



ADVANCE MITIGATION PROGRAM
Sierra Nevada and Sierra Nevada Foothills
Ecoregion Sections within Caltrans District 10
Regional Advance Mitigation
Needs Assessment
Appendices

Version 1.0 – DRAFT

Establishing Caltrans' Need for Advance Mitigation
for Caltrans District 10
forecast fiscal years 2023/24 to 2032/2033

California Department of Transportation – District 10

July 2026

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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 10 RAMNA GIS Sources

ID	GIS Layer	Source	Source Date	Download Date	Website
1	State Highway Network	Caltrans	8/1/2018	10/11/2018	https://gisdata-caltrans.opendata.arcgis.com/datasets/77f2d7ba94e040a78bfe36feb6279da_0/about
2	SHOPP	Caltrans	2023/2024 Q1	6/28/2024	Caltrans System Planning
3	STIP	California Transportation Commission	2023/2024 Q1	NA	Caltrans System Planning
4	Ecoregion Section (GAI)	USDA Forest Service	1/26/2021	1/26/2021	https://data.fs.usda.gov/geodata/edw/datasets.php?xmlKeyword=Ecomap
5	Watershed Boundary Section	USGS	9/26/2014	10/19/2018	https://www.usgs.gov/core-science-systems/ngp/national-hydrography
6	County Boundaries	U.S. Census Bureau	7/8/2016	10/11/2018	https://data.ca.gov/dataset/ca-geographic-boundaries
7	California Conservation Easements	California Protected Areas Database	6/1/2024	7/24/2024	https://www.calands.org/cced/
8	California Protected Areas Holdings	California Protected Areas Database	6/1/2024	7/24/2024	https://www.calands.org/cpad/
9	Tribal Land Boundaries	Bureau of Indian Affairs	5/16/2017	10/11/2018	https://onemap-bia-geospatial.hub.arcgis.com/
10	U.S. Military Installations	U.S. Census Bureau	11/22/2023	1/12/2024	https://catalog.data.gov/dataset/tiger-line-shapefile-2022-nation-u-s-military-installation
11	Farmland Mapping and Monitoring Program	California Department of Conservation	9/22/2023	1/12/2024	https://gis.conservation.ca.gov/portal/home/group.html?id=b1494c705cb34d01acf78f4927a75b8f#overview
12	ACE Climate Resilience – ACE [ds2738]	CDFW	2/22/2018	10/17/2018	https://map.dfg.ca.gov/metadata/ds2738.html?5.66.18

ID	GIS Layer	Source	Source Date	Download Date	Website
13	Vegetation D09/D10 in Caltrans District 10 Geospatial Data for the Advance Mitigation Needs Assessment for the First Quarter of FY 2023/24	Caltrans	1/1/2017	8/6/2024	https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation
14	Waters and Wetlands D09/D10 in Caltrans District 10 Geospatial Data for the Advance Mitigation Needs Assessment for the First Quarter of FY 2023/24	Caltrans	1/1/2017	8/6/2024	https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation
15	USFWS Critical Habitat	FWS	10/1/2018	3/24/2021	https://ecos.fws.gov/ecp/report/table/critical-habitat.html
16	Essential Connectivity Areas – CEHC	CDFW	1/1/2014	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://services2.arcgis.com/Uq9r85Potqm3MfRV/ArcGIS/rest/services/biosds621_fp_u/FeatureServer/0
18	Potential Riparian Connections – CEHC	CDFW	3/1/2010	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	6/29/2018	9/25/2019	https://www.fema.gov/national-flood-hazard-layer-nfhl
20	CalWater Hydrologic Areas	California Department of Forestry and Fire Protection	11/1/2016	10/19/2018	https://frap.fire.ca.gov/mapping/gis-data/
21	Vernal Pools – ACE [ds2732]	CDFW	2/13/2020	1/29/2021	https://map.dfg.ca.gov/metadata/ds2732.html?5.94.01

ID	GIS Layer	Source	Source Date	Download Date	Website
22	Terrestrial Connectivity – ACE [ds2734]	CDFW	8/28/2019	9/25/2019	https://map.dfg.ca.gov/metadata/ds2734.html?5.80.28l
23	SWAP Terrestrial Targets – 2015	CDFW	2/1/2018	10/29/2018	https://map.dfg.ca.gov/metadata/ds1966.html?5.66.18
24	Aquatic Biodiversity Summary – ACE [ds2768]	CDFW	2/22/2018	7/3/2019	https://map.dfg.ca.gov/metadata/ds2768.html?5.80.28l
25	Calfish Passage Assessment Database	CDFW	10/3/2019	12/15/2019	https://map.dfg.ca.gov/metadata/ds0069.html?5.84.18vo
26	Terrestrial Biodiversity Summary – ACE [ds2739]	CDFW	2/24/2020	7/3/2019	https://map.dfg.ca.gov/metadata/ds2739.html?5.80.28l
27	Regulatory In-Lieu Fee & Bank Information Tracking System	Corps	Not available	Not available	https://ribits.ops.usace.army.mil/ords/f?p=107:2
28	CDFW Approved Mitigation Service Areas	CDFW	2/6/2024	2/8/2024	https://map.dfg.ca.gov/metadata/ds2782.html?5.76.22
29	National Hydrography Dataset Plus	EPA	3/13/2019	4/29/2021	https://www.epa.gov/waterdata/get-nhdplus-national-hydrography-dataset-plus-data
30	Fire Hazard Severity Zones in State Responsibility Area	California Department of Forestry and Fire Protection	11/1/2007	6/1/2022	https://34c031f8-c9fd-4018-8c5a-4159cdf6b0d-cdn-endpoint.azureedge.net/-/media/osfm-website/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/documents/relied-upon.pdf?rev=d7dd8d66c25f48aba431a33006708d89&hash=184F05D9CA74A95A5E40AD2CFFEDD254
31	Sierra Nevada Foothill Landscape Blocks [ds1004]	CDFW	6/17/2014	9/12/2022	https://map.dfg.ca.gov/metadata/DS1004.html
32	Sierra Nevada Foothill Riparian Corridors [ds1018]	CDFW	6/17/2014	9/12/2022	https://map.dfg.ca.gov/metadata/DS1018.html

ID	GIS Layer	Source	Source Date	Download Date	Website
33	Sierra Nevada Foothill Wildlife Linkages [ds1005]	CDFW	6/9/2014	9/12/2022	https://map.dfg.ca.gov/metadata/DS1005.html
34	National Wild and Scenic Rivers	USFS	3/2/2016	8/4/2021	https://www.rivers.gov/mapping-gis.php
35	303(d) List of Impaired Waterbodies	SWRCB	6/9/2021	5/13/2022	https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.html
36	ZIP Codes	U.S. Postal Service	2/11/2020	3/11/2020	https://www.arcgis.com/home/item.html?id=8d2012a2016e484dafaac0451f9aea24
37	RipZET ^a	SFEI	8/1/2024	8/5/2024	https://www.sfei.org/projects/ripzet

^a Data were used for tables, but not for figures, in this RAMNA

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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 Book for fiscal years 2023/24 to 2032/33 (Caltrans 2023). The intent of the SHOPP Ten-Year Book is to raise awareness of planned future transportation projects, and detailed transportation project information is not provided. The SHOPP Ten-Year Book includes 22 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. Most of the planned activities are to replace/install culverts and pavement projects. See Table 1 of Caltrans 2023 for the range of buffers relevant to the transportation projects listed in the SHOPP Ten-Year Book. Many transportation projects include multiple activities.

The subset of the Caltrans District 10 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). 2023. *State Highway Operation & Protection Program Ten-Year Project Book 2023/24–2032/33*. Quarter 1, Fiscal Year 2023/24. 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 ^a	Begin Mile ^a	End Mile ^a	Activity
22989	South Fork American	Sierra Nevada	2030/31	10	Alpine	88	0	8	Pavement
17357	Upper Carson	Sierra Nevada	2024/25	10	Alpine	4	26.77	31.24	Drainage
18344	Upper Carson	Sierra Nevada	2023/24	10	Alpine	4	R0.0	31.677	Pavement
21933	Upper Carson	Sierra Nevada	2025/26	10	Alpine	4	0.38	30.37	Drainage
18344	Upper Mokelumne	Sierra Nevada	2023/24	10	Alpine	4	R0.0	31.677	Pavement
21933	Upper Mokelumne	Sierra Nevada	2025/26	10	Alpine	4	0.38	30.37	Drainage
18344	Upper Stanislaus	Sierra Nevada	2023/24	10	Alpine	4	R0.0	31.677	Pavement
21933	Upper Stanislaus	Sierra Nevada	2025/26	10	Alpine	4	0.38	30.37	Drainage
11366	Upper Mokelumne	Sierra Nevada Foothills	2023/24	10	Amador	88	5.5	14.3	Pavement
19026	Upper Mokelumne	Sierra Nevada Foothills	2028/29	10	Amador	49	0	R7.000	Pavement
22988	Upper Mokelumne	Sierra Nevada Foothills	2029/30	10	Amador	88	14.3	32.3	Pavement
19003	Upper Mokelumne	Sierra Nevada	2023/24	10	Amador	88	R54.700	R60.800	Drainage
22988	Upper Mokelumne	Sierra Nevada	2029/30	10	Amador	88	14.3	32.3	Pavement
24071	Upper Stanislaus	Sierra Nevada Foothills	2027/28	10	Calaveras	4	13.7	15.7	Reactive safety
13804	Upper Calaveras California	Sierra Nevada Foothills	2023/24	10	Calaveras	12	17.1	17.6	Bridge – health
17507	Upper Calaveras California	Sierra Nevada Foothills	2023/24	10	Calaveras	12	14.52	R39.8	Drainage

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route ^a	Begin Mile ^a	End Mile ^a	Activity
18336	Upper Calaveras California	Sierra Nevada Foothills	2025/26	10	Calaveras	4	8.5	R21.3	Mobility – operational improvements
21691	Upper Calaveras California	Sierra Nevada Foothills	2023/24	10	Calaveras	26	18.1	18.1	Reactive safety
22353	Upper Calaveras California	Sierra Nevada Foothills	2030/31	10	Calaveras	4	15.8	R65.865	Pavement
22990	Upper Calaveras California	Sierra Nevada Foothills	2030/31	10	Calaveras	12	13.87	18.2	Pavement
22992	Upper Calaveras California	Sierra Nevada Foothills	2032/33	10	Calaveras	49	R0.0	30.865	Pavement
24071	Upper Calaveras California	Sierra Nevada Foothills	2027/28	10	Calaveras	4	13.7	15.7	Reactive safety
19026	Upper Mokelumne	Sierra Nevada Foothills	2028/29	10	Calaveras	49	0	R7.000	Pavement
21691	Upper Mokelumne	Sierra Nevada Foothills	2023/24	10	Calaveras	26	18.1	18.1	Reactive safety
22992	Upper Mokelumne	Sierra Nevada Foothills	2032/33	10	Calaveras	49	R0.0	30.865	Pavement
18336	Upper Stanislaus	Sierra Nevada Foothills	2025/26	10	Calaveras	4	8.5	R21.3	Mobility – operational improvements
22353	Upper Stanislaus	Sierra Nevada Foothills	2030/31	10	Calaveras	4	15.8	R65.865	Pavement
22992	Upper Stanislaus	Sierra Nevada Foothills	2032/33	10	Calaveras	4	R0.0	30.865	Pavement
22353	Upper Calaveras California	Sierra Nevada Foothills	2030/31	10	Calaveras	4	15.8	R65.865	Pavement

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route ^a	Begin Mile ^a	End Mile ^a	Activity
17507	Upper Mokelumne	Sierra Nevada	2023/24	10	Calaveras	12	14.52	R39.8	Drainage
22353	Upper Stanislaus	Sierra Nevada	2030/31	10	Calaveras	4	15.8	R65.865	Pavement
22991	Middle San Joaquin-Lower Chowchilla	Sierra Nevada Foothills	2027/28	10	Mariposa	49	27	48.835	Pavement
22991	Upper Merced	Sierra Nevada Foothills	2027/28	10	Mariposa	49	27	48.835	Pavement
14092	Upper Merced	Sierra Nevada	2025/26	10	Mariposa	140	37	43.3	Bridge – health
18987	Mono Lake	Sierra Nevada	2023/24	9	Mono	395	50.6	53.1	Mobility – ADA
17507	Upper Stanislaus	Sierra Nevada Foothills	2023/24	10	Tuolumne	120	14.52	R39.8	Drainage
22992	Upper Stanislaus	Sierra Nevada Foothills	2032/33	10	Tuolumne	49	R0.0	30.865	Pavement
17507	Upper Tuolumne	Sierra Nevada Foothills	2023/24	10	Tuolumne	120	14.52	R39.8	Drainage
22981	Upper Tuolumne	Sierra Nevada Foothills	2028/29	10	Tuolumne	49	12.8	18.8	Pavement
23611	Upper Tuolumne	Sierra Nevada Foothills	2029/30	10	Tuolumne	120	14.73	14.73	Bridge – health
17507	Upper Stanislaus	Sierra Nevada	2023/24	10	Tuolumne	120	14.52	R39.8	Drainage
17507	Upper Tuolumne	Sierra Nevada	2023/24	10	Tuolumne	120	14.52	R39.8	Drainage
22370	Upper Tuolumne	Sierra Nevada	2027/28	10	Tuolumne	108	R4.2	13.4	Pavement
22981	Upper Tuolumne	Sierra Nevada	2028/29	10	Tuolumne	49	12.8	18.8	Pavement

Source: Caltrans (2023)

Notes: R = right

^a Routes and begin and end postmiles are representative of the project and are not necessarily associated with the county, ecoregion, or HUC-8 specified in the table row.

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 2023a, 2023b, CDFW 2019). 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 2-2 in the RAMNA's main text indicates the acreages of each habitat type that are mapped in the Sierra Nevada and Sierra Nevada Foothills Ecoregion Sections.

A key map, provided after the list of habitat types, references mapbook pages, including zoomed-in views of locations in the GAI and mapped land cover types (page C-3). These 41 maps correspond with the aquatic resources maps in Appendix G, *Aquatic Resource Locations*.

Tree-dominated Habitats: Tree-dominated habitats have at least 10 percent total tree canopy crown closure. In the GAI, tree-dominated habitats include aspen, blue oak foothill pine, blue oak woodland, closed-cone pine-cypress, Douglas fir, eastside pine, eucalyptus, Jeffrey pine, juniper, lodgepole pine, montane hardwood, montane hardwood-conifer, montane riparian, pinyon-juniper, ponderosa pine, red fir, Sierran mixed conifer, subalpine conifer, valley foothill riparian, valley oak woodland, and white fir.

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, alpine dwarf-shrub, bitterbrush, chamise-redshank chaparral, coastal scrub, desert scrub, low sage, mixed chaparral, montane 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. In the GAI, herbaceous-dominated habitats include annual grassland, fresh emergent wetland, pasture, perennial grassland, and wet meadow.

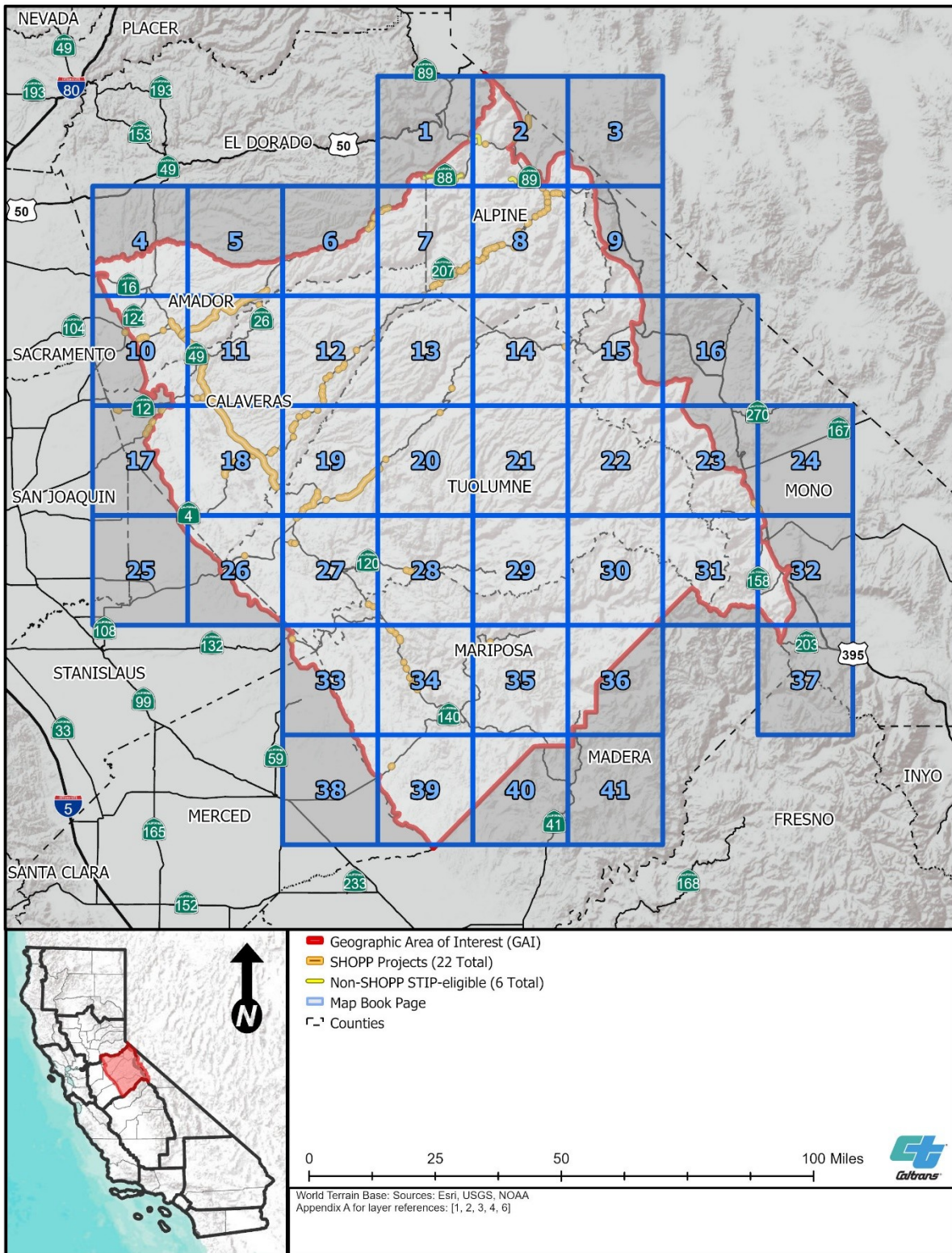
Aquatic Habitats: Aquatic habitats have at least 98 percent total cover by open water and no more than 2 percent total cover by vegetation in the continually exposed shore zone. In the GAI, aquatic habitats include lacustrine and riverine.

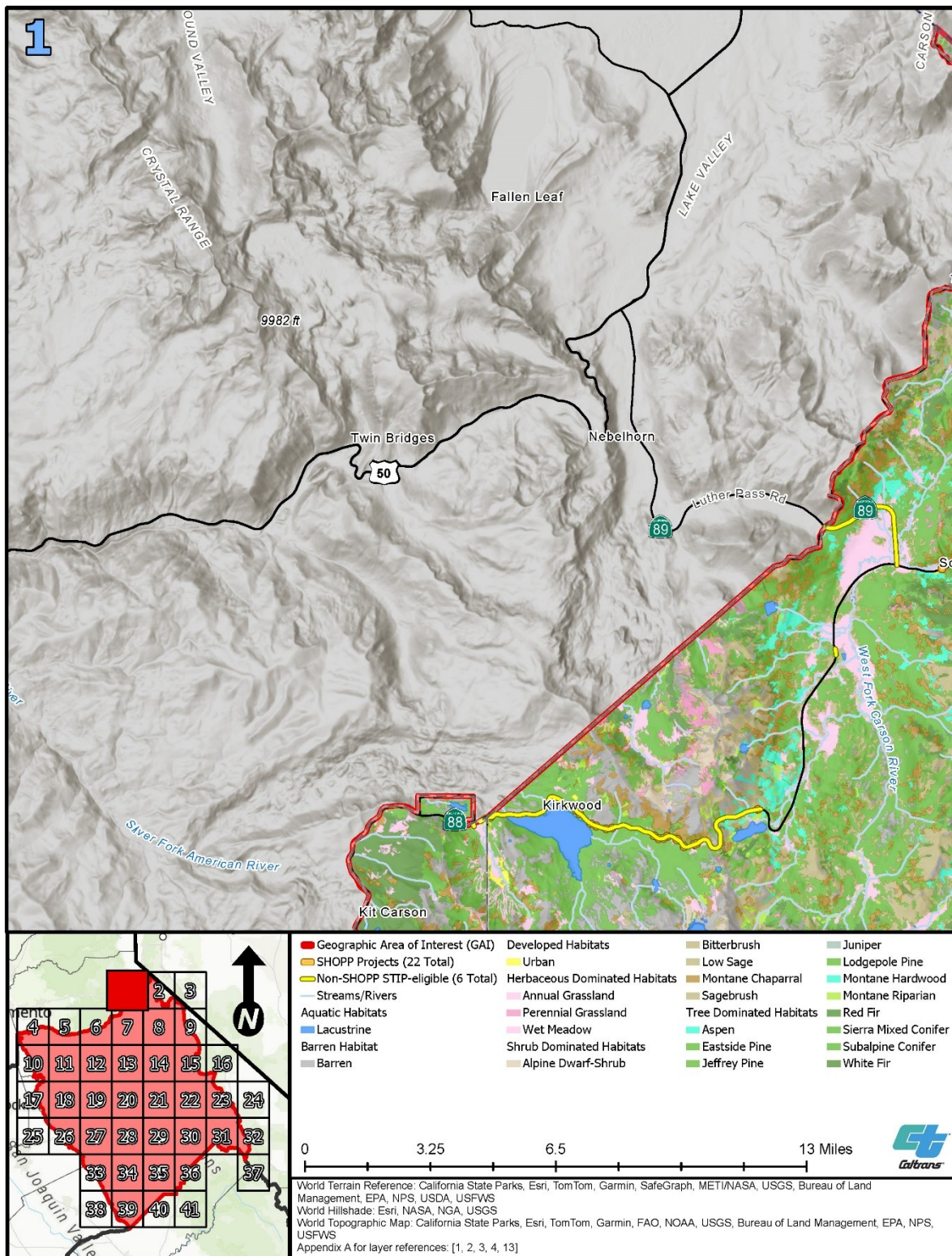
Developed Habitats: Developed habitats have at least 2 percent total cover by non-wildland vegetation grown for food, fiber, or landscaping, and do not meet criteria for any wildland habitat. In the GAI, developed habitats include cropland, deciduous orchard, evergreen orchard, urban, and vineyard.

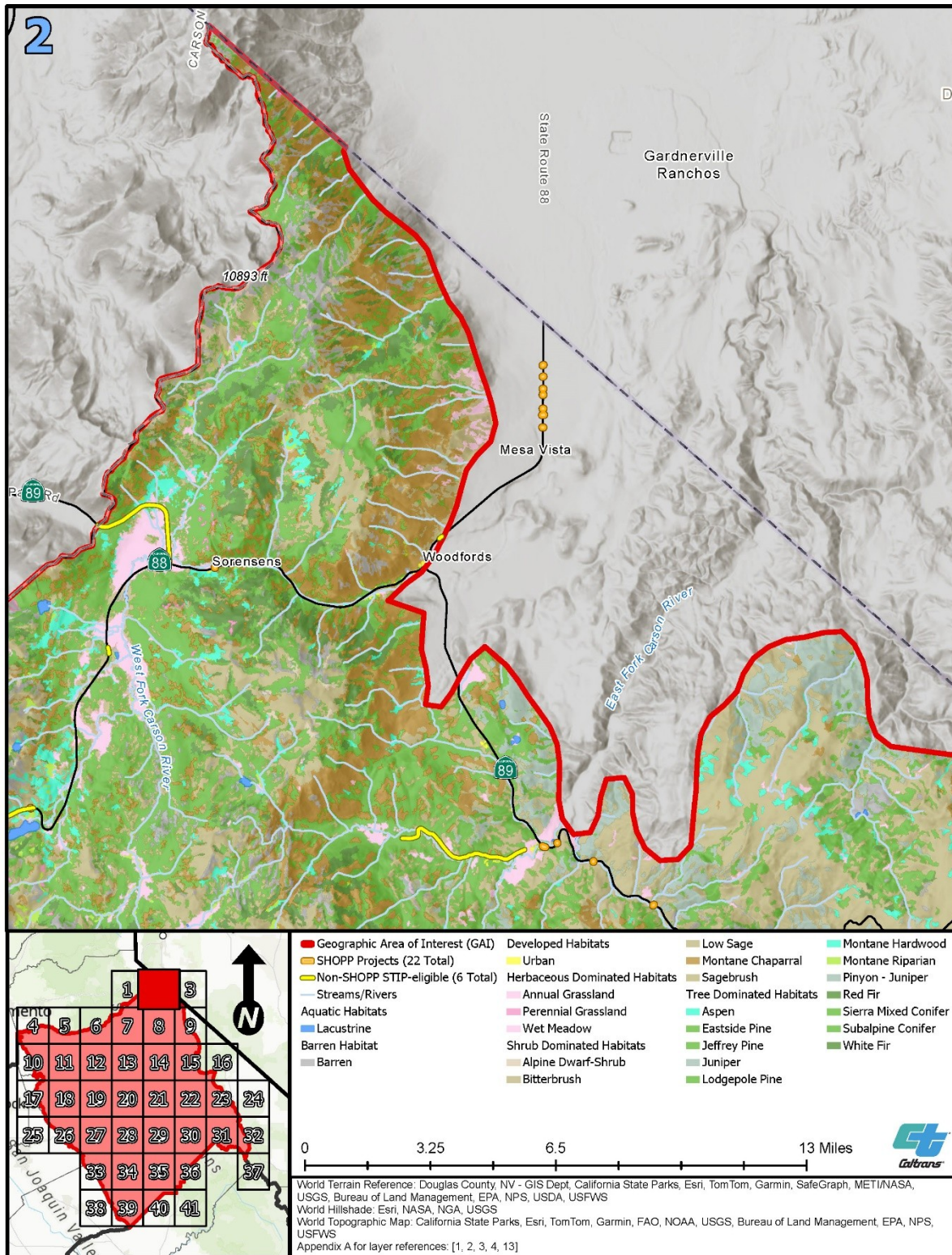
Non-vegetated Habitats: Non-vegetated habitats include barren areas, characterized by less than 2 percent cover by herbaceous species. In the GAI, non-vegetated habitats consist of barren areas.

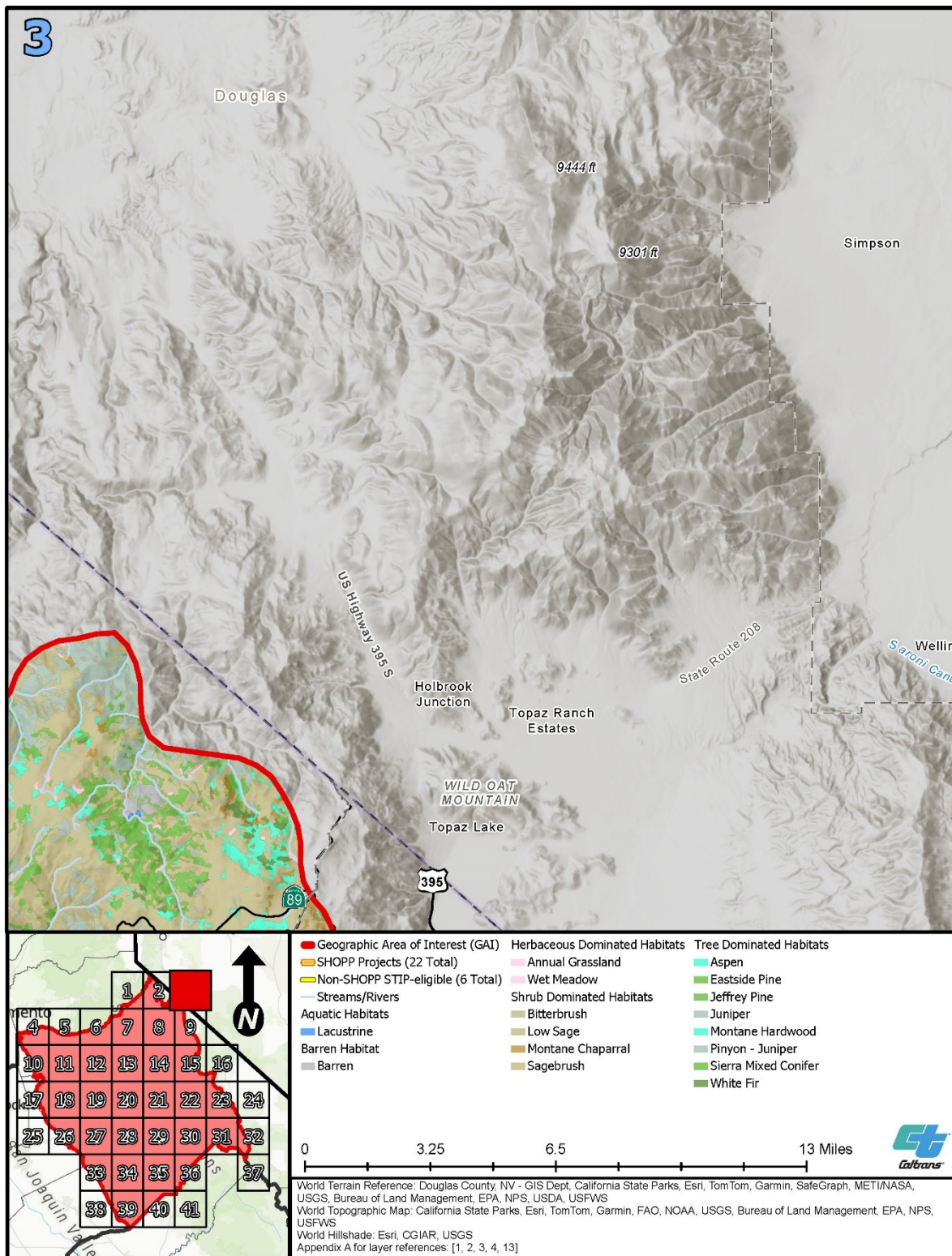
References

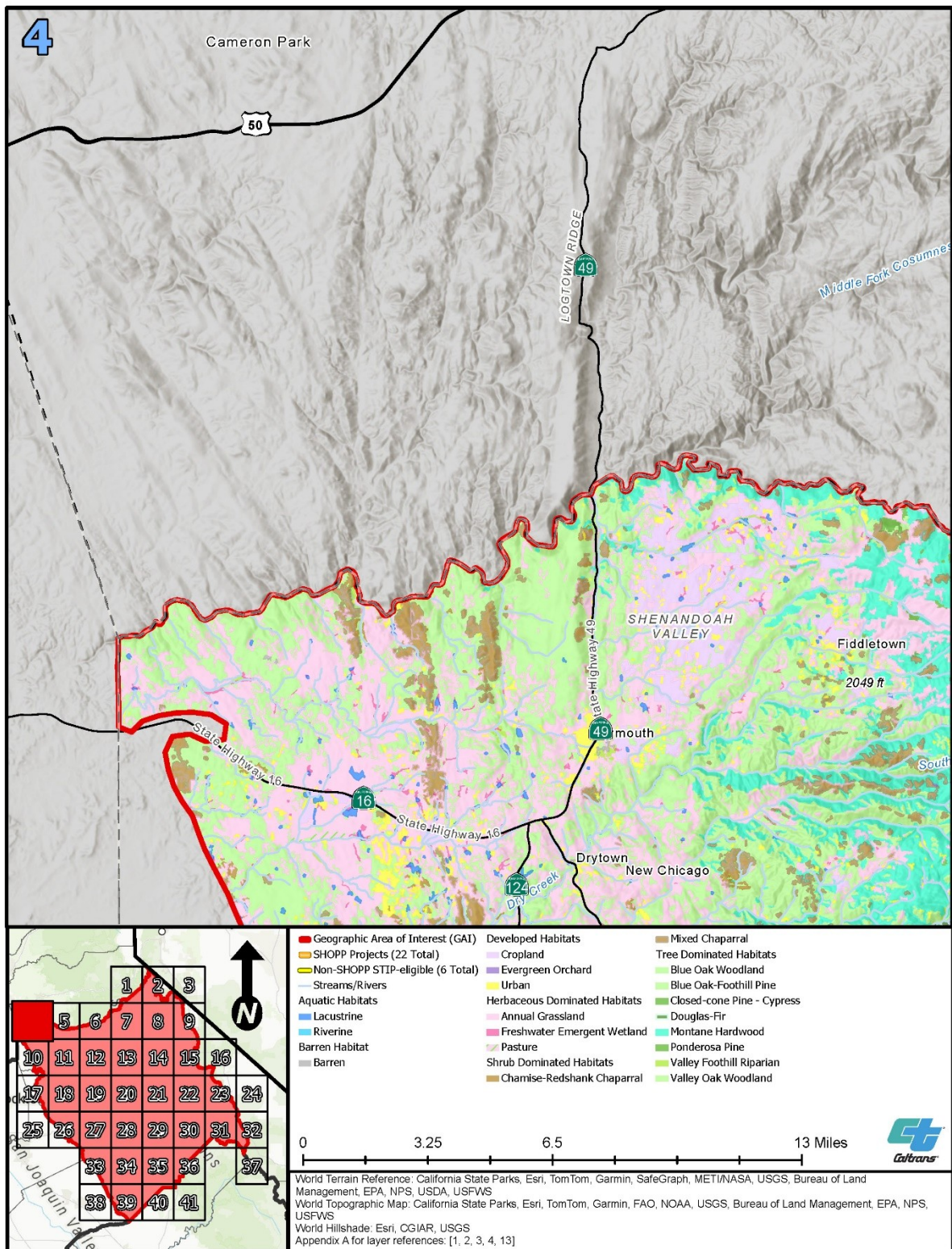
- Caltrans (California Department of Transportation). 2023a. "Statewide Advance Mitigation Needs Assessment Report." State Highway Operation and Protection Program. Ten-Year Project Book. First Quarter, Fiscal Year 2023/24. October 2023. Sacramento, California.
<https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation>.
- . 2023b. "Vegetation_ D09/D10 in Caltrans District 10 Geospatial Data for the Advance Mitigation Needs Assessment for the First Quarter of FY 2023/24" (data file). Accessed August 6, 2024. <https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation>.
- 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 March 14, 2023. <https://wildlife.ca.gov/Data/Analysis/CWHR/Wildlife-Habitats>.

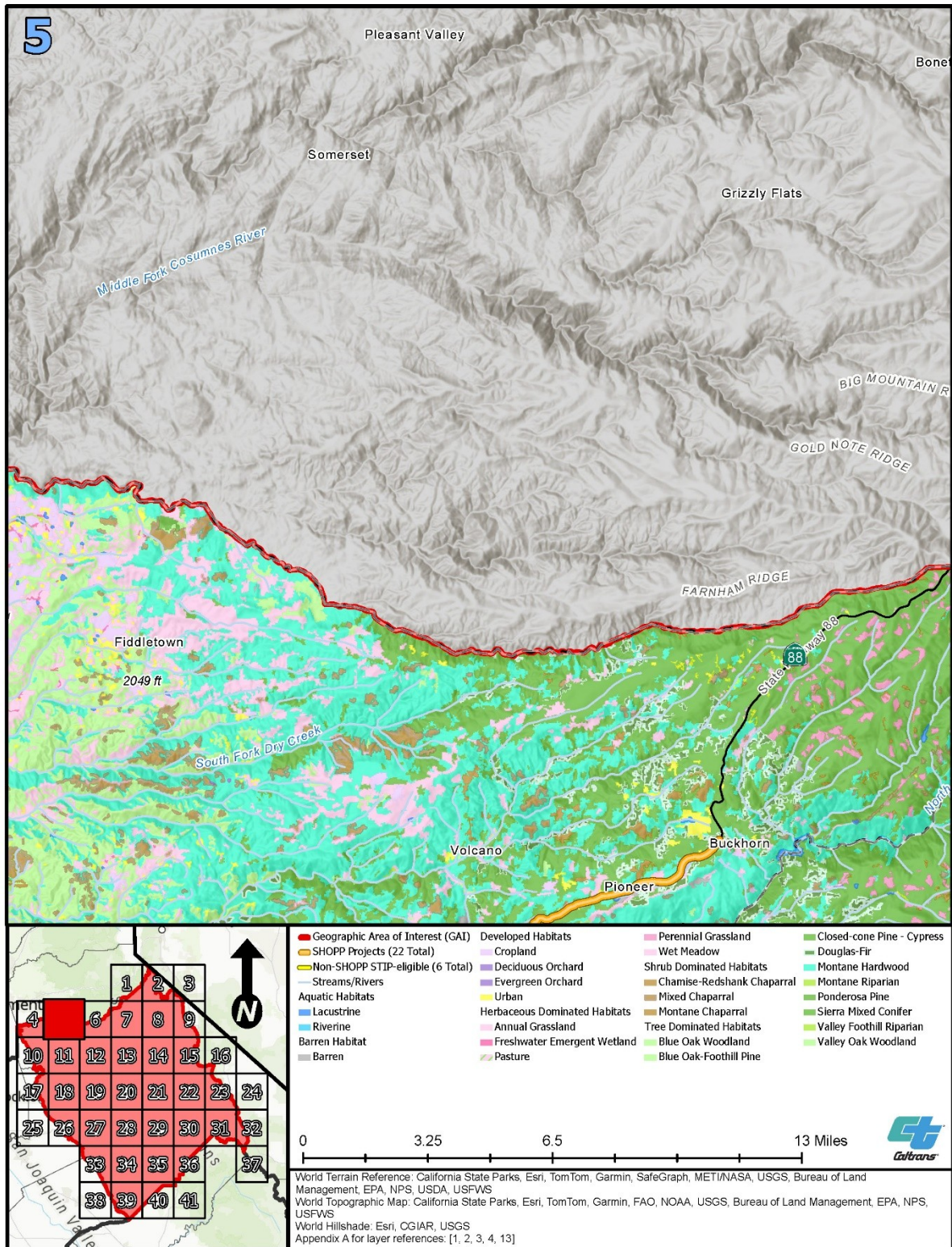


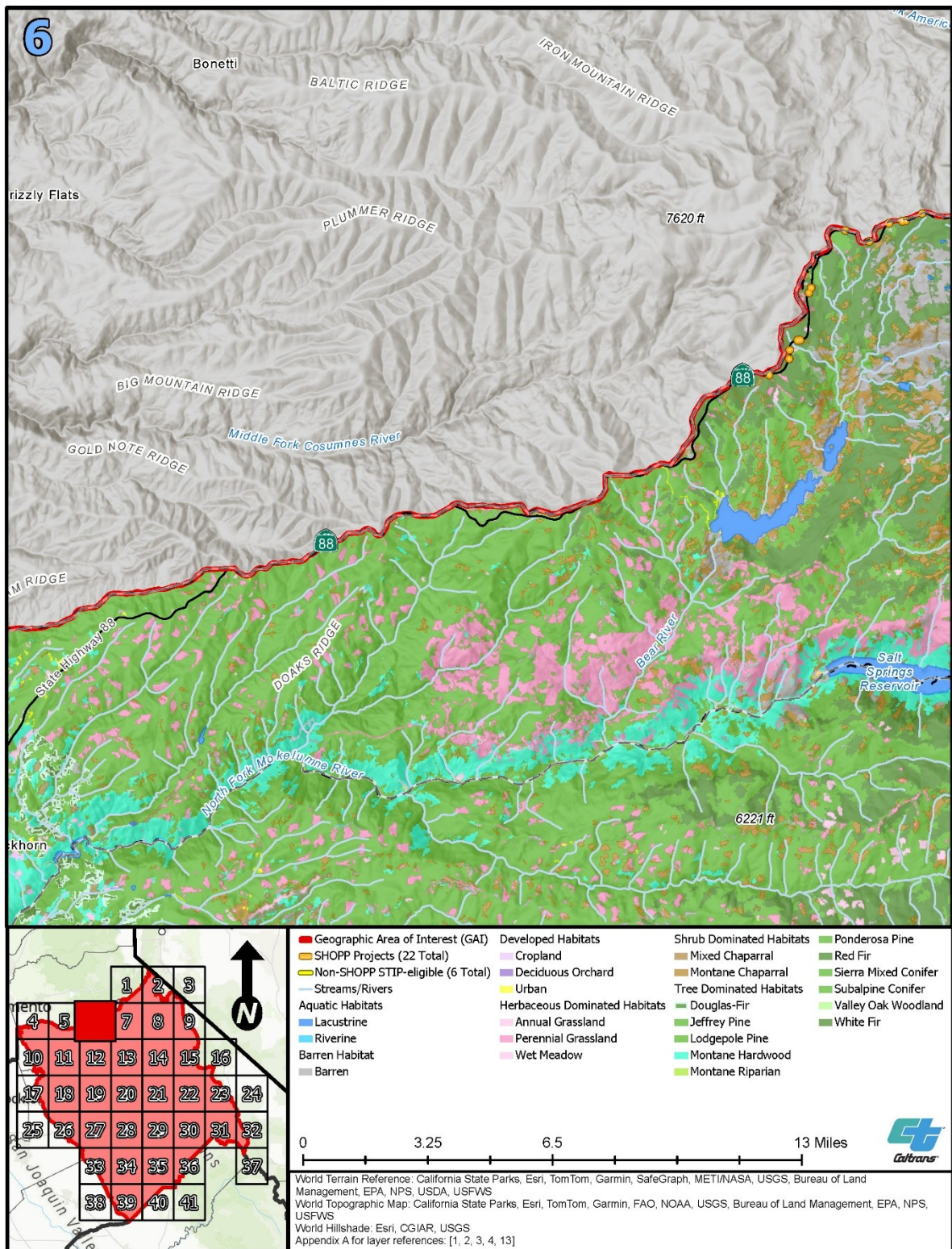


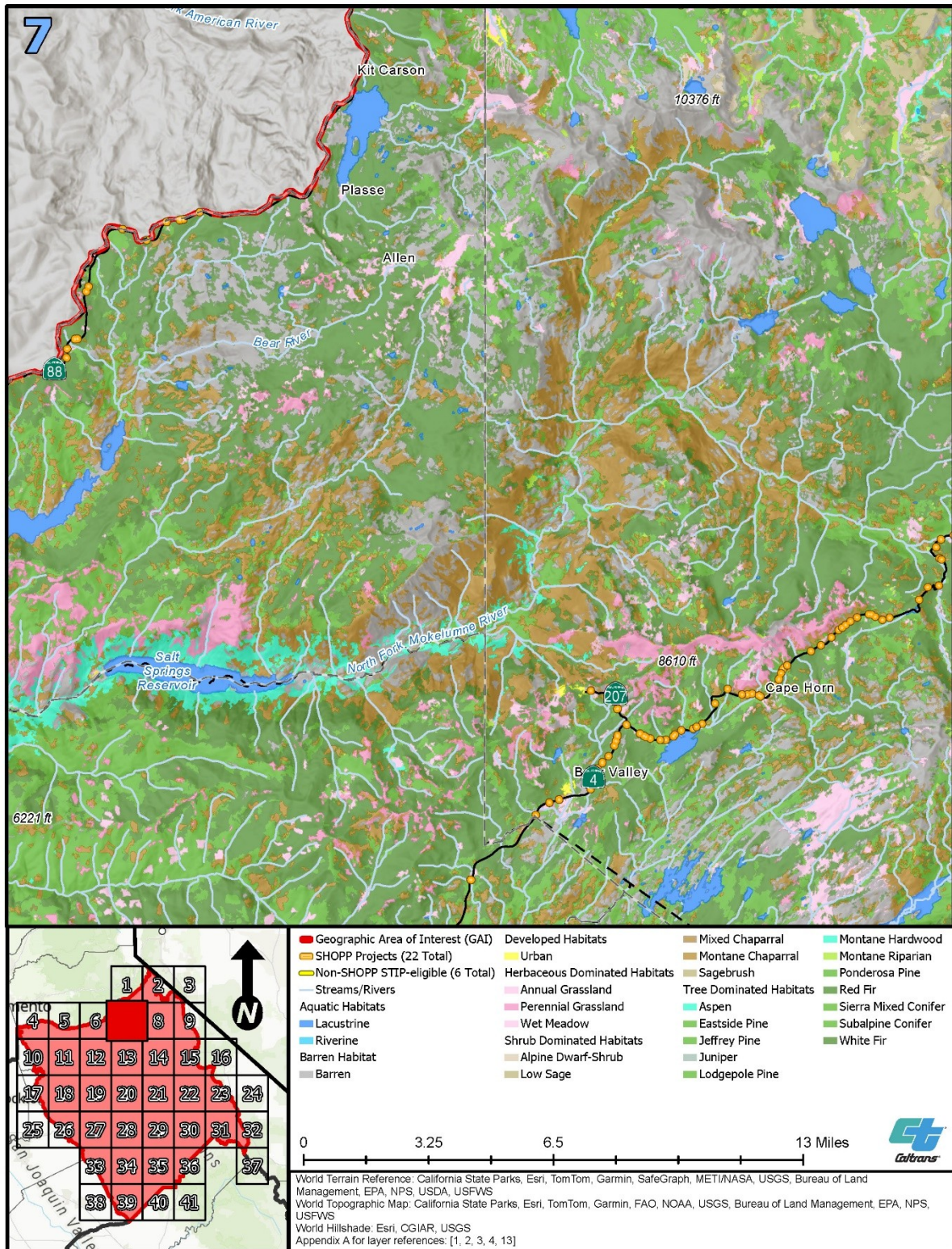


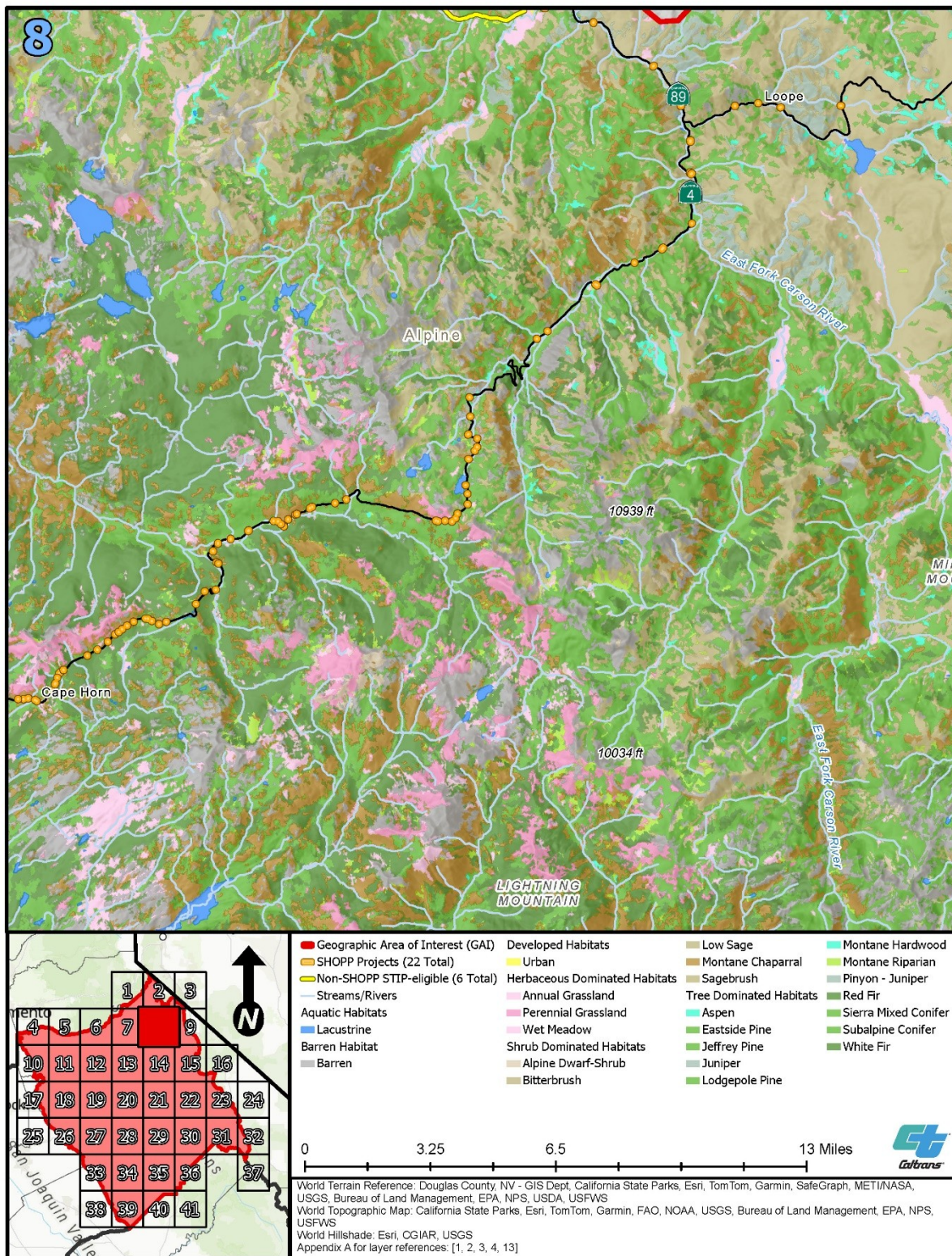


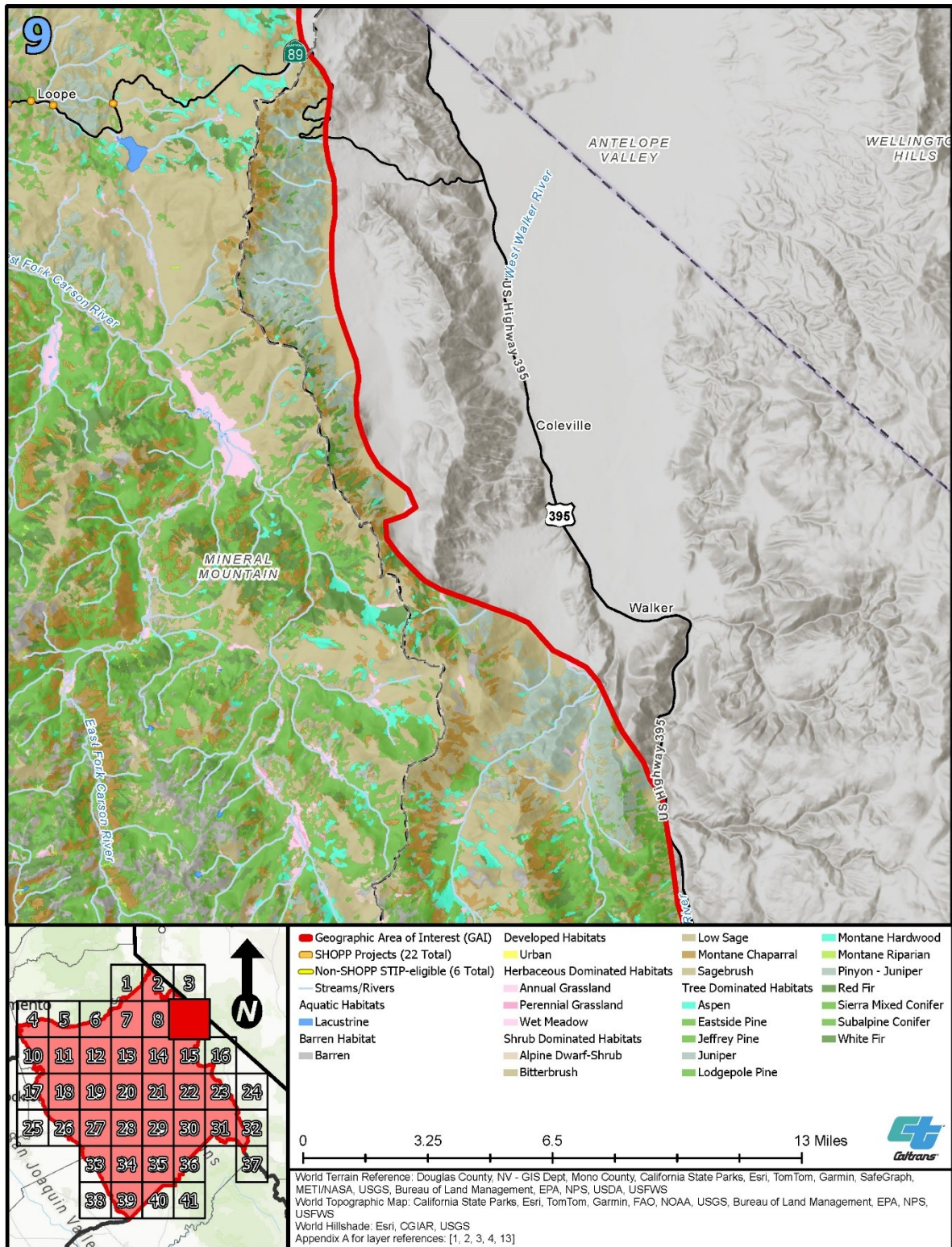


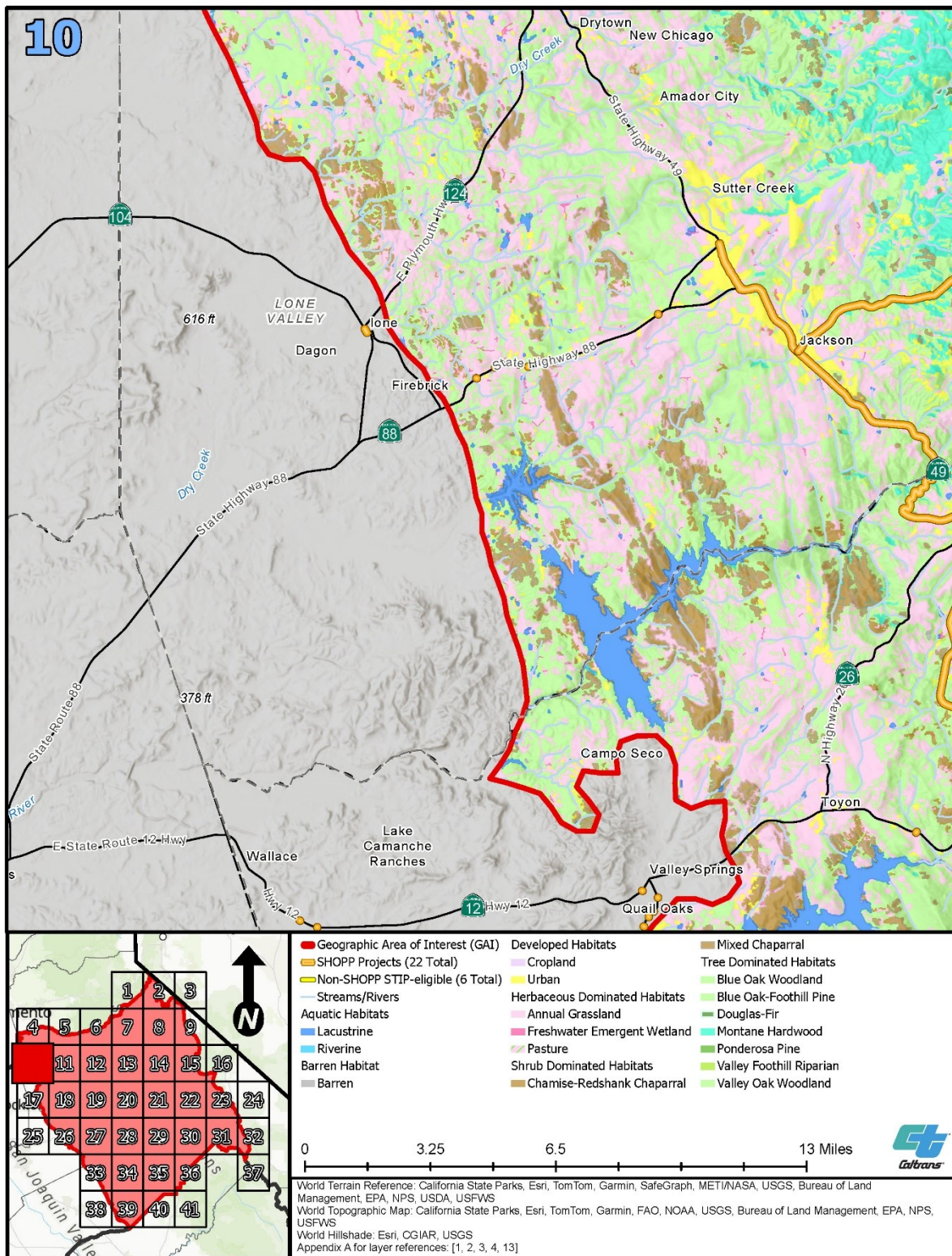


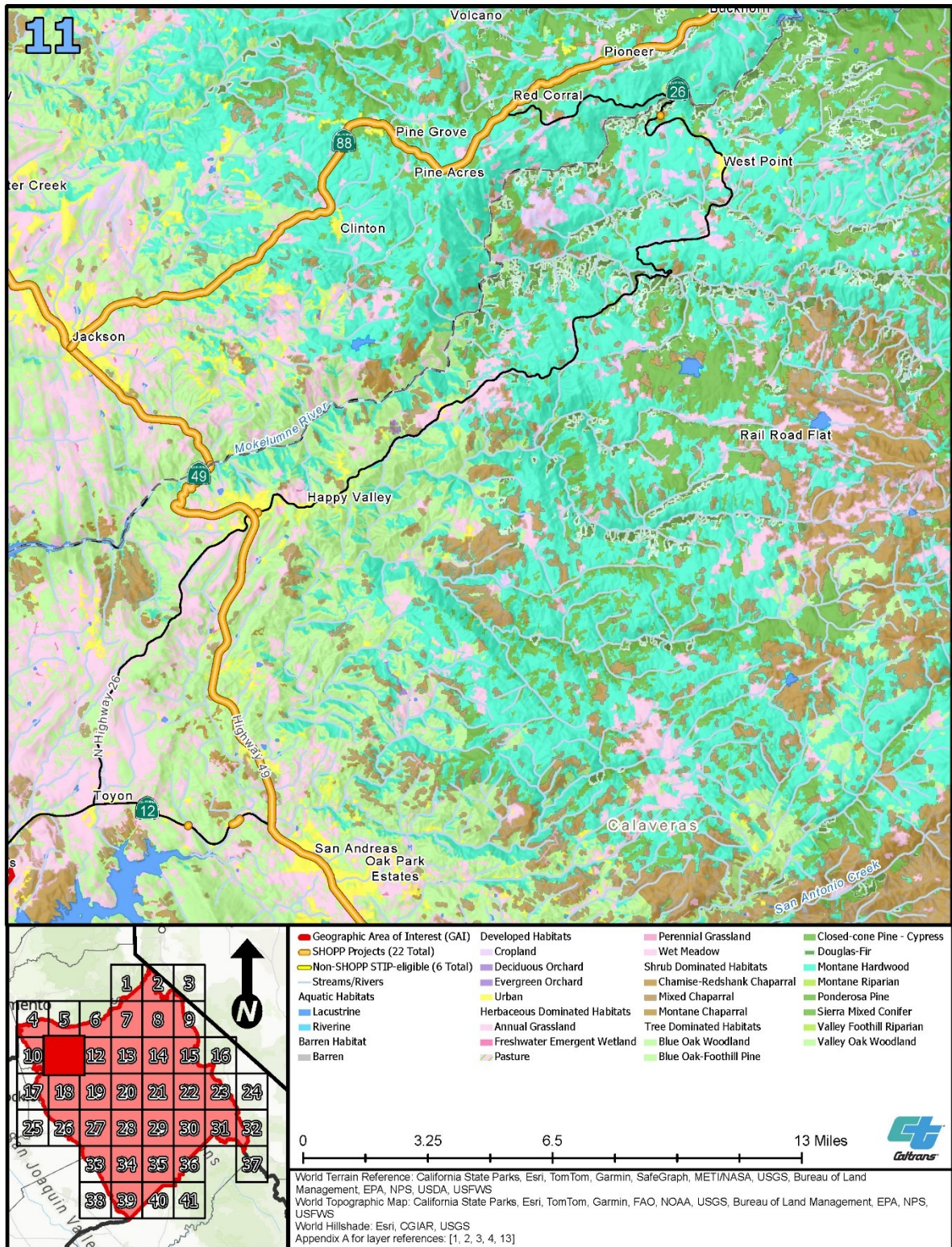


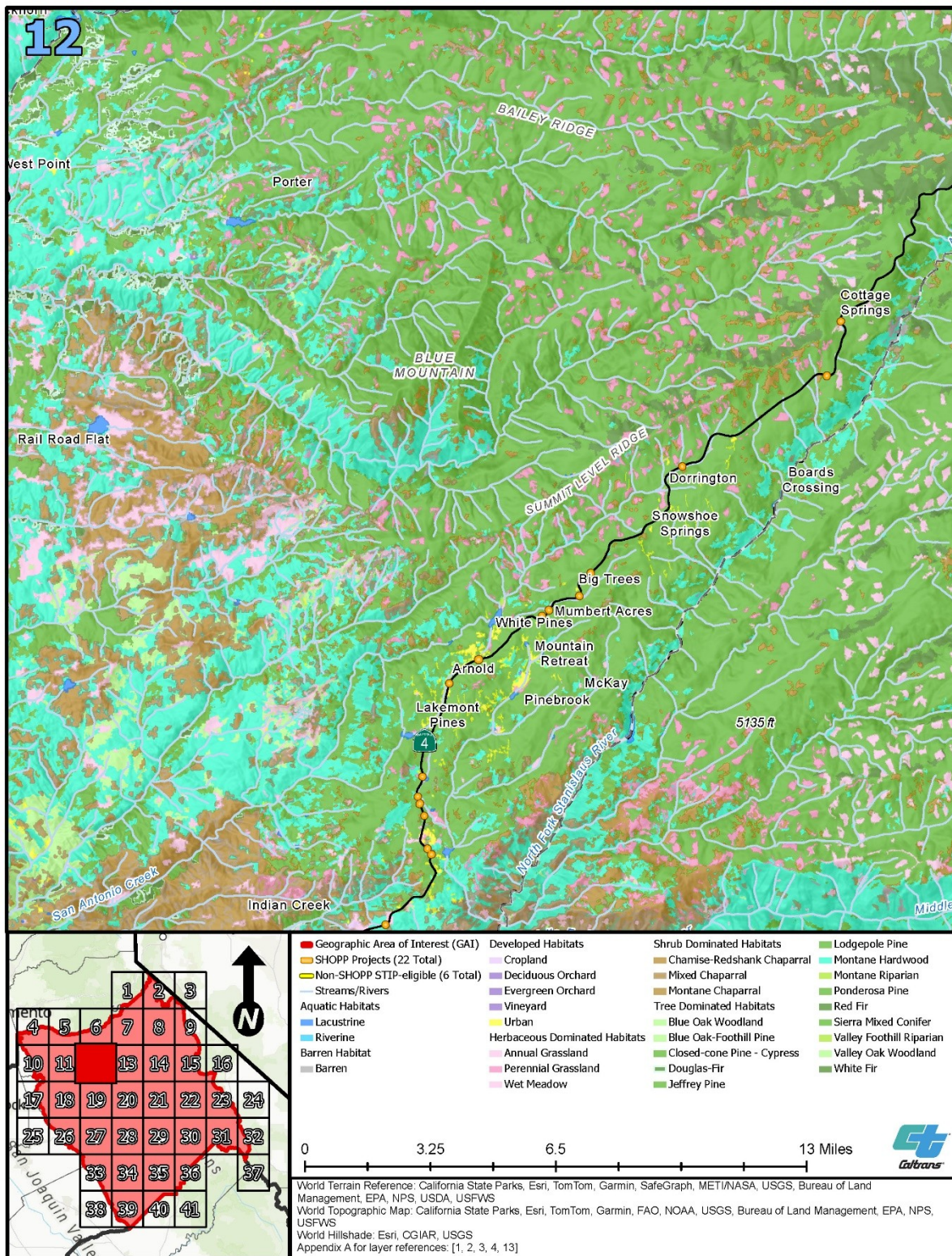


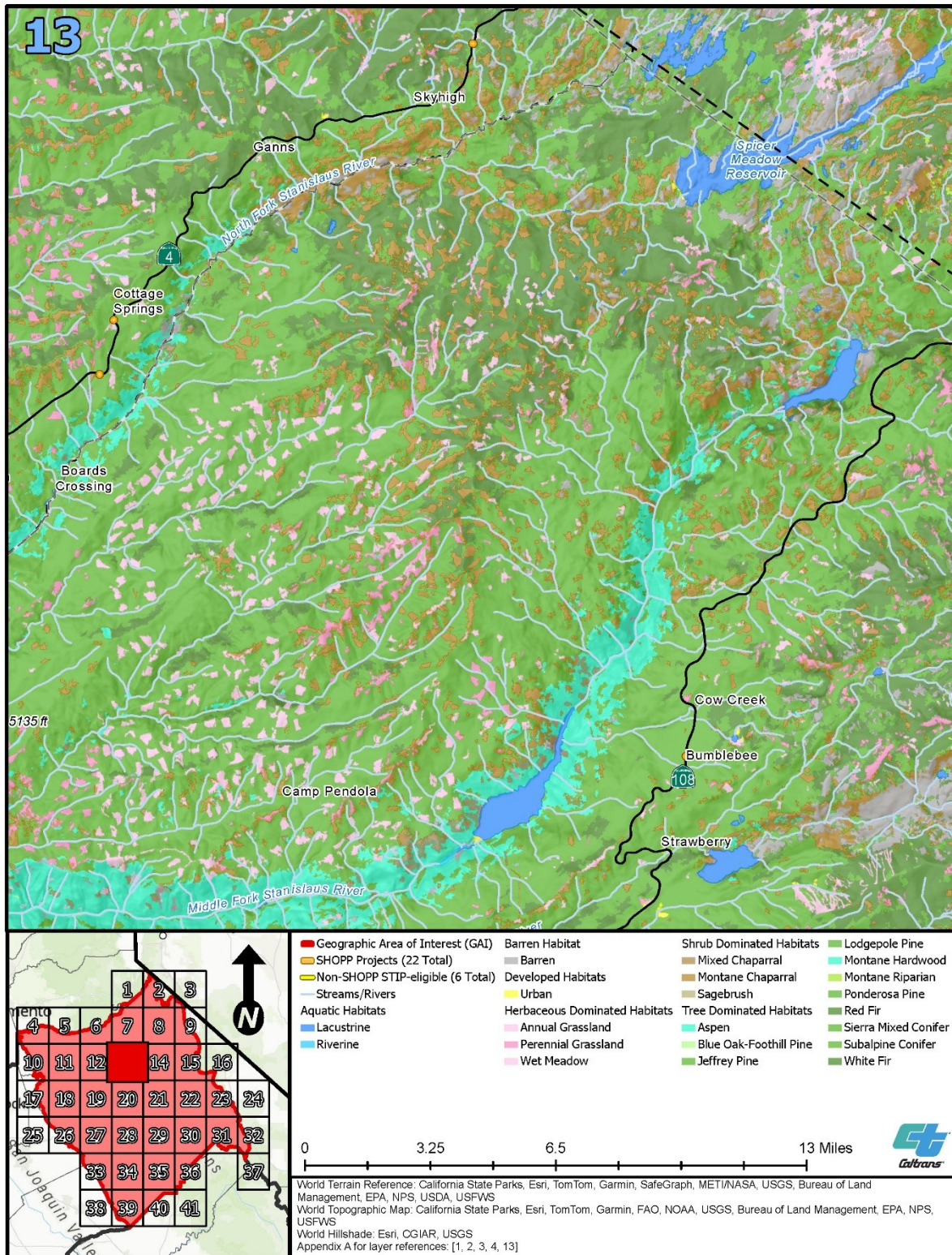


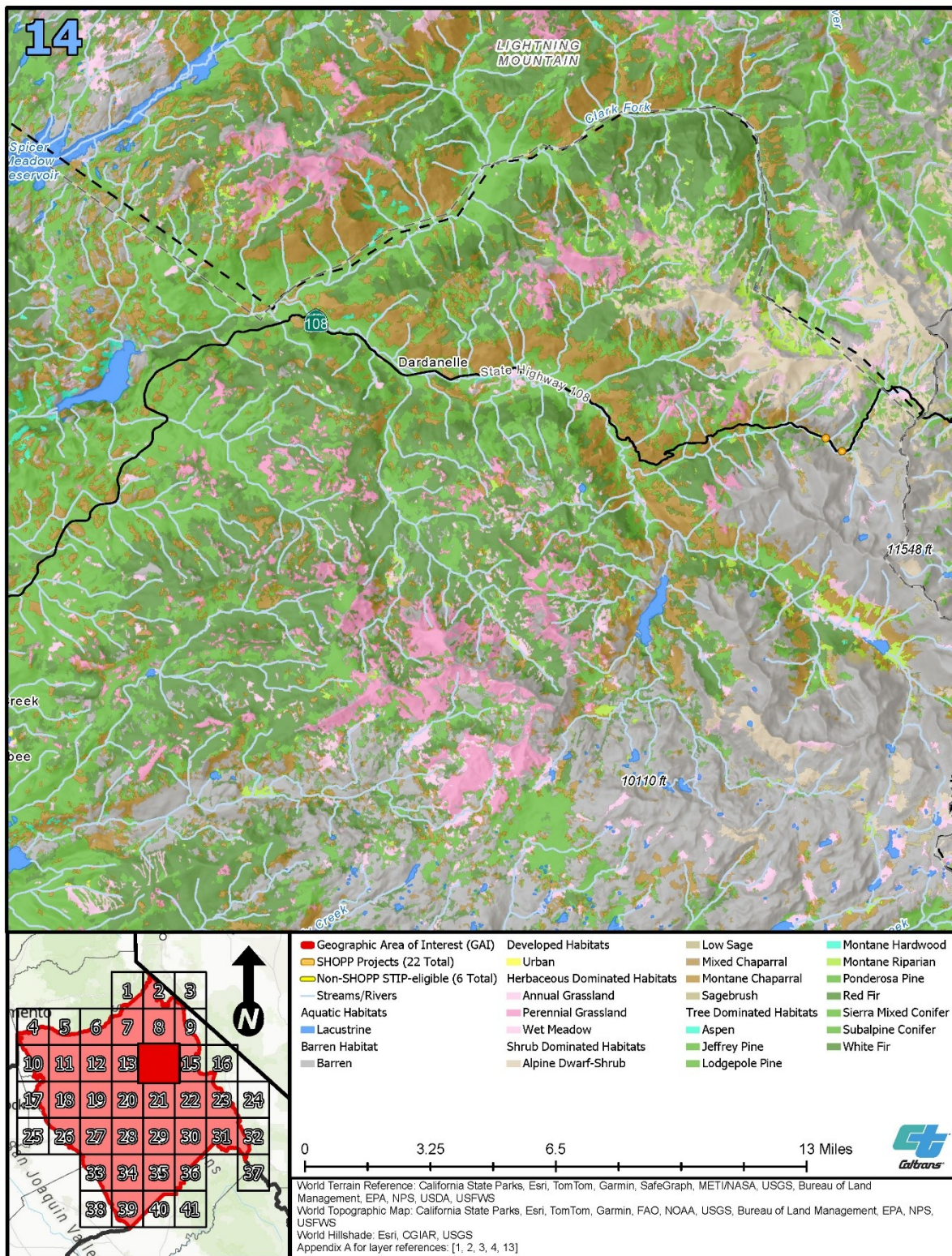


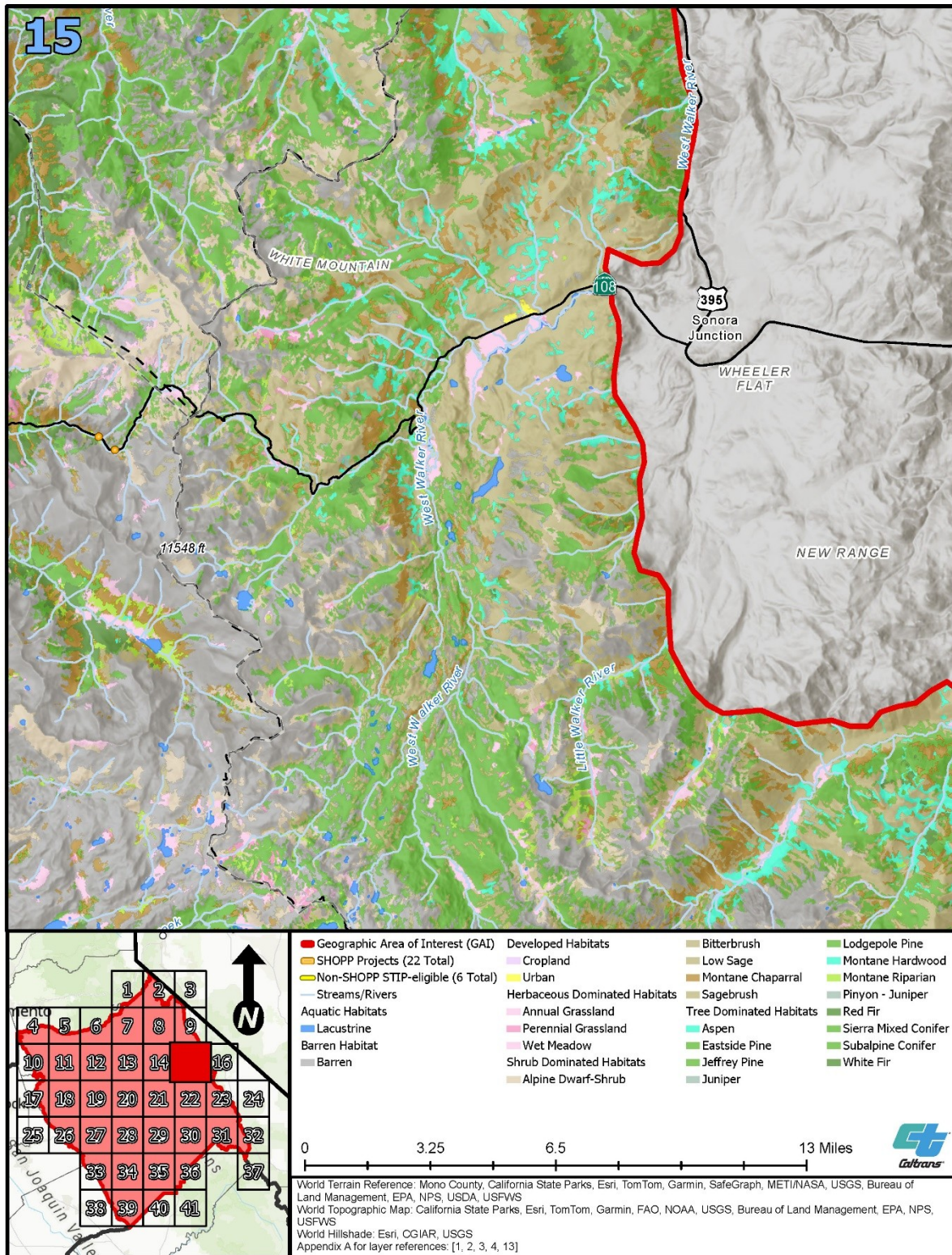


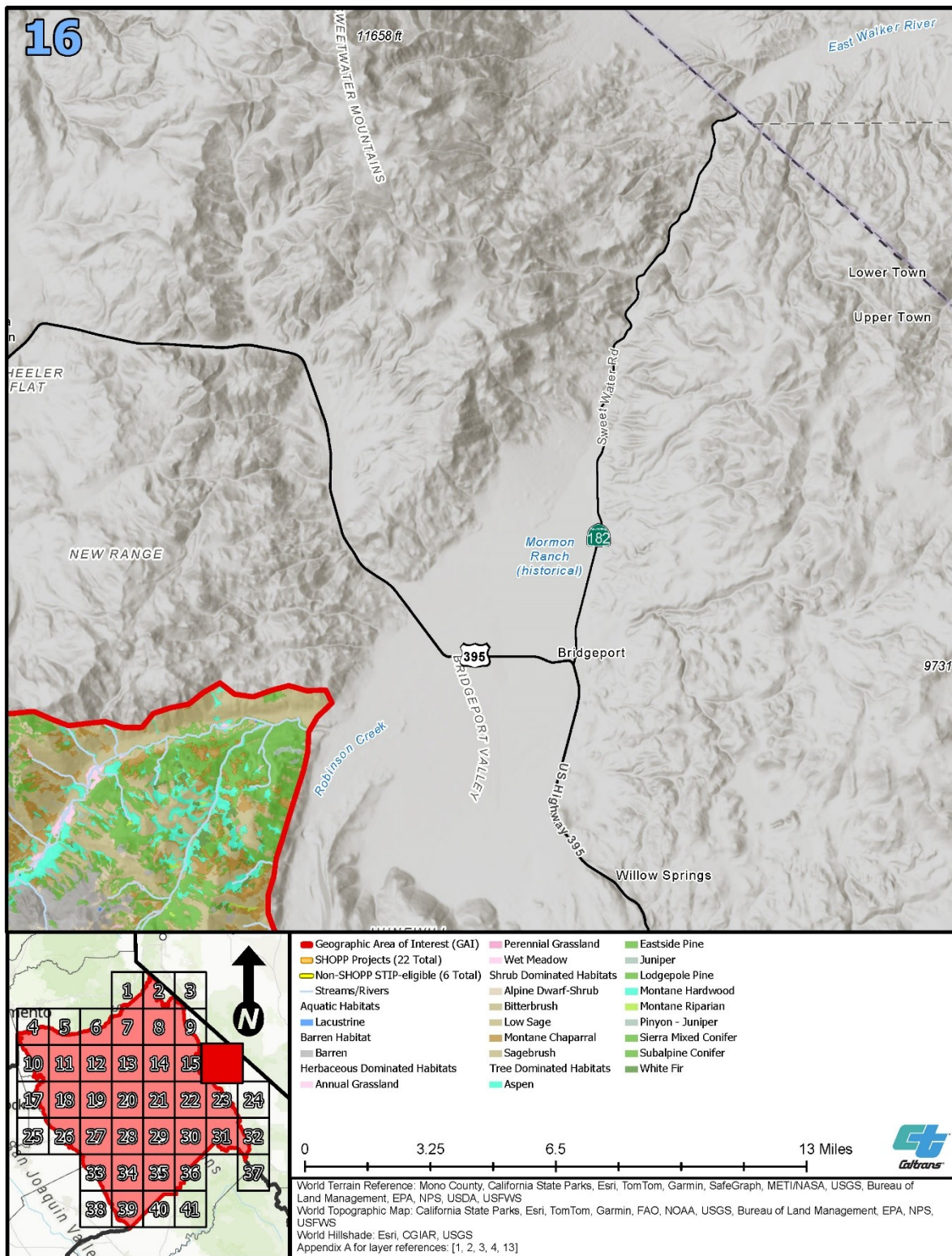


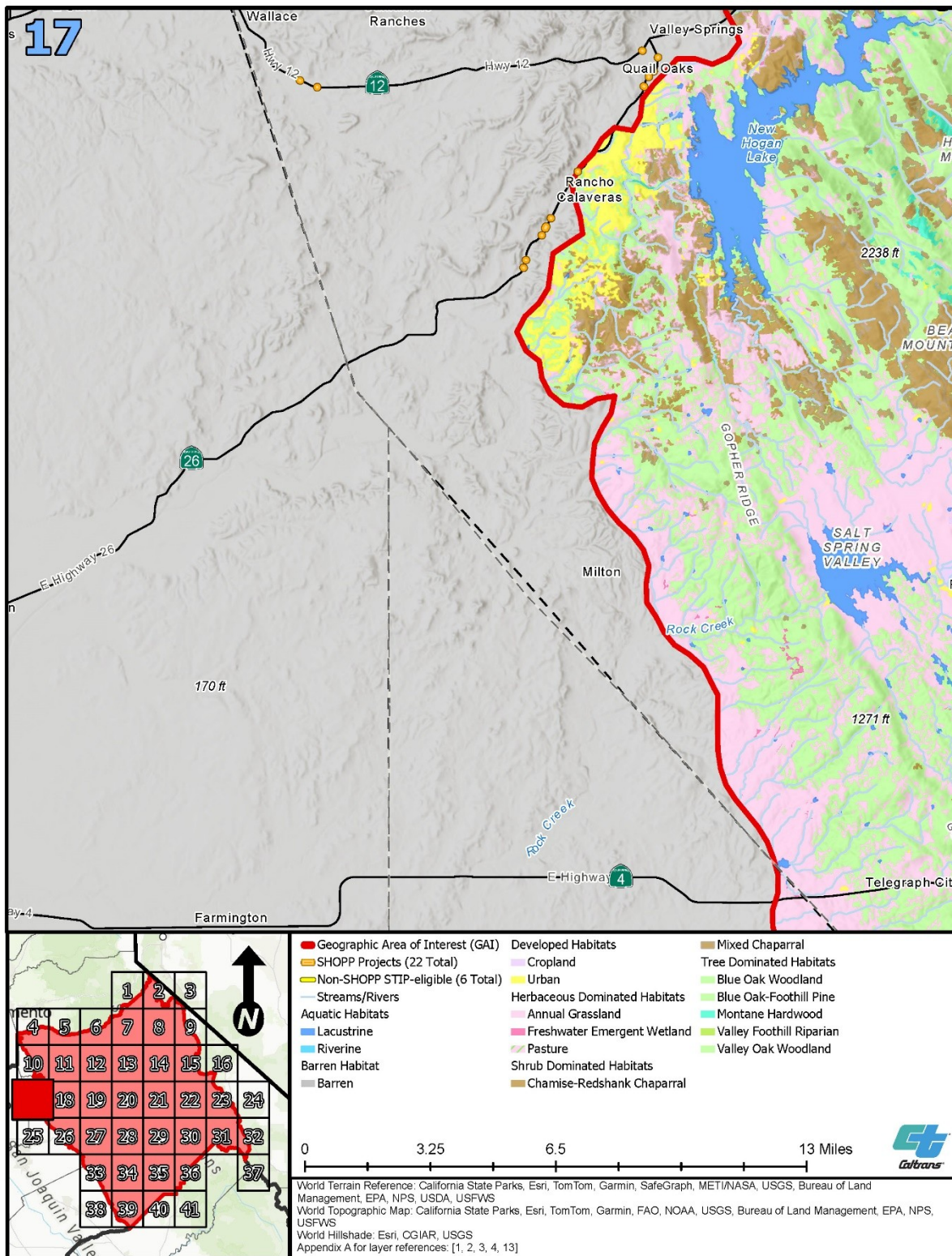


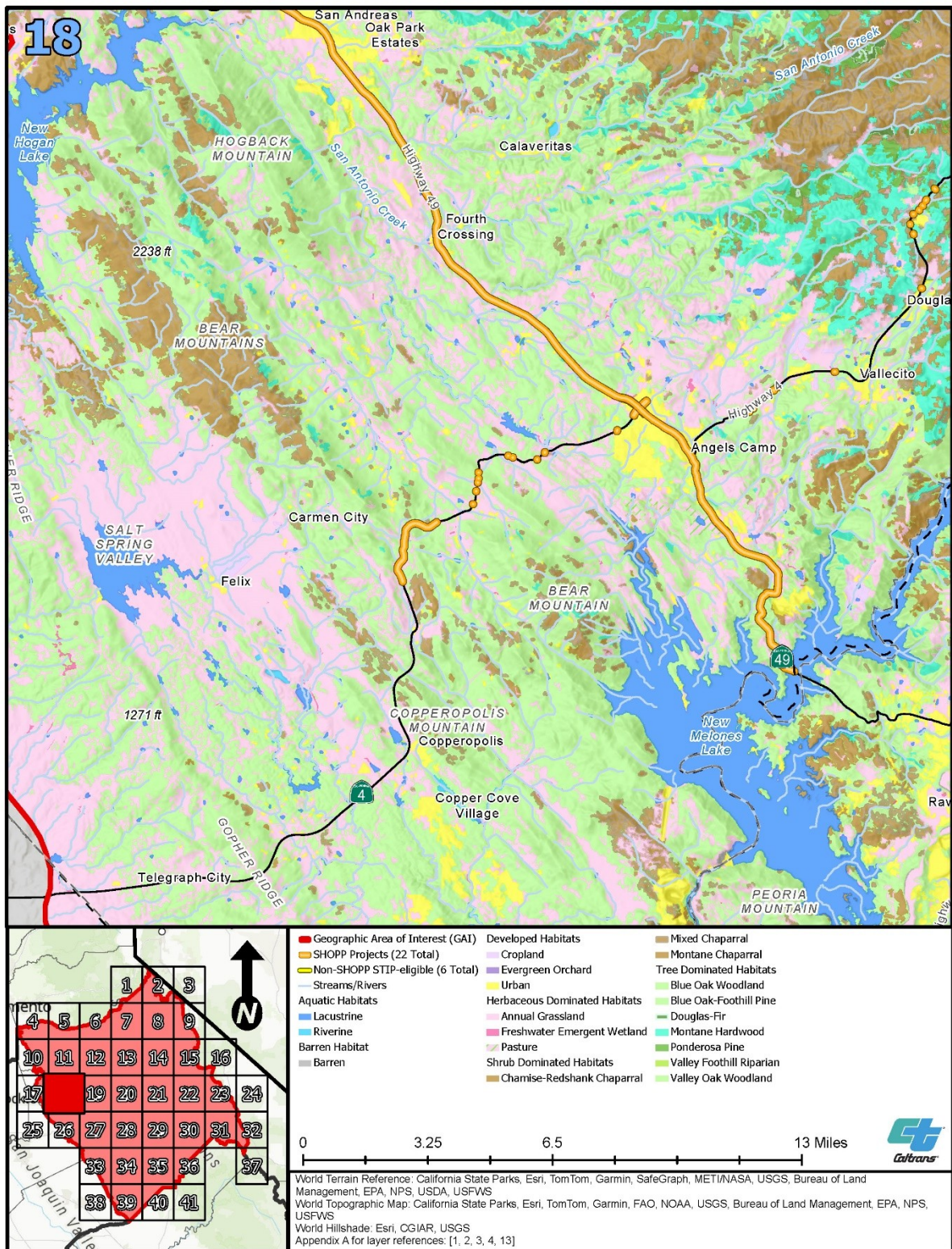


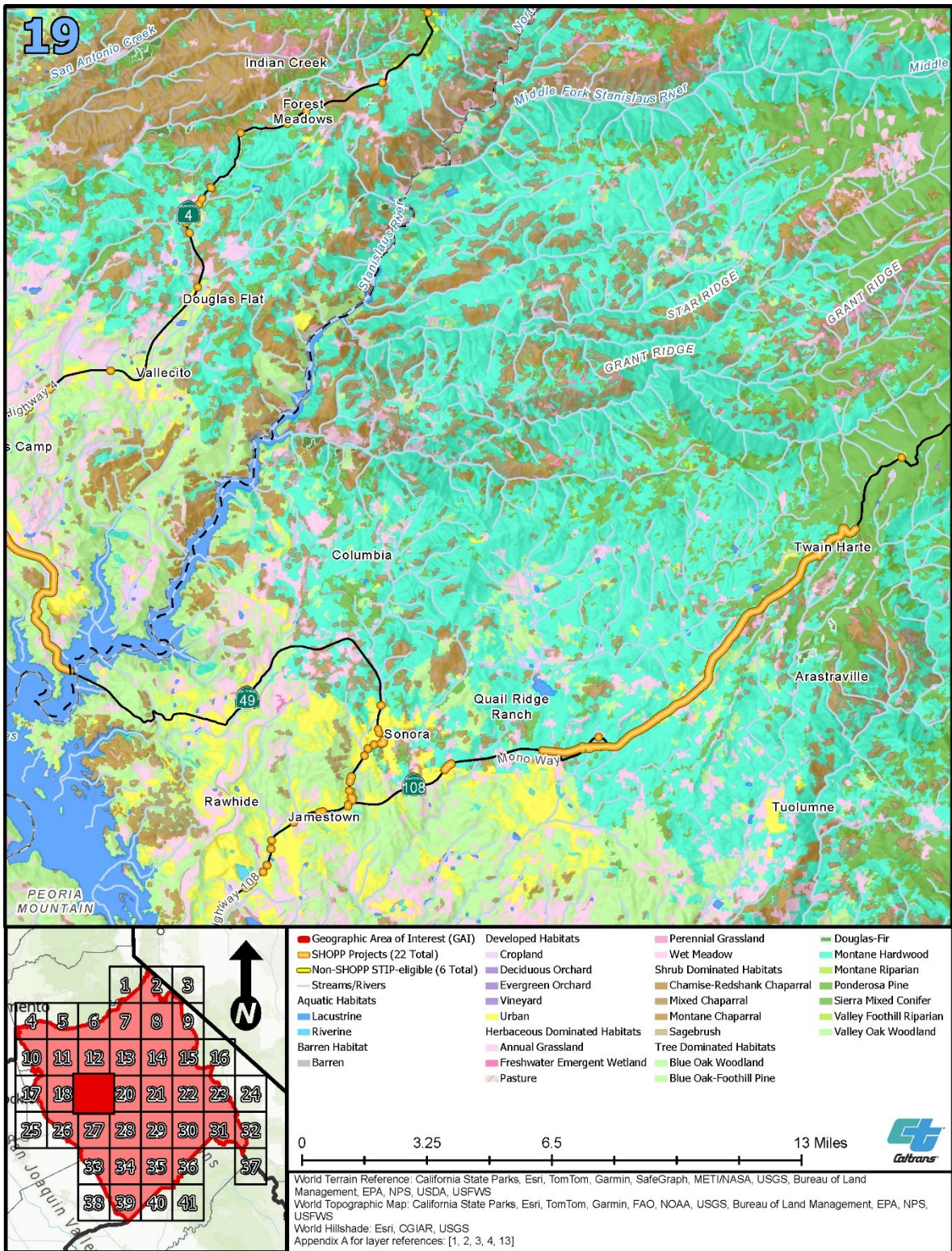


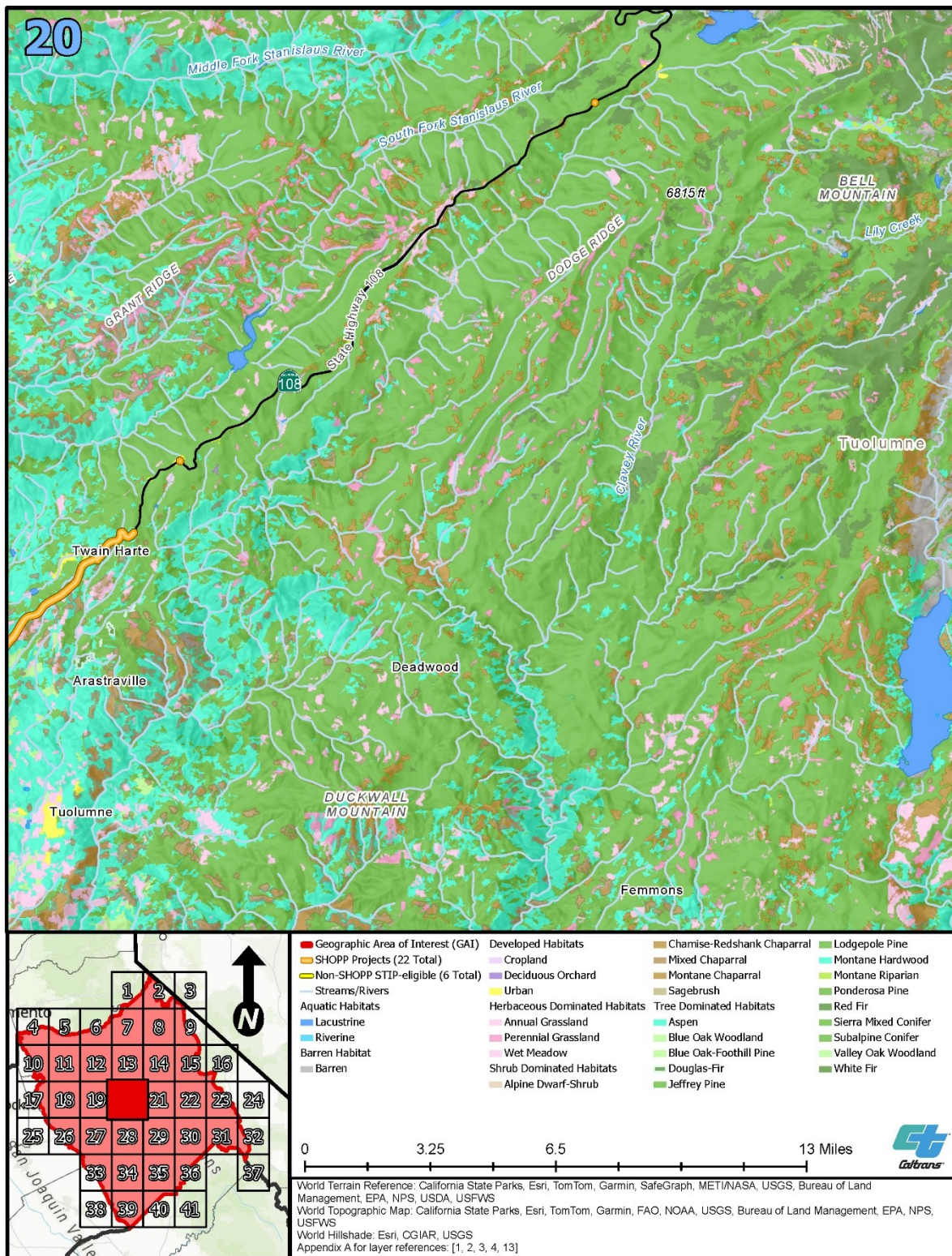


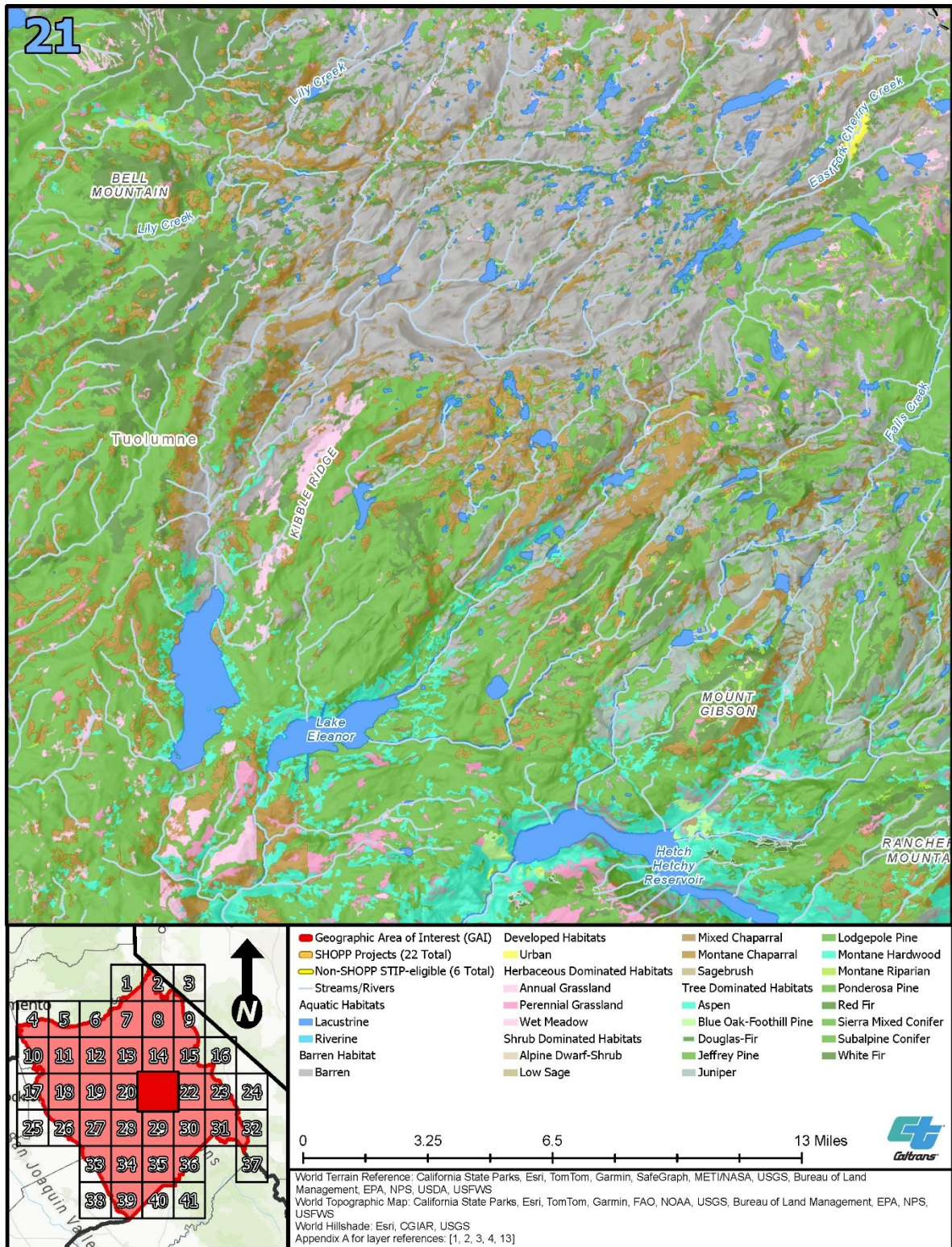


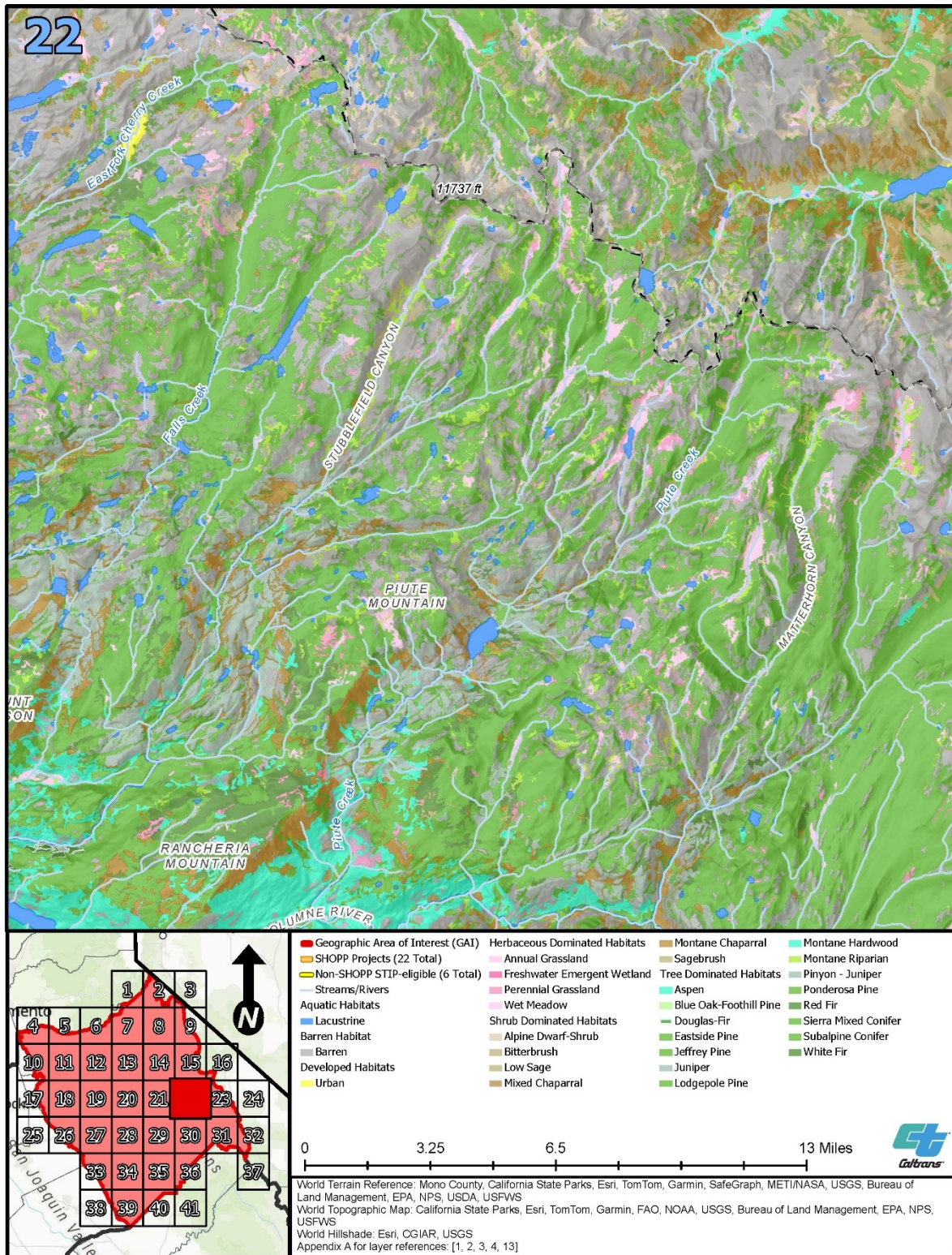


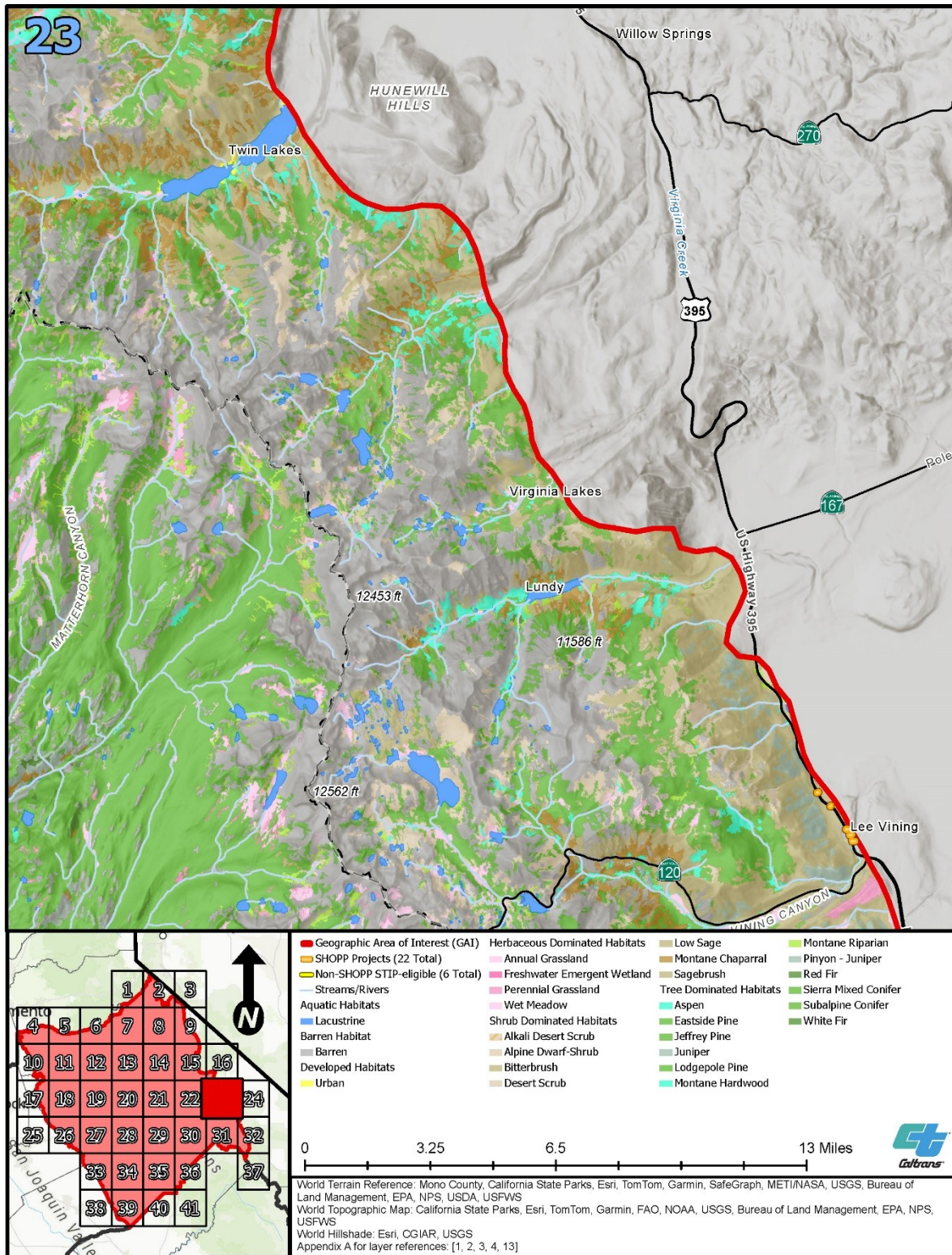


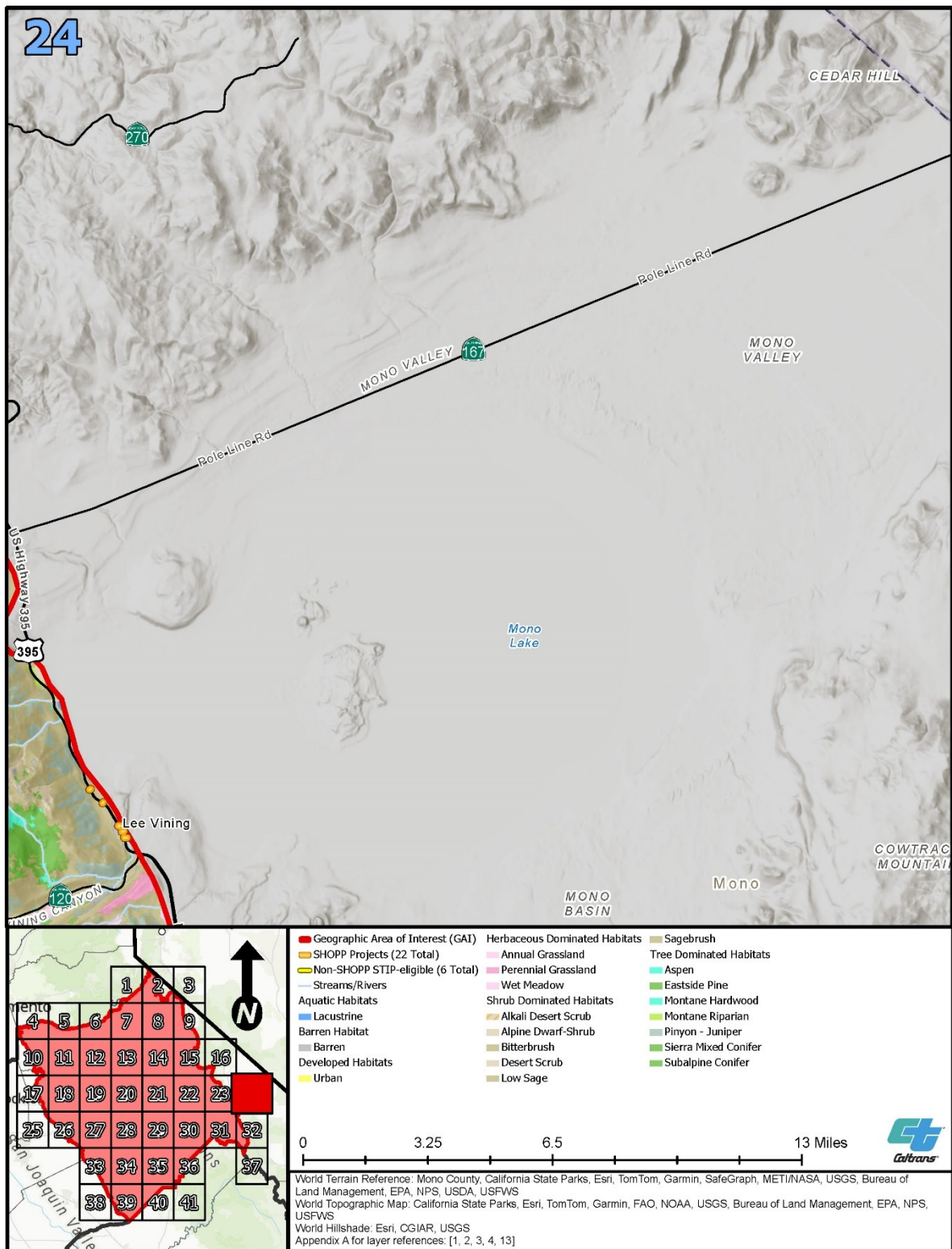


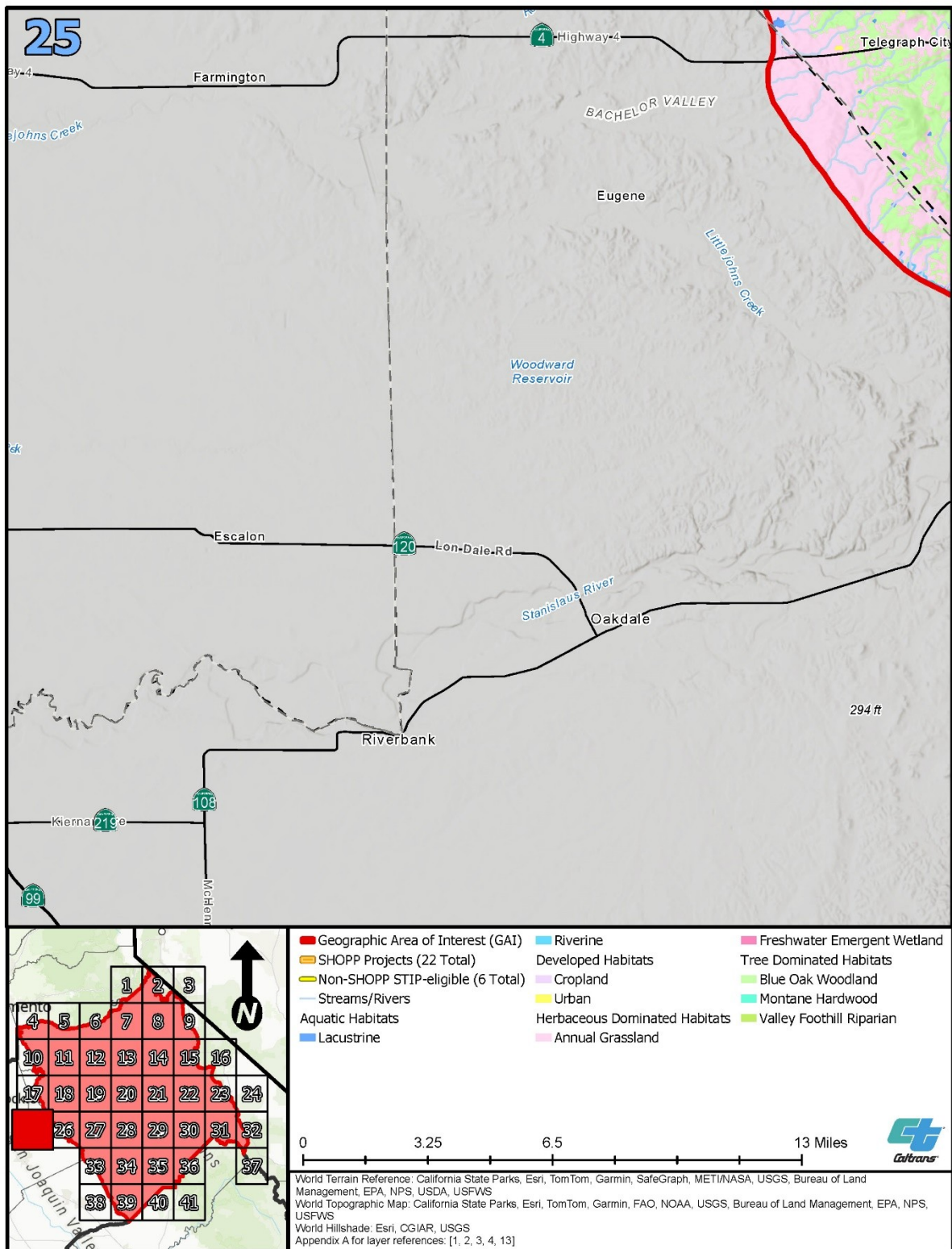


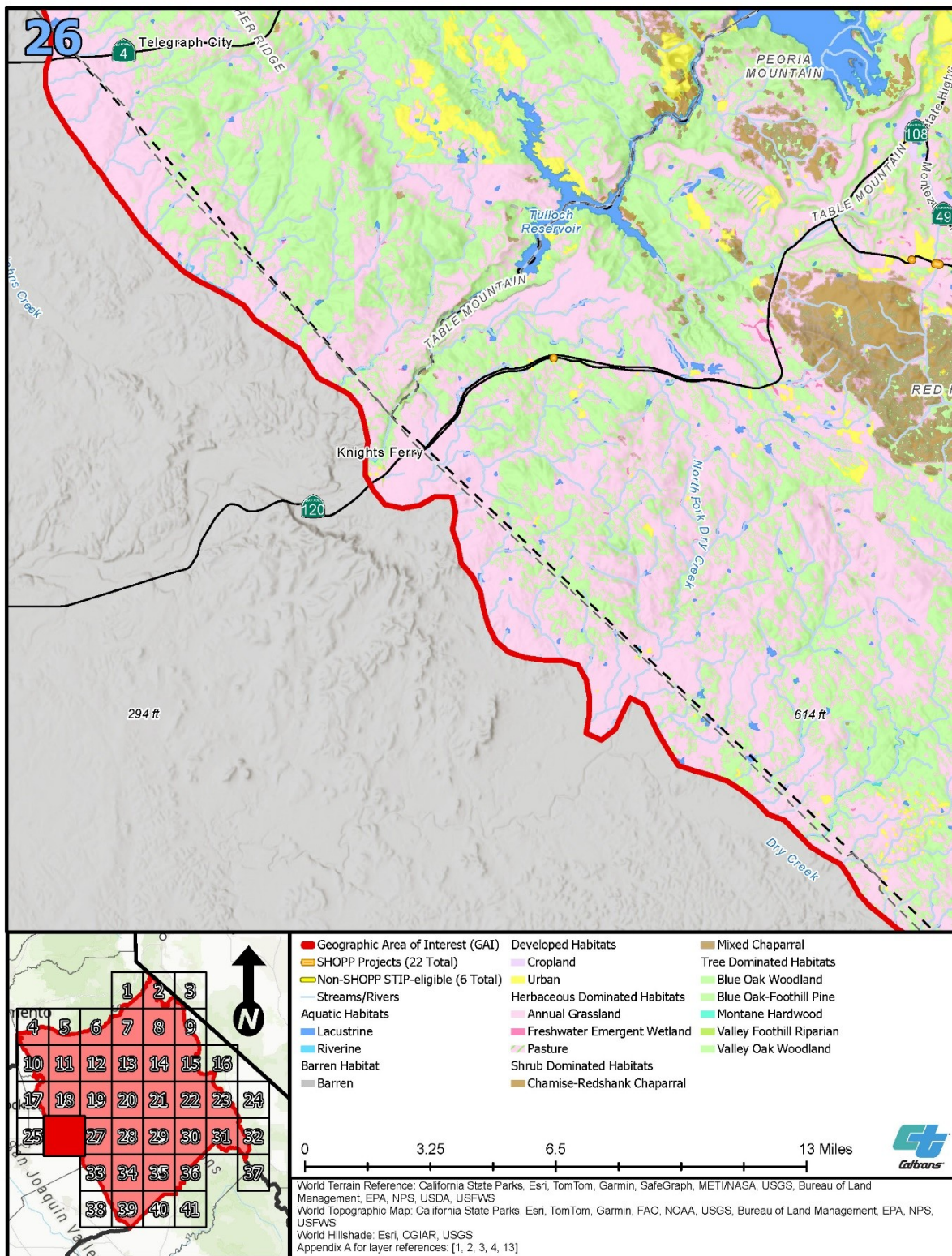


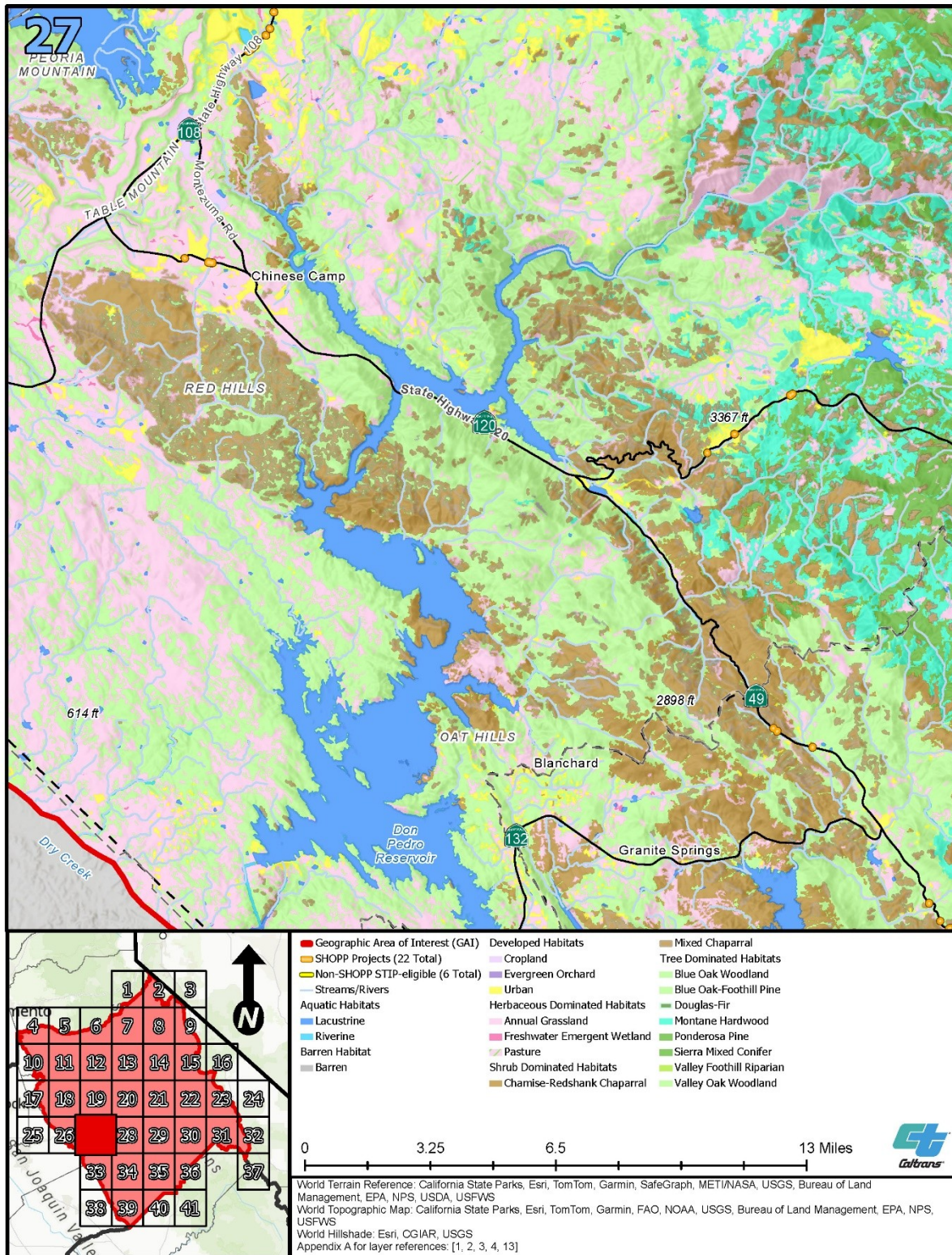


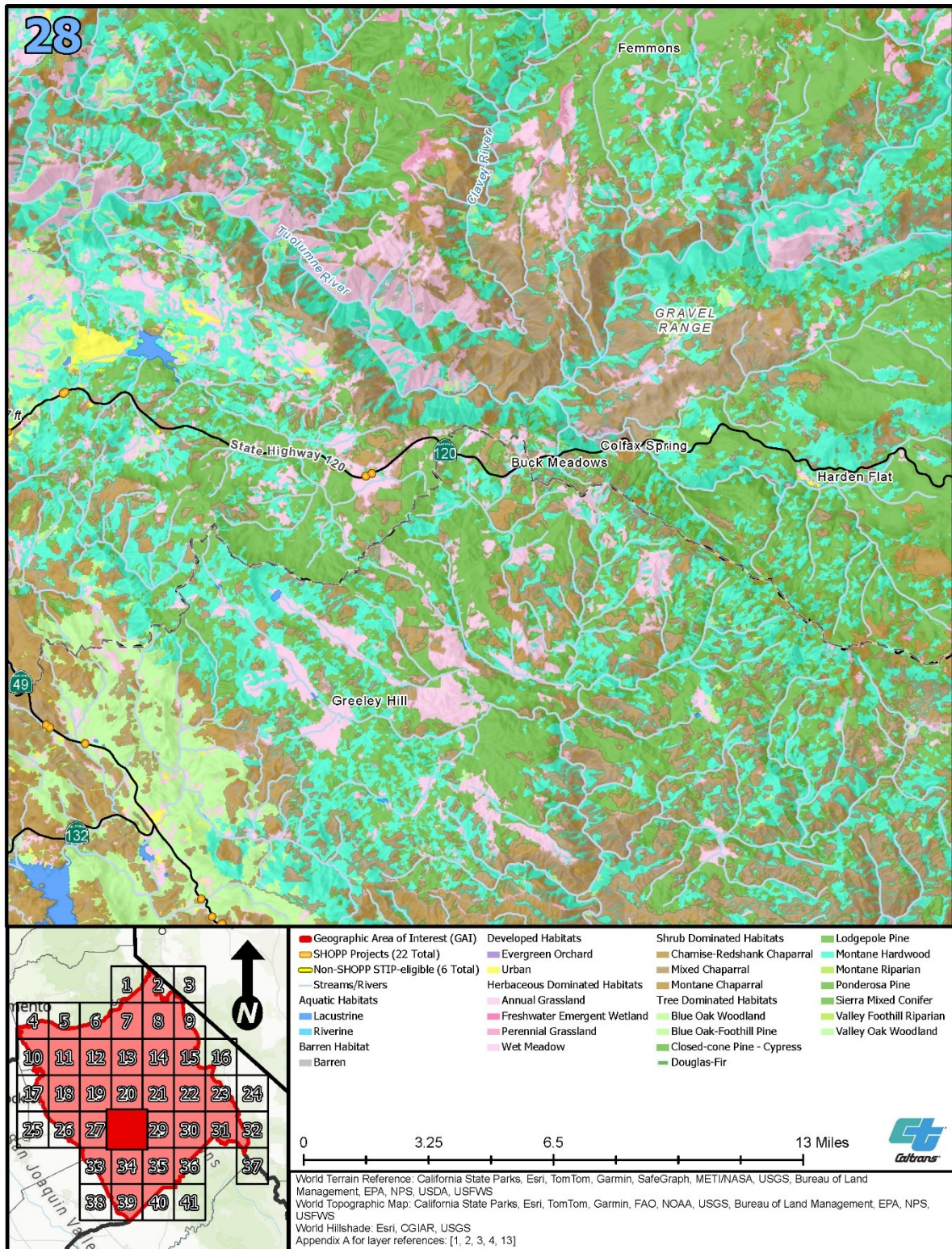


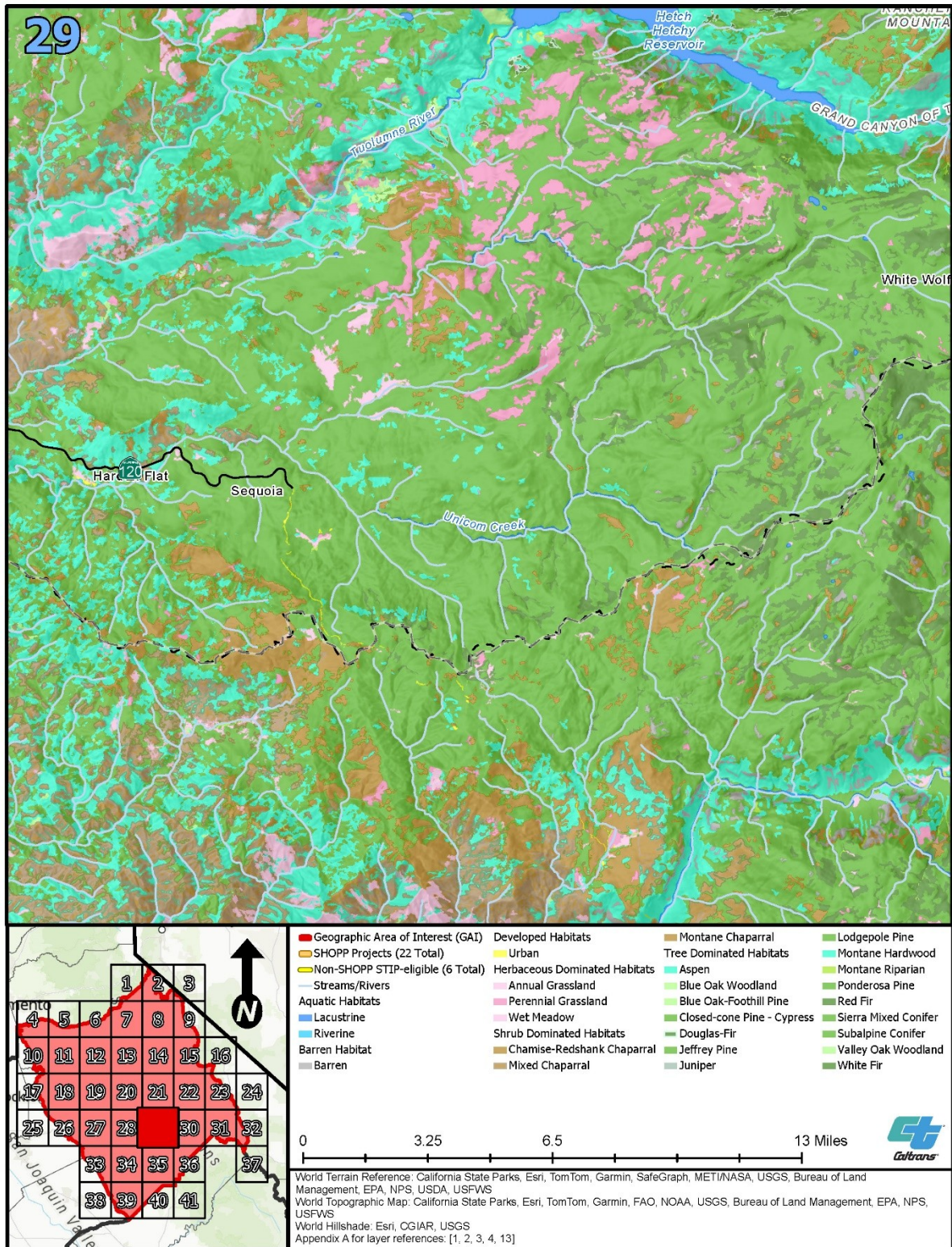


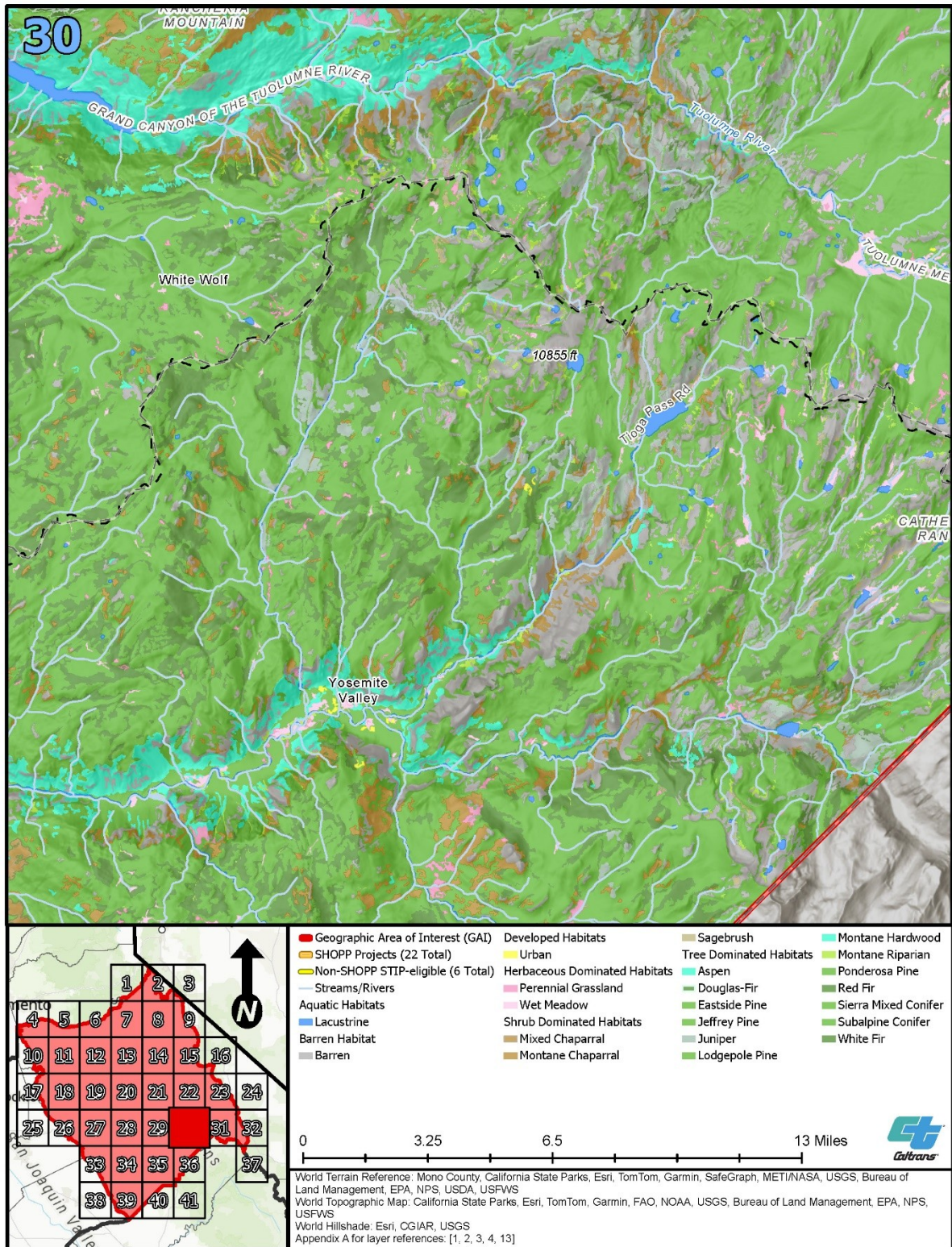


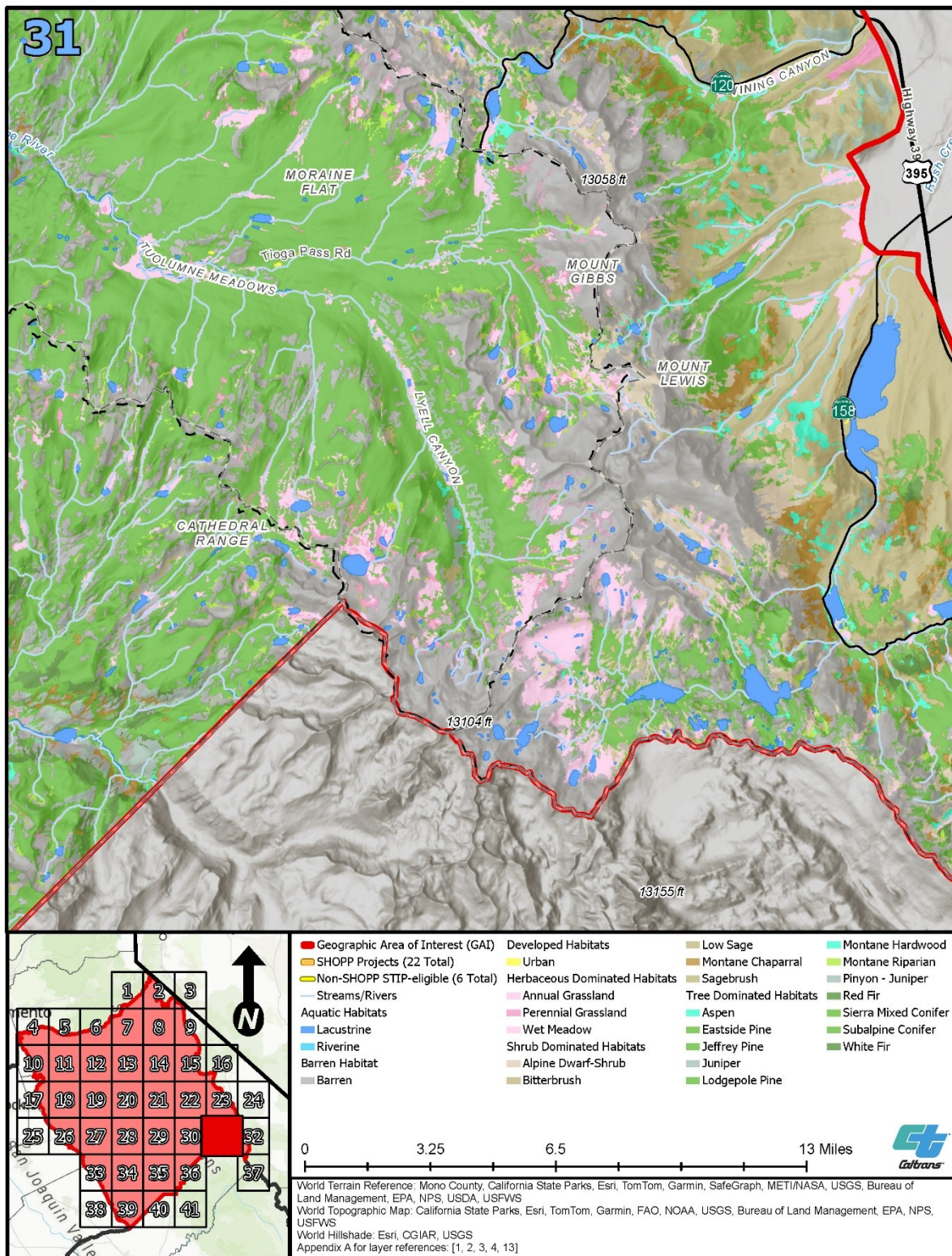


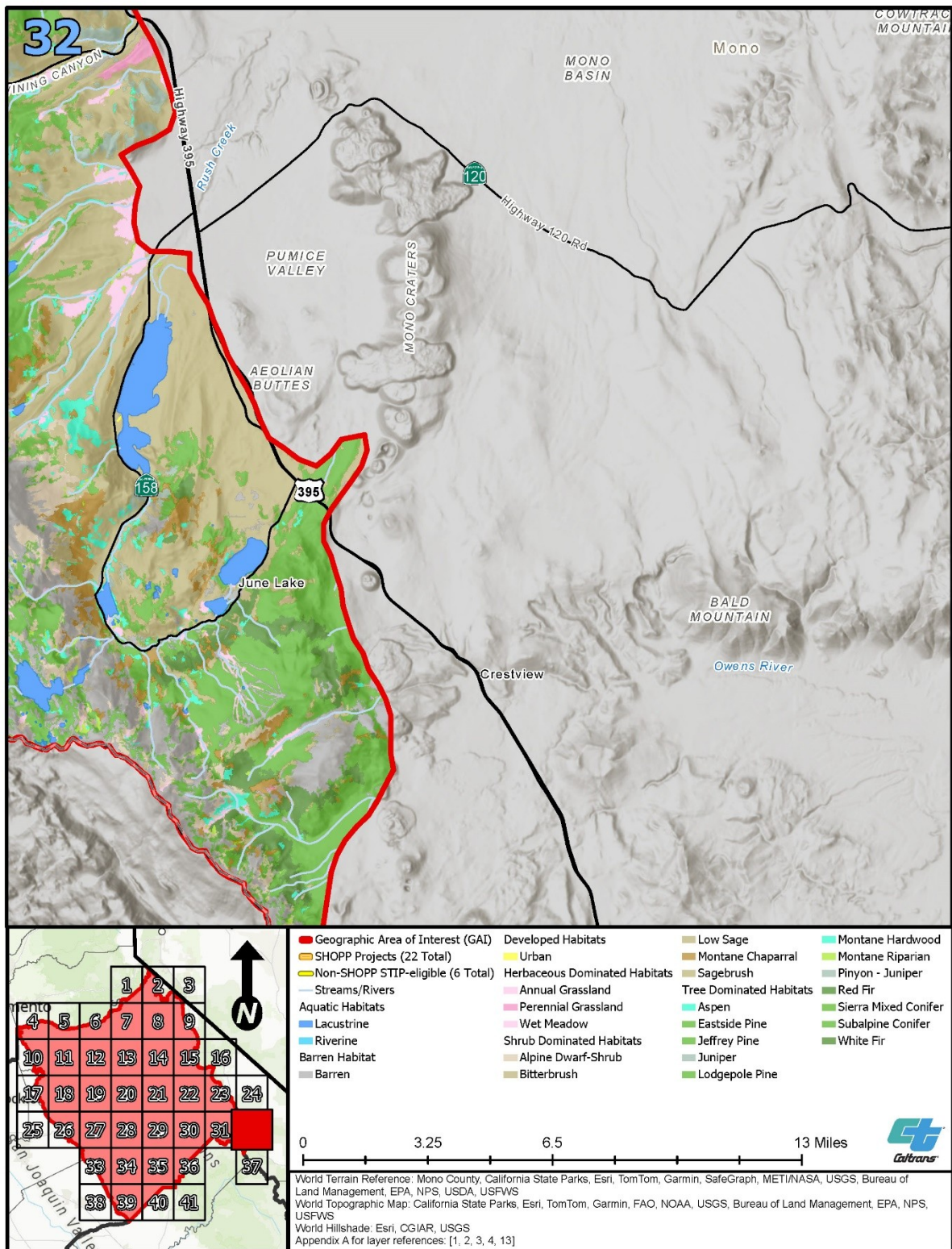


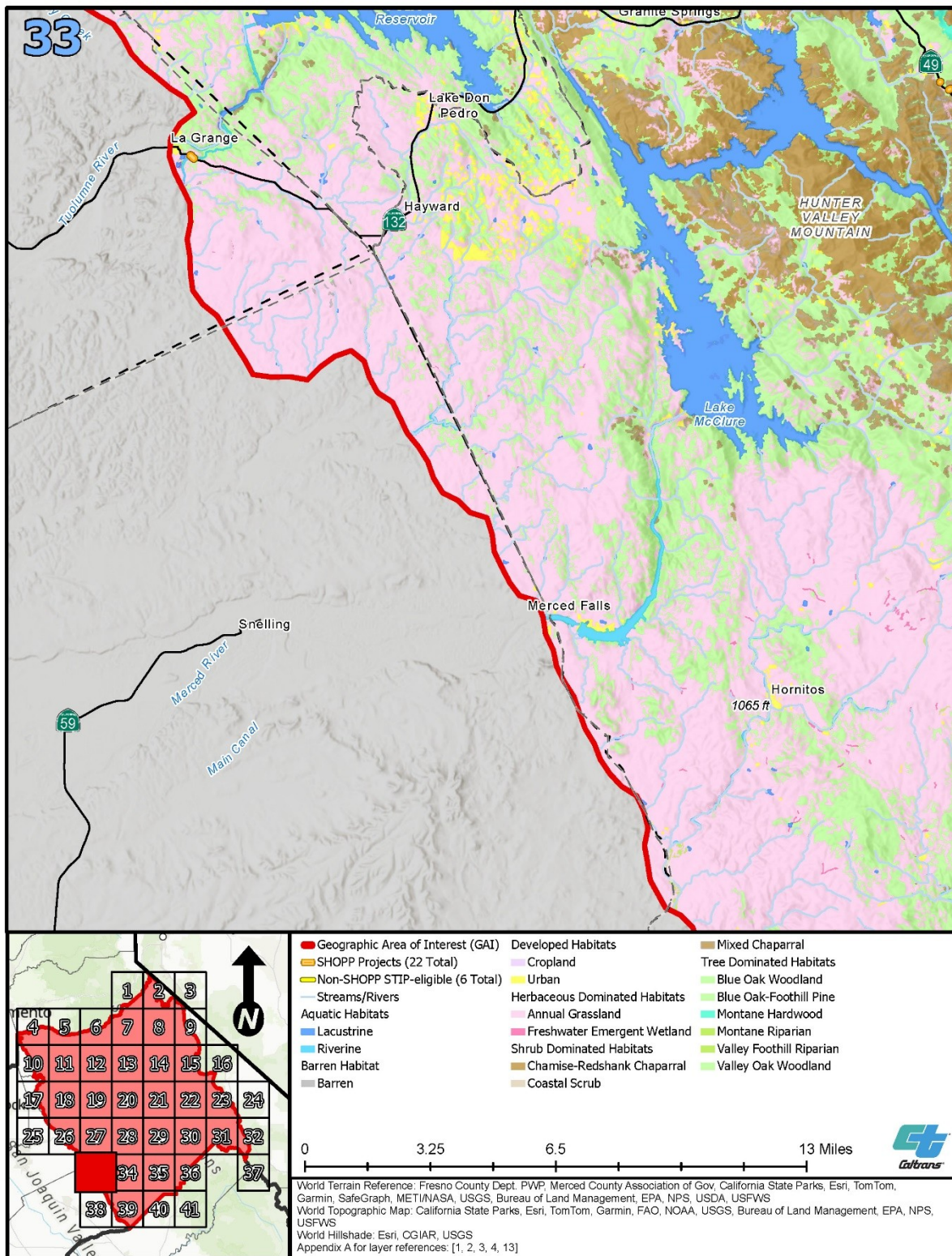


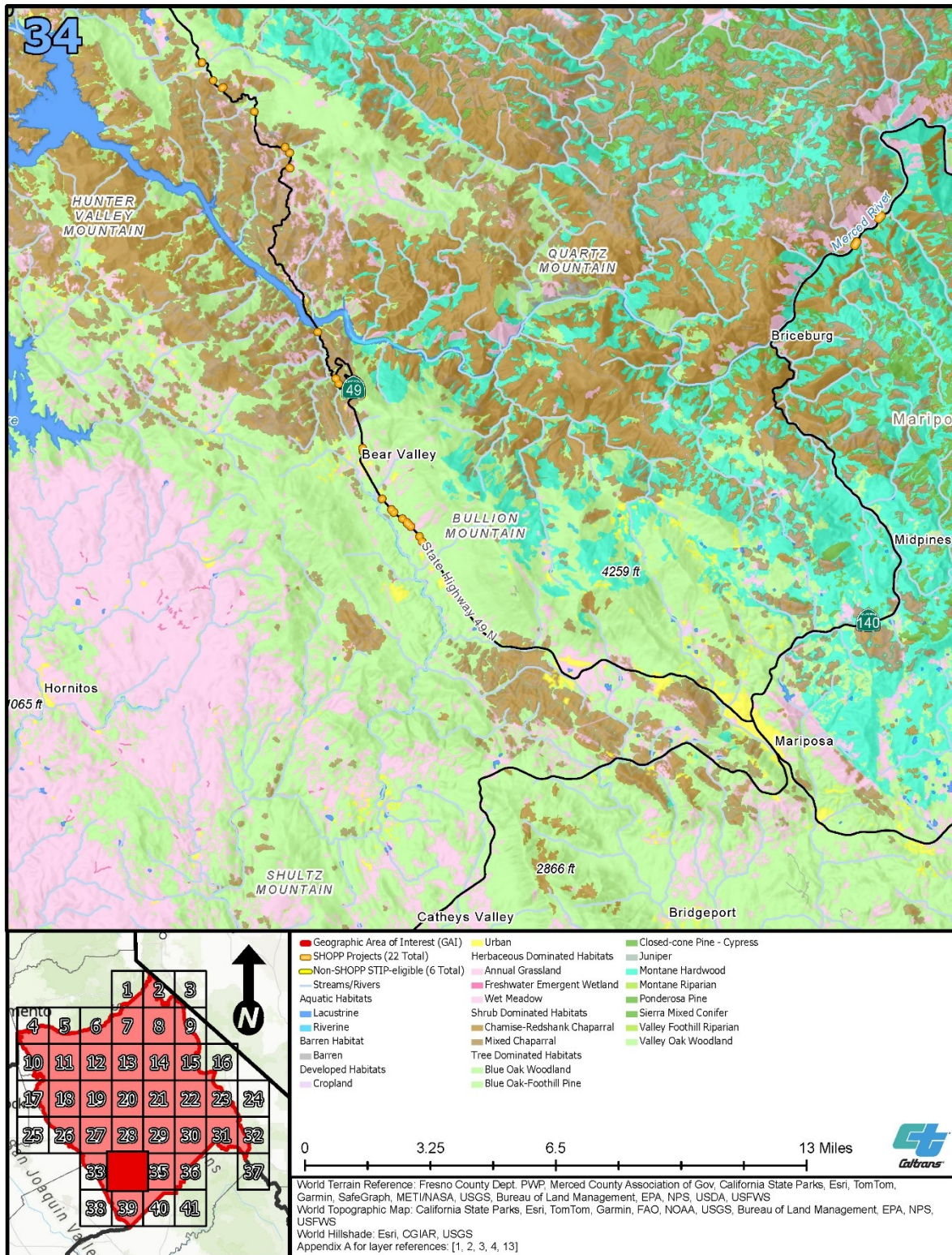


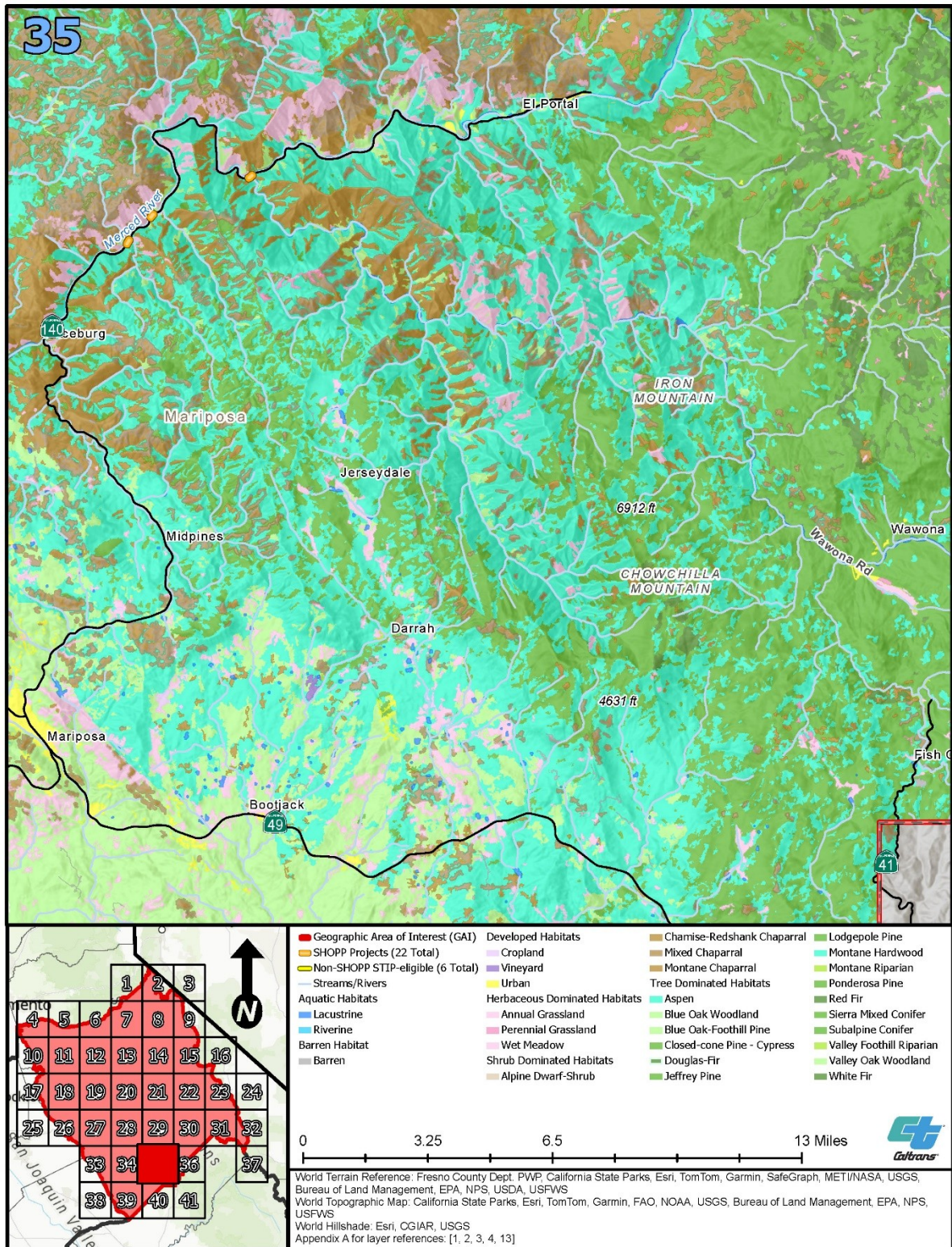


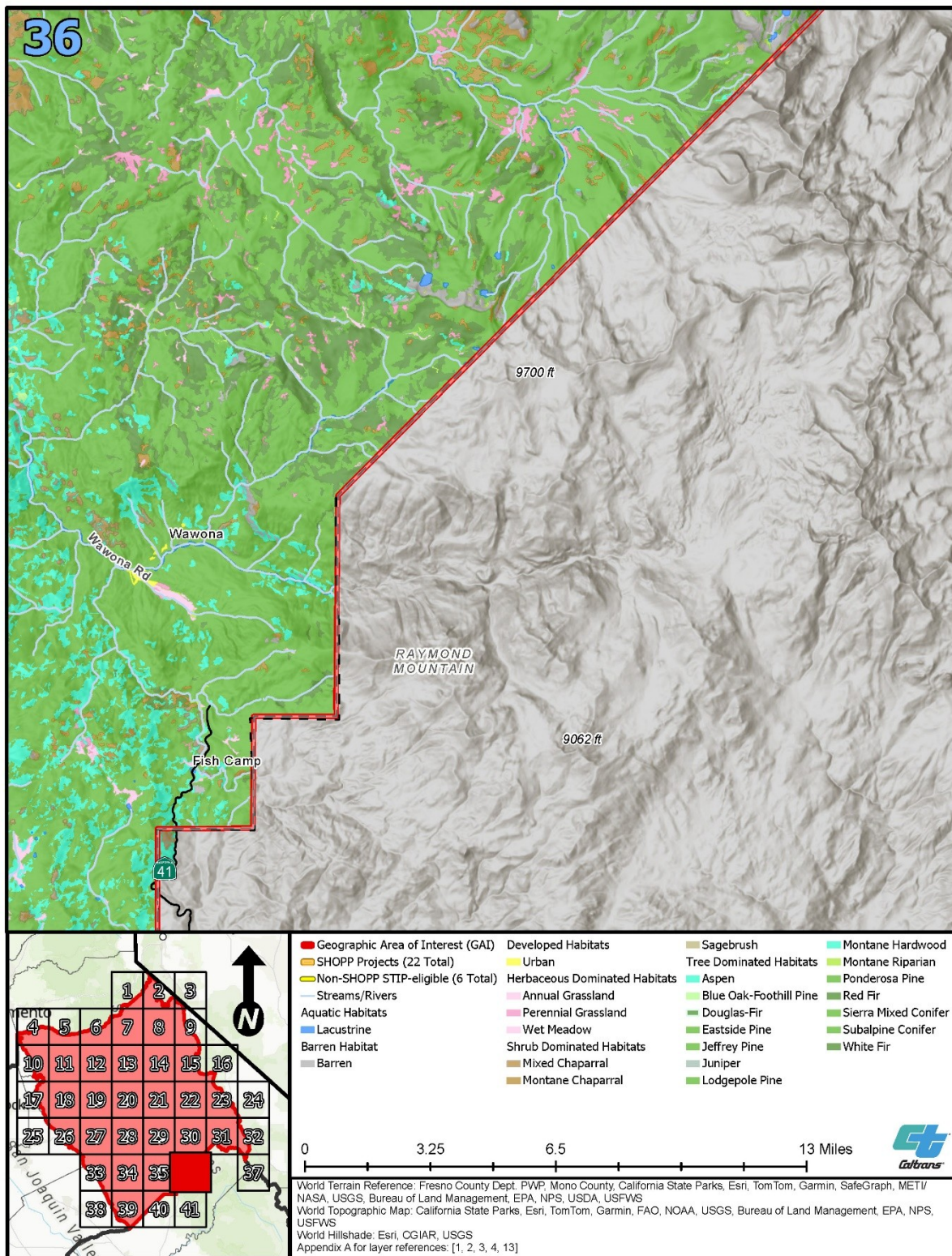


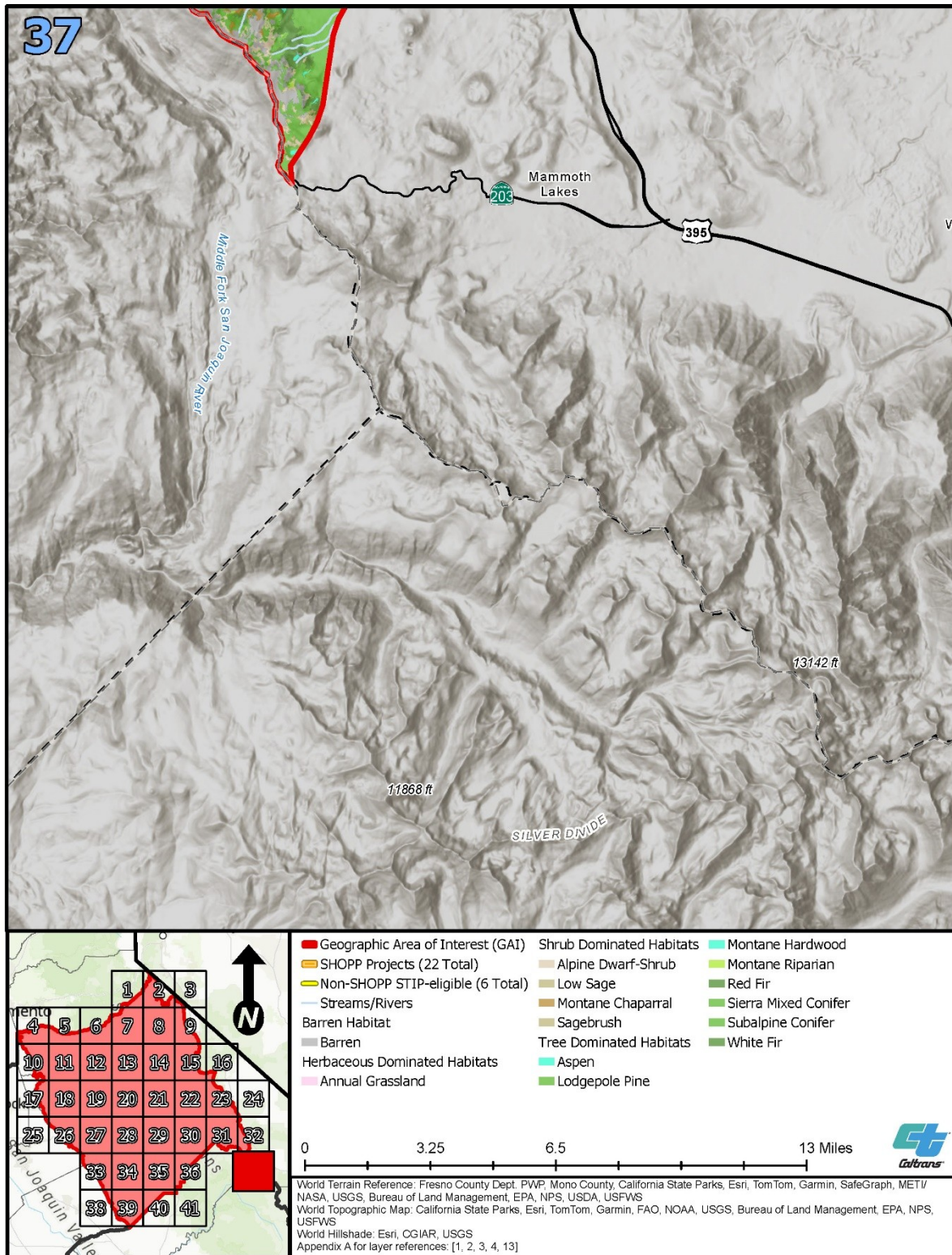


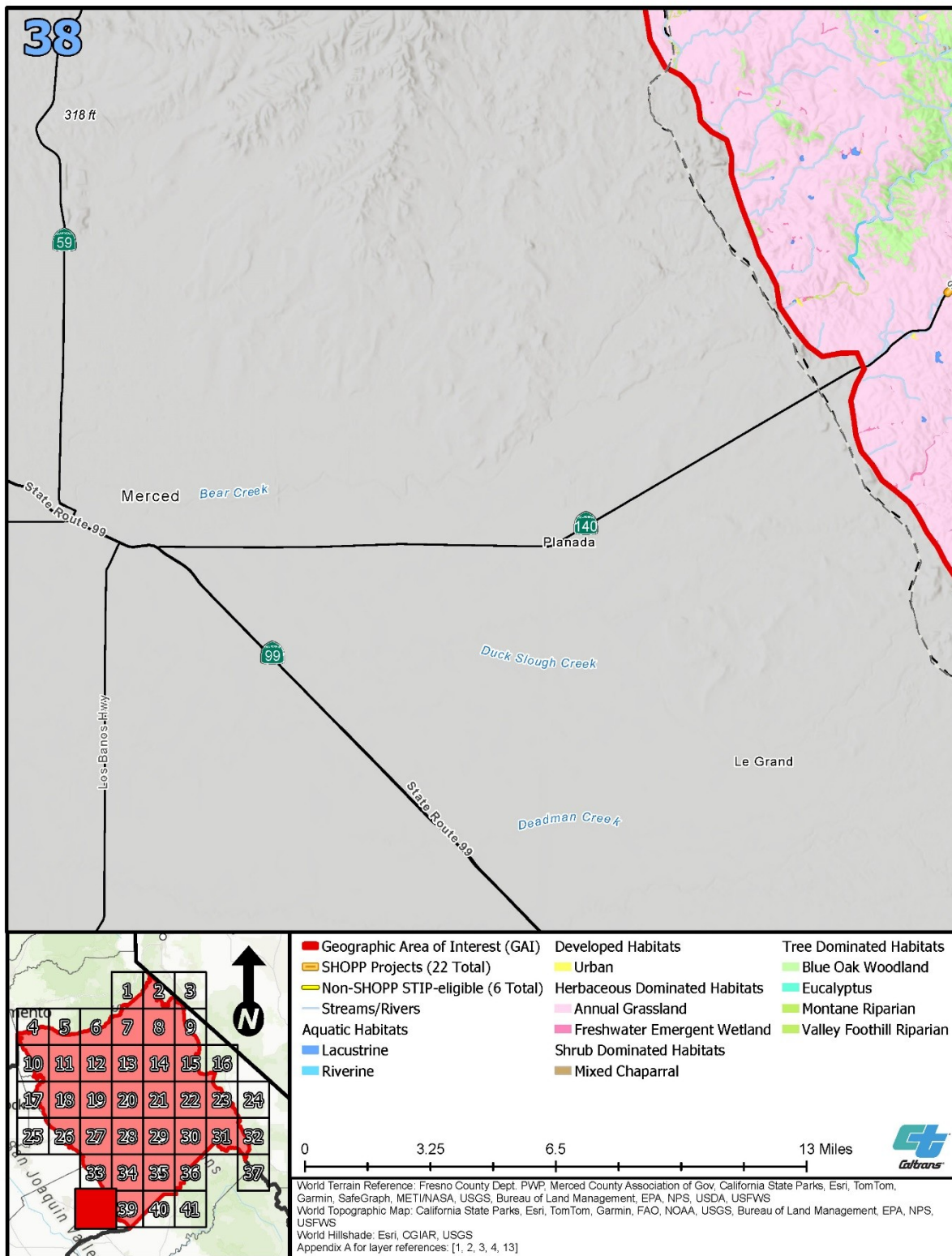


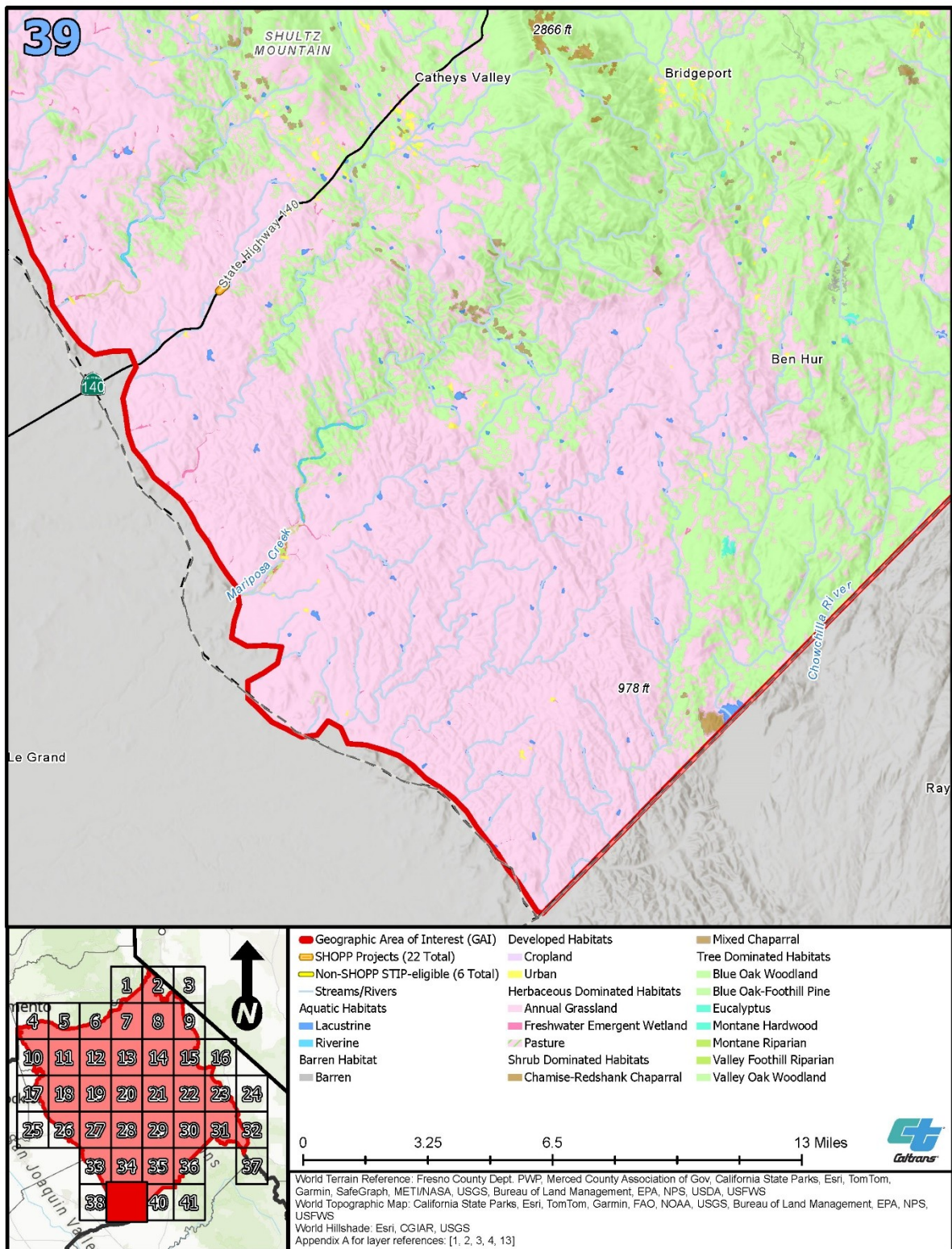


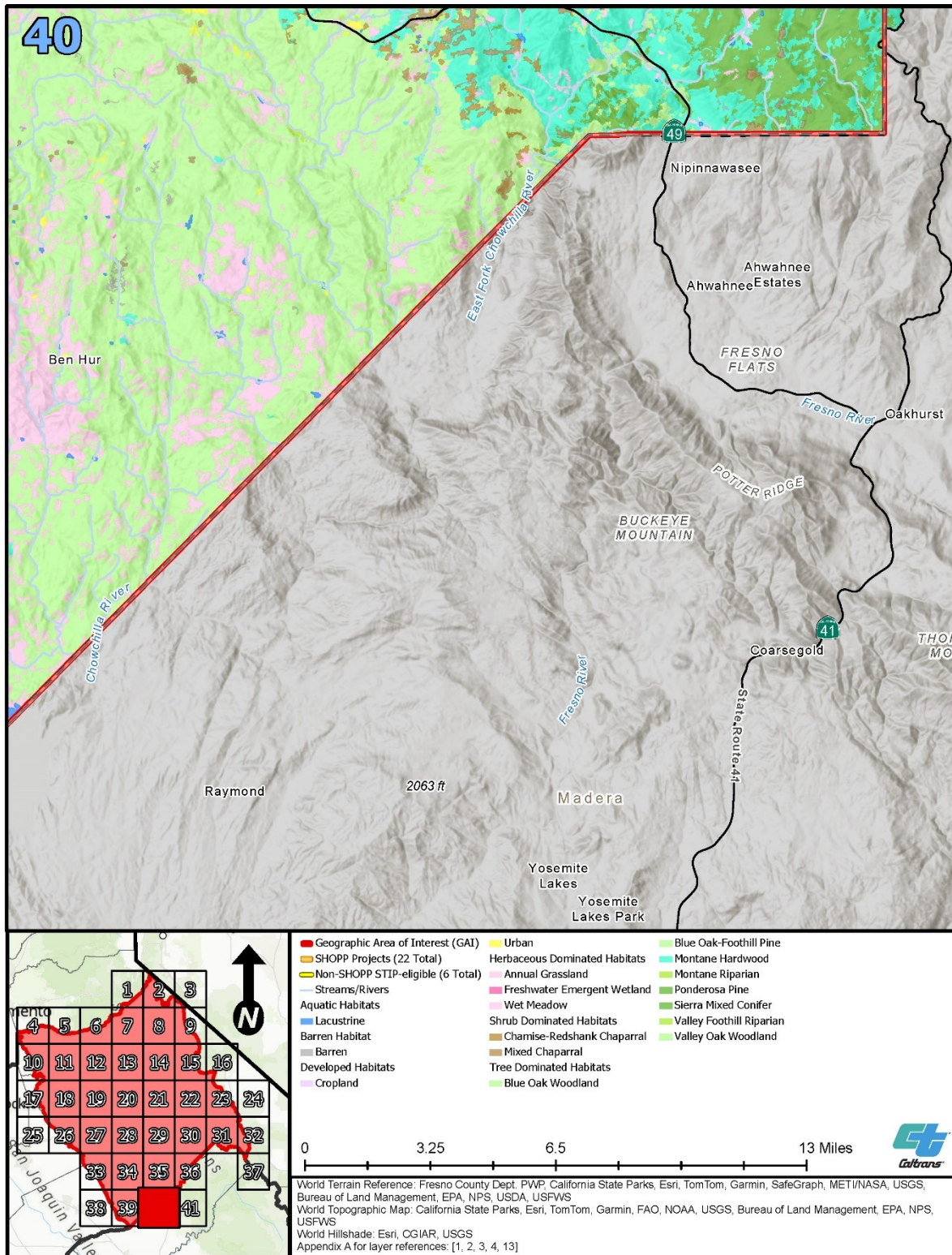


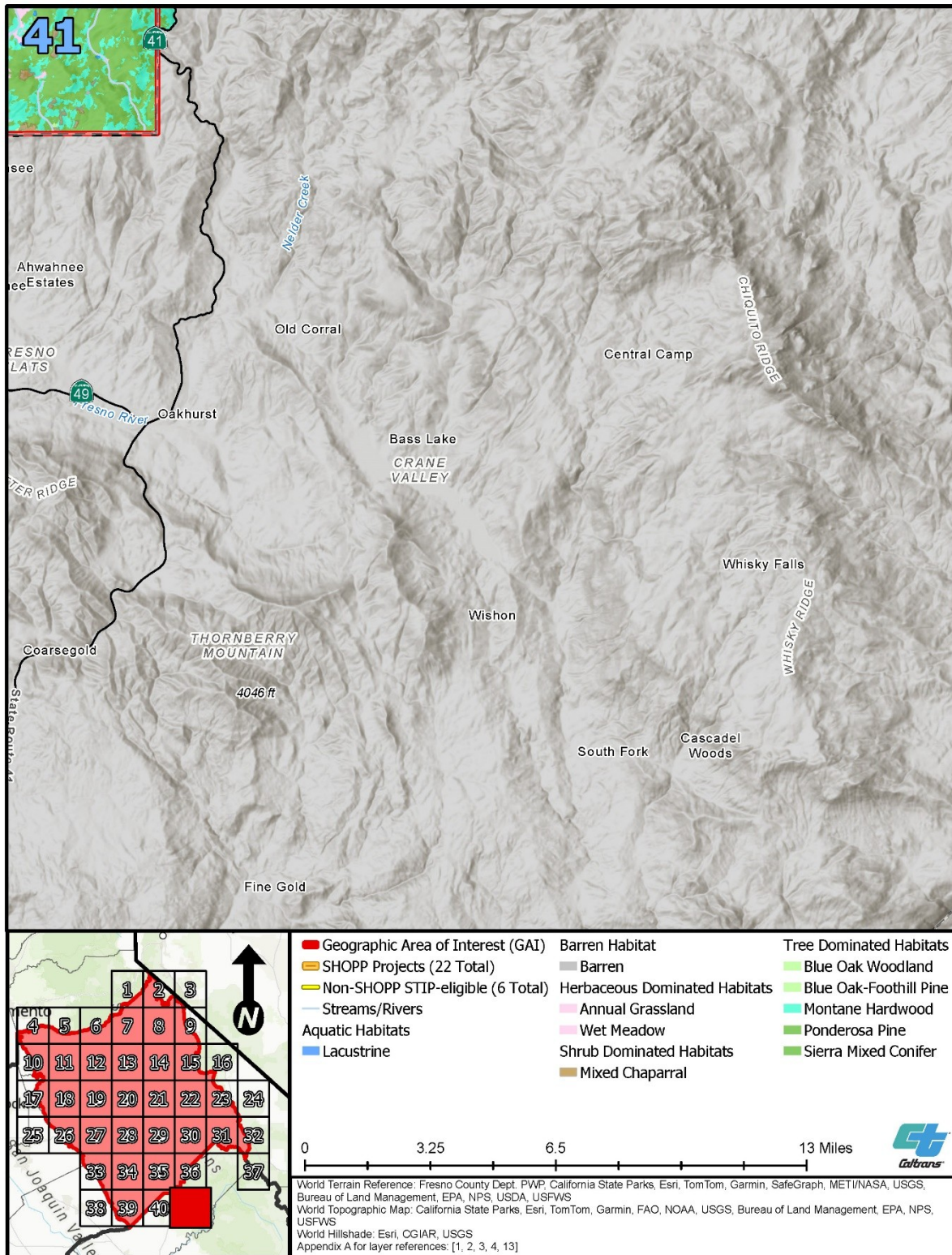












APPENDIX D: COMPLETE SAMNA SPECIES RESULTS

Complete terrestrial species SAMNA results for the GAI are provided in Tables D-1 and D-2, which include SAMNA results for the portions of the Sierra Nevada Ecoregion Section (starts on page D-3) and Sierra Nevada Foothills Ecoregion Section (starts on page D-13) 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 2023). 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 CNDDDB 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 not 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 information¹ 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 on species or subspecies that are not present in the GAI.
- When no impacts are estimated for a specific habitat, for any species, the habitat was excluded from this appendix.
- When no impacts for a species are estimated for any habitat, the species is included. Based on available information, it is potentially present in the GAI, but not in the habitats forecast to be affected by transportation projects.

Total habitat impacts for each special-status species are indicated in the far-right column of the table. Total habitat impacts in the bottom row of the 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 RAMNA are California red-legged frog

¹ For plants, this includes the California Native Plant Society 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 Species of Special Concern* (Shuford and Gardali 2008). For amphibians and reptiles, this includes California Herps online, HCPs/NCCPs, and NPS documents.

(*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), foothill yellow-legged frog (*Rana boylei*), Sierra Nevada yellow-legged frog (*Rana sierrae*), western spadefoot (*Spea hammondi*), and California spotted owl (*Strix occidentalis occidentalis*). 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 California tiger salamander impacts may also provide mitigation to compensate for impacts on other species. Aquatic and riparian habitats and threatened and endangered are also the focus of this RAMNA. The terrestrial special-status species that use these habitats with the potential to be affected in the GAI were excerpted from Table D-1 and are provided in tables in Chapter 5, *Modeled Estimated Impacts*, of the RAMNA's main text.

References

- Caltrans (California Department of Transportation). 2023. *Statewide Advance Mitigation Needs Assessment Report*. State Highway Operation and Protection Program. Ten-Year Project Book. First Quarter 2023/2024 Fiscal Year. October. 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 Sierra Nevada Ecoregion Section in the GAI, by Land Cover (acres)

Common Name	Scientific Name	Status	Annual Grassland	Barren	Bitterbrush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Douglas Fir	Eastside Pine	Jeffrey Pine	Lacustrine	Lodgepole Pine	Low Sage	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Montane Riparian	Perennial Grassland	Pinyon-Juniper	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Subalpine Conifer	Wet Meadow	White Fir	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	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
Boggs Lake hedge-hyssop ^a	<i>Gratiola heterosepala</i>	FS, SE	8.05	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.05
Chinese Camp brodiaea ^a	<i>Brodiaea pallida</i>	FT, SE	8.05	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	13.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.97
Congdon's lewisia	<i>Lewisia congdonii</i>	FS, SR	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22	0.00	10.00	5.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.87
Congdon's woolly sunflower	<i>Eriophyllum congdonii</i>	FS, SR	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	8.57	2.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.98
El Dorado bedstraw ^a	<i>Galium californicum</i> ssp. <i>sierrae</i>	FE, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	5.36	3.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.21
Father Crowley's lupine ^a	<i>Lupinus padre-crowleyi</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	0.00	0.00	0.00	0.00	3.57	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.67
Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	FE, SE	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.09
lone buckwheat ^a	<i>Eriogonum apricum</i> var. <i>apricum</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	0.26	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	0.26
lone manzanita ^a	<i>Arctostaphylos myrtifolia</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	0.26	0.00	5.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.62
Irish Hill buckwheat ^a	<i>Eriogonum apricum</i> var. <i>prostratum</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	0.26	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	0.26
Keck's checkerbloom ^a	<i>Sidalcea keckii</i>	FE	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.09
Layne's ragwort ^a	<i>Packera layneae</i>	FT, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	13.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.02

Common Name	Scientific Name	Status	Annual Grassland	Habitat																									Grand Total
				Barren	Bitterbrush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Douglas Fir	Eastside Pine	Jeffrey Pine	Lacustrine	Lodgepole Pine	Low Sage	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Montane Riparian	Perennial Grassland	Pinyon-Juniper	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Subalpine Conifer	Wet Meadow	
Mariposa lupine	<i>Lupinus citrinus</i> var. <i>deflexus</i>	ST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	8.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.40
Mariposa pussypaws ^a	<i>Calyptridium pulchellum</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	1.22	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.22
Merced clarkia	<i>Clarkia lingulata</i>	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	0.83	0.00	8.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.40
Pine Hill ceanothus ^a	<i>Ceanothus roderickii</i>	FE, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	5.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.62
Pine Hill flannelbush ^a	<i>Fremontodendron decumbens</i>	FE, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	5.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.62
Red Hills vervain ^a	<i>Verbena californica</i>	FT, ST	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.09
San Joaquin Valley Orcutt grass ^a	<i>Orcuttia inaequalis</i>	FT, SE	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53
Stebbins' morning-glory ^a	<i>Calystegia stebbinsii</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	0.26	0.00	5.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.62
Tahoe yellow cress ^a	<i>Rorippa subumbellata</i>	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	0.04	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
Tree-anemone ^a	<i>Carpenteria californica</i>	FS, ST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.83	0.00	8.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.40
Webber's ivesia ^a	<i>Ivesia webberi</i>	FT, FS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	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	0.08
Yosemite onion ^a	<i>Allium yosemitense</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	0.00	1.22	0.00	10.00	5.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.75
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	See below	See below	See below	See below	See below	See below
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	13.15	0.00	0.00	1.58	0.23	0.00	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.04	0.00	0.03	0.00	13.76	0.00	0.45	0.00	0.00	0.00	0.00	59.27
California tiger salamander ^b	<i>Ambystoma californiense</i>	FT, ST	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58

Common Name	Scientific Name	Status	Annual Grassland	Barren	Bitterbrush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Douglas Fir	Eastside Pine	Jeffrey Pine	Lacustrine	Lodgepole Pine	Low Sage	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Montane Riparian	Perennial Grassland	Pinyon-Juniper	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Subalpine Conifer	Wet Meadow	White Fir	Grand Total
Ensatina ^c	<i>Ensatina eschscholtzii</i>	FS	0.00	0.00	0.00	1.58	0.23	0.00	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.40	0.00	0.00	0.00	13.76	0.00	0.00	0.00	1.51	0.00	0.00	0.00	47.16
Foothill yellow-legged frog	<i>Rana boylei</i>	FCE, FS, SE, SSC	13.15	0.00	0.00	1.58	0.23	1.02	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.40	0.00	0.00	0.00	13.76	0.00	0.45	0.00	1.57	0.00	0.00	0.00	61.83
Limestone salamander	<i>Hydromantes brunus</i>	FS, ST, SFP	0.00	0.00	0.00	0.58	0.23	0.14	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	0.00	0.00	0.00	0.00	0.95
Long-toed salamander ^d	<i>Ambystoma macrodactylic</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.89	0.00	0.00	0.00	0.00	0.04	0.23	0.00	0.00	0.00	1.08	0.00	0.00	0.29	0.00	0.04	0.00	2.73
Mount Lyell salamander	<i>Hydromantes platycephalus</i>	None	0.00	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.00	0.00	0.35	0.14	0.04	0.00	3.55
Northern leopard frog	<i>Lithobates pipiens</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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.05
Sierra Nevada yellow-legged frog	<i>Rana sierrae</i>	FE, FS, ST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.89	0.00	0.00	0.00	9.98	5.57	0.28	0.00	0.00	5.38	1.08	0.45	0.00	1.78	0.14	0.04	0.00	25.74
Yosemite toad	<i>Anaxyrus canorus</i>	FT, FS, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.26	0.14	0.04	0.00	2.18
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	See below	See below	See below	See below	See below	See below	See below
California mountain kingsnake	<i>Lampropeltis zonata</i>	None	13.16	0.00	0.00	1.58	0.23	0.00	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.07	16.98	11.40	0.00	0.00	0.00	13.76	0.00	0.00	0.00	1.61	0.00	0.04	0.00	60.53
Coachwhip ^e	<i>Coluber flagellum</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	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
Common gartersnake ^f	<i>Thamnophis sirtalis</i>	SSC	13.23	0.00	0.00	1.58	0.23	1.02	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.07	16.98	11.04	0.00	0.09	0.00	13.76	0.00	0.00	0.00	1.82	0.00	0.04	0.00	61.92
Common sagebrush lizard	<i>Sceloporus graciosus</i>	FS	0.00	0.00	0.18	0.00	0.00	0.00	0.52	0.07	0.17	0.00	0.89	0.09	1.52	0.42	16.98	11.08	0.00	0.00	0.04	13.76	0.00	0.00	0.40	1.85	0.00	0.00	0.00	47.98
Gophersnake	<i>Pituophis catenifer</i>	None	13.26	0.00	0.18	1.58	0.23	1.02	0.52	0.07	0.09	0.00	0.00	0.02	1.52	0.30	16.98	11.08	0.24	0.09	0.04	13.76	0.00	0.00	0.35	1.77	0.00	0.04	0.00	63.14
Northern rubber boa	<i>Charina bottae</i>	None	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.17	0.00	0.89	0.00	0.00	0.42	16.98	11.08	0.41	0.00	0.00	13.76	1.08	0.00	0.00	1.85	0.00	0.07	0.00	47.24

Common Name	Scientific Name	Status	Annual Grassland	Barren	Bitterbrush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Douglas Fir	Eastside Pine	Jeffrey Pine	Lacustrine	Lodgepole Pine	Low Sage	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Montane Riparian	Perennial Grassland	Pinyon-Juniper	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Subalpine Conifer	Wet Meadow	White Fir	Grand Total
Ring-necked snake ^g	<i>Diadophis punctatus</i>	FS, SSC	13.15	0.00	0.00	1.58	0.23	1.02	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.95	10.08	0.00	0.00	0.00	12.07	0.00	0.00	0.00	0.15	0.00	0.00	0.00	57.28
Striped racer ^h	<i>Coluber lateralis</i>	None	0.00	0.00	0.00	1.58	0.23	1.02	0.47	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.50	11.00	0.00	0.00	0.00	11.89	0.00	0.00	0.00	1.32	0.00	0.00	0.00	45.52
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	See below	See below	See below	See below	See below	See below	See below
American white pelican ⁱ	<i>Pelecanus erythrorhynchos</i>	SSC	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Bald eagle	<i>Haliaeetus leucocephalus</i>	FS, SE, SFP, SFS	13.26	3.13	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.03	0.89	0.09	1.52	0.38	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.45	0.40	1.85	0.14	0.07	0.00	69.45
Bank swallow ^j	<i>Riparia riparia</i>	FS, ST	0.00	0.76	0.18	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	0.10	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	1.06
Bell's sparrow ^k	<i>Artemisiospiza belli</i>	FT, SSC	0.00	0.00	0.00	0.00	0.00	1.02	0.00	0.00	0.00	0.00	0.00	0.00	1.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45
Bewick's wren ^l	<i>Thryomanes bewickii</i>	SSC	0.00	0.00	0.00	1.58	0.23	1.02	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.04	0.10	0.00	0.00	13.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.76
Black swift	<i>Cypseloides niger</i>	SSC	0.00	0.05	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	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.22
Burrowing owl	<i>Athene cunicularia</i>	FS, SSC	0.08	0.67	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.91
California quail ^m	<i>Callipepla californica</i>	SSC	2.11	0.00	0.18	1.22	0.23	1.02	0.00	0.07	0.00	0.00	0.00	0.02	1.31	0.16	10.88	5.65	0.25	0.00	0.04	5.48	0.00	0.00	0.35	1.24	0.00	0.03	0.00	30.23
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	0.00	0.00	0.00	0.00	0.23	0.00	0.52	0.00	0.00	0.00	0.24	0.00	0.00	0.00	16.98	11.04	0.00	0.00	0.00	13.76	0.72	0.00	0.00	1.61	0.00	0.00	0.00	45.11
California towhee ⁿ	<i>Pipilo crissalis</i>	None	0.00	0.00	0.00	1.58	0.23	1.02	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	10.63	0.00	0.00	0.00	12.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.57
Golden eagle	<i>Aquila chrysaetos</i>	FS, SFS, SFP	13.26	3.16	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.00	0.89	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.00	0.40	1.85	0.14	0.07	0.00	69.04

Common Name	Scientific Name	Status	Annual Grassland	Barren	Bitterbrush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Douglas Fir	Eastside Pine	Jeffrey Pine	Lacustrine	Lodgepole Pine	Low Sage	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Montane Riparian	Perennial Grassland	Pinyon-Juniper	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Subalpine Conifer	Wet Meadow	White Fir	Grand Total
Great blue heron	<i>Ardea herodias</i>	SFS	13.16	0.00	0.00	1.58	0.23	0.00	0.52	0.07	0.00	0.03	0.00	0.00	0.00	0.00	16.98	11.08	0.41	0.02	0.04	13.76	0.00	0.45	0.00	1.59	0.00	0.03	0.00	59.97
Great gray owl	<i>Strix nebulosa</i>	FS, SE, SFS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.00	1.61	0.00	0.04	0.00	2.57
Greater sage-grouse	<i>Centrocercus urophasianus</i>	FS, SSC	0.00	0.87	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	1.15
Harlequin duck	<i>Histrionicus histrionicus</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	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.45
Hutton's vireo ^o	<i>Vireo huttoni</i>	SSC	0.00	0.00	0.00	1.58	0.00	0.87	0.52	0.00	0.00	0.00	0.00	0.00	1.48	0.00	16.34	9.40	0.00	0.00	0.00	10.07	0.00	0.00	0.00	0.10	0.00	0.00	0.00	40.37
Loggerhead shrike	<i>Lanius ludovicianus</i>	SE, SSC	0.02	0.81	0.18	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	1.59
Long-eared owl	<i>Asio otus</i>	SSC	13.26	0.00	0.18	1.58	0.23	1.02	0.00	0.07	0.00	0.00	0.00	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.00	13.76	0.00	0.00	0.40	1.85	0.00	0.07	0.00	63.05
Marsh wren ^p	<i>Cistothorus palustris</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	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Northern goshawk	<i>Accipiter gentilis</i>	FS, SSC, SFS	0.00	0.00	0.18	1.20	0.23	0.14	0.52	0.07	0.17	0.00	0.89	0.09	0.69	0.42	8.73	9.42	0.41	0.00	0.04	13.76	1.08	0.00	0.40	1.85	0.14	0.00	0.00	40.45
Northern harrier	<i>Circus cyaneus</i>	SSC	0.00	1.02	0.18	0.00	0.00	0.00	0.00	0.07	0.00	0.03	0.00	0.02	0.00	0.16	0.41	0.02	0.25	0.00	0.04	0.00	0.00	0.00	0.35	0.00	0.00	0.03	0.00	2.59
Olive-sided flycatcher	<i>Contopus cooperi</i>	SSC	0.00	0.00	0.00	0.00	0.23	1.02	0.52	0.07	0.17	0.00	0.89	0.00	1.52	0.00	16.98	11.08	0.41	0.00	0.00	13.76	1.08	0.00	0.00	1.85	0.14	0.00	0.00	49.73
Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>	SSC	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Osprey	<i>Pandion haliaetus</i>	FS	13.26	3.16	0.18	1.58	0.23	0.00	0.52	0.07	0.17	0.03	0.89	0.00	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.45	0.40	1.85	0.14	0.07	0.00	68.42
Peregrine falcon	<i>Falco peregrinus</i>	SFS, SFP	13.26	3.16	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.03	0.89	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.45	0.40	1.85	0.00	0.07	0.00	69.39
Purple martin	<i>Progne subis</i>	SSC	13.13	0.00	0.00	1.58	0.23	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.50	11.00	0.00	0.00	0.00	11.89	0.00	0.45	0.00	1.33	0.00	0.00	0.00	56.58
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

Common Name	Scientific Name	Status	Annual Grassland	Habitat																									Grand Total	
				Barren	Bitterbrush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Douglas Fir	Eastside Pine	Jeffrey Pine	Lacustrine	Lodgepole Pine	Low Sage	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Montane Riparian	Perennial Grassland	Pinyon-Juniper	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Subalpine Conifer	Wet Meadow		White Fir
Red-winged blackbird ^q	<i>Agelaius phoeniceus</i>	None	13.26	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	0.41	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	13.77	
Rufous-crowned sparrow	<i>Aimophila ruficeps</i>	SSC	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	
Savannah sparrow ^r	<i>Passerculus sandwichensis</i>	None	2.11	0.00	0.11	1.22	0.23	1.02	0.00	0.00	0.00	0.00	0.00	0.02	1.31	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.35	0.00	0.00	0.03	0.00	6.45
Short-eared owl ^s	<i>Asio flammeus</i>	SSC	0.08	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.31	
Snowy plover ^t	<i>Charadrius nivosus</i>	FT, SSC	0.00	0.76	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	
Song sparrow ^u	<i>Melospiza melodia</i>	SSC	13.26	0.00	0.00	1.58	0.23	1.02	0.52	0.07	0.17	0.03	0.00	0.00	1.52	0.00	16.98	11.08	0.41	0.11	0.04	13.76	0.00	0.45	0.00	1.85	0.00	0.07	0.00	63.18
Sooty grouse ^v	<i>Dendragapus fuliginosus</i>	None	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.17	0.00	0.89	0.00	0.00	0.00	0.30	0.37	0.41	0.11	0.00	0.22	1.08	0.00	0.40	0.71	0.14	0.00	0.00	5.18
Spotted owl ^w	<i>Strix occidentalis</i>	SFS, SSC	0.00	0.00	0.00	0.00	0.23	0.00	0.52	0.00	0.00	0.00	0.27	0.00	0.00	0.00	16.98	11.04	0.00	0.00	0.00	13.76	0.80	0.00	0.00	1.61	0.00	0.00	0.00	45.22
Spotted towhee ^x	<i>Pipilo maculatus</i>	SSC	0.00	0.00	0.18	1.58	0.23	1.02	0.52	0.07	0.03	0.00	0.00	0.00	1.52	0.16	16.98	11.06	0.25	0.00	0.04	13.76	0.00	0.00	0.35	1.51	0.00	0.00	0.00	49.24
Tricolored blackbird	<i>Agelaius tricolor</i>	FS, ST, SSC	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	
Vaux's swift	<i>Chaetura vauxi</i>	SSC	0.00	0.00	0.00	0.00	0.23	0.00	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.07	16.98	11.04	0.00	0.09	0.00	13.76	0.69	0.45	0.00	1.61	0.00	0.04	0.00	41.01
Vesper sparrow	<i>Poocetes gramineus</i>	SSC	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	
White-tailed kite	<i>Elanus leucurus</i>	FS, SFP	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	
Willow flycatcher	<i>Empidonax traillii</i>	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	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.39	
Yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.00	0.00	1.58	0.23	1.02	0.52	0.01	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.04	0.10	0.00	0.00	13.76	0.00	0.00	0.00	1.51	0.00	0.00	0.00	48.29
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	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	0.03	0.00	0.06	

Common Name	Scientific Name	Status	Annual Grassland	Habitat																								Grand Total		
				Barren	Bitterbrush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Douglas Fir	Eastside Pine	Jeffrey Pine	Lacustrine	Lodgepole Pine	Low Sage	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Montane Riparian	Perennial Grassland	Pinyon-Juniper	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Subalpine Conifer		Wet Meadow	White Fir
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	See below	See below	See below	See below	See below	See below	
American badger	<i>Taxidea taxus</i>	SSC	13.26	3.16	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.00	0.89	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.00	0.40	1.85	0.14	0.07	0.00	69.04
Big-eared woodrat ^y	<i>Neotoma macrotis</i>	FS, SSC	0.00	0.00	0.00	1.58	0.23	1.02	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.04	0.00	0.00	0.00	13.76	0.00	0.00	0.00	1.51	0.00	0.00	0.00	48.17
Black-tailed jackrabbit	<i>Lepus californicus</i>	None	13.16	0.00	0.11	1.58	0.23	1.02	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.04	0.10	0.00	0.00	13.76	0.00	0.00	0.05	1.59	0.00	0.00	0.00	61.68
Broad-footed mole ^z	<i>Scapanus latimanus</i>	SSC	13.26	0.00	0.00	1.58	0.23	0.00	0.52	0.07	0.17	0.00	0.89	0.00	0.00	0.00	16.98	11.08	0.41	0.11	0.00	13.76	1.08	0.00	0.00	1.85	0.00	0.07	0.00	62.08
Brush rabbit ^{aa}	<i>Sylvilagus bachmani</i>	FE, SE	13.13	0.00	0.00	1.58	0.23	1.02	0.47	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.50	11.00	0.00	0.00	0.00	11.89	0.00	0.00	0.00	1.32	0.00	0.00	0.00	58.65
California pocket mouse ^{bb}	<i>Chaetodipus californicus</i>	SSC	0.24	0.00	0.00	0.58	0.23	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91
California vole ^{cc}	<i>Microtus californicus</i>	FE, FS, SE, SSC	13.15	0.00	0.00	1.58	0.23	0.00	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.04	0.00	0.00	0.00	13.76	0.00	0.00	0.00	1.55	0.00	0.00	0.00	60.35
Deer mouse ^{dd}	<i>Peromyscus maniculatus</i>	SSC	13.26	3.16	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.00	0.89	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.00	0.40	1.85	0.14	0.07	0.00	69.04
Fisher	<i>Pekania pennanti</i>	FS, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.05	0.17	0.00	0.89	0.00	0.00	0.00	0.00	7.77	0.32	0.00	0.00	13.18	1.08	0.00	0.00	1.85	0.14	0.00	0.00	25.96
Fringed myotis	<i>Myotis thysanodes</i>	FS	13.26	3.16	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.03	0.89	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.45	0.40	1.85	0.00	0.00	0.00	69.31
Great Basin pocket mouse	<i>Perognathus parvus</i>	None	0.00	0.00	0.18	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	0.10	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.29
Heermann's kangaroo rat	<i>Dipodomys heermanni</i>	None	0.08	0.00	0.00	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	0.10	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.49
Lodgepole chipmunk ^{ee}	<i>Tamias speciosus</i>	None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.89	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.00	0.00	0.26	0.14	0.00	0.00	2.96
Long-eared myotis	<i>Myotis evotis</i>	FS	0.00	3.16	0.18	1.58	0.23	1.02	0.46	0.07	0.17	0.03	0.89	0.00	1.31	0.42	13.05	9.30	0.41	0.11	0.04	11.73	1.08	0.45	0.40	1.82	0.14	0.07	0.00	48.11
Marten	<i>Martes caurina</i>	FS	0.00	1.58	0.00	0.00	0.00	0.00	0.00	0.07	0.17	0.00	0.89	0.00	0.00	0.00	0.00	0.04	0.41	0.11	0.00	0.00	1.08	0.00	0.00	0.41	0.14	0.07	0.00	4.96

Common Name	Scientific Name	Status	Annual Grassland																												
			Barren	Bitterbrush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Douglas Fir	Eastside Pine	Jeffrey Pine	Lacustrine	Lodgepole Pine	Low Sage	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Montane Riparian	Perennial Grassland	Pinyon-Juniper	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Subalpine Conifer	Wet Meadow	White Fir	Grand Total		
Mountain beaver	<i>Aplodontia rufa</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.17	0.00	0.89	0.00	0.00	0.00	0.00	0.04	0.41	0.11	0.00	0.00	1.08	0.00	0.00	0.41	0.14	0.07	0.00	3.38	
Mountain lion ^{ff}	<i>Puma concolor</i>	SSC	13.26	0.00	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.00	0.89	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.00	0.40	1.85	0.14	0.07	0.00	65.89	
Mt. Lyell shrew	<i>Sorex lyelli</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	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	
Northern flying squirrel ^{gg}	<i>Glaucomys sabrinus</i>	None	0.00	0.00	0.00	1.22	0.23	0.00	0.46	0.05	0.17	0.00	0.89	0.00	0.00	0.00	11.19	7.63	0.32	0.00	0.00	9.95	1.08	0.00	0.00	1.82	0.14	0.00	0.00	35.14	
Northern river otter ^{hh}	<i>Lontra canadensis</i>	SSC	0.00	0.00	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	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.42		
Ornate shrew ⁱⁱ	<i>Sorex ornatus</i>	FE, SSC	13.15	0.00	0.00	1.58	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.00	0.00	11.04	0.00	0.00	0.00	13.76	0.00	0.00	0.00	1.32	0.00	0.00	0.00	42.61	
Pallid bat	<i>Antrozous pallidus</i>	FS, SSC	13.26	3.16	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.00	0.89	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.45	0.40	1.85	0.00	0.07	0.00	69.36	
Pygmy rabbit ^{jj}	<i>Brachylagus idahoensis</i>	FS, SSC	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.16		
Red fox ^{kk}	<i>Vulpes vulpes</i>	None	0.10	1.16	0.00	0.00	0.00	0.00	0.00	0.07	0.02	0.00	0.57	0.00	0.00	0.17	0.00	0.02	0.25	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.09	0.00	2.59	
Ringtail	<i>Bassariscus astutus</i>	SFP	13.26	3.16	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.00	0.00	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	0.00	0.00	0.40	1.85	0.00	0.07	0.00	66.94	
Sierra Nevada red fox	<i>Vulpes vulpes necator</i>	FS, FE, ST	0.10	1.16	0.00	0.00	0.00	0.00	0.00	0.07	0.02	0.00	0.57	0.00	0.00	0.17	0.00	0.02	0.25	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.09	0.03	0.00	2.59	
Small-footed myotis	<i>Myotis ciliolabrum</i>	FS	13.16	2.65	0.18	1.58	0.23	1.02	0.00	0.00	0.00	0.03	0.00	0.00	1.52	0.00	16.98	11.04	0.19	0.00	0.04	13.76	0.00	0.45	0.14	1.56	0.00	0.00	0.00	64.55	
Snowshoe hare	<i>Lepus americanus</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00	0.00	1.08	0.00	0.00	0.27	0.14	0.00	0.00	2.96	
Spotted bat	<i>Euderma maculatum</i>	FS, SSC	13.26	0.00	0.18	1.58	0.23	0.00	0.00	0.07	0.17	0.00	0.00	0.09	0.00	0.42	0.00	11.08	0.41	0.11	0.04	13.76	0.00	0.45	0.40	1.85	0.00	0.07	0.00	44.19	
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	13.23	3.02	0.18	1.58	0.23	1.02	0.52	0.07	0.07	0.00	0.29	0.02	1.52	0.24	16.98	11.06	0.24	0.09	0.04	13.76	0.91	0.45	0.35	1.74	0.00	0.04	0.00	67.64	
Vagrant shrew ^{ll}	<i>Sorex vagrans</i>	SSC	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.60	0.00	0.00	0.27	0.00	0.04	0.41	0.02	0.00	0.00	0.08	0.00	0.00	0.08	0.14	0.03	0.00	1.81	
Western mastiff bat	<i>Eumops perotis</i>	FS, SSC	13.16	1.90	0.00	1.58	0.23	1.02	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.04	0.00	0.00	0.00	13.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.21	

Common Name	Scientific Name	Status	Annual Grassland																											Grand Total
				Barren	Bitterbrush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Douglas Fir	Eastside Pine	Jeffrey Pine	Lacustrine	Lodgepole Pine	Low Sage	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Montane Riparian	Perennial Grassland	Pinyon-Juniper	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Subalpine Conifer	Wet Meadow	White Fir	
Western red bat	<i>Lasiurus blossevillei</i>	SSC	13.15	0.00	0.00	1.58	0.23	1.02	0.52	0.00	0.00	0.00	0.00	0.00	1.52	0.00	16.98	11.04	0.00	0.00	0.00	13.76	0.00	0.45	0.00	1.45	0.00	0.00	0.00	61.71
Western spotted skunk ^{mm}	<i>Spilogale gracilis</i>	SSC	13.26	0.00	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.00	0.89	0.09	1.52	0.38	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.00	0.40	1.85	0.00	0.07	0.00	65.71
White-tailed jackrabbit	<i>Lepus townsendii</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.17	0.65	0.09	0.13	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.39	0.00	0.40	0.00	0.14	0.03	0.00	1.96
Wolverine	<i>Gulo gulo</i>	FCT, FS, ST, SFP	0.00	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.89	0.00	0.00	0.42	0.00	1.65	0.32	0.11	0.00	0.00	1.08	0.00	0.00	1.57	0.14	0.07	0.00	7.05
Yuma myotis	<i>Myotis yumanensis</i>	FS	13.26	0.00	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.03	0.89	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.45	0.40	1.85	0.14	0.07	0.00	66.36
Total	Not applicable	Not applicable	13.26	3.16	0.18	1.58	0.23	1.02	0.52	0.07	0.17	0.03	0.89	0.09	1.52	0.42	16.98	11.08	0.41	0.11	0.04	13.76	1.08	0.45	0.40	1.85	0.14	0.07	0.00	69.52

Notes: FE = federally endangered; FCE = federal candidate endangered; FCT = federal candidate threatened; FS = federally 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

^a Plant species does not occur in the GAI.

^b California tiger salamander: Does not occur in the Sierra Nevada ecoregion section

^c Ensatina: Only the yellow-blotched (*Ensatina eschscholtzii croceater*) and large-blotched (*E. e. klauberi*) subspecies are special status, and neither occurs in the GAI (neither occurs further north than Kern County)

^d Long-toed salamander (*Ambystoma macrodactylic*): Only the southern subspecies occurs in the GAI.

^e Coachwhip: Only the San Joaquin subspecies (*Coluber flagellum ruddocki*) is special status and it does not occur in the GAI (known range comes as close to the GAI as the Madera/Merced County border near Chowchilla).

^f Common gartersnake: Only the south coast (*Thamnophis sirtalis ssp.*) and San Francisco (*T. s. tetrataenia*) subspecies are considered special status and neither occur in the GAI.

^g Ring-necked snake: Only the San Bernardino (*Diadophis punctatus modestus*), regal (*D. p. regalis*), and San Diego (*D. p. similis*) subspecies are special status, and they do not occur in the GAI.

^h Striped racer: Only the Alameda subspecies (*Masticophis lateralis euryxanthus*) is special status and it does not occur in the GAI (restricted to the East Bay Area).

ⁱ American white pelican: This species is only considered special status in the portion of its range where it nests and species is not known to nest in the GAI (in California, only nests in the Klamath Basin).

^j Bank swallow: Only considered special status in its nesting range and species is not known to nest in the GAI (occurs mostly as an uncommon migrant in the GAI).

^k Bell's sparrow: Only the San Clemente subspecies (*Amphispiza belli clementae*) is special status and it does not occur in the GAI (endemic to San Clemente Islands).

^l Bewick's wren: Only the San Clemente subspecies (*Thryomanes bewickii leucophrys*) is special status and it does not occur in the GAI (was endemic to Channel Islands, now thought to be extinct).

^m California quail: Only the Catalina subspecies (*Callipepla californica catalinensis*) is special status and it does not occur in the GAI (endemic to Channel Islands).

ⁿ California towhee: Only the Inyo subspecies (*Pipilo crissalis eremophilus*) is special status and it does not occur in the GAI (does not occur north of Inyo County).

^o Hutton's vireo: Only the Catalina subspecies (*Vireo huttoni unitti*) is special status, and it does not occur in the GAI (endemic to Channel Islands).

^p Marsh wren: Only the Clark's subspecies (*Cistothorus palustris clarkae*) is special status and it does not occur in the GAI (ranges from Los Angeles to San Diego County and inland only as far as western Riverside County).

^q Red-winged blackbird: Only the Kern subspecies (*Agelaius phoeniceus aciculatus*), covered under a separate entry, is special status.

^r Savannah sparrow: Only the Bryant's (*Passerculus sandwichensis alaudinus*), Belding's (*P. s. beldingi*), and large-billed (*P. s. rostratus*) subspecies are special status and none occur in the GAI (Belding's and Bryant's are strictly coastal residents, large-billed only winters along the coast and the shores of the Salton Sea).

^s Short-eared owl: Only considered special status in its nesting range and species is not known to nest in the GAI (nests mostly adjacent to the GAI in the Great Basin and San Joaquin Valley, but may rarely nest in the ecoregion, occurring in the GAI as an uncommon migrant).

^t Snowy plover: Only considered special status in its nesting range and species is not known to nest in the GAI (nests at Mono Lake and in San Joaquin Valley, occurring in the GAI primarily as an uncommon migrant).

^u Song sparrow: There are 5 special status subspecies and none occur in the GAI (restricted to the Channel Islands, Bay Area, and Central Valley north of Fresno).

^v Sooty grouse: Only the Mount Pinos subspecies (*Dendragapus fuliginosus howardi*) is special status and it does not occur in the GAI (restricted to Mount Pinos near Kern/Ventura County border).

^w Spotted owl: Only the California subspecies (*Strix occidentalis occidentalis*), covered under a separate entry, occurs in the GAI.

^x Spotted towhee: Only the San Clemente subspecies (*Pipilo maculatus clementae*) is special status, and it only occurs on the Channel Islands.

^y Big-eared woodrat: Only the Monterey subspecies (*Neotoma macrotis luciana*) is special status and it does not occur in the GAI.

^z Broad-footed mole: Only the Alameda Island subspecies (*Scapanus latimanus parvus*) is special status and it does not occur in the GAI (endemic to Alameda Island).

^{aa} Brush rabbit: Only the riparian subspecies (*Sylvilagus bachmani riparius*) is special status and it does not occur in the GAI (restricted to the Central Valley floor in San Joaquin and Stanislaus Counties).

^{bb} California pocket mouse: Only the Dulzura subspecies (*Chaetodipus californicus femoralis*) is special status and it does not occur in the GAI (restricted to San Diego County).

^{cc} California vole: There are six special status subspecies of California vole, none of which occur in the GAI.

^{dd} Deer mouse: Only the Anacapa (*Peromyscus maniculatus anacapae*) and San Clemente Island (*P. m. clementis*) subspecies are special status and they do not occur in the GAI (endemic to Channel Islands).

^{ee} Lodgepole chipmunk: Only the Mount Pinos subspecies (*Tamias speciosus callipeplus*) is considered special status and it does not occur in the GAI (restricted to Mount Pinos near Kern/Ventura County border).

^{ff} Mountain lion: Only the Yuma subspecies (*Yuma concolor browni*) is considered special status and it does not occur in the GAI (restricted to the Lower Colorado River Valley)

^{gg} Northern flying squirrel: Only the San Bernardino subspecies (*Glaucomys sabrinus californicus*) is considered special status and it does not occur in the GAI (restricted to Riverside, San Bernardino, and far eastern Los Angeles Counties).

^{hh} Northern river otter: Only the southwestern subspecies (*Lontra canadensis sonora*) is special status and it does not occur in the GAI (only occurs in the Lower Colorado River Valley where it is thought to be extirpated).

ⁱⁱ Ornate shrew: There are five special status subspecies of ornate shrew, none of which occur in the GAI.

^{jj} Pygmy rabbit: Does not occur in the GAI (known range comes closest in eastern Alpine and Mono Counties, but does not overlap with the GAI).

^{kk} Red fox: Only the Sierra Nevada subspecies (*Vulpes vulpes necator*), covered under a separate entry, is special status.

^{ll} Vagrant shrew: Only the salt marsh wandering subspecies (*Sorex vagrans halicoetes*) is special status and it does not occur in the GAI (restricted to the Bay Area).

^{mmm} Western spotted skunk: Only the Channel Islands subspecies (*Spilogale gracilis amphiala*) is special status and it does not occur in the GAI (only occurs in the Lower Colorado River Valley).

Table D-2. Complete SAMNA Results for the Sierra Nevada Foothills Ecoregion Section in the GAI, by Land Cover (acres)

Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Lacustrine	Mixed Chaparral	Montane Hardwood	Pasture	Riverine	Valley Foothill Riparian	Valley Oak Woodland	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
Bakersfield cactus ^a	<i>Opuntia basilaris</i> var. <i>treleasei</i>	FE, SE	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	FS, SE	51.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.58
California jewelflower ^a	<i>Caulanthus californicus</i>	FE, SE	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Chinese Camp brodiaea	<i>Brodiaea pallida</i>	FT, SE	51.58	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.00	0.00	52.32
Colusa grass	<i>Neostapfia colusana</i>	FT, SE	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Congdon's lewisia ^a	<i>Lewisia congdonii</i>	FS, SR	5.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	5.08
Congdon's woolly sunflower ^a	<i>Eriophyllum congdonii</i>	FS, SR	5.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	5.08
El Dorado bedstraw	<i>Galium californicum</i> ssp. <i>sierrae</i>	FE, SR	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.74	0.00	0.00	0.00	0.00	1.84
Greene's tuctoria	<i>Tuctoria greenei</i>	FE, SR	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Hairy Orcutt grass	<i>Orcuttia pilosa</i>	FE, SE	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	FE, SE	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Hoover's spurge	<i>Euphorbia hooveri</i>	FT	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
lone buckwheat	<i>Eriogonum apricum</i> var. <i>apricum</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	0.00	0.00	0.00	0.00	1.10
lone manzanita	<i>Arctostaphylos myrtifolia</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.74	0.00	0.00	0.00	0.00	1.84
Irish Hill buckwheat	<i>Eriogonum apricum</i> var. <i>prostratum</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	0.00	0.00	0.00	0.00	1.10
Keck's checkerbloom ^a	<i>Sidalcea keckii</i>	FE	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Kern mallow ^a	<i>Eremalche parryi</i> ssp. <i>kernensis</i>	FE	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Layne's ragwort ^a	<i>Packera layneae</i>	FT, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.74	0.00	0.00	0.00	0.00	1.91
Mariposa lupine	<i>Lupinus citrinus</i> var. <i>deflexus</i>	ST	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.08
Mariposa pussypaws ^a	<i>Calyptridium pulchellum</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.08
Merced clarkia ^a	<i>Clarkia lingulata</i>	FS, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.08
Palmate-bracted bird's-beak ^a	<i>Chloropyron palmatum</i>	FE, SE	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16

Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Lacustrine	Mixed Chaparral	Montane Hardwood	Pasture	Riverine	Valley Foothill Riparian	Valley Oak Woodland	Grand Total
Pine Hill ceanothus	<i>Ceanothus roderickii</i>	FE, SR	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.74	0.00	0.00	0.00	0.00	1.84
Pine Hill flannelbush	<i>Fremontodendron decumbens</i>	FE, SR	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.74	0.00	0.00	0.00	0.00	1.84
Red Hills vervain ^a	<i>Verbena californica</i>	FT, ST	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
San Joaquin adobe sunburst ^a	<i>Pseudobahia peirsonii</i>	FT, SE	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
San Joaquin Valley Orcutt grass ^a	<i>Orcuttia inaequalis</i>	FT, SE	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
San Joaquin woollythreads ^a	<i>Monolopia congdonii</i>	FE	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Stebbin's morning-glory	<i>Calystegia stebbinsii</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.74	0.00	0.00	0.00	0.00	1.84
Succulent owl's-clover ^a	<i>Castilleja campestris</i> var. <i>succulenta</i>	FT, SE	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16
Tree-anemone ^a	<i>Carpenteria californica</i>	FS, ST	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.08
Yosemite onion ^a	<i>Allium yosemitense</i>	FS, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.08
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
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	0.00	1.13
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	1.77	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	1.77
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93
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
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	51.58	0.00	19.92	32.54	0.00	0.54	1.17	0.74	0.00	0.436	4.65	9.14	120.64
California tiger salamander	<i>Ambystoma californiense</i>	FT, ST	49.68	0.00	19.22	30.33	0.00	0.54	0.00	0.00	0.00	0.00	3.93	5.87	109.56
Ensatina ^b	<i>Ensatina eschscholtzii</i>	FS	0.00	0.00	19.92	32.54	0.00	0.00	1.17	0.74	0.00	0.00	4.65	9.14	68.16
Foothill yellow-legged frog	<i>Rana boylei</i>	FCE, FS, SE, SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.36	4.65	9.14	120.30
Limestone salamander	<i>Hydromantes brunus</i>	FS, ST, SFP	0.00	0.00	0.00	0.03	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Sierra Nevada yellow-legged frog	<i>Rana sierrae</i>	FE, FS, ST	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.54
Western spadefoot	<i>Spea hammondi</i>	FS, SSC	3.00	0.00	0.06	0.19	0.00	0.54	0.00	0.00	0.00	0.24	0.00	0.00	4.03

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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
Blainville's horned lizard	<i>Phrynosoma blainvillii</i>	FS, SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.00	0.00	0.00	4.65	9.14	119.19
California mountain kingsnake	<i>Lampropeltis zonata</i>	None	51.58	0.00	19.92	32.54	0.00	0.00	1.17	0.74	0.00	0.00	4.65	9.14	119.74
Common gartersnake ^c	<i>Thamnophis sirtalis</i>	SSC	51.58	0.00	19.92	32.54	0.20	0.54	1.17	0.74	1.08	0.00	4.65	9.14	121.55
Giant gartersnake ^d	<i>Thamnophis gigas</i>	FT, ST	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
Gophersnake	<i>Pituophis catenifer</i>	None	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.01
Ring-necked snake ^e	<i>Diadophis punctatus</i>	FS, SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.01
Striped racer ^f	<i>Coluber lateralis</i>	None	0.00	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	68.36
Western skink ^g	<i>Plestiodon skiltonianus</i>	FS	9.96	0.00	3.81	10.49	0.00	0.00	0.00	0.74	0.07	0.00	1.27	6.23	32.58
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
Bald eagle	<i>Haliaeetus leucocephalus</i>	FS, SE, SFP, SFS	51.58	0.66	19.92	32.54	0.20	0.54	1.17	0.74	0.00	0.36	4.65	9.14	121.49
Bell's sparrow ^h	<i>Artemisiospiza belli</i>	FT, SSC	0.00	0.00	0.00	0.00	0.20	0.00	1.17	0.00	0.00	0.00	0.00	0.00	1.37
Bewick's wren ⁱ	<i>Thryomanes bewickii</i>	SSC	0.00	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	68.36
Burrowing owl	<i>Athene cunicularia</i>	FS, SSC	51.58	0.66	19.92	32.54	0.20	0.00	1.17	0.00	1.08	0.00	4.65	9.14	120.93
California quail ^j	<i>Callipepla californica</i>	SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	119.94
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	0.00	0.00	0.00	32.54	0.00	0.00	0.00	0.74	0.00	0.00	4.65	0.00	37.93
California towhee ^k	<i>Pipilo crissalis</i>	None	0.00	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	68.36
Common yellowthroat ^l	<i>Geothlypis trichas</i>	SSC	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
Golden eagle	<i>Aquila chrysaetos</i>	FS, SFS, SFP	51.58	0.66	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.67
Grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC	51.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.58
Great blue heron	<i>Ardea herodias</i>	SFS	51.58	0.00	19.92	32.54	0.00	0.54	0.00	0.74	0.00	0.36	4.65	9.14	119.46
Great egret	<i>Ardea alba</i>	SFS	51.58	0.00	19.92	32.54	0.00	0.54	0.00	0.00	0.00	0.36	4.65	9.14	118.72
Greater white-fronted goose ^m	<i>Anser albifrons</i>	SSC	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
Hutton's vireo ⁿ	<i>Vireo huttoni</i>	SSC	0.00	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	68.36

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Loggerhead shrike	<i>Lanius ludovicianus</i>	SE, SSC	51.58	0.66	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	120.60
Long-eared owl	<i>Asio otus</i>	SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.01
Marsh wren ^o	<i>Cistothorus palustris</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.65	0.00	4.65
Modesto song sparrow ^p	<i>Melospiza melodia mailliardi</i>	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	0.09
Northern goshawk	<i>Accipiter gentilis</i>	FS, SSC, SFS	0.00	0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.01	2.54	3.45
Northern harrier	<i>Circus cyaneus</i>	SSC	51.58	0.66	19.92	32.54	0.20	0.54	1.17	0.74	0.00	0.36	4.65	9.14	121.49
Olive-sided flycatcher	<i>Contopus cooperi</i>	SSC	0.00	0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89
Oregon vesper sparrow	<i>Pooecetes gramineus affinis</i>	SSC	51.58	0.00	19.92	32.54	0.00	0.00	1.17	0.00	0.00	0.00	0.00	9.14	114.35
Osprey	<i>Pandion haliaetus</i>	SFS	51.58	0.66	19.92	32.54	0.00	0.54	1.17	0.74	0.00	0.36	4.65	9.14	121.30
Peregrine falcon	<i>Falco peregrinus</i>	SFS, SFP	51.58	0.66	19.92	32.54	0.20	0.54	1.17	0.74	0.00	0.36	4.65	9.14	121.49
Purple martin	<i>Progne subis</i>	SSC	0.35	0.00	0.61	1.37	0.00	0.54	0.00	0.00	0.00	0.00	0.18	0.00	3.04
Redhead ^q	<i>Aythya americana</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.20
Red-winged blackbird ^r	<i>Agelaius phoeniceus</i>	SSC	51.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.65	0.00	56.23
Rufous-crowned sparrow ^s	<i>Aimophila ruficeps</i>	SSC	51.58	0.00	0.00	32.54	0.20	0.00	1.17	0.00	0.00	0.00	4.65	0.00	90.14
Sandhill crane ^t	<i>Grus canadensis</i>	None	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
Savannah sparrow ^u	<i>Passerculus sandwichensis</i>	SE, SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.00	1.08	0.00	4.65	9.14	120.27
Short-eared owl ^v	<i>Asio flammeus</i>	SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.00	0.00	0.00	4.65	9.14	119.19
Song sparrow ^w	<i>Melospiza melodia</i>	SSC	51.58	0.00	19.92	32.54	0.20	0.54	1.17	0.74	0.00	0.36	4.65	9.14	120.83
Spotted owl ^x	<i>Strix occidentalis</i>	None	0.00	0.00	0.00	32.54	0.00	0.00	0.00	0.74	0.00	0.00	4.65	0.00	37.93
Spotted towhee ^y	<i>Pipilo maculatus</i>	SSC	0.00	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	68.36
Swainson's hawk ^z	<i>Buteo swainsoni</i>	FS, ST	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
Tricolored blackbird	<i>Agelaius tricolor</i>	FS, ST, SSC	51.58	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	4.65	0.00	56.23
Vaux's swift	<i>Chaetura vauxi</i>	SSC	0.00	0.00	0.00	0.89	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.00	1.43
Vesper sparrow ^{aa}	<i>Pooecetes gramineus</i>	None	51.58	0.00	19.92	32.54	0.00	0.00	1.17	0.00	0.00	0.00	0.00	9.14	114.35

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White-tailed kite	<i>Elanus leucurus</i>	FS, SFP	51.58	0.66	19.92	32.54	0.20	0.00	1.17	0.00	0.00	0.00	4.65	9.14	114.35
Willow flycatcher	<i>Empidonax traillii</i>	FS, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	68.36
Yellow-breasted chat	<i>Icteria virens</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.65	0.00	4.65
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
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
American badger	<i>Taxidea taxus</i>	SSC	51.58	0.66	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.67
Big-eared woodrat ^{bb}	<i>Neotoma macrotis</i>	FS, SSC	0.00	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	68.36
Black-tailed jackrabbit	<i>Lepus californicus</i>	None	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.01
Broad-footed mole ^{cc}	<i>Scapanus latimanus</i>	SSC	51.58	0.00	19.92	32.54	0.00	0.00	0.00	0.74	1.08	0.00	4.65	9.14	119.65
Brush rabbit ^{dd}	<i>Sylvilagus bachmani</i>	FE, SE	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.01
California pocket mouse ^{ee}	<i>Chaetodipus californicus</i>	SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	0.00	0.00	4.65	9.14	115.28
California vole ^{ff}	<i>Microtus californicus</i>	FE, FS, SE, SSC	51.58	0.00	19.92	32.54	0.00	0.00	1.17	0.74	1.08	0.00	4.65	9.14	120.82
Deer mouse ^{gg}	<i>Peromyscus maniculatus</i>	SSC	51.58	0.66	19.92	32.54	0.20	0.05	1.17	0.74	1.08	0.00	4.65	9.14	121.67
Fringed myotis	<i>Myotis thysanodes</i>	FS	47.52	0.66	16.24	31.91	0.20	0.54	1.17	0.74	1.08	0.27	4.59	9.14	114.06
Heermann's kangaroo rat ^{hh}	<i>Dipodomys heermanni</i>	None	51.58	0.00	19.92	32.54	0.00	0.00	1.17	0.74	1.08	0.00	0.00	9.14	116.17
Kit fox ⁱⁱ	<i>Vulpes macrotis</i>	None	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
Long-eared myotis	<i>Myotis evotis</i>	FS	0.00	0.00	0.00	0.43	0.00	0.54	0.00	0.00	0.00	0.00	0.07	0.00	1.04
Mountain lion ^{jj}	<i>Puma concolor</i>	SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.01
Northern river otter ^{kk}	<i>Lontra canadensis</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.09	0.00	0.00	0.63
Ornate shrew ^{ll}	<i>Sorex ornatus</i>	FE, SSC	48.94	0.00	18.37	32.08	0.00	0.00	1.17	0.00	0.00	0.00	4.65	9.14	114.29
Pallid bat	<i>Antrozous pallidus</i>	FS, SSC	51.58	0.66	19.92	32.54	0.20	0.05	1.17	0.74	1.08	0.36	4.65	9.14	122.03
Ringtail	<i>Bassariscus astutus</i>	SFP	51.58	0.66	19.92	32.54	0.20	0.05	1.17	0.74	1.08	0.00	4.65	9.14	121.67
San Joaquin kit fox ^{mm}	<i>Vulpes macrotis mutica</i>	FE, ST	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29

Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Lacustrine	Mixed Chaparral	Montane Hardwood	Pasture	Riverine	Valley Foothill Riparian	Valley Oak Woodland	Grand Total
San Joaquin pocket mouse	<i>Perognathus inornatus</i>	FS	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.22
Small-footed myotis	<i>Myotis ciliolabrum</i>	FS	50.26	0.66	19.85	32.54	0.20	0.54	1.17	0.74	1.08	0.27	4.59	9.14	121.04
Spotted bat	<i>Euderma maculatum</i>	FS, SSC	51.51	0.00	19.92	32.54	0.00	0.00	0.00	0.00	0.00	0.27	4.59	9.14	117.97
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	51.58	0.66	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.36	4.65	9.14	122.03
Western mastiff bat	<i>Eumops perotis</i>	FS, SSC	51.58	0.66	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.67
Western red bat	<i>Lasiurus blossevillii</i>	SSC	51.58	0.00	19.92	32.54	0.20	0.54	1.17	0.74	1.08	0.36	4.65	9.14	121.91
Western spotted skunk ⁿⁿ	<i>Spilogale gracilis</i>	SSC	51.58	0.00	19.92	32.54	0.20	0.00	1.17	0.74	1.08	0.00	4.65	9.14	121.01
Yuma myotis	<i>Myotis yumanensis</i>	FS	51.58	0.00	19.92	32.54	0.20	0.54	1.17	0.74	1.08	0.36	4.65	9.14	121.91
Total		Not applicable	51.58	0.66	19.92	32.54	0.20	0.54	1.17	0.74	1.08	0.36	4.65	9.14	122.03

Notes: FE = federally endangered; FCE = federal candidate endanger; FCT = federal candidate threatened; FS = federally 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

^a Plant species does not occur in the GAI.

^b Ensatina: Only the yellow-blotched (*Ensatina eschscholtzii croceater*) and large-blotched (*E. e. klauberi*) subspecies are special status and they do not occur in the GAI (neither occurs further north than Kern County).

^c Common gartersnake: Only the San Francisco subspecies (*Thamnophis sirtalis tetrataenia*) and the south coast population (*T. s. pop. 1*) are special status and they do not occur in the GAI (San Francisco occurs only in San Mateo and Santa Cruz Counties, the south coast population does not range north of Ventura County).

^d Giant gartersnake: Does not occur in the GAI (restricted to the Central Valley floor).

^e Ring-necked snake: Only the San Bernardino (*Diadophis punctatus modestus*), regal (*D. p. regalis*), and San Diego (*D. p. similis*) subspecies are special status and they do not occur in the GAI (regal only occurs in the Great Basin, the other two do not occur north of Kern County).

^f Striped racer: Only the Alameda subspecies (*Coluber lateralis euryxanthus*) is considered special status and it does not occur in the GAI (restricted to East Bay Area).

^g Western skink: Only the Coronado subspecies (*Plestiodon skiltonianus interparetalis*) is considered special status and it does not occur in the GAI (restricted to San Diego and Riverside Counties).

^h Bell's sparrow: Only the San Clemente subspecies (*Amphispiza belli clementae*) is special status and it does not occur in the GAI (endemic to San Clemente Islands).

ⁱ Bewick's wren: Only the San Clemente subspecies (*Thryomanes bewickii leucophrys*) is special status, and it does not occur in the GAI (was endemic to San Clemente Island and is now extinct).

^j California quail: Only the Catalina subspecies (*Callipepla californica catalinensis*) is special status, and it does not occur in the GAI (endemic to Channel Islands).

^k California towhee: Only the Inyo subspecies (*Pipilo crissalis eremophilus*) is special status and it does not occur in the GAI (does not occur north of Inyo County).

^l Common yellowthroat: Only the San Francisco (saltmarsh) (*Geothlypis trichas sinuosa*) subspecies is special status and it does not occur in the GAI (restricted to the Bay Area).

^m Greater white-fronted goose: Only the tule subspecies (*Answer albifrons elgasi*) is special status and it does not occur in the GAI (only known to winter in the northern Sacramento Valley, North Bay Area, and Sacramento-San Joaquin Delta).

ⁿ Hutton's vireo: Only the Catalina subspecies (*Vireo huttoni unitti*) is special status, and it does not occur in the GAI (endemic to Santa Catalina Island).

^o Marsh wren: Only the Clark's subspecies (*Cistothorus palustris clarkae*) is special status, and it does not occur in the GAI (does not occur north of Los Angeles County).

^p Modesto song sparrow: Does not occur in the GAI (known range comes closest to GAI in westernmost Amador and Calaveras Counties, but does not overlap the GAI).

^q Redhead: Not currently known to nest in GAI, but GAI is within historic nesting range.

^r Red-winged blackbird: Only the Kern subspecies (*Agelaius phoeniceus aciculatus*) is special status, and it does not occur in the GAI (restricted to Lake Isabella and Walker Basin).

^s Rufous-crowned sparrow: Only the Santa Cruz Island subspecies (*Aimophila ruficeps obscura*) is special status, and it does not occur in the GAI (endemic to Channel Islands).

^t Sandhill crane: Only considered special status where they nest or winter. Nests in southeastern corner of California (north of Lake Tahoe) and winters in the Central Valley, Imperial Valley, Lower Colorado River Valley, and Carrizo Plain. Only occurs in the GAI as a migrant.

^u Savannah sparrow: Only the Bryant's (*Passerculus sandwichensis alaudinus*), Belding's (*P. s. beldingi*), and large-billed (*P. s. rostratus*) subspecies are special status and none occur in the GAI (Belding's and Bryant's are strictly coastal residents, large-billed only winters along the coast and the shores of the Salton Sea).

^v Short-eared owl: Only considered special status where they nest. Nests mostly adjacent to the GAI in the Great Basin and San Joaquin Valley, but may rarely nest in the GAI. Occurs primarily as an uncommon migrant in the GAI.

^w Song sparrow: There are four subspecies and one population that are special status, none of which occur in the GAI.

^x Spotted owl: Only the California subspecies (*Strix occidentalis occidentalis*), covered under a separate entry, occurs in the GAI.

^y Spotted towhee: Only the San Clemente subspecies (*Pipilo maculatus clementae*) is special status, and it does not occur in the GAI (endemic to Channel Islands).

^z Swainson's hawk: Only considered special status where they nest. Nests mostly adjacent to the GAI in Central Valley, but some nesting in the westernmost portions of the Sierra Nevada Foothills ecoregion. Occurs primarily as a migrant in the GAI.

^{aa} Vesper sparrow: Only the Oregon subspecies (*Poecetes gramineus affinis*), covered under a separate entry, is special status.

^{bb} Big-eared woodrat: Only the Monterey subspecies (*Neotoma macrotis luciana*) is special status and it does not occur in the GAI.

^{cc} Broad-footed mole: Only the Alameda Island subspecies (*Scapanus latimanus parvus*) is special status, and it does not occur in the GAI (endemic to Alameda Island).

^{dd} Brush rabbit: Only the riparian subspecies (*Sylvilagus bachmani riparius*) is special status and it does not occur in the GAI (restricted to the Central Valley floor in San Joaquin and Stanislaus Counties).

^{ee} California pocket mouse: Only the Dulzura subspecies (*Chaetodipus californicus femoralis*) is special status, and it does not occur in the GAI (only occurs in southern California).

^{ff} California vole: There are six special-status subspecies of California vole, none of which occur in the GAI.

^{gg} Deer mouse: Only the Anacapa (*Peromyscus maniculatus anacapae*) and San Clemente Island (*P. m. clementis*) subspecies are special status, and they do not occur in the GAI (endemic to Channel Islands).

^{hh} Heermann's kangaroo rat: Only the Morro Bay subspecies (*Dipodomys heermanni morroensis*) is special status and it does not occur in the GAI (endemic to San Luis Obispo County).

ⁱⁱ Kit fox: Only the San Joaquin subspecies (*Vulpes macrotis mutica*), covered under a separate entry, is special status.

^{jj} Mountain lion: Only the Yuma subspecies (*Yuma concolor browni*) is considered special status and it does not occur in the GAI (restricted to the Lower Colorado River Valley).

^{kk} Northern river otter: Only the southwestern subspecies (*Lontra canadensis sonora*) is special status, and it does not occur in the GAI (only occurs in the Lower Colorado River Valley).

^{ll} Ornate shrew: There are five special-status subspecies of ornate shrew, none of which occur in the GAI.

^{mm} San Joaquin kit fox: Range barely overlaps the GAI in westernmost Tuolumne and Mariposa Counties near the town of La Grange where there is a 50-year-old CNDDB occurrence.

ⁿⁿ Western spotted skunk: Only the Channel Islands subspecies (*Spilogale gracilis amphiala*) is special status, and it does not occur in the GAI (endemic to Channel Islands).

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APPENDIX E: HYDROLOGIC UNITS

Sub-basin Descriptions

Seventeen sub-basins overlap the GAI. 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 E-1 at the end of this appendix.

Crowley Lake Sub-basin

The Crowley Lake sub-basin drains an area of 11,009 acres (17 square miles), and includes 12 rivers and streams that traverse 15 miles. As noted in Table E-1, the Crowley Lake sub-basin includes portions of the Mono, Owens, and San Joaquin River HUs.

The Mono HU is associated with the Mono Lake watershed and consists of five main tributary streams: Mill, Lee Vining, Parker, Walker, and Rush Creeks. All of these streams have headwaters within the alpine and sub-alpine environments of the Sierra Nevada near Yosemite Park. The streams flow through mixed conifer and pinyon-juniper woodlands at lower elevations before fanning out into riparian and meadow habitats into Mono Lake (Mono Lake Committee 2023).

The Owens HU is associated with the Owens Valley drainage basin and the Owens River. Water flow is primarily provided by snowmelt and precipitation within the Sierra Nevada that flow down the mountain and into the Owens River, eventually draining into Owens Lake (USGS 1998). The part of the Owens HU that lies within the Crowley Lake sub-basin includes a portion of the Long hydrologic area.

The San Joaquin River HU is associated with the San Joaquin River, which is divided into the Upper, Middle, and Lower San Joaquin River. The San Joaquin River begins along the eastern Sierra Nevada before flowing southwestward into the San Joaquin Valley floor. Once along the valley floor, the San Joaquin River turns northwestward to its confluence with the Sacramento River. The Merced, Tuolumne, Stanislaus, Cosumnes, Mokelumne, and Calaveras Rivers are all tributaries to the San Joaquin River (NOAA 2022). The part of the San Joaquin River HU that lies within the Crowley Lake sub-basin includes a portion of the North Fork San Joaquin hydrologic area.

East Walker Sub-basin

The East Walker sub-basin drains an area of 72,045 acres (113 square miles), and includes 125 rivers and streams that traverse 115 miles. As noted in Table E-1, the East Walker sub-basin includes portions of the East Walker River, Mono, Tuolumne River, and West Walker River HUs. A description of the Mono HU is provided in the Crowley Lake sub-basin section.

The East Walker River HU is associated with the Walker River Basin where headwaters originate within the Sierra Nevada as snowmelt. Flows from the Sierra Nevada feed into the East Fork of the Walker River and eventually merge with the West Fork of the Walker River in southern Mason Valley, Nevada. The part of the East Walker River HU that lies

within the East Walker sub-basin includes portions of the Bridgeport and East Walker Tributaries hydrologic areas.

The Tuolumne River HU is mainly associated with the Tuolumne River watershed. The headwaters originate in Yosemite National Park and travel southwestward through Yosemite, Stanislaus Nations Forest, and private lands before flowing westward into the San Joaquin River (NMFS 2014). The Tuolumne River is dammed in several locations, including O'Shaughnessy Dam, forming Hetch Hetchy Reservoir; Early Intake Dam, forming Early Intake Reservoir; Don Pedro Dam, forming Don Pedro Reservoir; and La Grange Dam, forming La Grange Reservoir (San Francisco Public Utilities Commission 2008). The part of the Tuolumne River HU that lies within the East Walker sub-basin includes a portion of the Hetch Hetchy hydrologic area.

The West Walker River HU is associated with the Walker River Basin where headwaters originate within the Sierra Nevada as snowmelt. Flows from the Sierra Nevada feed into the West Fork of the Walker River and eventually merge with the East Fork of the Walker River in southern Mason Valley, Nevada. The part of the West Walker River HU that lies within the East Walker sub-basin includes a portion of the Upper West Walker River hydrologic area.

Fresno River Sub-basin

The Fresno River sub-basin drains an area of 7,978 acres (13 square miles), and includes 6 rivers and streams that traverse 7 miles. As noted in Table E-1, the Fresno River sub-basin includes portions of the Ahwahnee and Merced River HUs.

The part of the Ahwahnee HU that lies within the Fresno River sub-basin includes portions of the Chowchilla River and Fresno River hydrologic areas.

The Merced River HU is associated with the Merced River watershed. Originating in Yosemite National Park, the Merced River flows westward from the Sierra Nevada. Flows travel into New Exchequer Dam, Mc Swain Dam, and Merced Falls Dam before reaching the Central Valley and discharging into the San Joaquin River (NMFS 2014). The part of the Merced River HU that lies within the Fresno River sub-basin includes a portion of the South Fork Merced hydrologic area.

Lake Tahoe Sub-basin

The Lake Tahoe sub-basin drains an area of 4,210 acres (7 square miles), and includes 10 rivers and streams that traverse 6 miles. As noted in Table E-1, the Lake Tahoe sub-basin includes portions of the American River, Lake Tahoe, and West Fork Carson River HUs.

The American River HU is associated with the American River Watershed. The American River has headwaters within the El Dorado National Forest in the Sierra Nevada. Composed of three forks—the North, Middle, and South—the American River is a tributary to the Rubicon River, Duncan Creek, Long Canyon Creek, and Silver Creek. Several reservoirs are also located along the American River, including French Meadows, Hell Hole, Union Valley, Ice House, Lake Valley, Loon Lake, Silver Lake, Slab Creek, and

Stumpy Meadows. Once past the various impoundments, the American River ultimately drains into the Sacramento River (Sacramento River Watershed Program 2023). The part of the American River HU that lies within the Lake Tahoe sub-basin includes a portion of the South Fork American hydrologic area.

The Lake Tahoe HU is associated with the Lake Tahoe watershed. A total of 63 streams feed into Lake Tahoe; however, the Truckee River is the only stream to drain water out of the lake (EPA 2023). The part of the Lake Tahoe HU that lies within the Lake Tahoe sub-basin includes a portion of the South Tahoe hydrologic area.

The West Fork Carson River HU originates within a section of the Mokelumne Wilderness in the Sierra Nevada. Alpine runoff flows north where tributaries such as Horsethief Canyon, Willow, Red Lake, and Forestdale Creeks flow into the West Fork Carson River before reaching Brockliss Slough (CWRAC 2006). The part of the West Fork Carson River HU that lies within the Lake Tahoe sub-basin includes portions of the Upper West Fork Carson River and Woodfords hydrologic areas.

Middle San Joaquin-Lower Chowchilla Sub-basin

The Middle San Joaquin-Lower Chowchilla sub-basin drains an area of 326,669 acres (510 square miles), and includes 455 rivers and streams that traverse 631 miles. As noted in Table E-1, the Middle San Joaquin-Lower Chowchilla sub-basin includes portions of the Ahwahnee, Mariposa, Merced River, and San Joaquin Valley Floor HUs. Descriptions of the Ahwahnee and Merced River HUs are provided in the Fresno River sub-basin section. A description of the San Joaquin Valley Floor HU is provided in the Crowley Lake sub-basin section.

The part of the Ahwahnee HU that lies within the Middle San Joaquin-Lower Chowchilla sub-basin includes portions of the Chowchilla River, Daulton, and Fresno River hydrologic areas.

The Mariposa HU consists of a collection of streams, the largest of which is Mariposa Creek. The Mount Bullion area is also drained via the upper portions of the Aqua Fria Creek watershed. Along the lower portion of the watershed, Mariposa Creek is dammed by Mariposa Creek Dam. Downstream of the dam, Mariposa Creek reaches the Central Valley where it eventually outlets into the San Joaquin River (Mariposa County 2006).

The part of the Merced River HU that lies within the Middle San Joaquin-Lower Chowchilla sub-basin includes portions of the Buckhorn Peak, Kassenbaum Flats, North Fork Merced, and South Fork Merced hydrologic areas.

The part of the San Joaquin Valley Floor HU that lies within the Middle San Joaquin-Lower Chowchilla sub-basin includes a portion of the Fahr Creek hydrologic area.

Mono Lake

The Mono Lake sub-basin drains an area of 121,407 acres (190 square miles), and includes 143 rivers and streams that traverse 152 miles. As noted in Table E-1, the Mono Lake sub-basin includes portions of the East Walker River, Merced River, Mono, Owens,

San Joaquin River, and Tuolumne River HUs. Descriptions of the Mono, Owens, and San Joaquin River HUs are provided in the Crowley Lake sub-basin section. Descriptions of the East Walker River and Tuolumne River HUs are provided in the East Walker sub-basin section. A description of the Merced River is provided in the Fresno River sub-basin section.

The part of the East Walker River HU that lies within the Mono Lake sub-basin includes a portion of the East Walker Tributaries hydrologic area.

The part of the Merced River HU that lies within the Mono Lake sub-basin includes a portion of the Mount Starr King hydrologic area.

The part of the Owens HU that lies within the Mono Lake sub-basin includes a portion of the Long hydrologic area.

The part of the San Joaquin River HU that lies within the Mono Lake sub-basin includes a portion of the North Fork San Joaquin hydrologic area.

The part of the Tuolumne River HU that lies within the Mono Lake sub-basin includes a portion of the Hetch Hetchy hydrologic area.

Rock Creek-French Camp Slough Sub-basin

The Rock Creek-French Camp Slough sub-basin drains an area of 72,538 acres (113 square miles), and includes 243 rivers and streams that traverse 212 miles. As noted in Table E-1, the Rock Creek-French Camp Slough sub-basin includes portions of the Gopher Ridge, North Valley Floor, Stanislaus River, and Upper Calaveras HUs.

The part of the Gopher Ridge HU that lies within the Rock Creek-French Camp Slough sub-basin includes portions of the Estanislao and Penny Creek hydrologic areas.

The part of the North Valley Floor HU that lies within the Rock Creek-French Camp Slough sub-basin includes portions of the Duck-Littlejohns and Lower Calaveras hydrologic areas.

The Stanislaus River HU is associated with the Stanislaus River. The headwaters originate along the western slopes of the Sierra Nevada. Several dams are located along the Stanislaus River, including Donnell's Dam, forming Donnell Lake; Beardsley Dam, forming Beardsley Lake; McKays' Point Diversion Dam, forming McKays' Point Reservoir; New Melones Dam, forming New Melones Lake; Tulloch Dam, forming Tulloch Reservoir; and Goodwin Dam before ultimately reaching the San Joaquin River (NMFS 2014). The part of the Stanislaus River HU that lies within the Rock Creek-French Camp Slough sub-basin includes portions of the Copperopolis and Table Mountain hydrologic areas.

The Upper Calaveras HU is associated with the Calaveras River Basin. The upper river basin originates in the headwaters of the Sierra Nevada above New Hogan Reservoir. The two main forks, the Calaveras River North and South Forks, drain several smaller tributaries such as Esperanza, Jesus Maria, Calaveritas, San Antonio, and San Domingo Creeks before converging and draining into New Hogan Dam (Calaveras County Water District 2021). The part of the Upper Calaveras HU that lies within the Rock Creek-French

Camp Slough sub-basin includes portions of the Jenny Lind, New Hogan Reservoir, and South Fork Calaveras hydrologic areas.

South American Fork Sub-basin

The South American Fork sub-basin drains an area of 23,434 acres (37 square miles), and includes 35 rivers and streams that traverse 34 miles. As noted in Table E-1, the South American Fork sub-basin includes portions of the American River, Lake Tahoe, Middle Sierra, and West Fork Carson River HUs. Descriptions of the American River, Lake Tahoe, and West Fork Carson River HUs are provided in the Lake Tahoe sub-basin section.

The part of the American River HU that lies within the South American Fork sub-basin includes a portion of the South Fork American hydrologic area.

The part of the Lake Tahoe HU that lies within the South American Fork sub-basin includes a portion of the South Tahoe hydrologic area.

The part of the Middle Sierra HU that lies within the South American Fork sub-basin includes a portion of the Upper Mokelumne hydrologic area.

Upper Calaveras California Sub-basin

The Upper Calaveras California sub-basin drains an area of 253,951 acres (397 square miles), and includes 986 rivers and streams that traverse 787 miles. As noted in Table E-1, the Upper Calaveras California sub-basin includes portions of the Gopher Ridge, Lower Calaveras, Middle Sierra, North Valley Floor, Stanislaus River, and Upper Calaveras HUs. Descriptions of the Gopher Ridge, Lower Calaveras, North Valley Floor, Stanislaus River, and Upper Calaveras HUs are provided in the Rock Creek-French Camp Slough sub-basin section. A description of the Middle Sierra HU is provided in the South American Fork sub-basin section.

The part of the Gopher Ridge HU that lies within the Upper Calaveras California sub-basin includes portions of the Estanislao and Penny Creek hydrologic areas.

The Lower Calaveras HU is associated with the Calaveras River Basin. The river basin is split into two watersheds with the lower Calaveras River watershed originating from water released from New Hogan Reservoir. Flows travel westward out of the county before draining into the San Joaquin River (Calaveras County Water District 2021).

The part of the Middle Sierra HU that lies within the Upper Calaveras California sub-basin includes a portion of the Upper Mokelumne hydrologic area.

The part of the North Valley Floor HU that lies within the Upper Calaveras California sub-basin includes portions of the Duck-Littlejohns and Lower Calaveras hydrologic areas.

The part of the Stanislaus River HU that lies within the Upper Calaveras California sub-basin includes portions of the Copperopolis and North Fork Stanislaus hydrologic areas.

The part of the Upper Calaveras HU that lies within the Upper Calaveras California sub-basin includes portions of the Jenny Lind, New Hogan Reservoir, North Fork Calaveras, and South Fork Calaveras hydrologic areas.

Upper Carson Sub-basin

The Upper Carson sub-basin drains an area of 252,735 acres (395 square miles), and includes 524 rivers and streams that traverse 508 miles. As noted in Table E-1, the Upper Carson sub-basin includes portions of the American River, East Fork Carson River, Lake Tahoe, Middle Sierra, Stanislaus River, West Fork Carson River, and West Walker River HUs. Descriptions of the American River, Lake Tahoe, and West Fork Carson River HUs are provided in the Lake Tahoe sub-basin section. A description of the Middle Sierra HU is provided in the South American Fork sub-basin section. A description of the Stanislaus River HU is provided in the Rock Creek-French Camp Slough sub-basin section. A description of the West Walker River HU is provided in the East Walker sub-basin section.

The part of the American River HU that lies within the Upper Carson sub-basin includes a portion of the South Fork American hydrologic area.

The East Fork Carson River HU is associated with the Carson River watershed. The East Fork Carson River originates in the Carson-Iceberg Wilderness in the Sierra Nevada. Melting snow and springs flow northeastward where the East Fork Carson River converges with the West Fork before flowing out of the Upper Carson sub-basin and eventually reaching its terminus in the Carson Sink. Several tributaries drain into the East Fork, including Bryant, Indian, Mountaineer, Leviathan, Pleasant, Hot Springs, Murry Canyon, Silver, Wolf, Silver King, and Poison Flat Creeks (CWRAC 2006).

The part of the Lake Tahoe HU that lies within the Upper Carson sub-basin includes a portion of the South Tahoe hydrologic area.

The part of the Middle Sierra HU that lies within the Upper Carson sub-basin includes a portion of the Upper Mokelumne hydrologic area.

The part of the Stanislaus River HU that lies within the Upper Carson sub-basin includes a portion of the Clark Fork hydrologic area.

The part of the West Fork Carson River HU that lies within the Upper Carson sub-basin includes portions of the Upper West Fork Carson River and Woodfords hydrologic areas.

The part of the West Walker River HU that lies within the Upper Carson sub-basin includes portions of the Antelope Valley, Slinkard Creek, and Upper West Walker River hydrologic areas.

Upper Cosumnes Sub-basin

The Upper Cosumnes sub-basin drains an area of 58,338 acres (91 square miles), and includes 211 rivers and streams that traverse 164 miles. As noted in Table E-1, the Upper Cosumnes sub-basin includes portions of the Middle Sierra and North Valley Floor HUs. A description of the Middle Sierra HU is provided in the South American Fork sub-basin

section. A description of the North Valley Floor HU is provided in the Rock Creek-French Camp Slough sub-basin section.

The part of the Middle Sierra HU that lies within the Upper Cosumnes sub-basin includes portions of the Cosumnes, Sutter Creek, and Upper Mokelumne hydrologic areas.

The part of the North Valley Floor HU that lies within the Upper Cosumnes sub-basin includes a portion of the Lower Cosumnes-Dry hydrologic area.

Upper Merced Sub-basin

The Upper Merced sub-basin drains an area of 603,880 acres (944 square miles), and includes 995 rivers and streams that traverse 1,151 miles. As noted in Table E-1, the Upper Merced sub-basin includes portions of the Ahwahnee, Mariposa, Merced River, Mono, San Joaquin Valley Floor, and Tuolumne River HUs. Descriptions of the Ahwahnee and Merced River HUs are provided in the Fresno River sub-basin section. A description of the Mariposa HU is provided in the Middle San Joaquin-Lower Chowchilla sub-basin section. Descriptions of the Mono and San Joaquin Valley Floor HUs are provided in the Crowley Lake sub-basin section. A description of the Tuolumne River HU is provided in the East Walker sub-basin section.

The part of the Ahwahnee HU that lies within the Upper Merced sub-basin includes portions of the Chowchilla River and Fresno River hydrologic areas.

The part of the Merced River HU that lies within the Upper Merced sub-basin includes portions of the Buckhorn Peak, Kassenbaum Flats, Mount Starr King, North Fork Merced, South Fork Merced, and Yosemite hydrologic areas.

The part of the San Joaquin Valley Floor HU that lies within the Upper Merced sub-basin includes a portion of the Montpelier hydrologic area.

The part of the Tuolumne River HU that lies within the Upper Merced sub-basin includes portions of the Big Oak Flat, Clavey River, Hetch Hetchy, Middle Tuolumne, South Fork Tuolumne, and Vizard Creek hydrologic areas.

Upper Mokelumne Sub-basin

The Upper Mokelumne sub-basin drains an area of 512,866 acres (801 square miles), and includes 1,448 rivers and streams that traverse 1,292 miles. As noted in Table E-1, the Upper Mokelumne sub-basin includes portions of the American River, East Fork Carson River, Lower Calaveras, Middle Sierra, North Valley Floor, Stanislaus River, Upper Calaveras, and West Fork Carson River HUs. Descriptions of the American River and West Fork Carson River HUs are provided in the Lake Tahoe sub-basin section. A description of the East Fork Carson River is provided in the Upper Carson sub-basin section. A description of the Middle Sierra HU is provided in the South American Fork sub-basin section. Descriptions of the Lower Calaveras, North Valley Floor, Stanislaus River, and Upper Calaveras HUs are provided in the Rock Creek-French Camp Slough sub-basin section.

The part of the American River HU that lies within the Upper Mokelumne sub-basin includes a portion of the South Fork American hydrologic area.

The part of the East Fork Carson River HU that lies within the Upper Mokelumne sub-basin includes a portion of the Markleeville hydrologic area.

The part of the Middle Sierra HU that lies within the Upper Mokelumne sub-basin includes portions of the Campo Seco, Cosumnes, Sutter Creek, and Upper Mokelumne hydrologic areas.

The part of the North Valley Floor HU that lies within the Upper Mokelumne sub-basin includes portions of the Lower Calaveras, Lower Cosumnes-Dry, and Lower Mokelumne hydrologic areas.

The part of the Stanislaus River HU that lies within the Upper Mokelumne sub-basin includes portions of the Clark Fork and North Fork Stanislaus hydrologic areas.

The part of the Upper Calaveras HU that lies within the Upper Mokelumne sub-basin includes portions of the North Fork Calaveras and South Fork Calaveras hydrologic areas.

The part of the West Fork Carson River HU that lies within the Upper Mokelumne sub-basin includes a portion of the Upper West Fork Carson River hydrologic area.

Upper San Joaquin Sub-basin

The Upper San Joaquin sub-basin drains an area of 56 acres (0.1 square mile), and includes 1 river or stream that traverses less than 1 mile. As noted in Table E-1, the Upper San Joaquin sub-basin includes portions of the Merced River, Mono, Owens, and San Joaquin River HUs. Descriptions of the Mono, Owens, and San Joaquin River HUs are provided in the Crowley Lake sub-basin section. A description of the Merced River HU is provided in the Fresno River sub-basin section.

The part of the Merced River HU that lies within the Upper San Joaquin sub-basin includes a portion of the Mount Starr King hydrologic area.

The part of the Owens HU that lies within the Upper San Joaquin sub-basin includes a portion of the Long hydrologic area.

The part of the San Joaquin River HU that lies within the Upper San Joaquin sub-basin includes a portion of the North Fork San Joaquin hydrologic area.

Upper Stanislaus Sub-basin

The Upper Stanislaus sub-basin drains an area of 640,664 acres (1,001 square miles), and includes 1,895 rivers and streams that traverse 1,665 miles. As noted in Table E-1, the Upper Stanislaus sub-basin includes portions of the East Fork Carson River, Gopher Ridge, Middle Sierra, San Joaquin Valley Floor, Stanislaus River, Tuolumne River, Upper Calaveras, and West Walker River HUs. A description of the East Fork Carson River HU is provided in the Upper Carson sub-basin section. Descriptions of the Gopher Ridge, Stanislaus River, and Upper Calaveras HUs are provided in the Rock Creek-French

Camp Slough sub-basin section. A description of the Middle Sierra HU is provided in the South American Fork sub-basin section. A description of the San Joaquin Valley Floor HU is provided in the Crowley Lake sub-basin section. Descriptions of the Tuolumne River and West Walker River HUs are provided in the East Walker sub-basin section.

The part of the East Fork Carson River HU that lies within the Upper Stanislaus sub-basin includes a portion of the Markleeville hydrologic area.

The part of the Gopher Ridge HU that lies within the Upper Stanislaus sub-basin includes portions of the Estanislao and Penny Creek hydrologic areas.

The part of the Middle Sierra HU that lies within the Upper Stanislaus sub-basin includes a portion of the Upper Mokelumne hydrologic area.

The part of the San Joaquin Valley Floor HU that lies within the Upper Stanislaus sub-basin includes a portion of the Warnersville hydrologic area.

The part of the Stanislaus River HU that lies within the Upper Stanislaus sub-basin includes portions of the Clark Fork, Copperopolis, Middle Fork Stanislaus, North Fork Stanislaus, South Fork Stanislaus, and Table Mountain hydrologic areas.

The part of the Tuolumne River HU that lies within the Upper Stanislaus sub-basin includes portions of the Big Oak Flat, Cherry Creek, Clavey River, and Vizard Creek hydrologic areas.

The part of the Upper Calaveras HU that lies within the Upper Stanislaus sub-basin includes a portion of the South Fork Calaveras hydrologic area.

The part of the West Walker River HU that lies within the Upper Stanislaus sub-basin includes a portion of the Upper West Walker River hydrologic area.

Upper Tuolumne Sub-basin

The Upper Tuolumne sub-basin drains an area of 1,036,540 acres (1,620 square miles), and includes 1,733 rivers and streams that traverse 1,963 miles. As noted in Table E-1, the Upper Tuolumne sub-basin includes portions of the East Walker River, Merced River, Mono, San Joaquin Valley Floor, Stanislaus River, Tuolumne River, and West Walker River HUs. Descriptions of the East Walker River, Tuolumne River, and West Walker River HUs are provided in the East Walker sub-basin section. A description of the Merced River HU is provided in the Fresno River sub-basin section. A description of the Mono HU is provided in the Crowley Lake sub-basin section. A description of the San Joaquin Valley Floor HU is provided in the Middle San Joaquin-Lower Chowchilla sub-basin section. A description of the Stanislaus River HU is provided in the Rock Creek-French Camp Slough sub-basin section.

The part of the East Walker River HU that lies within the Upper Tuolumne sub-basin includes a portion of the East Walker Tributaries hydrologic area.

The part of the Merced River HU that lies within the Upper Tuolumne sub-basin includes portions of the Buckhorn Peak, Kassenbaum Flats, Mount Starr King, North Fork Merced, and Yosemite hydrologic areas.

The part of the San Joaquin Valley Floor HU that lies within the Upper Tuolumne sub-basin includes portions of the Montpelier and Warnersville hydrologic areas.

The part of the Stanislaus River HU that lies within the Upper Tuolumne sub-basin includes portions of the Copperopolis, Middle Fork Stanislaus, South Fork Stanislaus, and Table Mountain hydrologic areas.

The part of the Tuolumne River HU that lies within the Upper Tuolumne sub-basin includes portions of the Big Oak Flat, Cherry Creek, Clavey River, Hetch Hetchy, Middle Tuolumne, South Fork Tuolumne, and Vizard Creek hydrologic areas.

The part of the West Walker River HU that lies within the Upper Tuolumne sub-basin includes a portion of the Upper West Walker River hydrologic area.

West Walker Sub-basin

The West Walker sub-basin drains an area of 124,712 acres (195 square miles), and includes 205 rivers and streams that traverse 212 miles. As noted in Table E-1, the West Walker sub-basin includes portions of the East Fork Carson River, East Walker River, Stanislaus River, Tuolumne River, and West Walker River HUs. A description of the East Fork Carson River HU was provided in the Upper Carson sub-basin section. Descriptions of the East Walker River, Tuolumne River, and West Walker River HUs are provided in the East Walker sub-basin section. A description of the Stanislaus River HU is provided in the Rock Creek-French Camp Slough sub-basin section.

The part of the East Fork Carson River HU that lies within the West Walker sub-basin includes a portion of the Markleeville hydrologic area.

The part of the East Walker River HU that lies within the West Walker sub-basin includes a portion of the East Walker Tributaries hydrologic area.

The part of the Stanislaus River HU that lies within the West Walker sub-basin includes a portion of the Middle Fork Stanislaus hydrologic area.

The part of the Tuolumne River HU that lies within the West Walker sub-basin includes portions of the Cherry Creek and Hetch Hetchy hydrologic areas.

The part of the West Walker River HU that lies within the West Walker sub-basin includes portions of the Antelope Valley, Slinkard Creek, and Upper West Walker River hydrologic areas.

Crosswalk: HUC-8s to HUs

The SAMNA Reporting Tool expresses the landscape in terms of USGS HUC-8 sub-basins (Caltrans 2023; USGS 2014). However, SWRCB considers beneficial uses in terms of HUs (California Department of Water Resources 2016). Table E-1 provides a crosswalk between the HUC-8 and HU classification systems for the GAL.

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

HUC-8 No.	HUC-8 Name	HUC-8 Acreage ^a	HU No.	HU Name	HU Acreage ^a
18090102	Crowley Lake	1,227,625	601	Mono	431,616
18090102	Crowley Lake	1,227,625	603	Owens	2,003,430
18090102	Crowley Lake	1,227,625	541	San Joaquin River	986,464
16050301	East Walker	768,482	630	East Walker River	322,098
16050301	East Walker	768,599	601	Mono	431,616
16050301	East Walker	768,599	537	Tuolumne River	998,668
16050301	East Walker	768,482	631	West Walker River	260,532
18040007	Fresno River	414,638	539	Ahwahnee	412,119
18040007	Fresno River	414,638	537	Merced River	998,668
16050101	Lake Tahoe	324,375	514	American River	1,426,353
16050101	Lake Tahoe	324,375	634	Lake Tahoe	237,263
16050101	Lake Tahoe	324,375	633	West Fork Carson River	67,763
18040001	Middle San Joaquin-Lower Chowchilla	2,256,113	539	Ahwahnee	412,119
18040001	Middle San Joaquin-Lower Chowchilla	2,256,113	538	Mariposa	477,393
18040001	Middle San Joaquin-Lower Chowchilla	2,256,113	537	Merced River	998,668
18040001	Middle San Joaquin-Lower Chowchilla	2,256,113	536	San Joaquin Valley Floor	1,250,598
18090101	Mono Lake	695,318	630	East Walker River	322,098
18090101	Mono Lake	695,318	538	Merced River	477,393
18090101	Mono Lake	695,318	601	Mono	431,616
18090101	Mono Lake	695,318	603	Owens	2,003,430
18090101	Mono Lake	695,318	541	San Joaquin River	986,464
18090101	Mono Lake	695,318	537	Tuolumne River	998,668
18040051	Rock Creek-French Camp Slough	302,576	570	Gopher Ridge	73,607
18040051	Rock Creek-French Camp Slough	302,576	531	North Valley Floor	759,546
18040051	Rock Creek-French Camp Slough	302,576	534	Stanislaus River	594,377

HUC-8 No.	HUC-8 Name	HUC-8 Acreage ^a	HU No.	HU Name	HU Acreage ^a
18040051	Rock Creek-French Camp Slough	302,576	533	Upper Calaveras	614,915
18020129	South Fork American	543,766	514	American River	1,426,353
18020129	South Fork American	543,766	634	Lake Tahoe	237,263
18020129	South Fork American	543,766	533	Middle Sierra	614,915
18020129	South Fork American	543,766	633	West Fork Carson River	67,763
18040011	Upper Calaveras California	338,364	570	Gopher Ridge	73,607
18040011	Upper Calaveras California	338,364	571	Lower Calaveras	8,477
18040011	Upper Calaveras California	338,364	533	Middle Sierra	614,915
18040011	Upper Calaveras California	338,364	531	North Valley Floor	759,546
18040011	Upper Calaveras California	338,364	534	Stanislaus River	594,377
18040011	Upper Calaveras California	338,364	533	Upper Calaveras	614,915
16050201	Upper Carson	613,482	514	American River	1,426,353
16050201	Upper Carson	613,482	632	East Fork Carson River	222,427
16050201	Upper Carson	613,482	634	Lake Tahoe	237,263
16050201	Upper Carson	613,482	533	Middle Sierra	614,915
16050201	Upper Carson	613,482	535	Stanislaus River	421,187
16050201	Upper Carson	613,482	633	West Fork Carson River	67,763
16050201	Upper Carson	613,482	631	West Walker River	260,532
18040013	Upper Cosumnes	607,874	532	Middle Sierra	561,688
18040013	Upper Cosumnes	607,874	533	Middle Sierra	614,915
18040013	Upper Cosumnes	607,874	531	North Valley Floor	759,546
18040008	Upper Merced	812,443	539	Ahwahnee	412,119
18040008	Upper Merced	812,443	538	Mariposa	477,393
18040008	Upper Merced	812,443	537	Merced River	998,668
18040008	Upper Merced	812,443	538	Merced River	477,393

HUC-8 No.	HUC-8 Name	HUC-8 Acreage ^a	HU No.	HU Name	HU Acreage ^a
18040008	Upper Merced	812,443	601	Mono	431,616
18040008	Upper Merced	812,443	536	San Joaquin Valley Floor	1,350,598
18040008	Upper Merced	812,443	536	Tuolumne River	1,350,598
18040008	Upper Merced	812,443	537	Tuolumne River	998,668
18040012	Upper Mokelumne	810,442	514	American River	1,426,353
18040012	Upper Mokelumne	810,442	632	East Fork Carson River	222,427
18040012	Upper Mokelumne	810,442	571	Lower Calaveras	8,477
18040012	Upper Mokelumne	810,442	532	Middle Sierra	561,688
18040012	Upper Mokelumne	810,442	533	Middle Sierra	614,915
18040012	Upper Mokelumne	810,442	531	North Valley Floor	759,546
18040012	Upper Mokelumne	810,442	534	Stanislaus River	594,377
18040012	Upper Mokelumne	810,442	535	Stanislaus River	421,187
18040012	Upper Mokelumne	810,442	533	Upper Calaveras	614,915
18040012	Upper Mokelumne	810,442	633	West Fork Carson River	67,763
18040006	Upper San Joaquin	1,048,829	538	Merced River	477,393
18040006	Upper San Joaquin	1,048,829	601	Mono	431,616
18040006	Upper San Joaquin	1,048,829	603	Owens	2,003,430
18040006	Upper San Joaquin	1,048,829	541	San Joaquin River	986,464
18040010	Upper Stanislaus	766,025	632	East Fork Carson River	222,427
18040010	Upper Stanislaus	766,025	570	Gopher Ridge	73,607
18040010	Upper Stanislaus	766,025	533	Middle Sierra	614,915
18040010	Upper Stanislaus	766,025	535	San Joaquin Valley Floor	421,187
18040010	Upper Stanislaus	766,025	534	Stanislaus River	594,377
18040010	Upper Stanislaus	766,025	535	Stanislaus River	421,187
18040010	Upper Stanislaus	766,025	536	Tuolumne River	1,350,598
18040010	Upper Stanislaus	766,025	537	Tuolumne River	998,668
18040010	Upper Stanislaus	766,025	533	Upper Calaveras	614,915
18040010	Upper Stanislaus	766,025	631	West Walker River	260,532

HUC-8 No.	HUC-8 Name	HUC-8 Acreage ^a	HU No.	HU Name	HU Acreage ^a
18040009	Upper Tuolumne	1,198,607	630	East Walker River	322,098
18040009	Upper Tuolumne	1,198,607	537	Merced River	998,668
18040009	Upper Tuolumne	1,198,607	538	Merced River	477,393
18040009	Upper Tuolumne	1,198,607	601	Mono	431,616
18040009	Upper Tuolumne	1,198,607	536	San Joaquin Valley Floor	1,350,598
18040009	Upper Tuolumne	1,198,607	535	San Joaquin Valley Floor	421,187
18040009	Upper Tuolumne	1,198,607	534	Stanislaus River	594,377
18040009	Upper Tuolumne	1,198,607	536	Tuolumne River	1,350,598
18040009	Upper Tuolumne	1,198,607	537	Tuolumne River	998,668
18040009	Upper Tuolumne	1,198,607	536	Tuolumne River	1,350,598
18040009	Upper Tuolumne	1,198,607	631	West Walker River	260,532
16050302	West Walker	666,719	632	East Fork Carson River	222,427
16050302	West Walker	666,719	630	East Walker River	322,098
16050302	West Walker	666,719	534	Stanislaus River	594,377
16050302	West Walker	666,719	537	Tuolumne River	998,668
16050302	West Walker	666,719	631	West Walker River	260,532

Source: Caltrans (2023)

^a Numbers were rounded to the nearest whole number.

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APPENDIX F: LIST OF 303(d) IMPAIRED WATERS

Section 303(d) of the CWA requires that every 2 years, each state shall 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 TMDLs have been established are provided in Table F-1 (SWRCB 2021).

Table F-1. Impaired Waters in the GAI

Sub-basin	Impaired Water	Impairment	TMDL Status	Relevant to RAMNA? ^a
East Walker	Buckeye Creek	Indicator bacteria	Being addressed by action other than a TMDL	No
East Walker	Robinson Creek (Barney Lake to Twin Lakes)	Nutrients (nitrogen)	Required, not established yet	Yes
East Walker	Upper Twin Lake (East Walker HU)	Metals (mercury)	Required, not established yet	Yes
East Walker	Virginia Creek	Indicator bacteria	Required, not established yet	No
Lake Tahoe	Upper Truckee River (above Christmas Valley)	Metals (iron)	Required, not established yet	Yes
Lower San Joaquin River	Lower Tuolumne River (Don Pedro Reservoir to San Joaquin River)	Pesticides	Required, not established yet	Yes
Middle San Joaquin-Lower Chowchilla	Bear Creek (from Bear Valley to San Joaquin River, Mariposa and Merced Counties)	Indicator bacteria	Required, not established yet	No
Middle San Joaquin-Lower Chowchilla	Eastman Lake (Madera County)	Metals (mercury)	Required, not established yet	Yes
Mono Lake	Mono Lake	Total dissolved solids	Being addressed by action other than a TMDL	Yes
Mono Lake	Reversed Creek	Indicator bacteria	Required, not established yet	No
Rock Creek-French Camp Slough	Little John's Creek	Indicator bacteria	Required, not established yet	No

Sub-basin	Impaired Water	Impairment	TMDL Status	Relevant to RAMNA? ^a
San Joaquin Delta	Lower Stanislaus River	Metals (mercury)	Required, not established yet	Yes
Upper Calaveras California	New Hogan Lake (Calaveras County)	Metals (mercury)	Required, not established yet	Yes
Upper Carson	Aspen Creek	Metals	Being addressed by action other than TMDL	Yes
Upper Carson	Carson River, East Fork	Nutrients (dissolved oxygen)	Required, not established yet	Yes
Upper Carson	Carson River, West Fork (Headwaters to Hope Valley)	Sulfates	Required, not established yet	Yes
Upper Carson	Carson River, West Fork (Hope Valley to Woodfords)	Nutrients (nitrogen)	Required, not established yet	Yes
Upper Carson	Hot Springs Creek	Total dissolved solids	Required, not established yet	Yes
Upper Carson	Indian Creek (Alpine County)	Indicator bacteria	Required, not established yet	No
Upper Carson	Leviathan Creek	Metals	Being addressed by action other than TMDL	Yes
Upper Carson	Markleeville Creek	Indicator bacteria	Required, not established yet	No
Upper Carson	Milberry Creek	Indicator bacteria	Required, not established yet	No
Upper Carson	Monitor Creek	Metals (aluminum)	Required, not established yet	Yes
Upper Carson	Red Lake Creek	Total dissolved solids	Required, not established yet	Yes
Upper Carson	Wolf Creek (Alpine County)	Sedimentation/ Siltation	Required, not established yet	Yes
Upper Mokelumne	Amador Lake	pH (high)	Required, not established yet	Yes
Upper Mokelumne	Bear River (from Allen to Upper Bear River Reservoir, Amador County)	pH (low)	Required, not established yet	Yes

Sub-basin	Impaired Water	Impairment	TMDL Status	Relevant to RAMNA? ^a
Upper Mokelumne	Bear River (Lower Bear River Reservoir to Mokelumne River, North Fork, Amador County)	Metals (copper)	Required, not established yet	Yes
Upper Mokelumne	Camanche Reservoir	Metals (zinc)	Required, not established yet	Yes
Upper Mokelumne	Pardee Reservoir	Metals (mercury)	Required, not established yet	Yes
Upper Mokelumne	Rattlesnake Creek (at confluence with Mokelumne River, North Fork)	Indicator bacteria	Required, not established yet	No
Upper Stanislaus	New Melones Reservoir	Metals (mercury)	Required, not established yet	Yes
Upper Stanislaus	Niagara Creek (Tuolumne County)	Indicator bacteria	Required, not established yet	No
Upper Stanislaus	Rose Creek (Tuolumne County)	Indicator bacteria	Required, not established yet	No
Upper Stanislaus	Tulloch Reservoir	Metals (mercury)	Required, not established yet	Yes
Upper Tuolumne	Bell Creek (Tuolumne County)	Indicator bacteria	Required, not established yet	No
Upper Tuolumne	Bull Meadow Creek (Tuolumne County)	Indicator bacteria	Required, not established yet	No
Upper Tuolumne	Curtis Creek (Tuolumne County)	Nutrients (dissolved oxygen)	Required, not established yet	Yes
Upper Tuolumne	Don Pedro Lake	Metals (mercury)	Required, not established yet	Yes
Upper Tuolumne	Hetch Hetchy Reservoir	Metals (mercury)	Required, not established yet	Yes
Upper Tuolumne	Sullivan Creek (from Phoenix Reservoir to Don Pedro Lake, Tuolumne County)	Indicator bacteria	Required, not established yet	No
Upper Tuolumne	Turnback Creek (Tuolumne County)	Indicator bacteria	Required, not established yet	No
Upper Tuolumne	Twain Harte Creek (Tuolumne County)	Indicator bacteria	Required, not established yet	No
Upper Tuolumne	Woods Creek (Tuolumne County)	Indicator bacteria	Required, not established yet	No

Sub-basin	Impaired Water	Impairment	TMDL Status	Relevant to RAMNA? ^a
West Walker	Little Walker River	Indicator bacteria	Required, not established yet	No
West Walker	Mill Creek (tributary to West Walker River)	Indicator bacteria	Required, not established yet	No
West Walker	Sardine Creek	Indicator bacteria	Required, not established yet	No
West Walker	West Walker River	Metals (boron)	Required, not established yet	Yes

Source: SWRCB (2021)

^a TMDLs relevant to the RAMNA reflect impaired aquatic resource-related beneficial uses.

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SWRCB (State Water Resources Control Board). 2021. "2018 California Integrated Report (Clean Water Act Section 303(d) List and 305(b) Report)." Accessed January 21, 2023.
https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.html.

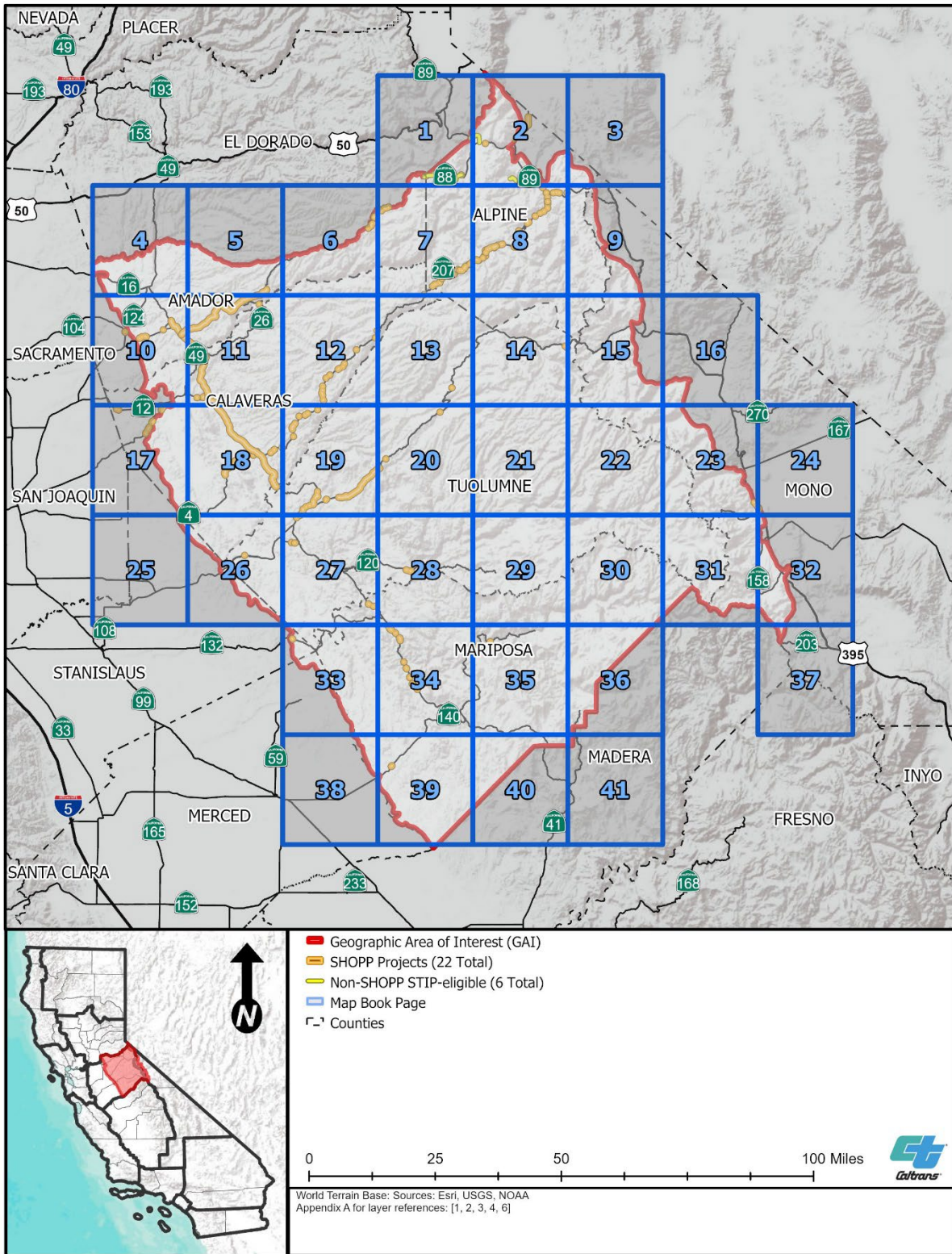
APPENDIX G: AQUATIC RESOURCE LOCATIONS

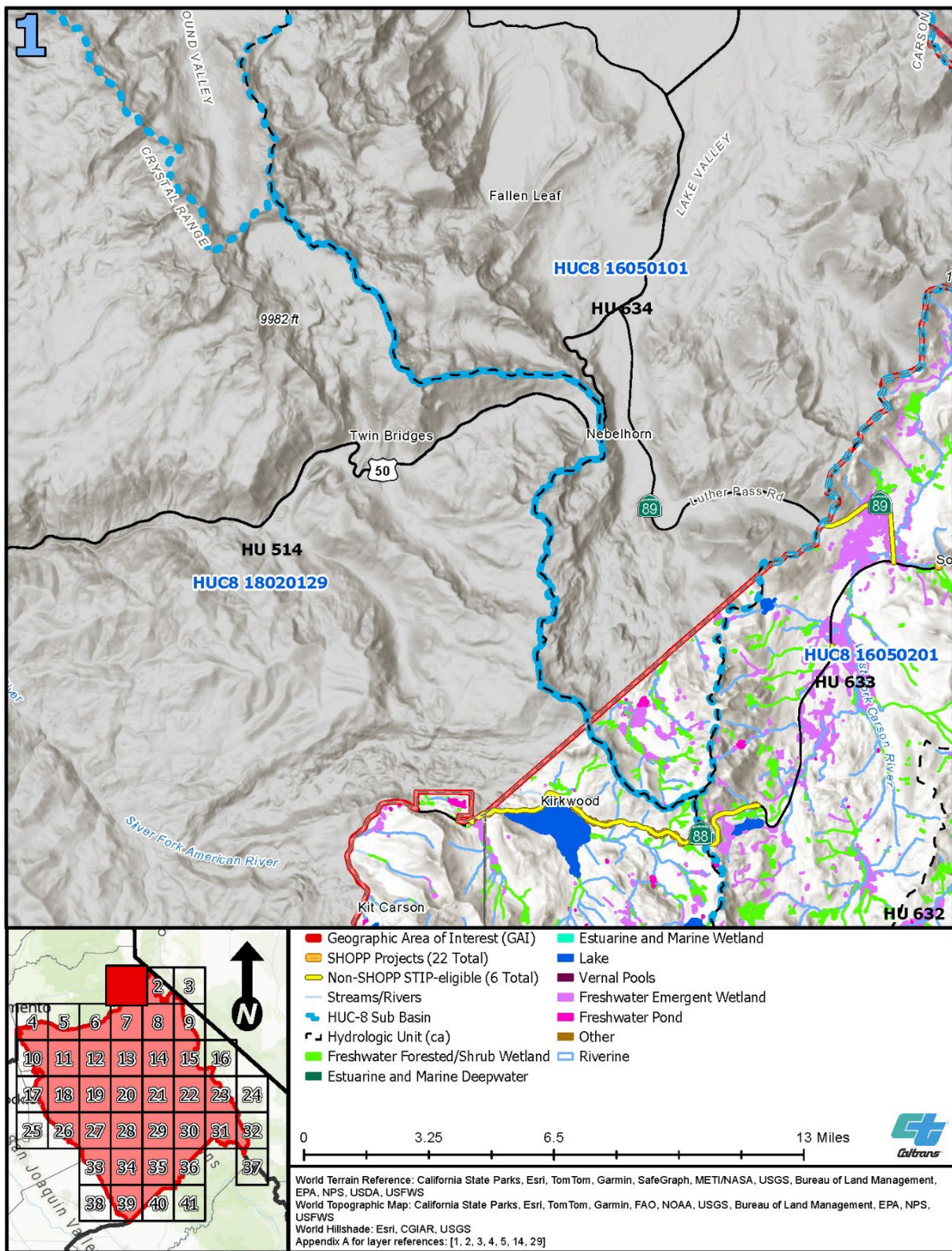
Aquatic resource locations are shown by HUC-8 sub-basin and HU in the following maps, which also include major landmarks for perspective. These locations were excerpted from the SAMNA Reporting Tool's water and wetland layers (Caltrans 2023a, 2023b). Hydrologic units are described in Appendix E, *Hydrologic Units*, which includes a crosswalk table of HUC-8 subbasins and HUs. These 41 maps correspond with the land cover maps in Appendix C, *Land Cover Types*.

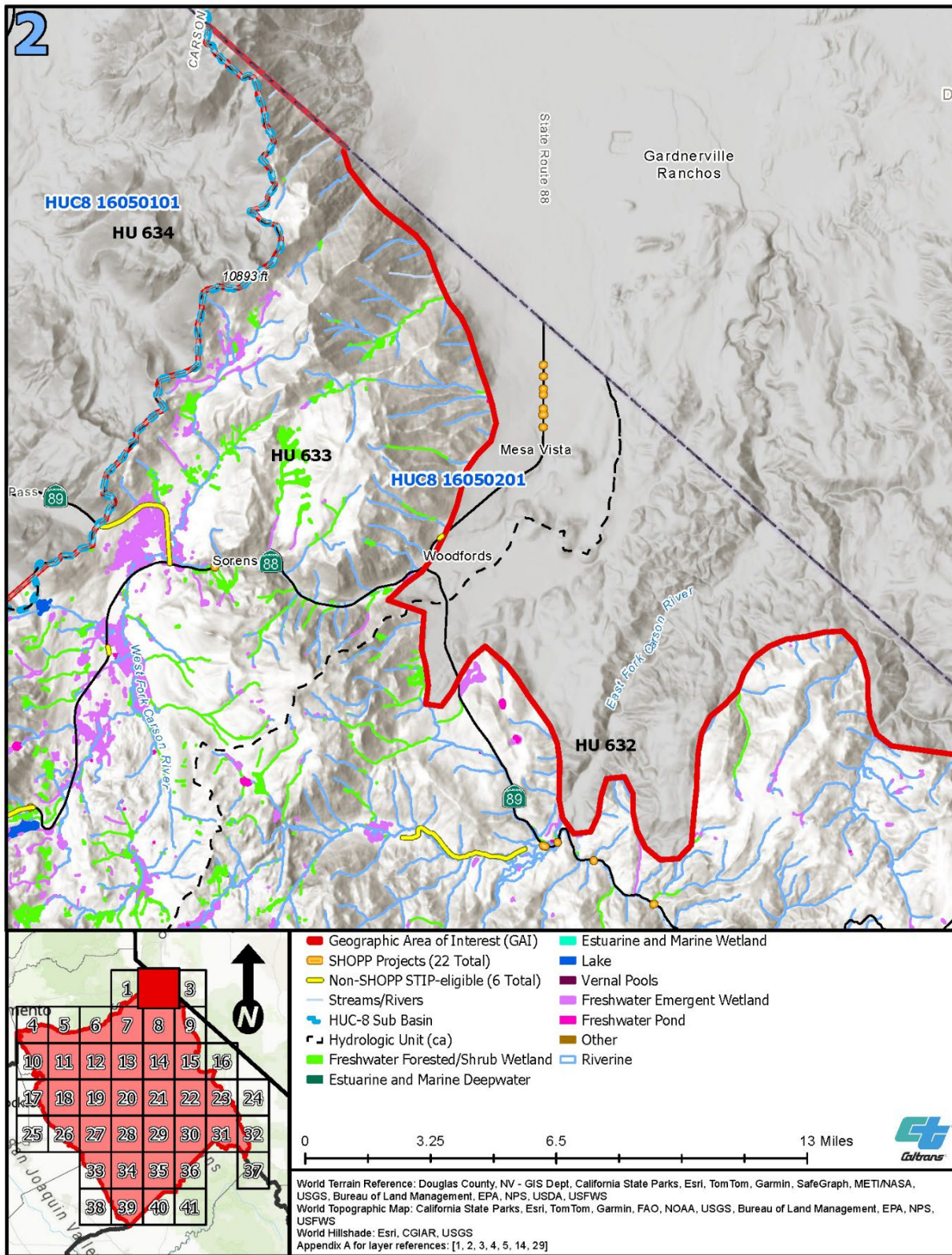
Few sources of information are known to be available that can be used to describe existing and relevant wetland, riparian, and littoral resources. The FWS (2021) National Wetlands Inventory and the SFEI (2018) California Aquatic Resource Inventory are the only known datasets that include the distribution, extent, and types of aquatic resources in the GAI, and the SAMNA Reporting Tool relies on them (Caltrans 2023a, 2023b). The statewide riparian landcover dataset was used to identify potential impacts on areas of potential riparian function, as discussed in Chapter 5, *Modeled Estimated Impacts*, of the RAMNA's main text; however, the dataset results were not used for mapping in this RAMNA.

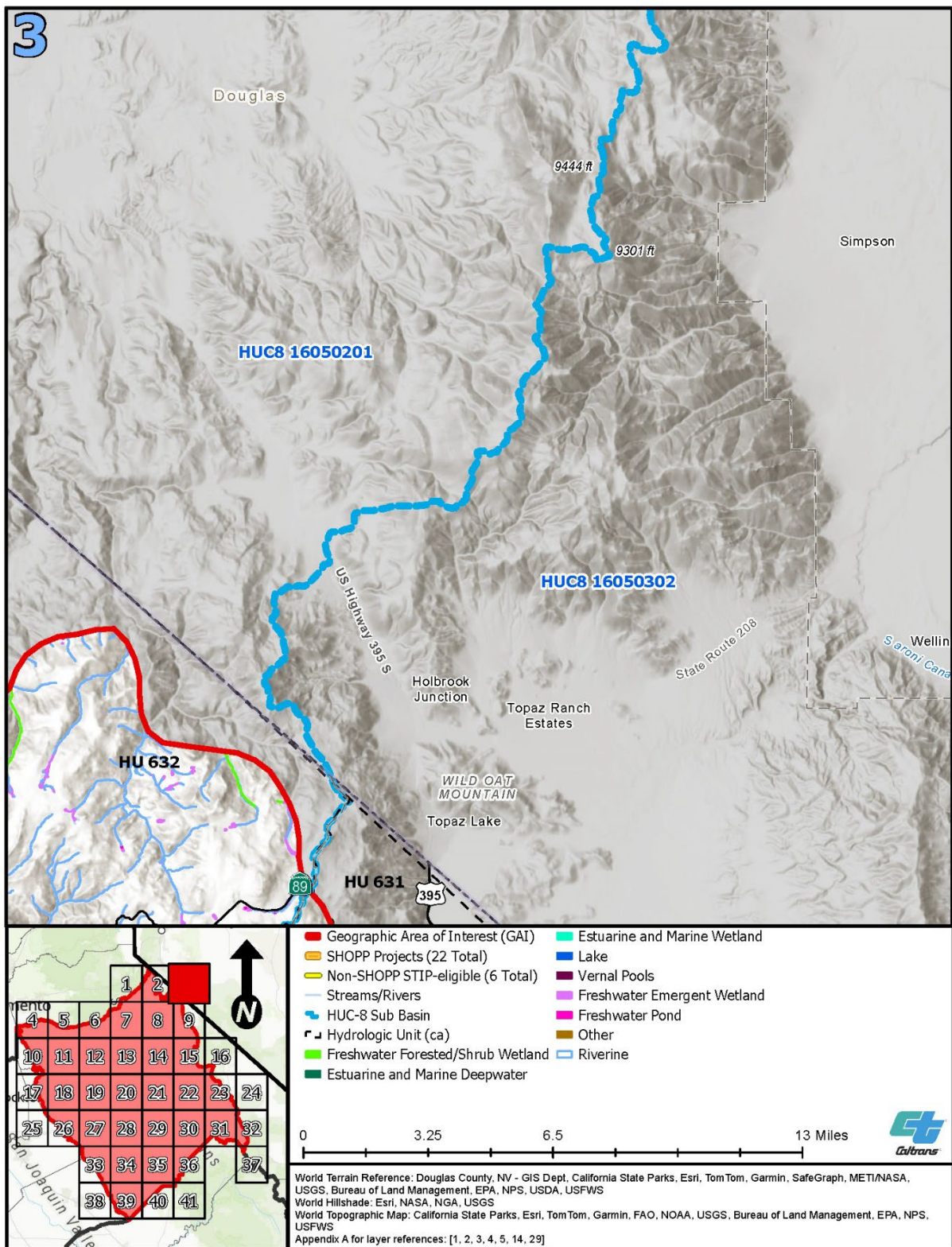
References

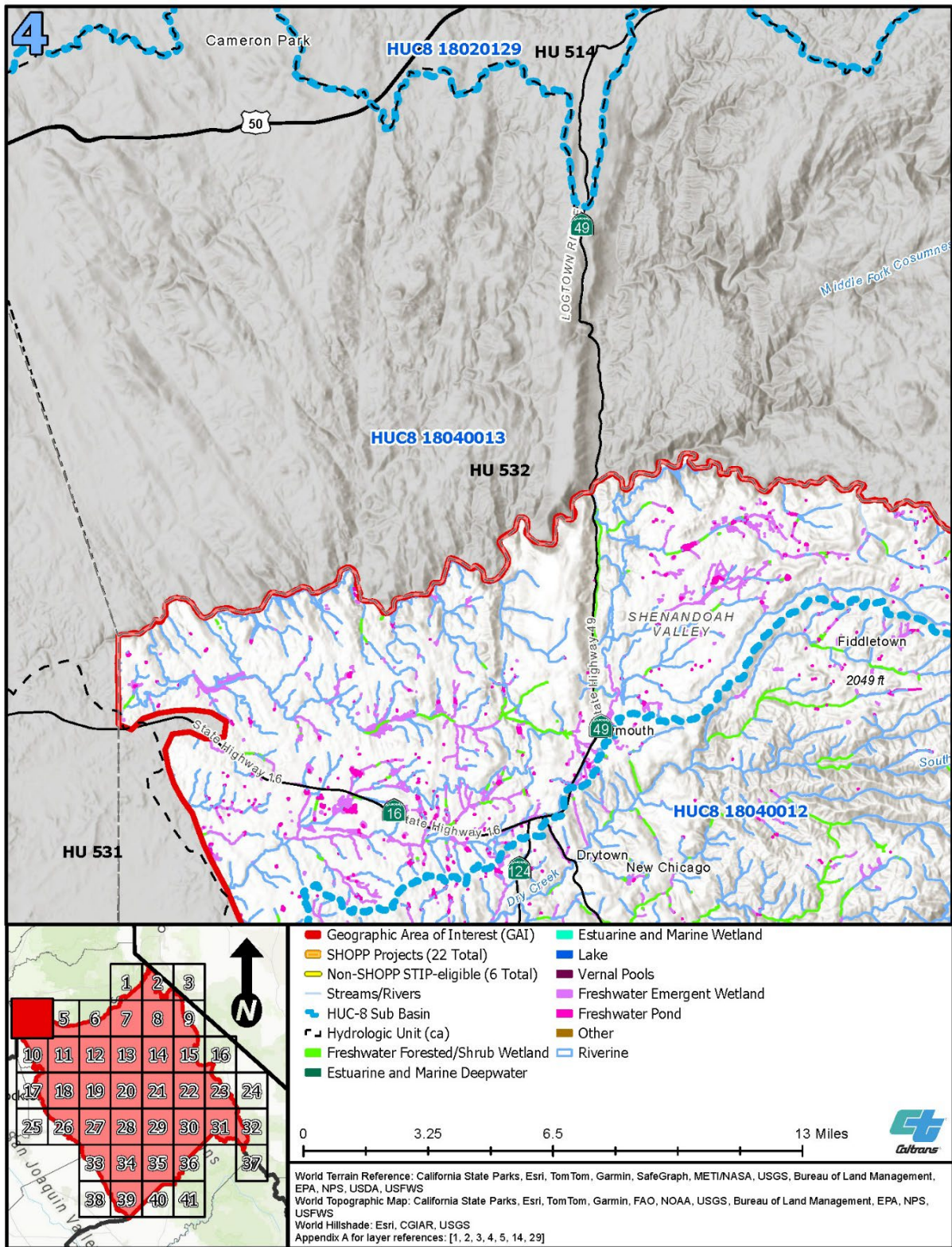
- Caltrans (California Department of Transportation). 2023a. "Waters_ D09/D10 in Caltrans District 10 Geospatial Data for the Advance Mitigation Needs Assessment for the First Quarter of FY 2023/2024" (data file). Accessed August 6, 2024. <https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation>.
- . 2021b. "Wetlands_ D09/D10 in Caltrans District 10 Geospatial Data for the Advance Mitigation Needs Assessment for the First Quarter of FY 2023/2024" (data file). Accessed August 6, 2024. <https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation>.
- FWS (U.S. Fish and Wildlife Service). 2021. "National Wetlands Inventory. Wetlands Mapper." Accessed February 15, 2023. <https://www.fws.gov/wetlands/data/mapper.html>.
- SFEI (San Francisco Estuary Institute). 2018. "California Aquatic Resource Inventory (CARI)." Accessed February 15, 2023. <https://www.sfei.org/cari#sthash.SnPvzyAU.dpbs>.

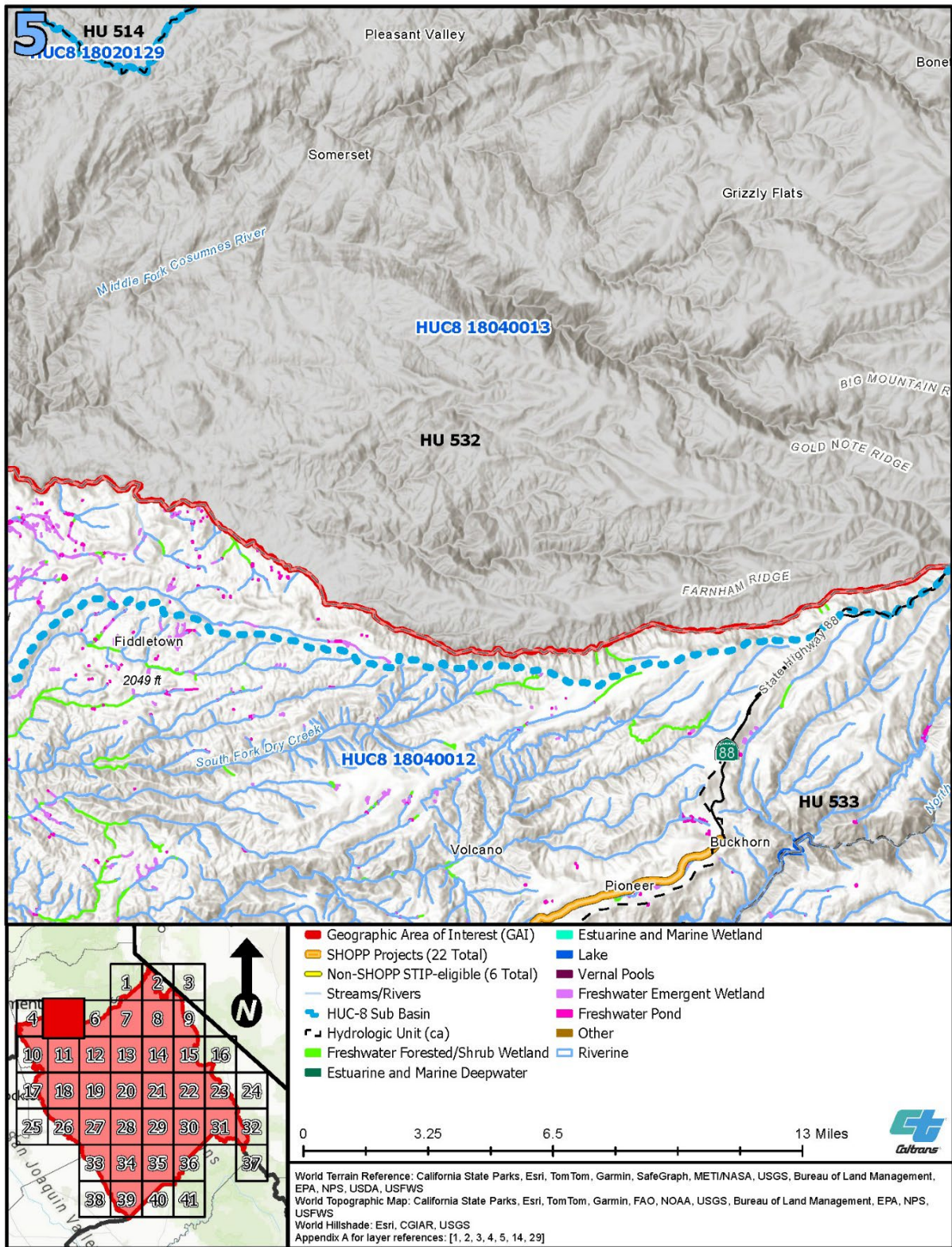


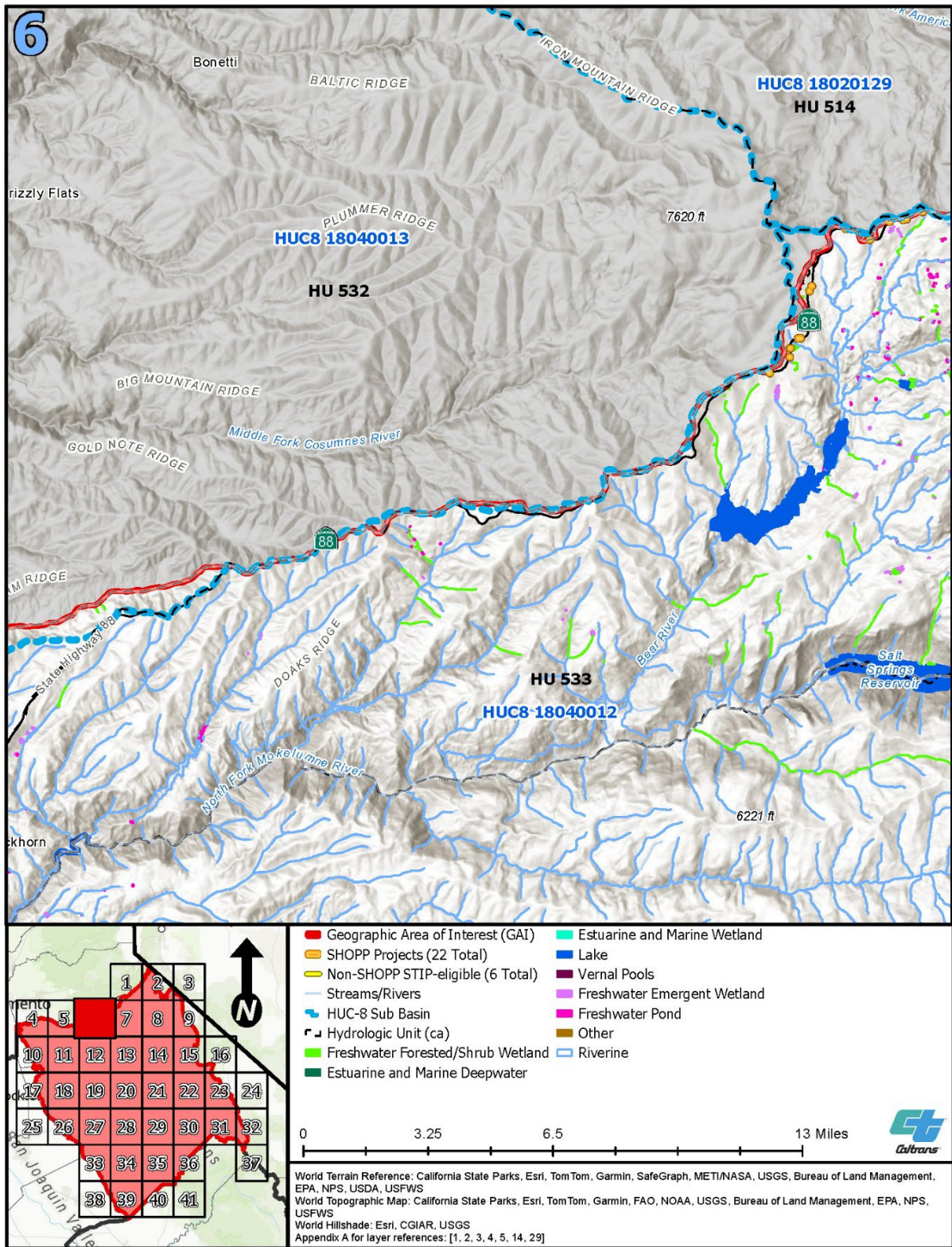


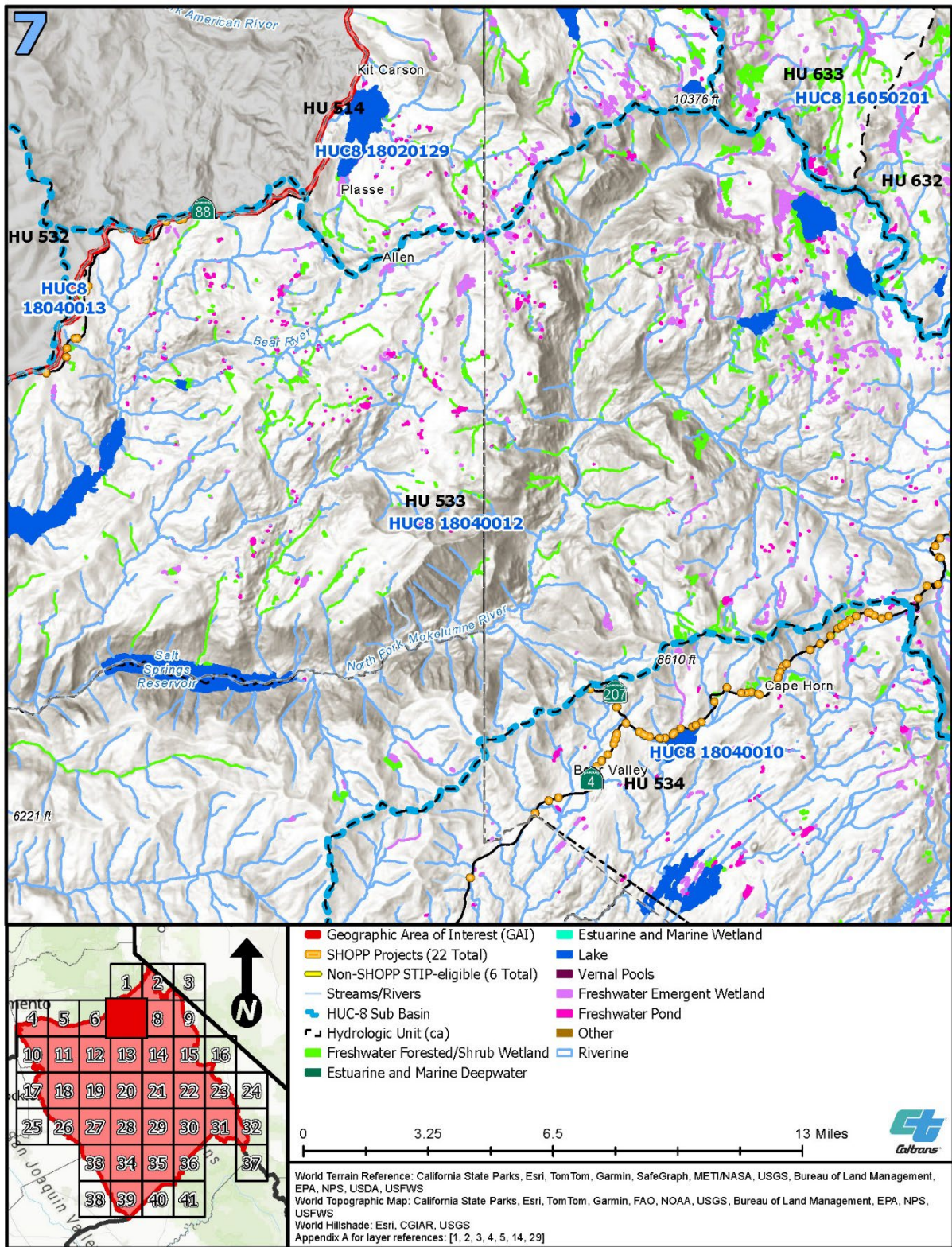


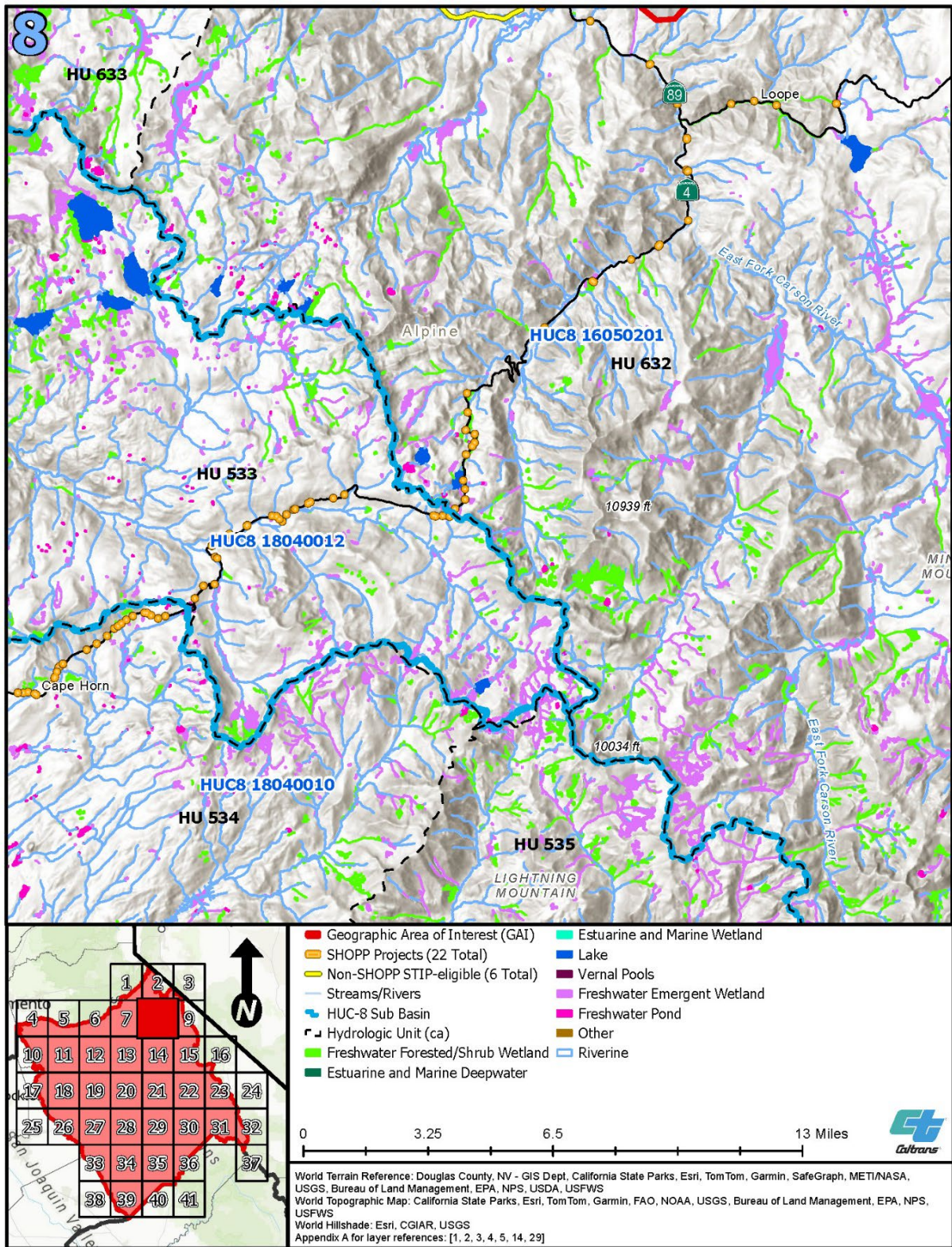


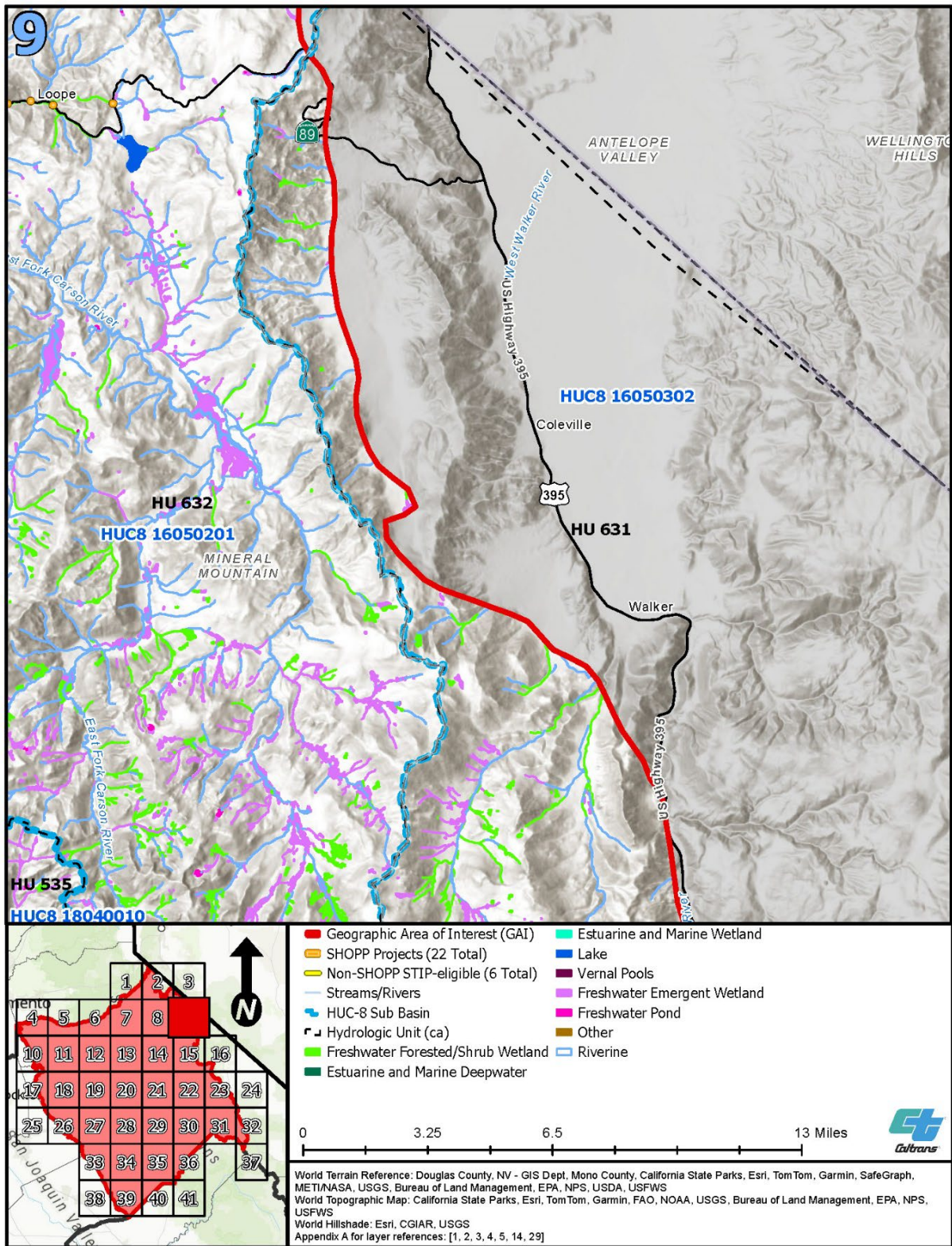


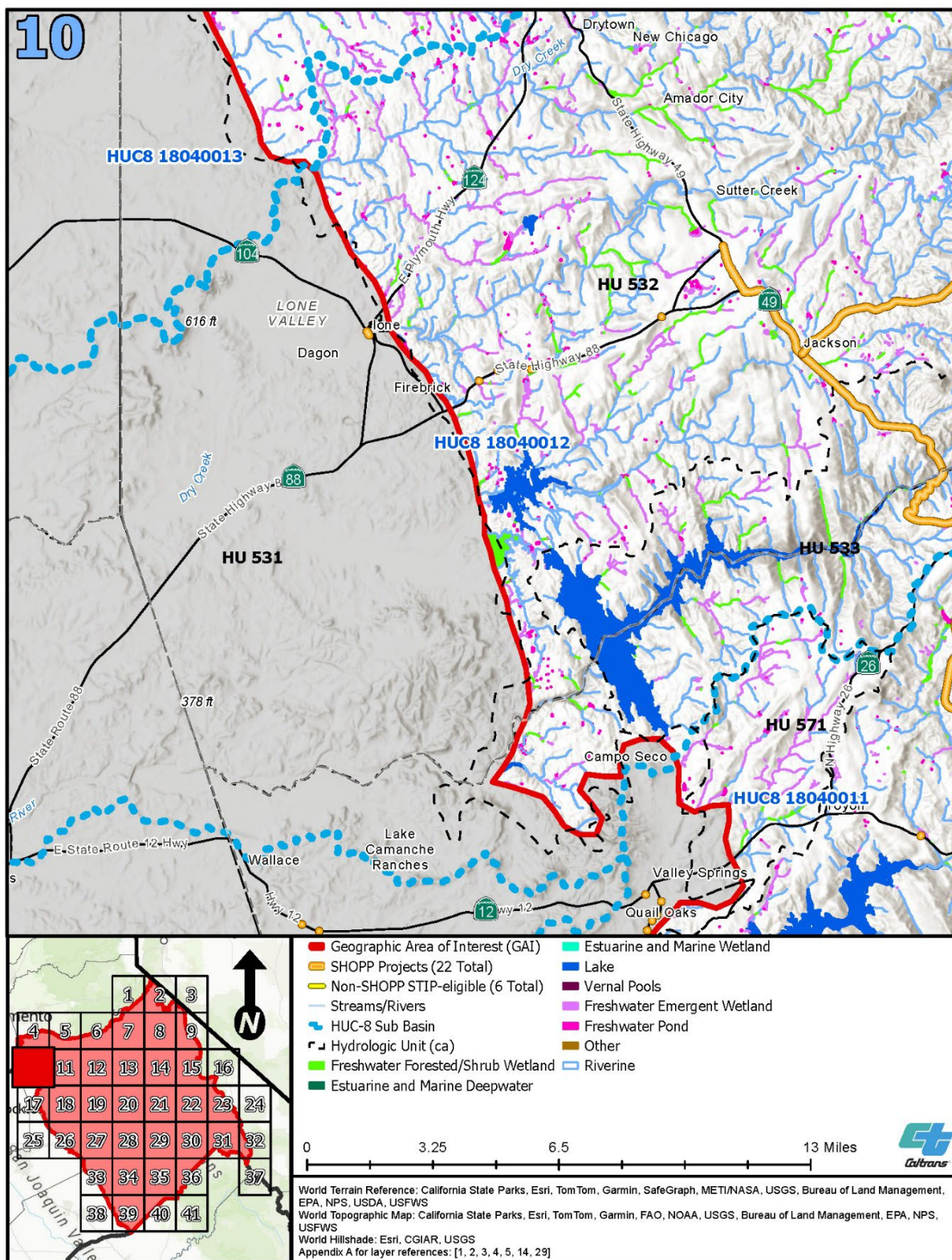


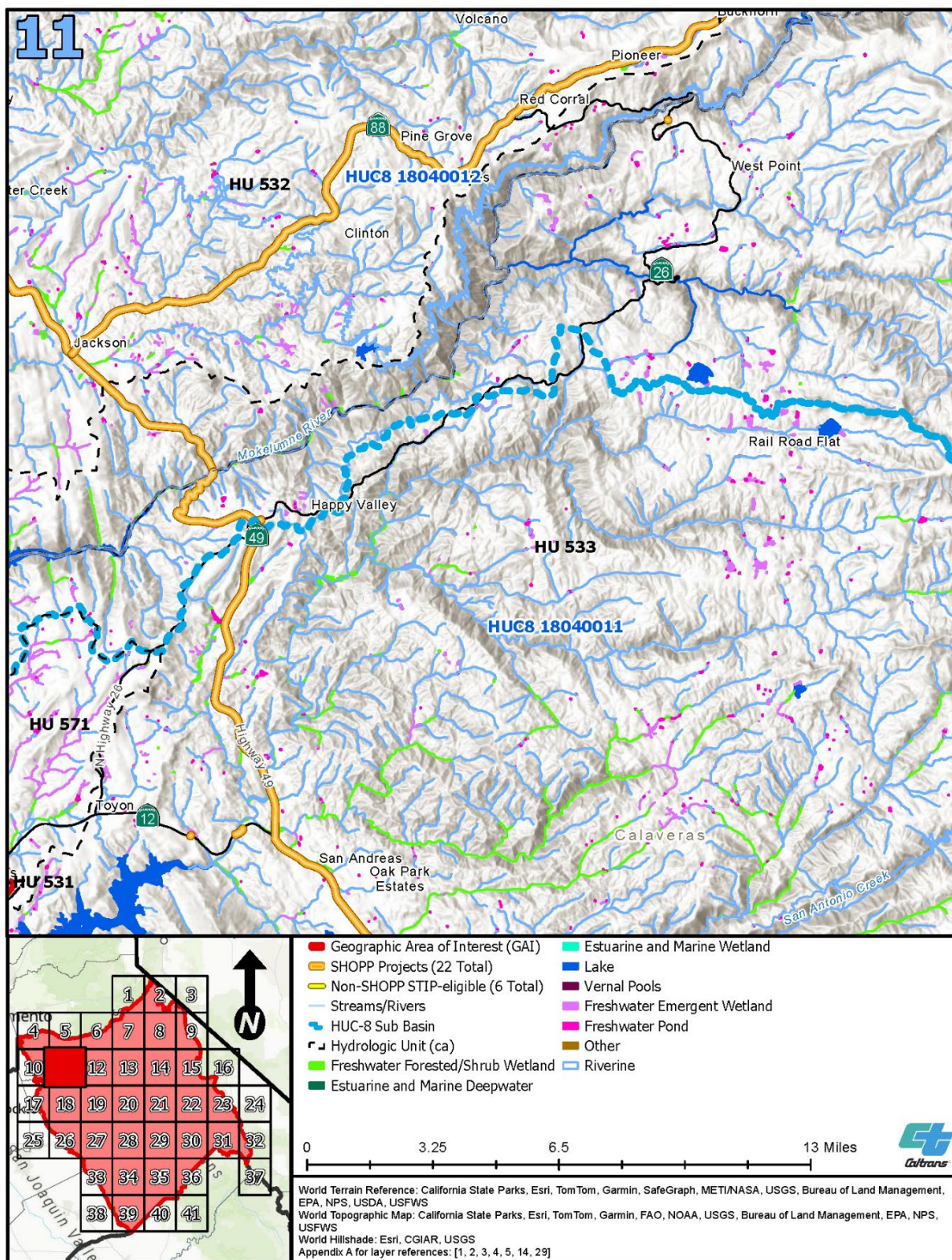


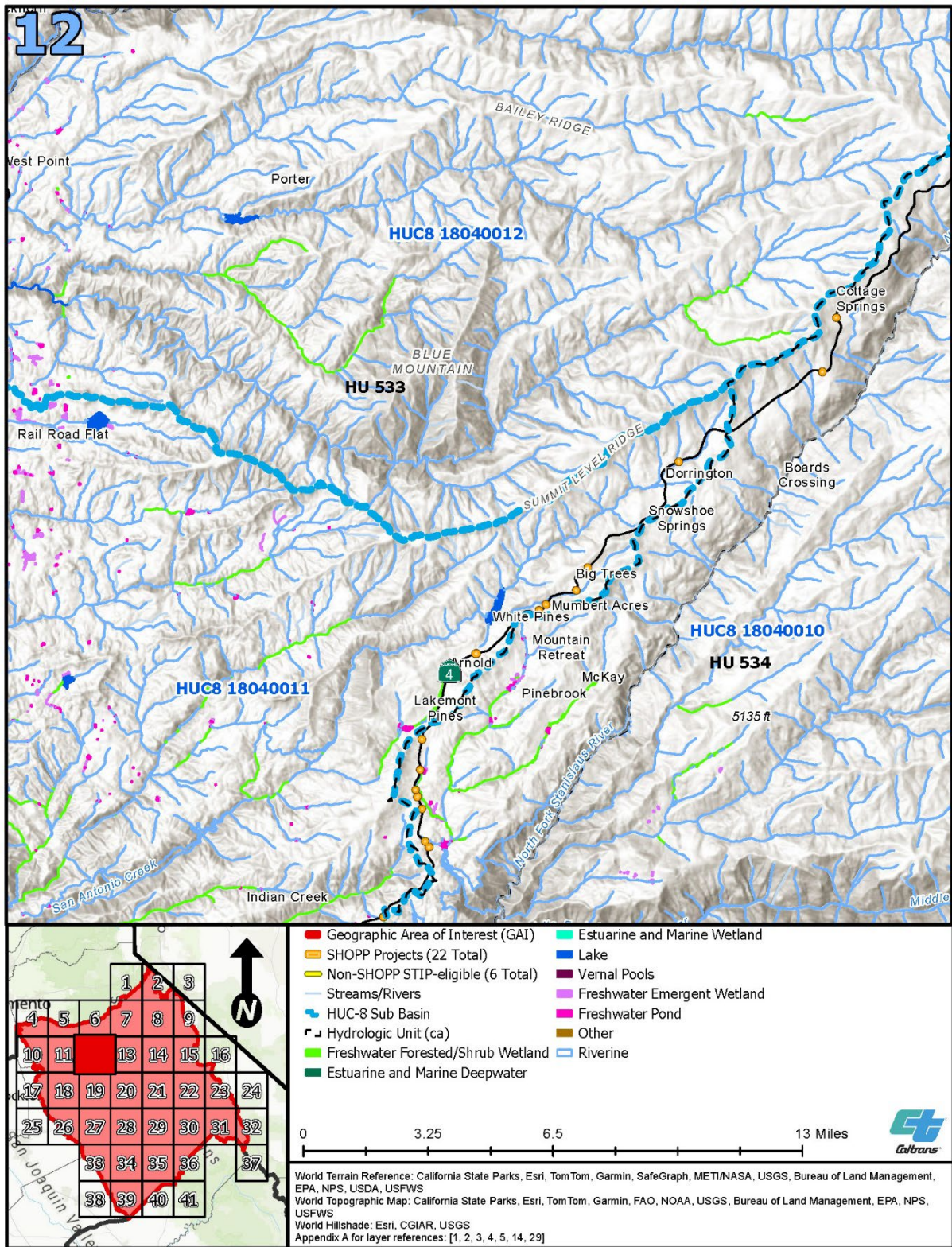


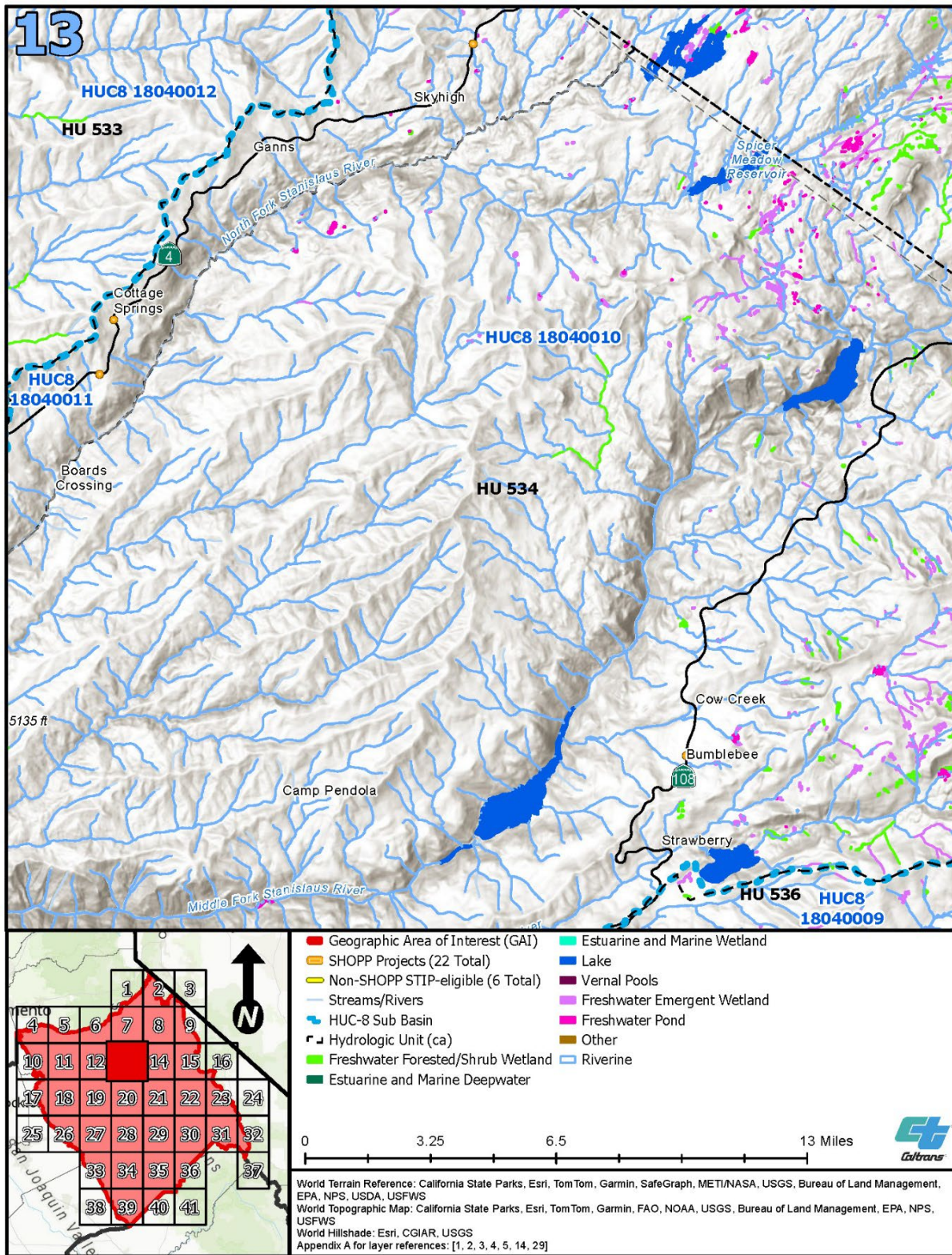


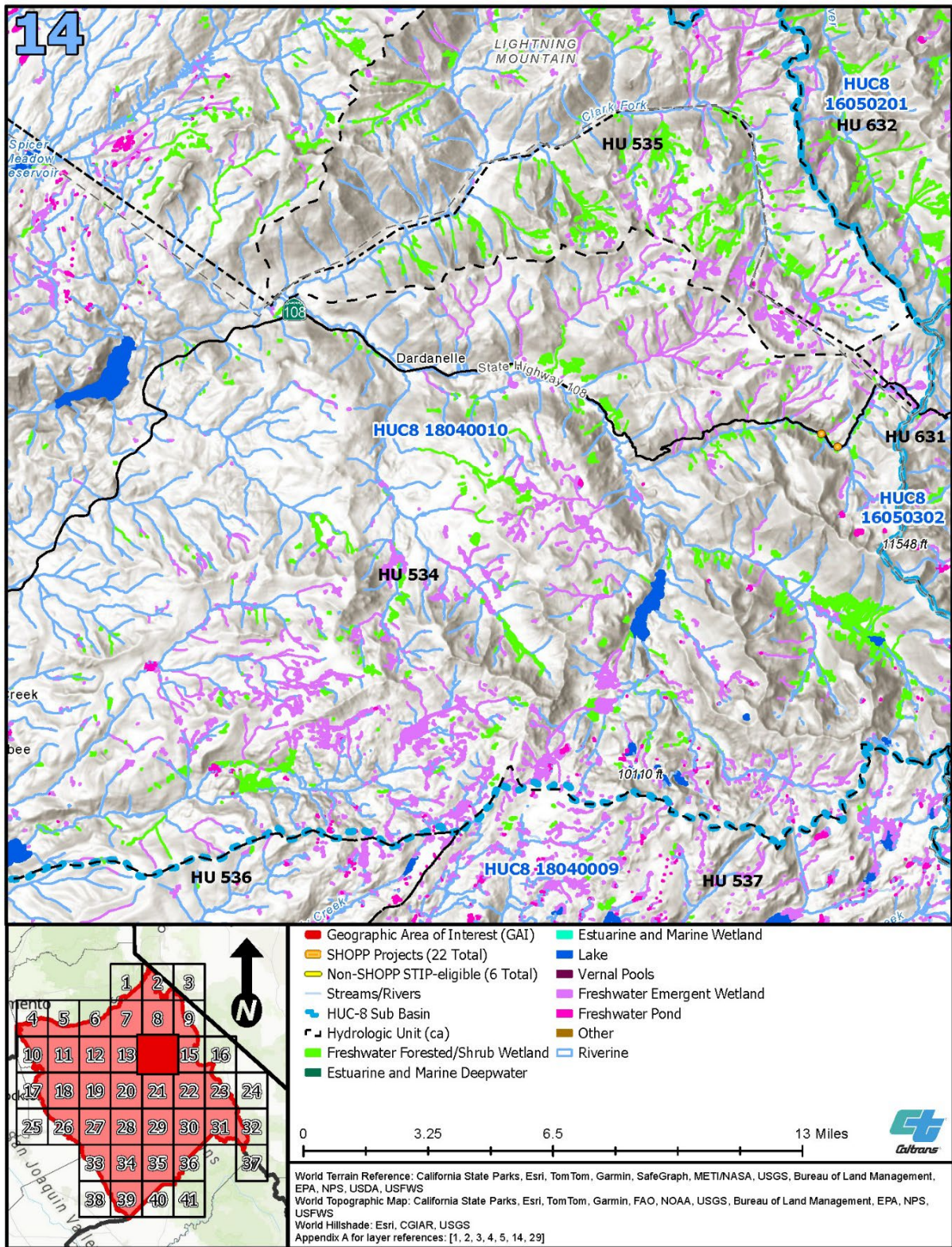


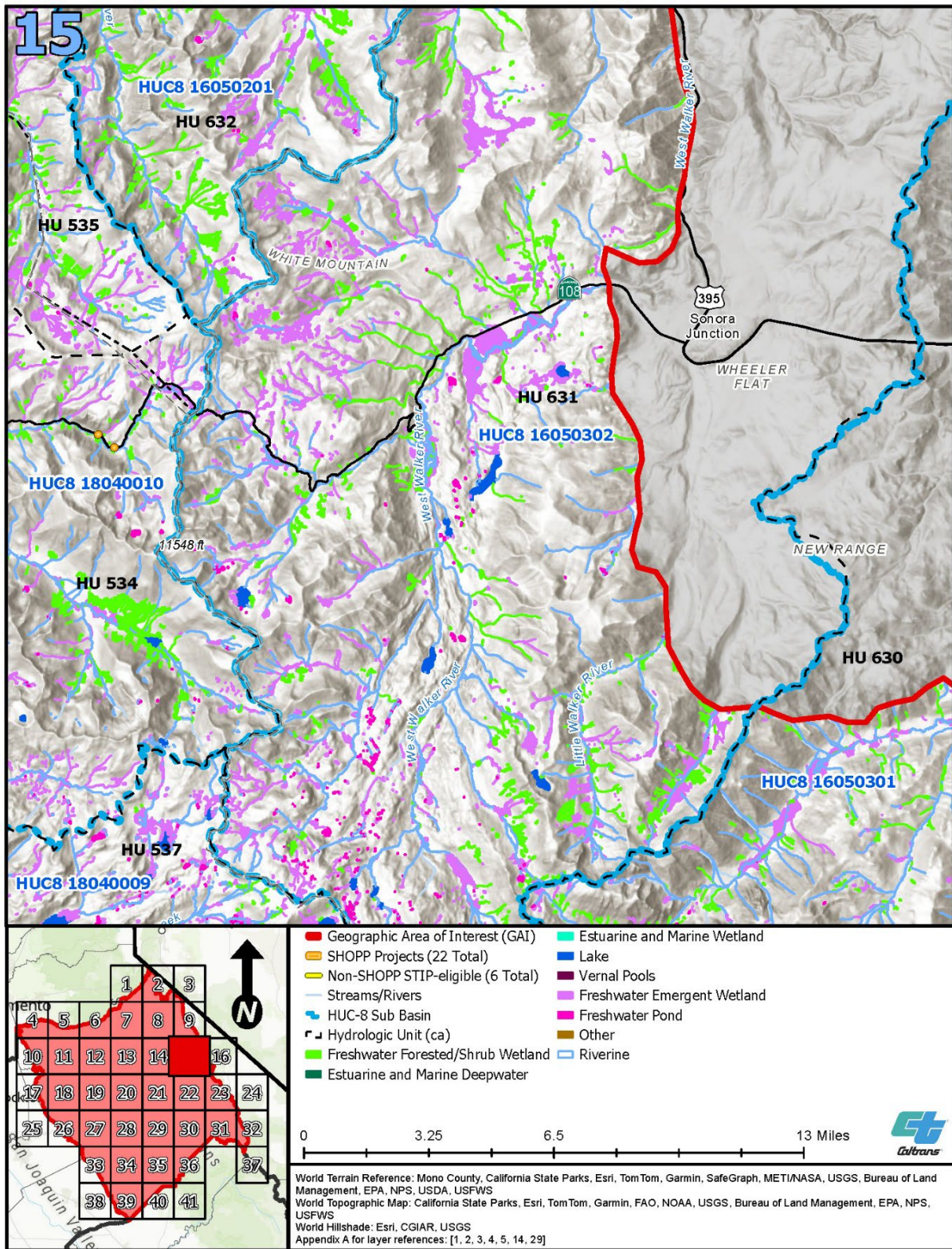


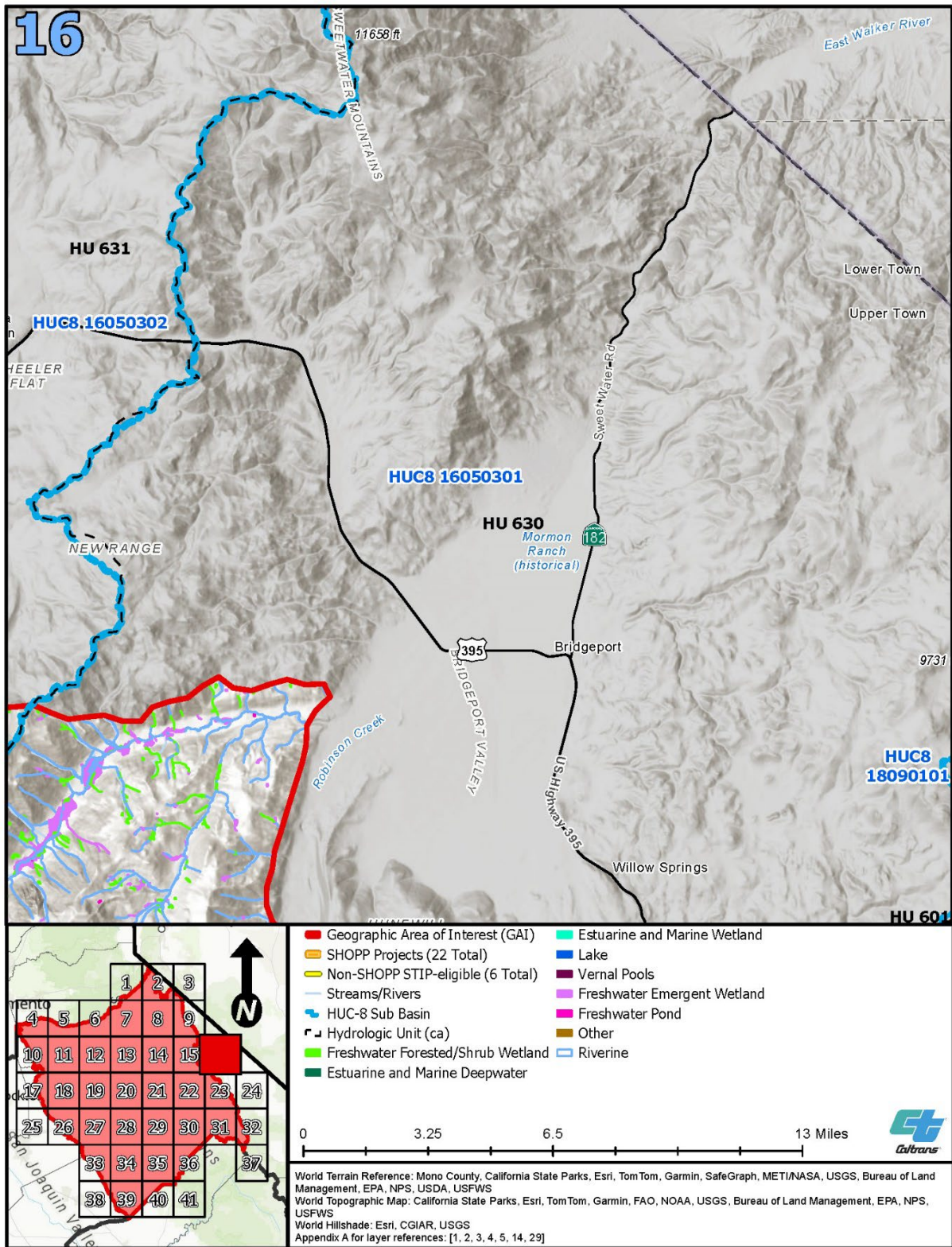


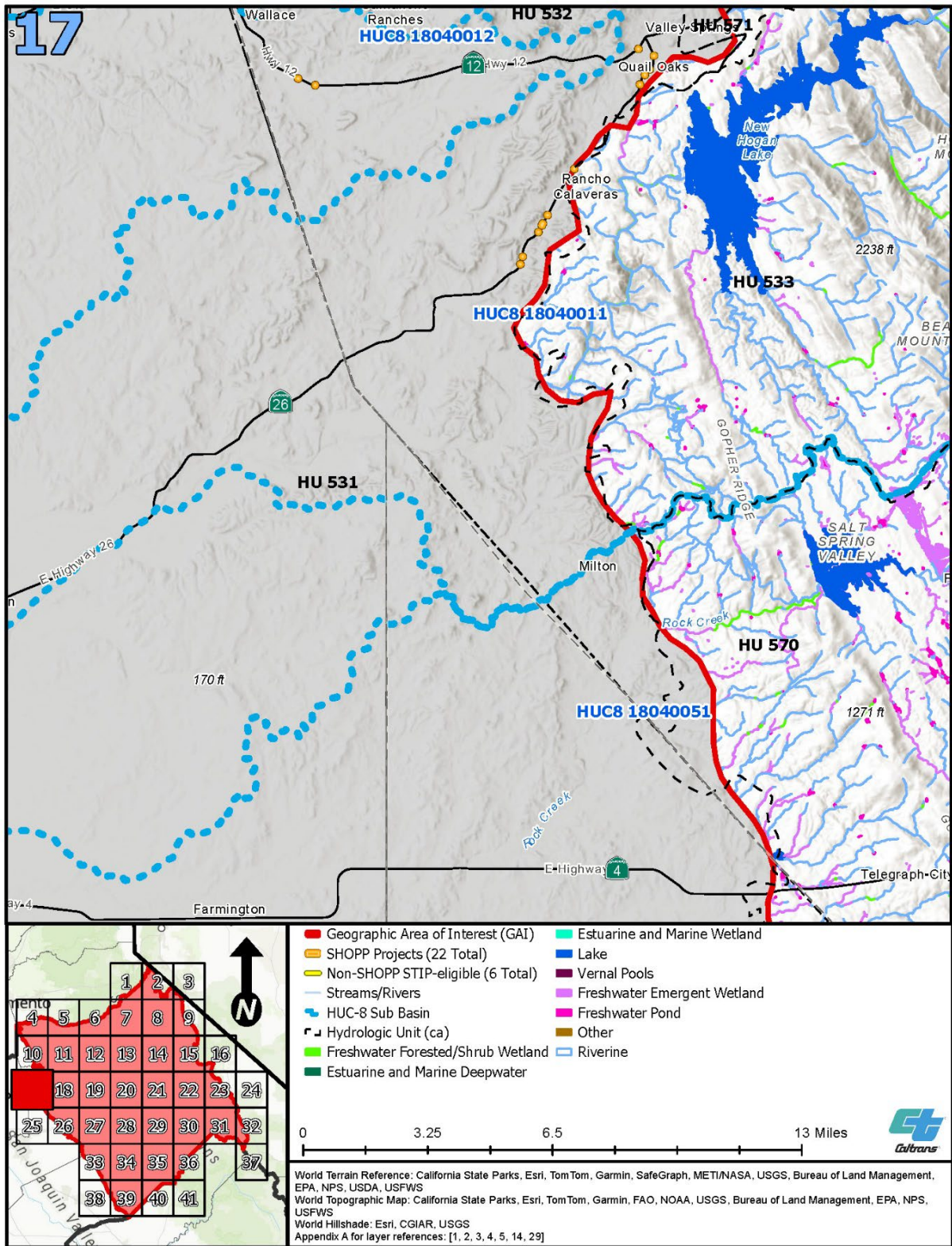


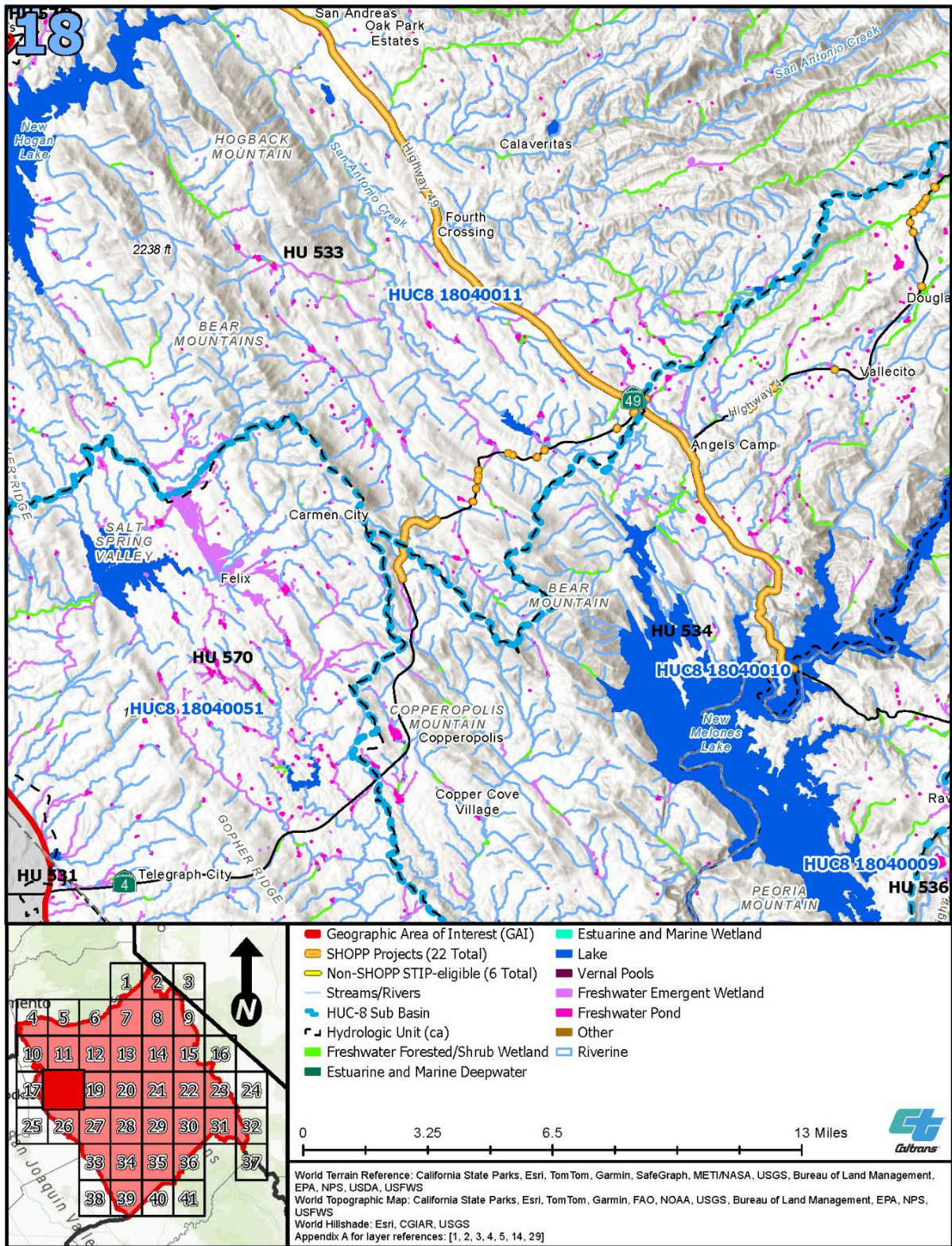


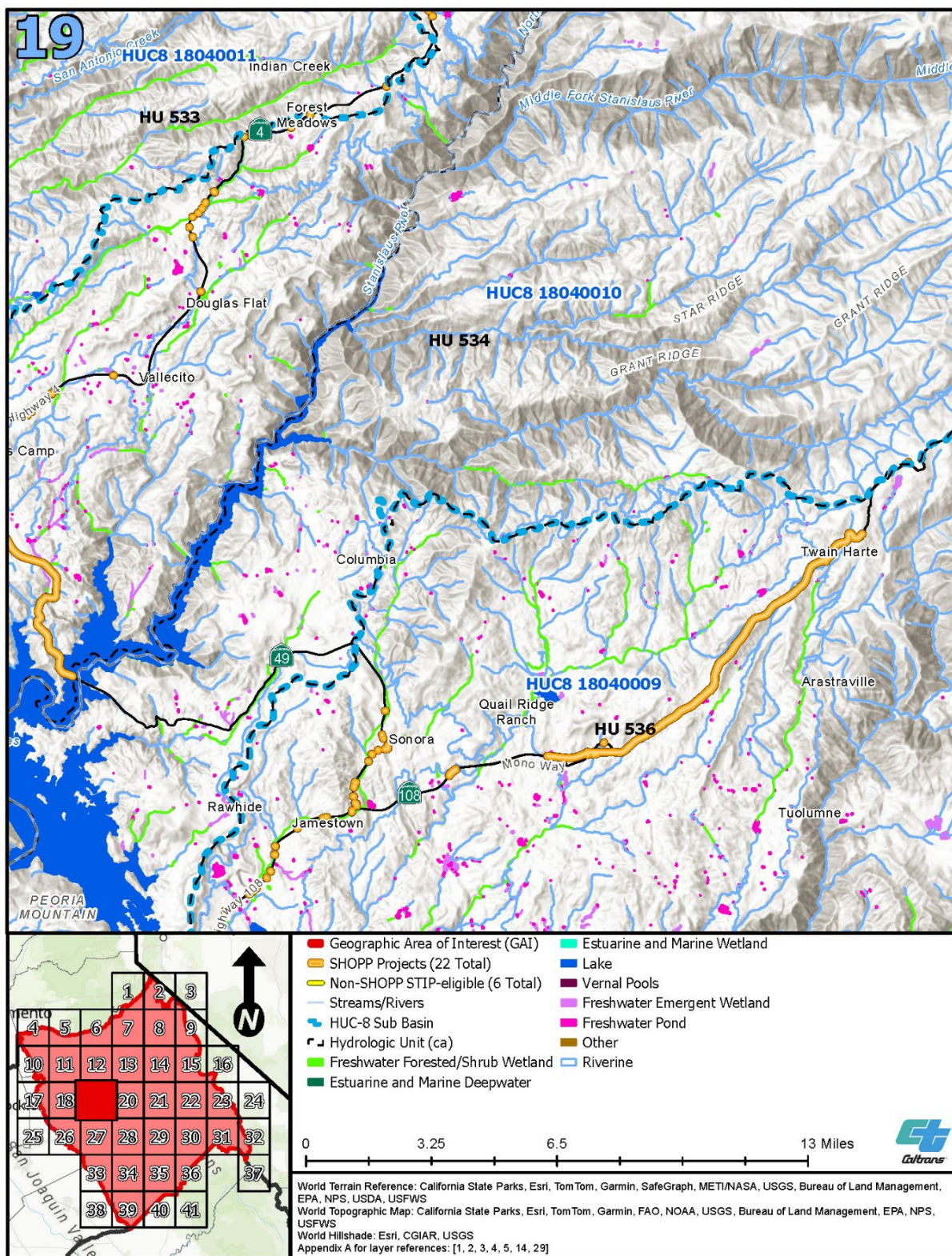


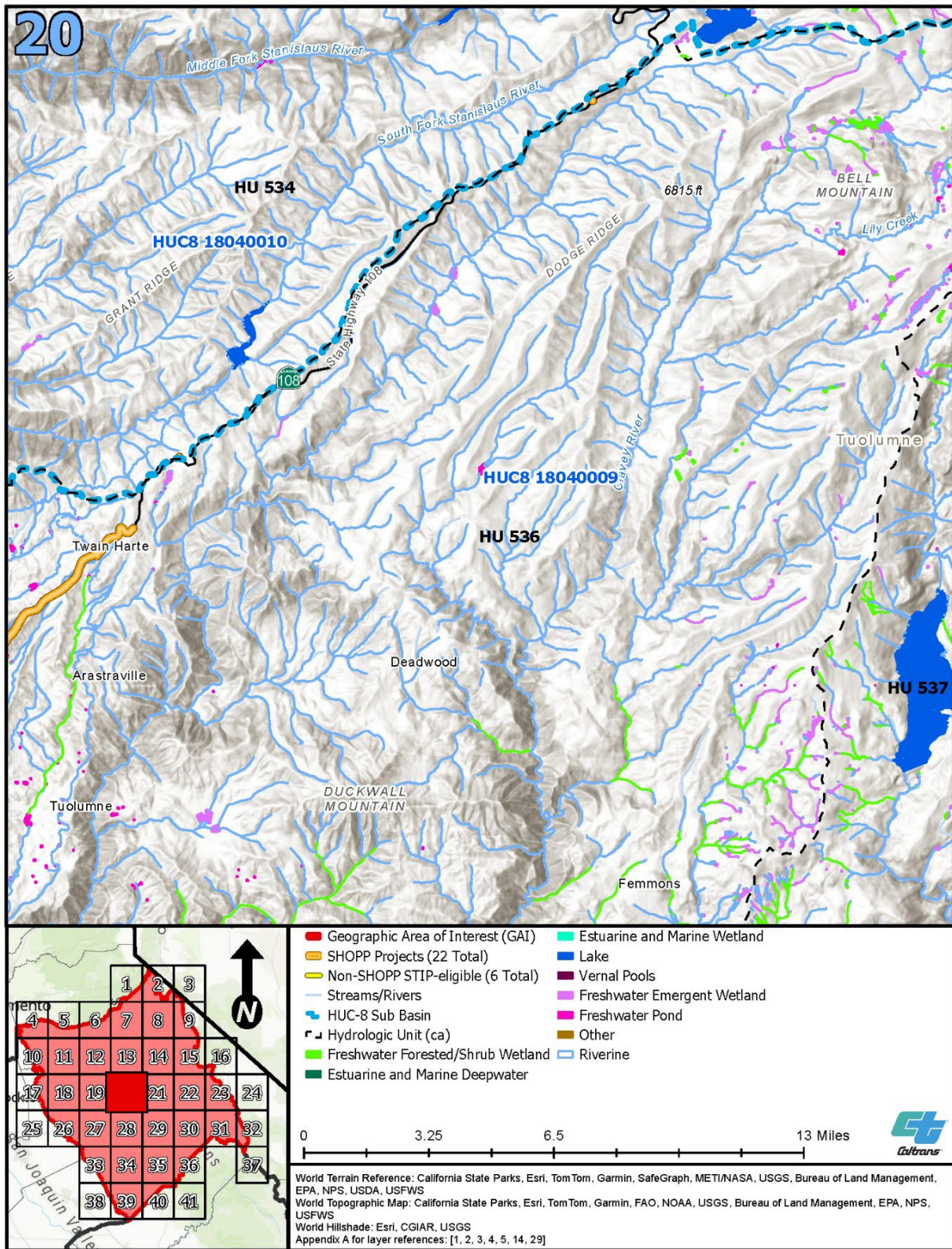


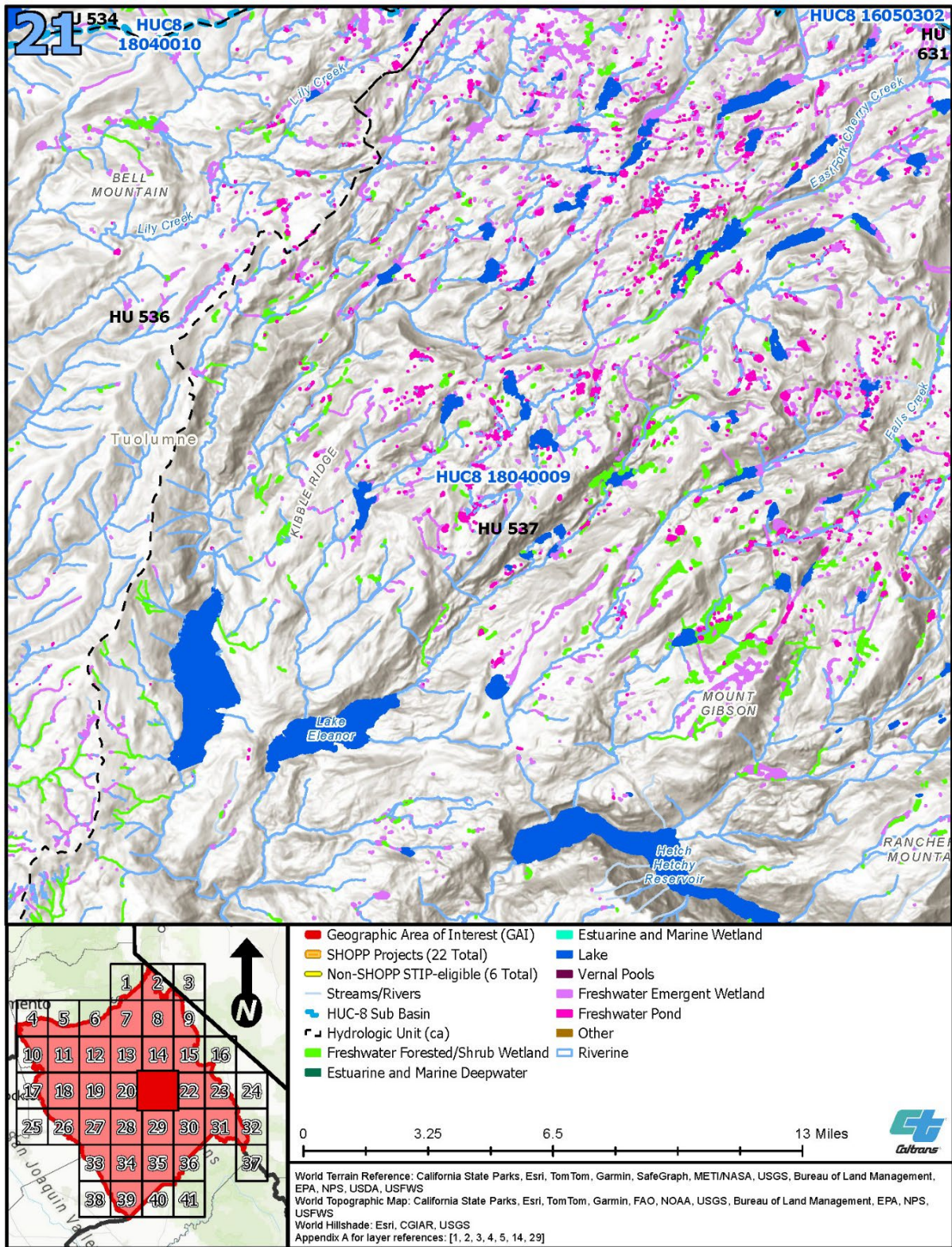


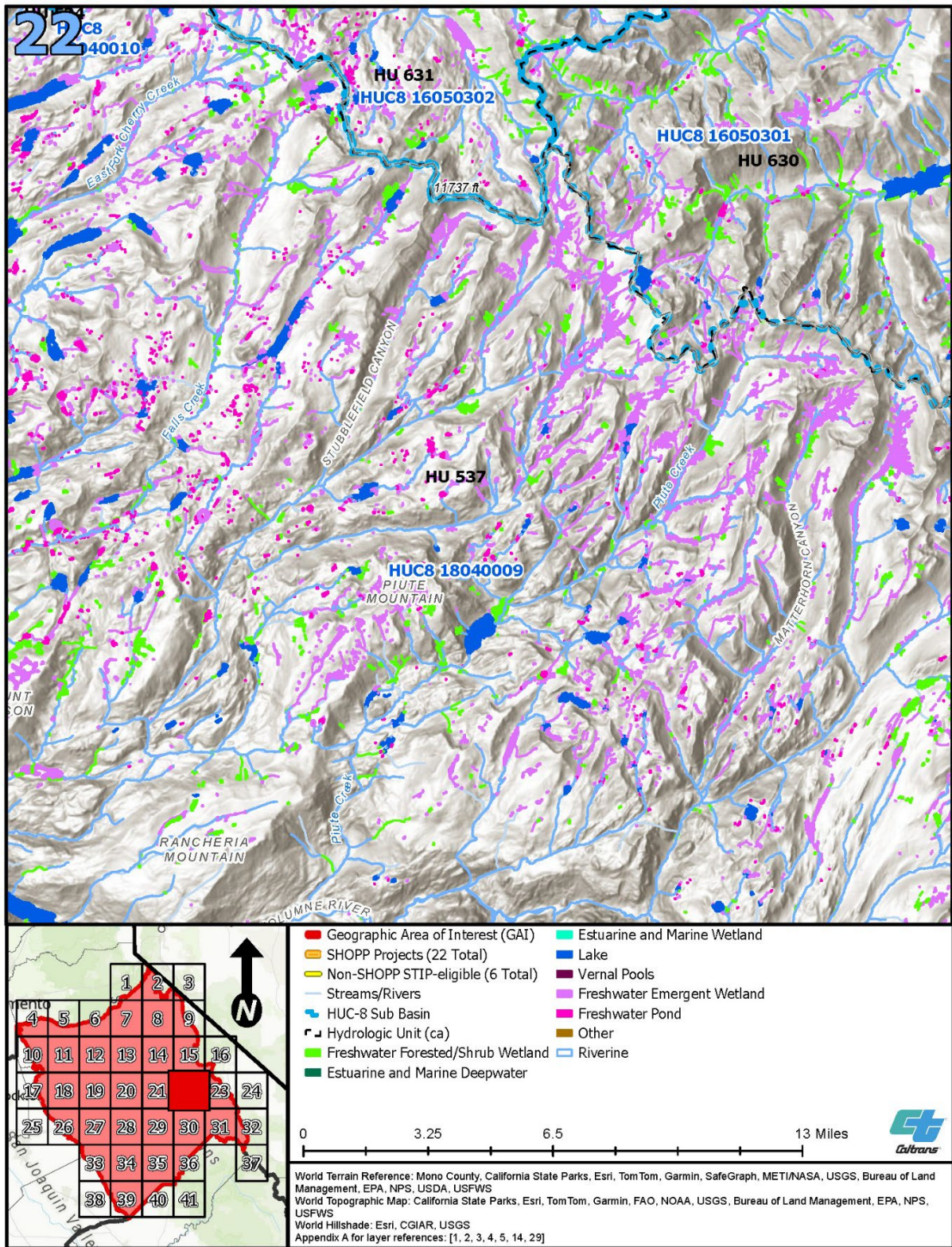


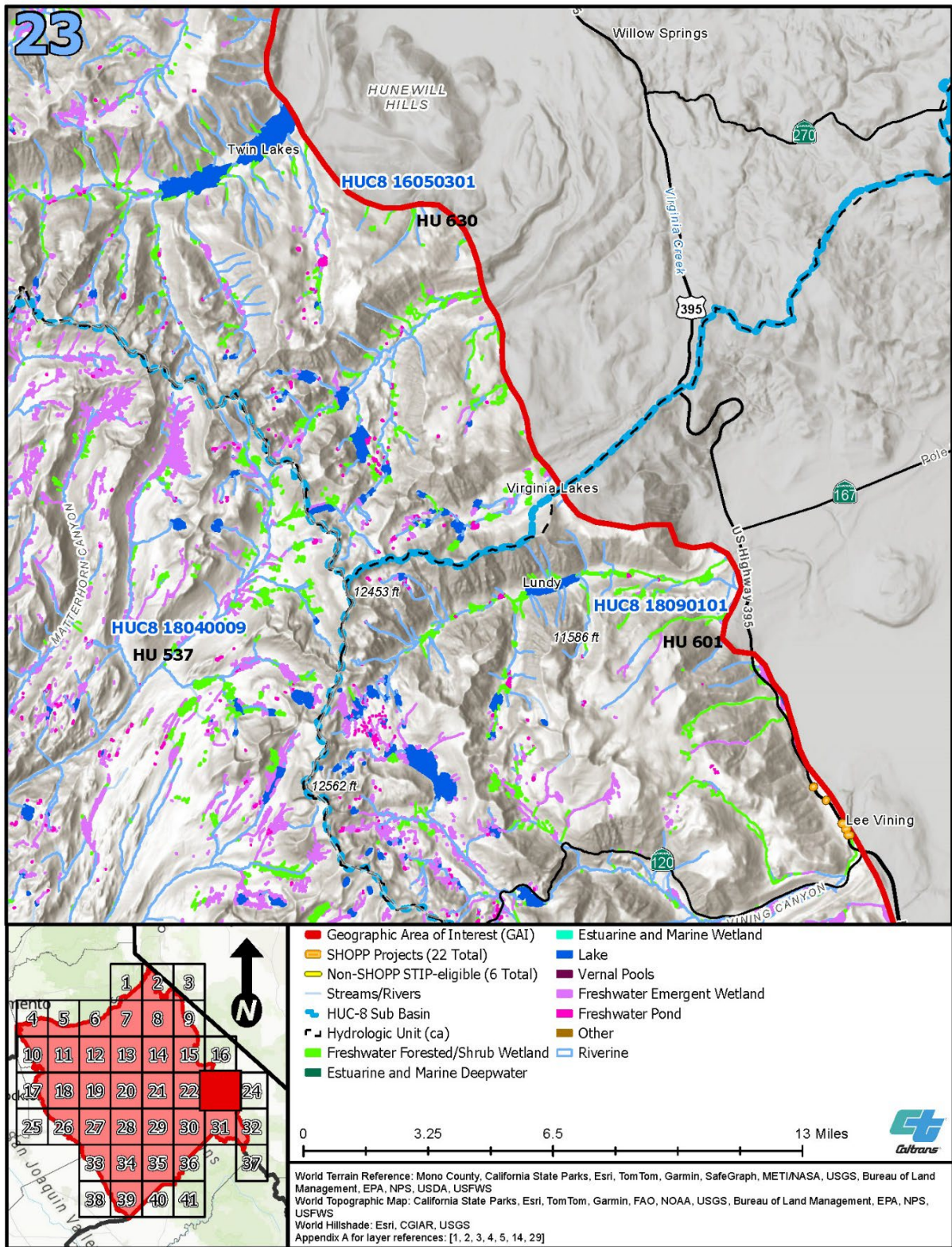


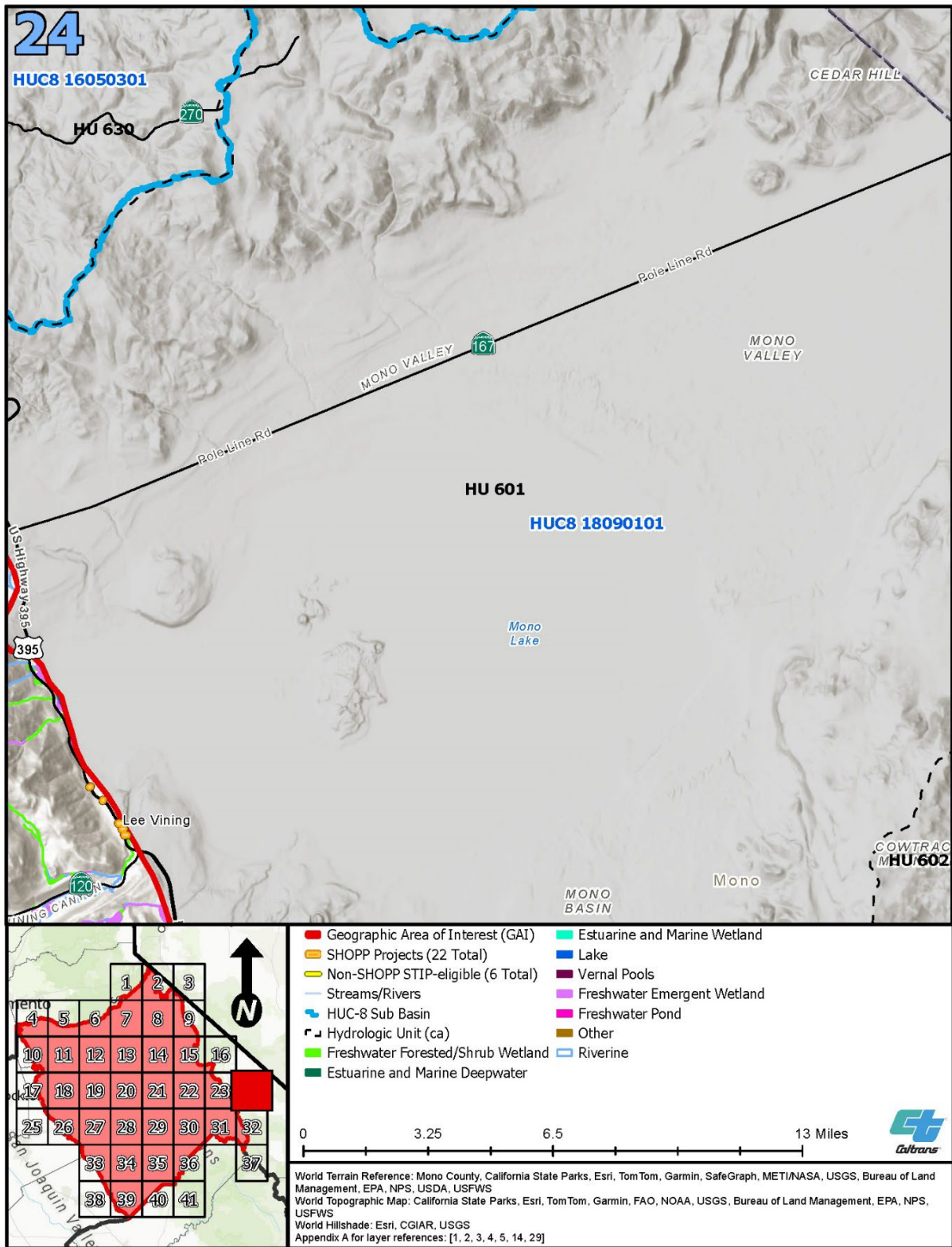


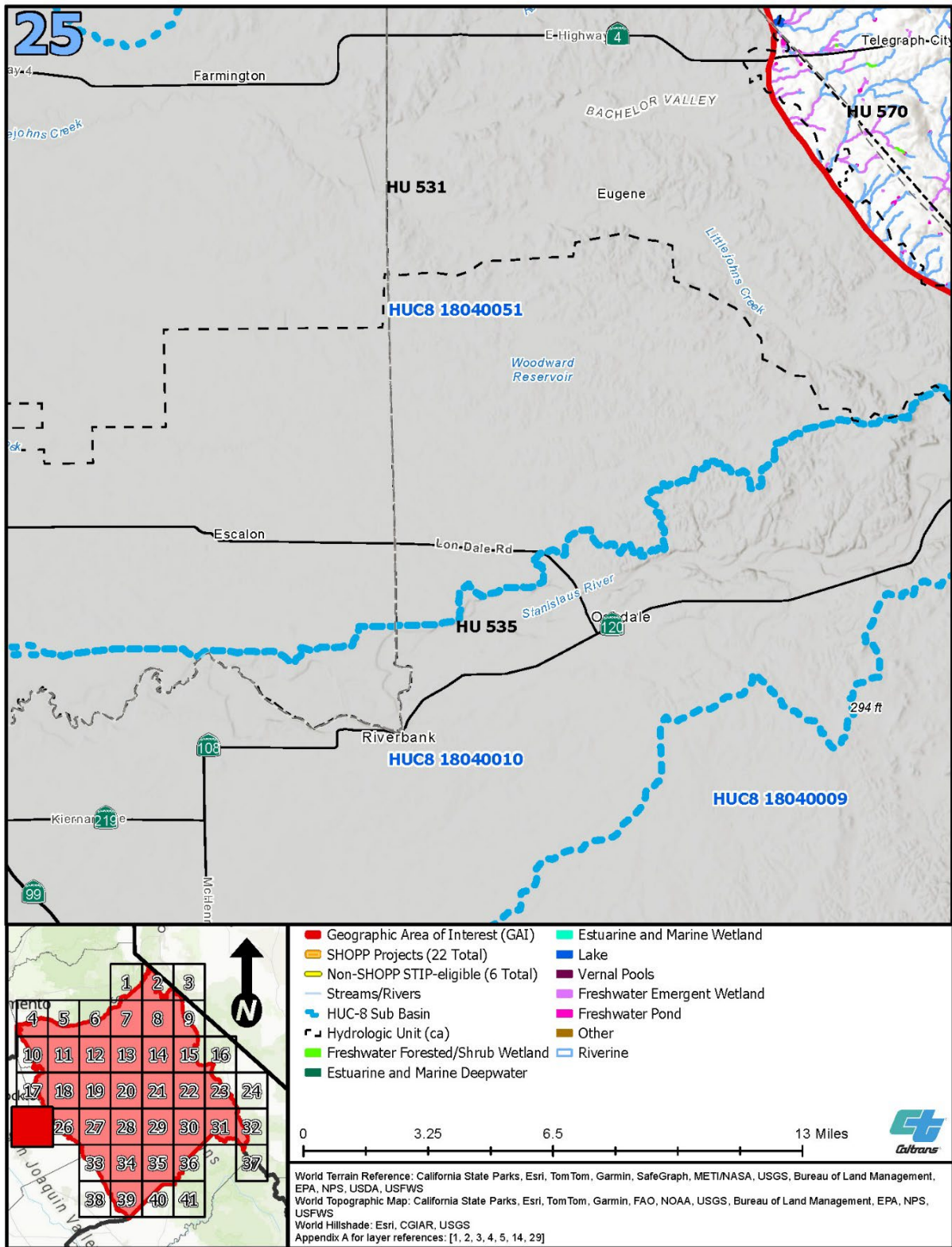


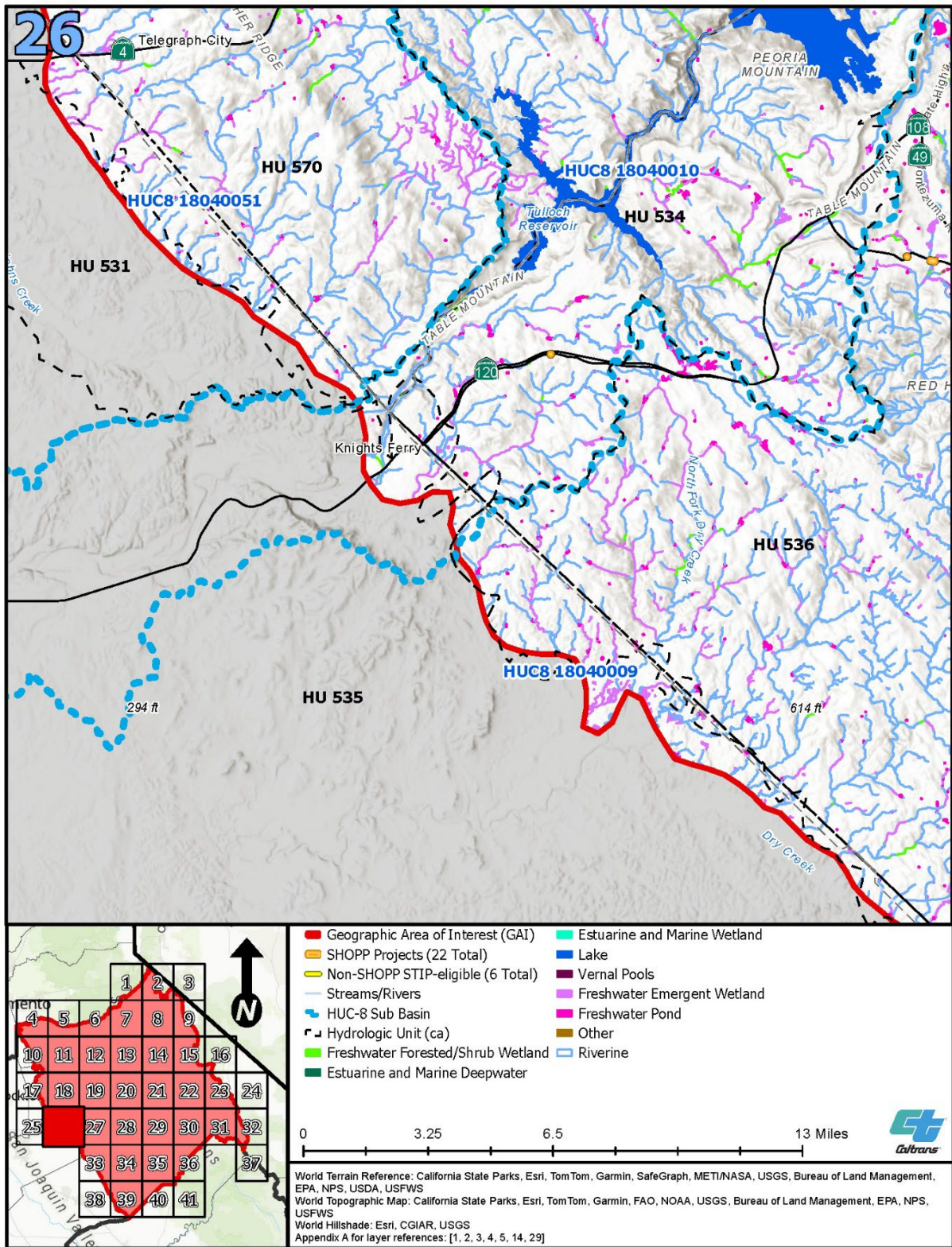


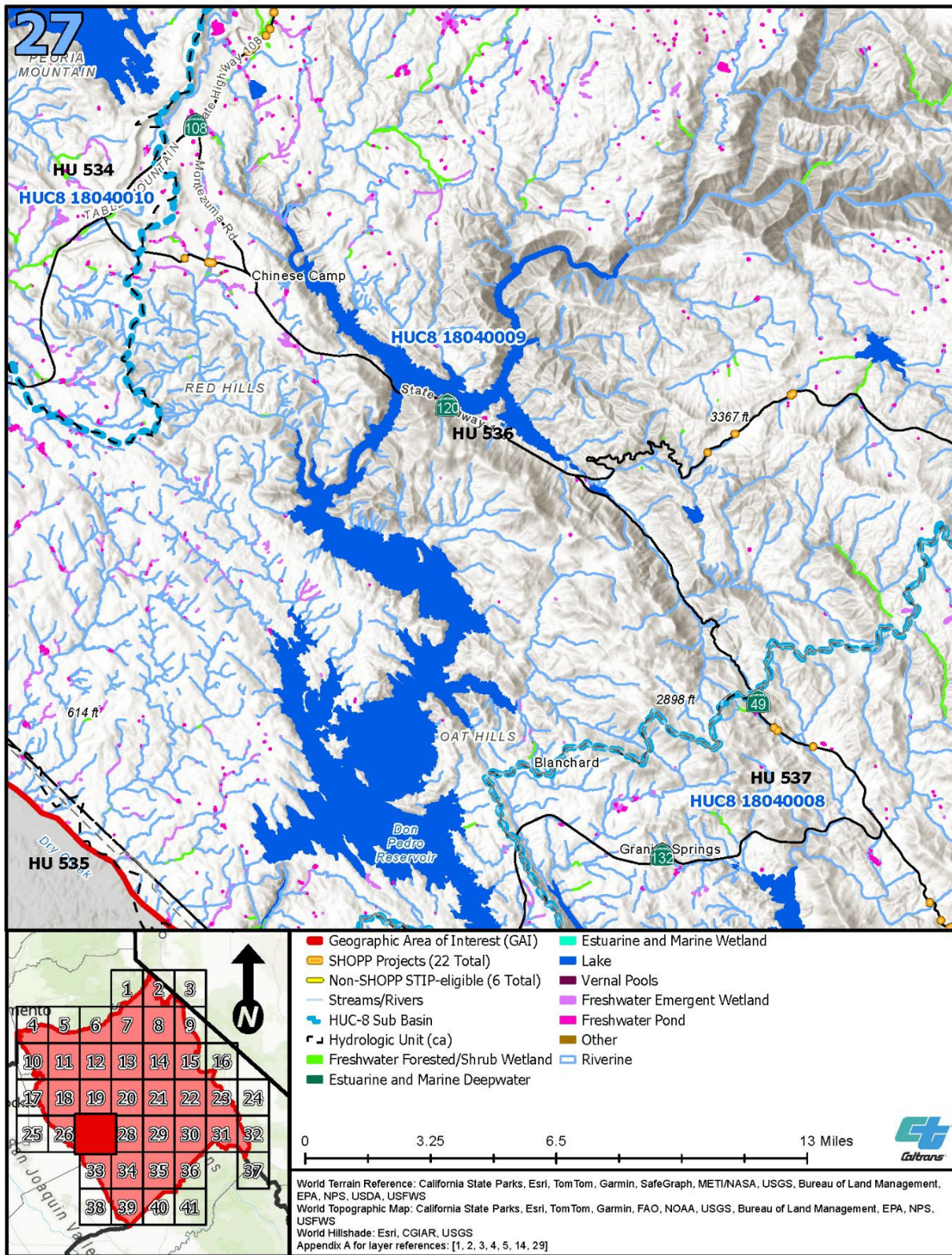


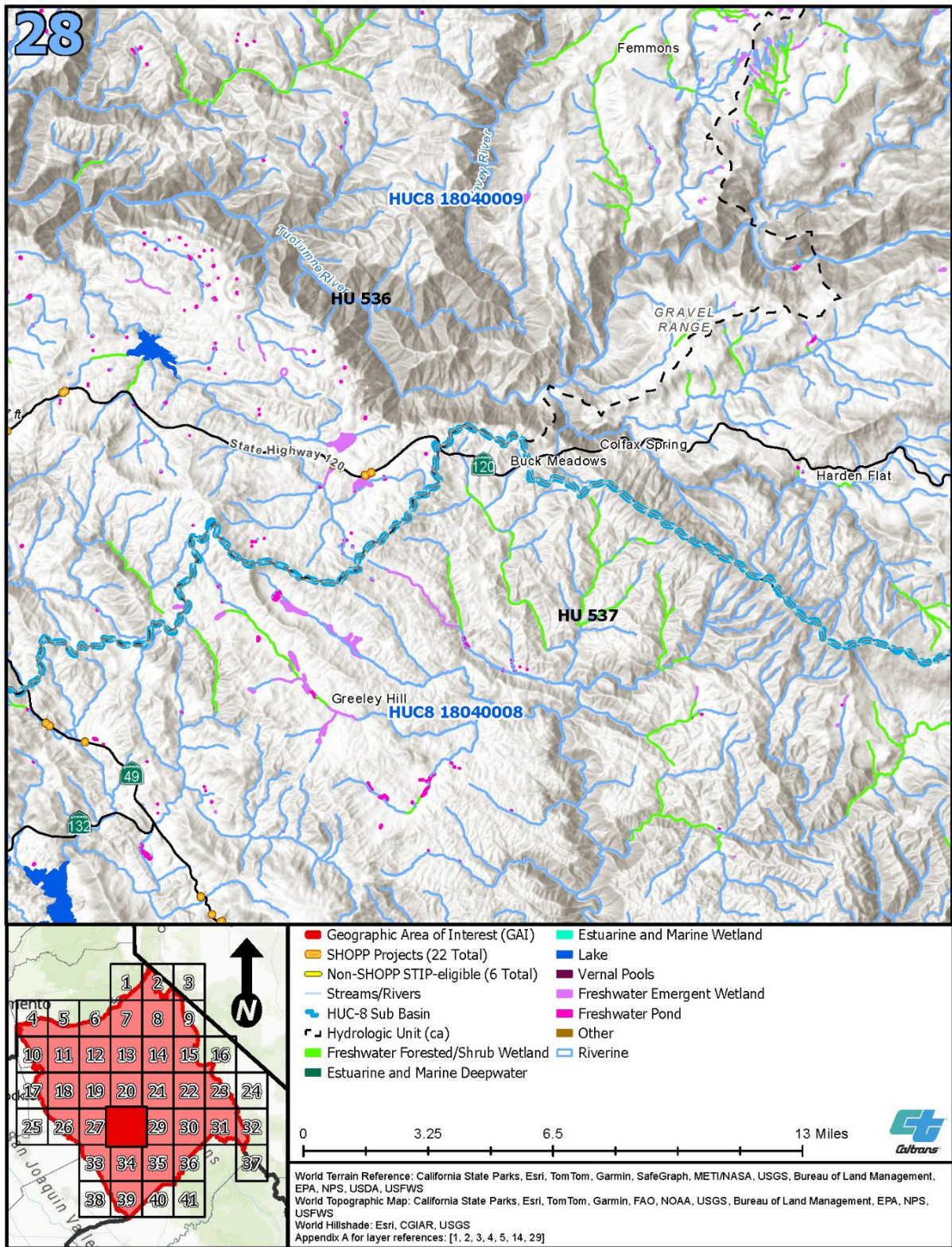


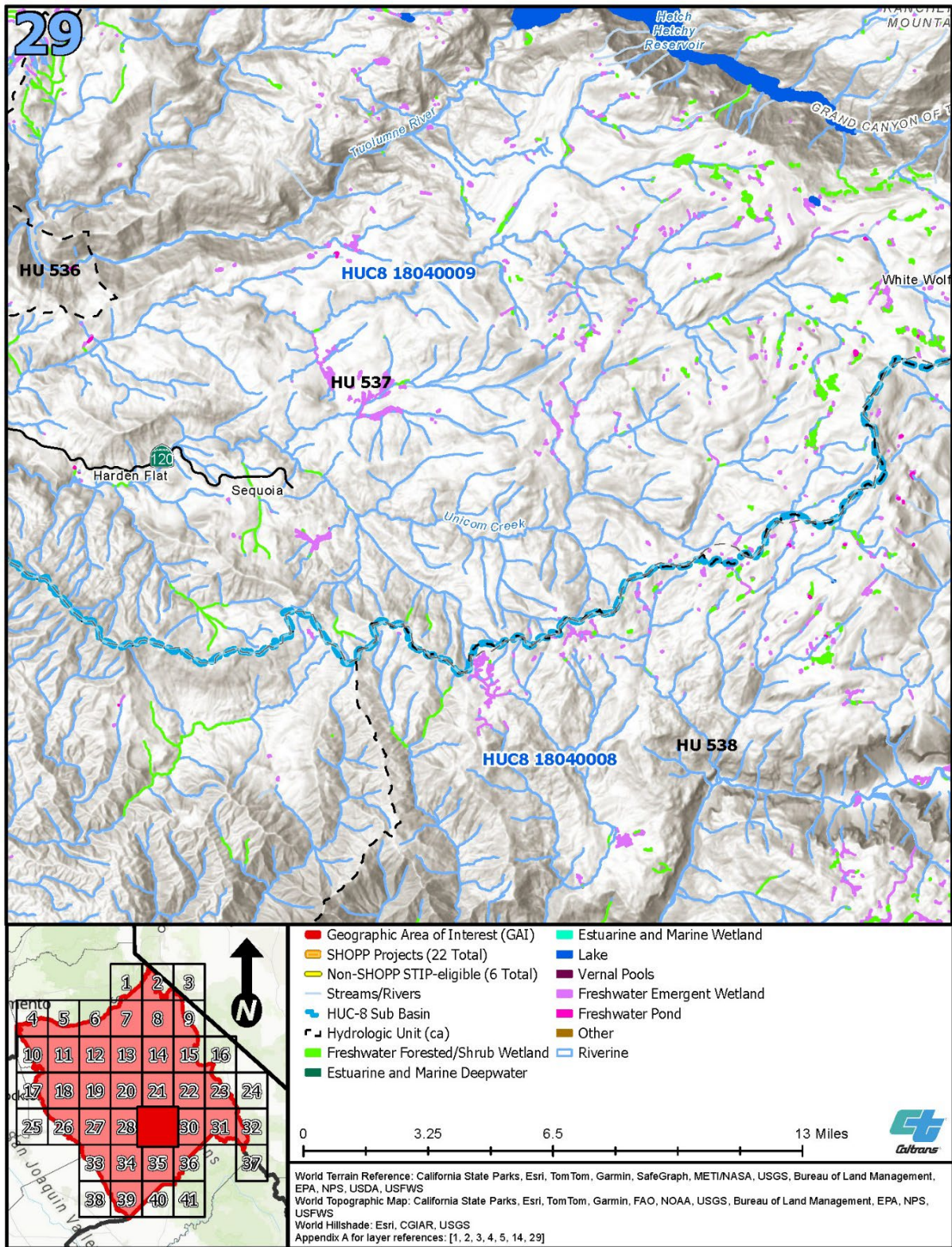


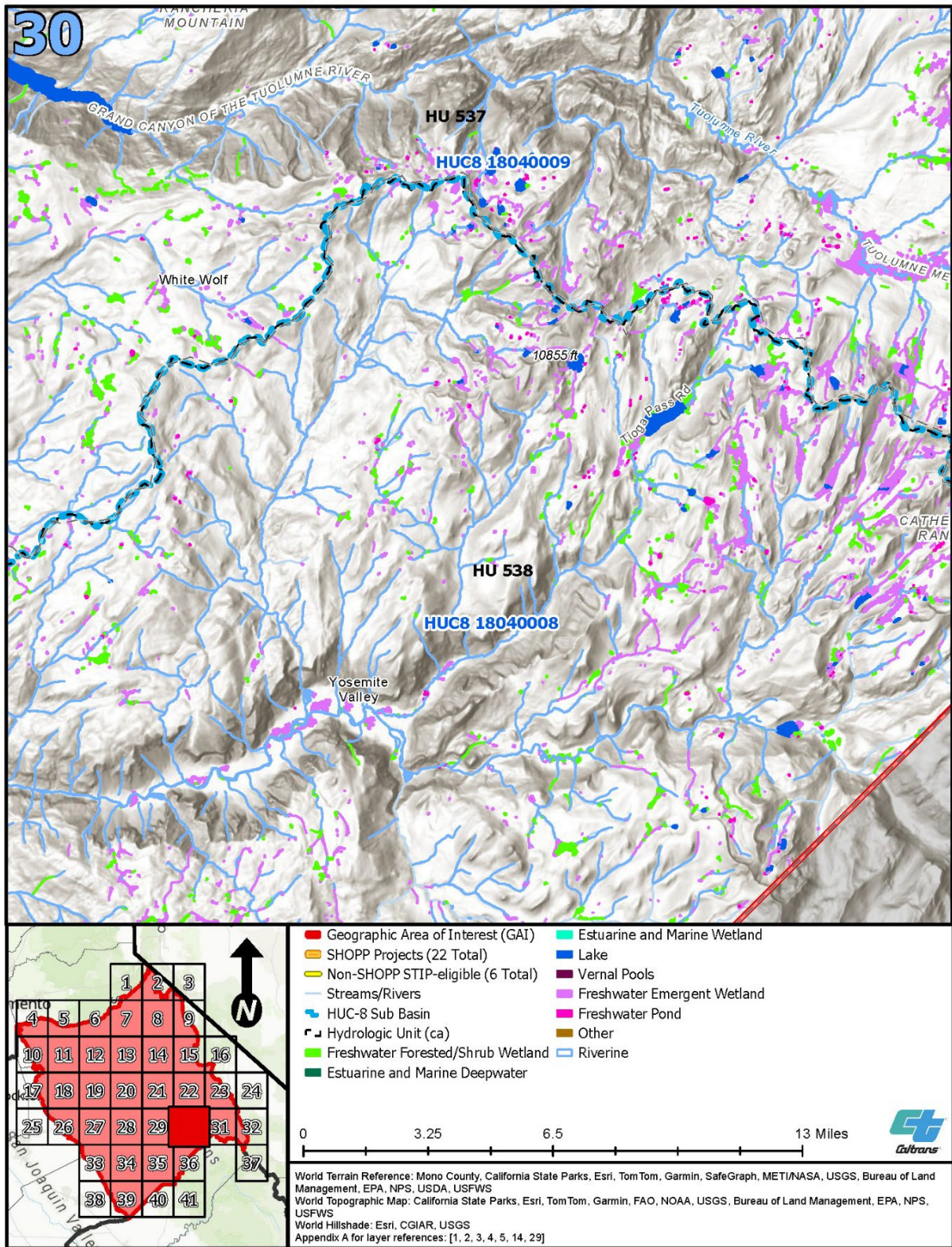


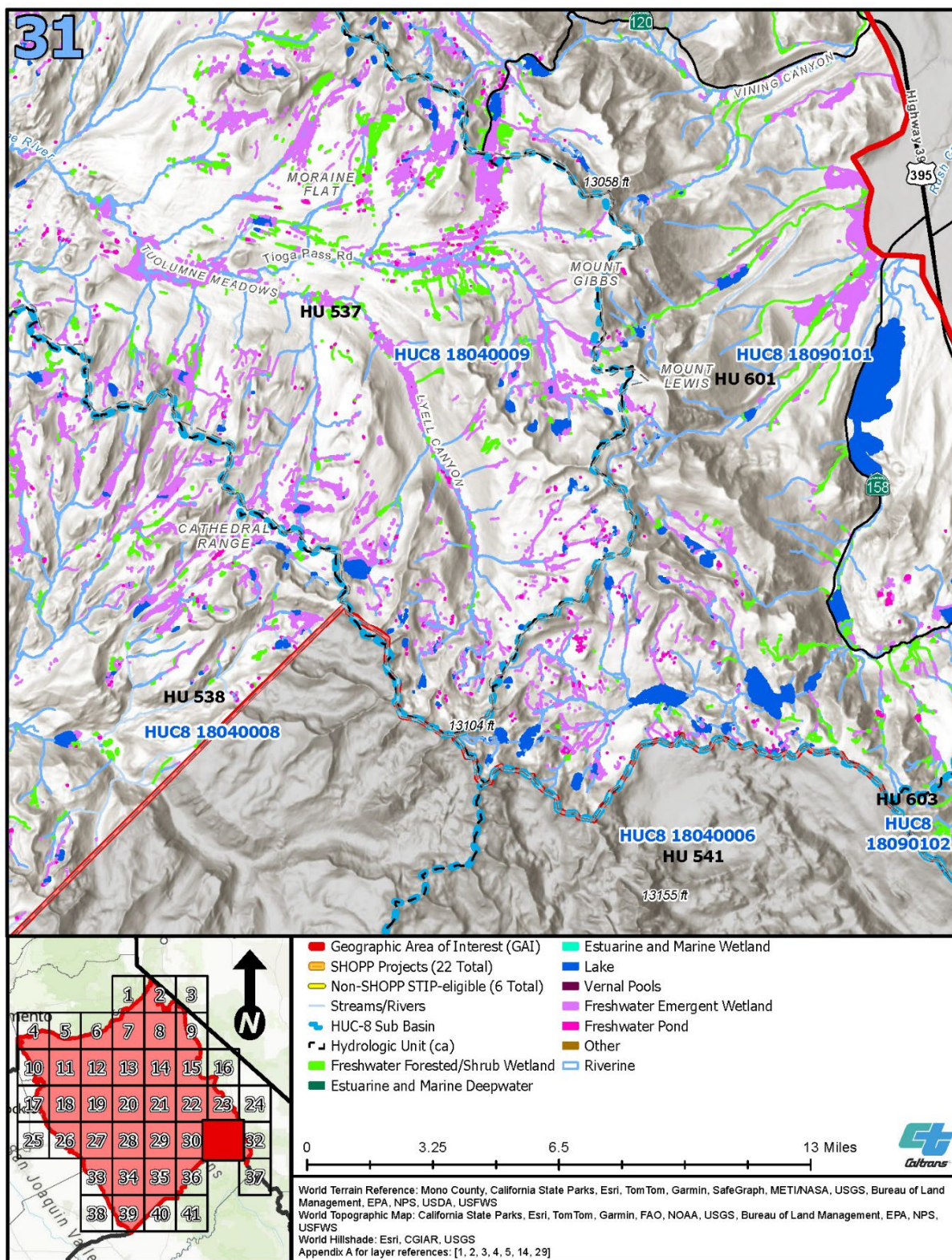


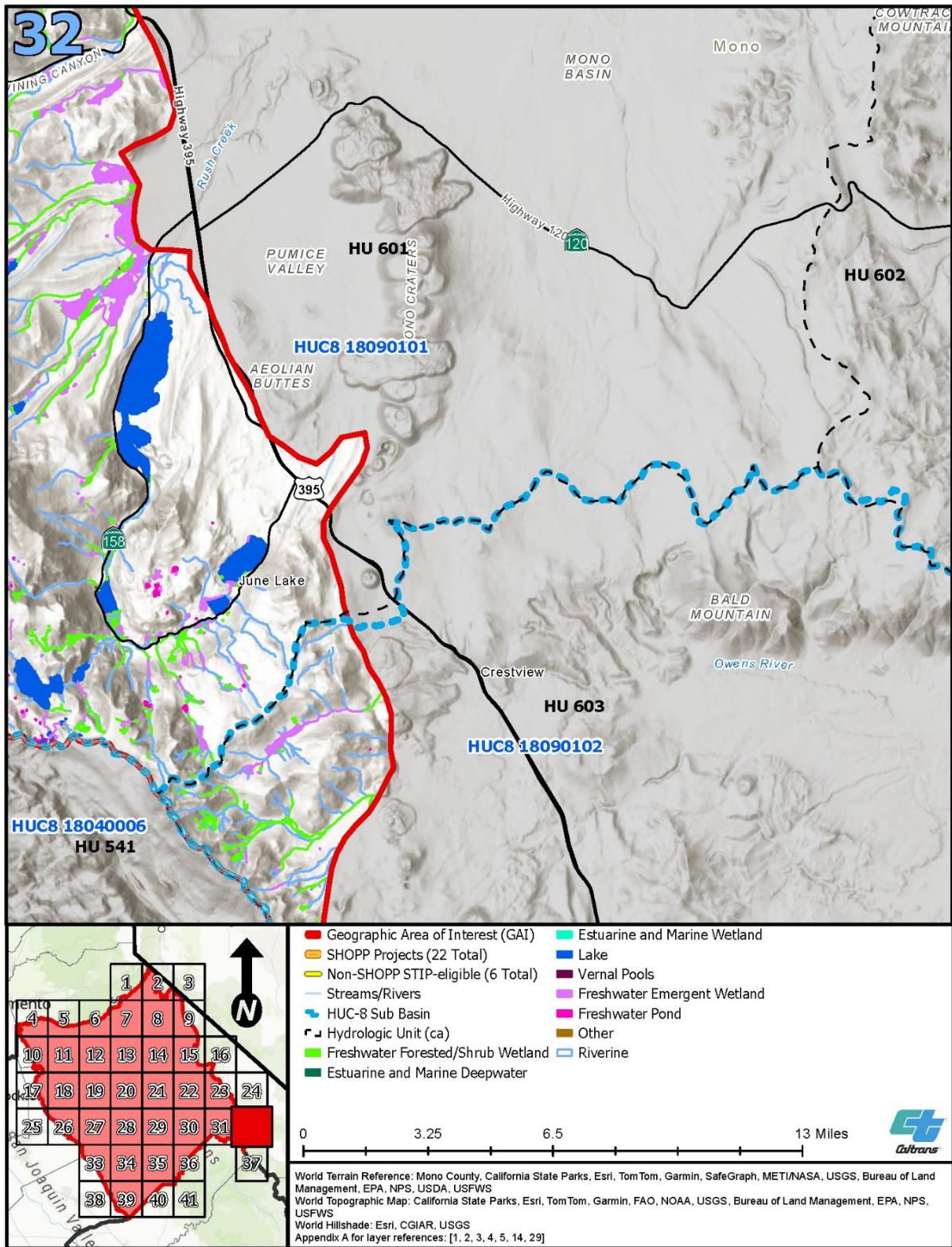


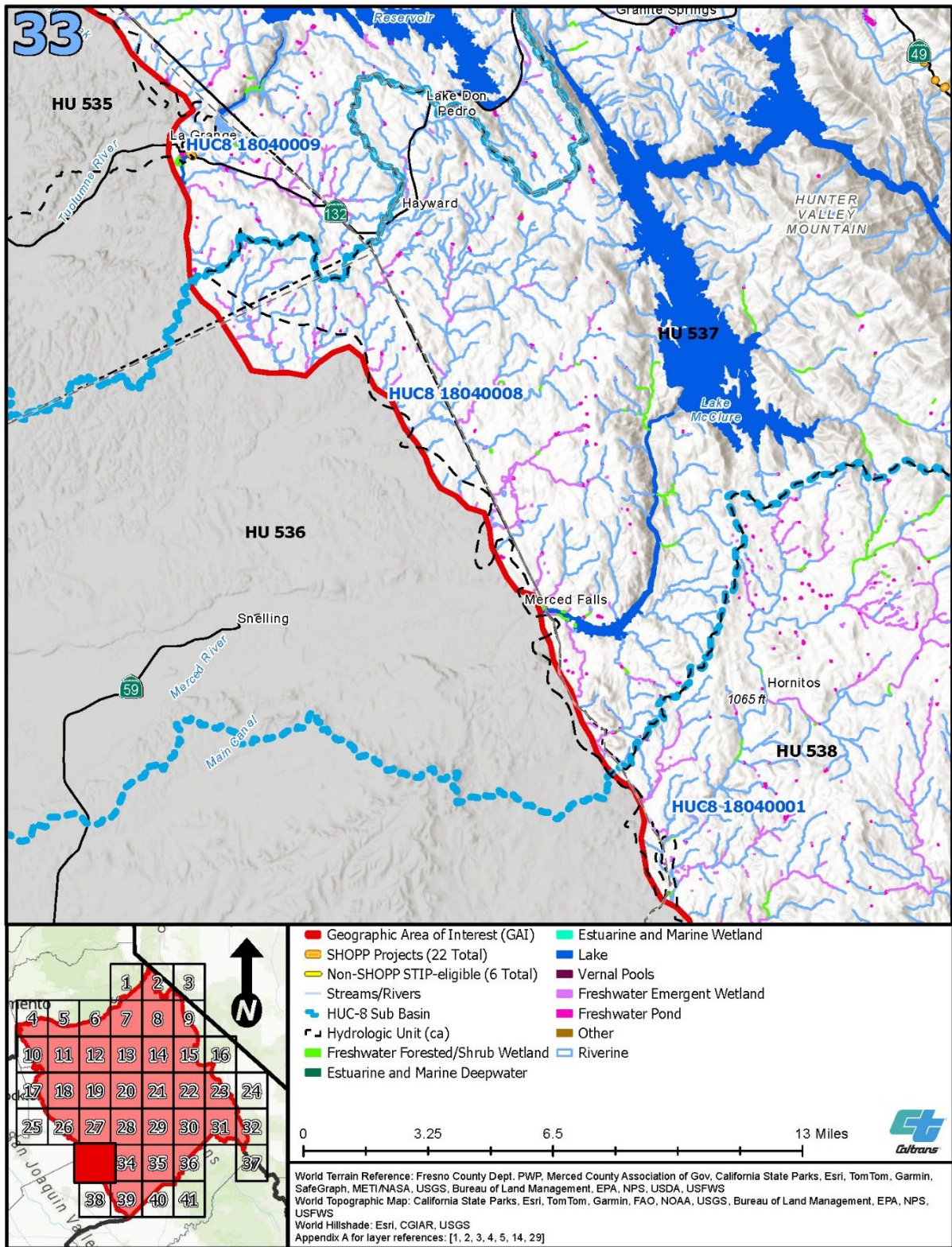


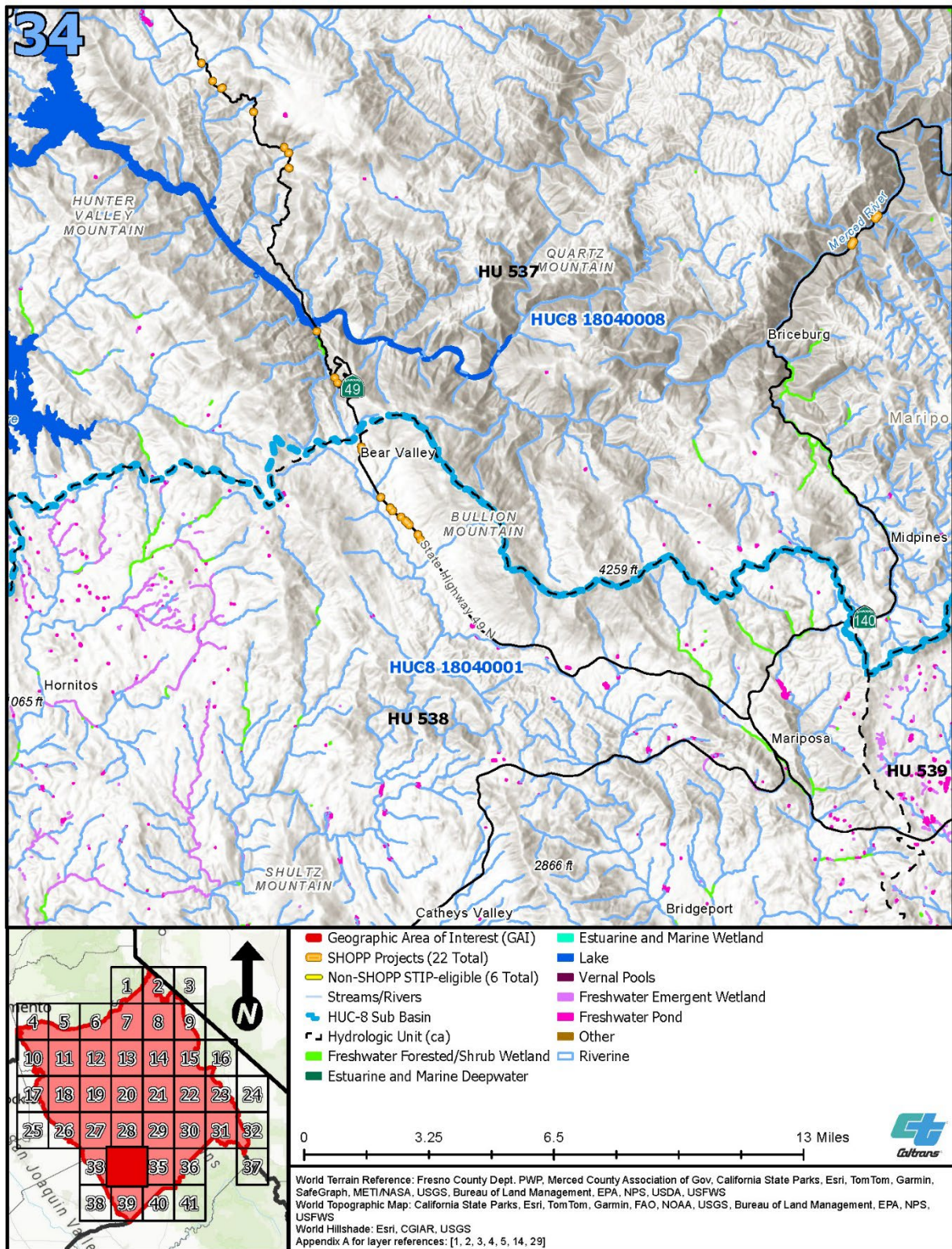


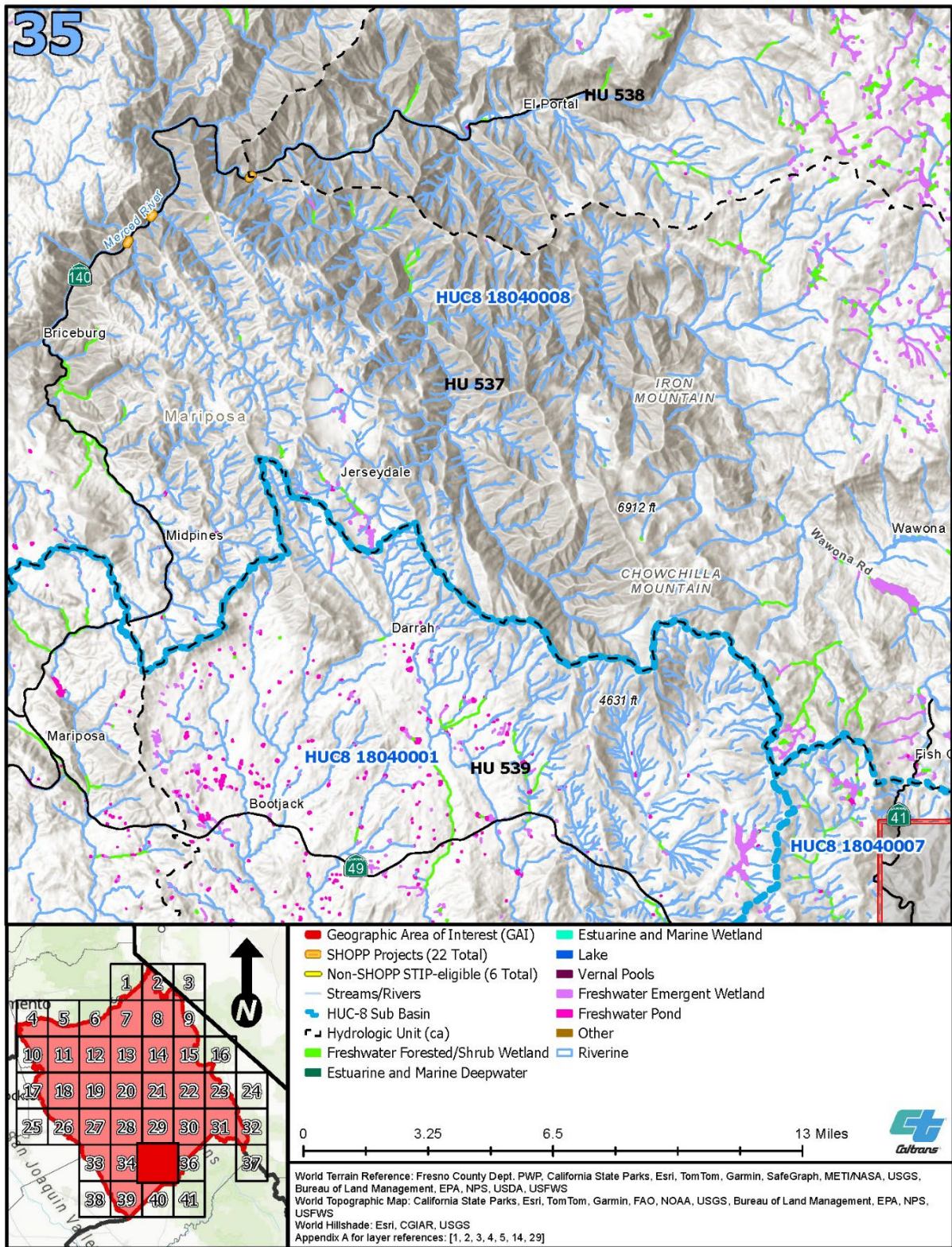


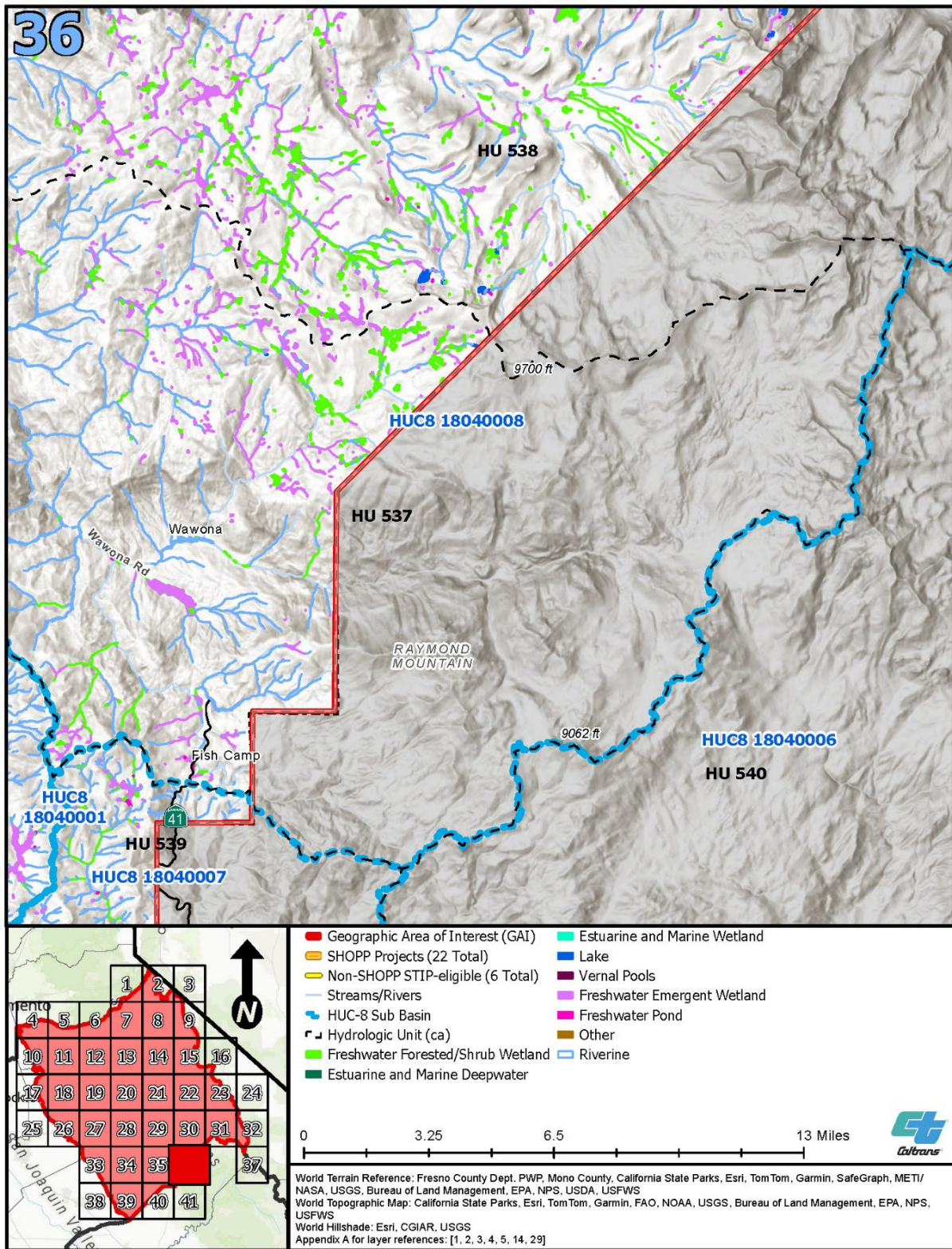


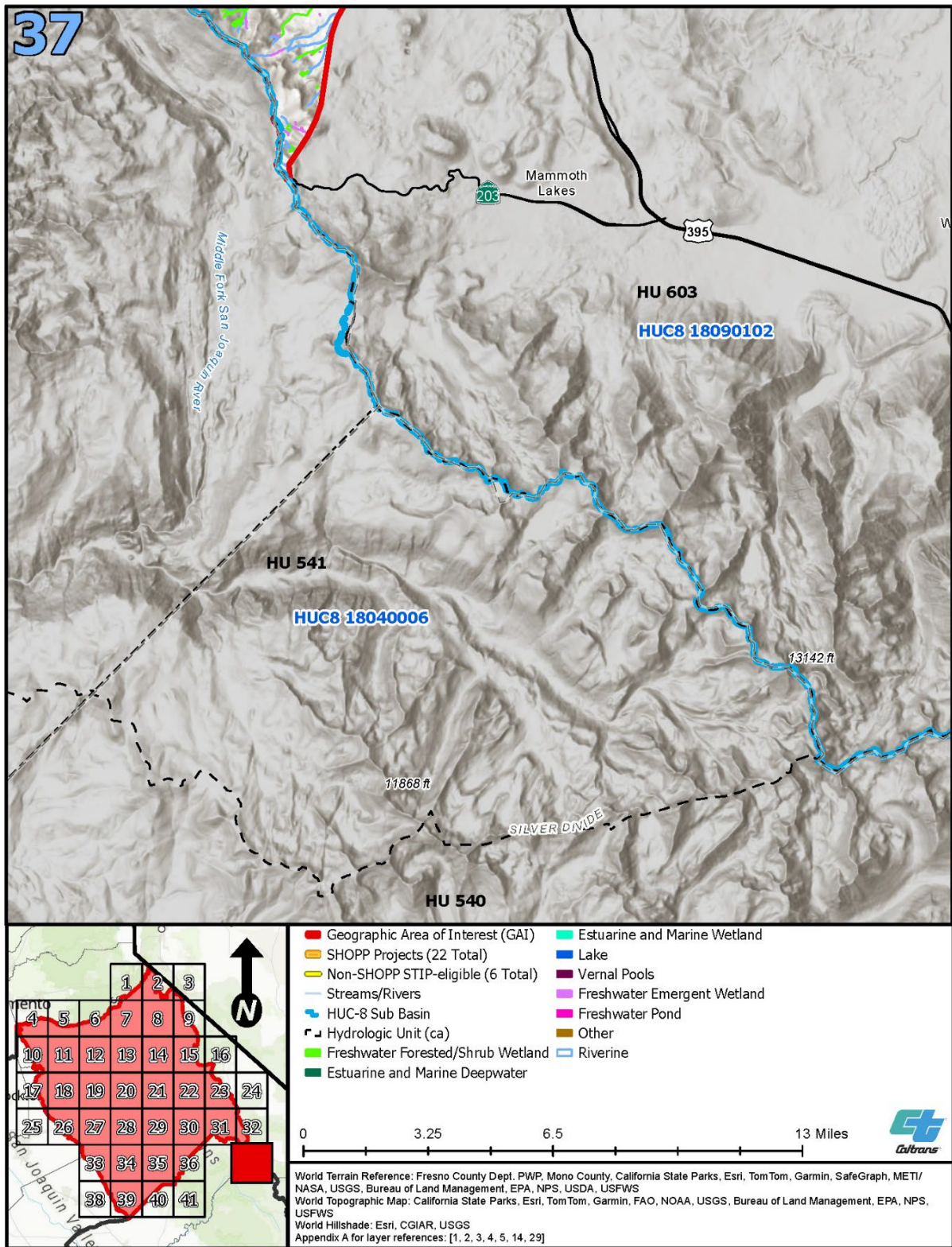


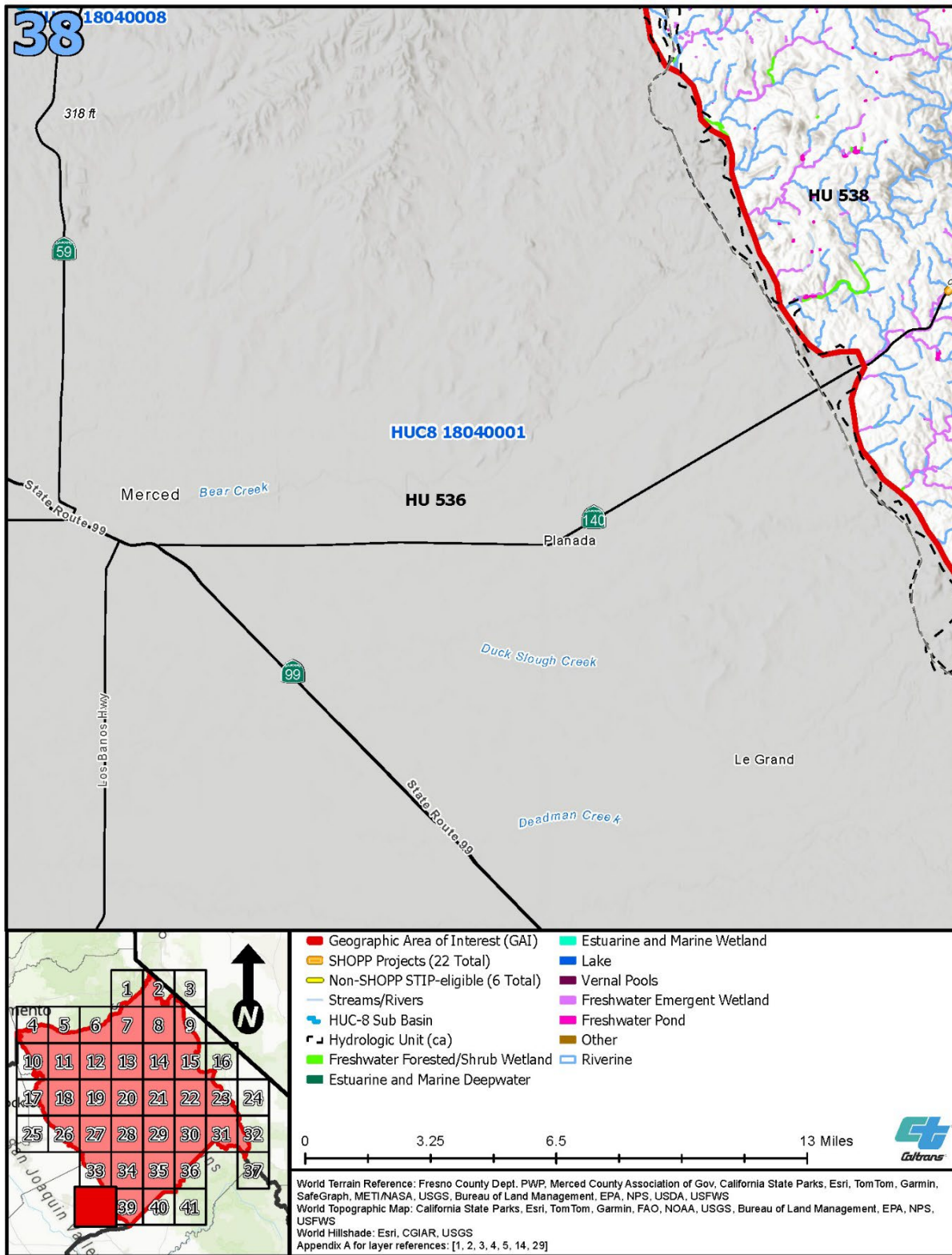


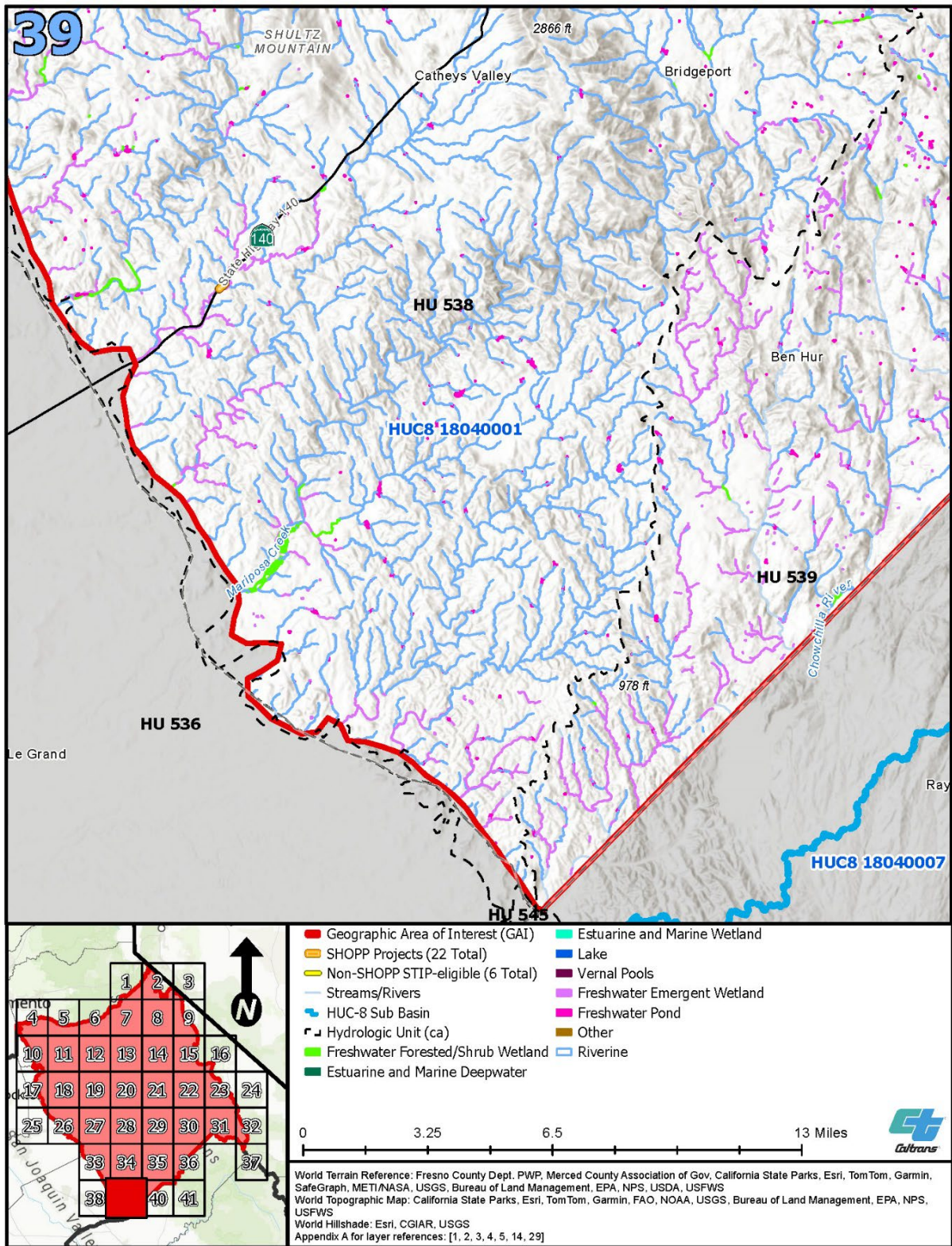


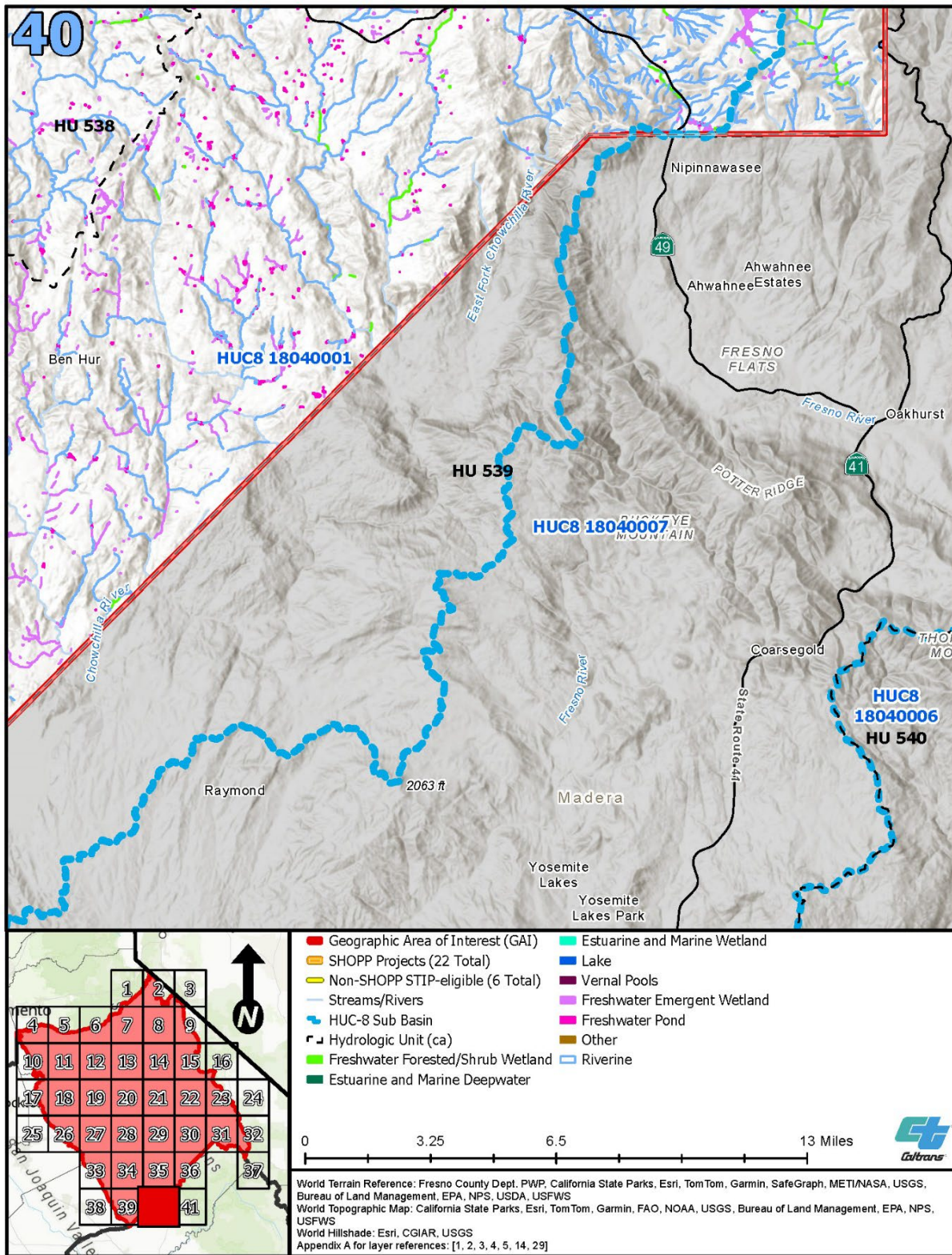


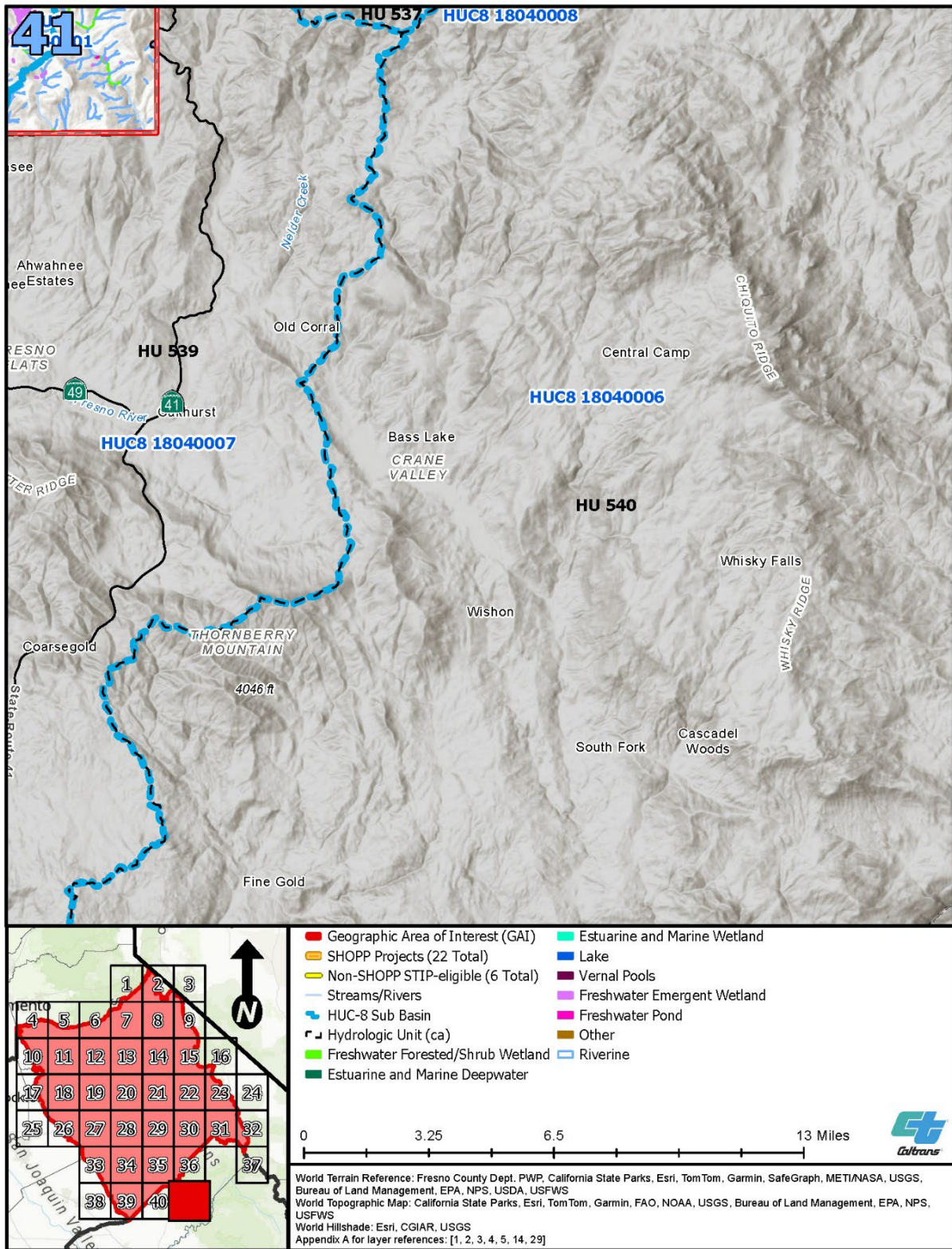












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