



ADVANCE MITIGATION PROGRAM

Salton Sea Sub-basin Regional Advance Mitigation Needs Assessment

Appendices

Version 1.0 – FINAL

**Establishing Caltrans' Need for Advance Mitigation
for the Salton Sea Sub-basin,
forecast fiscal years 2023/24 to 2032/33**

California Department of Transportation – District 11

August 2026

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APPENDICES

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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 11 RAMNA GIS Sources

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
1	State Highway Network	Caltrans	7/1/2025	10/11/2018	https://gisdata-caltrans.opendata.arcgis.com/datasets/77f2d7ba94e040a78bfbe36feb6279da0/about
2	SHOPP	Caltrans	2024/25 Q1	NA	Caltrans System Planning
3	STIP	California Transportation Commission	2024/20 Q1	NA	Caltrans System Planning
4	Ecoregion Section	USFS	1/26/2021	1/26/2021	https://data.fs.usda.gov/geodata/edw/datasets.php?xmlKeyword=Ecomap
5	Watershed Boundary Dataset (GAI)	USGS	9/26/2014	10/19/2018	https://www.usgs.gov/core-science-systems/ngp/national-hydrography
6	County Boundaries	U.S. Census Bureau	10/26/2021	8/31/2023	https://gisdata-caltrans.opendata.arcgis.com/datasets/111030d0d67e49d789080c47d9e4e6180/about
7	California Conservation Easements	California Protected Areas Database	6/1/2025	6/30/2025	https://www.calands.org/get-data/
8	California Protected Areas Holdings	California Protected Areas Database	6/1/2025	6/30/2025	https://www.calands.org/get-data/
9	Tribal Land Boundaries	Bureau of Indian Affairs	5/16/2017	10/11/2018	https://biamaps.geoplatform.gov/BIA-OpenData/Data/
10	U.S. Military Installations	U.S. Census Bureau	11/22/2023	1/12/2024	https://www2.census.gov/geo/tiger/TIGER2023/MIL/
11	Farmland Mapping & Monitoring Program (2020)	California Department of Conservation	7/1/2020	6/30/2025	https://gis.conservation.ca.gov/portal/home/group.html?id=b1494c705cb34d01acf78f4927a75b8f#overview

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
12	ACE Climate Resilience - ACE [ds2738]	CDFW	2/22/2018	10/17/2018	https://lab.data.ca.gov/dataset/terrestrial-climate-change-resilience-ace-ds27381
13	Vegetation Geospatial Data for D11 for SAMNA 2.0	SAMNA	1/1/2025	NA	https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation
14	Aquatic/Riparian Geospatial Data for D11 SAMNA 2.0	SAMNA	12/12/2025	NA	https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation
15	FWS Critical Habitat	FWS	12/9/2022	1/5/2023	https://ecos.fws.gov/ecp/report/table/critical-habitat.html
16	Essential Connectivity Areas - CEHC	CDFW	4/28/2014	10/17/2018	https://data.ca.gov/dataset/essential-connectivity-areas-california-essential-habitat-connectivity-cehc-ds620
17	Natural Landscape Blocks - CEHC	CDFW	10/1/2017	10/17/2018	https://www.arcgis.com/sharing/rest/content/items/6a72392df18d4a1a8c24ffc2abe9d034/info/metadata/metadata.xml?format=default&output=html
18	Potential Riparian Connections - CEHC	CDFW	11/2/2023	10/17/2018	https://gis.data.ca.gov/datasets/CDFW::potential-riparian-connections-cehc-ds622/explore?location=37.324177%2C-119.243579%2C6
19	National Flood Hazard Layer	Federal Emergency Management Agency	12/7/2021	12/7/2021	https://www.fema.gov/national-flood-hazard-layer-nfhl
20	CalWater Hydrologic Areas	California Department of Water Resources	11/1/2016	10/19/2018	https://www.fire.ca.gov/Home/What-We-Do/Fire-Resource-Assessment-Program/GIS-Mapping-and-Data-Analytics
21	Terrestrial Connectivity - ACE [ds2734]	CDFW	12/19/2025	9/25/2019	https://gis.data.ca.gov/datasets/CDFW::terrestrial-connectivity-ace-ds2734/explore?location=37.246144%2C-119.002310%2C6

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
22	SWAP Terrestrial Targets - 2015	CDFW	2/1/2018	10/29/2018	https://data.ca.gov/dataset/swap-terrestrial-targets-2015-ds19663
23	Aquatic Biodiversity Summary - ACE [ds2768]	CDFW	8/1/2024	7/3/2019	https://gis.data.ca.gov/datasets/CDFW::aquatic-biodiversity-summary-ace-ds2768/explore?location=37.271896%2C-119.270282%2C6
24	Calfish PAD (Passage Assessment Database)	CDFW	12/22/2023	1/7/2025	https://www.calfish.org/ProgramsData/HabitatandBarriers/CaliforniaFishPassageAssessmentDatabase.aspx
25	Terrestrial Biodiversity Summary - ACE [ds2739]	CDFW	2/24/2020	7/3/2019	https://gis.data.ca.gov/datasets/f3430956f8e847c4b0e315b83bcd8844_0/explore?location=37.271819%2C-119.270504%2C5&showTable=true
26	Corps Regulatory In-Lieu Fee & Bank Information Tracking System	Mitigation Service Banks	NA	1/28/2019	https://ribits.ops.usace.army.mil/ords/f?p=107:997:14033841442473
27	CDFW Approved Mitigation Service Areas	Mitigation Service Banks	2/6/2024	1/28/2019	https://data-cdfw.opendata.arcgis.com/datasets/CDFW::cdfw-approved-mitigation-service-areas-ds2659/explore?location=36.723153%2C-118.346371%2C6
28	National Hydrology Dataset Plus	EPA	8/8/2026	4/29/2021	https://www.epa.gov/waterdata/get-nhdplus-national-hydrography-dataset-plus-data
29	Fire Hazard Severity Zones in State Responsibility Area	California Department of Forestry and Fire Protection	11/1/2007	6/1/2022	https://www.fire.ca.gov/Home/What-We-Do/Fire-Resource-Assessment-Program/GIS-Mapping-and-Data-Analytics
30	Conservation Plan Boundaries, HCP and NCCP	CDFW	1/6/2026	9/1/2023	https://data.ca.gov/dataset/conservation-plan-boundaries-hcp-and-nccp-ds7601

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
31	RWQCB Boundaries	SWQCB	NA	4/26/2021	https://www.waterboards.ca.gov/
32	FWS Boundaries	FWS	NA	4/26/2021	https://www.fws.gov/
33	303(d) List of Impaired Waterbodies	SWRCB	10/9/2021	5/13/2022	https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.html
34	Zip Codes	U.S. Postal Service	4/13/2026	3/11/2020	https://www.arcgis.com/home/item.html?id=8d2012a2016e484dafaac0451f9aea24

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APPENDIX B: TRANSPORTATION PROJECTS PLANNED FOR THE GAI DURING THE PLANNING PERIOD

To identify the list of SHOPP projects planned for the GAI, Caltrans consulted the SHOPP Ten-Year Project Book for fiscal years 2023/24 to 2032/33 (Caltrans 2024). The intent of the SHOPP Ten-Year Project Book is to raise awareness of planned future transportation projects, and detailed transportation project information is not provided. The SHOPP Ten-Year Project Book includes seven SHOPP transportation projects in the GAI that are currently in the planning and conceptual phases (Table B-1).

Each transportation project's potential impact was defined using a buffer from the edge of pavement. Different buffer widths were used depending on the transportation project's activity or activities, since many transportation projects consist of multiple activities. The planned activities are related to pavement, proactive safety, and bridge health. Table B-2 provides the range of buffers relevant to the transportation projects listed in the SHOPP Ten-Year Book for this GAI, which are extracted from Table 1 of Caltrans Climate Change Vulnerability Assessments. District 11 Technical Report (Caltrans 2019). Many transportation projects include multiple activities.

The subset of the Caltrans District seven SHOPP transportation projects that are planned in the GAI during the planning period covered by this RAMNA, as well as the HUC-8 and ecoregion section, advertised year, and planned activities for each planned transportation project, are listed in Table B-1.

References

- Caltrans (California Department of Transportation). 2019. "Climate Change Vulnerability Assessments. District 11 Technical Report." Accessed February 5, 2026.
<https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/2019-climate-change-vulnerability-assessments/ada-remediated/d11-technical-report-a11y.pdf>.
- . 2024. *State Highway Operation and Protection Program Ten-Year Project Book Fiscal Years 2023/24-2032/33*. State Highway Operation and Protection Program Fiscal Year 2024/25 (Quarter 1). October. Sacramento, California.

Table B-1. SHOPP Transportation Projects Planned in the GAI and Planning Period

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
16756	Salton Sea	Colorado Desert	2023/24	8	Riverside	10	R71.2	R72.6	Roadside
20697	Salton Sea / Whitewater River	Colorado Desert	2031/32	8	Riverside	111	9.54	11.03	Proactive Safety
24812	Salton Sea / Whitewater River	Colorado Desert	2030/31	8	Riverside	86	1.39	1.39	Bridge
20222	Salton Sea	Colorado Desert	2028/29	11	Imperial	86	R37.248	67.824	Pavement
23224	Salton Sea	Colorado Desert	2026/27	11	Imperial	78	34	41.1	Pavement
23235	Salton Sea	Colorado Desert / Southern California Mountains and Valleys	2029/30	11	Imperial	98	22	34.5	Bridge - Health
23237	Salton Sea	Colorado Desert	2028/29	11	Imperial	8	R10.0	R28.0	Pavement
23246	Salton Sea	Southern California Mountains and Valleys	2029/30	11	Imperial	8	R0.0R	R10.0	Pavement
24136	Salton Sea	Colorado Desert	2030/31	11	Imperial	8	R28.0	R41.0	Pavement

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
24478	Salton Sea / Carrizo Creek/ Cottonwood -Tijuana	Southern California Mountains and Valleys	2032/33	11	San Diego	8	R56.7R	R77.7R	Bridge - Health

Source: Caltrans 2024

Notes: R prefix = first realignment; R suffix = right

Table B-2. Assumed Buffer Widths, by SHOPP Transportation Project Activity

Activity	Buffer Distance (feet)
Bridge rail	20
Bridge replacement/new construction	40
Drainage improvements	20
Energy dissipation and other element	20
Headwall/endwall	20
Improved highway geometry	40
Replace/install culverts	20
Rock slope protection	30
Safety roadside rest area utilities	10
Widen shoulders	15

Source: Caltrans 2019b, Table 1

APPENDIX C: LAND COVER TYPES

Land cover types within 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 (CDFW 2019), the USFS Classification and Assessment with LandSat of Visible Ecological Groupings, and the California Department of Forestry and Fire Protection vegetation layer (Caltrans 2025a, 2025b). A general description of each land cover type found within the GAI is provided below, and complete descriptions can be found in Mayer and Laudenslayer (1988). Table 2-3 in the RAMNA's main text indicates the acreages of each habitat type that are mapped in the Colorado Desert, Mojave Desert, Sonoran Desert, and Southern California Mountains and Valleys Ecoregion Sections.

A key map, provided after the list of habitat types, references mapbook pages, including zoomed-in views of locations within the GAI and mapped land cover types (page C-5). These 16 maps correspond with the aquatic resources maps in Appendix E, *Aquatic Resource Locations*.

Tree-dominated Habitats: Tree-dominated habitats have at least 10 percent total tree canopy crown closure. Within the GAI, tree-dominated habitats include desert riparian, pinyon-juniper, juniper, palm oasis, montane riparian, and valley foothill riparian.

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. Within the GAI, shrub-dominated habitats include alkali desert scrub, bitterbrush, coastal scrub, desert scrub, desert succulent scrub, desert wash, mixed chaparral, and sagebrush.

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. Within the GAI, herbaceous-dominated habitats include annual grassland, fresh emergent wetland, pasture, perennial grassland, and saline emergent wetland.

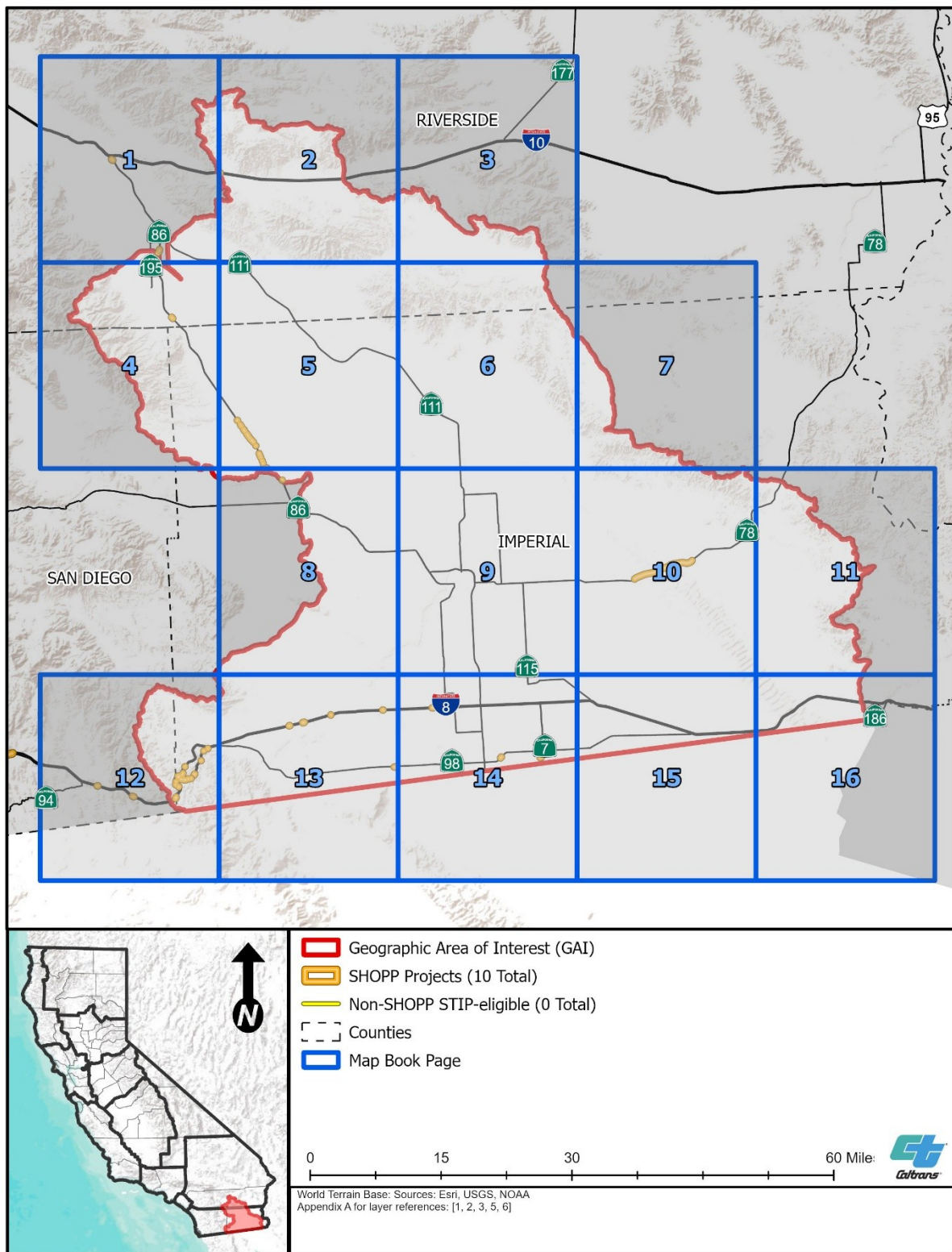
Aquatic Habitats: Aquatic habitats have at least 98 percent total cover by open water and no more than 2 percent total cover by vegetation in the continually exposed shore zone. Within the GAI, aquatic habitats include lacustrine and riverine habitats.

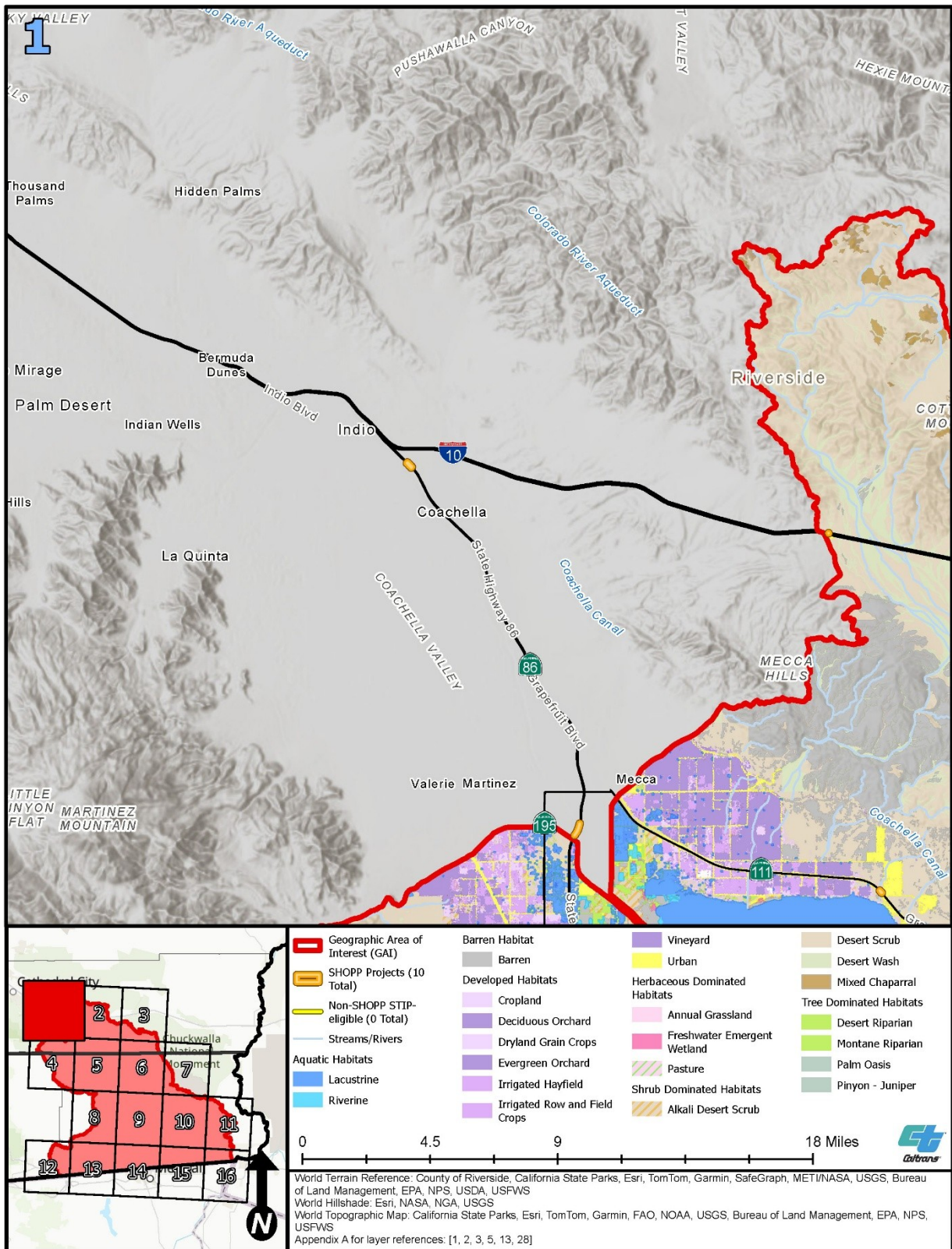
Developed Habitats: Developed habitats have at least 2 percent total cover by non-wildland vegetation grown for food, fiber, or landscaping and do not meet criteria for any wildland habitat. Within the GAI, developed habitats include barren cropland, cropland, deciduous orchard, dryland grain crops, evergreen orchard, irrigated grain crops, irrigated hayfield, irrigated row and field crops, orchard-vineyard, vineyard, and urban.

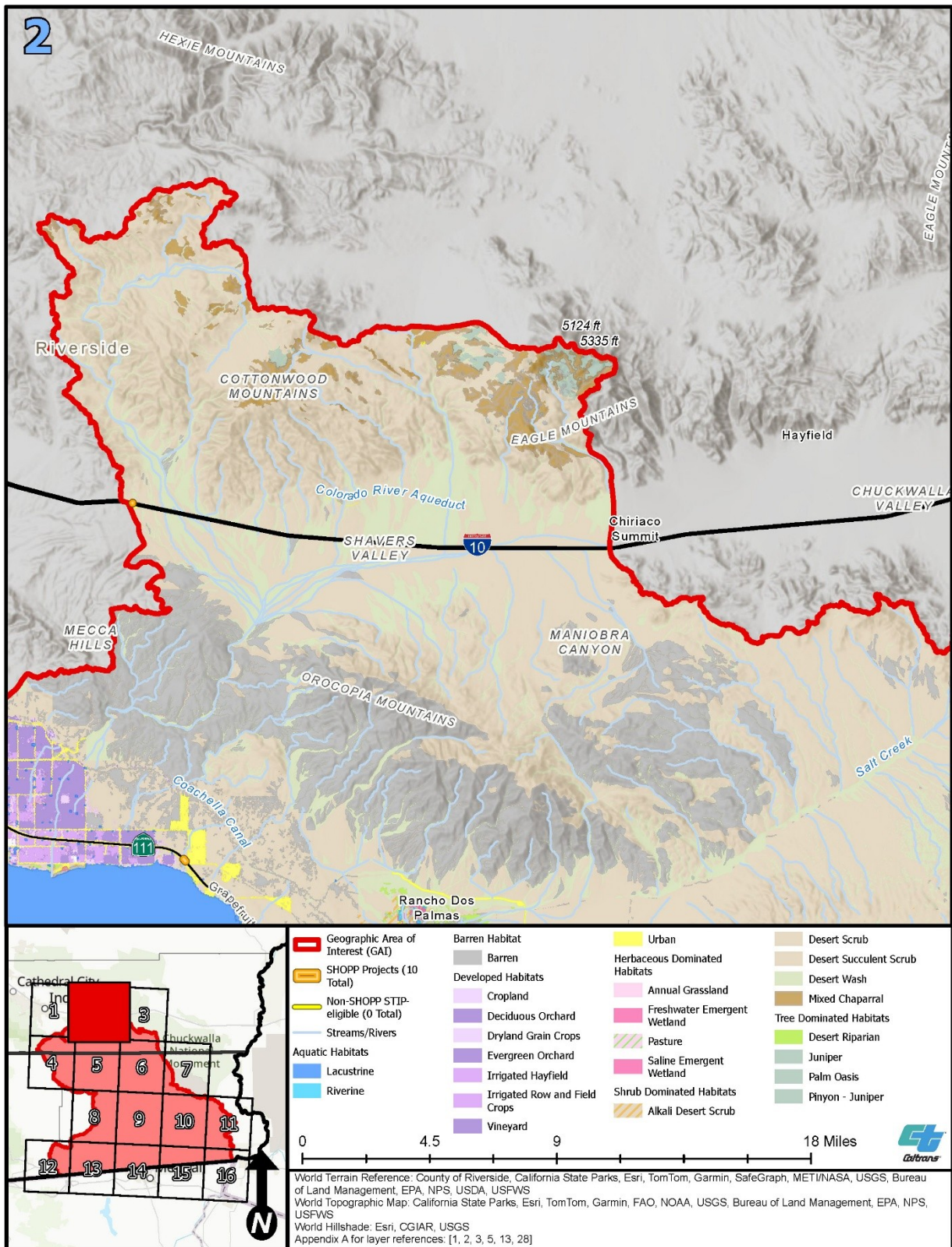
Non-vegetated Habitats: Non-vegetated habitats include barren areas, characterized by less than 2 percent cover by herbaceous species. Within the GAI, non-vegetated habitats consist of barren areas.

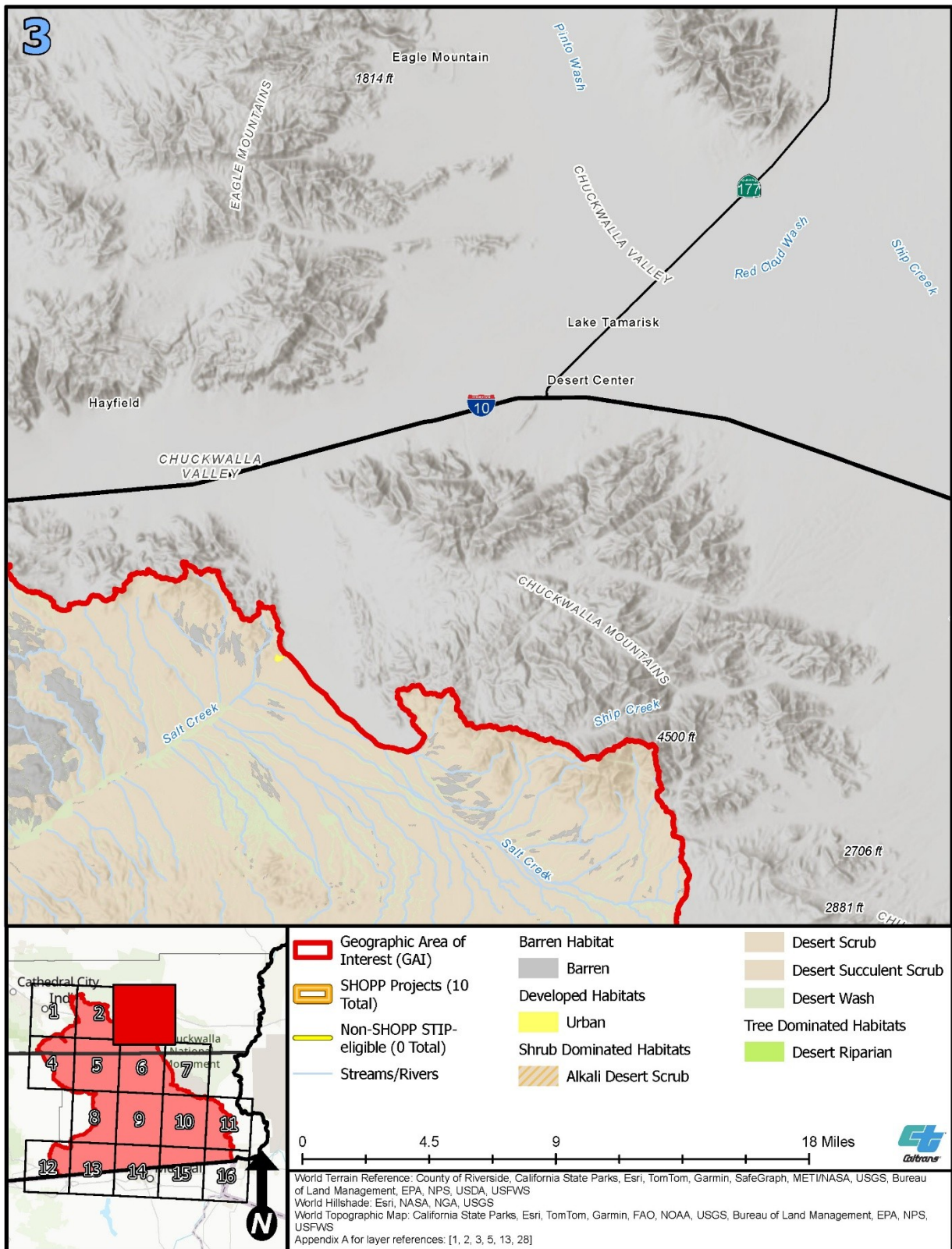
References

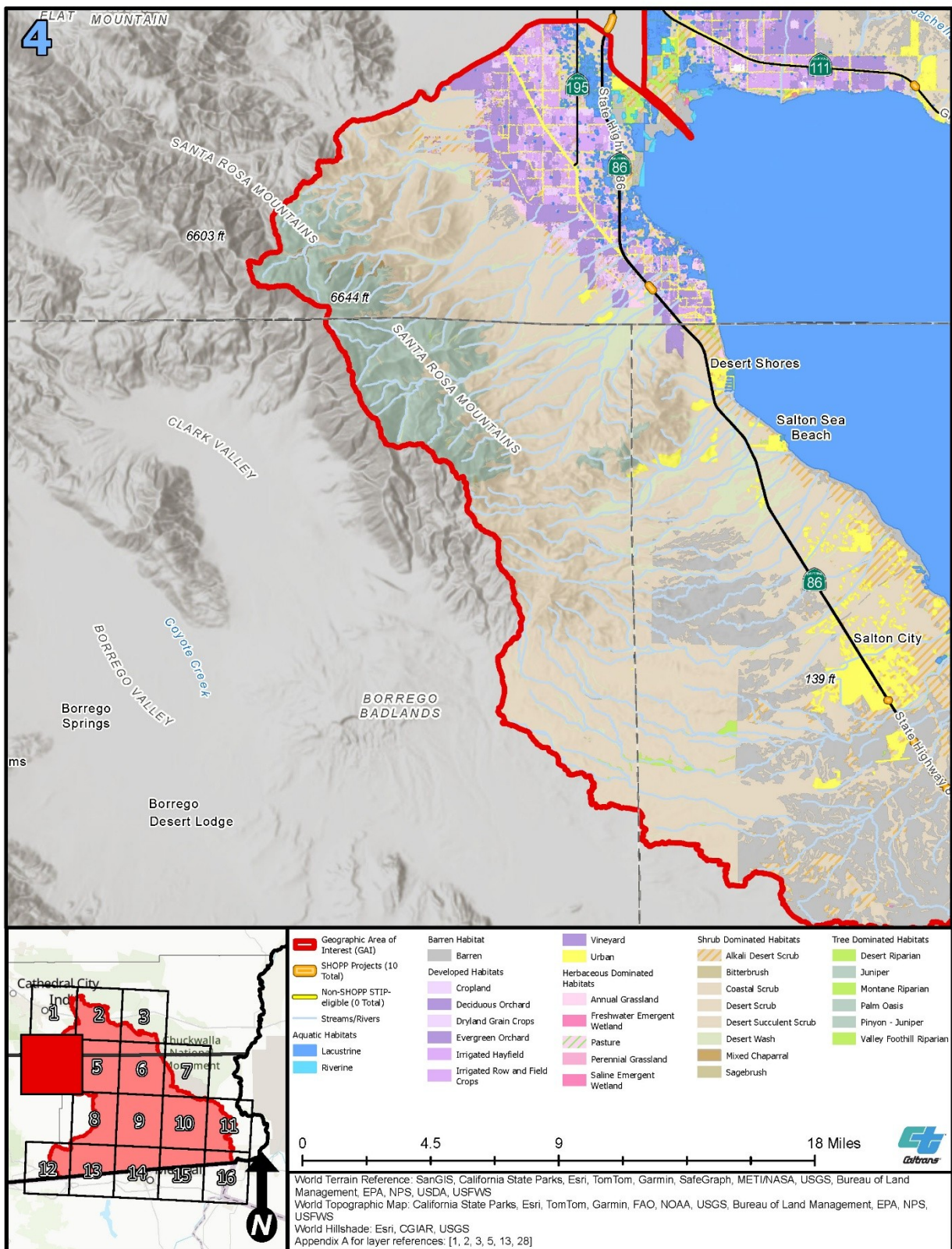
- Caltrans. 2025a. *Statewide Advance Mitigation Needs Assessment Report Appendix K*. State Highway Operation and Protection Program. First Quarter 2024/2025 Fiscal Year. April. Sacramento, California.
<https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation>.
- . 2025b. “Vegetation Geospatial Data for the Statewide Advance Mitigation Needs Assessment 2.0 (SAMNA 2.0)” (data file). Accessed December 17, 2025. Available upon request.
- 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 CDFW. Database Version 9.0.
- Mayer, K. E., and W. 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, 2026. <https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats>.

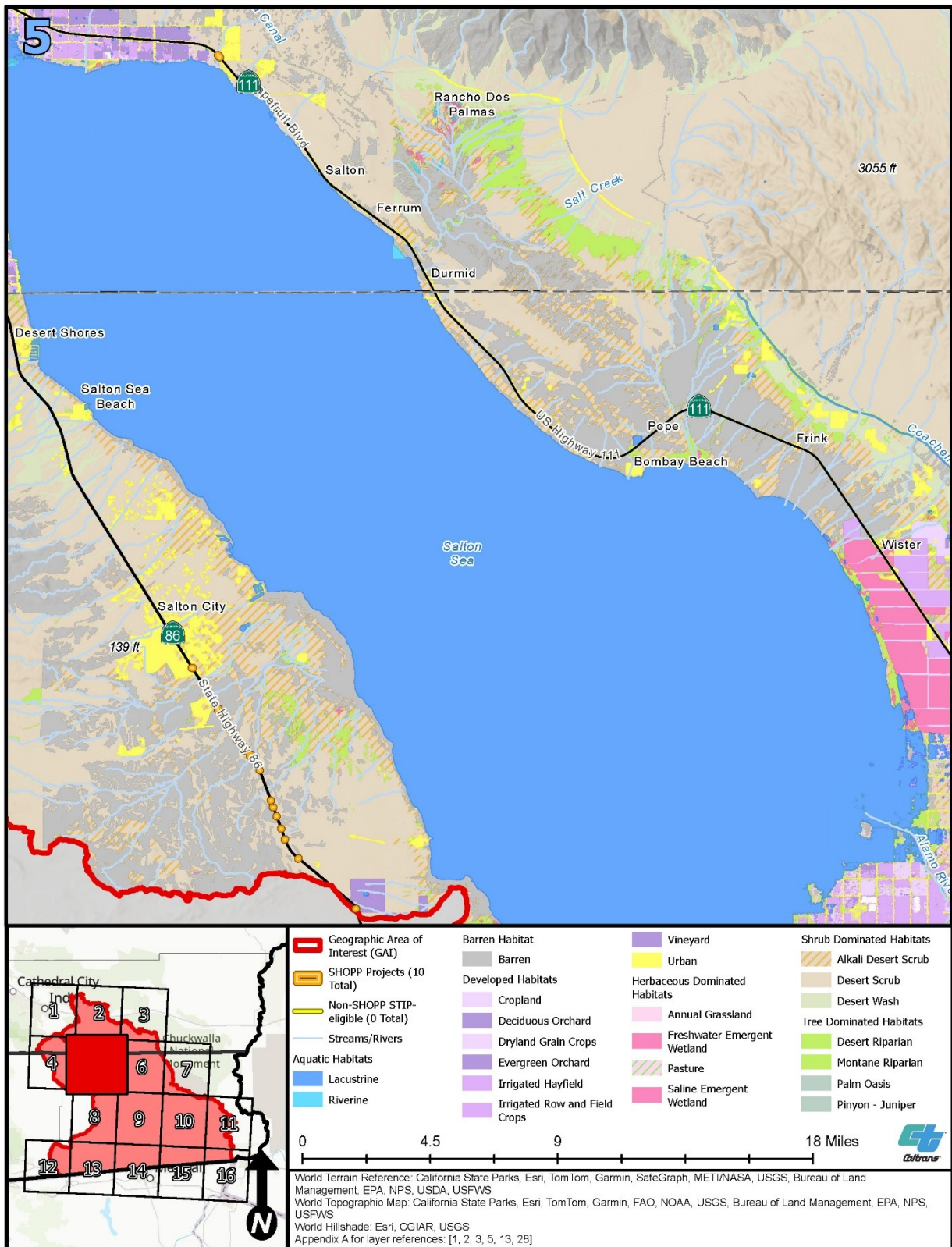


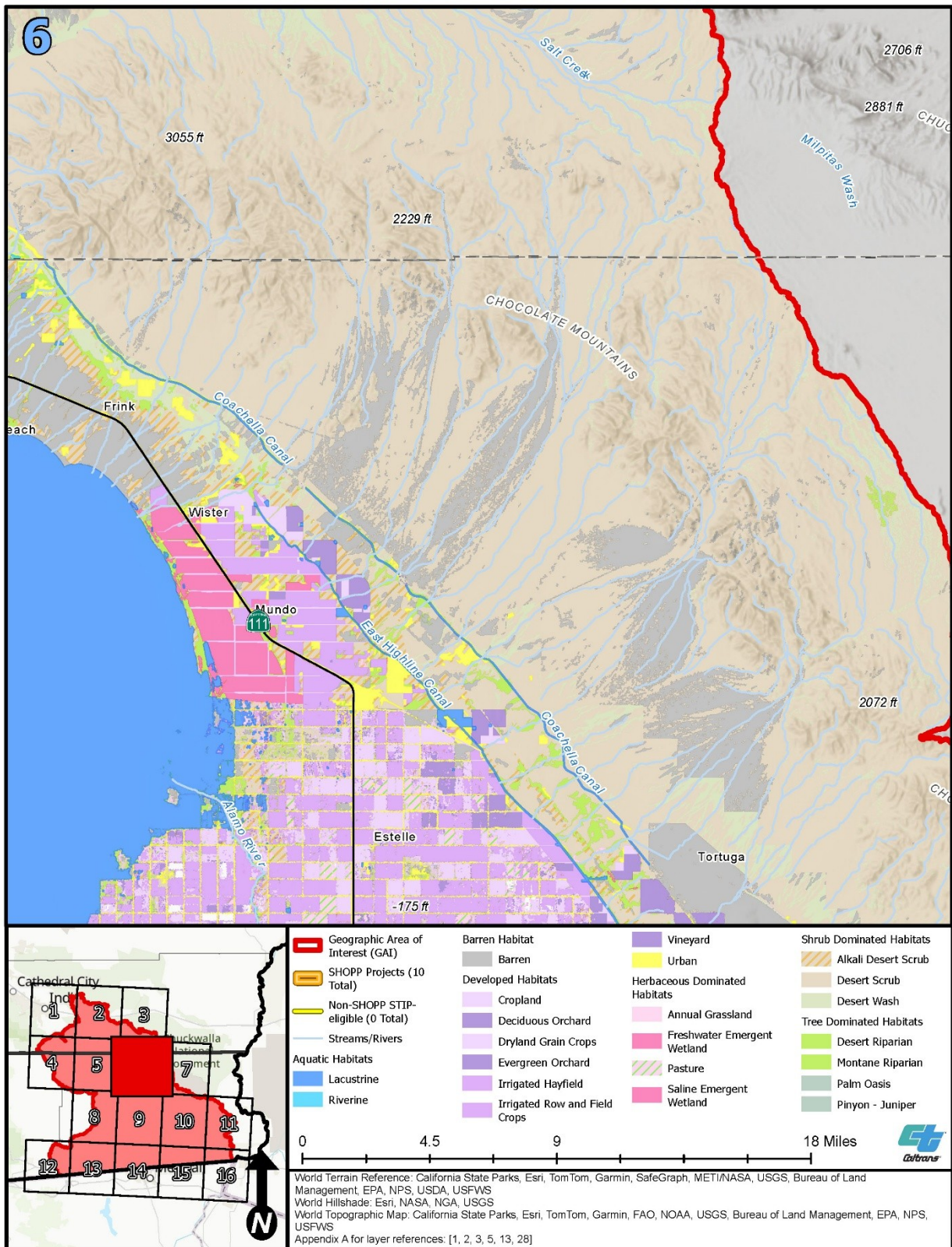


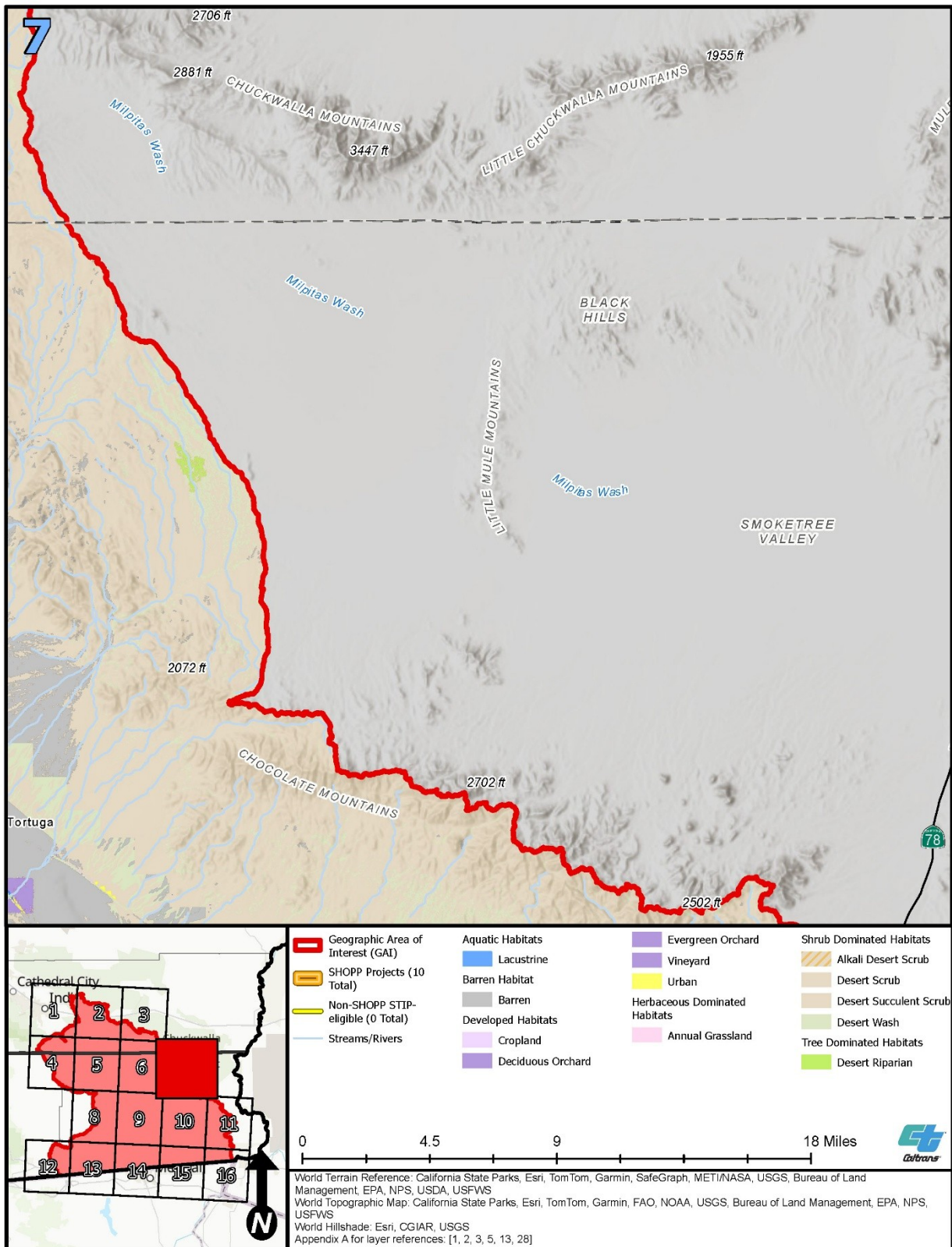


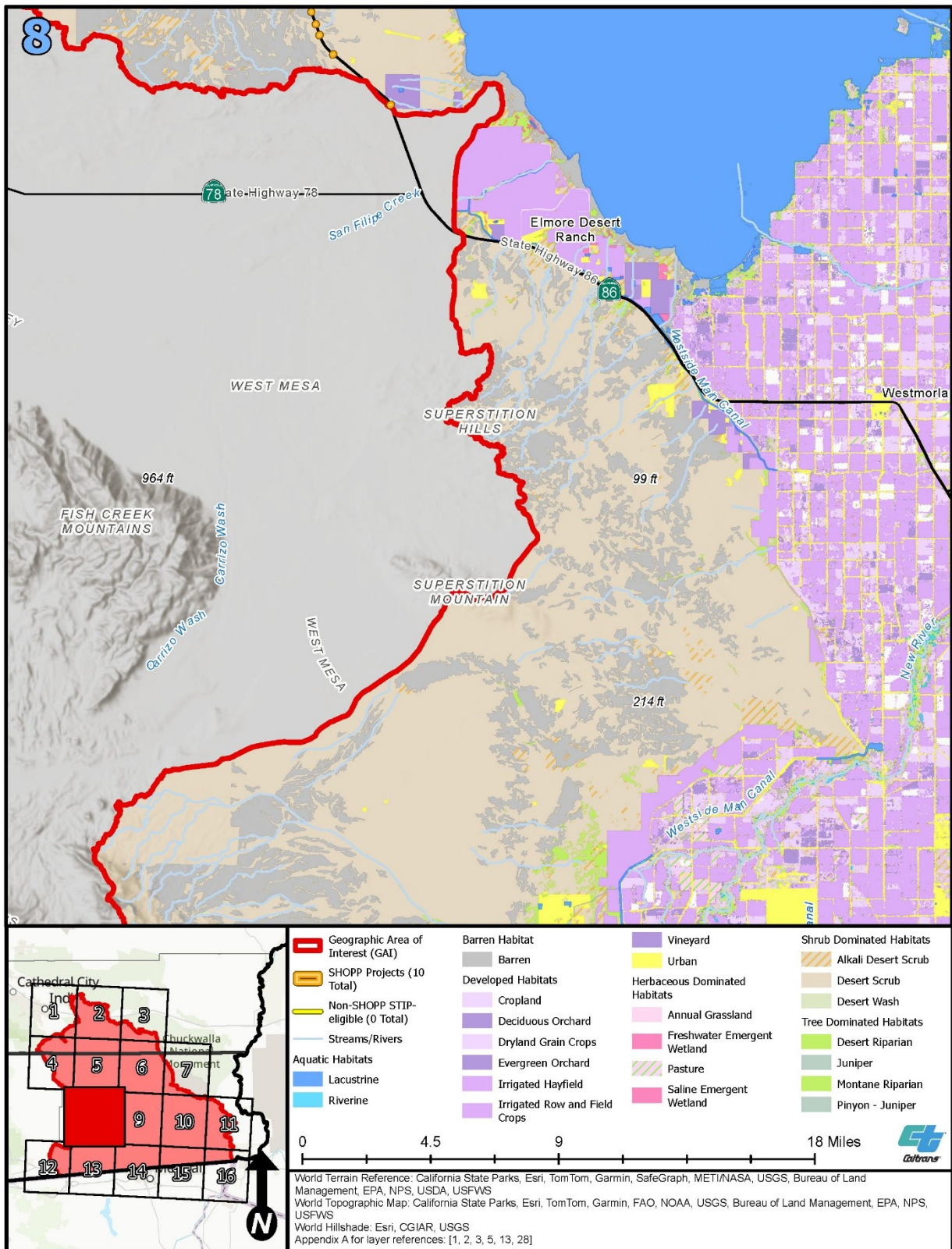


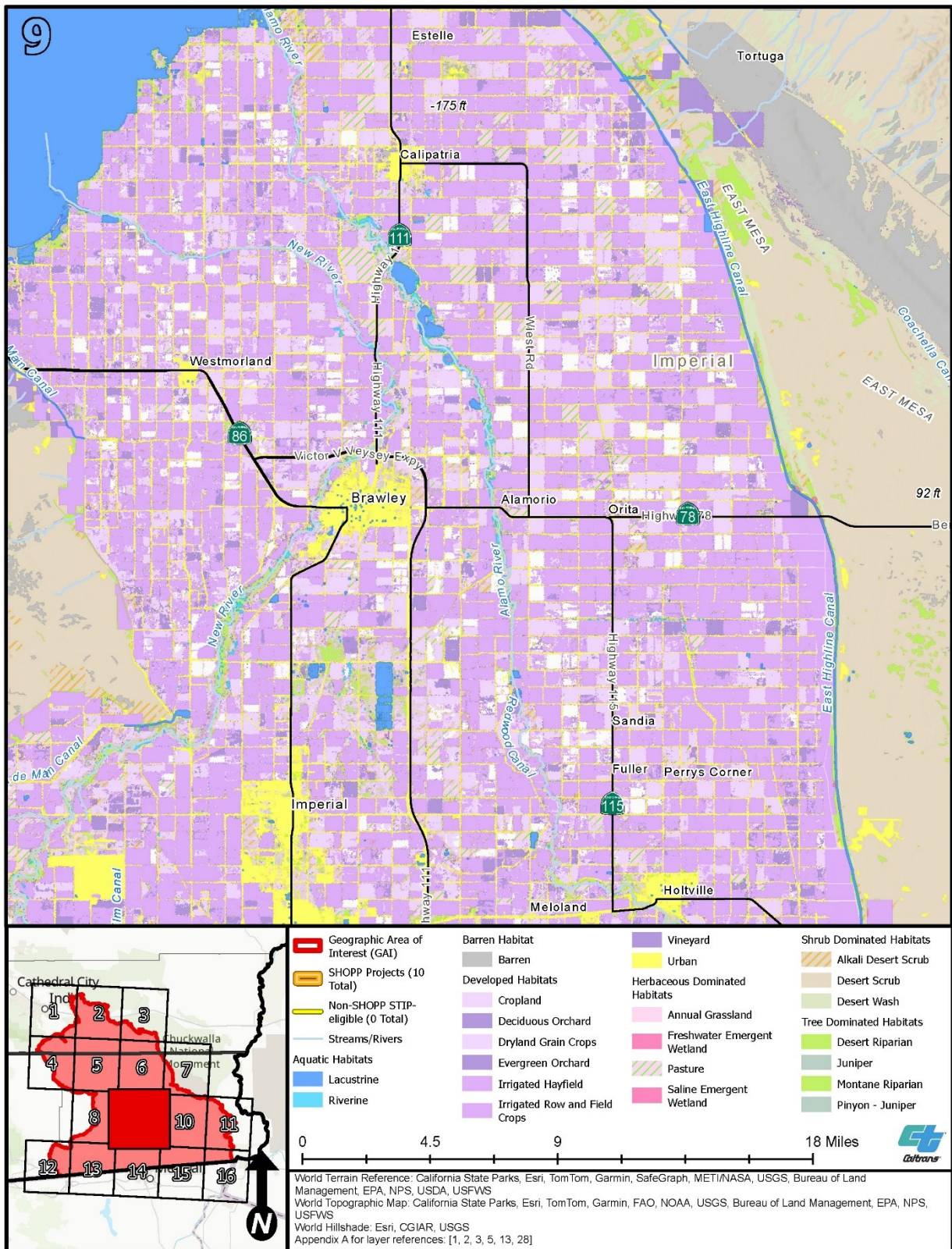


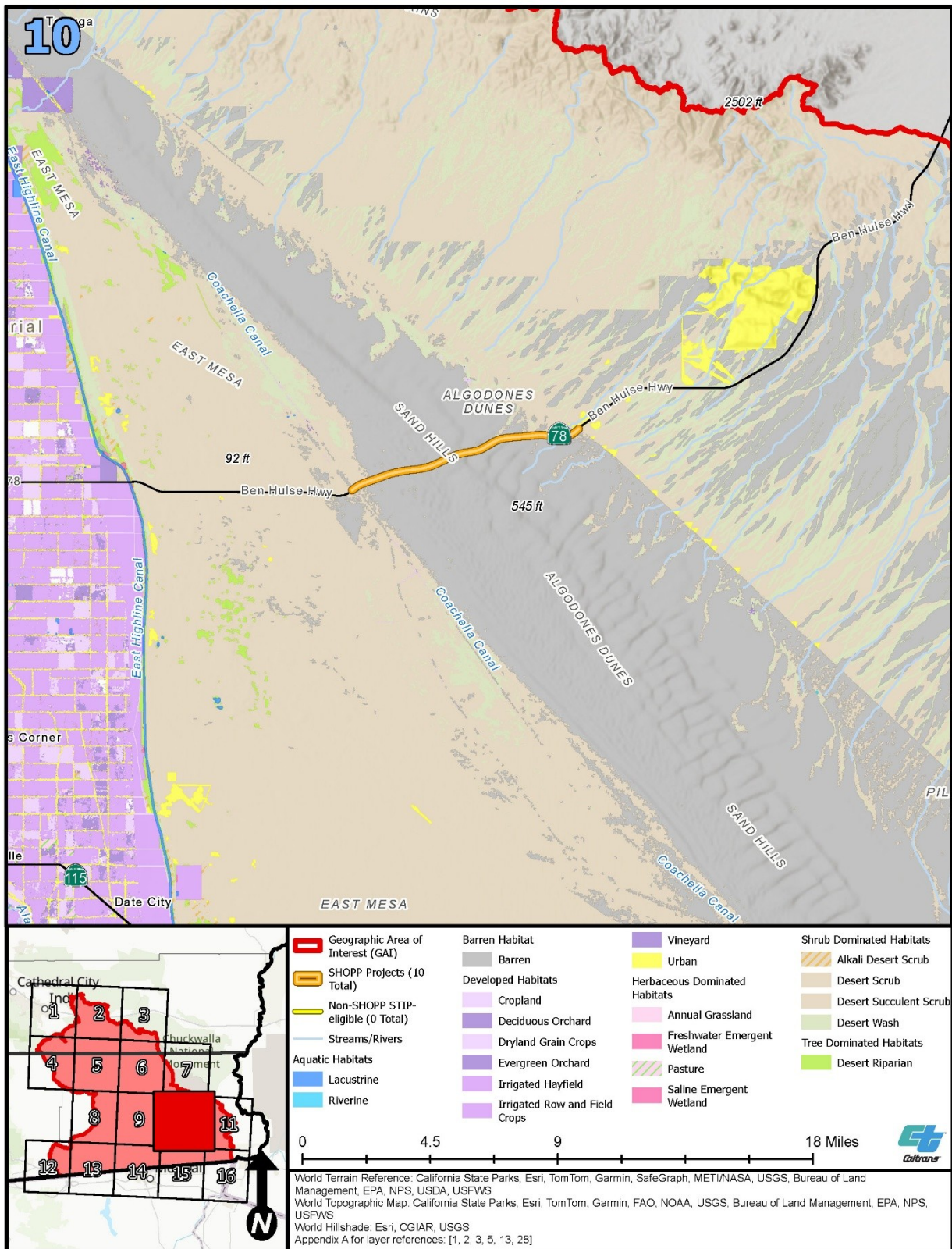


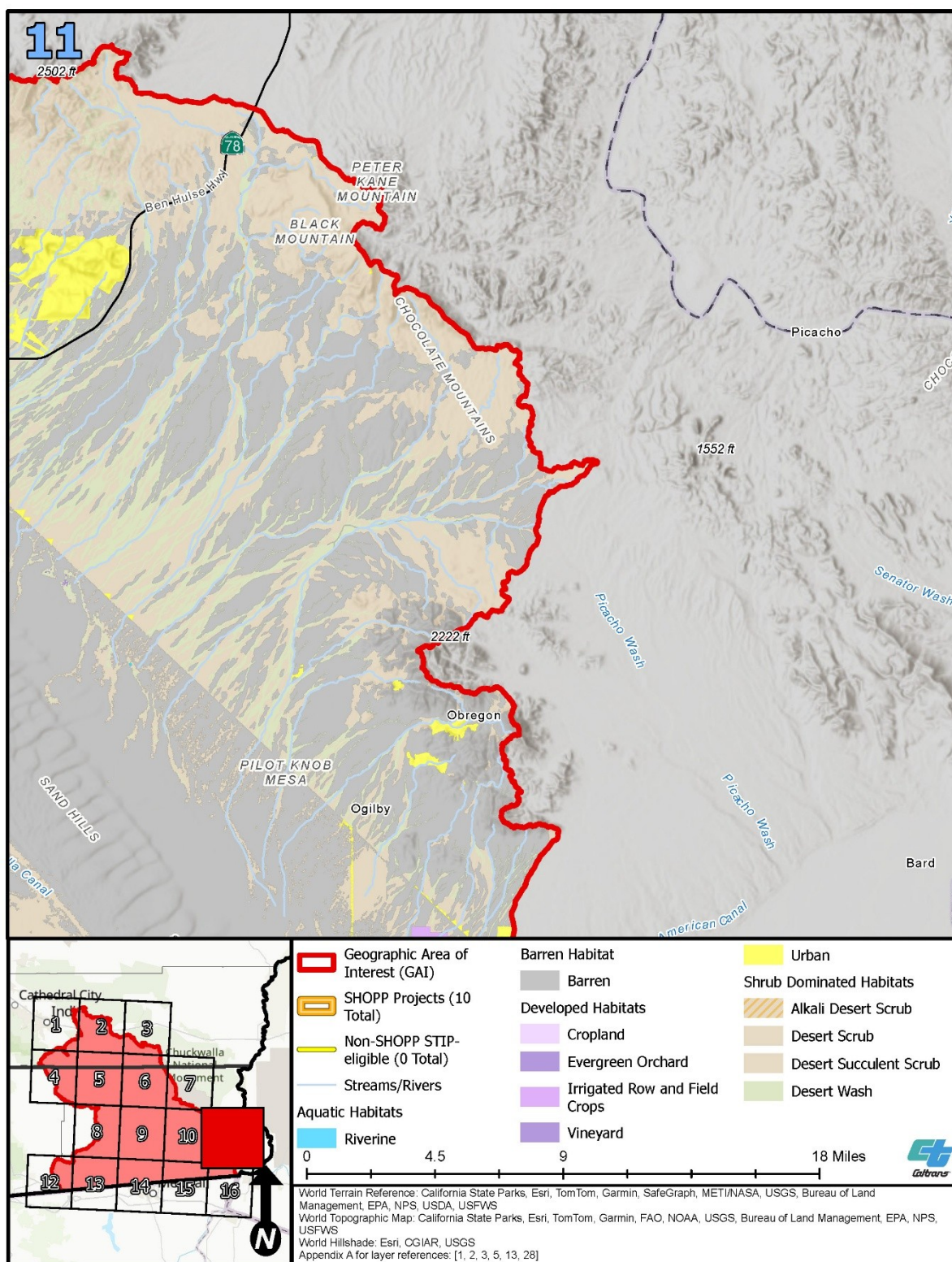


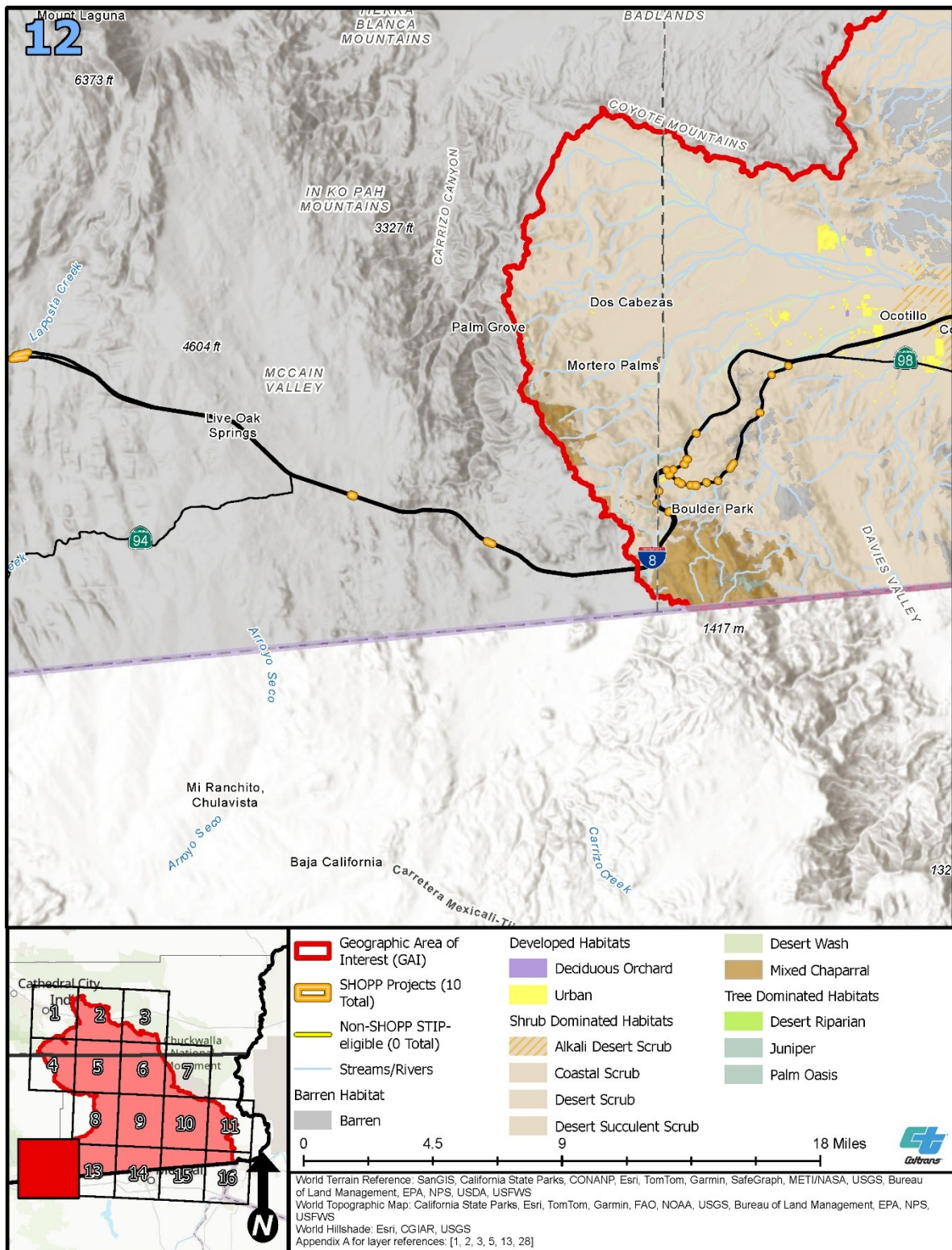


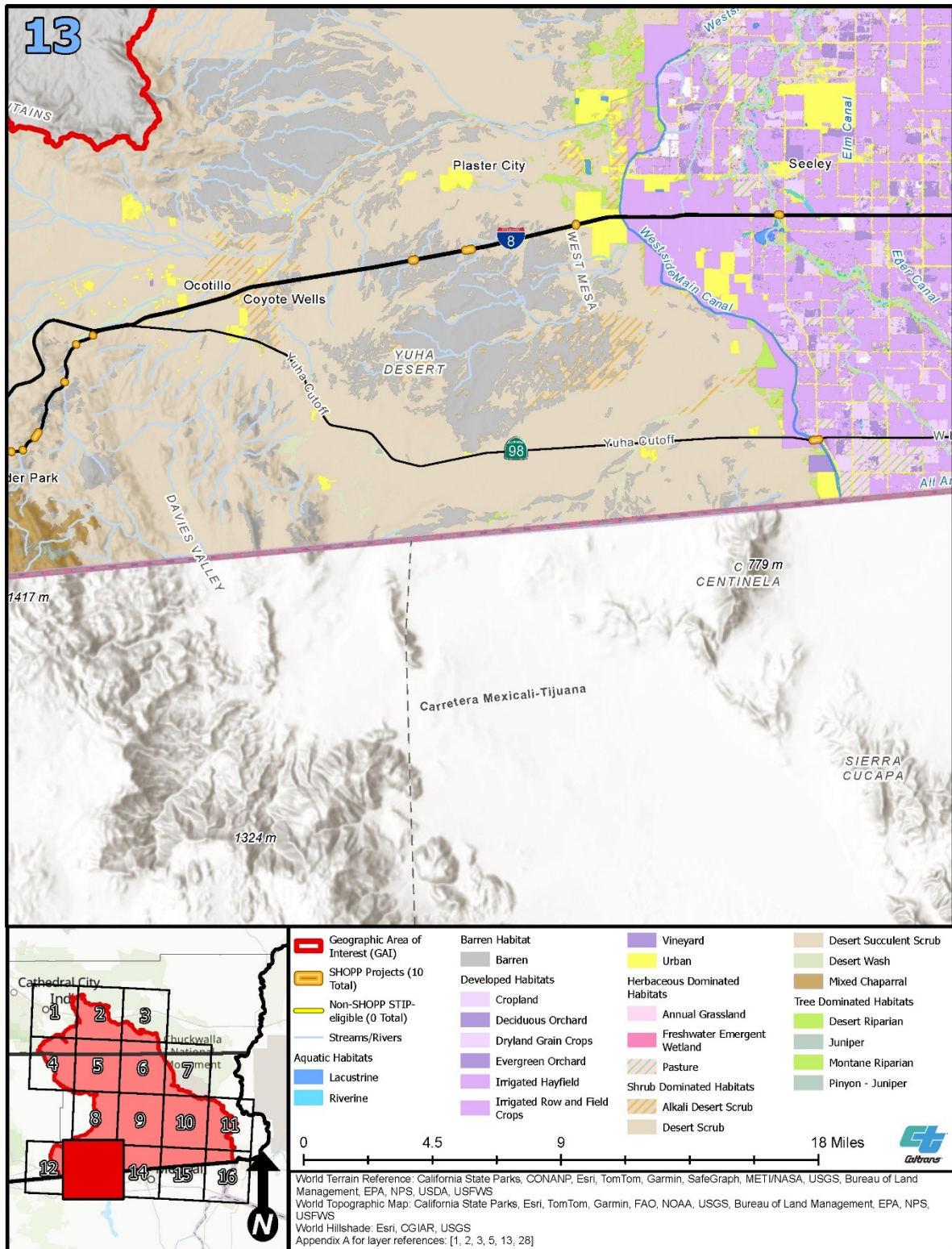


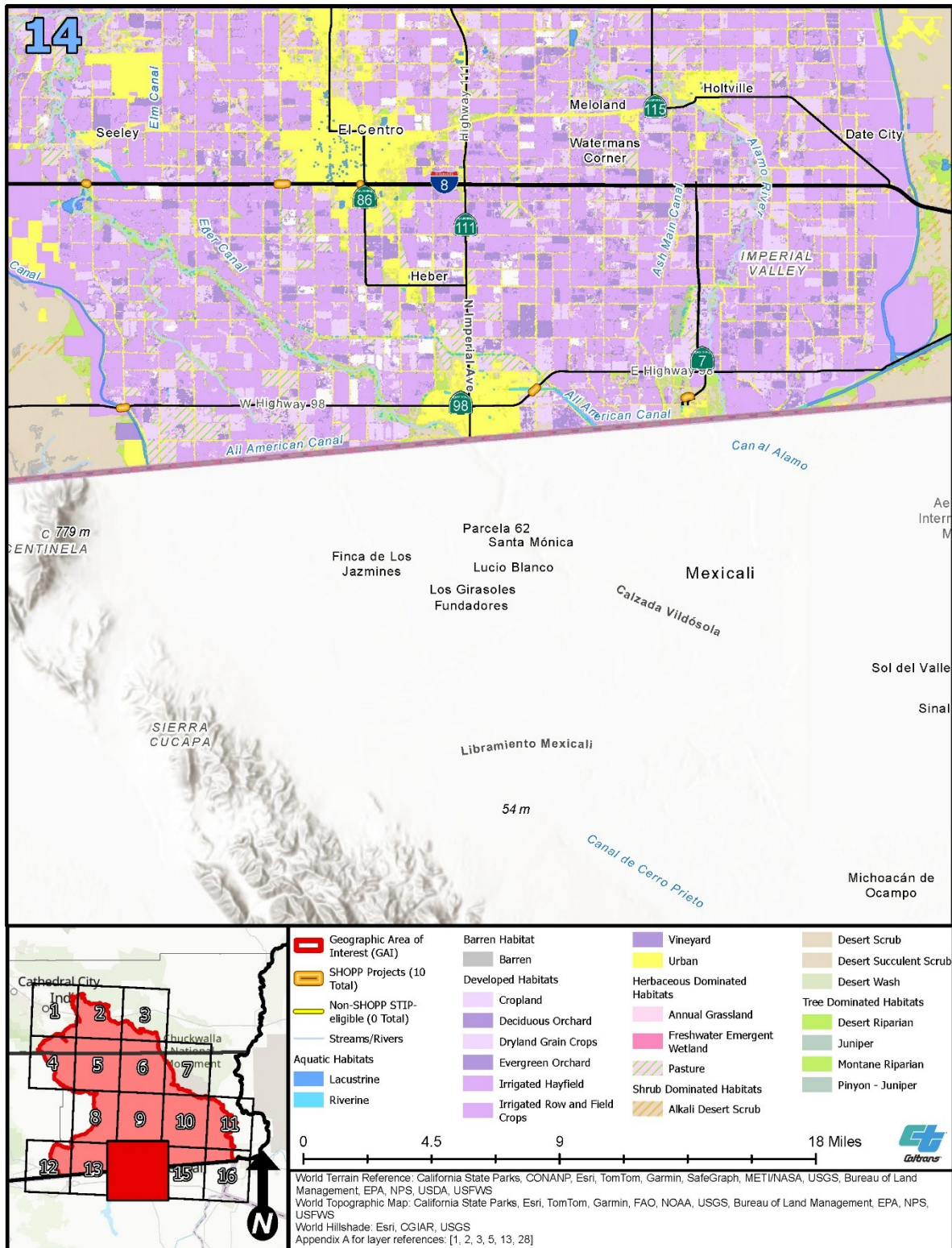


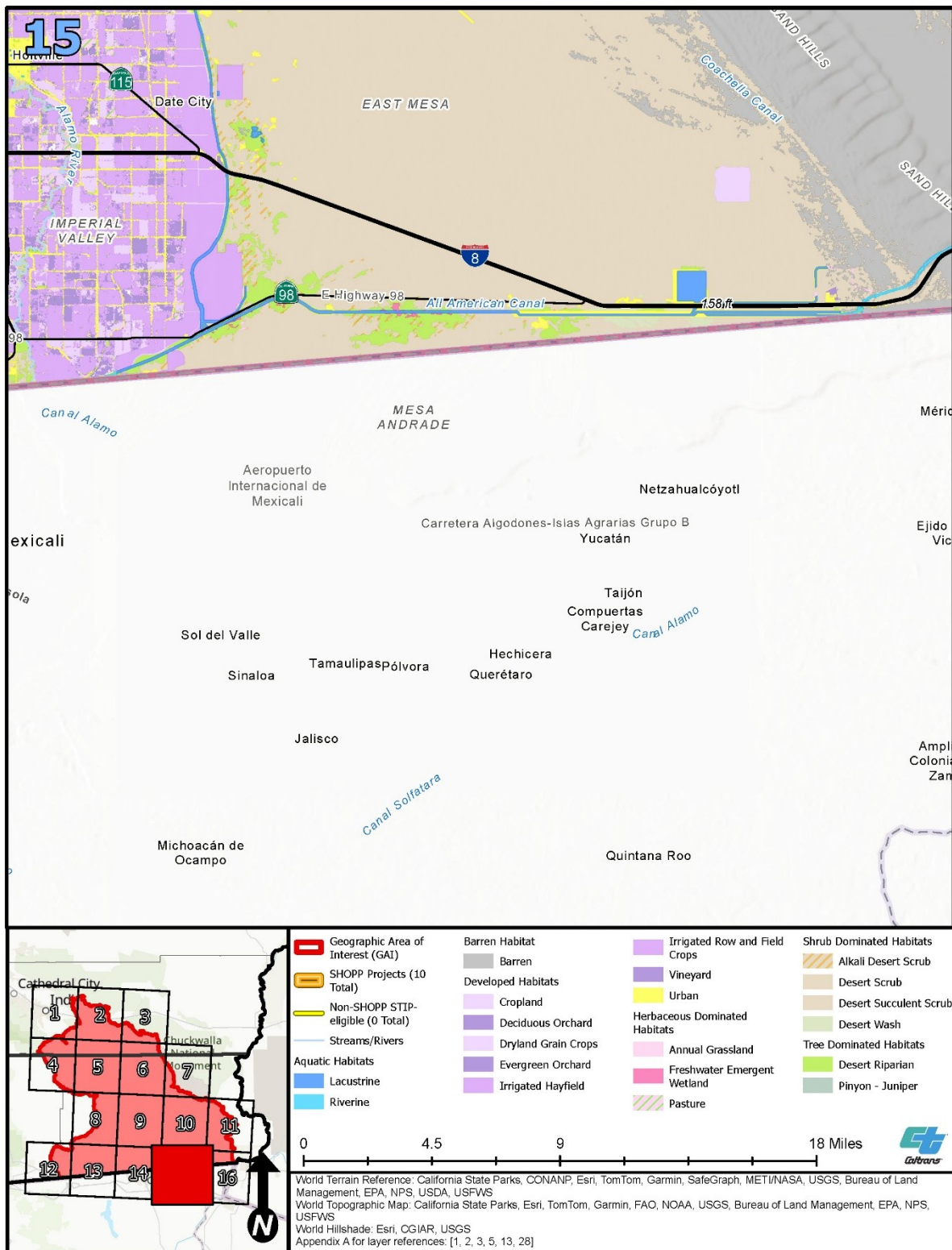


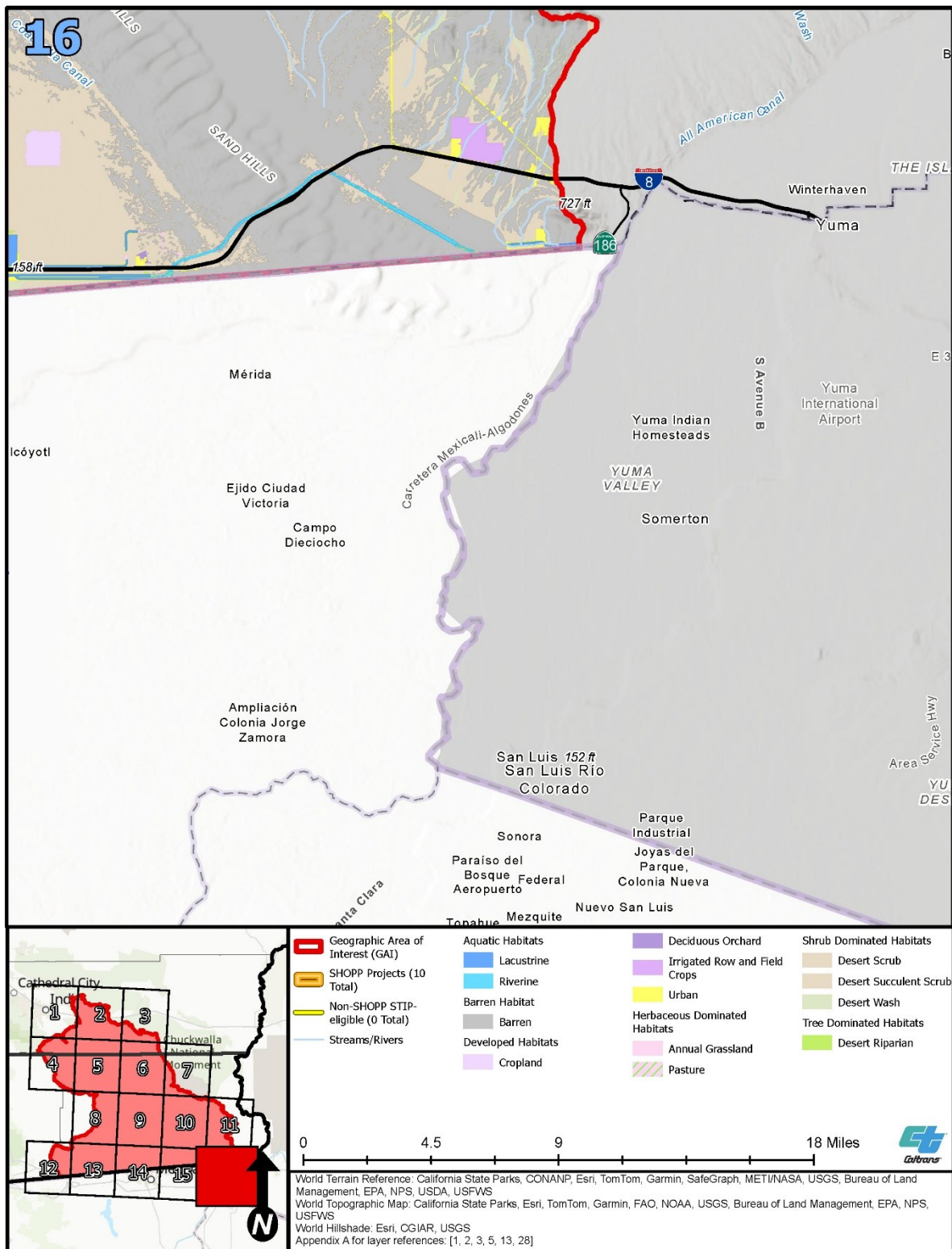












APPENDIX D: COMPLETE SAMNA SPECIES RESULTS

Complete terrestrial species SAMNA results for the GAI are provided in Tables D-1 and D-2. Table D-1 consists of SAMNA results for the Colorado Desert Section within the GAI (starts on page D-3). Table D-2 consists of the SAMNA results for the Southern California Mountains and Valleys Section within the GAI (starts on page D-6). 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 2025). SAMNA results are only as accurate as their foundational data and have not been ground-truthed. Regarding these results:

- 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 documented sources showing their home ranges. When a subspecies did not have home range information that could be incorporated into the SAMNA model (that is, from a geographically based, available dataset), SAMNA results are provided at the species level, which may include both special-status and non-special-status species; therefore, the number of species with the potential to be affected may be overestimated.
- If impacts were estimated, additional information sources¹ were consulted to determine whether special-status subspecies are likely to occur 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 on species or subspecies that are not likely to be present in the GAI.
- Only habitats with forecast impacts, and the special-status species that use those habitats, are included in 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. These totals are not additive across all special-status species because each habitat type may provide suitable habitat for more than one special-status species or subspecies.

Habitats referenced in Tables D-1 and D-2 are mapped in Appendix C, *Land Cover Types*. The terrestrial species of mitigation need for this GAI include burrowing owl (*Athene cunicularia*), desert tortoise (*Gopherus agassizii*), Switak's banded gecko (*Coleonyx*

¹ For plants, this includes CNPS and the California Consortium of Herbaria. For federally listed species, this includes recent 5-year reviews, FWS species profiles, recovery plans, and Environmental Conservation Online System range maps. For birds, this includes *California Bird Species of Special Concern* (Shuford and Gardali 2008). For amphibians and reptiles, this includes California Herps online, HCPs/NCCPs, and National Park Service documents.

switaki), flat-tailed horned lizard (*Phrynosoma mcallii*), desert bighorn sheep (*Ovis canadensis nelsoni*), and ringtail (*Bassariscus astutus*). 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 to improve the conservation benefits of compensatory mitigation in the GAI. For example, advance mitigation established for burrowing owl impacts may also provide mitigation to compensate for impacts on other species. The types of habitats for the species of mitigation need with the potential to be affected in the GAI, and the other special-status species that may share these habitats, were excerpted from Tables D-1 and D-2 and are provided in tables in Chapter 5, *Modeled Estimated Impacts*, of the main text.

References

- Caltrans. 2025. *Statewide Advance Mitigation Needs Assessment Report Appendix K*. State Highway Operation and Protection Program. First Quarter 2024/2025 Fiscal Year. April. Sacramento, California.
<https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation>.
- Shuford, W. D. and T. Gardali, editors. 2008. *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California*.

Table D-1. Complete SAMNA Results for the Colorado Desert Ecoregion Section in District 11, by Land Cover (acres)

Common Name	Scientific Name	Status	Akali Desert	Barren	Deciduous Orchard; Vineyard	Desert Riparian	Desert Scrub	Desert Wash	Dryland Grain Crops	Irrigated Row and Field Crops	Lacustrine	Pasture	Riverine	Urban	Grand 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
Peirson's milk-vetch	<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	FT, SE	0.00	0.00	0.00	0.00	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56
Wiggins' croton	<i>Croton wigginsii</i>	SR, FS	0.00	0.00	0.00	0.00	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.91
Borrego bedstraw	<i>Galium angustifolium</i> ssp. <i>Borregoense</i>	SR, FS	0.00	0.00	0.00	0.00	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.91
Algodones Dunes sunflower	<i>Helianthus niveus</i> ssp. <i>Tephrodes</i>	SE, FS	0.00	0.00	0.00	0.00	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.91
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
Couch's spadefoot	<i>Scaphiopus couchii</i>	FS, SSC	0.00	0.34	0.00	0.00	1.24	0.18	0.00	0.00	0.00	0.00	0.00	0.00	1.77
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
red diamond rattlesnake	<i>Crotalus ruber</i>	FS, SSC	0.00	<0.01	0.00	0.00	<0.01	<0.01	0.00	0.00	0.00	0.00	0.00	0.00	<0.01
desert tortoise	<i>Gopherus agassizii</i>	FT, SE	0.00	0.43	0.00	0.38	2.56	0.60	0.00	0.00	0.00	0.00	0.00	0.00	3.97
flat-tailed horned lizard	<i>Phrynosoma mcallii</i>	FS, SSC	0.02	0.54	0.00	0.00	2.57	0.57	0.00	0.00	0.00	0.00	0.00	0.00	3.71
Colorado Desert fringe-toed lizard	<i>Uma notata</i>	FS, SSC	0.05	0.54	0.00	0.64	2.91	0.57	0.00	0.00	0.00	0.00	0.00	0.00	4.71
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
mountain plover	<i>Anarhynchus montanus</i>	FS, SSC, BCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.61
long-eared owl	<i>Asio otus</i>	SSC, BCC	0.00	0.00	0.00	0.00	2.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56
burrowing owl	<i>Athene cunicularia</i>	FS, SSC, BCC	0.05	0.54	0.00	1.02	2.91	0.60	0.00	0.00	0.00	0.31	0.00	17.73	23.16
redhead	<i>Aythya americana</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.03	0.00	0.33
least bittern	<i>Botaurus exilis</i>	SSC	0.00	0.00	0.00	1.02	0.00	0.00	0.00	0.00	0.30	0.00	0.03	0.00	1.35
northern harrier	<i>Circus hudsonius</i>	SSC, BCC	0.05	0.54	0.01	1.02	2.91	0.60	0.09	0.00	0.30	0.00	0.03	17.73	23.28
fulvous whistling-duck	<i>Dendrocygna bicolor</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.30	0.00	0.03	0.00	0.94
white-tailed kite	<i>Elanus leucurus</i>	FS, SFP	0.02	0.00	0.00	0.00	0.34	0.00	0.09	0.61	0.00	0.00	0.00	2.83	3.89
willow flycatcher	<i>Empidonax traillii</i>	SE, FS	0.00	0.00	0.00	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE, SE	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38

Common Name	Scientific Name	Status	Akali Desert	Barren	Deciduous Orchard; Vineyard	Desert Riparian	Desert Scrub	Desert Wash	Dryland Grain Crops	Irrigated Row and Field Crops	Lacustrine	Pasture	Riverine	Urban	Grand Total
yellow-breasted chat	<i>Icteria virens</i>	SSC	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	0.05	0.54	0.01	1.02	2.91	0.60	0.09	0.00	0.00	0.00	0.00	17.73	22.96
Gila woodpecker	<i>Melanerpes uropygialis</i>	SE, FS, BCC	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.73	2.37
American white pelican	<i>Pelecanus erythrorhynchos</i>	SSC, BCC	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
Crissal thrasher	<i>Toxostoma crissale</i>	FS, SSC	0.00	0.00	0.00	1.02	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	1.62
yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.31	0.00	0.00	0.61
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
pallid bat	<i>Antrozous pallidus</i>	FS, SSC	0.05	0.54	0.01	1.02	2.91	0.60	0.09	0.00	0.00	0.31	0.03	17.73	23.29
southern California ringtail	<i>Bassariscus astutus octavus</i>	SFP	0.05	0.12	0.01	0.38	0.01	0.03	0.09	0.61	0.00	0.27	0.00	0.00	1.58
Palo Verde Mountains ringtail	<i>Bassariscus astutus willetti</i>	SFP	0.00	0.43	0.00	0.64	2.90	0.57	0.00	0.00	0.00	0.03	0.00	0.00	4.57
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	0.05	0.54	0.01	1.02	2.91	0.60	0.00	0.61	0.00	0.31	0.03	17.73	23.81
spotted bat	<i>Euderma maculatum</i>	FS, SSC	0.05	0.00	0.00	1.02	2.91	0.60	0.00	0.00	0.00	0.00	0.03	17.73	22.34
western mastiff bat	<i>Eumops perotis californicus</i>	FS, SSC	0.05	0.54	0.01	1.02	2.91	0.60	0.09	0.61	0.00	0.31	0.00	17.73	23.87
western yellow bat	<i>Lasiurus xanthinus</i>	SSC	0.00	0.00	0.00	1.02	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	1.62
California leaf-nosed bat	<i>Macrotus californicus</i>	FS, SSC	0.05	0.54	0.00	1.02	2.91	0.60	0.00	0.00	0.00	0.00	0.03	0.00	5.15
pocketed free-tailed bat	<i>Nyctinomops femorsaccus</i>	SSC	0.05	0.54	0.00	1.02	2.91	0.60	0.00	0.00	0.00	0.00	0.00	17.73	22.85
big free-tailed bat	<i>Nyctinomops macrotis</i>	SSC	0.00	0.00	0.00	0.00	2.91	0.00	0.00	0.00	0.00	0.00	0.00	17.73	20.64
southern grasshopper mouse	<i>Onychomys torridus ramona</i>	SSC	0.00	0.00	0.00	0.00	<0.01	<0.01	0.00	0.00	0.00	0.00	0.00	0.00	<0.01
desert bighorn sheep ^a	<i>Ovis canadensis nelsoni</i>	FS, SFP	0.00	0.00	0.00	0.00	0.00	<0.01	0.00	0.00	0.00	0.00	0.00	0.00	<0.01
Palm Springs pocket mouse	<i>Perognathus longimembris bangsi</i>	FS, SSC	0.00	0.00	0.00	0.00	<0.01	<0.01	0.00	0.00	0.00	0.00	0.00	0.00	<0.01
Yuma hispid cotton rat	<i>Sigmodon hispidus eremicus</i>	SSC	0.02	0.00	0.00	0.00	0.34	0.00	0.09	0.61	0.00	0.31	0.00	0.00	1.37
American badger	<i>Taxidea taxus</i>	SSC	0.05	0.54	0.01	1.02	2.91	0.60	0.09	0.61	0.00	0.31	0.00	0.00	6.14
Palm Springs round-tailed ground squirrel	<i>Xerospermophilus tereticaudus chlorus</i>	FS, SSC	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.02

Common Name	Scientific Name	Status	Akali Desert	Barren	Deciduous Orchard; Vineyard	Desert Riparian	Desert Scrub	Desert Wash	Dryland Grain Crops	Irrigated Row and Field Crops	Lacustrine	Pasture	Riverine	Urban	Grand Total
Not applicable	Not applicable	Total	0.05	0.54	0.01	1.02	2.91	0.60	0.09	0.61	0.30	0.31	0.03	17.73	23.87

Notes: FE = federally endangered, FS = federal sensitive (USFS and/or BLM sensitive), FT = federally threatened, SE = state endangered, SFP = state fully protected, SFS = state fire sensitive, SR = state rare, SSC = species of special concern (CDFW), ST= state threatened, BCC = Birds of conservation concern

Table D-2. Complete SAMNA Results for the Southern California Mountains and Valleys Ecoregion Section in District 11, by Land Cover (acres)

Common Name	Scientific Name	Status	Barren	Desert Scrub	Urban	Grand Total
Plants	See below	See below	See below	See below	See below	See below
Dunn's mariposa lily	<i>Calochortus dunnii</i>	SR, FS	0.00	1.52	0.00	1.52
Wiggins' croton	<i>Croton wigginsii</i>	SR, FS	0.00	1.25	0.00	1.25
Mojave tarplant	<i>Deinandra mohavensis</i>	SE, FS	0.00	1.52	0.00	1.52
Borrego bedstraw	<i>Galium angustifolium</i> <i>ssp. Borregoense</i>	SR, FS	0.00	1.25	0.00	1.25
Algodones Dunes sunflower	<i>Helianthus niveus ssp. Tephrodes</i>	SE, FS	0.00	1.25	0.00	1.25
Dehesa nolina	<i>Nolina interrata</i>	SE, FS	0.00	1.52	0.00	1.52
Gander's ragwort	<i>Packera ganderi</i>	SR, FS	0.00	1.52	0.00	1.52
small-leaved rose	<i>Rosa multiflora</i>	SE	0.00	1.52	0.00	1.52
Invertebrates	See below	See below	See below	See below	See below	See below
Quino checkerspot butterfly ^a	<i>Euphydryas editha quino</i>	FE	0.00	2.76	0.00	2.76
Reptiles	See below	See below	See below	See below	See below	See below
southern California legless lizard	<i>Anniella stebbinsi</i>	FS, SSC	0.06	2.76	0.00	2.83
California glossy snake	<i>Arizona elegans occidentalis</i>	SSC	0.00	2.76	0.00	2.76
Switak's banded gecko	<i>Coleonyx switaki</i>	ST, FS	0.00	2.76	0.00	2.76
San Diego banded gecko	<i>Coleonyx variegatus abbotti</i>	SSC	0.06	2.76	0.00	2.83
red diamond rattlesnake	<i>Crotalus ruber</i>	FS, SSC	0.06	2.76	0.00	2.83
desert tortoise	<i>Gopherus agassizii</i>	FE, ST	0.06	2.76	0.00	2.83
Birds	See below	See below	See below	See below	See below	See below
golden eagle	<i>Aquila chrysaetos</i>	FS, SFP, SFS	0.06	2.76	1.14	3.97
long-eared owl	<i>Asio otus</i>	SSC, BCC	0.00	2.76	0.00	2.76
burrowing owl	<i>Athene cunicularia</i>	FS, SSC, BCC	0.06	1.52	0.56	2.15
loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	0.06	2.76	1.14	3.97

Common Name	Scientific Name	Status	Barren	Desert Scrub	Urban	Grand Total
Mammals	See below	See below	See below	See below	See below	See below
pallid bat	<i>Antrozous pallidus</i>	FS, SSC	0.06	2.76	1.14	3.97
southern California ringtail	<i>Bassariscus astutus octavus</i>	SFP	0.06	2.76	0.00	2.83
northwestern San Diego pocket mouse	<i>Chaetodipus fallax fallax</i>	None	0.00	2.76	0.00	2.76
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	0.06	2.76	1.14	3.97
spotted bat	<i>Euderma maculatum</i>	FS, SSC	0.00	2.76	1.14	3.90
western mastiff bat	<i>Eumops perotis californicus</i>	FS, SSC	0.06	2.76	1.14	3.97
California leaf-nosed bat	<i>Macrotus californicus</i>	FS, SSC	0.06	2.76	0.00	2.83
pocketed free-tailed bat	<i>Nyctinomops femorsaccus</i>	SSC	0.06	2.76	1.14	3.97
big free-tailed bat	<i>Nyctinomops macrotis</i>	SSC	0.00	2.76	1.14	3.90
southern grasshopper mouse	<i>Onychomys torridus ramona</i>	SSC	0.00	2.76	0.00	2.76
desert bighorn sheep ^b	<i>Ovis canadensis nelsoni</i>	FS, SFP	0.00	2.76	0.00	2.76
Palm Springs pocket mouse	<i>Perognathus longimembris bangsi</i>	FS, SSC	0.00	0.25	0.00	0.25
Jacumba pocket mouse	<i>Perognathus longimembris internationalis</i>	SSC	0.00	2.21	0.00	2.21
American badger	<i>Taxidea taxus</i>	SSC	0.06	2.76	0.00	2.83
Not applicable	Not applicable	Total	0.06	2.76	1.14	3.97

Notes: FE = federally endangered, FS = federal sensitive (USFS and/or BLM sensitive), FT = federally threatened, SE = state endangered, SFP = state fully protected, SFS = state fire sensitive, SR = state rare, SSC = species of special concern (CDFW), ST = state threatened, BCC = Birds of conservation concern

^a Quino checkerspot butterfly. Petitioned for listing as endangered under the California Endangered Species Act on June 29, 2020.

^b Desert bighorn sheep also includes the distinct population segment of peninsular bighorn sheep.

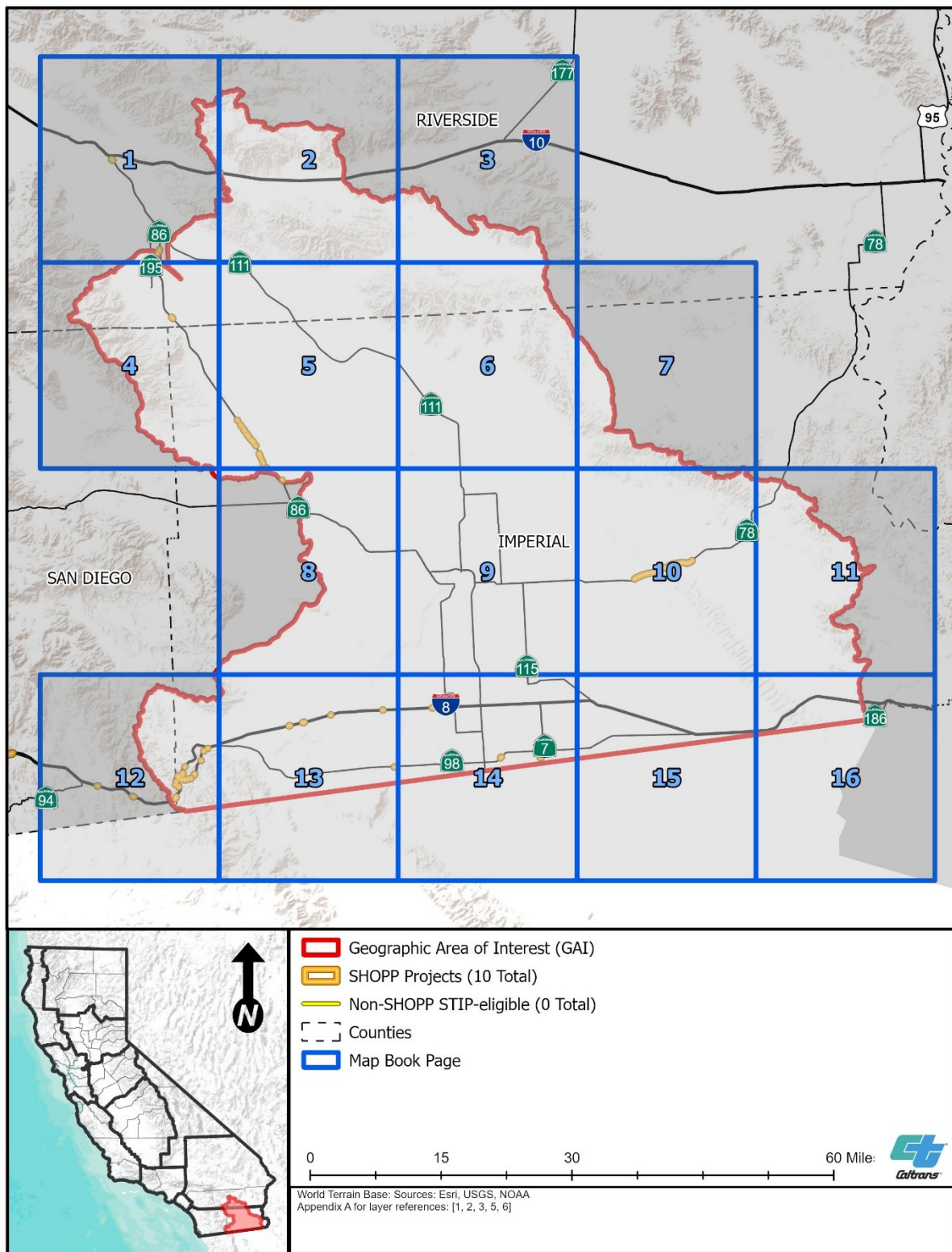
APPENDIX E: AQUATIC RESOURCE LOCATIONS

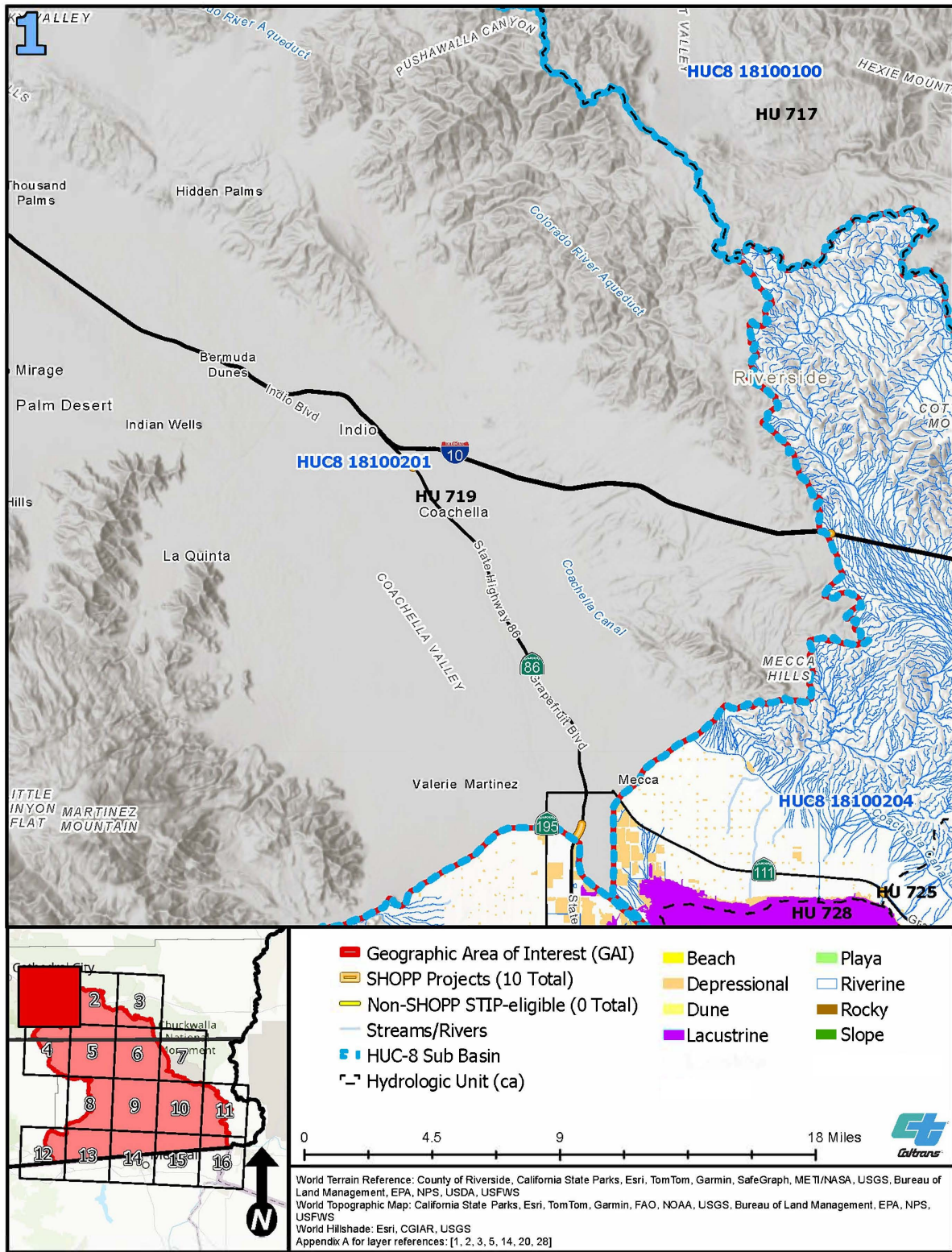
Aquatic resource locations are shown by HUC-8 sub-basin and HU in the following maps, which also include major landmarks for perspective. These locations were excerpted from the SAMNA Reporting Tool's aquatic/riparian resources data layer (Caltrans 2025). These seventeen maps correspond with the land cover maps in Appendix C *Land Cover Types*. Hydrologic units are described in Chapter 2 *Environmental Setting*, which includes a crosswalk table of HUC-8 subbasins and HUs (Table 2-4).

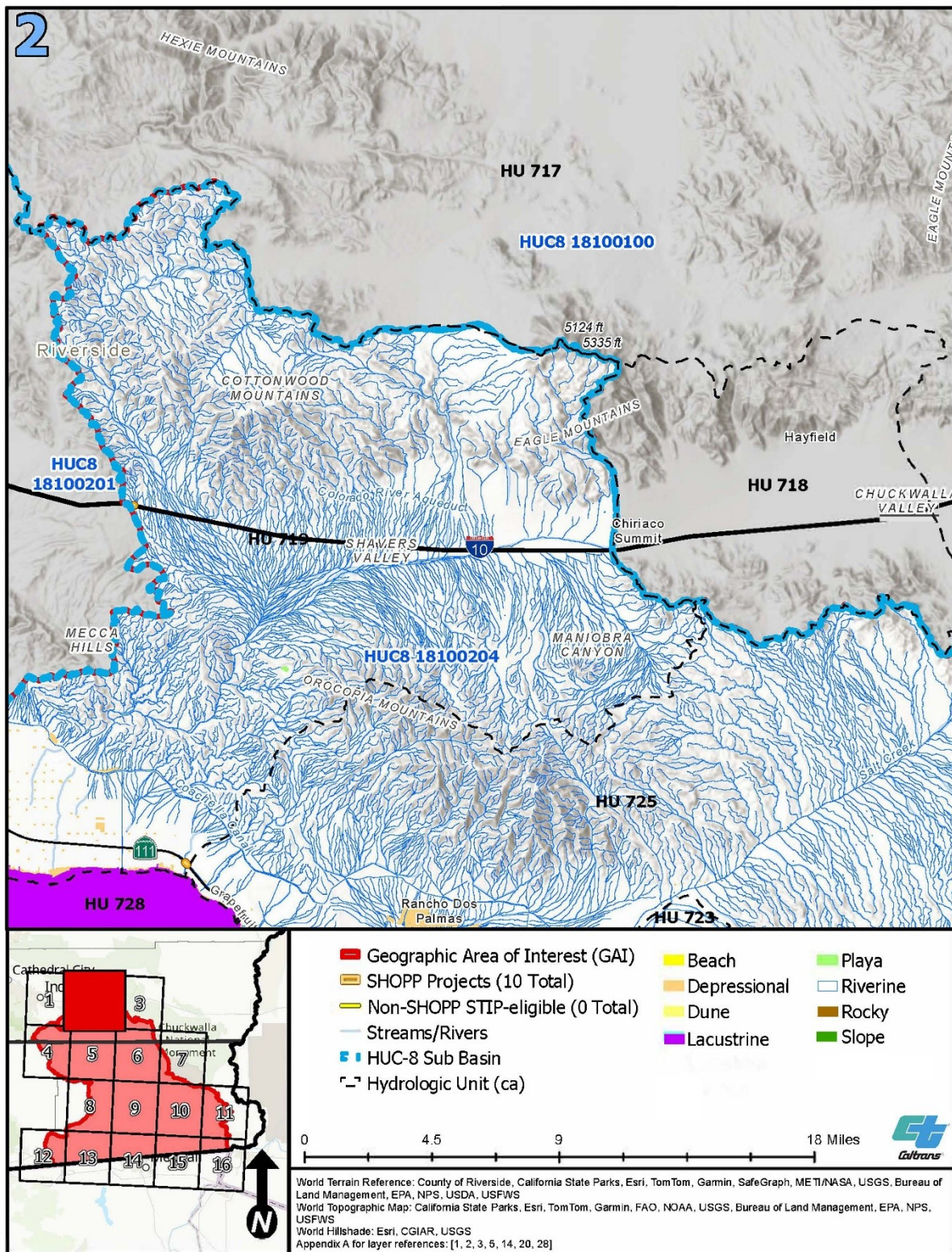
Few sources of information are known to be available that can be used to describe existing and relevant wetland, riparian, and littoral resources. The SAMNA Aquatic/Riparian Geospatial Data comprises data from two special San Francisco Estuary Institute projects, the Caltrans-CARI v2.0 and Caltrans CARlv2.0 RipZET – Statewide Riparian Estimate, which were released in April 2025.

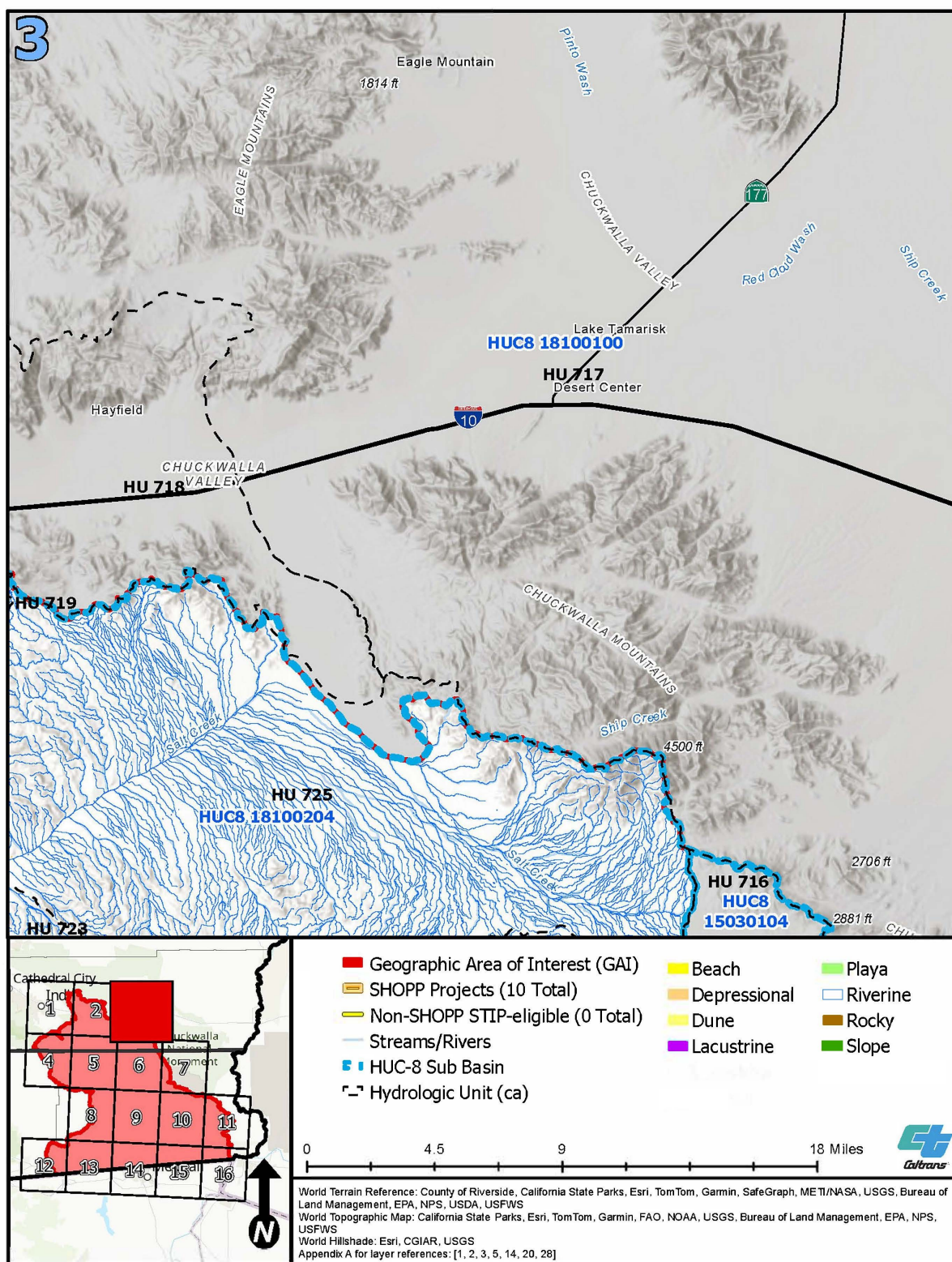
References

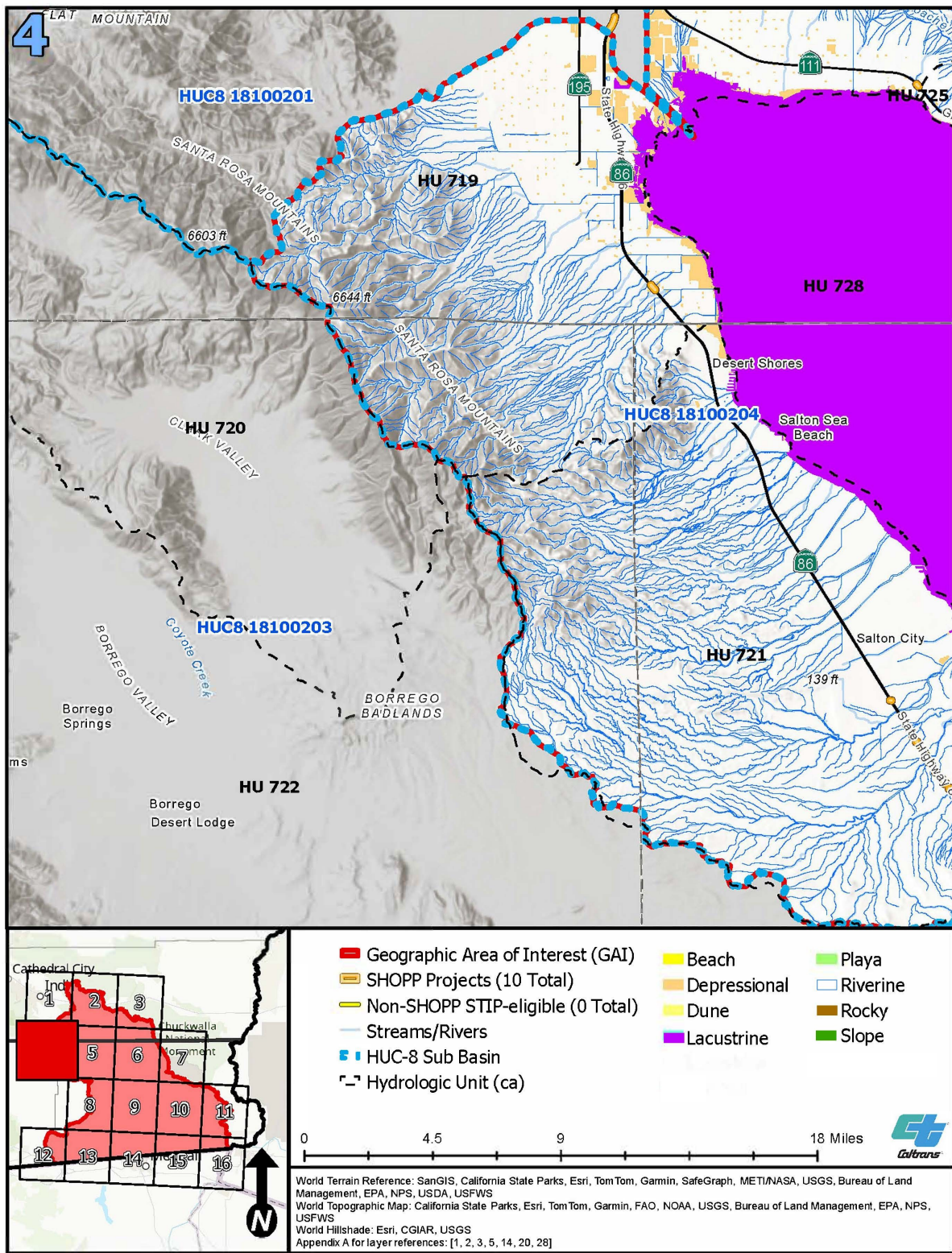
Caltrans (California Department of Transportation). 2025. "Aquatic/Riparian Geospatial Data for the Statewide Advance Mitigation Needs Assessment 2.0 (SAMNA 2.0)" (data file). December. <https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation#programreports>

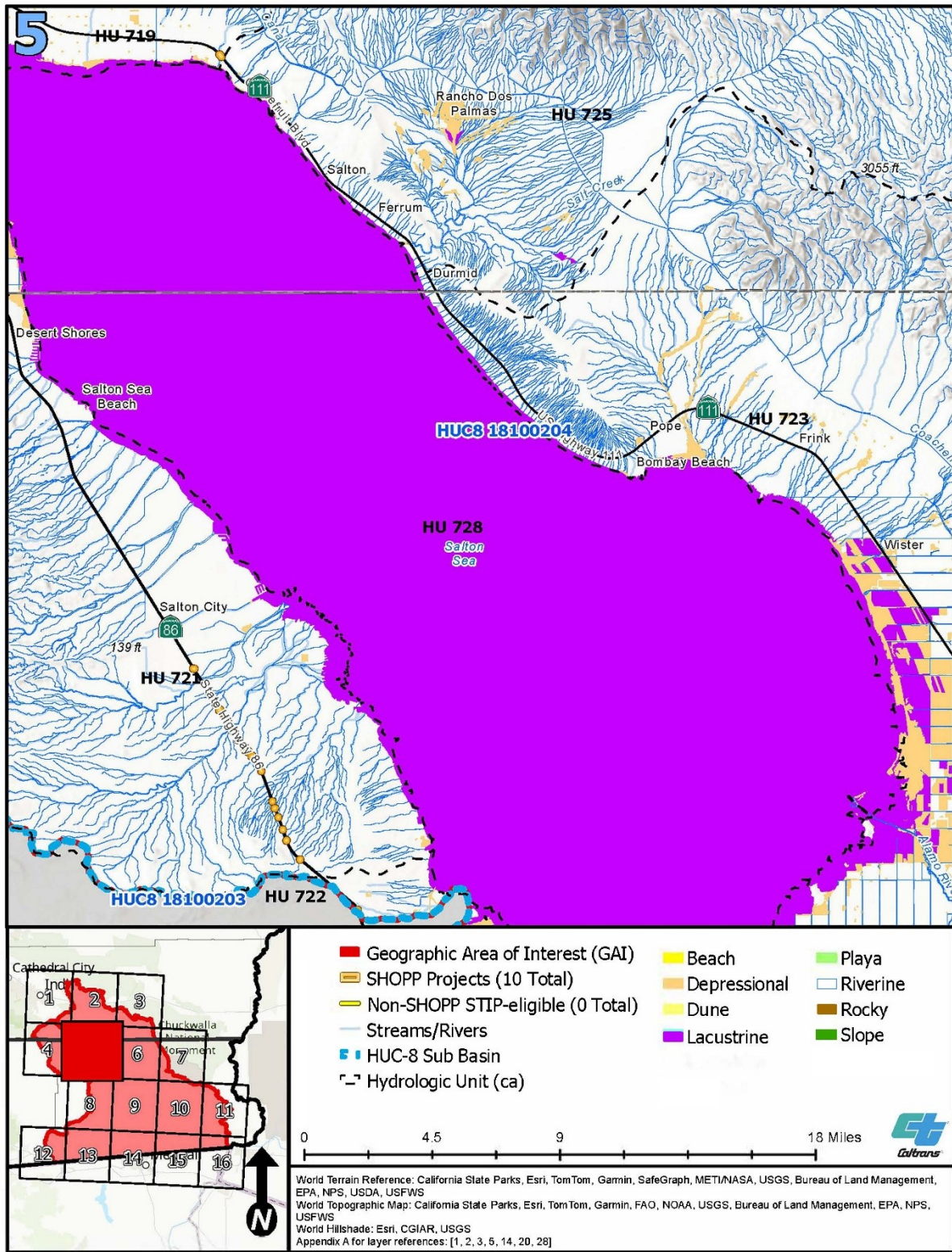


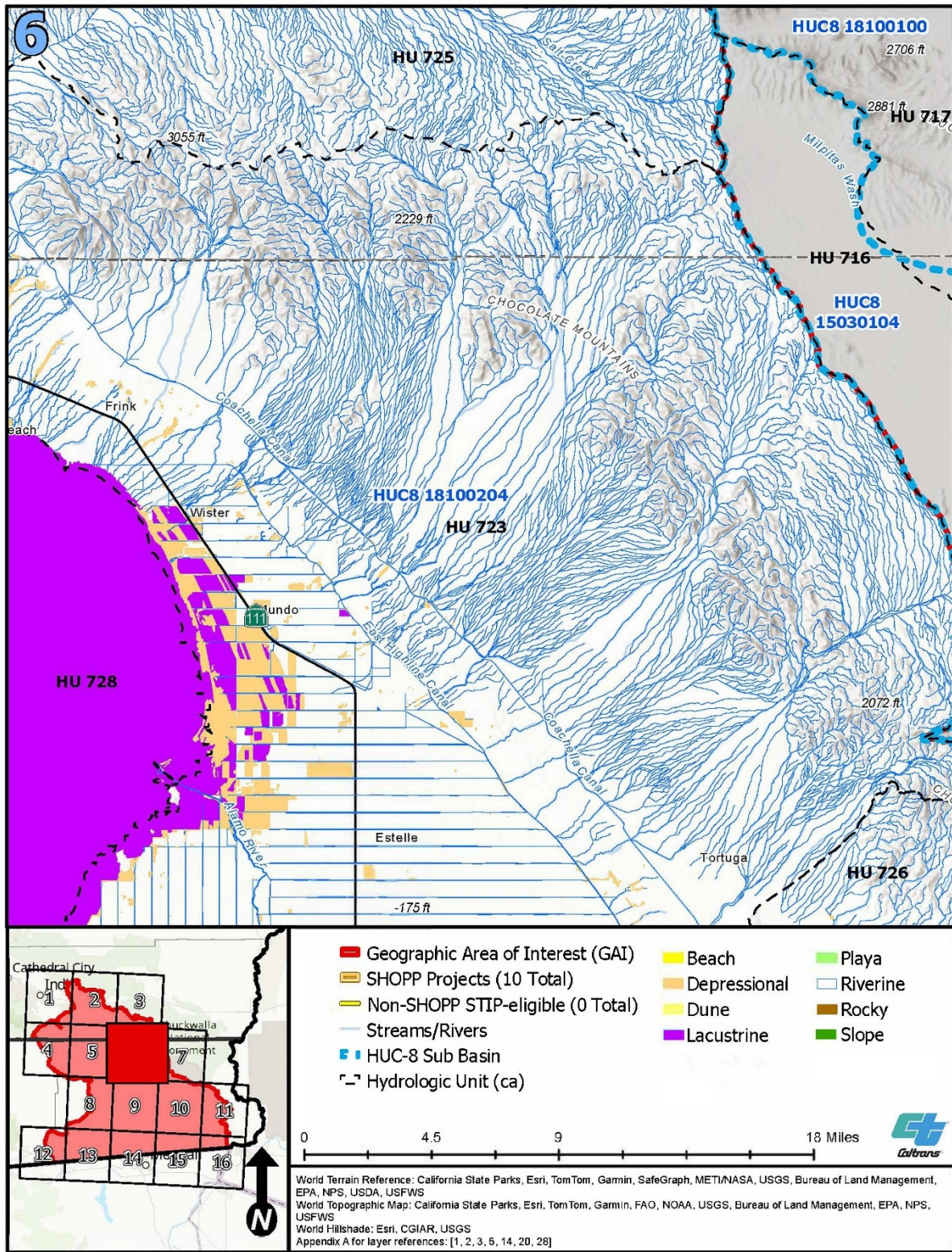


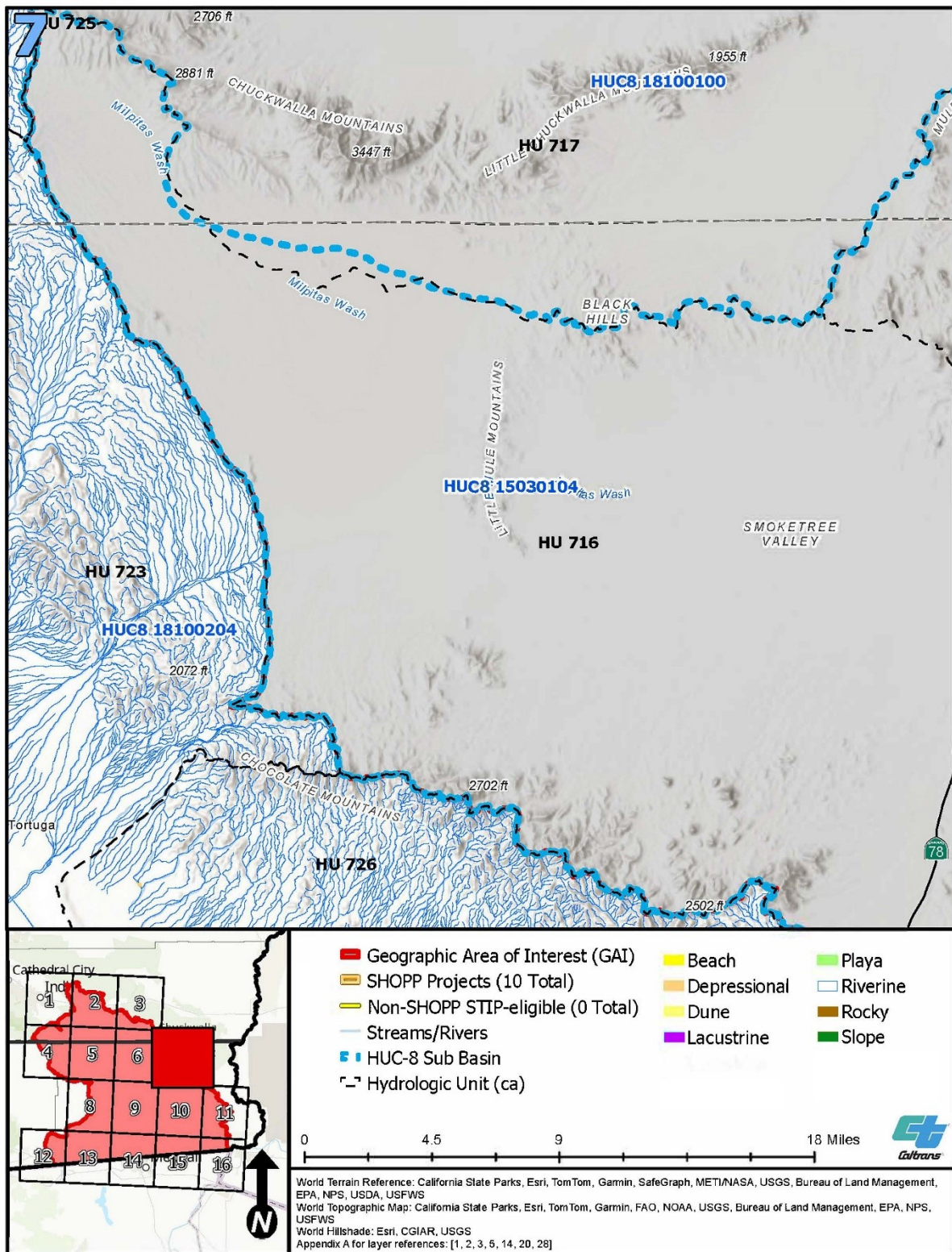


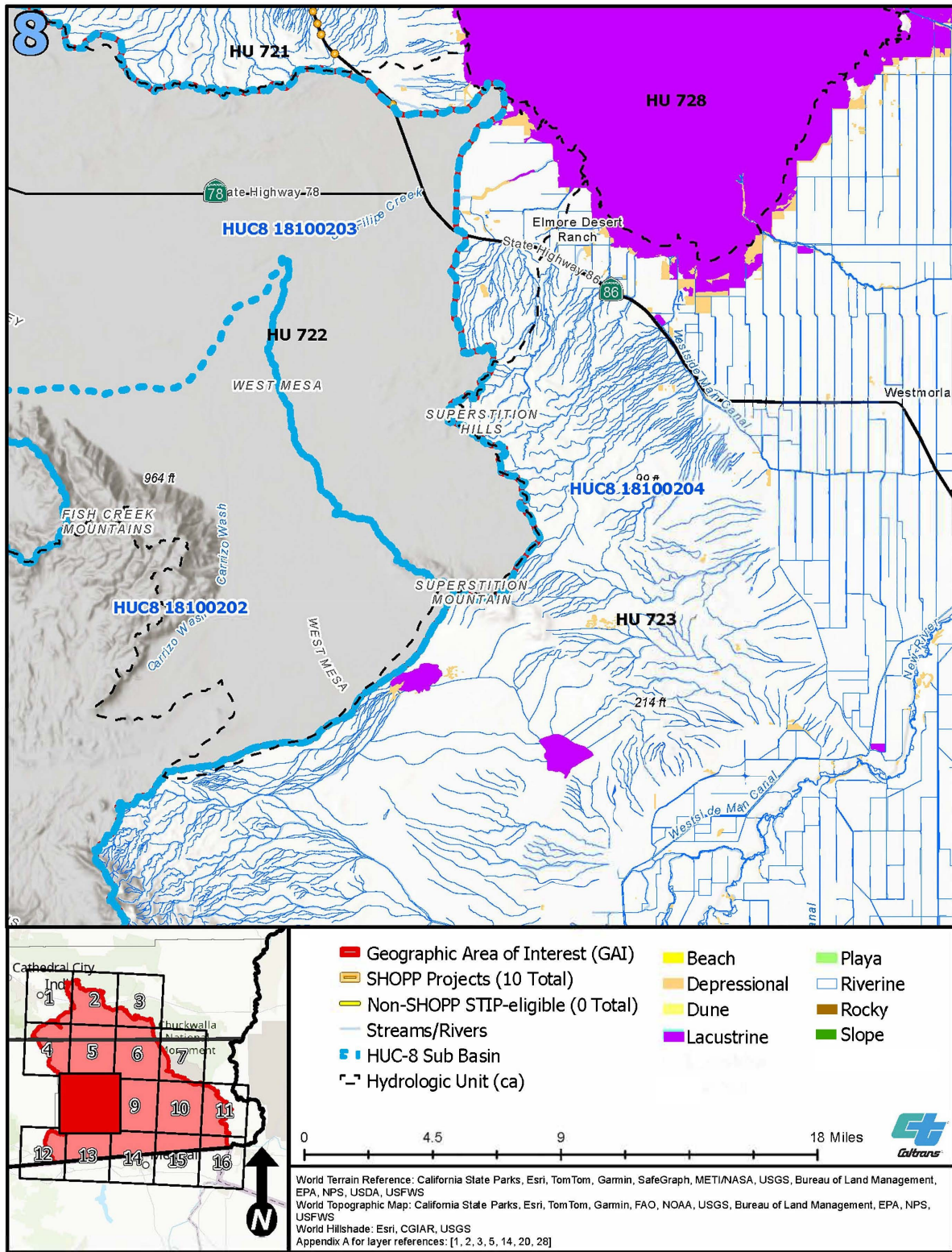


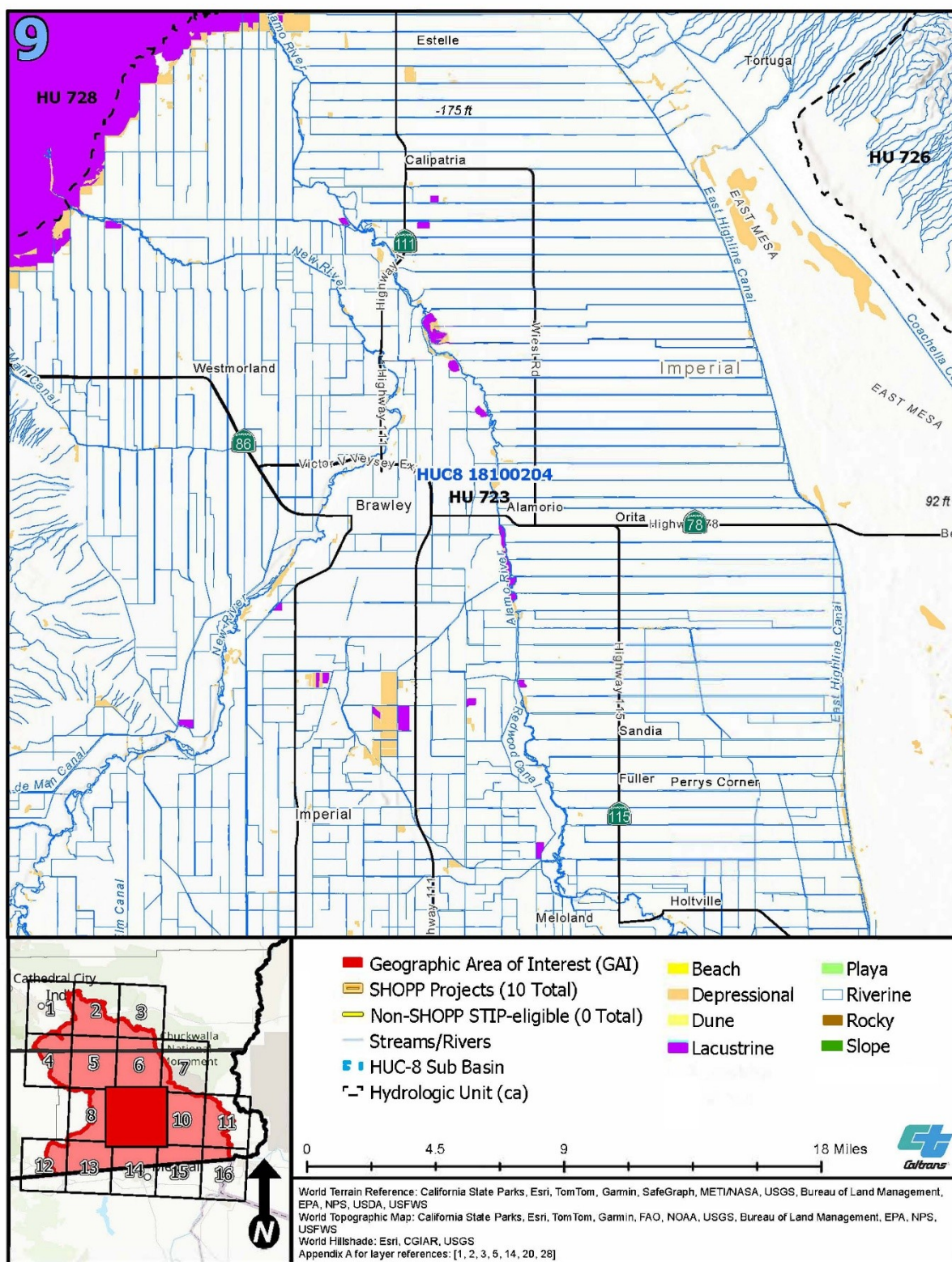


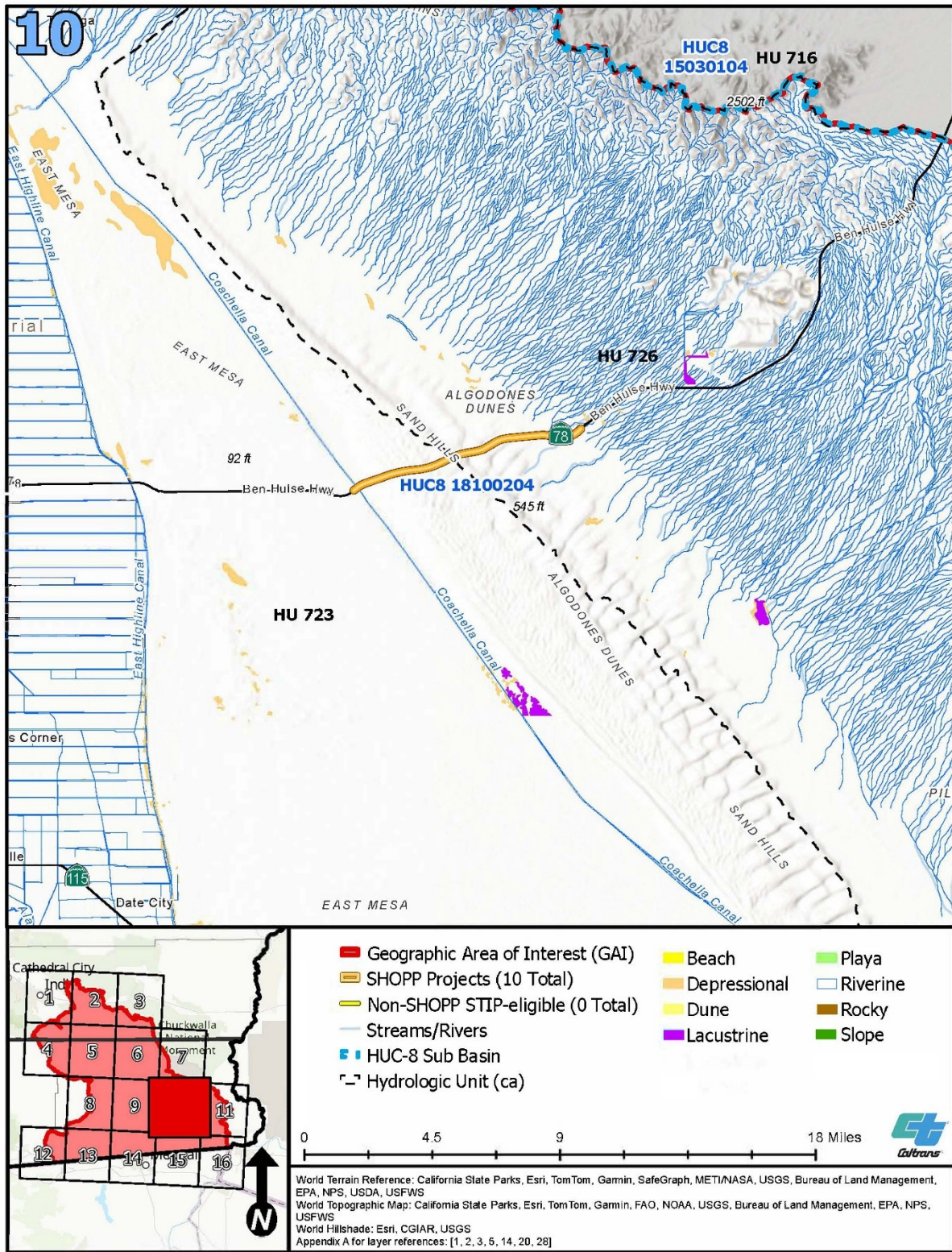


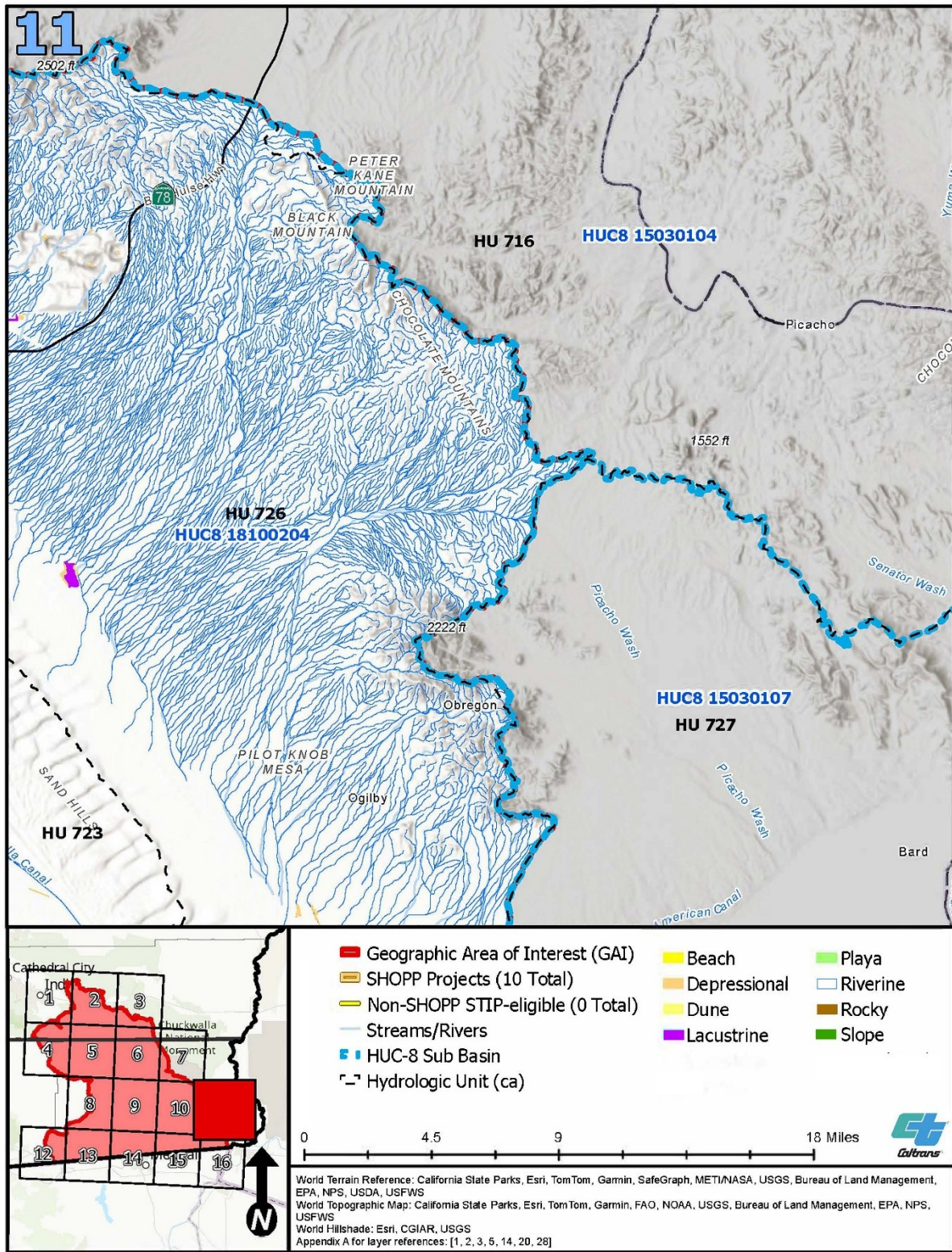


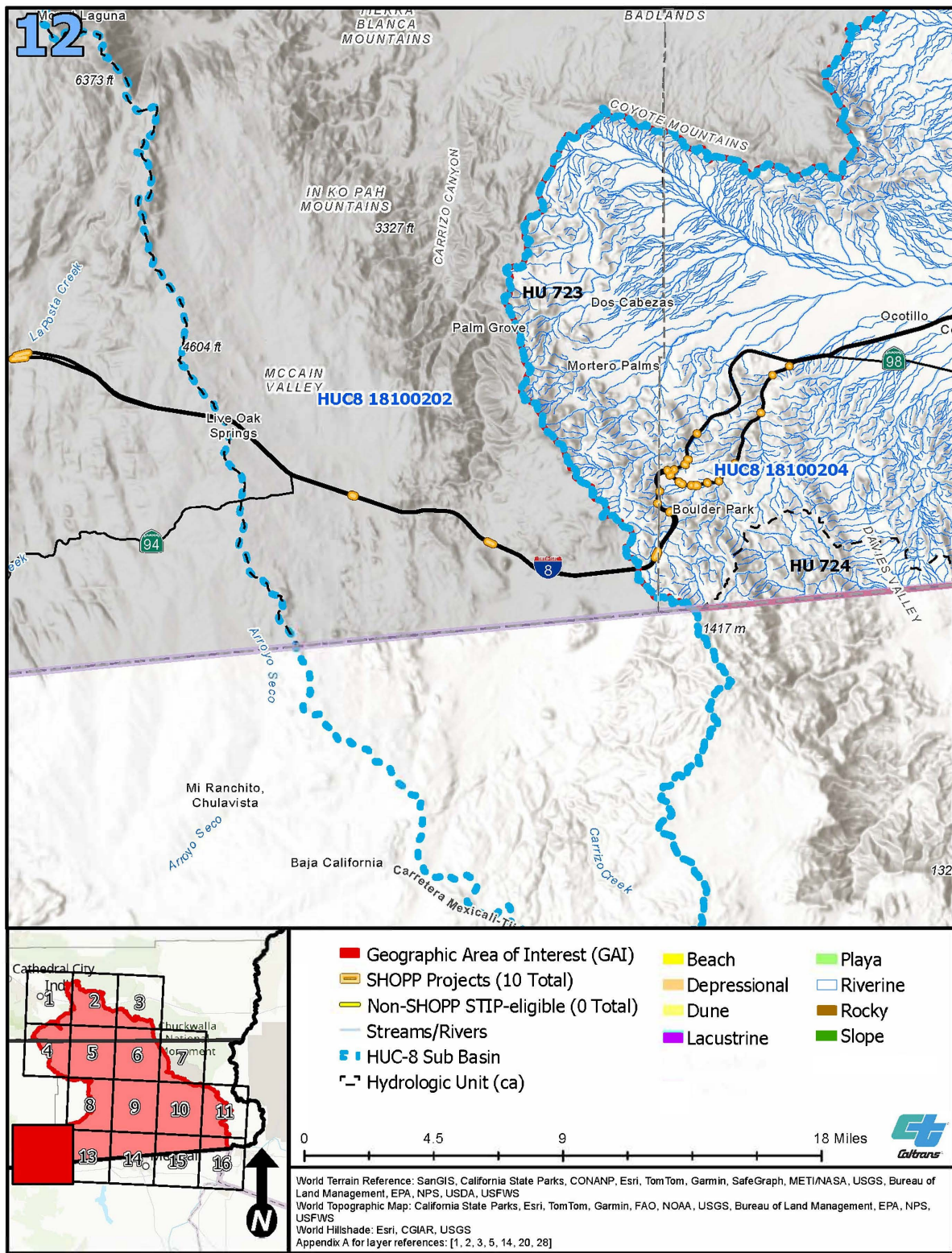


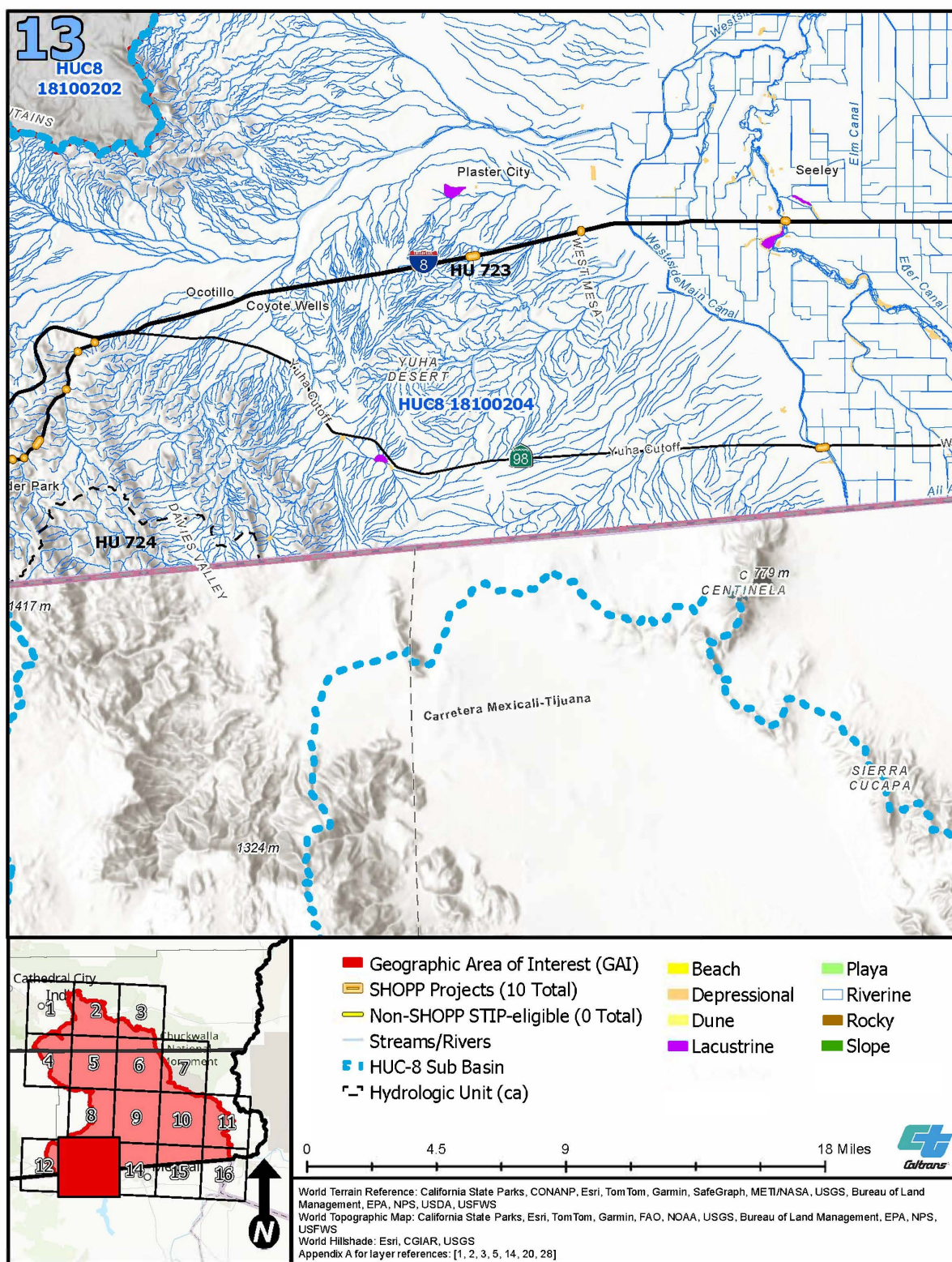


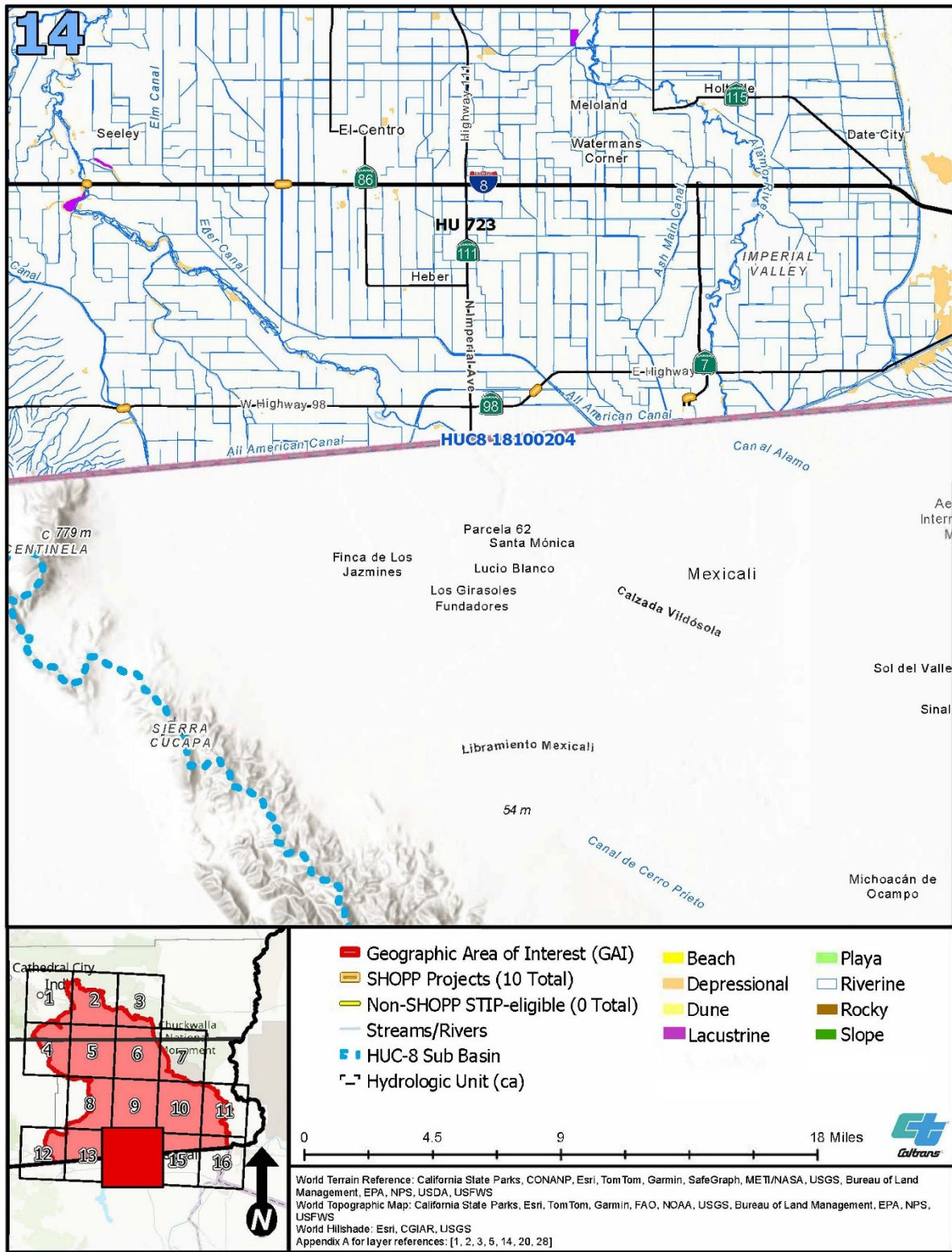


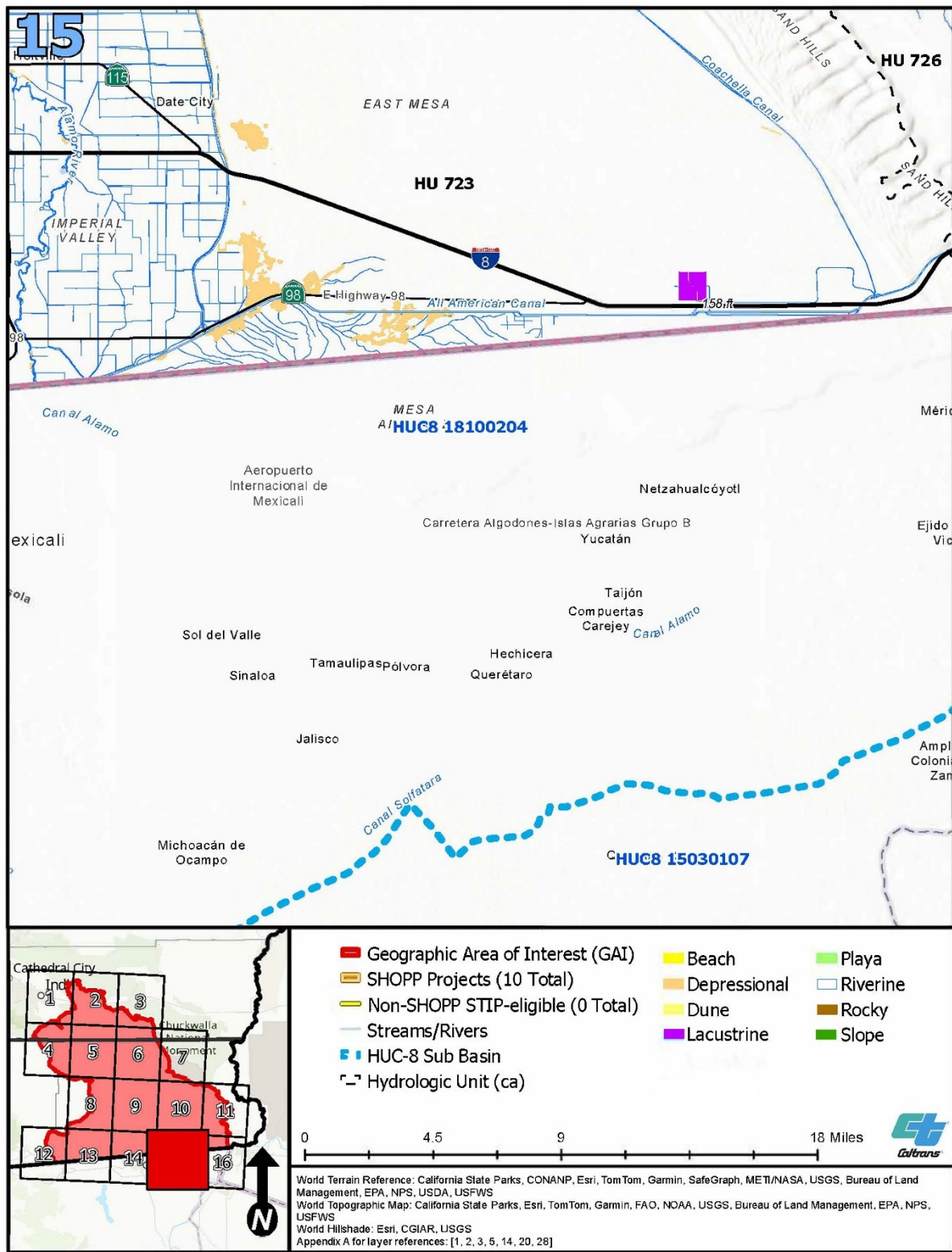


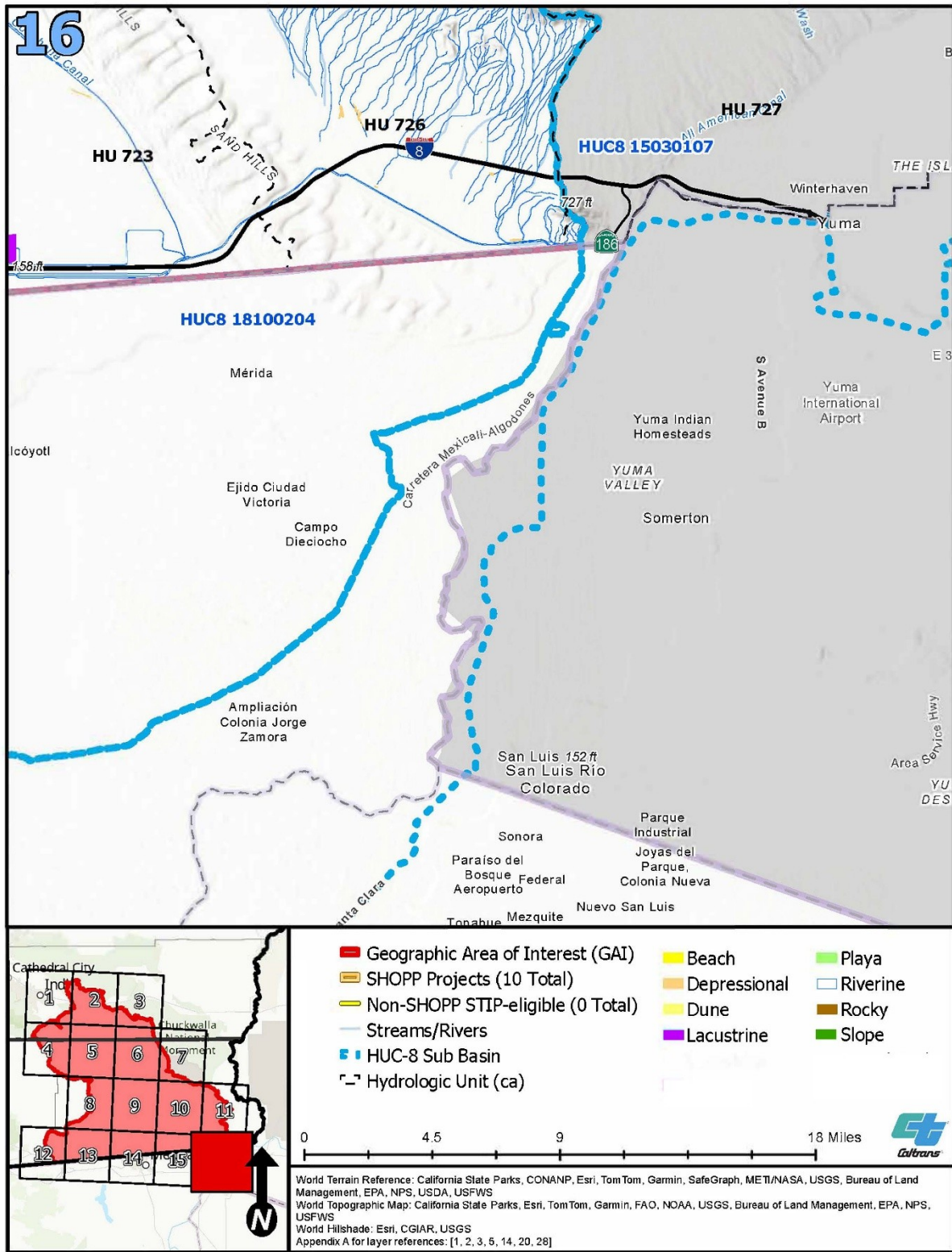












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