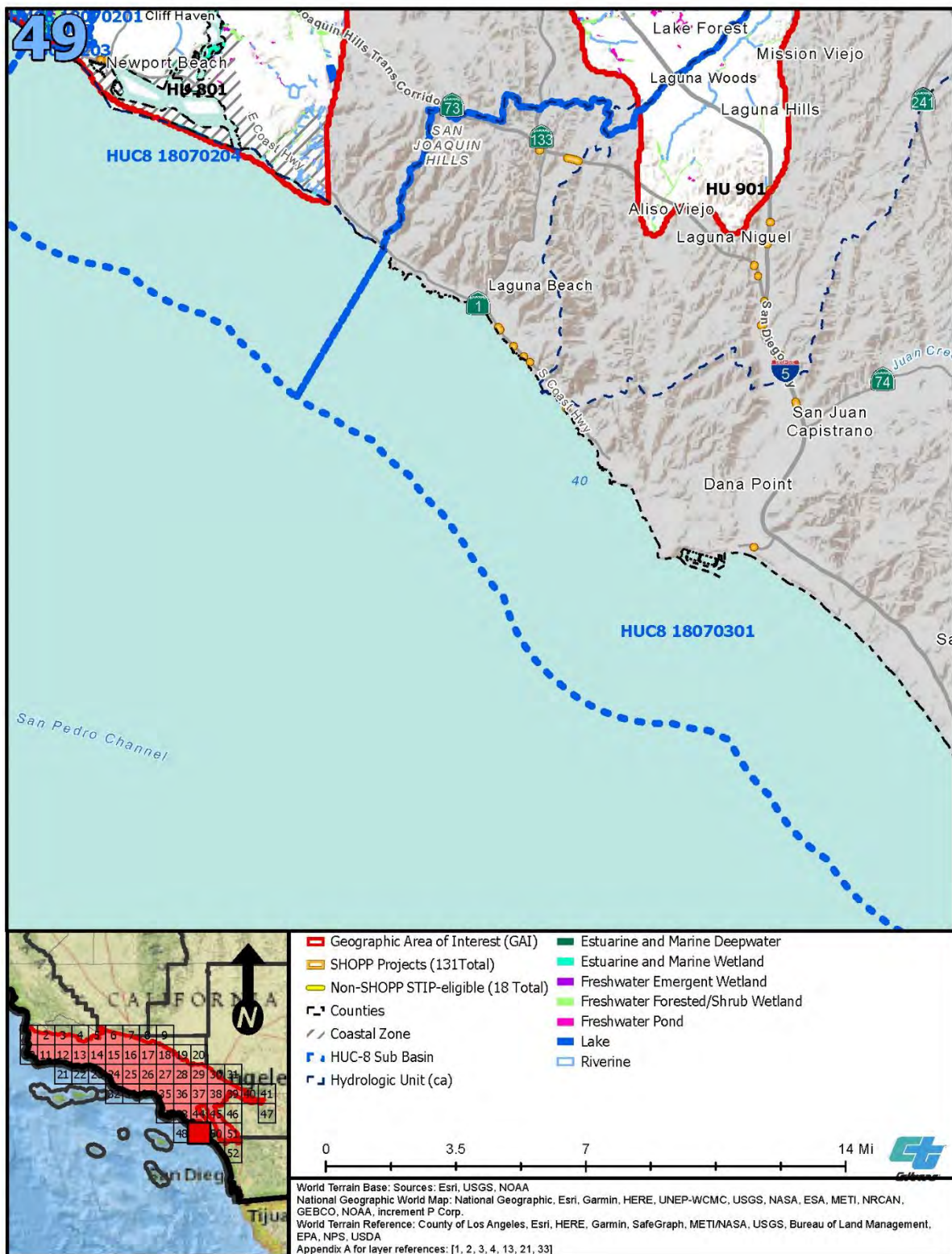




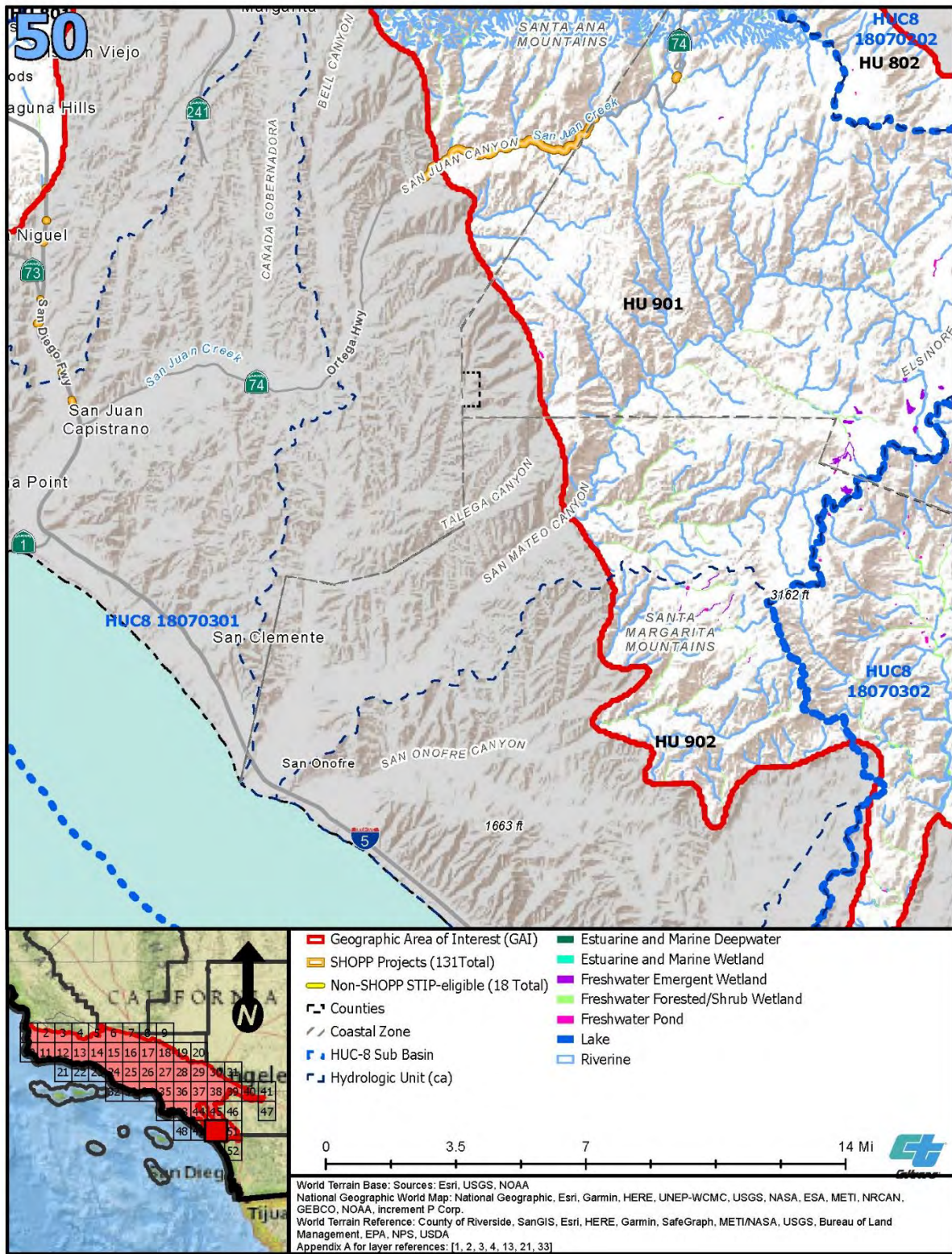




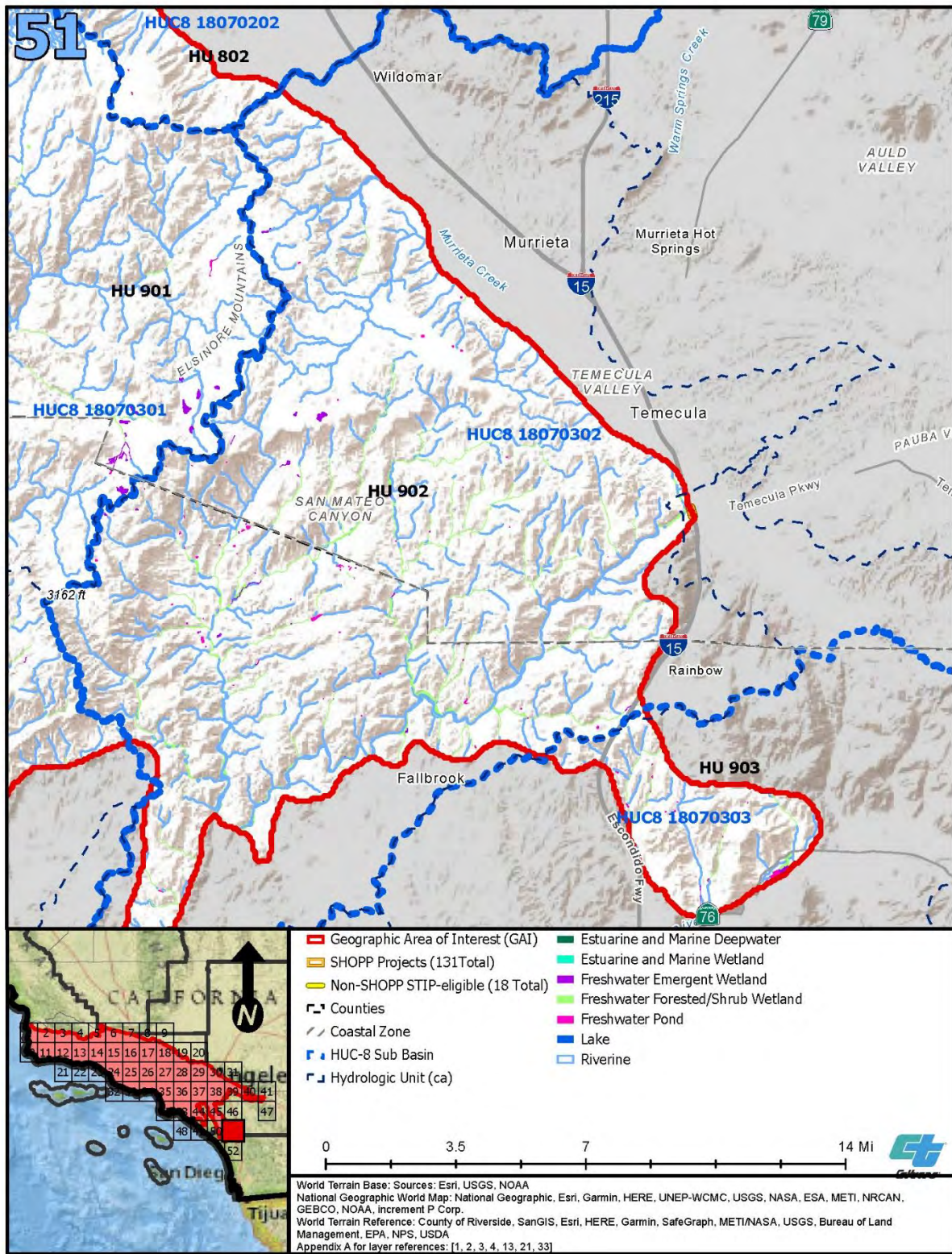




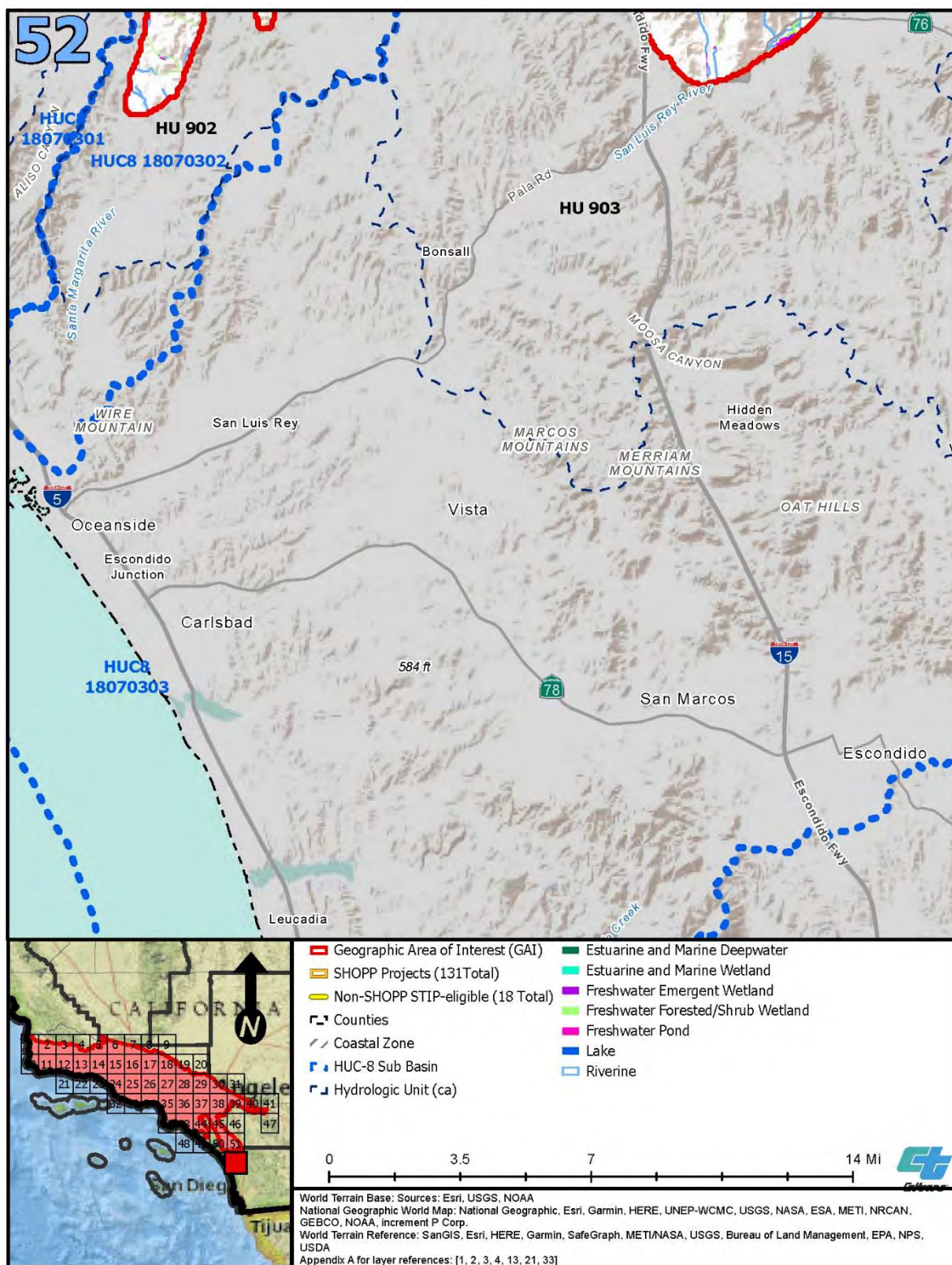












## APPENDIX I: TRANSPORTATION PROJECT ACTIVITY LIST

Table J-1 lists the planned SHOPP transportation projects in the GAI, their respective sub-basins, advertised year, SHOPP project identification, Caltrans District, county, route, beginning and end mileage of the project, ecoregion section, and activity (Caltrans 2021a). The activities were used to determine the buffer size, or assumed transportation project footprint, used to model transportation project impacts for this advance mitigation planning effort. Briefly described in Chapter 5 and elsewhere in this document, more information about the SAMNA tool can be found Caltrans (2021b) and Caltrans (2018).

### References

- Caltrans (California Department of Transportation). 2021a. *State Highway Operation and Protection Program Ten-Year Project Book Fiscal Years 2019/20 – 2028/29*. State Highway Operation and Protection Program Fiscal Year 2019/20 (Quarter 4). July. Sacramento, California.
- . 2021b. *Statewide Advance Mitigation Needs Assessment Report*. State Highway Operation and Protection Program. Ten-Year Project Book. Second Quarter 2019/2020 Fiscal Year. May. Sacramento, California.
- . 2018. *Advanced Mitigation Needs Assessment GIS Tool Report for California Department of Transportation*. Prepared by HDR. November.



**Table J-1. SHOPP Transportation Projects Potentially Affecting Special-status Species and Aquatic Resources in the GAI**

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Aliso-San Onofre	2024/25	22135	12	Orange	5	10	21.3	Southern California Coast	Cure in Place Line Culvert
Aliso-San Onofre	2019/20	17809	12	Orange	74	11.5	16.6	Southern California Mountains and Valleys	Drainage Improvements
Aliso-San Onofre	2019/20	17809	12	Riverside	74	11.5	16.6	Southern California Mountains and Valleys	Drainage Improvements
Aliso-San Onofre	2019/20	17809	8	Riverside	74	11.5	16.6	Southern California Mountains and Valleys	Drainage Improvements
Aliso-San Onofre	2021/22	13628	8	Riverside	74	3	53.5	Southern California Mountains and Valleys	Bridge Rail
Aliso-San Onofre	2023/24	21638	8	Riverside	74	5.7	11.8	Southern California Mountains and Valleys	Widen Shoulders
Antelope-Fremont Valleys	2022/23	16008	7	Los Angeles	2	14.19	57.47	Southern California Mountains and Valleys	Replace/Install Culverts
Antelope-Fremont Valleys	2028/29	22326	7	Los Angeles	2	79.4	81.5	Southern California Mountains and Valleys	Replace/Install Culverts
Antelope-Fremont Valleys	2022/23	18685	7	Los Angeles	2	68.12	82.05	Southern California Mountains and Valleys	Replace/Install Culverts

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Calleguas	2027/28	18253	7	Ventura	1	9.87	9.87	Southern California Coast	Bridge Rail
Calleguas	2028/29	22330	7	Ventura	23	7.6	7.9	Southern California Coast	Replace/Install Culverts
Calleguas	2023/24	18048	7	Ventura	34	6.27	17.66	Southern California Coast	Replace/Install Culverts
Calleguas	2026/27	22296	7	Ventura	118	16	32	Southern California Coast	Replace/Install Culverts
Cuyama	2028/29	22328	7	Ventura	101	31.7	35.3	Southern California Mountains and Valleys	Drainage Improvements
Los Angeles	2019/20	16368	7	Los Angeles	10	28.3	28.3	Southern California Coast	Bridge Rail
Los Angeles	2021/22	13675	7	Los Angeles	1	0	18	Southern California Coast	Replace/Install Culverts
Los Angeles	2027/28	15972	7	Los Angeles	10	24	31.2	Southern California Coast	Replace/Install Culverts
Los Angeles	2024/25	22139	7	Los Angeles	110	25.34	25.43	Southern California Coast	Bridge Replacement/New Construction
Los Angeles	2025/26	21140	7	Los Angeles	210	R11.0	R11.5	Southern California Coast	Replace/Install Culverts
Los Angeles	2021/22	13760	7	Los Angeles	164	1.39	6.9	Southern California Coast	Retaining Wall
Los Angeles	2021/22	11289	7	Los Angeles	91	R10.2	R10.3	Southern California Coast	Bridge Rail
Los Angeles	2025/26	20784	7	Los Angeles	210	27.4	31.9	Southern California Coast	Replace/Install Culverts

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Los Angeles	2026/27	22009	7	Los Angeles	134	1.3	13.3	Southern California Coast	Replace/Install Culverts
Los Angeles	2028/29	18056	7	Los Angeles	710	5.9	7.1	Southern California Coast	Replace/Install Culverts
Los Angeles	2027/28	21471	7	Los Angeles	210	32	39	Southern California Coast	Replace/Install Culverts
Los Angeles	2023/24	9251	7	Los Angeles	101	S0.91	2.86	Southern California Coast	Bridge Rail
Los Angeles	2028/29	22327	7	Los Angeles	60	1.3	8.4	Southern California Coast	Replace/Install Culverts
Los Angeles	2028/29	20258	7	Los Angeles	91	6.012	R12.0	Southern California Coast	Replace/Install Culverts
Los Angeles	2023/24	18595	7	Los Angeles	210	R19.4	R27.0	Southern California Coast	Replace/Install Culverts
Los Angeles	2021/22	15838	7	Los Angeles	134	R12.6	NULL	Southern California Coast	Bridge Rail
Los Angeles	2019/20	17977	7	Los Angeles	5	20.77	20.77	Southern California Coast	Replace/Install Culverts
Los Angeles	2025/26	18175	7	Los Angeles	110	27.08	30.1	Southern California Coast	Bridge Rail
Los Angeles	2021/22	17520	7	Los Angeles	110	31	31	Southern California Coast	Widen roadway
Los Angeles	2028/29	22329	7	Los Angeles	5	26.8	74.7	Southern California Coast	Replace/Install Culverts
Los Angeles	2021/22	16836	7	Los Angeles	118	11	14	Southern California Coast	Retaining Wall



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Los Angeles	2028/29	18047	7	Los Angeles	101	0	8.05	Southern California Coast	Replace/Install Culverts
Los Angeles	2026/27	22294	7	Los Angeles	110	24	32	Southern California Coast	Replace/Install Culverts
Los Angeles	2022/23	18215	7	Los Angeles	1	7.08	7.11	Southern California Coast	Bridge Rail
Los Angeles	2028/29	22330	7	Los Angeles	23	7.6	7.9	Southern California Coast	Replace/Install Culverts
Los Angeles	2027/28	22324	7	Los Angeles	10	21	40	Southern California Coast	Replace/Install Culverts
Los Angeles	2022/23	16008	7	Los Angeles	2	14.19	57.47	Southern California Coast	Replace/Install Culverts
Los Angeles	2025/26	21772	7	Los Angeles	10	18.48	18.59	Southern California Coast	Bridge Rail
Los Angeles	2027/28	22321	7	Los Angeles	91	17.2	18.1	Southern California Coast	Cure in Place Line Culvert
Los Angeles	2021/22	13739	7	Los Angeles	405	39.09	39.09	Southern California Coast	Acceleration Deceleration Lane
Los Angeles	2023/24	18691	7	Los Angeles	118	R13.0	R13.88	Southern California Coast	Replace/Install Culverts
Los Angeles	2019/20	18593	7	Los Angeles	5	27	66.5	Southern California Coast	Bridge Rail
Los Angeles	2026/27	22295	7	Los Angeles	10	6.5	18.9	Southern California Coast	Cure in Place Line Culvert
Los Angeles	2022/23	16008	7	Los Angeles	2	14.19	57.47	Southern California Mountains and Valleys	Replace/Install Culverts

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Mojave	2022/23	18685	7	Los Angeles	2	68.12	82.05	Southern California Mountains and Valleys	Replace/Install Culverts
Mojave	2028/29	22326	7	Los Angeles	2	79.4	81.5	Southern California Mountains and Valleys	Replace/Install Culverts
Newport Bay	2025/26	20792	12	Orange	5	21.3	30.3	Southern California Coast	Cure in Place Line Culvert
Newport Bay	2028/29	20714	12	Orange	133	7.5	13.6	Southern California Coast	Replace/Install Culverts
Newport Bay	2021/22	16143	12	Orange	133	8.5	9.3	Southern California Coast	Auxiliary lanes
Newport Bay	2019/20	15698	12	Orange	73	24	24	Southern California Coast	Improved Highway Geometry
Newport Bay	2026/27	20767	12	Orange	1	0.8	33.719	Southern California Coast	Replace/Install Culverts
Newport Bay	2019/20	17393	12	Orange	55	8	9.2	Southern California Coast	Acceleration Deceleration Lane
Newport Bay	2020/21	17495	12	Orange	55	R4.74	5.2	Southern California Coast	Bridge Rail
Newport Bay	2022/23	18946	12	Orange	405	0.23	11.4	Southern California Coast	Acceleration Deceleration Lane
Newport Bay	2028/29	19918	12	Orange	73	10.3	27.7	Southern California Coast	Cure in Place Line Culvert
Newport Bay	2026/27	22030	12	Orange	241	14.5	30	Southern California Coast	Cure in Place Line Culvert
Newport Bay	2023/24	18833	12	Orange	55	0.17	R17.876	Southern California Coast	Bridge Rail

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
San Antonio	2019/20	14019	5	Santa Barbara	101	70.91	70.91	Southern California Coast	Bridge Rail
San Antonio	2023/24	19147	5	Santa Barbara	101	65	84.1	Southern California Coast	Replace/Install Culverts
San Antonio	2023/24	16474	5	Santa Barbara	1	35.5	49.5	Southern California Coast	Improved Highway Geometry
San Gabriel	2023/24	20634	12	Orange	91	R0.0	R18.905	Southern California Coast	Replace/Install Culverts
San Gabriel	2023/24	16850	12	Orange	1	0.04	0.04	Southern California Coast	Bridge Rail
San Gabriel	2019/20	13714	12	Orange	39	15.15	15.91	Southern California Coast	Abandon/Remove Culvert
San Gabriel	2020/21	17495	12	Orange	55	R4.74	5.2	Southern California Coast	Bridge Rail
San Gabriel	2028/29	20787	12	Orange	605	0	1.6	Southern California Coast	Replace/Install Culverts
San Gabriel	2020/21	17495	7	Orange	55	R4.74	5.2	Southern California Coast	Bridge Rail
San Gabriel	2027/28	21471	7	Los Angeles	210	32	39	Southern California Coast	Replace/Install Culverts
San Gabriel	2021/22	11289	7	Los Angeles	91	R10.2	R10.3	Southern California Coast	Bridge Rail
San Gabriel	2023/24	15968	7	Los Angeles	405	0	12.8	Southern California Coast	Replace/Install Culverts
San Gabriel	2021/22	13675	7	Los Angeles	1	0	18	Southern California Coast	Replace/Install Culverts



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
San Gabriel	2019/20	9296	7	Los Angeles	213	2.7	3.9	Southern California Coast	Replace/Install Culverts
San Gabriel	2020/21	19664	7	Los Angeles	60	15.9	19.5	Southern California Coast	Bridge Replacement/New Construction
San Gabriel	2021/22	15933	7	Los Angeles	1	18	33.3	Southern California Coast	Replace/Install Culverts
San Gabriel	2023/24	16850	7	Los Angeles	1	0.04	0.04	Southern California Coast	Bridge Rail
San Gabriel	2023/24	16850	7	Orange	1	0.04	0.04	Southern California Coast	Bridge Rail
San Gabriel	2027/28	20259	7	Los Angeles	60	11.75	R25.3	Southern California Coast	Replace/Install Culverts
San Gabriel	2020/21	13678	7	Los Angeles	22	0	1.5	Southern California Coast	Slip Line Culvert
San Gabriel	2020/21	17221	7	Los Angeles	103	0.1	0.1	Southern California Coast	Rock Slope Protection
San Gabriel	2027/28	22321	7	Los Angeles	91	17.2	18.1	Southern California Coast	Cure in Place Line Culvert
San Gabriel	2027/28	22324	7	Los Angeles	10	21	40	Southern California Coast	Replace/Install Culverts
San Gabriel	2027/28	22315	7	Los Angeles	47	0.3	2.1	Southern California Coast	Replace/Install Culverts
San Gabriel	2026/27	22295	7	Los Angeles	10	6.5	18.9	Southern California Coast	Cure in Place Line Culvert
San Gabriel	2023/24	18133	7	Los Angeles	103	0.9	0.9	Southern California Coast	Bridge Rail

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
San Gabriel	2025/26	20309	7	Los Angeles	110	1.2	10	Southern California Coast	Replace/Install Culverts
San Gabriel	2026/27	20639	12	Orange	142	R0.753	6.35	Southern California Mountains and Valleys	Replace/Install Culverts
San Gabriel	2021/22	15854	7	Los Angeles	39	17.82	17.82	Southern California Mountains and Valleys	Bridge Rail
San Gabriel	2027/28	22324	7	Los Angeles	10	21	40	Southern California Mountains and Valleys	Replace/Install Culverts
San Gabriel	2023/24	18314	7	Los Angeles	39	20.66	20.66	Southern California Mountains and Valleys	Bridge Rail
San Gabriel	2028/29	18313	7	Los Angeles	39	18.36	22.17	Southern California Mountains and Valleys	Bridge Rail
San Gabriel	2028/29	22326	7	Los Angeles	2	79.4	81.5	Southern California Mountains and Valleys	Replace/Install Culverts
San Jacinto	2020/21	19809	8	Riverside	10	9.3	R102.0	Southern California Mountains and Valleys	Bridge Replacement/New Construction
San Jacinto	2023/24	21638	8	Riverside	74	5.7	11.8	Southern California Mountains and Valleys	Widen Shoulders
San Luis Rey-Escondido	2023/24	19304	11	San Diego	76	R17.5	52.2	Southern California Mountains and Valleys	Replace/Install Culverts

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Ana	2024/25	20791	12	Orange	405	11.4	16.9	Southern California Coast	Replace/Install Culverts
Santa Ana	2028/29	19918	12	Orange	73	10.3	27.7	Southern California Coast	Cure in Place Line Culvert
Santa Ana	2027/28	18944	12	Orange	57	10.8	16.4	Southern California Coast	Replace/Install Culverts
Santa Ana	2022/23	18946	12	Orange	405	0.23	11.4	Southern California Coast	Acceleration/ Deceleration Lane
Santa Ana	2023/24	20634	12	Orange	91	R0.0	R18.905	Southern California Coast	Replace/Install Culverts
Santa Ana	2027/28	22324	7	Los Angeles	10	21	40	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Ana	2027/28	22154	8	San Bernardino	15	14.73	25.74	Southern California Mountains and Valleys	Cure in Place Line Culvert
Santa Ana	2019/20	18664	8	San Bernardino	215	4.5	5.8	Southern California Mountains and Valleys	Improved Highway Geometry
Santa Ana	2028/29	22157	8	San Bernardino	38	7.15	35.29	Southern California Mountains and Valleys	Cure in Place Line Culvert
Santa Ana	2019/20	20882	8	Riverside	60	R7.3	R10.0	Southern California Mountains and Valleys	Acceleration/ Deceleration lane
Santa Ana	2019/20	20882	8	San Bernardino	60	R7.3	R10.0	Southern California Mountains and Valleys	Acceleration/ Deceleration lane



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Ana	2028/29	21621	8	Riverside	215	42.7	45.3	Southern California Mountains and Valleys	Bridge Rail
Santa Ana	2019/20	16302	8	San Bernardino	215	2.19	3.19	Southern California Mountains and Valleys	Bridge Replacement/New Construction
Santa Ana	2026/27	21127	8	Riverside	91	R0.0	10	Southern California Mountains and Valleys	Cure in Place Line Culvert
Santa Ana	2023/24	19730	8	Riverside	15	16.3	52.3	Southern California Mountains and Valleys	Widen Shoulders
Santa Ana	2020/21	19809	8	San Bernardino	10	9.3	R102.0	Southern California Mountains and Valleys	Bridge Replacement/New Construction
Santa Ana	2023/24	19683	8	San Bernardino	15	2.4	2.4	Southern California Mountains and Valleys	Bridge Rail
Santa Ana	2021/22	16014	8	San Bernardino	18	T8.0	R17.8	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Ana	2023/24	14065	8	San Bernardino	66	21.3	21.3	Southern California Mountains and Valleys	Bridge Rail
Santa Ana	2028/29	21952	8	San Bernardino	10	9.9	20	Southern California Mountains and Valleys	Cure in Place Line Culvert
Santa Barbara Coastal	2024/25	21651	5	Santa Barbara	101	45	R50.0	Southern California Coast	Replace/Install Culverts

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Barbara Coastal	2021/22	13626	5	Santa Barbara	101	21.62	21.62	Southern California Coast	Bridge Replacement/New Construction
Santa Barbara Coastal	2021/22	11249	5	Santa Barbara	217	0.9	1.4	Southern California Coast	Bridge Replacement/New Construction
Santa Barbara Coastal	2022/23	19946	5	Santa Barbara	101	9.2	11.9	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2027/28	19951	5	Santa Barbara	217	0.464	2.989	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2022/23	11278	5	Santa Barbara	101	R36.6	R36.6	Southern California Coast	Bridge Replacement/New Construction
Santa Barbara Coastal	2023/24	19153	5	Santa Barbara	154	R0.0	32.84	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2019/20	19152	5	Santa Barbara	101	R7.3	9.2	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2028/29	19941	5	Santa Barbara	192	R0.019	21.07	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2025/26	19149	5	Santa Barbara	101	12.44	22.54	Southern California Coast	Bridge Rail
Santa Barbara Coastal	2021/22	14098	5	Santa Barbara	154	31.8	32.1	Southern California Coast	Bridge Rail
Santa Barbara Coastal	2026/27	19096	5	Santa Barbara	101	R0.0	R52.2	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2019/20	9293	5	Santa Barbara	101	45.5	45.5	Southern California Coast	Replace/Install Culverts

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Barbara Coastal	2021/22	15920	5	Santa Barbara	101	46.2	R52.3	Southern California Coast	Retaining Wall
Santa Barbara Coastal	2023/24	19150	5	Santa Barbara	101	R52.34	R56.09	Southern California Coast	Replace/Install Culverts
Santa Clara	2026/27	22012	7	Ventura	23	23	24	Southern California Coast	Replace/Install Culverts
Santa Clara	2026/27	21168	7	Ventura	150	0	31.3	Southern California Coast	Replace/Install Culverts
Santa Clara	2023/24	18690	7	Los Angeles	5	R60.0	R75.0	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2028/29	22328	7	Ventura	101	31.7	35.3	Southern California Mountains and Valleys	Drainage Improvements
Santa Clara	2020/21	13691	7	Los Angeles	5	R59.48	R68.1	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2026/27	22293	7	Los Angeles	14	28	33.5	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2028/29	22329	7	Los Angeles	5	26.8	74.7	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2019/20	17609	7	Los Angeles	14	28.89	28.89	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2027/28	18253	7	Ventura	1	9.87	9.87	Southern California Mountains and Valleys	Bridge Rail



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Clara	2019/20	18593	7	Los Angeles	5	27	66.5	Southern California Mountains and Valleys	Bridge Rail
Santa Margarita	2019/20	17123	8	Riverside	15	R0.0	3.1	Southern California Mountains and Valleys	Bridge Rail
Santa Maria	2023/24	16474	5	Santa Barbara	1	35.5	49.5	Southern California Coast	Improved Highway Geometry
Santa Maria	2023/24	19147	5	Santa Barbara	101	65	84.1	Southern California Coast	Replace/Install Culverts
Santa Maria	2028/29	19996	5	Santa Barbara	135	L8.878	11.7	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2020/21	16007	7	Los Angeles	1	37.67	62.8	Southern California Coast	Bridge Replacement/New Construction
Santa Monica Bay	2020/21	16007	7	Ventura	1	37.67	62.8	Southern California Coast	Bridge Replacement/New Construction
Santa Monica Bay	2026/27	19078	7	Los Angeles	1	44.15	44.15	Southern California Coast	Bridge Rail
Santa Monica Bay	2023/24	9251	7	Los Angeles	101	S0.91	2.86	Southern California Coast	Bridge Rail
Santa Monica Bay	2022/23	20818	7	Los Angeles	405	31.56	41.37	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2023/24	13708	7	Los Angeles	10	R4.7	14.1	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2028/29	22330	7	Los Angeles	23	7.6	7.9	Southern California Coast	Replace/Install Culverts

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Monica Bay	2020/21	11250	7	Los Angeles	1	56.5	56.9	Southern California Coast	Bridge Replacement/New Construction
Santa Monica Bay	2025/26	15934	7	Los Angeles	1	35.2	46.9	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2028/29	18047	7	Los Angeles	101	0	8.05	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2026/27	22295	7	Los Angeles	10	6.5	18.9	Southern California Coast	Cure in Place Line Culvert
Santa Monica Bay	2020/21	15837	7	Los Angeles	110	22.8	22.83	Southern California Coast	Bridge Rail
Santa Monica Bay	2027/28	22315	7	Los Angeles	47	0.3	2.1	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2024/25	21316	7	Ventura	1	4.4	4.8	Southern California Coast	Bridge Replacement/New Construction
Santa Ynez	2028/29	20016	5	Santa Barbara	246	9.55	R20.9	Southern California Coast	Bridge Replacement/New Construction
Santa Ynez	2026/27	19096	5	Santa Barbara	101	R0.0	R52.2	Southern California Coast	Replace/Install Culverts
Santa Ynez	2021/22	15920	5	Santa Barbara	101	46.2	R52.3	Southern California Coast	Retaining Wall
Santa Ynez	2019/20	13801	5	Santa Barbara	101	56	56	Southern California Coast	Bridge Rail
Santa Ynez	2023/24	19150	5	Santa Barbara	101	R52.34	R56.09	Southern California Coast	Replace/Install Culverts

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Ynez	2026/27	20026	5	Santa Barbara	1	23	M29.891	Southern California Coast	Replace/Install Culverts
Santa Ynez	2023/24	19153	5	Santa Barbara	154	R0.0	32.84	Southern California Coast	Replace/Install Culverts
Santa Ynez	2024/25	19937	5	Santa Barbara	101	R56.09	65	Southern California Coast	Replace/Install Culverts
Santa Ynez	2026/27	20015	5	Santa Barbara	246	30.28	31.385	Southern California Coast	Bridge Replacement/New Construction
Santa Ynez	2021/22	13846	5	Santa Barbara	154	R5.8	R6.1	Southern California Coast	Roundabouts
Santa Ynez	2021/22	9271	5	Santa Barbara	154	R2.6	R2.6	Southern California Coast	Bridge Replacement/New Construction
Seal Beach	2027/28	18944	12	Orange	57	10.8	16.4	Southern California Coast	Replace/Install Culverts
Seal Beach	2025/26	21950	12	Orange	5	30.3	44.4	Southern California Coast	Slip Line Culvert
Seal Beach	2026/27	20767	12	Orange	1	0.8	33.719	Southern California Coast	Replace/Install Culverts
Ventura	2020/21	13501	7	Ventura	1	28.15	28.15	Southern California Coast	Bridge Rail
Ventura	2028/29	22328	7	Ventura	101	31.7	35.3	Southern California Coast	Drainage Improvements
Ventura	2026/27	21168	7	Ventura	150	0	31.3	Southern California Coast	Replace/Install Culverts
Ventura	2027/28	18253	7	Ventura	1	9.87	9.87	Southern California Coast	Bridge Rail



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Ventura	2021/22	16961	7	Ventura	33	16.13	16.13	Southern California Mountains and Valleys	Bridge Rail
Ventura	2028/29	22328	7	Ventura	101	31.7	35.3	Southern California Mountains and Valleys	Drainage Improvements
Ventura	2020/21	13501	7	Ventura	1	28.15	28.15	Southern California Mountains and Valleys	Bridge Rail

Source: Caltrans 2021a

<sup>a</sup> R = right, L = left, M = median, S = shoulder

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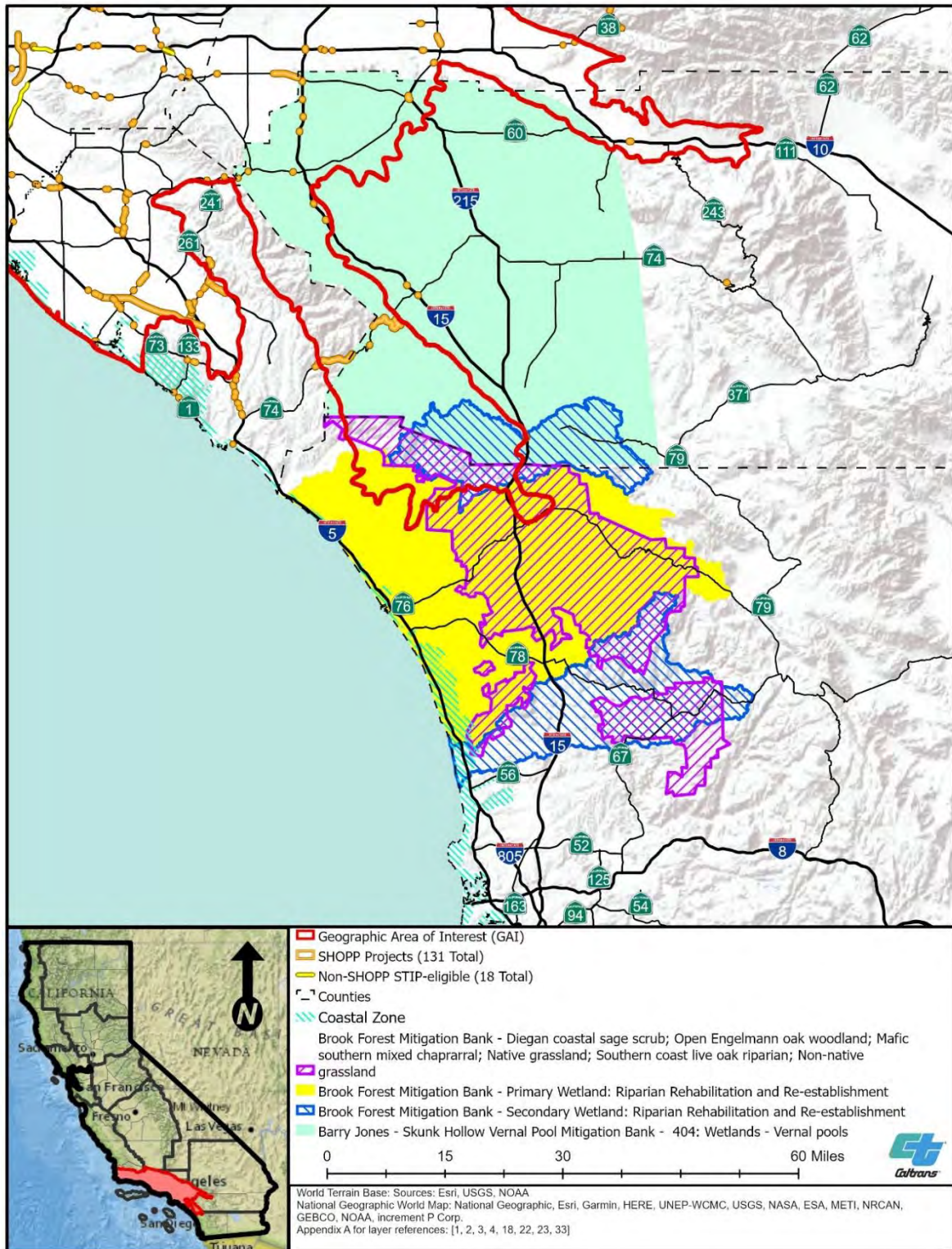
## **APPENDIX J: CONSERVATION AND MITIGATION BANK SERVICE AREAS OUTSIDE OF DISTRICT 7**

As pointed out in Chapter 4 and elsewhere, SHC § 800.6(a) authorizes Caltrans to perform pre-transfer credit purchases from conservation and mitigation banks. Conservation and mitigation banks that offer credits that may be available for Caltrans purchase are listed in Table 4-3; the banks listed may supply credits for resources other than species of mitigation need credits.

Bank locations within the GAI are shown in Figures 4-2 and 4-3. Service areas for conservation and mitigation banks that supply species of mitigation need credits and are located within District 7 boundaries are shown in Chapter 4 in Figures 4-4 through 4-8. Service areas of conservation and mitigation banks that are outside of Caltrans District 7 boundaries but are within the greater GAI are shown in Figures J-1 through J-6.

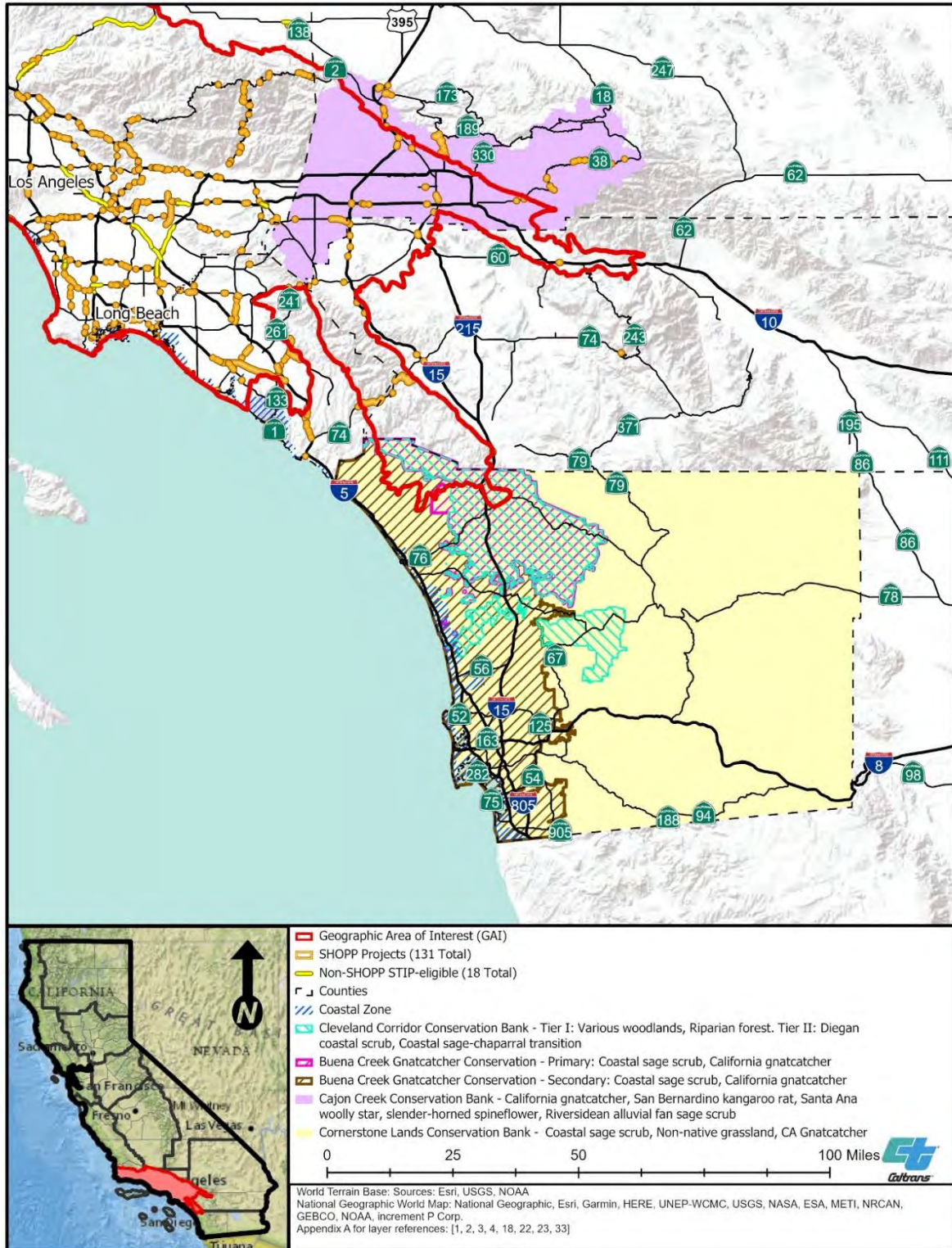


**Figure J-1. Conservation and Mitigation Bank Service Areas Outside District 7 – Part 1**



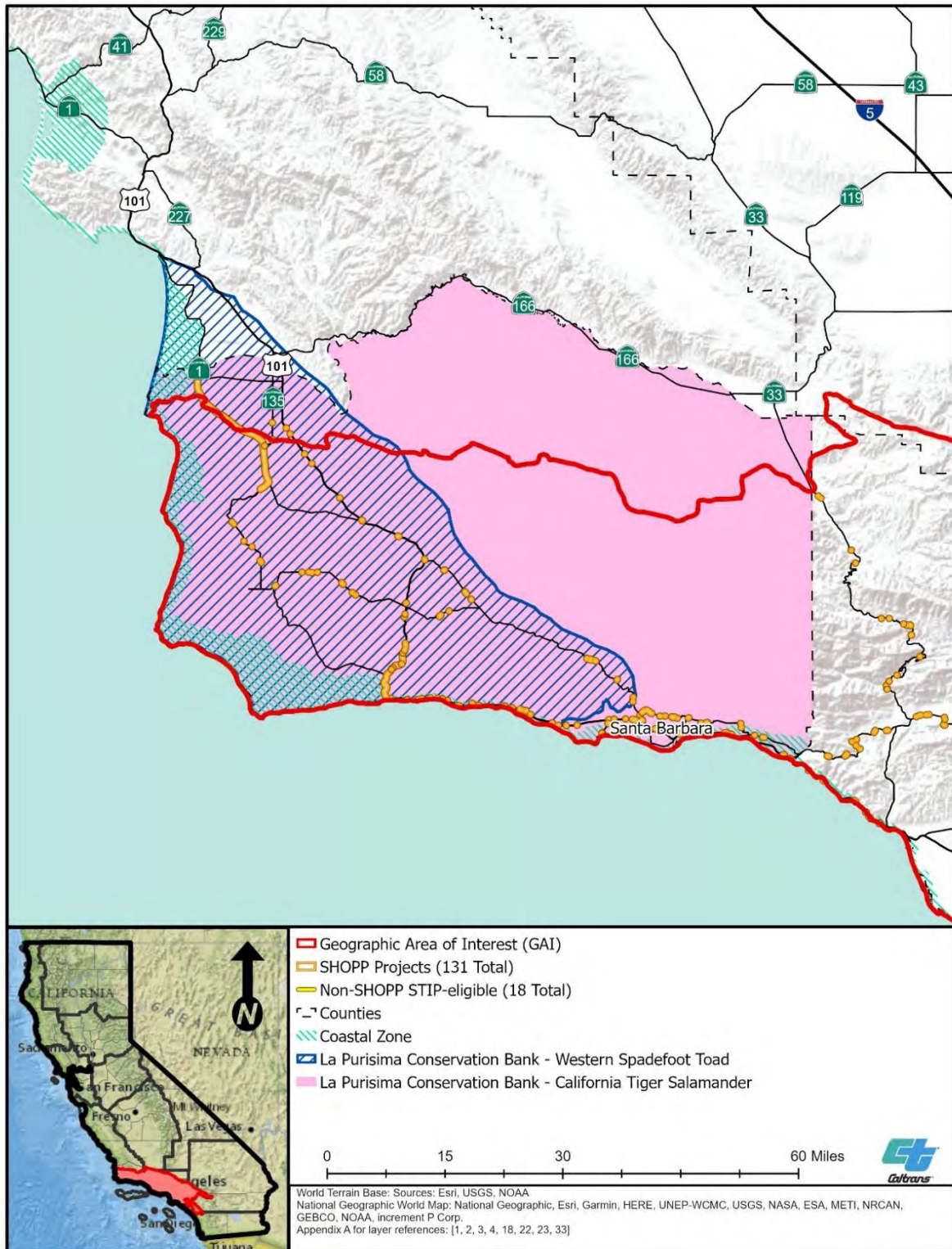


**Figure J-2. Conservation and Mitigation Bank Service Areas Outside District 7 – Part 2**



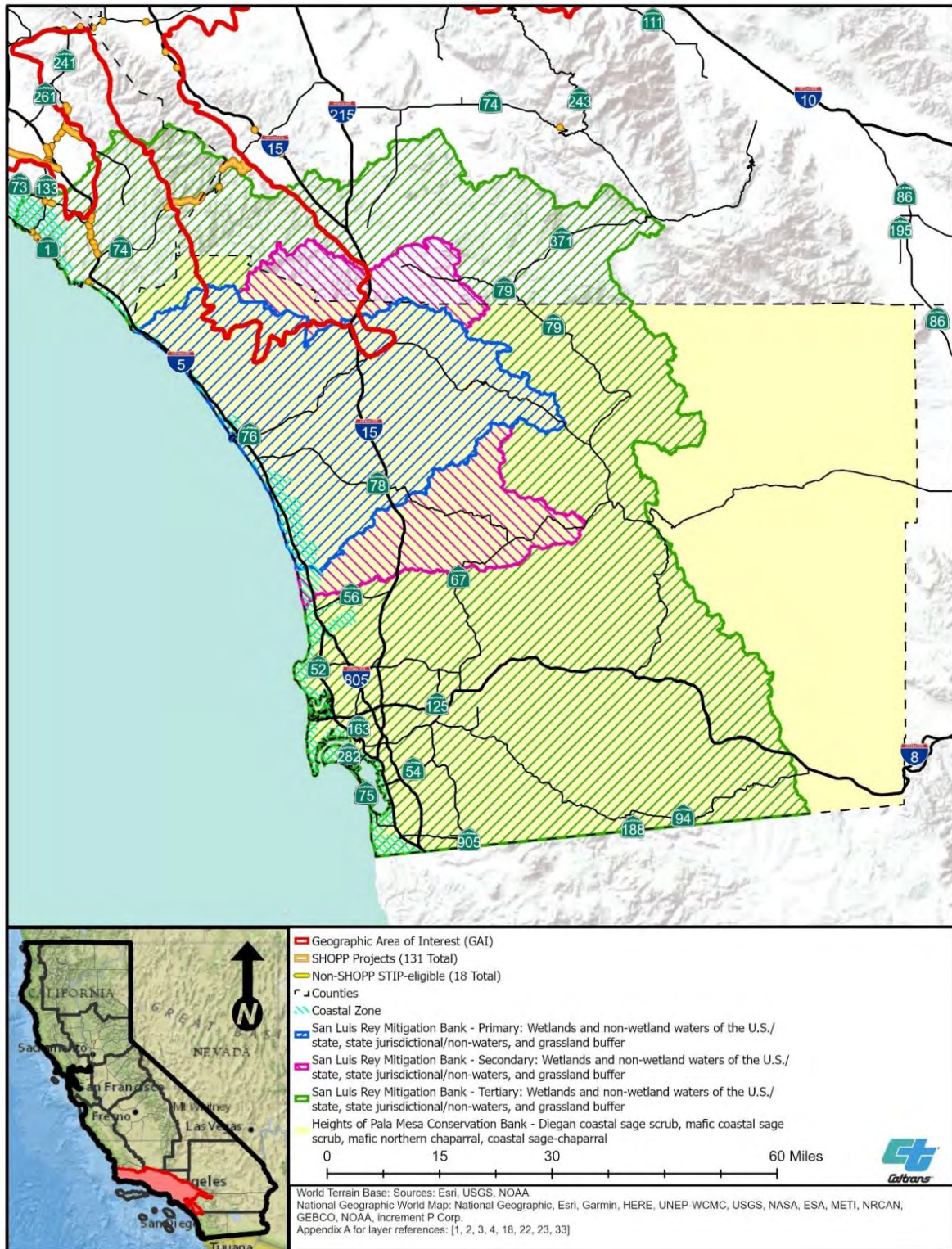


**Figure J-3. Conservation and Mitigation Bank Service Areas Outside District 7 – Part 3**



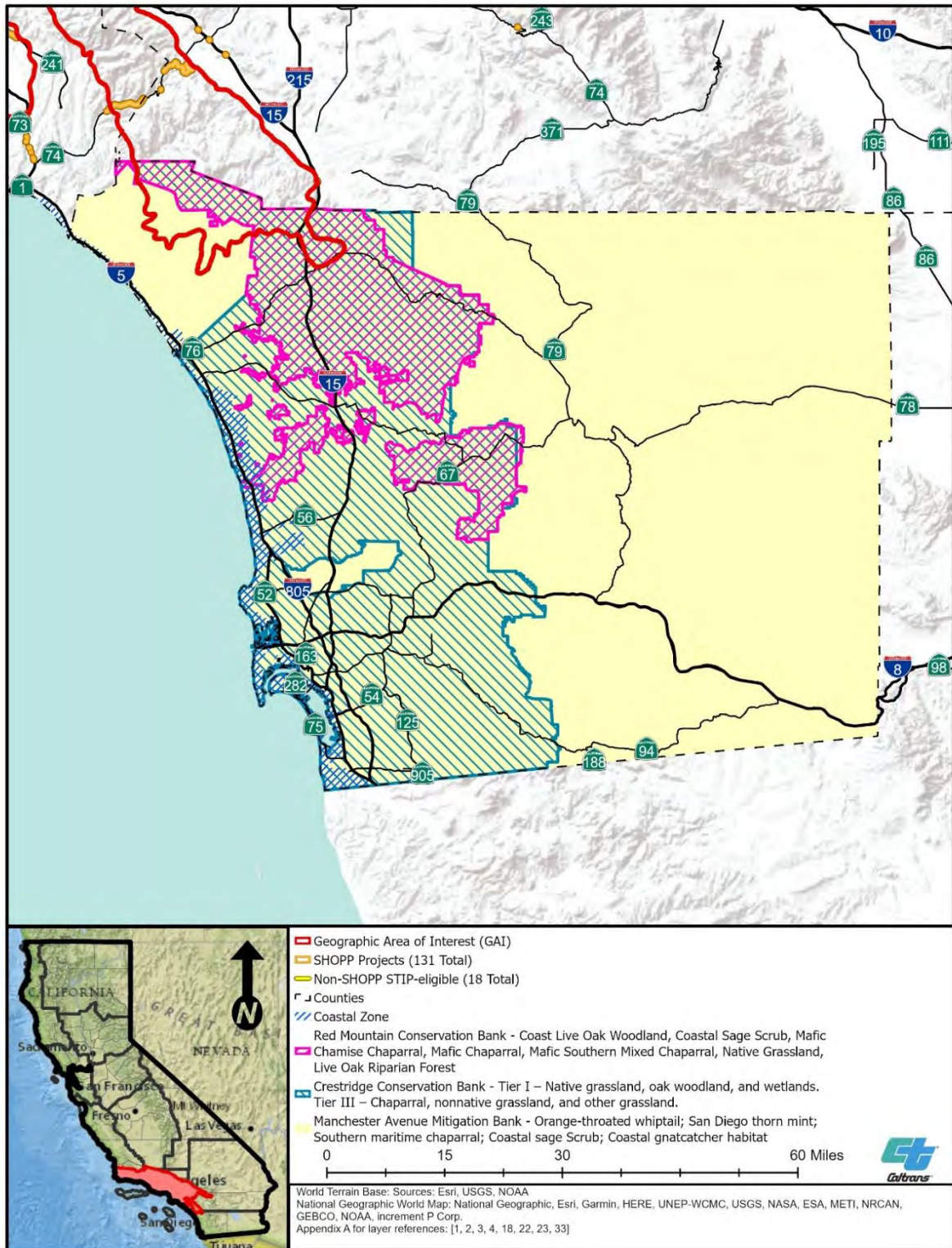


**Figure J-4. Conservation and Mitigation Bank Service Areas Outside District 7 – Part 4**



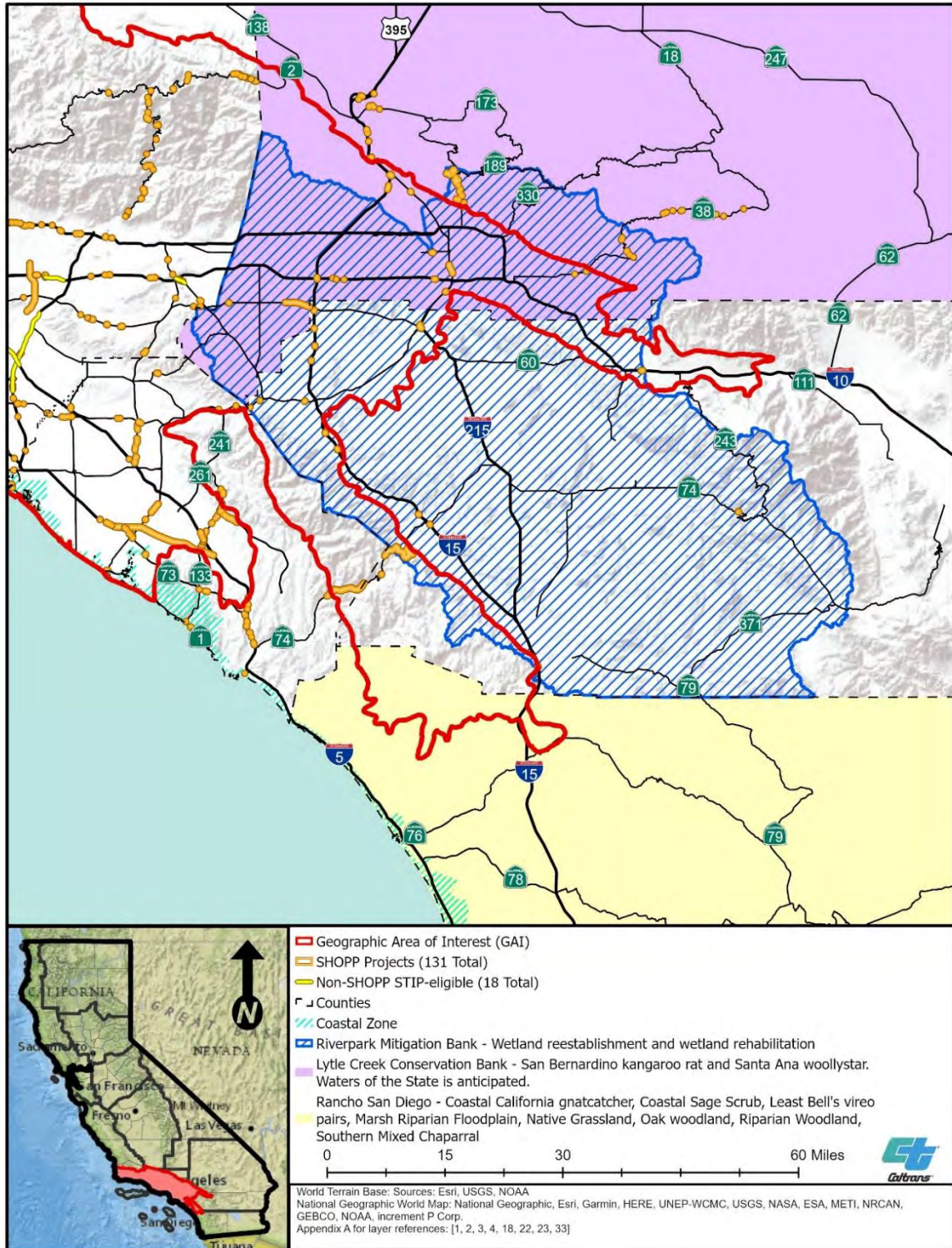


**Figure J-5. Conservation and Mitigation Bank Service Areas Outside District 7 – Part 5**





**Figure J-6. Conservation and Mitigation Bank Service Areas Outside District 7 – Part 6**





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## **APPENDIX K: AQUATIC RESOURCES IMPACT ESTIMATES, BY TRANSPORTATION PROJECT DELIVERY YEAR, FOR SUB-BASINS IN DISTRICT 5 WITHIN THE GAI**

The information in this appendix consists of anticipated aquatic resources impacts within the GAI that are forecast for Caltrans District 5 only. SHOPP transportation projects within the Caltrans District 5 portion of the GAI are listed in Table K-1. Estimated impacts are presented for each year of the planning period in Tables K-2 through K-5 and Figures K-1 through K-4.

For a temporal analysis of estimated aquatic resources impacts for the GAI, see Chapter 6. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 7, see Appendix L. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 8, see Appendix M. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 11, see Appendix N. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 12, see Appendix O.

### **References**

Caltrans (California Department of Transportation). 2021. *State Highway Operation and Protection Program Ten-Year Project Book Fiscal Years 2019/20—2028/29*. State Highway Operation and Protection Program Fiscal Year 2019/20 (Quarter 4). July. Sacramento, California.

**Table K-1. SHOPP Transportation Projects within the District 5 portion of the GAI**

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
San Antonio	2019/20	14019	5	Santa Barbara	101	70.91	70.91	Southern California Coast	Bridge Rail
San Antonio	2023/24	19147	5	Santa Barbara	101	65	84.1	Southern California Coast	Replace/Install Culverts
San Antonio	2023/24	16474	5	Santa Barbara	1	35.5	49.5	Southern California Coast	Improved Highway Geometry
Santa Barbara Coastal	2024/25	21651	5	Santa Barbara	101	45	R50.0	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2021/22	13626	5	Santa Barbara	101	21.62	21.62	Southern California Coast	Bridge Replacement/New Construction
Santa Barbara Coastal	2021/22	11249	5	Santa Barbara	217	0.9	1.4	Southern California Coast	Bridge Replacement/New Construction
Santa Barbara Coastal	2022/23	19946	5	Santa Barbara	101	9.2	11.9	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2027/28	19951	5	Santa Barbara	217	0.464	2.989	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2022/23	11278	5	Santa Barbara	101	R36.6	R36.6	Southern California Coast	Bridge Replacement/New Construction
Santa Barbara Coastal	2023/24	19153	5	Santa Barbara	154	R0.0	32.84	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2019/20	19152	5	Santa Barbara	101	R7.3	9.2	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2028/29	19941	5	Santa Barbara	192	R0.019	21.07	Southern California Coast	Replace/Install Culverts



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Barbara Coastal	2025/26	19149	5	Santa Barbara	101	12.44	22.54	Southern California Coast	Bridge Rail
Santa Barbara Coastal	2021/22	14098	5	Santa Barbara	154	31.8	32.1	Southern California Coast	Bridge Rail
Santa Barbara Coastal	2026/27	19096	5	Santa Barbara	101	R0.0	R52.2	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2019/20	9293	5	Santa Barbara	101	45.5	45.5	Southern California Coast	Replace/Install Culverts
Santa Barbara Coastal	2021/22	15920	5	Santa Barbara	101	46.2	R52.3	Southern California Coast	Retaining Wall
Santa Barbara Coastal	2023/24	19150	5	Santa Barbara	101	R52.34	R56.09	Southern California Coast	Replace/Install Culverts
Santa Maria	2023/24	16474	5	Santa Barbara	1	35.5	49.5	Southern California Coast	Improved Highway Geometry
Santa Maria	2023/24	19147	5	Santa Barbara	101	65	84.1	Southern California Coast	Replace/Install Culverts
Santa Maria	2028/29	19996	5	Santa Barbara	135	L8.878	11.7	Southern California Coast	Replace/Install Culverts
Santa Ynez	2028/29	20016	5	Santa Barbara	246	9.55	R20.9	Southern California Coast	Bridge Replacement/New Construction
Santa Ynez	2026/27	19096	5	Santa Barbara	101	R0.0	R52.2	Southern California Coast	Replace/Install Culverts
Santa Ynez	2021/22	15920	5	Santa Barbara	101	46.2	R52.3	Southern California Coast	Retaining Wall
Santa Ynez	2019/20	13801	5	Santa Barbara	101	56	56	Southern California Coast	Bridge Rail

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Ynez	2023/24	19150	5	Santa Barbara	101	R52.34	R56.09	Southern California Coast	Replace/Install Culverts
Santa Ynez	2026/27	20026	5	Santa Barbara	1	23	M29.891	Southern California Coast	Replace/Install Culverts
Santa Ynez	2023/24	19153	5	Santa Barbara	154	R0.0	32.84	Southern California Coast	Replace/Install Culverts
Santa Ynez	2024/25	19937	5	Santa Barbara	101	R56.09	65	Southern California Coast	Replace/Install Culverts
Santa Ynez	2026/27	20015	5	Santa Barbara	246	30.28	31.385	Southern California Coast	Bridge Replacement/New Construction
Santa Ynez	2021/22	13846	5	Santa Barbara	154	R5.8	R6.1	Southern California Coast	Roundabouts
Santa Ynez	2021/22	9271	5	Santa Barbara	154	R2.6	R2.6	Southern California Coast	Bridge Replacement/New Construction

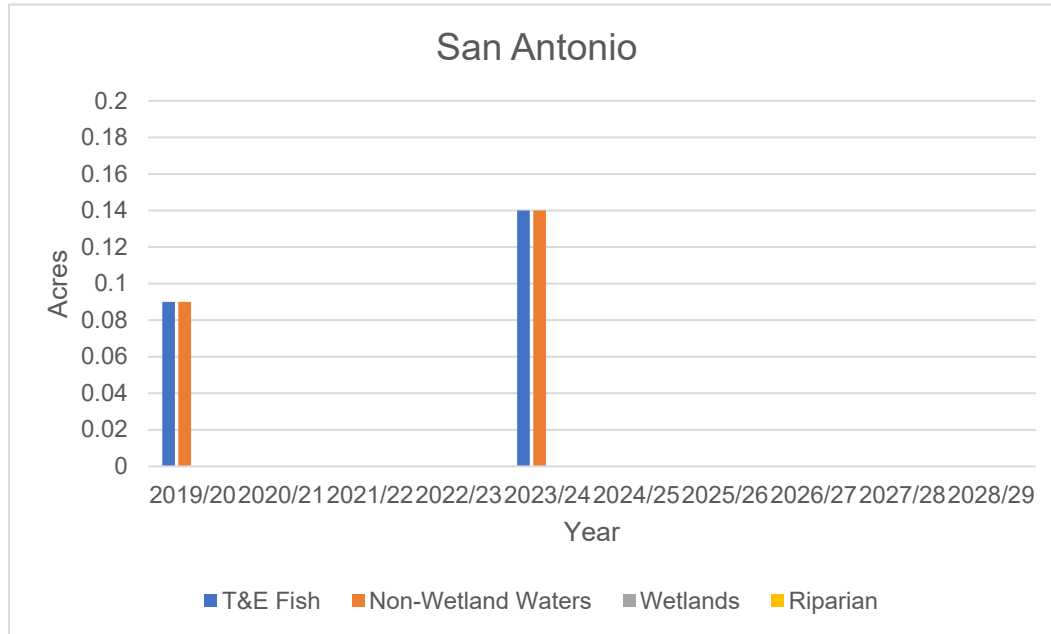
**Table K-2. San Antonio Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	1	0.1	1	0.1	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	1	0.1	1	0.1	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>2</b>	<b>0.2</b>	<b>2</b>	<b>0.2</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered



**Figure K-1. San Antonio Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



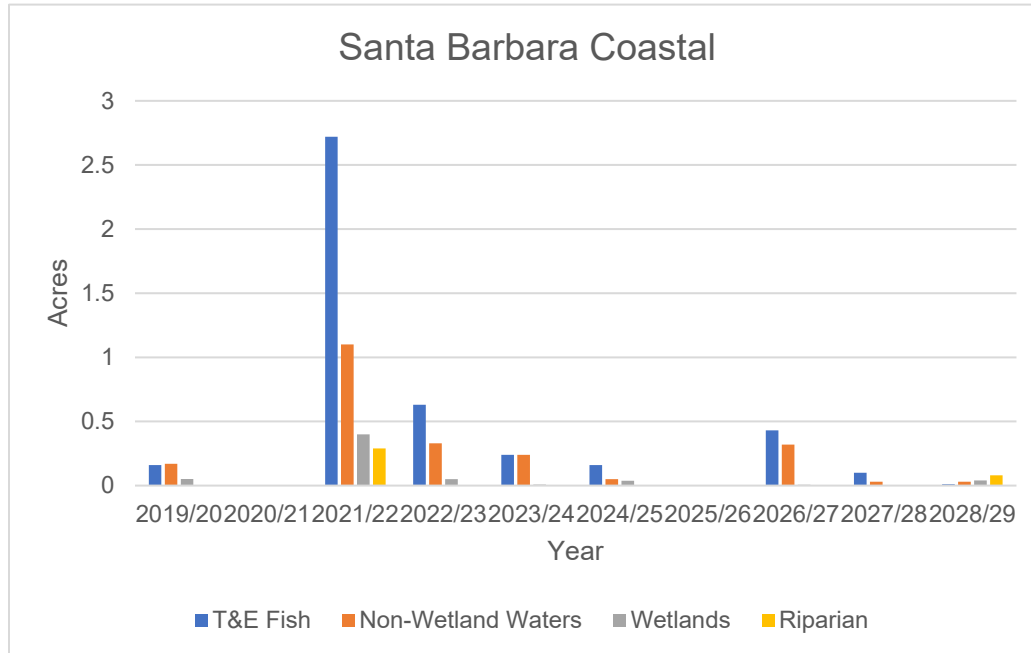
Note: T&E = threatened and endangered

**Table K-3. Santa Barbara Coastal Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	1	0.1	2	0.2	1	0.1	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	4	1.1	2	0.4	1	0.3
2022/23	0	0.0	1	0.3	1	0.1	0	0.0
2023/24	1	0.1	1	0.2	1	<0.1	0	0.0
2024/25	0	0.0	1	0.1	1	<0.1	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	1	0.3	1	<0.1	0	0.0
2027/28	0	0.0	1	<0.1	0	0.0	0	0.0
2028/29	0	0.0	1	<0.1	1	<0.1	1	0.1
<b>Total</b>	<b>2</b>	<b>0.2</b>	<b>12</b>	<b>2.3</b>	<b>8</b>	<b>0.6</b>	<b>2</b>	<b>0.4</b>

Note: T&E = threatened and endangered

**Figure K-2. Santa Barbara Coastal Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

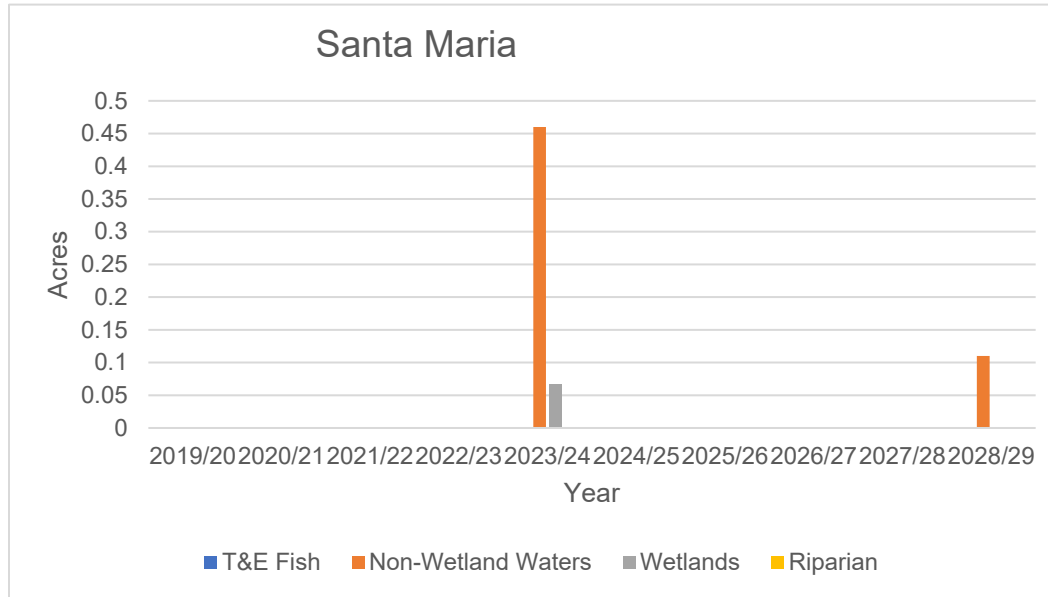


**Table K-4. Santa Maria Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	1	0.1	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	1	0.1	2	0.5	1	0.1	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	1	0.1	0	0.0	0	0.0
<b>Total</b>	<b>2</b>	<b>0.2</b>	<b>3</b>	<b>0.6</b>	<b>1</b>	<b>0.1</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered

**Figure K-3. Santa Maria Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

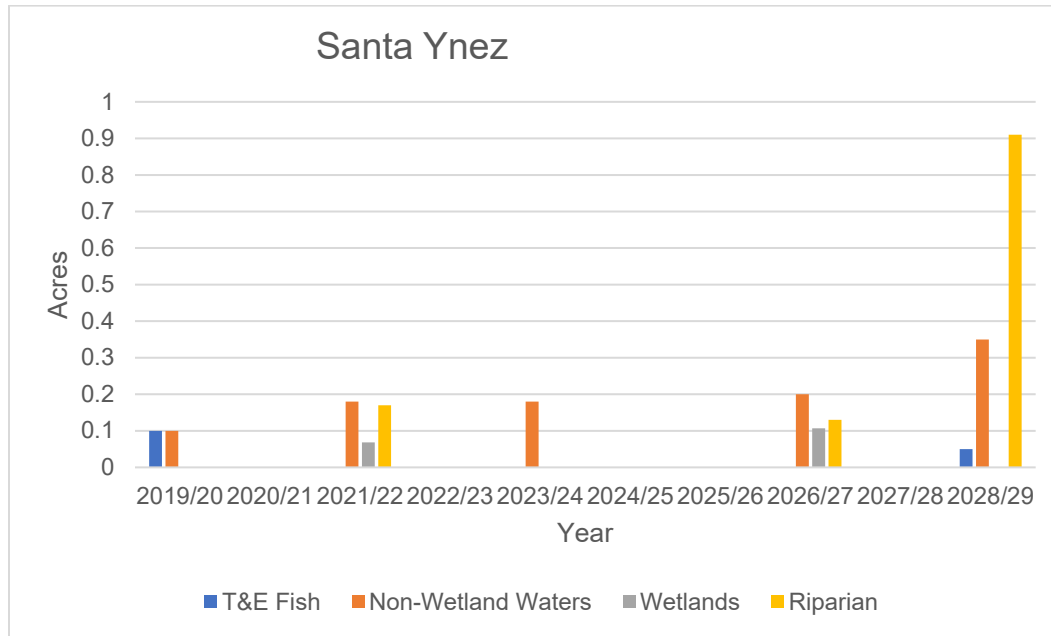
**Table K-5. Santa Ynez Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	1	0.1	1	0.1	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	2	0.2	2	0.1	1	0.2
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	1	0.1	1	0.2	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	1	0.2	1	0.1	1	0.1
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	1	0.4	0	0.0	1	0.9
<b>Total</b>	<b>2</b>	<b>0.2</b>	<b>6</b>	<b>1.0</b>	<b>3</b>	<b>0.2</b>	<b>3</b>	<b>1.2</b>

Note: T&E = threatened and endangered



**Figure K-4. Santa Ynez Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

## **APPENDIX L: AQUATIC RESOURCES IMPACT ESTIMATES, BY TRANSPORTATION PROJECT DELIVERY YEAR, FOR SUB-BASINS IN DISTRICT 7 WITHIN THE GAI**

The information in this appendix consists of anticipated aquatic resources impacts within the GAI that are forecast for Caltrans District 7 only. SHOPP transportation projects within the Caltrans District 7 portion of the GAI are listed in Table L-1. Estimated impacts are presented for each year of the planning period in Tables L-2 through L-11 and Figures L-1 through L-10.

For a temporal analysis of estimated aquatic resources impacts for the GAI, see Chapter 6. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 5, see Appendix K. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 8, see Appendix M. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 11, see Appendix N. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 12, see Appendix O.

### **References**

Caltrans (California Department of Transportation). 2021. *State Highway Operation and Protection Program Ten-Year Project Book Fiscal Years 2019/20—2028/29*. State Highway Operation and Protection Program Fiscal Year 2019/20 (Quarter 4). July. Sacramento, California.

**Table L-1. SHOPP Transportation Projects within the District 7 portion of the GAI**

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Antelope-Fremont Valleys	2022/23	16008	7	Los Angeles	2	14.19	57.47	Southern California Mountains and Valleys	Replace/Install Culverts
Antelope-Fremont Valleys	2028/29	22326	7	Los Angeles	2	79.4	81.5	Southern California Mountains and Valleys	Replace/Install Culverts
Antelope-Fremont Valleys	2022/23	18685	7	Los Angeles	2	68.12	82.05	Southern California Mountains and Valleys	Replace/Install Culverts
Calleguas	2027/28	18253	7	Ventura	1	9.87	9.87	Southern California Coast	Bridge Rail
Calleguas	2028/29	22330	7	Ventura	23	7.6	7.9	Southern California Coast	Replace/Install Culverts
Calleguas	2023/24	18048	7	Ventura	34	6.27	17.66	Southern California Coast	Replace/Install Culverts
Calleguas	2026/27	22296	7	Ventura	118	16	32	Southern California Coast	Replace/Install Culverts
Cuyama	2028/29	22328	7	Ventura	101	31.7	35.3	Southern California Mountains and Valleys	Drainage Improvements
Los Angeles	2019/20	16368	7	Los Angeles	10	28.3	28.3	Southern California Coast	Bridge Rail
Los Angeles	2021/22	13675	7	Los Angeles	1	0	18	Southern California Coast	Replace/Install Culverts
Los Angeles	2027/28	15972	7	Los Angeles	10	24	31.2	Southern California Coast	Replace/Install Culverts



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Los Angeles	2024/25	22139	7	Los Angeles	110	25.34	25.43	Southern California Coast	Bridge Replacement/New Construction
Los Angeles	2025/26	21140	7	Los Angeles	210	R11.0	R11.5	Southern California Coast	Replace/Install Culverts
Los Angeles	2021/22	13760	7	Los Angeles	164	1.39	6.9	Southern California Coast	Retaining Wall
Los Angeles	2021/22	11289	7	Los Angeles	91	R10.2	R10.3	Southern California Coast	Bridge Rail
Los Angeles	2025/26	20784	7	Los Angeles	210	27.4	31.9	Southern California Coast	Replace/Install Culverts
Los Angeles	2026/27	22009	7	Los Angeles	134	1.3	13.3	Southern California Coast	Replace/Install Culverts
Los Angeles	2028/29	18056	7	Los Angeles	710	5.9	7.1	Southern California Coast	Replace/Install Culverts
Los Angeles	2027/28	21471	7	Los Angeles	210	32	39	Southern California Coast	Replace/Install Culverts
Los Angeles	2023/24	9251	7	Los Angeles	101	S0.91	2.86	Southern California Coast	Bridge Rail
Los Angeles	2028/29	22327	7	Los Angeles	60	1.3	8.4	Southern California Coast	Replace/Install Culverts
Los Angeles	2028/29	20258	7	Los Angeles	91	6.012	R12.0	Southern California Coast	Replace/Install Culverts
Los Angeles	2023/24	18595	7	Los Angeles	210	R19.4	R27.0	Southern California Coast	Replace/Install Culverts
Los Angeles	2021/22	15838	7	Los Angeles	134	R12.6	NULL	Southern California Coast	Bridge Rail

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Los Angeles	2019/20	17977	7	Los Angeles	5	20.77	20.77	Southern California Coast	Replace/Install Culverts
Los Angeles	2025/26	18175	7	Los Angeles	110	27.08	30.1	Southern California Coast	Bridge Rail
Los Angeles	2021/22	17520	7	Los Angeles	110	31	31	Southern California Coast	Widen roadway
Los Angeles	2028/29	22329	7	Los Angeles	5	26.8	74.7	Southern California Coast	Replace/Install Culverts
Los Angeles	2021/22	16836	7	Los Angeles	118	11	14	Southern California Coast	Retaining Wall
Los Angeles	2028/29	18047	7	Los Angeles	101	0	8.05	Southern California Coast	Replace/Install Culverts
Los Angeles	2026/27	22294	7	Los Angeles	110	24	32	Southern California Coast	Replace/Install Culverts
Los Angeles	2022/23	18215	7	Los Angeles	1	7.08	7.11	Southern California Coast	Bridge Rail
Los Angeles	2028/29	22330	7	Los Angeles	23	7.6	7.9	Southern California Coast	Replace/Install Culverts
Los Angeles	2027/28	22324	7	Los Angeles	10	21	40	Southern California Coast	Replace/Install Culverts
Los Angeles	2022/23	16008	7	Los Angeles	2	14.19	57.47	Southern California Coast	Replace/Install Culverts
Los Angeles	2025/26	21772	7	Los Angeles	10	18.48	18.59	Southern California Coast	Bridge Rail
Los Angeles	2027/28	22321	7	Los Angeles	91	17.2	18.1	Southern California Coast	Cure in Place Line Culvert

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Los Angeles	2021/22	13739	7	Los Angeles	405	39.09	39.09	Southern California Coast	Acceleration Deceleration Lane
Los Angeles	2023/24	18691	7	Los Angeles	118	R13.0	R13.88	Southern California Coast	Replace/Install Culverts
Los Angeles	2019/20	18593	7	Los Angeles	5	27	66.5	Southern California Coast	Bridge Rail
Los Angeles	2026/27	22295	7	Los Angeles	10	6.5	18.9	Southern California Coast	Cure in Place Line Culvert
Los Angeles	2022/23	16008	7	Los Angeles	2	14.19	57.47	Southern California Mountains and Valleys	Replace/Install Culverts
Mojave	2022/23	18685	7	Los Angeles	2	68.12	82.05	Southern California Mountains and Valleys	Replace/Install Culverts
Mojave	2028/29	22326	7	Los Angeles	2	79.4	81.5	Southern California Mountains and Valleys	Replace/Install Culverts
San Gabriel	2020/21	17495	7	Orange	55	R4.74	5.2	Southern California Coast	Bridge Rail
San Gabriel	2027/28	21471	7	Los Angeles	210	32	39	Southern California Coast	Replace/Install Culverts
San Gabriel	2021/22	11289	7	Los Angeles	91	R10.2	R10.3	Southern California Coast	Bridge Rail
San Gabriel	2023/24	15968	7	Los Angeles	405	0	12.8	Southern California Coast	Replace/Install Culverts
San Gabriel	2021/22	13675	7	Los Angeles	1	0	18	Southern California Coast	Replace/Install Culverts



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
San Gabriel	2019/20	9296	7	Los Angeles	213	2.7	3.9	Southern California Coast	Replace/Install Culverts
San Gabriel	2020/21	19664	7	Los Angeles	60	15.9	19.5	Southern California Coast	Bridge Replacement/New Construction
San Gabriel	2021/22	15933	7	Los Angeles	1	18	33.3	Southern California Coast	Replace/Install Culverts
San Gabriel	2023/24	16850	7	Los Angeles	1	0.04	0.04	Southern California Coast	Bridge Rail
San Gabriel	2023/24	16850	7	Orange	1	0.04	0.04	Southern California Coast	Bridge Rail
San Gabriel	2027/28	20259	7	Los Angeles	60	11.75	R25.3	Southern California Coast	Replace/Install Culverts
San Gabriel	2020/21	13678	7	Los Angeles	22	0	1.5	Southern California Coast	Slip Line Culvert
San Gabriel	2020/21	17221	7	Los Angeles	103	0.1	0.1	Southern California Coast	Rock Slope Protection
San Gabriel	2027/28	22321	7	Los Angeles	91	17.2	18.1	Southern California Coast	Cure in Place Line Culvert
San Gabriel	2027/28	22324	7	Los Angeles	10	21	40	Southern California Coast	Replace/Install Culverts
San Gabriel	2027/28	22315	7	Los Angeles	47	0.3	2.1	Southern California Coast	Replace/Install Culverts
San Gabriel	2026/27	22295	7	Los Angeles	10	6.5	18.9	Southern California Coast	Cure in Place Line Culvert
San Gabriel	2023/24	18133	7	Los Angeles	103	0.9	0.9	Southern California Coast	Bridge Rail

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
San Gabriel	2025/26	20309	7	Los Angeles	110	1.2	10	Southern California Coast	Replace/Install Culverts
San Gabriel	2021/22	15854	7	Los Angeles	39	17.82	17.82	Southern California Mountains and Valleys	Bridge Rail
San Gabriel	2027/28	22324	7	Los Angeles	10	21	40	Southern California Mountains and Valleys	Replace/Install Culverts
San Gabriel	2023/24	18314	7	Los Angeles	39	20.66	20.66	Southern California Mountains and Valleys	Bridge Rail
San Gabriel	2028/29	18313	7	Los Angeles	39	18.36	22.17	Southern California Mountains and Valleys	Bridge Rail
San Gabriel	2028/29	22326	7	Los Angeles	2	79.4	81.5	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Ana	2027/28	22324	7	Los Angeles	10	21	40	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2026/27	22012	7	Ventura	23	23	24	Southern California Coast	Replace/Install Culverts
Santa Clara	2026/27	21168	7	Ventura	150	0	31.3	Southern California Coast	Replace/Install Culverts
Santa Clara	2023/24	18690	7	Los Angeles	5	R60.0	R75.0	Southern California Mountains and Valleys	Replace/Install Culverts

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Clara	2028/29	22328	7	Ventura	101	31.7	35.3	Southern California Mountains and Valleys	Drainage Improvements
Santa Clara	2020/21	13691	7	Los Angeles	5	R59.48	R68.1	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2026/27	22293	7	Los Angeles	14	28	33.5	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2028/29	22329	7	Los Angeles	5	26.8	74.7	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2019/20	17609	7	Los Angeles	14	28.89	28.89	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Clara	2027/28	18253	7	Ventura	1	9.87	9.87	Southern California Mountains and Valleys	Bridge Rail
Santa Clara	2019/20	18593	7	Los Angeles	5	27	66.5	Southern California Mountains and Valleys	Bridge Rail
Santa Monica Bay	2020/21	16007	7	Los Angeles	1	37.67	62.8	Southern California Coast	Bridge Replacement/New Construction
Santa Monica Bay	2020/21	16007	7	Ventura	1	37.67	62.8	Southern California Coast	Bridge Replacement/New Construction
Santa Monica Bay	2026/27	19078	7	Los Angeles	1	44.15	44.15	Southern California Coast	Bridge Rail



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Monica Bay	2023/24	9251	7	Los Angeles	101	S0.91	2.86	Southern California Coast	Bridge Rail
Santa Monica Bay	2022/23	20818	7	Los Angeles	405	31.56	41.37	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2023/24	13708	7	Los Angeles	10	R4.7	14.1	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2028/29	22330	7	Los Angeles	23	7.6	7.9	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2020/21	11250	7	Los Angeles	1	56.5	56.9	Southern California Coast	Bridge Replacement/New Construction
Santa Monica Bay	2025/26	15934	7	Los Angeles	1	35.2	46.9	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2028/29	18047	7	Los Angeles	101	0	8.05	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2026/27	22295	7	Los Angeles	10	6.5	18.9	Southern California Coast	Cure in Place Line Culvert
Santa Monica Bay	2020/21	15837	7	Los Angeles	110	22.8	22.83	Southern California Coast	Bridge Rail
Santa Monica Bay	2027/28	22315	7	Los Angeles	47	0.3	2.1	Southern California Coast	Replace/Install Culverts
Santa Monica Bay	2024/25	21316	7	Ventura	1	4.4	4.8	Southern California Coast	Bridge Replacement/New Construction
Ventura	2020/21	13501	7	Ventura	1	28.15	28.15	Southern California Coast	Bridge Rail
Ventura	2028/29	22328	7	Ventura	101	31.7	35.3	Southern California Coast	Drainage Improvements

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Ventura	2026/27	21168	7	Ventura	150	0	31.3	Southern California Coast	Replace/Install Culverts
Ventura	2027/28	18253	7	Ventura	1	9.87	9.87	Southern California Coast	Bridge Rail
Ventura	2021/22	16961	7	Ventura	33	16.13	16.13	Southern California Mountains and Valleys	Bridge Rail
Ventura	2028/29	22328	7	Ventura	101	31.7	35.3	Southern California Mountains and Valleys	Drainage Improvements
Ventura	2020/21	13501	7	Ventura	1	28.15	28.15	Southern California Mountains and Valleys	Bridge Rail

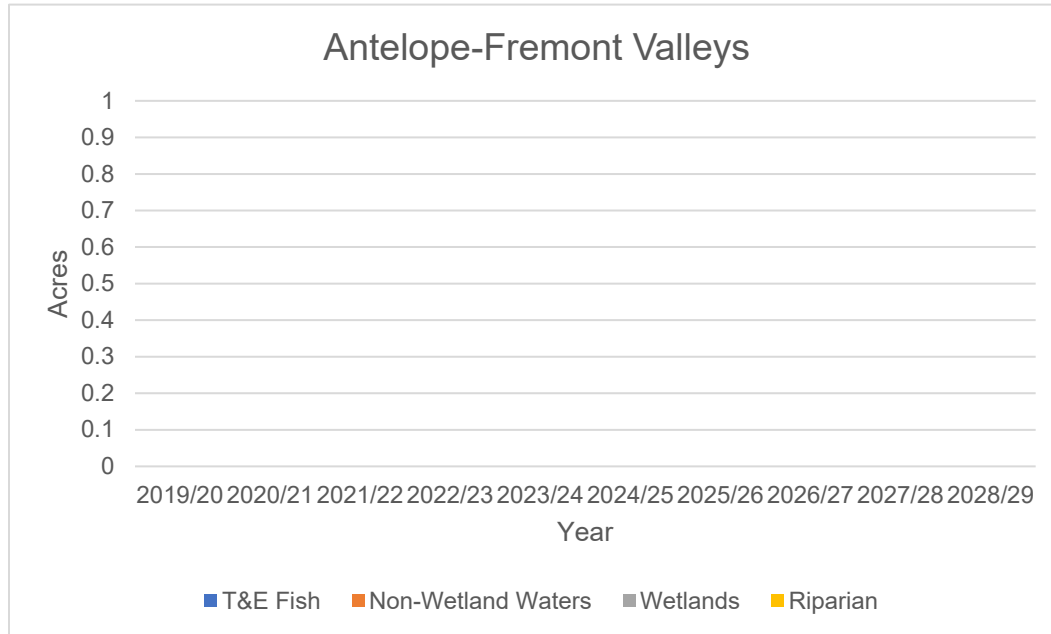
**Table L-2. Antelope-Fremont Valleys Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered



**Figure L-1. Antelope-Fremont Valleys Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



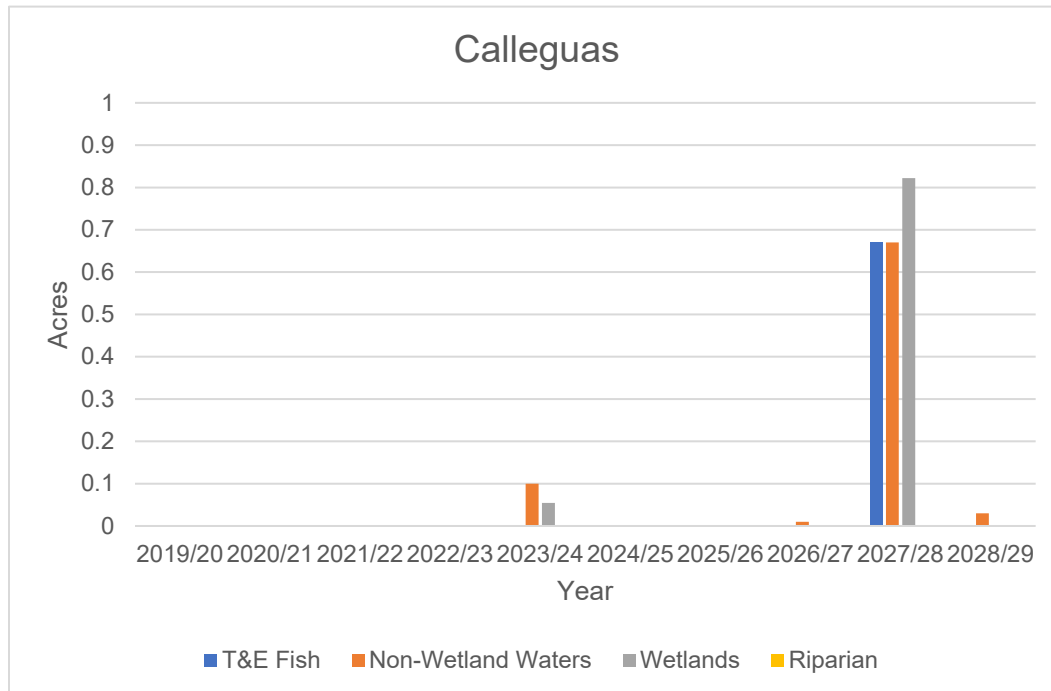
Note: T&E = threatened and endangered

**Table L-3. Calleguas Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	1	0.1	1	0.1	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	1	<0.1	0	0.0	0	0.0
2027/28	1	0.7	1	0.7	1	0.8	0	0.0
2028/29	0	0.0	1	<0.1	0	0.0	0	0.0
<b>Total</b>	<b>1</b>	<b>0.7</b>	<b>4</b>	<b>0.8</b>	<b>1</b>	<b>0.9</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered

**Figure L-2. Calleguas Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

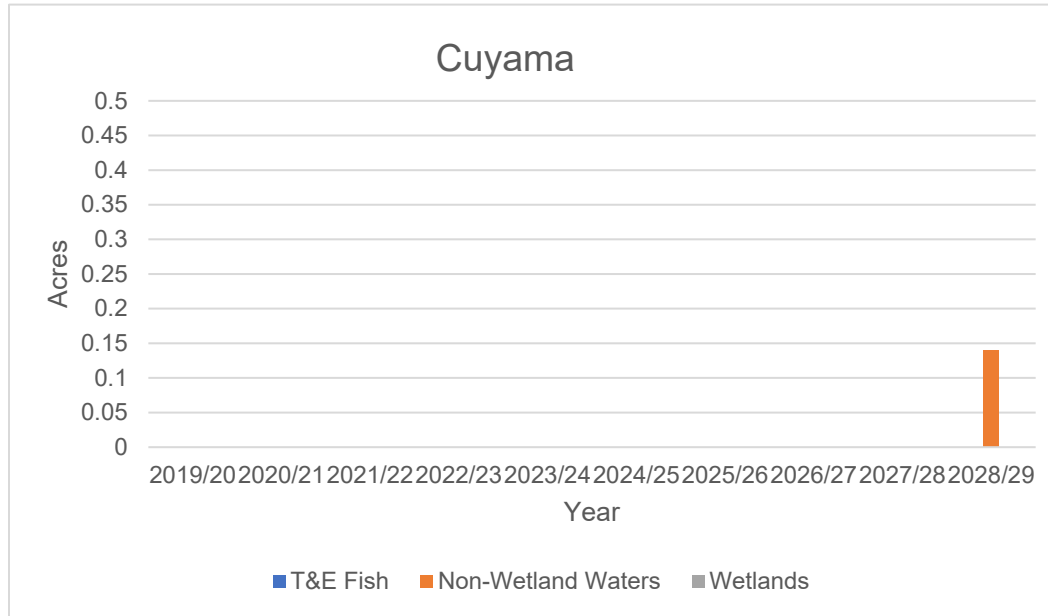


**Table L-4. Cuyama Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	1	0.1	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.1</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered

**Figure L-3. Cuyama Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

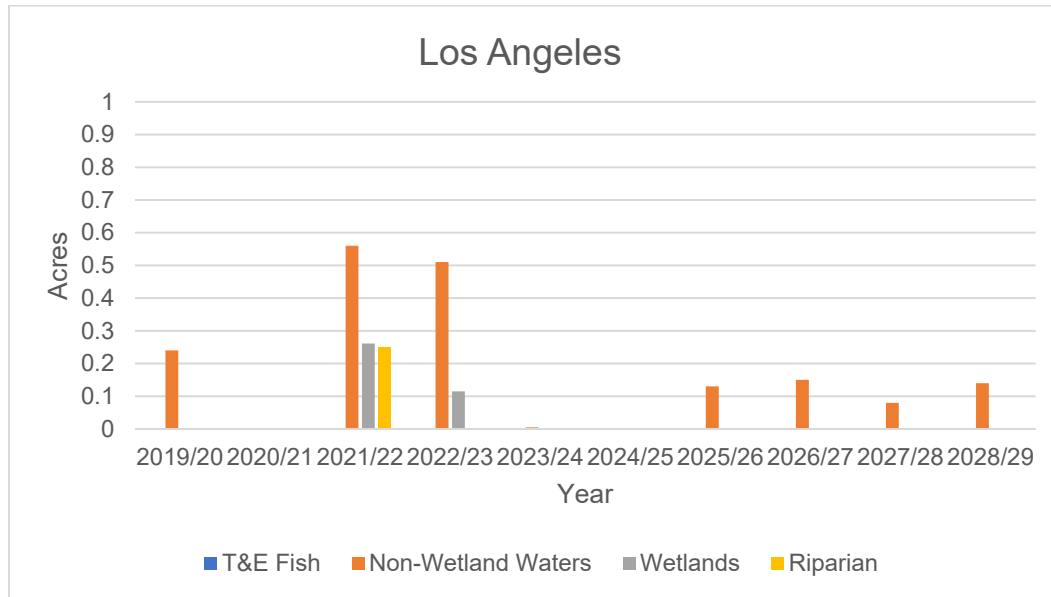
**Table L-5. Los Angeles Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	1	0.2	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	2	0.6	2	0.3	2	0.3
2022/23	0	0.0	2	0.5	1	0.1	0	0.0
2023/24	0	0.0	1	<0.1	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	2	0.1	0	0.0	0	0.0
2026/27	0	0.0	1	0.2	0	0.0	0	0.0
2027/28	0	0.0	2	0.1	0	0.0	0	0.0
2028/29	0	0.0	3	0.1	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>14</b>	<b>1.8</b>	<b>3</b>	<b>0.4</b>	<b>2</b>	<b>0.3</b>

Note: T&E = threatened and endangered



**Figure L-4. Los Angeles Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



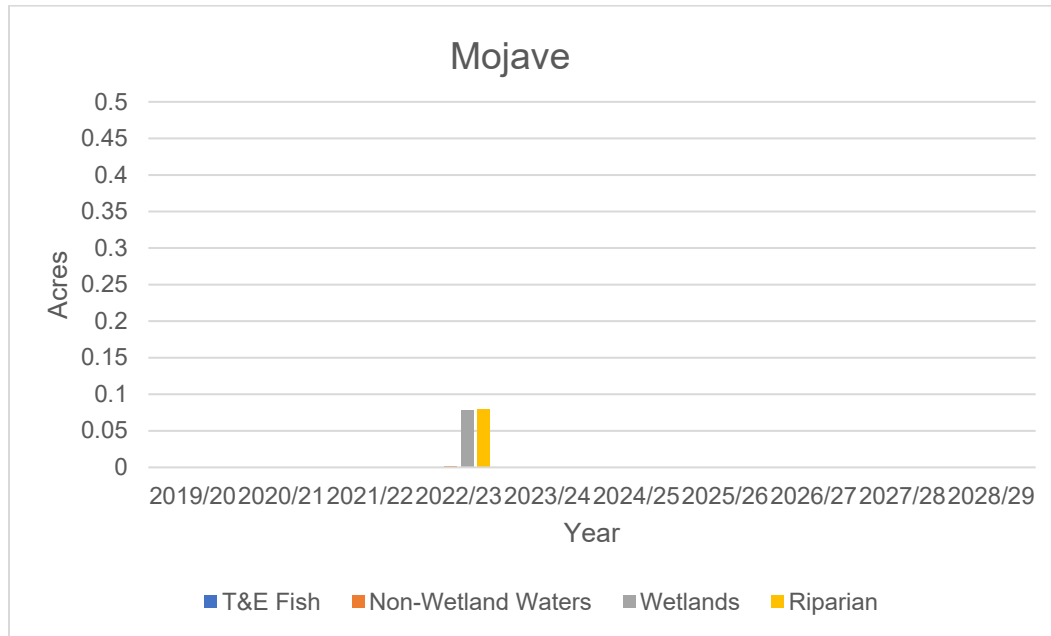
Note: T&E = threatened and endangered

**Table L-6. Mojave Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	1	<0.1	1	0.1	1	0.1
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>&lt;0.1</b>	<b>1</b>	<b>0.1</b>	<b>1</b>	<b>0.1</b>

Note: T&E = threatened and endangered

**Figure L-5. Mojave Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

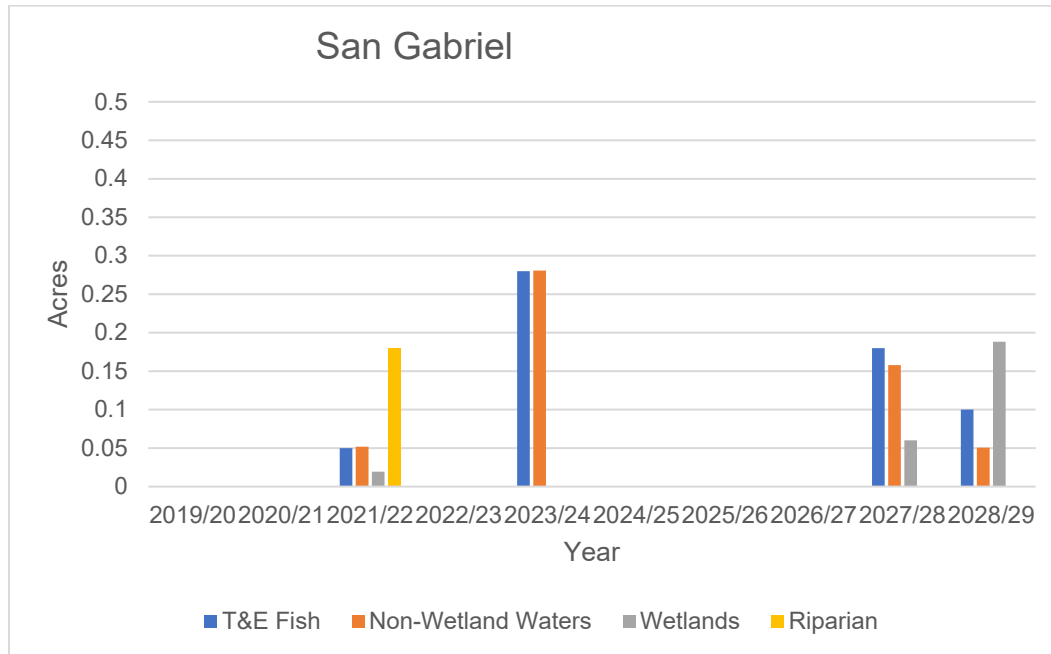


**Table L-7. San Gabriel Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	1	0.1	1	0.1	1	<0.1	1	0.2
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	1	0.3	1	0.3	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	1	0.2	1	0.2	1	0.1	0	0.0
2028/29	1	0.1	1	0.1	2	0.2	0	0.0
<b>Total</b>	<b>4</b>	<b>0.6</b>	<b>4</b>	<b>0.5</b>	<b>4</b>	<b>0.3</b>	<b>1</b>	<b>0.2</b>

Note: T&E = threatened and endangered

**Figure L-6. San Gabriel Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

**Table L-8. Santa Ana Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered



**Figure L-7. Santa Ana Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



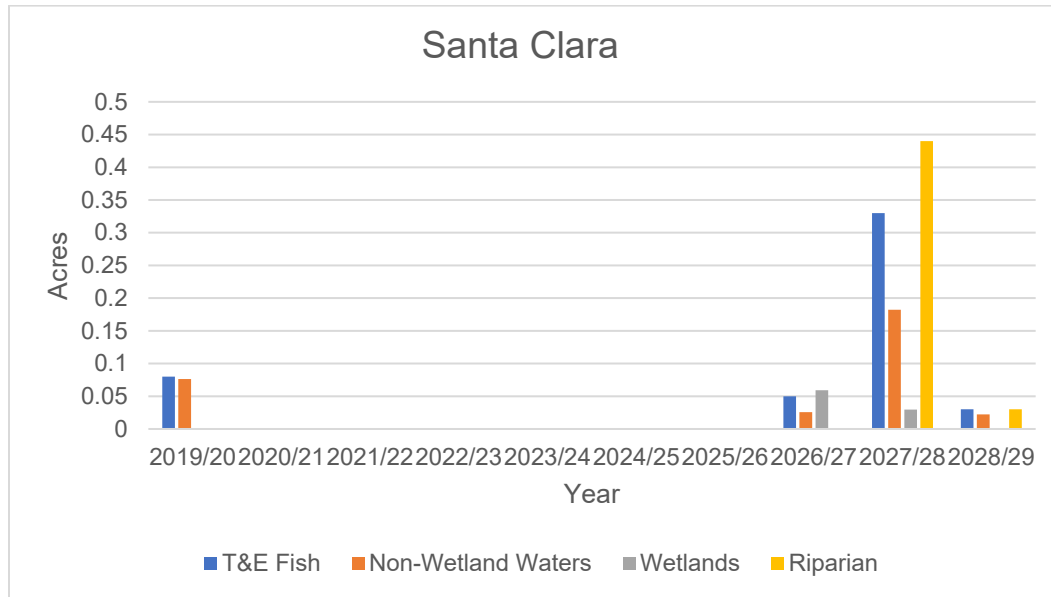
Note: T&E = threatened and endangered

**Table L-9. Santa Clara Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	1	0.1	1	0.1	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	1	0.1	1	<0.1	1	0.1	0	0.0
2027/28	1	0.3	1	0.2	1	<0.1	1	0.4
2028/29	1	<0.1	1	<0.1	0	0.0	1	<0.1
<b>Total</b>	<b>4</b>	<b>0.5</b>	<b>4</b>	<b>0.3</b>	<b>2</b>	<b>0.1</b>	<b>2</b>	<b>0.5</b>

Note: T&E = threatened and endangered

**Figure L-8. Santa Clara Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

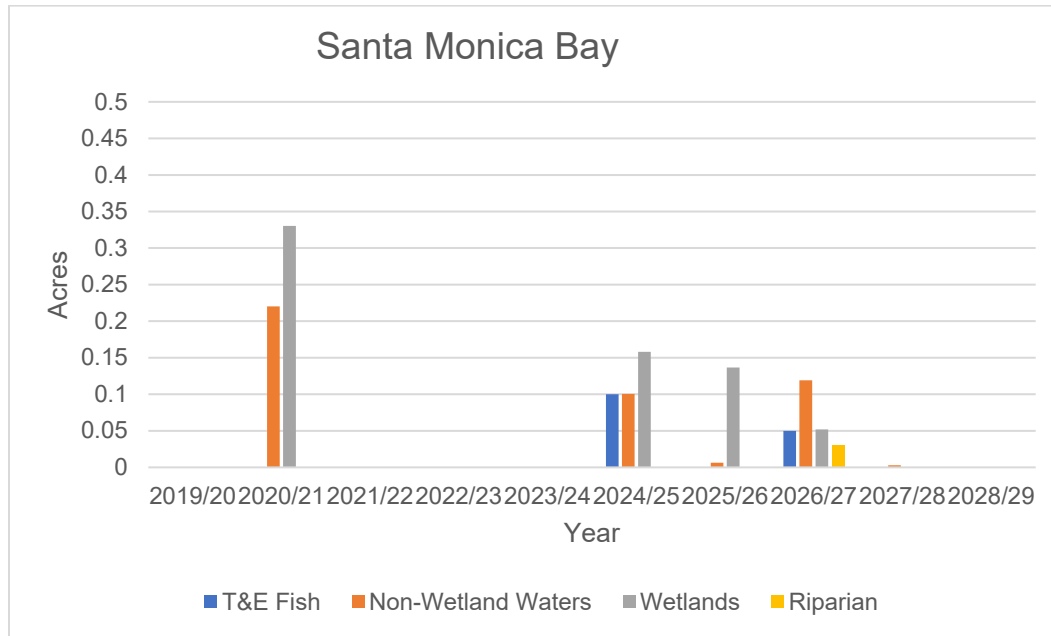


**Table L-10. Santa Monica Bay Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	2	0.2	1	0.3	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	1	0.1	1	0.1	1	0.2	0	0.0
2025/26	0	0.0	1	<0.1	1	0.1	0	0.0
2026/27	1	0.1	2	0.1	1	0.1	1	<0.1
2027/28	0	0.0	1	<0.1	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>2</b>	<b>0.2</b>	<b>7</b>	<b>0.4</b>	<b>4</b>	<b>0.7</b>	<b>1</b>	<b>&lt;0.1</b>

Note: T&E = threatened and endangered

**Figure L-9. Santa Monica Bay Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

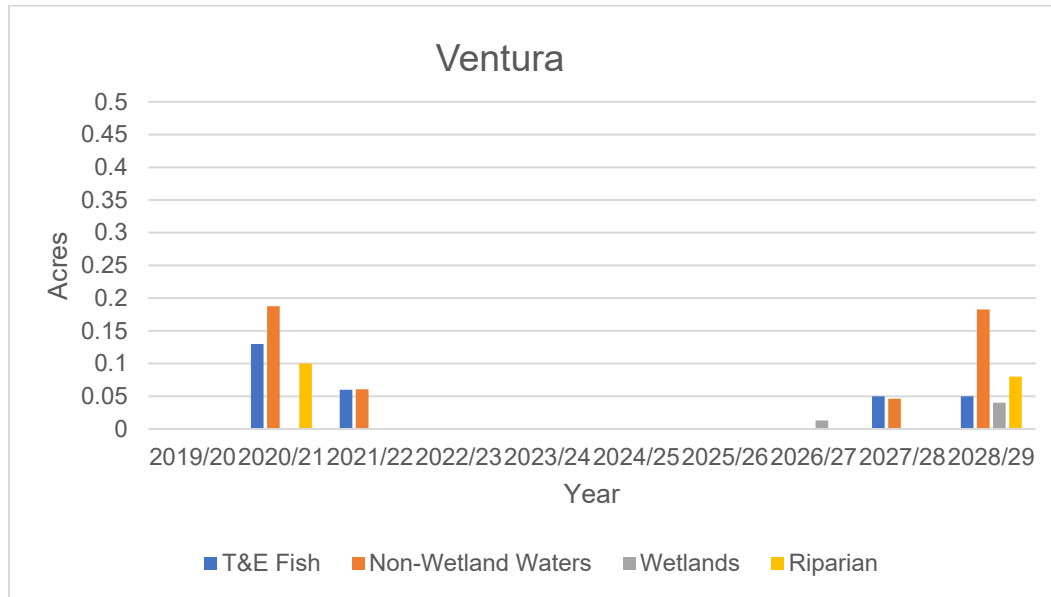
**Table L-11. Ventura Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	1	0.1	1	0.2	0	0.0	1	0.1
2021/22	1	0.1	1	0.1	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	1	<0.1	0	0.0
2027/28	1	0.1	1	<0.1	0	0.0	0	0.0
2028/29	1	0.1	1	0.2	1	<0.1	1	0.1
<b>Total</b>	<b>4</b>	<b>0.3</b>	<b>4</b>	<b>0.5</b>	<b>2</b>	<b>0.1</b>	<b>2</b>	<b>0.2</b>

Note: T&E = threatened and endangered



**Figure L-10. Ventura Bay Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

## **APPENDIX M: AQUATIC RESOURCES IMPACT ESTIMATES, BY TRANSPORTATION PROJECT DELIVERY YEAR, FOR SUB-BASINS IN DISTRICT 8 WITHIN THE GAI**

The information in this appendix consists of anticipated aquatic resources impacts within the GAI that are forecast for Caltrans District 8 only. SHOPP transportation projects within the Caltrans District 8 portion of the GAI are listed in Table M-1. Estimated impacts are presented for each year of the planning period in Tables M-2 through M-5 and Figures M-1 through M-4.

For a temporal analysis of estimated aquatic resources impacts for the GAI, see Chapter 6. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 5, see Appendix K. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 7, see Appendix L. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 11, see Appendix N. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 12, see Appendix O.

### **References**

Caltrans (California Department of Transportation). 2021. *State Highway Operation and Protection Program Ten-Year Project Book Fiscal Years 2019/20—2028/29*. State Highway Operation and Protection Program Fiscal Year 2019/20 (Quarter 4). July. Sacramento, California.

**Table M-1. SHOPP Transportation Projects within the District 8 Portion of the GAI**

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Aliso-San Onofre	2019/20	17809	8	Riverside	74	11.5	16.6	Southern California Mountains and Valleys	Drainage Improvements
Aliso-San Onofre	2021/22	13628	8	Riverside	74	3	53.5	Southern California Mountains and Valleys	Bridge Rail
Aliso-San Onofre	2023/24	21638	8	Riverside	74	5.7	11.8	Southern California Mountains and Valleys	Widen Shoulders
San Jacinto	2020/21	19809	8	Riverside	10	9.3	R102.0	Southern California Mountains and Valleys	Bridge Replacement/New Construction
San Jacinto	2023/24	21638	8	Riverside	74	5.7	11.8	Southern California Mountains and Valleys	Widen Shoulders
Santa Ana	2027/28	22154	8	San Bernardino	15	14.73	25.74	Southern California Mountains and Valleys	Cure in Place Line Culvert
Santa Ana	2019/20	18664	8	San Bernardino	215	4.5	5.8	Southern California Mountains and Valleys	Improved Highway Geometry
Santa Ana	2028/29	22157	8	San Bernardino	38	7.15	35.29	Southern California Mountains and Valleys	Cure in Place Line Culvert
Santa Ana	2019/20	20882	8	Riverside	60	R7.3	R10.0	Southern California Mountains and Valleys	Acceleration/Deceleration lane



Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Ana	2019/20	20882	8	San Bernardino	60	R7.3	R10.0	Southern California Mountains and Valleys	Acceleration/Deceleration lane
Santa Ana	2028/29	21621	8	Riverside	215	42.7	45.3	Southern California Mountains and Valleys	Bridge Rail
Santa Ana	2019/20	16302	8	San Bernardino	215	2.19	3.19	Southern California Mountains and Valleys	Bridge Replacement/New Construction
Santa Ana	2026/27	21127	8	Riverside	91	R0.0	10	Southern California Mountains and Valleys	Cure in Place Line Culvert
Santa Ana	2023/24	19730	8	Riverside	15	16.3	52.3	Southern California Mountains and Valleys	Widen Shoulders
Santa Ana	2020/21	19809	8	San Bernardino	10	9.3	R102.0	Southern California Mountains and Valleys	Bridge Replacement/New Construction
Santa Ana	2023/24	19683	8	San Bernardino	15	2.4	2.4	Southern California Mountains and Valleys	Bridge Rail
Santa Ana	2021/22	16014	8	San Bernardino	18	T8.0	R17.8	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Ana	2023/24	14065	8	San Bernardino	66	21.3	21.3	Southern California Mountains and Valleys	Bridge Rail

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile <sup>a</sup>	End Mile <sup>a</sup>	Ecoregion Section	Activity
Santa Ana	2028/29	21952	8	San Bernardino	10	9.9	20	Southern California Mountains and Valleys	Cure in Place Line Culvert
Santa Margarita	2019/20	17123	8	Riverside	15	R0.0	3.1	Southern California Mountains and Valleys	Bridge Rail

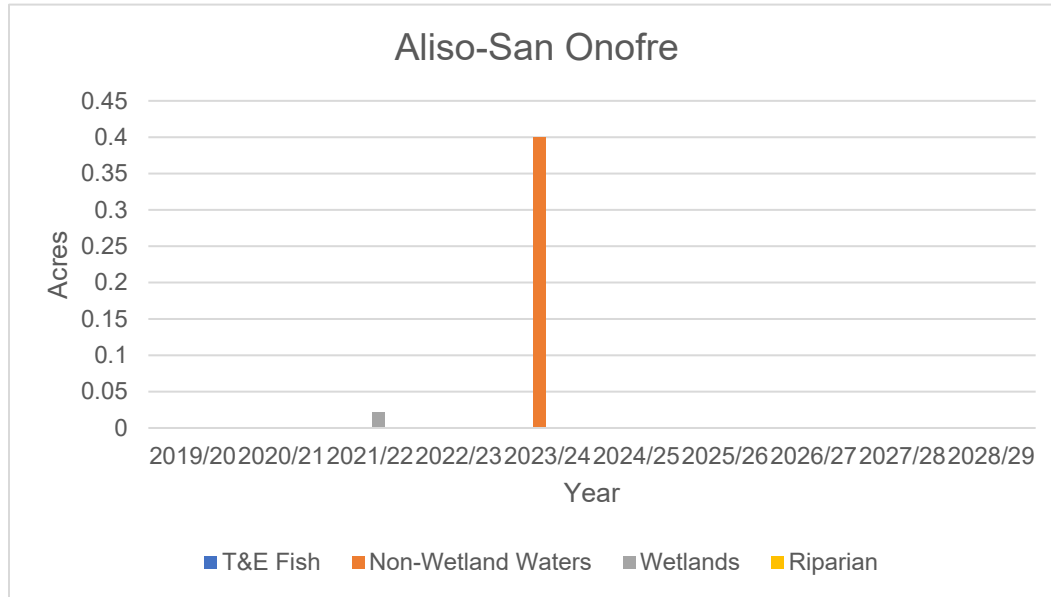
**Table M-2. Aliso-San Onofre Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	1	<0.1	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	1	0.4	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.4</b>	<b>1</b>	<b>&lt;0.1</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered



**Figure M-1. Aliso-San Onofre Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



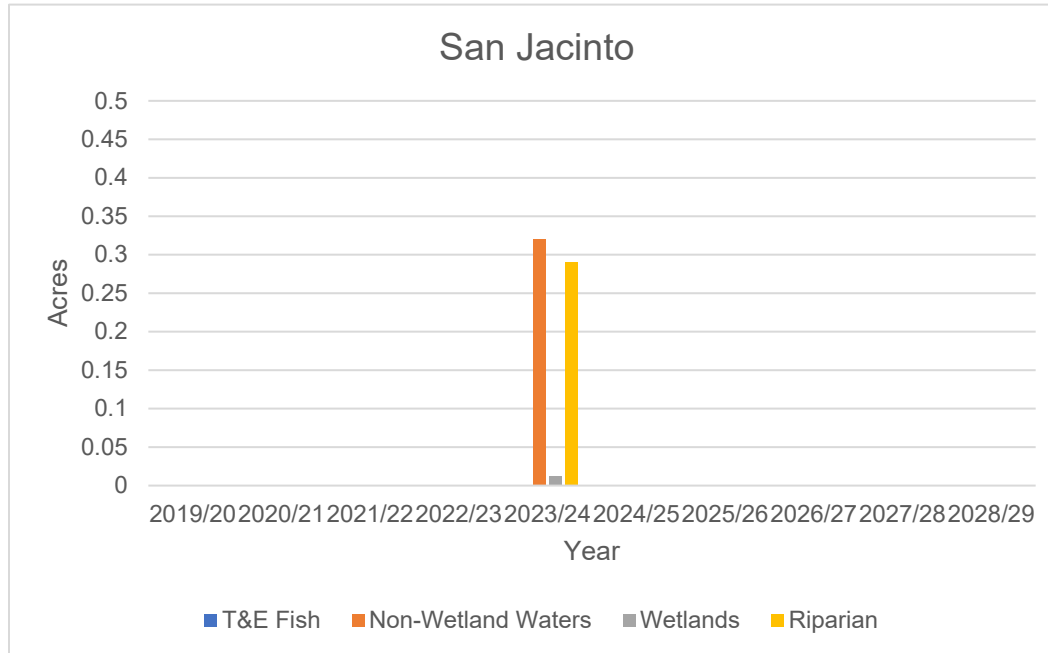
Note: T&E = threatened and endangered

**Table M-3. San Jacinto Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	1	0.3	1	<0.1	1	0.3
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.3</b>	<b>1</b>	<b>&lt;0.1</b>	<b>1</b>	<b>0.3</b>

Note: T&E = threatened and endangered

**Figure M-2. San Jacinto Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

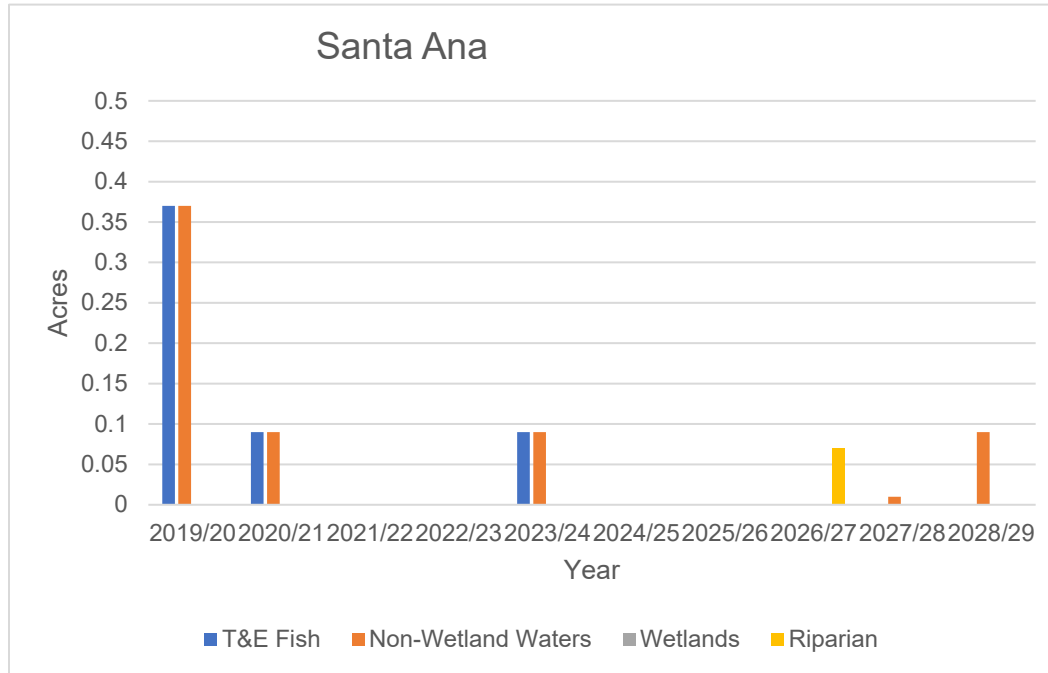


**Table M-4. Santa Ana Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	2	0.4	2	0.4	0	0.0	0	0.0
2020/21	1	0.1	1	0.1	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	2	0.1	2	0.1	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	1	<0.1	0	0.0	1	0.1
2027/28	0	0.0	1	<0.1	0	0.0	0	0.0
2028/29	0	0.0	1	0.1	0	0.0	0	0.0
<b>Total</b>	<b>5</b>	<b>0.6</b>	<b>8</b>	<b>0.7</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.1</b>

Note: T&E = threatened and endangered

**Figure M-3. Santa Ana Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

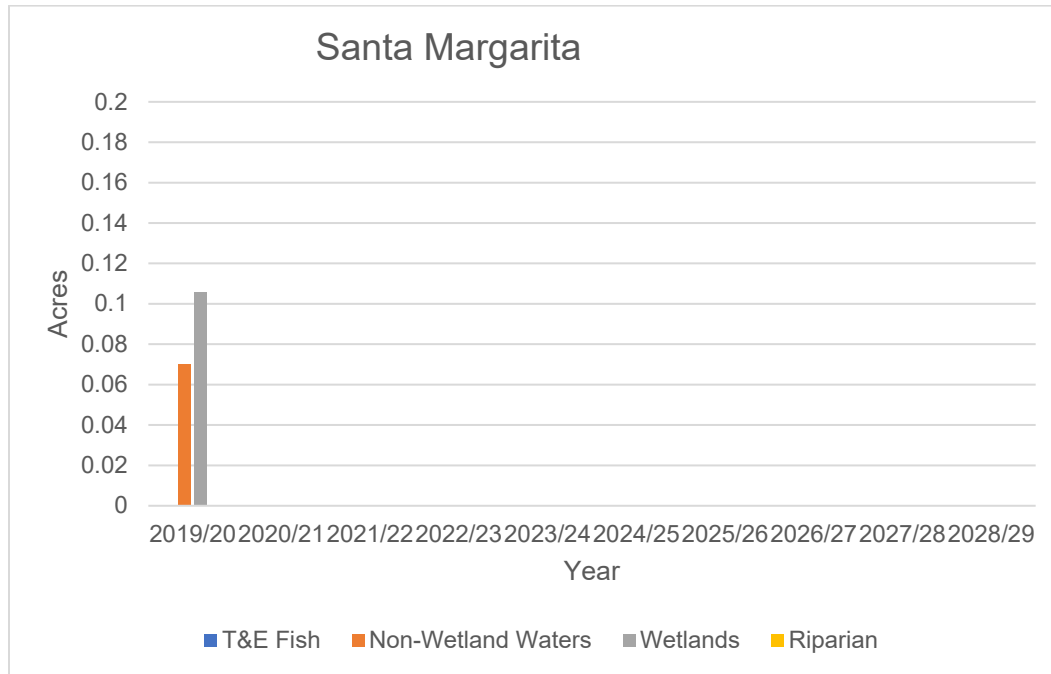
**Table M-5. Santa Margarita Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	1	0.1	1	0.1	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.1</b>	<b>1</b>	<b>0.1</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered



**Figure M-4. Santa Margarita Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

## **APPENDIX N: AQUATIC RESOURCES IMPACT ESTIMATES, BY TRANSPORTATION PROJECT DELIVERY YEAR, FOR SUB-BASINS IN DISTRICT 11 WITHIN THE GAI**

The information in this appendix consists of anticipated aquatic resources impacts within the GAI that are forecast for Caltrans District 11 only. SHOPP transportation projects within the Caltrans District 11 portion of the GAI are listed in Table N-1. No impacts on aquatic resources are anticipated as a result of the sole transportation project located within District 11.

For a temporal analysis of estimated aquatic resources impacts for the GAI, see Chapter 6. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 5, see Appendix K. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 7, see Appendix L. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 8, see Appendix M. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 12, see Appendix O.

### **References**

Caltrans (California Department of Transportation). 2021. *State Highway Operation and Protection Program Ten-Year Project Book Fiscal Years 2019/20—2028/29*. State Highway Operation and Protection Program Fiscal Year 2019/20 (Quarter 4). July. Sacramento, California.

**Table N-1. SHOPP Transportation Projects within the District 11 Portion of the GAI**

Sub-basin (HUC-8)	Adver- tised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile	End Mile	Ecoregion Section	Activity
San Luis Rey- Escondido	2023/24	19304	11	San Diego	76	R17.5	52.2	Southern California Mountains and Valleys	Replace /Install Culverts



## **APPENDIX O: AQUATIC RESOURCES IMPACT ESTIMATES, BY TRANSPORTATION PROJECT DELIVERY YEAR, FOR SUB-BASINS IN DISTRICT 12 WITHIN THE GAI**

The information in this appendix consists of anticipated aquatic resources impacts within the GAI that are forecast for Caltrans District 12 only. SHOPP transportation projects within the Caltrans District 12 portion of the GAI are listed in Table O-1. Estimated impacts are presented for each year of the planning period in Tables O-2 through O-6 and Figures O-1 through O-5.

For a temporal analysis of estimated aquatic resources impacts for the GAI, see Chapter 6. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 5, see Appendix K. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 7, see Appendix L. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 8, see Appendix M. For a temporal analysis of estimated aquatic resources impacts for Caltrans District 11, see Appendix N.

### **References**

Caltrans (California Department of Transportation). 2021. *State Highway Operation and Protection Program Ten-Year Project Book Fiscal Years 2019/20—2028/29*. State Highway Operation and Protection Program Fiscal Year 2019/20 (Quarter 4). July. Sacramento, California.

**Table O-1. SHOPP Transportation Projects within the District 12 Portion of the GAI**

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile	End Mile	Ecoregion Section	Activity
Aliso-San Onofre	2024/25	22135	12	Orange	5	10	21.3	Southern California Coast	Cure in Place Line Culvert
Aliso-San Onofre	2019/20	17809	12	Orange	74	11.5	16.6	Southern California Mountains and Valleys	Drainage Improvements
Aliso-San Onofre	2019/20	17809	12	Riverside	74	11.5	16.6	Southern California Mountains and Valleys	Drainage Improvements
Newport Bay	2025/26	20792	12	Orange	5	21.3	30.3	Southern California Coast	Cure in Place Line Culvert
Newport Bay	2028/29	20714	12	Orange	133	7.5	13.6	Southern California Coast	Replace/Install Culverts
Newport Bay	2021/22	16143	12	Orange	133	8.5	9.3	Southern California Coast	Auxiliary lanes
Newport Bay	2019/20	15698	12	Orange	73	24	24	Southern California Coast	Improved Highway Geometry
Newport Bay	2026/27	20767	12	Orange	1	0.8	33.719	Southern California Coast	Replace/Install Culverts
Newport Bay	2019/20	17393	12	Orange	55	8	9.2	Southern California Coast	Acceleration Deceleration Lane
Newport Bay	2020/21	17495	12	Orange	55	R4.74	5.2	Southern California Coast	Bridge Rail
Newport Bay	2022/23	18946	12	Orange	405	0.23	11.4	Southern California Coast	Acceleration Deceleration Lane
Newport Bay	2028/29	19918	12	Orange	73	10.3	27.7	Southern California Coast	Cure in Place Line Culvert

Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile	End Mile	Ecoregion Section	Activity
Newport Bay	2026/27	22030	12	Orange	241	14.5	30	Southern California Coast	Cure in Place Line Culvert
Newport Bay	2023/24	18833	12	Orange	55	0.17	R17.876	Southern California Coast	Bridge Rail
San Gabriel	2023/24	20634	12	Orange	91	R0.0	R18.905	Southern California Coast	Replace/Install Culverts
San Gabriel	2023/24	16850	12	Orange	1	0.04	0.04	Southern California Coast	Bridge Rail
San Gabriel	2019/20	13714	12	Orange	39	15.15	15.91	Southern California Coast	Abandon/Remove Culvert
San Gabriel	2020/21	17495	12	Orange	55	R4.74	5.2	Southern California Coast	Bridge Rail
San Gabriel	2028/29	20787	12	Orange	605	0	1.6	Southern California Coast	Replace/Install Culverts
San Gabriel	2026/27	20639	12	Orange	142	R0.753	6.35	Southern California Mountains and Valleys	Replace/Install Culverts
Santa Ana	2024/25	20791	12	Orange	405	11.4	16.9	Southern California Coast	Replace/Install Culverts
Santa Ana	2028/29	19918	12	Orange	73	10.3	27.7	Southern California Coast	Cure in Place Line Culvert
Santa Ana	2027/28	18944	12	Orange	57	10.8	16.4	Southern California Coast	Replace/Install Culverts
Santa Ana	2022/23	18946	12	Orange	405	0.23	11.4	Southern California Coast	Acceleration/ Deceleration Lane
Santa Ana	2023/24	20634	12	Orange	91	R0.0	R18.905	Southern California Coast	Replace/Install Culverts



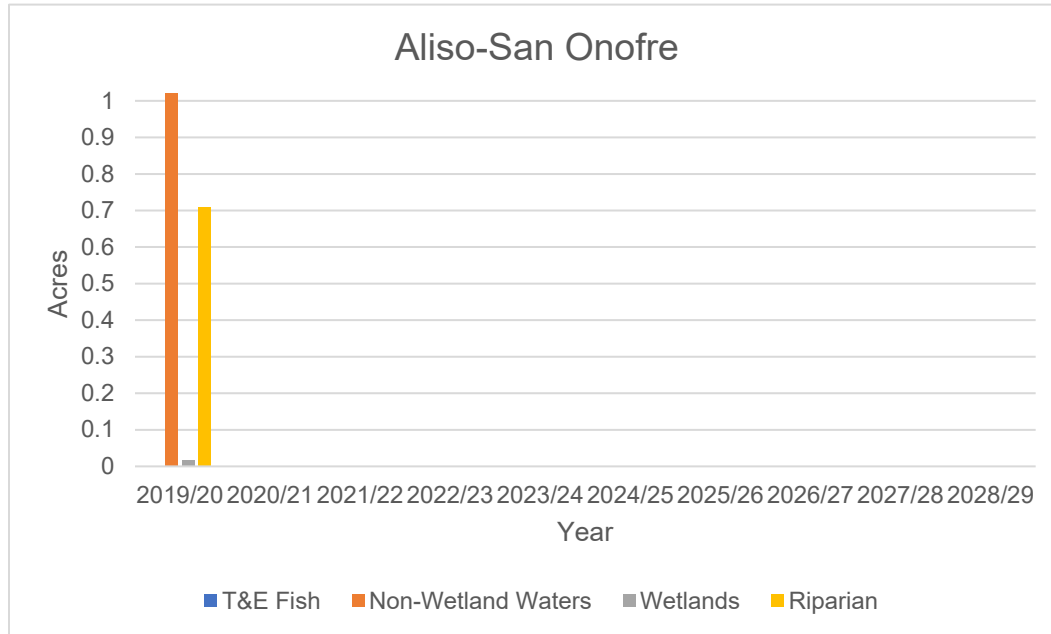
Sub-basin (HUC-8)	Advertised Year	SHOPP Project ID	Caltrans District	County	Route	Begin Mile	End Mile	Ecoregion Section	Activity
Seal Beach	2027/28	18944	12	Orange	57	10.8	16.4	Southern California Coast	Replace/Install Culverts
Seal Beach	2025/26	21950	12	Orange	5	30.3	44.4	Southern California Coast	Slip Line Culvert
Seal Beach	2026/27	20767	12	Orange	1	0.8	33.719	Southern California Coast	Replace/Install Culverts

**Table O-2. Aliso-San Onofre Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	1	1.0	1	<0.1	1	0.7
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>1.0</b>	<b>1</b>	<b>&lt;0.1</b>	<b>1</b>	<b>0.7</b>

Note: T&E = threatened and endangered

**Figure O-1. Aliso-San Onofre Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

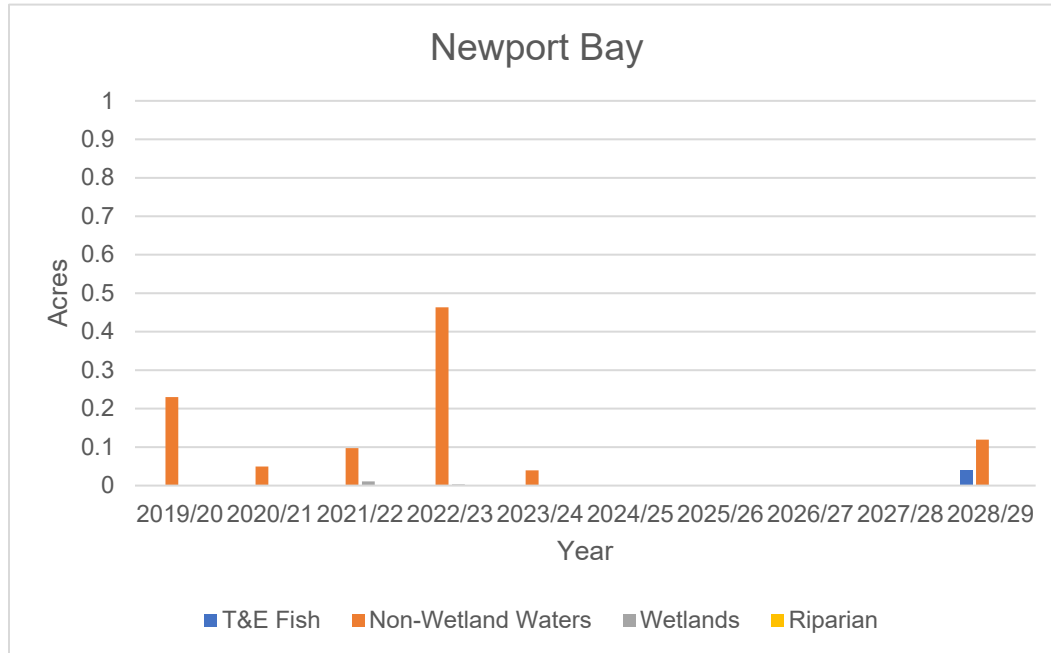


**Table O-3. Newport Bay Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	1	0.2	0	0.0	0	0.0
2020/21	0	0.0	1	<0.1	0	0.0	0	0.0
2021/22	0	0.0	1	0.1	1	<0.1	0	0.0
2022/23	0	0.0	1	0.5	1	<0.1	0	0.0
2023/24	0	0.0	1	<0.1	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	1	<0.1	2	0.1	0	0.0	0	0.0
<b>Total</b>	<b>1</b>	<b>&lt;0.1</b>	<b>7</b>	<b>1.0</b>	<b>2</b>	<b>&lt;0.1</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered

**Figure O-2. Newport Bay Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

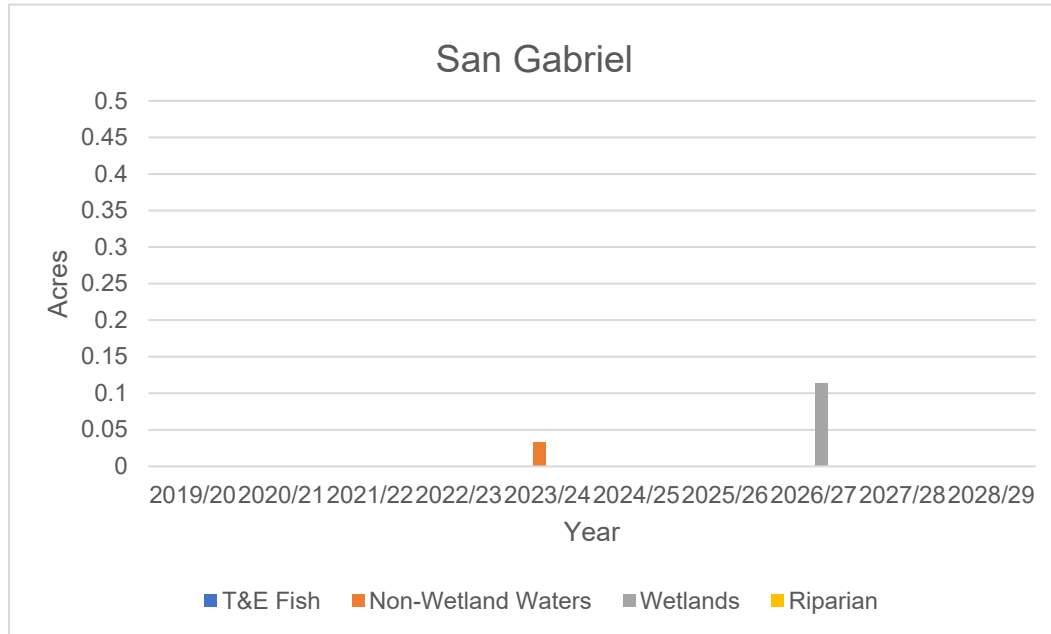
**Table O-4. San Gabriel Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	1	<0.1	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	1	0.1	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>&lt;0.1</b>	<b>1</b>	<b>0.1</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered



**Figure O-3. San Gabriel Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

**Table O-5. Santa Ana Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	1	<0.1	1	<0.1
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	1	<0.1	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>&lt;0.1</b>	<b>1</b>	<b>&lt;0.1</b>	<b>1</b>	<b>&lt;0.1</b>

Note: T&E = threatened and endangered

**Figure O-4. Santa Ana Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered

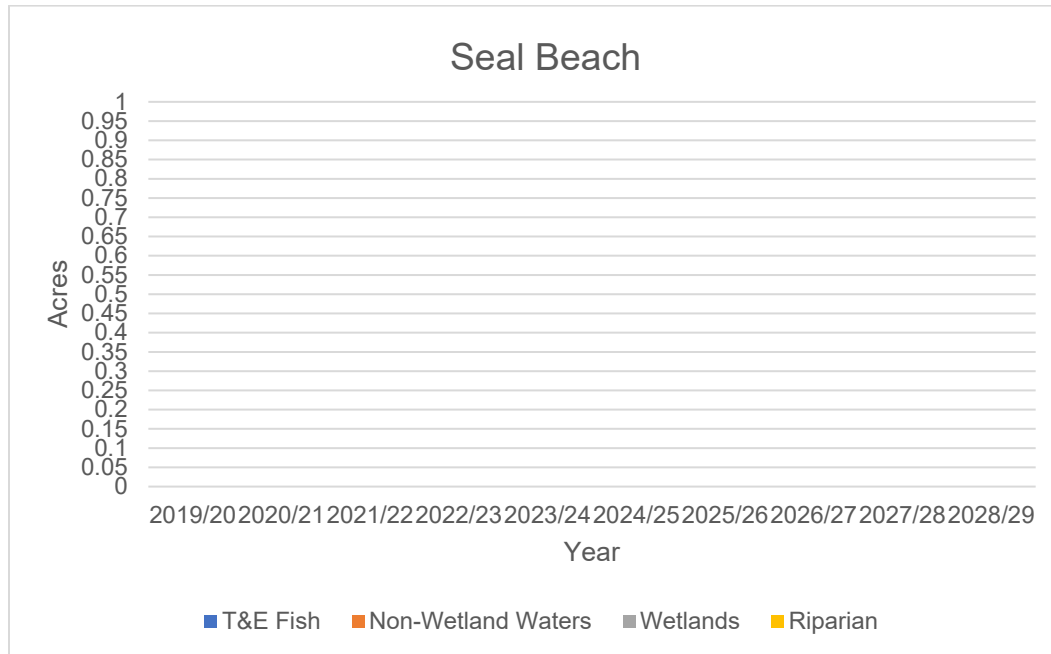


**Table O-6. Seal Beach Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**

Year	T&E Fish: Number of Transportation Projects	T&E Fish: Estimated Potential Impacts (acres)	Non-wetland Waters: Number of Transportation Projects	Non-wetland Waters: Estimated Potential Impacts (acres)	Wetlands: Number of Transportation Projects	Wetlands: Estimated Potential Impacts (acres)	Riparian: Number of Transportation Projects	Riparian: Estimated Potential Impacts (acres)
2019/20	0	0.0	0	0.0	0	0.0	0	0.0
2020/21	0	0.0	0	0.0	0	0.0	0	0.0
2021/22	0	0.0	0	0.0	0	0.0	0	0.0
2022/23	0	0.0	0	0.0	0	0.0	0	0.0
2023/24	0	0.0	0	0.0	0	0.0	0	0.0
2024/25	0	0.0	0	0.0	0	0.0	0	0.0
2025/26	0	0.0	0	0.0	0	0.0	0	0.0
2026/27	0	0.0	0	0.0	0	0.0	0	0.0
2027/28	0	0.0	0	0.0	0	0.0	0	0.0
2028/29	0	0.0	0	0.0	0	0.0	0	0.0
<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>

Note: T&E = threatened and endangered

**Figure O-5. Seal Beach Sub-basin: Estimated Impacts on Aquatic Resources, by Transportation Project Delivery Year**



Note: T&E = threatened and endangered