



**ADVANCE MITIGATION PROGRAM**  
**Sierra Nevada and Sierra Nevada Foothills**  
**Ecoregion Sections within Caltrans District 6**  
**Regional Advance Mitigation**  
**Needs Assessment**  
**Appendices**

Version 0.0 – DRAFT

**Establishing Caltrans' Need for Advance Mitigation**  
**in the Vicinity of Caltrans Districts 6 and 9,**  
**forecast fiscal years 2021/22 to 2030/31**

**California Department of Transportation – District 6**

July 2023

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## **APPENDICES**

Appendix A – GIS Sources

Appendix B – Transportation Projects Planned for the GAI during the Planning Period

Appendix C – Land Cover Types

Appendix D – Complete SAMNA Species Results

Appendix E – Hydrologic Units

Appendix F – List of 303(d) Impaired Waters

Appendix G – Aquatic Resource Locations

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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 6 RAMNA GIS Sources**

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
1	State Highway Network	Caltrans	8/1/2018	10/11/2018	<a href="http://www.dot.ca.gov/hq/tsip/gis/datalibrary/Metadata/NHS.html">http://www.dot.ca.gov/hq/tsip/gis/datalibrary/Metadata/NHS.html</a>
2	SHOPP	Caltrans	2021/2022 Q2	11/23/2022	Caltrans System Planning
3	STIP	California Transportation Commission	2021/2022 Q2	11/23/2022	Caltrans System Planning
4	Ecoregion Section (GAI)	USFS	1/26/2021	1/26/2021	<a href="https://data.fs.usda.gov/geodata/edw/datasets.php?xmlKeyword=Ecomap">https://data.fs.usda.gov/geodata/edw/datasets.php?xmlKeyword=Ecomap</a>
5	Watershed Boundary Dataset	USGS	9/26/2014	10/19/2018	<a href="https://www.usgs.gov/core-science-systems/ngp/national-hydrography">https://www.usgs.gov/core-science-systems/ngp/national-hydrography</a>
6	County Boundaries	U.S. Census Bureau	7/8/2016	10/11/2018	<a href="https://data.ca.gov/dataset/ca-geographic-boundaries">https://data.ca.gov/dataset/ca-geographic-boundaries</a>
7	California Conservation Easements	California Protected Areas Database	12/1/2020	2/2/2021	<a href="http://www.calands.org/cced">http://www.calands.org/cced</a>
8	California Protected Areas Holdings	California Protected Areas Database	2/10/2021	2/10/2021	<a href="http://www.calands.org/data">http://www.calands.org/data</a>
9	Tribal Land Boundaries	Bureau of Indian Affairs	5/16/2017	10/11/2018	<a href="https://hub.arcgis.com/items/2e915ef3df48422283e5b2c7d89dfcba">https://hub.arcgis.com/items/2e915ef3df48422283e5b2c7d89dfcba</a>
10	U.S. Military Installations	U.S. Census Bureau	12/1/2017	10/11/2018	<a href="https://www2.census.gov/geo/tiger/TIGER2020/MIL/">https://www2.census.gov/geo/tiger/TIGER2020/MIL/</a>
11	Farmland Mapping & Monitoring Program	California Department of Conservation	6/7/2016	4/27/2021	<a href="https://gis.conservation.ca.gov/portal/home/item.html?id=16689151f4d240d2a16232ea650a6c62">https://gis.conservation.ca.gov/portal/home/item.html?id=16689151f4d240d2a16232ea650a6c62</a>
12	ACE Climate Resilience – ACE [ds2738]	CDFW	2/22/2018	10/17/2018	<a href="https://map.dfg.ca.gov/metadata/ds2738.html?5.66.18">https://map.dfg.ca.gov/metadata/ds2738.html?5.66.18</a>

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
13	Vegetation D06/D07/D09 in Caltrans District 6 Geospatial Data for the Advance Mitigation Needs Assessment for the Second Quarter of FY 2021/2022	SAMNA	1/1/2017	11/23/2022	<a href="http://www.dot.ca.gov/env/advancemitigation/">http://www.dot.ca.gov/env/advancemitigation/</a>
14	Waters and Wetlands D06/D07/D09 in Caltrans District 6 Geospatial Data for the Advance Mitigation Needs Assessment for the Second Quarter of FY 2021/2022	SAMNA	1/1/2017	11/23/2022	<a href="http://www.dot.ca.gov/env/advancemitigation/">http://www.dot.ca.gov/env/advancemitigation/</a>
15	USFWS Critical Habitat	FWS	10/1/2018	3/24/2021	<a href="https://ecos.fws.gov/ecp/report/table/critical-habitat.html">https://ecos.fws.gov/ecp/report/table/critical-habitat.html</a>
16	Essential Connectivity Areas – CEHC	CDFW	1/1/2014	10/17/2018	<a href="https://map.dfg.ca.gov/metadata/ds0620.html?5.66.18">https://map.dfg.ca.gov/metadata/ds0620.html?5.66.18</a>
17	Natural Landscape Blocks – CEHC	CDFW	10/1/2017	10/17/2018	<a href="https://map.dfg.ca.gov/metadata/ds0621.html?5.66.18">https://map.dfg.ca.gov/metadata/ds0621.html?5.66.18</a>
18	Potential Riparian Connections – CEHC	CDFW	3/1/2010	10/17/2018	<a href="https://map.dfg.ca.gov/metadata/ds0622.html?5.66.18">https://map.dfg.ca.gov/metadata/ds0622.html?5.66.18</a>
19	National Flood Hazard Layer	Federal Emergency Management Agency	6/29/2018	9/25/2019	<a href="https://www.fema.gov/national-flood-hazard-layer-nfhl">https://www.fema.gov/national-flood-hazard-layer-nfhl</a>
20	CalWater Hydrologic Areas	California Department of Forestry and Fire Protection	11/1/2016	10/19/2018	<a href="https://frap.fire.ca.gov/mapping/gis-data/">https://frap.fire.ca.gov/mapping/gis-data/</a>
21	Vernal Pools – ACE [ds2732]	CDFW	2/13/2020	1/29/2021	<a href="https://map.dfg.ca.gov/metadata/ds2732.html?5.94.01">https://map.dfg.ca.gov/metadata/ds2732.html?5.94.01</a>
22	Terrestrial Connectivity – ACE [ds2734]	CDFW	8/28/2019	9/25/2019	<a href="https://map.dfg.ca.gov/metadata/ds2734.html?5.80.28">https://map.dfg.ca.gov/metadata/ds2734.html?5.80.28</a>

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
23	SWAP Terrestrial Targets – 2015	CDFW	2/1/2018	10/29/2018	<a href="https://map.dfg.ca.gov/metadata/ds1966.html?5.66.18">https://map.dfg.ca.gov/metadata/ds1966.html?5.66.18</a>
24	Aquatic Biodiversity Summary – ACE [ds2768]	CDFW	2/22/2018	7/3/2019	<a href="https://map.dfg.ca.gov/metadata/ds2768.html?5.80.28l">https://map.dfg.ca.gov/metadata/ds2768.html?5.80.28l</a>
25	Calfish Passage Assessment Database (“PAD”)	Calfish	10/3/2019	12/15/2019	<a href="https://map.dfg.ca.gov/metadata/ds0069.html?5.84.18vo">https://map.dfg.ca.gov/metadata/ds0069.html?5.84.18vo</a>
26	Terrestrial Biodiversity Summary – ACE [ds2739]	CDFW	2/24/2020	7/3/2019	<a href="https://map.dfg.ca.gov/metadata/ds2739.html?5.80.28l">https://map.dfg.ca.gov/metadata/ds2739.html?5.80.28l</a>
27	Corps Regulatory In-lieu Fee & Bank Information Tracking System	Mitigation Service Banks	Not available	1/28/2019	<a href="https://ribits.usace.army.mil/ribits_apex/f?p=107:2">https://ribits.usace.army.mil/ribits_apex/f?p=107:2</a>
28	CDFW Approved Mitigation Service Areas	Mitigation Service Banks	7/23/2018	1/28/2019	<a href="https://map.dfg.ca.gov/metadata/ds2782.html?5.76.22">https://map.dfg.ca.gov/metadata/ds2782.html?5.76.22</a>
29	National Hydrology Dataset Plus (“NHDPlus”)	EPA	3/13/2019	4/29/2021	<a href="https://www.epa.gov/waterdata/get-nhdplus-national-hydrography-dataset-plus-data">https://www.epa.gov/waterdata/get-nhdplus-national-hydrography-dataset-plus-data</a>
30	Fire Hazard Severity Zones in State Responsibility Area	California Department of Forestry and Fire Protection	11/1/2007	6/1/2022	<a href="https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/">https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/</a>
31	Sierra Nevada Foothill Landscape Blocks [ds1004]	CDFW	6/17/2014	9/12/2022	<a href="https://map.dfg.ca.gov/metadata/DS1004.html">https://map.dfg.ca.gov/metadata/DS1004.html</a>
32	Sierra Nevada Foothill Riparian Corridors [ds1018]	CDFW	6/17/2014	9/12/2022	<a href="https://map.dfg.ca.gov/metadata/DS1018.html">https://map.dfg.ca.gov/metadata/DS1018.html</a>
33	Sierra Nevada Foothill Wildlife Linkages [ds1005]	CDFW	6/9/2014	9/12/2022	<a href="https://map.dfg.ca.gov/metadata/DS1005.html">https://map.dfg.ca.gov/metadata/DS1005.html</a>
34	National Wild and Scenic Rivers	USFS	3/2/2016	8/4/2021	<a href="https://www.rivers.gov/mapping-gis.php">https://www.rivers.gov/mapping-gis.php</a>

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
35	303(d) List of Impaired Waterbodies	SWRCB	2014–2016	4/7/2020	<a href="https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml">https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml</a>
36	Regional Conservation Investment Strategies Draft Boundaries	CDFW	12/22/2021	12/22/2021	<a href="https://wildlife.ca.gov/Conservation/Planning/Regional-Conservation/RCIS">https://wildlife.ca.gov/Conservation/Planning/Regional-Conservation/RCIS</a>
37	ZIP Codes	U.S. Postal Service	2/11/2020	3/11/2020	<a href="https://www.arcgis.com/home/item.html?id=8d2012a2016e484dafaac0451f9aea24">https://www.arcgis.com/home/item.html?id=8d2012a2016e484dafaac0451f9aea24</a>

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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 2021/22 to 2030/31 (Caltrans 2021). 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 21 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. See Table 1 of Caltrans 2021 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 6 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). 2021. *State Highway Operation and Protection Program Ten-Year Project Book Fiscal Years 2021/22–2030/31*. State Highway Operation and Protection Program Fiscal Year 2021/22 (Quarter 2). September. Sacramento, California.

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

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
17663	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada	2021/22	9	Kern	202	R4.7	R5.1	Proactive Safety
19001	Antelope-Fremont Valleys	Sierra Nevada	2028/29	9	Kern	58	R90.5	R100.0	Pavement
19319	Middle San Joaquin-Lower Chowchilla	Sierra Nevada Foothills	2024/25	6	Fresno	168	R8.28	45.8	Drainage
19319	Upper Dry	Sierra Nevada	2024/25	6	Fresno	168	R8.28	45.8	Drainage
19319	Upper King	Sierra Nevada	2024/25	6	Fresno	168	R8.28	45.8	Drainage
19319	Upper San Joaquin	Sierra Nevada	2024/25	6	Fresno	168	R8.28	45.8	Drainage
19319	Upper San Joaquin	Sierra Nevada Foothills	2024/25	6	Fresno	168	R8.28	45.8	Drainage
19330	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2024/25	6	Kern	5	0.73	1.08	Roadside
19331	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2024/25	6	Kern	5	4.4	R10.2	Pavement
19350	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2021/22	6	Kern	178	12.6	55.4	Drainage
19350	South Fork Kern	Sierra Nevada Foothills	2021/22	6	Kern	178	12.6	55.4	Drainage
19372	Upper Kaweah	Sierra Nevada Foothills	2022/23	6	Tulare	198	0	44	Drainage
19372	Upper Tule	Sierra Nevada Foothills	2022/23	6	Tulare	198	0	44	Drainage
19374	Upper Kaweah	Sierra Nevada Foothills	2024/25	6	Tulare	245	0	33	Drainage



ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
19547	Upper Tule	Sierra Nevada	2027/28	6	Tulare	190	32.2	52.8	Pavement
19547	Upper Tule	Sierra Nevada Foothills	2027/28	6	Tulare	190	32.2	52.8	Pavement
20339	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada	2024/25	9	Kern	58	77.2	R88.56	Pavement
20339	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2024/25	9	Kern	58	77.2	R88.56	Pavement
20357	Crowley Lake	Sierra Nevada	2027/28	9	Mono	203	L0.0	R8.671	Pavement
20430	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada	2029/30	9	Kern	202	R1.476	12.093	Pavement
21915	Tulare Lake Bed	Sierra Nevada Foothills	2023/24	6	Fresno	180	89.6	90.7	Reactive Safety
22143	Tulare Lake Bed	Sierra Nevada	2025/26	6	Fresno	5	36.96	63.68	Drainage
22143	Tulare Lake Bed	Sierra Nevada	2025/26	6	Fresno	33	2.75	75.16	Drainage
22143	Tulare Lake Bed	Sierra Nevada	2025/26	6	Fresno	41	R1.7	R33.201	Drainage
22143	Tulare Lake Bed	Sierra Nevada	2025/26	6	Fresno	63	0.14	7.12	Drainage
22143	Tulare Lake Bed	Sierra Nevada	2025/26	6	Fresno	168	R4.8	62.25	Drainage
22143	Tulare Lake Bed	Sierra Nevada	2025/26	6	Fresno	180	24.78	137.94	Drainage
22143	Tulare Lake Bed	Sierra Nevada	2025/26	6	Fresno	198	0.88	22.47	Drainage
22143	Tulare Lake Bed	Sierra Nevada	2025/26	6	Fresno	245	0.32	7.75	Drainage
22143	Tulare Lake Bed	Sierra Nevada	2025/26	6	Fresno	269	19.39	19.4	Drainage
22143	Tulare Lake Bed	Sierra Nevada Foothills	2025/26	6	Fresno	5	36.96	63.68	Drainage
22143	Tulare Lake Bed	Sierra Nevada Foothills	2025/26	6	Fresno	33	2.75	75.16	Drainage

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
22143	Tulare Lake Bed	Sierra Nevada Foothills	2025/26	6	Fresno	41	R1.7	R33.201	Drainage
22143	Tulare Lake Bed	Sierra Nevada Foothills	2025/26	6	Fresno	63	0.14	7.12	Drainage
22143	Tulare Lake Bed	Sierra Nevada Foothills	2025/26	6	Fresno	168	R4.8	62.25	Drainage
22143	Tulare Lake Bed	Sierra Nevada Foothills	2025/26	6	Fresno	180	24.78	137.94	Drainage
22143	Tulare Lake Bed	Sierra Nevada Foothills	2025/26	6	Fresno	198	0.88	22.47	Drainage
22143	Tulare Lake Bed	Sierra Nevada Foothills	2025/26	6	Fresno	245	0.32	7.75	Drainage
22143	Tulare Lake Bed	Sierra Nevada Foothills	2025/26	6	Fresno	269	19.39	19.4	Drainage
22143	Upper Dry	Sierra Nevada Foothills	2025/26	6	Fresno	5	36.96	63.68	Drainage
22143	Upper Dry	Sierra Nevada Foothills	2025/26	6	Fresno	33	2.75	75.16	Drainage
22143	Upper Dry	Sierra Nevada Foothills	2025/26	6	Fresno	41	R1.7	R33.201	Drainage
22143	Upper Dry	Sierra Nevada Foothills	2025/26	6	Fresno	63	0.14	7.12	Drainage
22143	Upper Dry	Sierra Nevada Foothills	2025/26	6	Fresno	168	R4.8	62.25	Drainage
22143	Upper Dry	Sierra Nevada Foothills	2025/26	6	Fresno	180	24.78	137.94	Drainage
22143	Upper Dry	Sierra Nevada Foothills	2025/26	6	Fresno	198	0.88	22.47	Drainage

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
22143	Upper Dry	Sierra Nevada Foothills	2025/26	6	Fresno	245	0.32	7.75	Drainage
22143	Upper Dry	Sierra Nevada Foothills	2025/26	6	Fresno	269	19.39	19.4	Drainage
22143	Upper Kaweah	Sierra Nevada Foothills	2025/26	6	Fresno	5	36.96	63.68	Drainage
22143	Upper Kaweah	Sierra Nevada Foothills	2025/26	6	Fresno	33	2.75	75.16	Drainage
22143	Upper Kaweah	Sierra Nevada Foothills	2025/26	6	Fresno	41	R1.7	R33.201	Drainage
22143	Upper Kaweah	Sierra Nevada Foothills	2025/26	6	Fresno	63	0.14	7.12	Drainage
22143	Upper Kaweah	Sierra Nevada Foothills	2025/26	6	Fresno	168	R4.8	62.25	Drainage
22143	Upper Kaweah	Sierra Nevada Foothills	2025/26	6	Fresno	180	24.78	137.94	Drainage
22143	Upper Kaweah	Sierra Nevada Foothills	2025/26	6	Fresno	198	0.88	22.47	Drainage
22143	Upper Kaweah	Sierra Nevada Foothills	2025/26	6	Fresno	245	0.32	7.75	Drainage
22143	Upper Kaweah	Sierra Nevada Foothills	2025/26	6	Fresno	269	19.39	19.4	Drainage
22143	Upper King	Sierra Nevada	2025/26	6	Fresno	5	36.96	63.68	Drainage
22143	Upper King	Sierra Nevada	2025/26	6	Fresno	33	2.75	75.16	Drainage
22143	Upper King	Sierra Nevada	2025/26	6	Fresno	41	R1.7	R33.201	Drainage
22143	Upper King	Sierra Nevada	2025/26	6	Fresno	63	0.14	7.12	Drainage

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
22143	Upper King	Sierra Nevada	2025/26	6	Fresno	168	R4.8	62.25	Drainage
22143	Upper King	Sierra Nevada	2025/26	6	Fresno	180	24.78	137.94	Drainage
22143	Upper King	Sierra Nevada	2025/26	6	Fresno	198	0.88	22.47	Drainage
22143	Upper King	Sierra Nevada	2025/26	6	Fresno	245	0.32	7.75	Drainage
22143	Upper King	Sierra Nevada	2025/26	6	Fresno	269	19.39	19.4	Drainage
22143	Upper San Joaquin	Sierra Nevada	2025/26	6	Fresno	5	36.96	63.68	Drainage
22143	Upper San Joaquin	Sierra Nevada	2025/26	6	Fresno	33	2.75	75.16	Drainage
22143	Upper San Joaquin	Sierra Nevada Foothills	2025/26	6	Fresno	41	R1.7	R33.201	Drainage
22143	Upper San Joaquin	Sierra Nevada Foothills	2025/26	6	Fresno	63	0.14	7.12	Drainage
22143	Upper San Joaquin	Sierra Nevada Foothills	2025/26	6	Fresno	168	R4.8	62.25	Drainage
22143	Upper San Joaquin	Sierra Nevada Foothills	2025/26	6	Fresno	180	24.78	137.94	Drainage
22143	Upper San Joaquin	Sierra Nevada Foothills	2025/26	6	Fresno	198	0.88	22.47	Drainage
22143	Upper San Joaquin	Sierra Nevada Foothills	2025/26	6	Fresno	245	0.32	7.75	Drainage
22143	Upper San Joaquin	Sierra Nevada Foothills	2025/26	6	Fresno	269	19.39	19.4	Drainage
22146	Fresno River	Sierra Nevada	2028/29	6	Madera	41	R0.87	45.55	Drainage
22146	Fresno River	Sierra Nevada	2028/29	6	Madera	49	0.5	5.68	Drainage
22146	Fresno River	Sierra Nevada	2028/29	6	Madera	99	0.11	5.46	Drainage

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
22146	Fresno River	Sierra Nevada Foothills	2028/29	6	Madera	41	R0.87	45.55	Drainage
22146	Fresno River	Sierra Nevada Foothills	2028/29	6	Madera	49	0.5	5.68	Drainage
22146	Fresno River	Sierra Nevada Foothills	2028/29	6	Madera	99	0.11	5.46	Drainage
22146	Middle San Joaquin-Lower Chowchilla	Sierra Nevada Foothills	2028/29	6	Madera	41	R0.87	45.55	Drainage
22146	Middle San Joaquin-Lower Chowchilla	Sierra Nevada Foothills	2028/29	6	Madera	49	0.5	5.68	Drainage
22146	Middle San Joaquin-Lower Chowchilla	Sierra Nevada Foothills	2028/29	6	Madera	99	0.11	5.46	Drainage
22147	Upper Kaweah	Sierra Nevada Foothills	2028/29	6	Tulare	65	0.17	30.92	Drainage
22147	Upper Kaweah	Sierra Nevada Foothills	2028/29	6	Tulare	99	4.75	51.09	Drainage
22147	Upper Kaweah	Sierra Nevada Foothills	2028/29	6	Tulare	190	R15.42	56.12	Drainage
22147	Upper Kaweah	Sierra Nevada Foothills	2028/29	6	Tulare	198	R3.11	43.88	Drainage
22147	Upper Kaweah	Sierra Nevada Foothills	2028/29	6	Tulare	245	3.53	32.66	Drainage
22147	Upper Tule	Sierra Nevada	2028/29	6	Tulare	65	0.17	30.92	Drainage
22147	Upper Tule	Sierra Nevada	2028/29	6	Tulare	99	4.75	51.09	Drainage
22147	Upper Tule	Sierra Nevada	2028/29	6	Tulare	190	R15.42	56.12	Drainage
22147	Upper Tule	Sierra Nevada	2028/29	6	Tulare	198	R3.11	43.88	Drainage

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
22147	Upper Tule	Sierra Nevada	2028/29	6	Tulare	245	3.53	32.66	Drainage
22147	Upper Tule	Sierra Nevada Foothills	2028/29	6	Tulare	65	0.17	30.92	Drainage
22147	Upper Tule	Sierra Nevada Foothills	2028/29	6	Tulare	99	4.75	51.09	Drainage
22147	Upper Tule	Sierra Nevada Foothills	2028/29	6	Tulare	190	R15.42	56.12	Drainage
22147	Upper Tule	Sierra Nevada Foothills	2028/29	6	Tulare	198	R3.11	43.88	Drainage
22147	Upper Tule	Sierra Nevada Foothills	2028/29	6	Tulare	245	3.53	32.66	Drainage
22174	Upper Poso	Sierra Nevada Foothills	2028/29	6	Fresno	145	17.18	17.19	Bridge
22174	Upper Poso	Sierra Nevada Foothills	2028/29	6	Kern	155	38.79	38.8	Bridge
22174	Upper Poso	Sierra Nevada Foothills	2028/29	6	Fresno	198	4.34	4.35	Bridge
22573	Middle San Joaquin-Lower Chowchilla	Sierra Nevada Foothills	2023/24	6	Madera	145	17.5	25.4	Reactive Safety
22902	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2030/31	6	Madera	99	9.74	9.74	Bridge
22950	Tulare Lake Bed	Sierra Nevada	2028/29	6	Fresno	41	R11.1	R33.11	Drainage
22950	Tulare Lake Bed	Sierra Nevada	2028/29	6	Fresno	145	13.33	34.9	Drainage
22950	Tulare Lake Bed	Sierra Nevada	2028/29	6	Madera	145	R0.39	16.58	Drainage
22950	Tulare Lake Bed	Sierra Nevada	2028/29	6	Fresno	245	0.04	8.9	Drainage

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
22950	Tulare Lake Bed	Sierra Nevada Foothills	2028/29	6	Fresno	41	R11.1	R33.11	Drainage
22950	Tulare Lake Bed	Sierra Nevada Foothills	2028/29	6	Fresno	145	13.33	34.9	Drainage
22950	Tulare Lake Bed	Sierra Nevada Foothills	2028/29	6	Madera	145	R0.39	16.58	Drainage
22950	Tulare Lake Bed	Sierra Nevada Foothills	2028/29	6	Fresno	245	0.04	8.9	Drainage
22950	Upper Kaweah	Sierra Nevada Foothills	2028/29	6	Fresno	41	R11.1	R33.11	Drainage
22950	Upper Kaweah	Sierra Nevada Foothills	2028/29	6	Fresno	145	13.33	34.9	Drainage
22950	Upper Kaweah	Sierra Nevada Foothills	2028/29	6	Madera	145	R0.39	16.58	Drainage
22950	Upper Kaweah	Sierra Nevada Foothills	2028/29	6	Fresno	245	0.04	8.9	Drainage
23197	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2030/31	6	Kern	33	0	16.24	Drainage
23197	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2030/31	6	Kern	43	2.81	38.41	Drainage
23197	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2030/31	6	Kern	119	0	27.35	Drainage
23197	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2030/31	6	Kern	155	0.1	70.19	Drainage
23197	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2030/31	6	Kern	166	9.3	24.62	Drainage
23197	Middle Kern-Upper Tehachapi-Grapevine	Sierra Nevada Foothills	2030/31	6	Kern	178	8.92	48.71	Drainage

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
23197	South Fork Kern	Sierra Nevada Foothills	2030/31	6	Kern	33	0	16.24	Drainage
23197	South Fork Kern	Sierra Nevada Foothills	2030/31	6	Kern	43	2.81	38.41	Drainage
23197	South Fork Kern	Sierra Nevada Foothills	2030/31	6	Kern	119	0	27.35	Drainage
23197	South Fork Kern	Sierra Nevada Foothills	2030/31	6	Kern	155	0.1	70.19	Drainage
23197	South Fork Kern	Sierra Nevada Foothills	2030/31	6	Kern	166	9.3	24.62	Drainage
23197	South Fork Kern	Sierra Nevada Foothills	2030/31	6	Kern	178	8.92	48.71	Drainage
23197	Upper Deer-Upper White	Sierra Nevada Foothills	2030/31	6	Kern	33	0	16.24	Drainage
23197	Upper Deer-Upper White	Sierra Nevada Foothills	2030/31	6	Kern	43	2.81	38.41	Drainage
23197	Upper Deer-Upper White	Sierra Nevada Foothills	2030/31	6	Kern	119	0	27.35	Drainage
23197	Upper Deer-Upper White	Sierra Nevada Foothills	2030/31	6	Kern	155	0.1	70.19	Drainage
23197	Upper Deer-Upper White	Sierra Nevada Foothills	2030/31	6	Kern	166	9.3	24.62	Drainage
23197	Upper Deer-Upper White	Sierra Nevada Foothills	2030/31	6	Kern	178	8.92	48.71	Drainage
23197	Upper Kern	Sierra Nevada	2030/31	6	Kern	33	0	16.24	Drainage
23197	Upper Kern	Sierra Nevada	2030/31	6	Kern	43	2.81	38.41	Drainage
23197	Upper Kern	Sierra Nevada	2030/31	6	Kern	119	0	27.35	Drainage



ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
23197	Upper Kern	Sierra Nevada	2030/31	6	Kern	155	0.1	70.19	Drainage
23197	Upper Kern	Sierra Nevada	2030/31	6	Kern	166	9.3	24.62	Drainage
23197	Upper Kern	Sierra Nevada	2030/31	6	Kern	178	8.92	48.71	Drainage
23197	Upper Kern	Sierra Nevada Foothills	2030/31	6	Kern	33	0	16.24	Drainage
23197	Upper Kern	Sierra Nevada Foothills	2030/31	6	Kern	43	2.81	38.41	Drainage
23197	Upper Kern	Sierra Nevada Foothills	2030/31	6	Kern	119	0	27.35	Drainage
23197	Upper Kern	Sierra Nevada Foothills	2030/31	6	Kern	155	0.1	70.19	Drainage
23197	Upper Kern	Sierra Nevada Foothills	2030/31	6	Kern	166	9.3	24.62	Drainage
23197	Upper Kern	Sierra Nevada Foothills	2030/31	6	Kern	178	8.92	48.71	Drainage
23197	Upper Poso	Sierra Nevada	2030/31	6	Kern	33	0	16.24	Drainage
23197	Upper Poso	Sierra Nevada	2030/31	6	Kern	43	2.81	38.41	Drainage
23197	Upper Poso	Sierra Nevada	2030/31	6	Kern	119	0	27.35	Drainage
23197	Upper Poso	Sierra Nevada	2030/31	6	Kern	155	0.1	70.19	Drainage
23197	Upper Poso	Sierra Nevada	2030/31	6	Kern	166	9.3	24.62	Drainage
23197	Upper Poso	Sierra Nevada	2030/31	6	Kern	178	8.92	48.71	Drainage
23197	Upper Poso	Sierra Nevada Foothills	2030/31	6	Kern	33	0	16.24	Drainage
23197	Upper Poso	Sierra Nevada Foothills	2030/31	6	Kern	43	2.81	38.41	Drainage

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route	Begin Mile	End Mile	Activity
23197	Upper Poso	Sierra Nevada Foothills	2030/31	6	Kern	119	0	27.35	Drainage
23197	Upper Poso	Sierra Nevada Foothills	2030/31	6	Kern	155	0.1	70.19	Drainage
23197	Upper Poso	Sierra Nevada Foothills	2030/31	6	Kern	166	9.3	24.62	Drainage
23197	Upper Poso	Sierra Nevada Foothills	2030/31	6	Kern	178	8.92	48.71	Drainage

Source: Caltrans 2021  
Notes: L = left, R = right

## 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 2021, 2023). 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 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 63 maps correspond with the aquatic resources maps in Appendix G.

**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, coastal oak woodland, desert riparian, eastside pine, eucalyptus, Jeffrey pine, Joshua tree, lodgepole pine, montane hardwood, montane hardwood-conifer, 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-scrub, bitterbrush, chamise-redshank chaparral, coastal scrub, desert scrub, desert wash, 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.

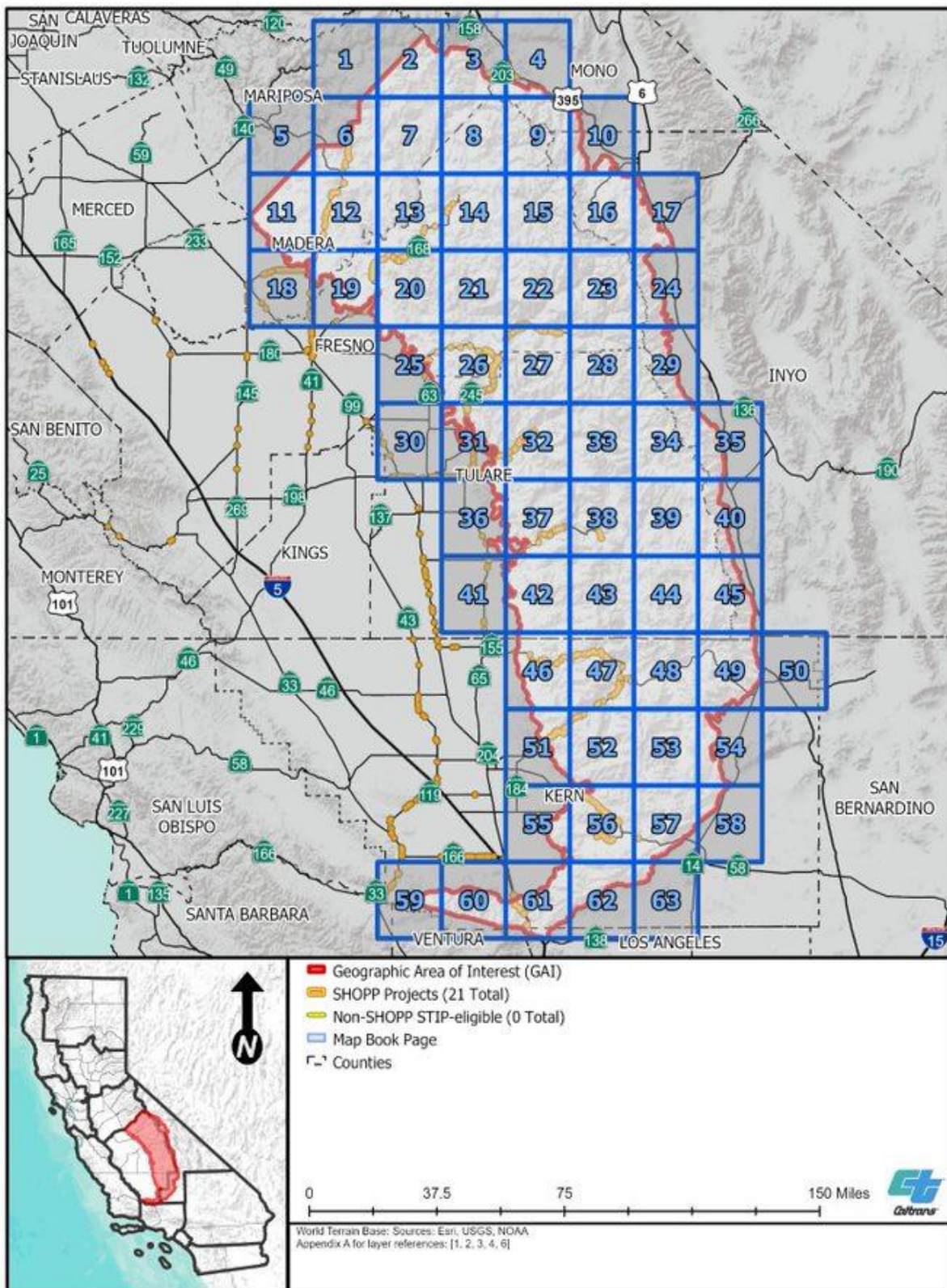
**Aquatic Habitats:** Aquatic habitats have at least 98 percent total cover by open water and no more than 2 percent total cover by vegetation in the continually exposed shore zone. In the GAI, aquatic habitats include lacustrine and riverine.

**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, irrigated hayfield, irrigated row and field crops, and urban.

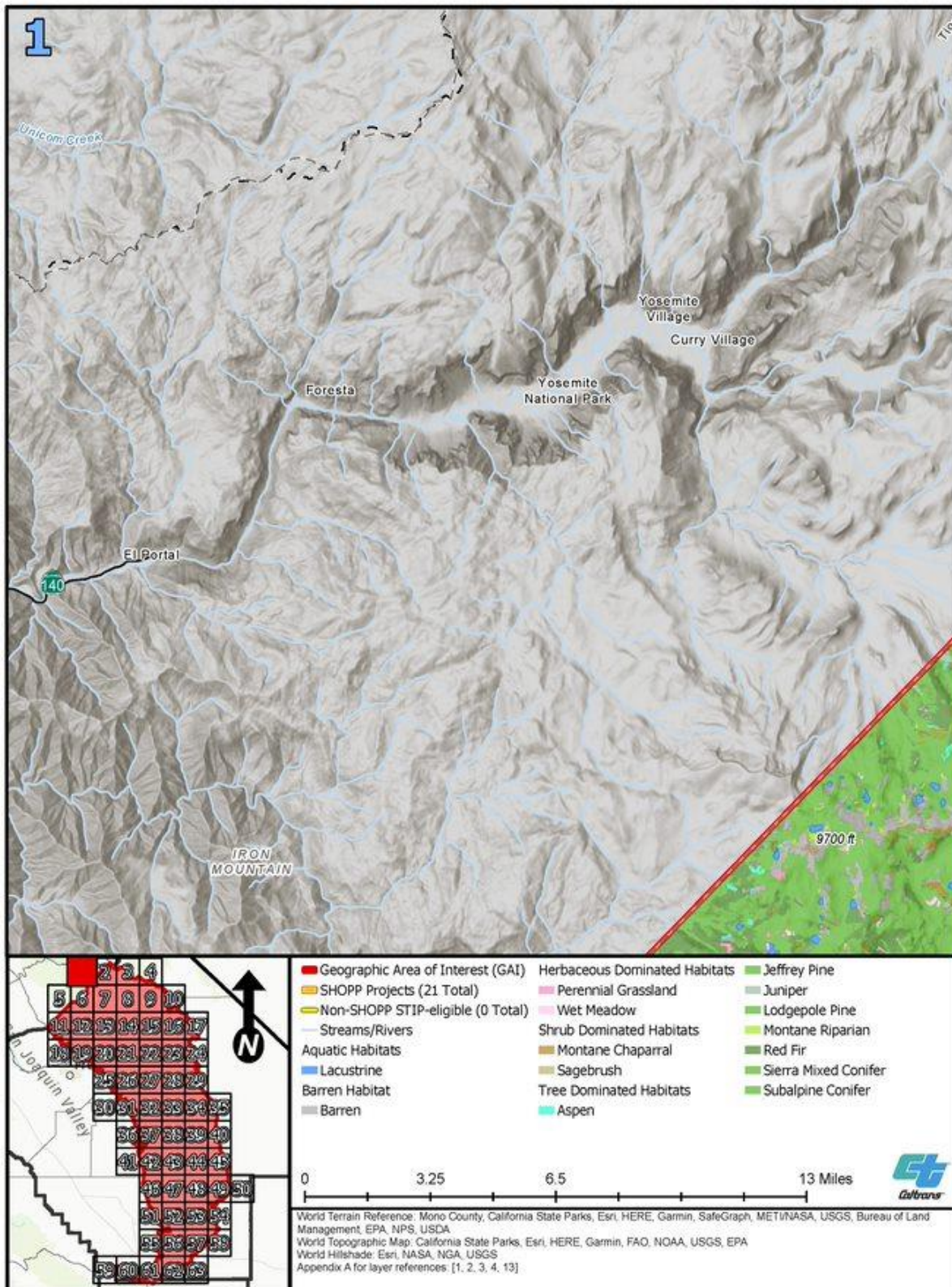
**Non-vegetated Habitats:** Non-vegetated habitats include barren areas, characterized by less than 2 percent cover by herbaceous species. In the GAI, non-vegetated habitats consist of barren areas.

## References

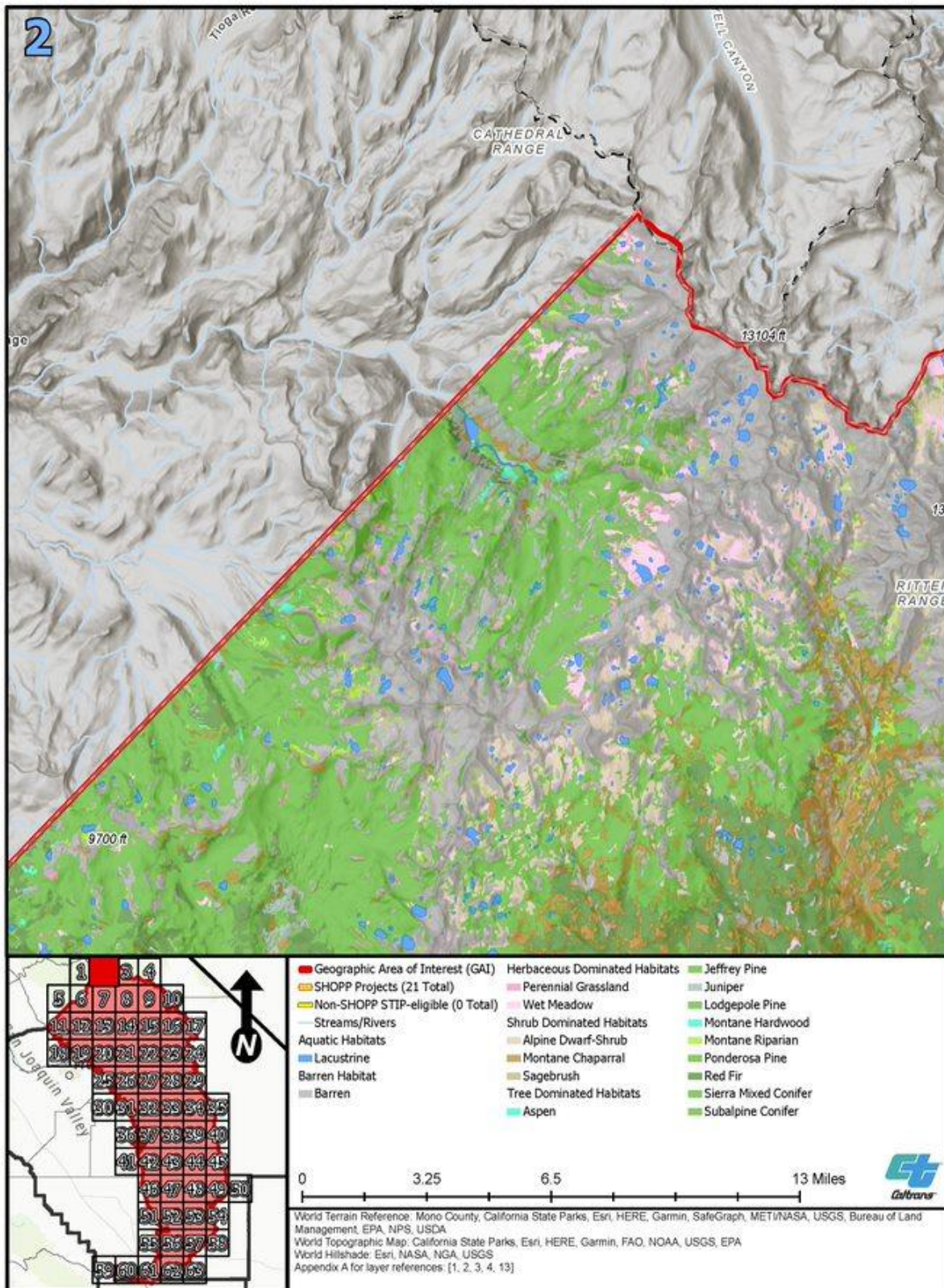
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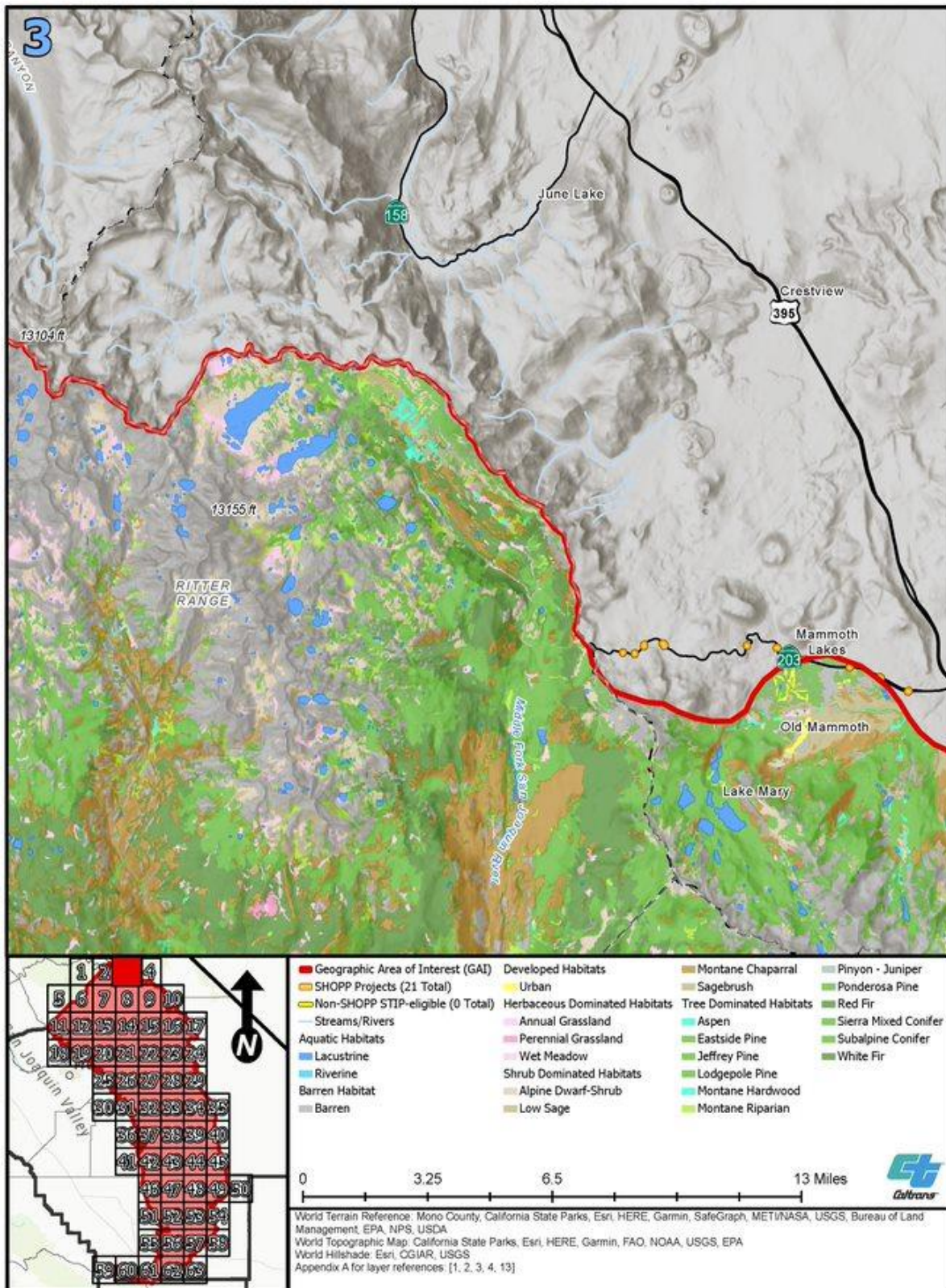




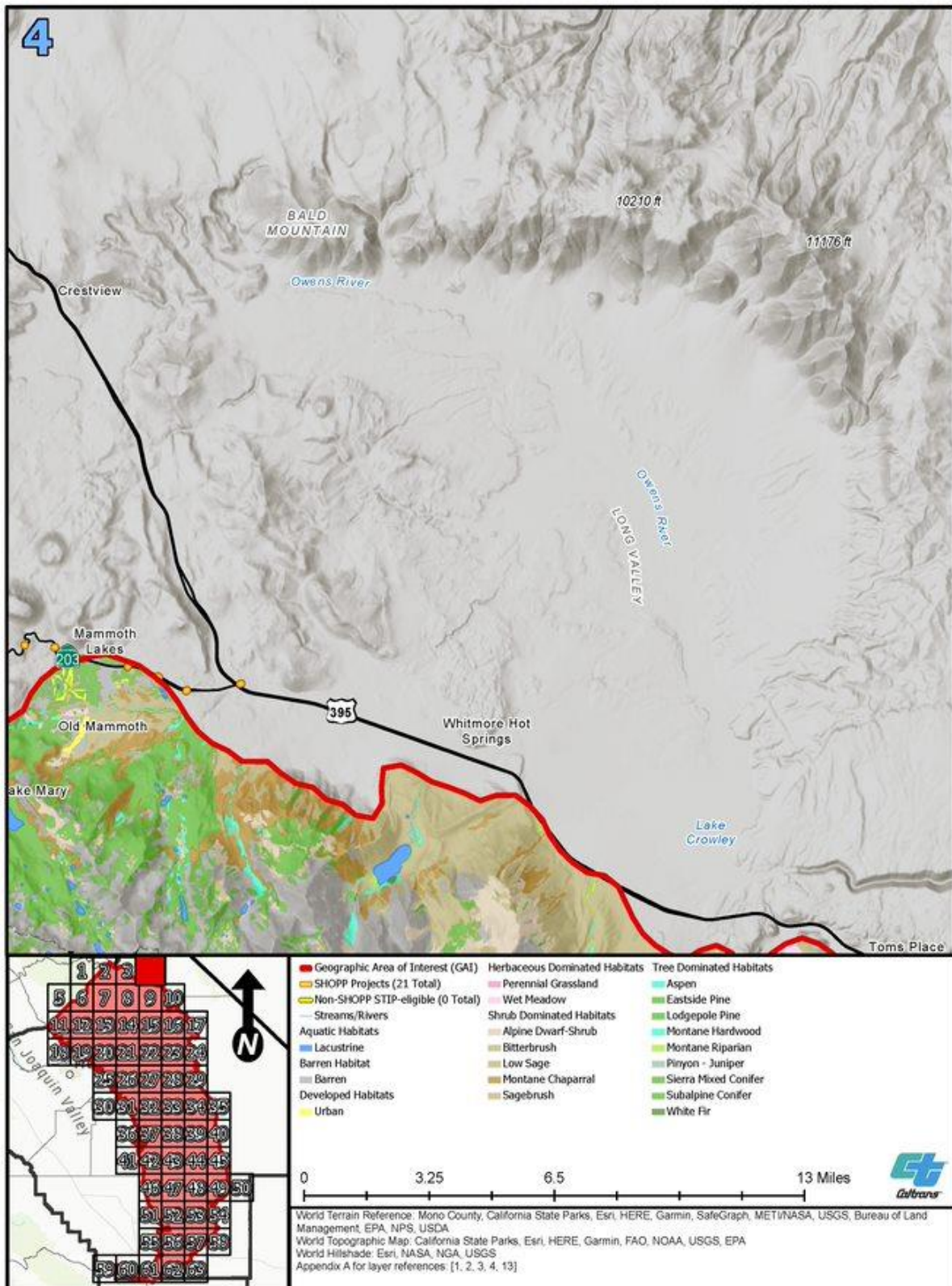


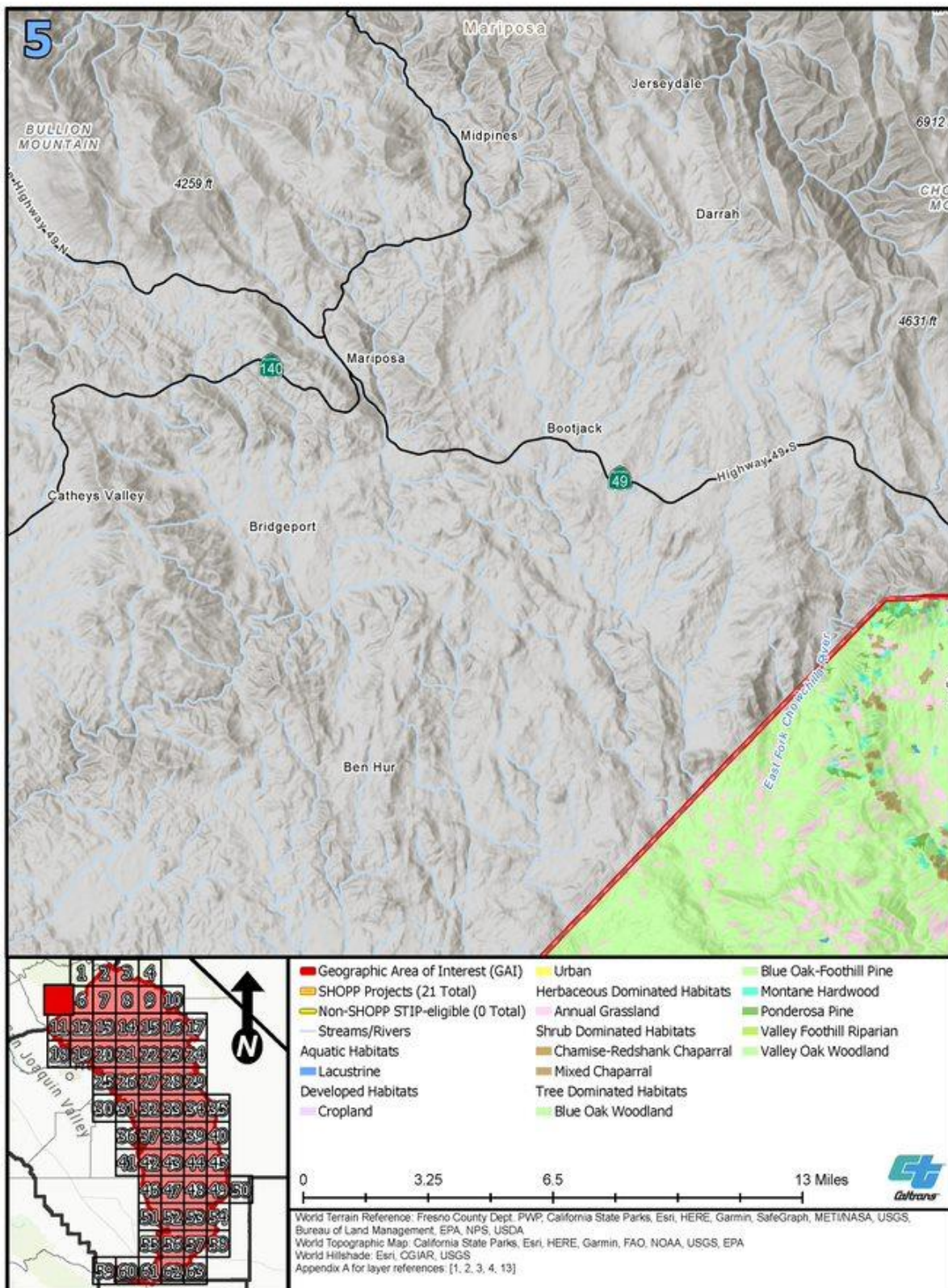




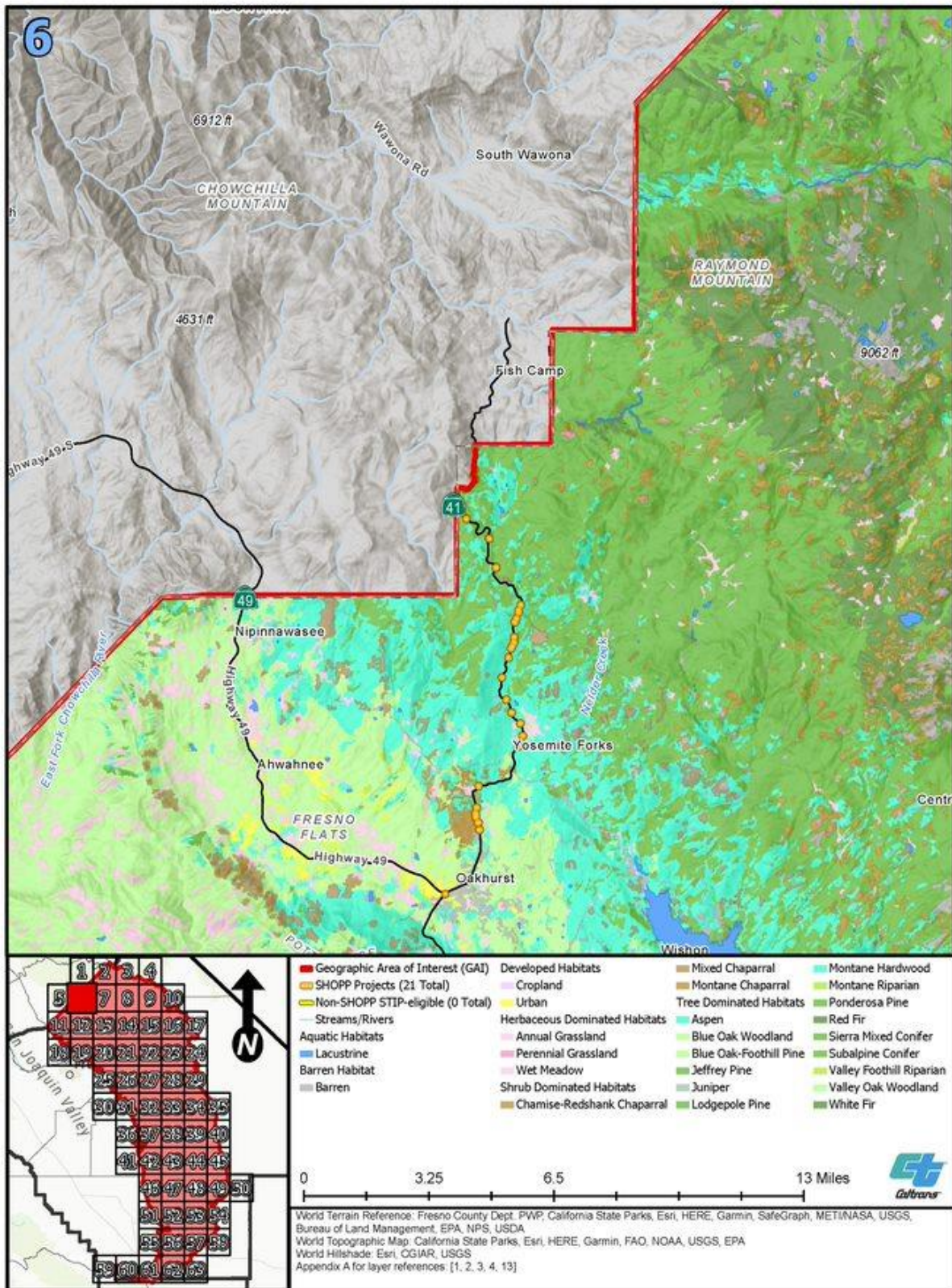




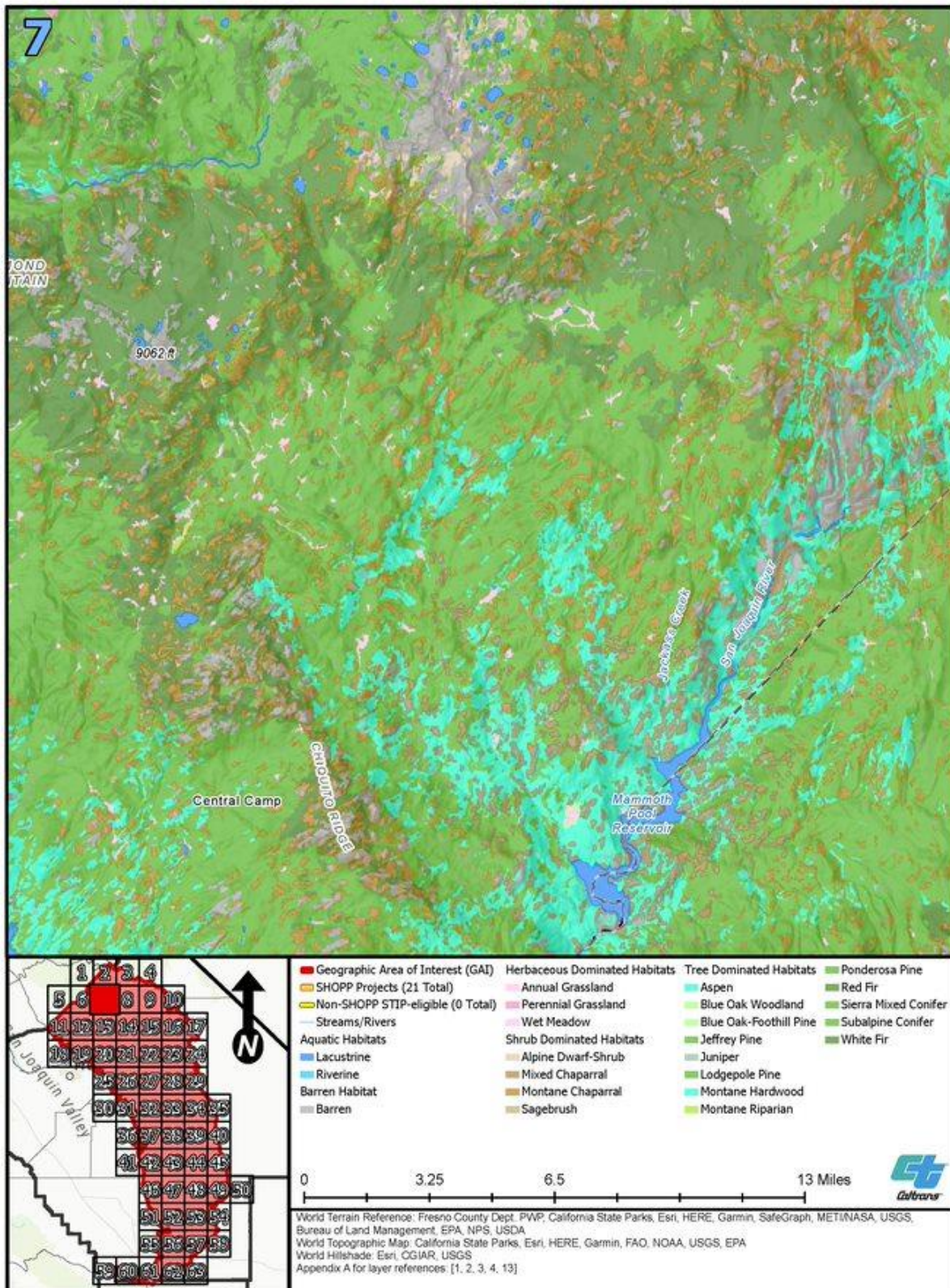




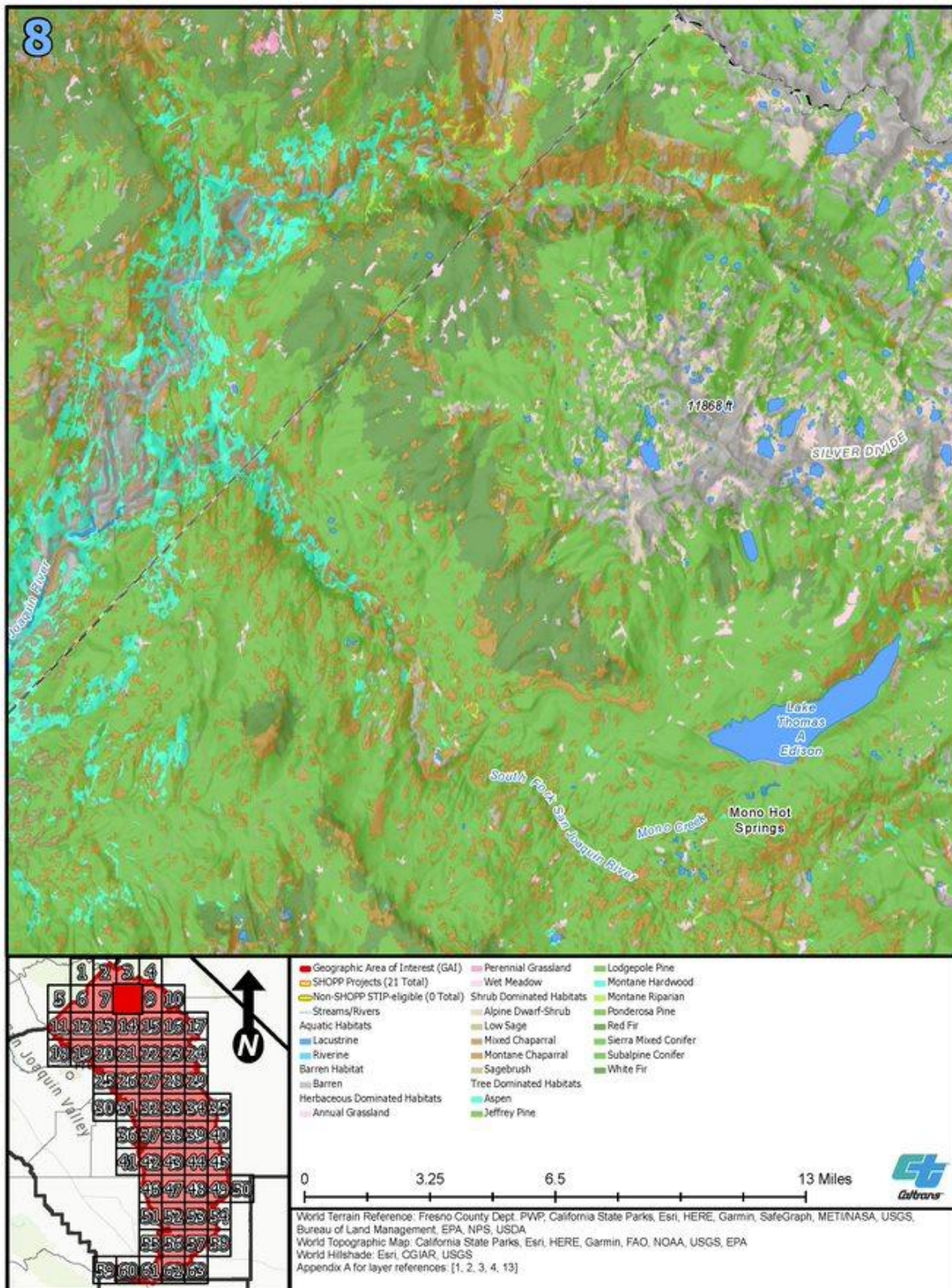




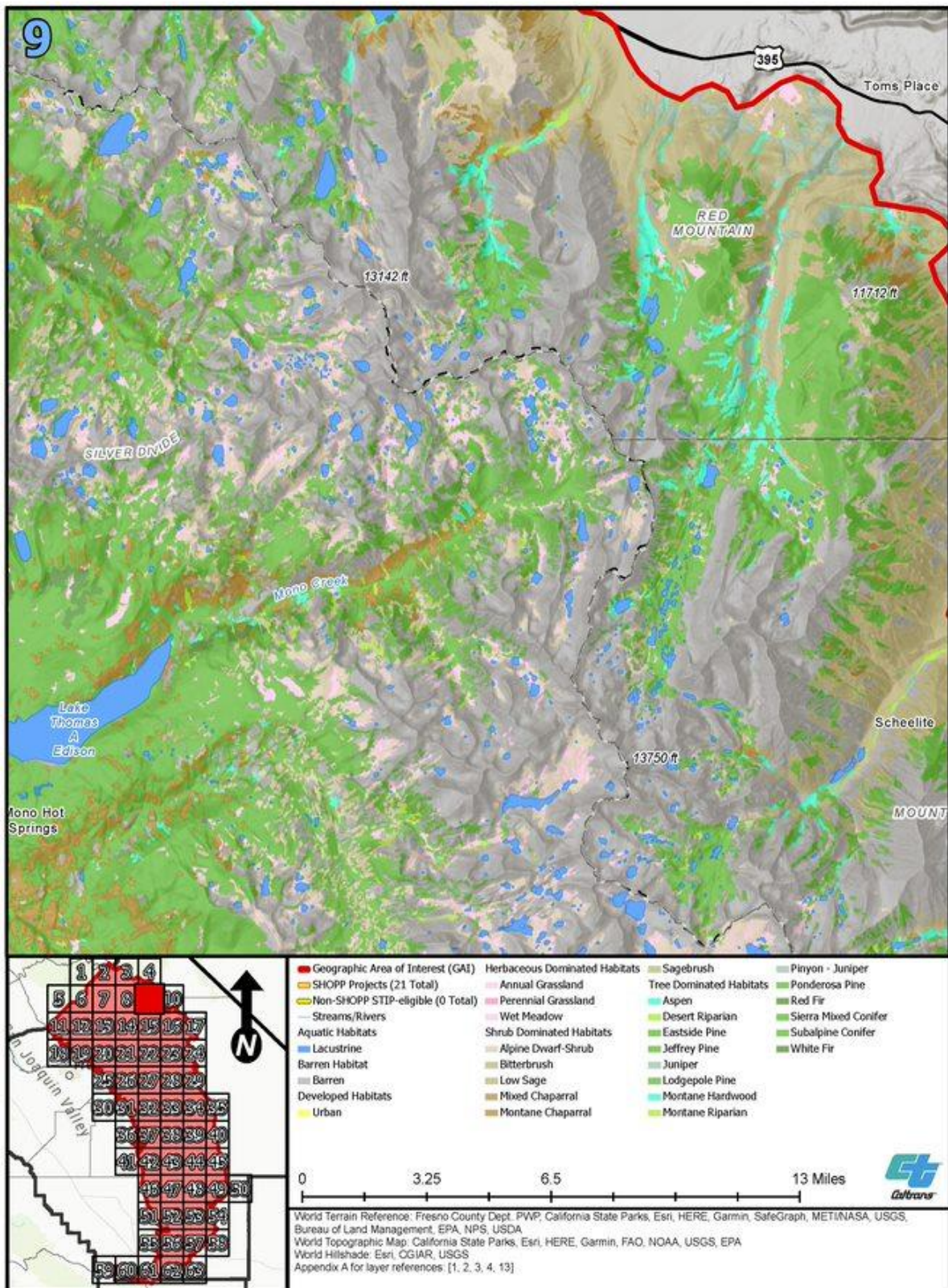




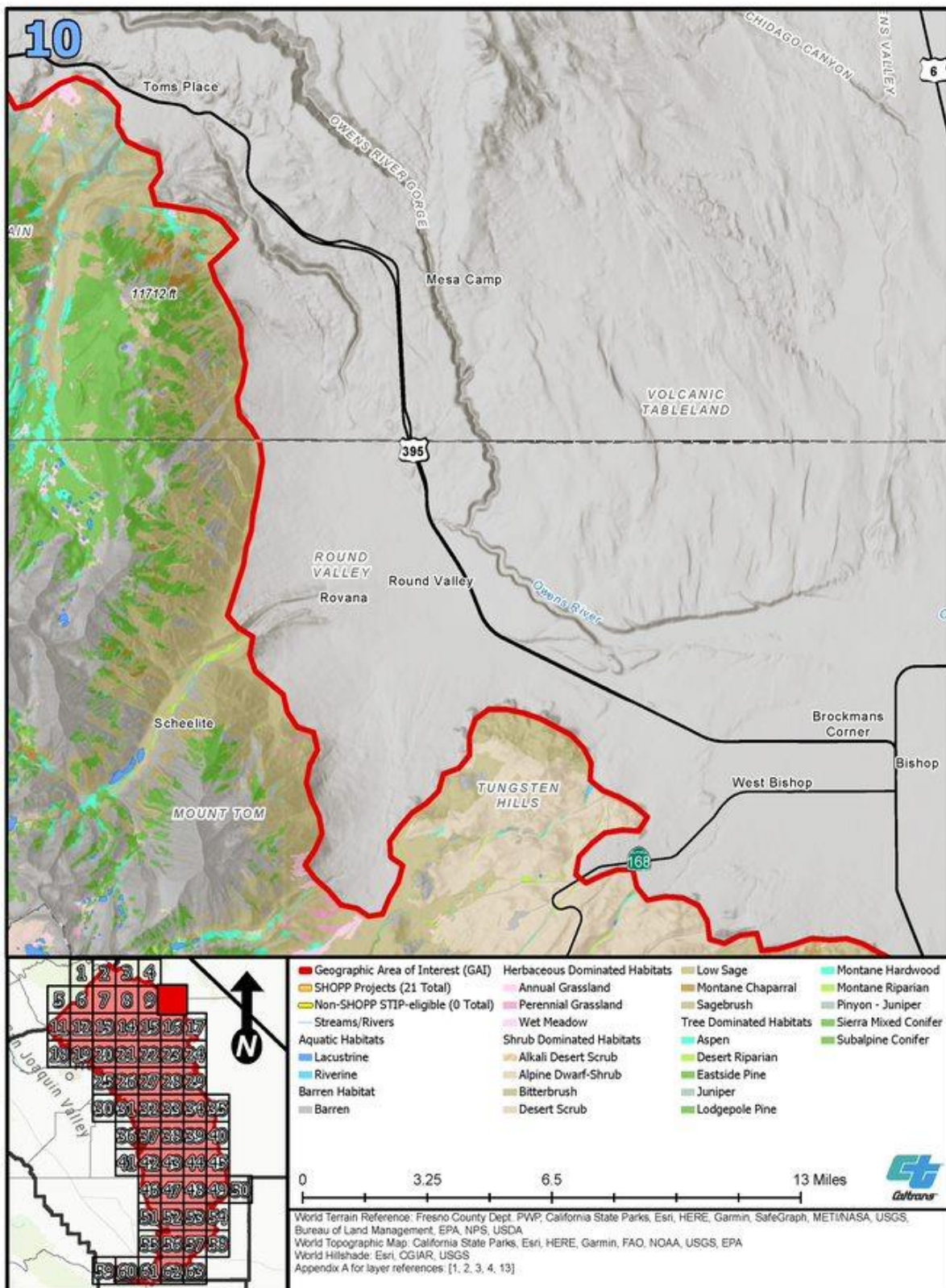


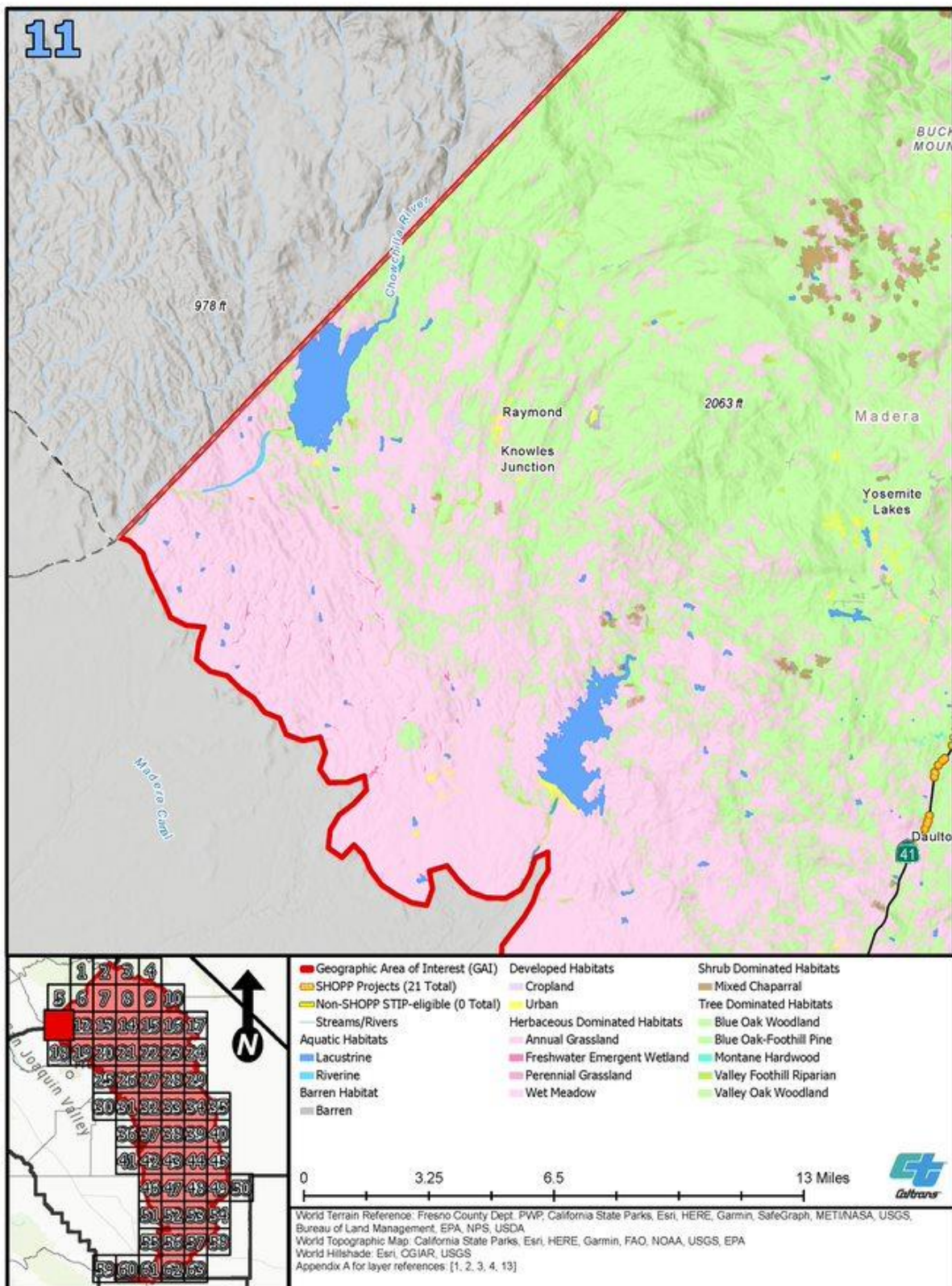




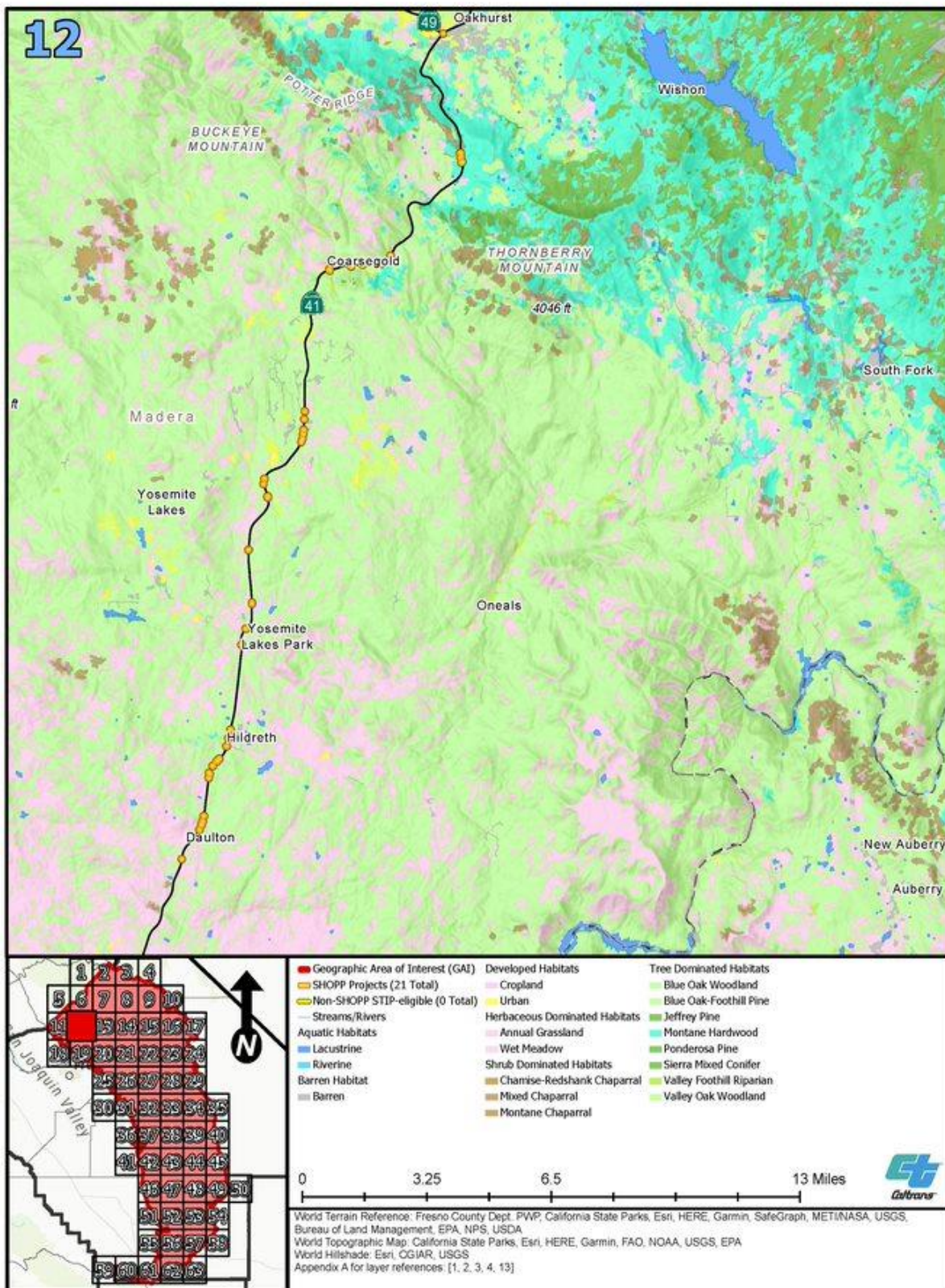




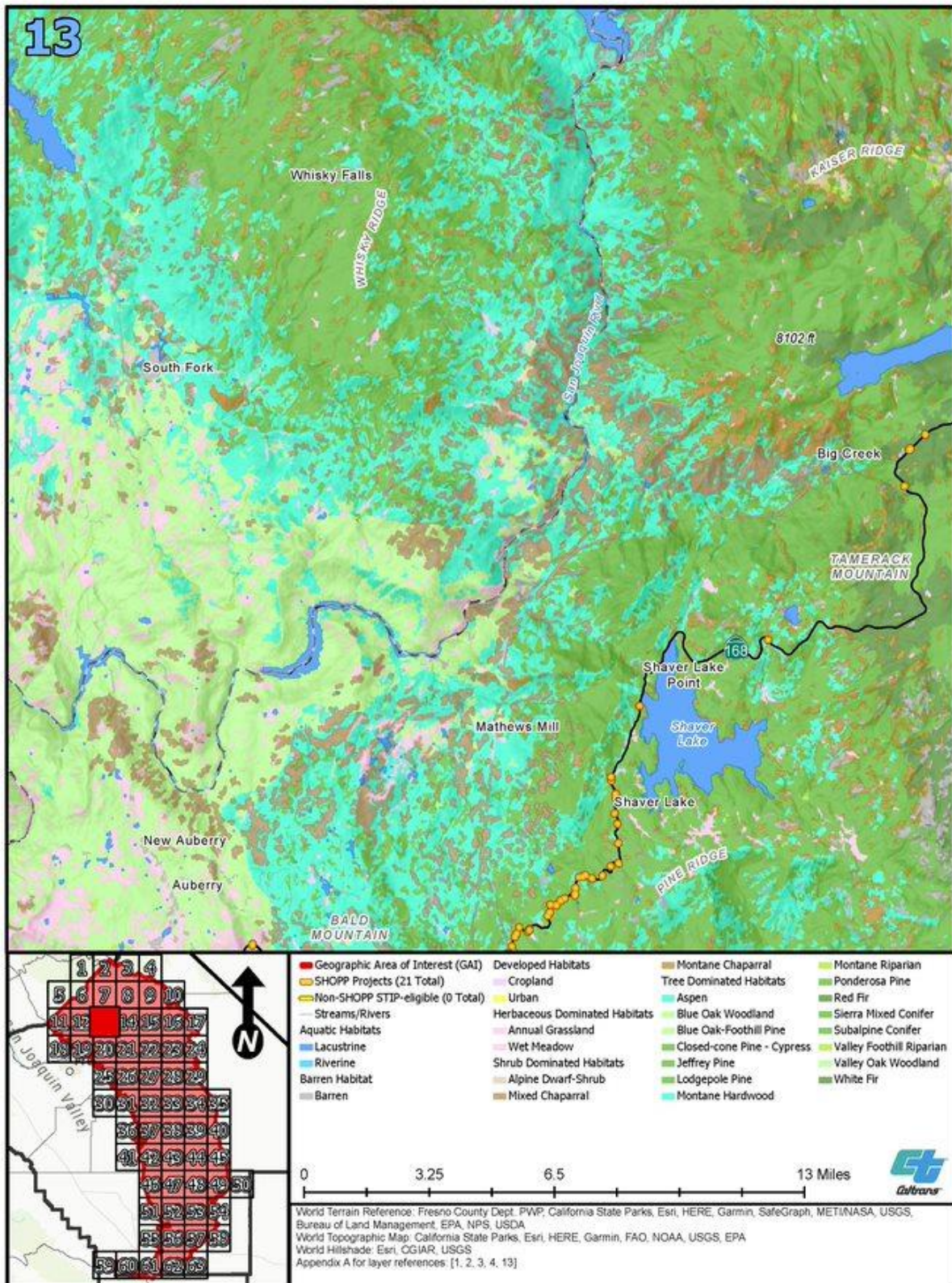




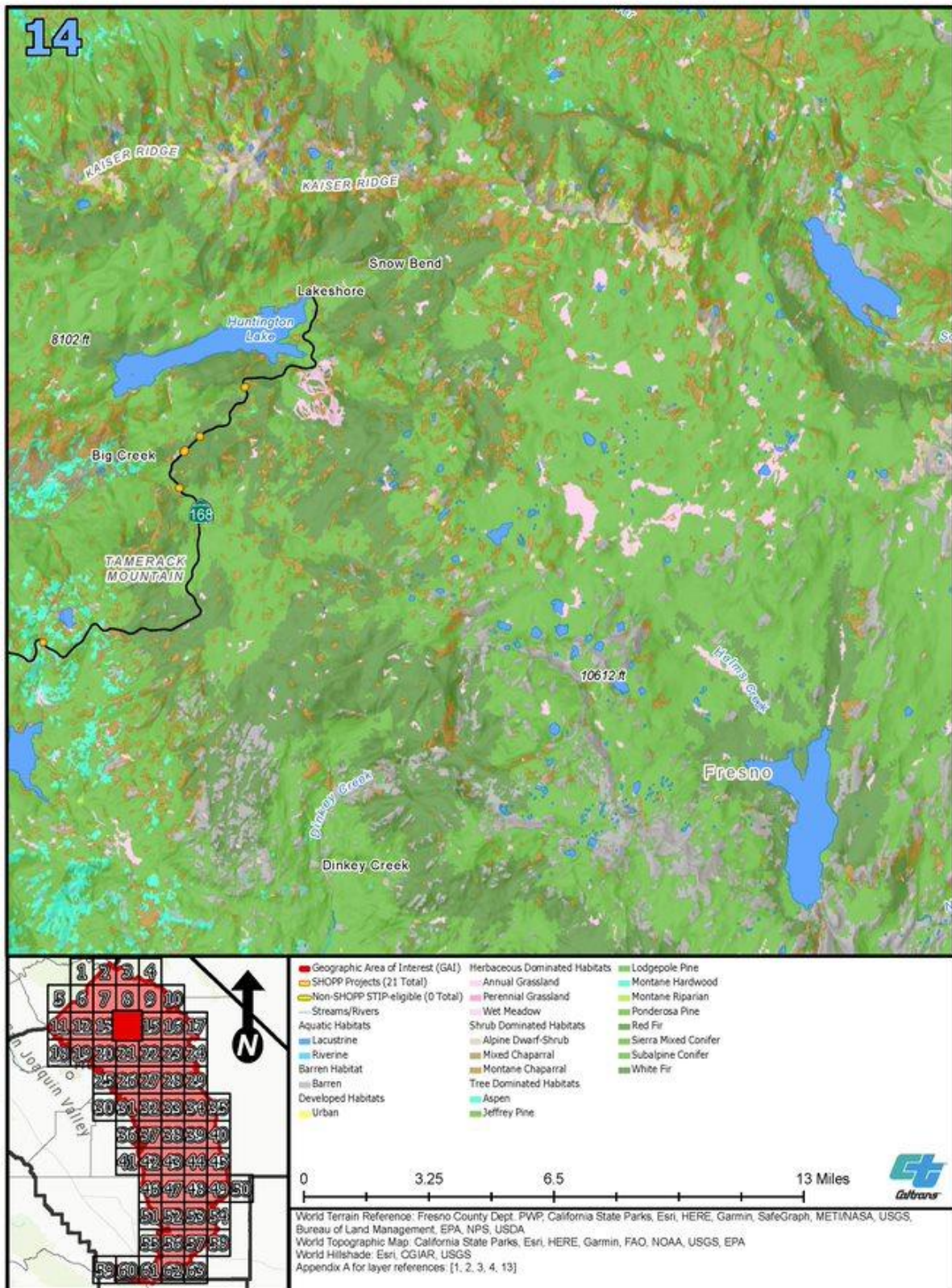




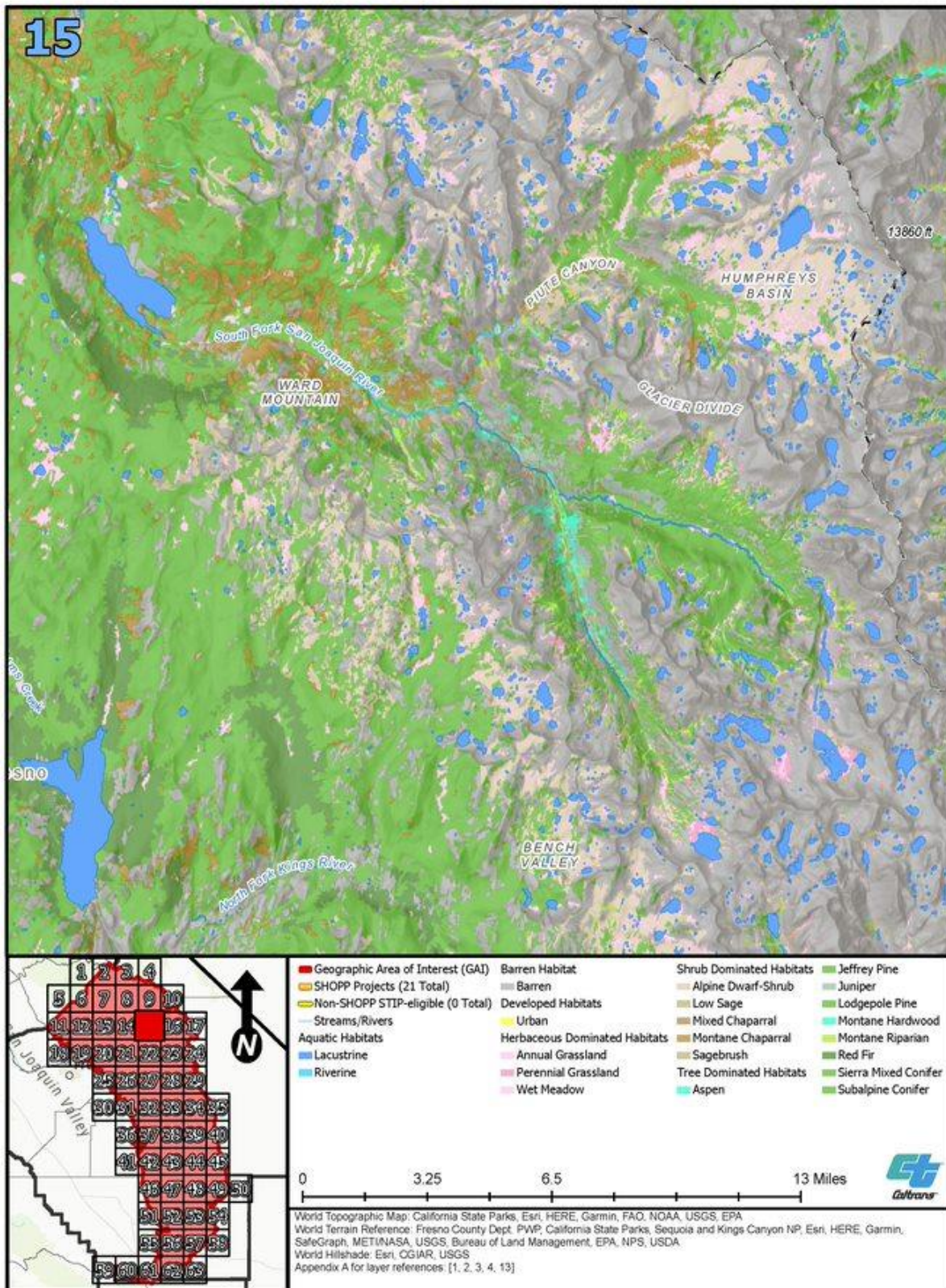




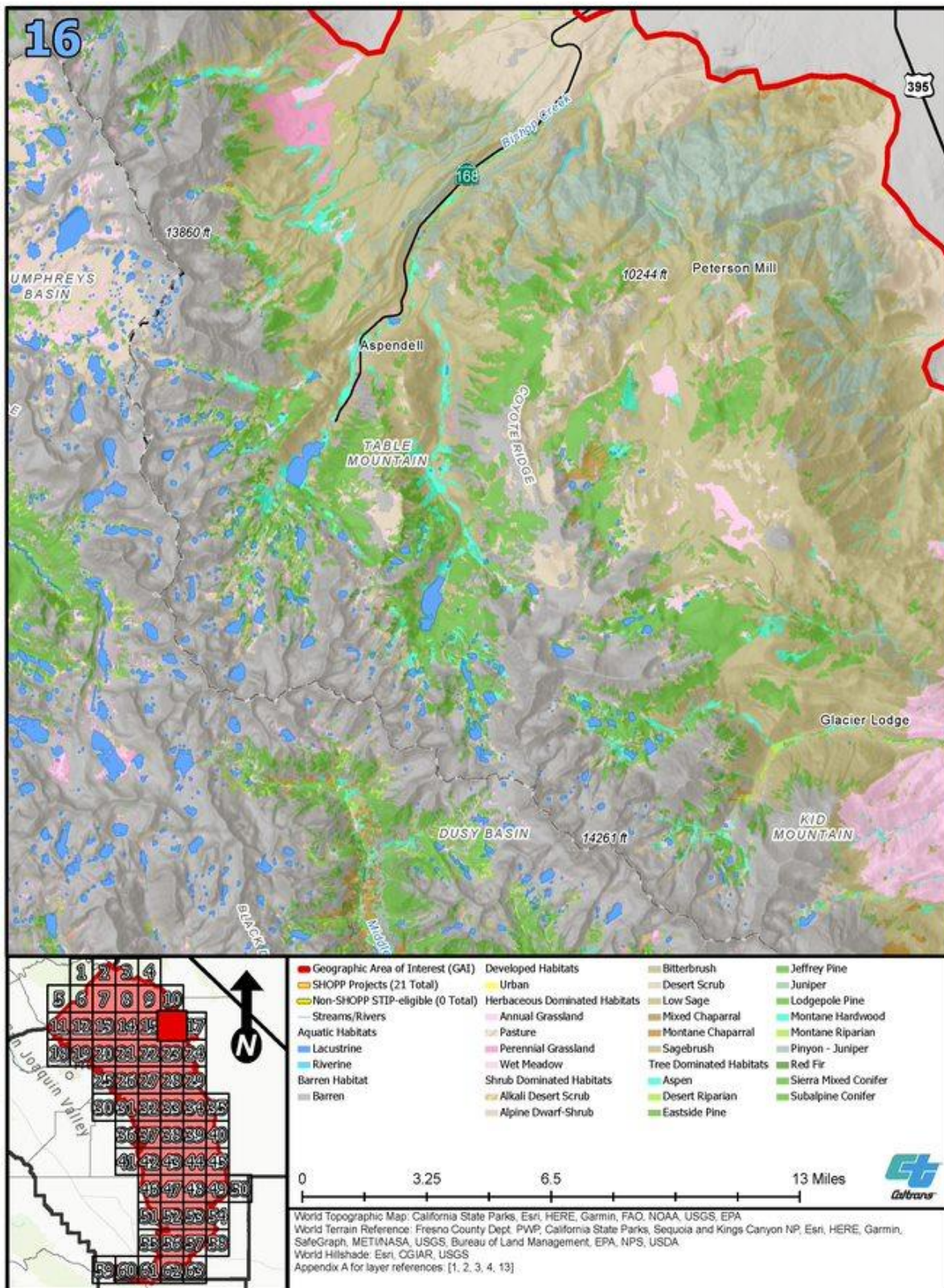




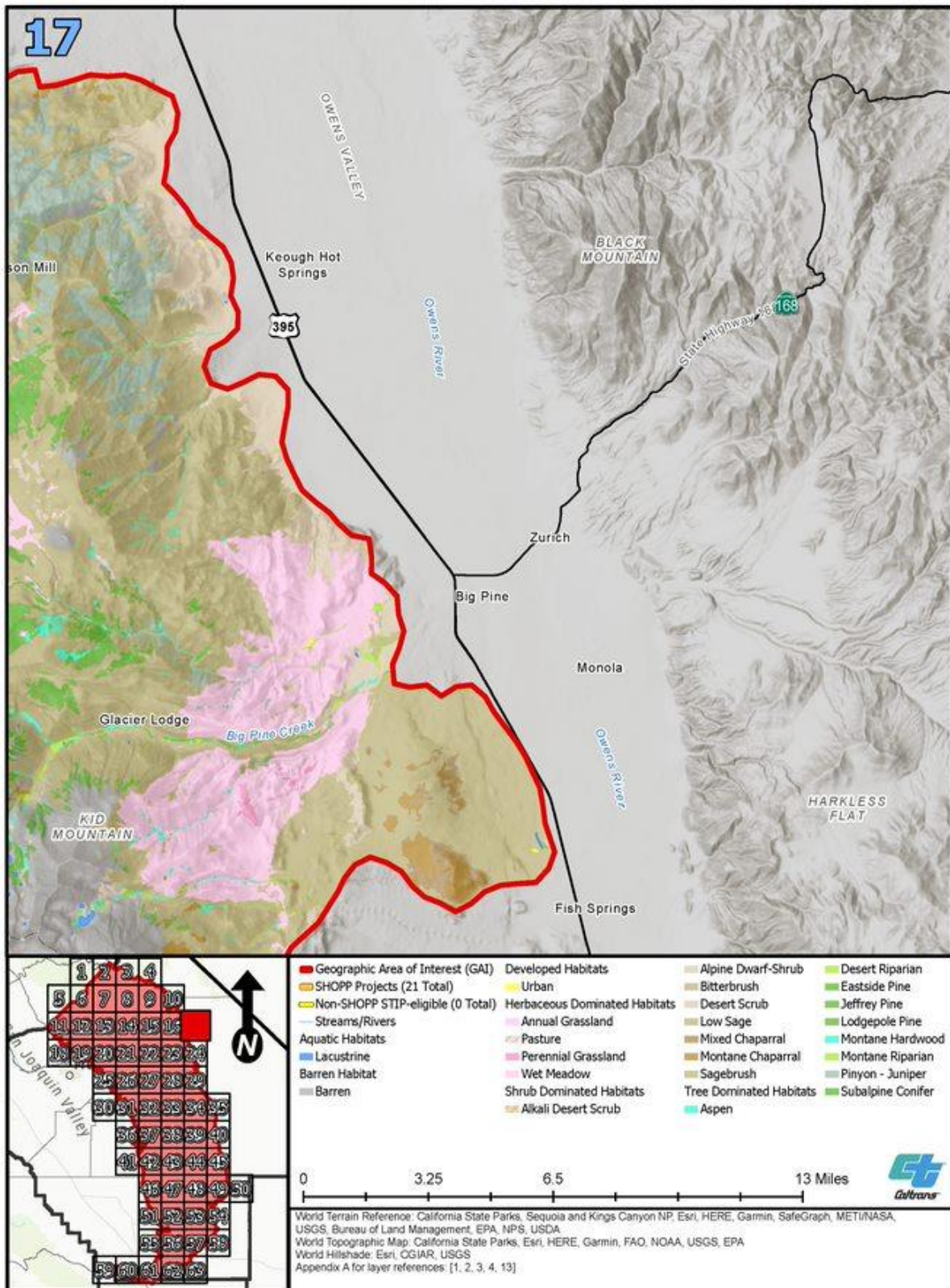


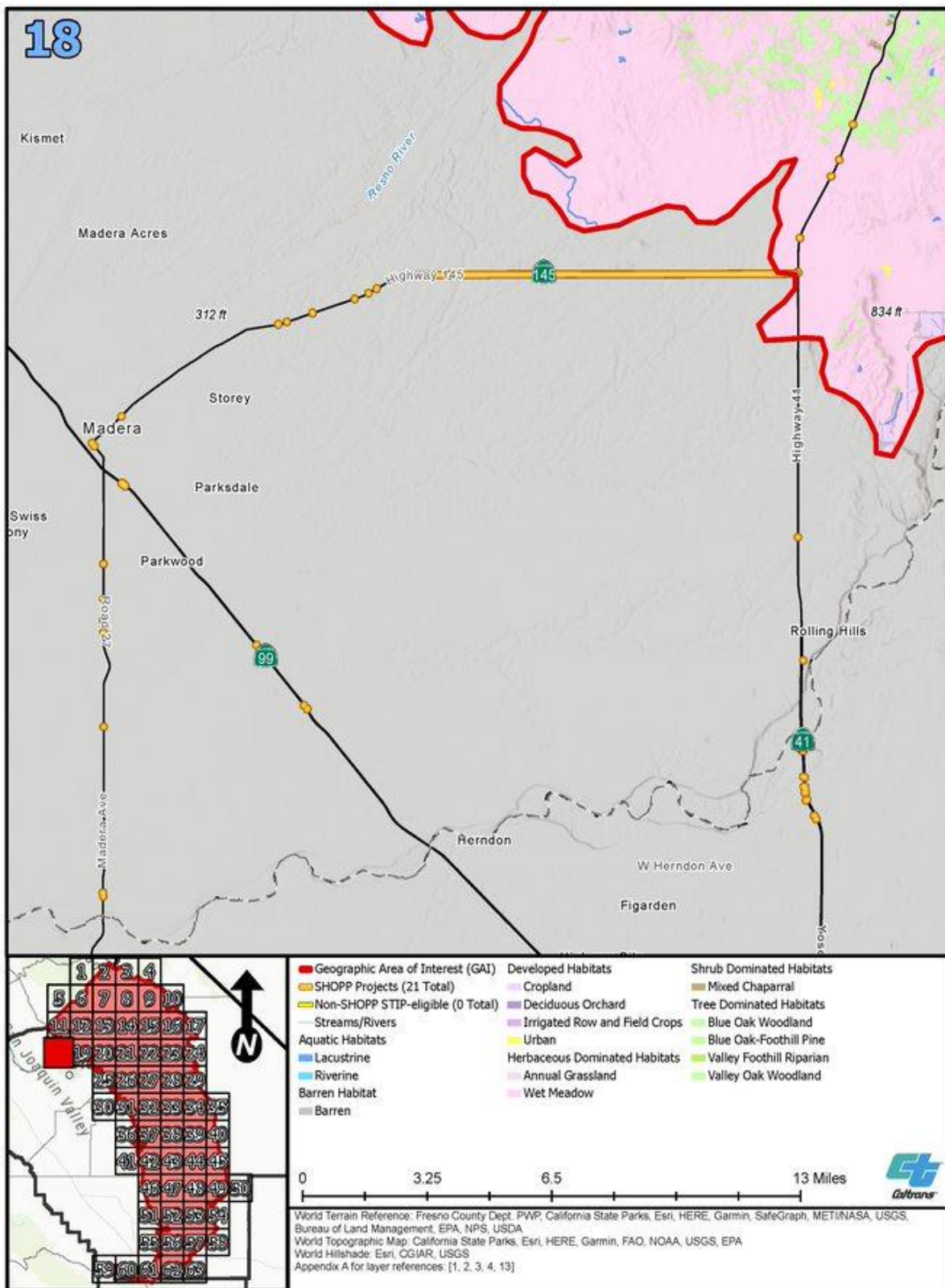




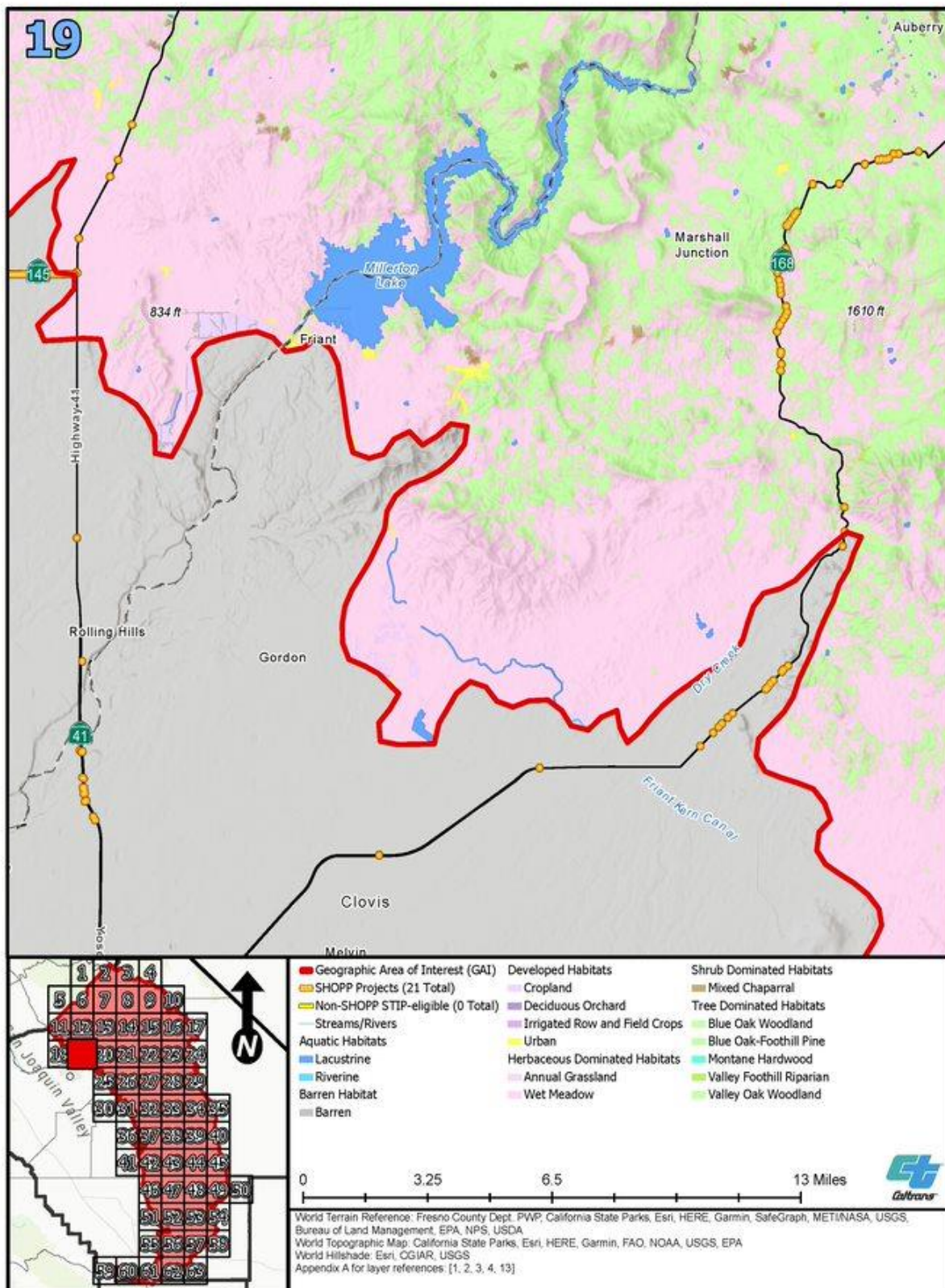




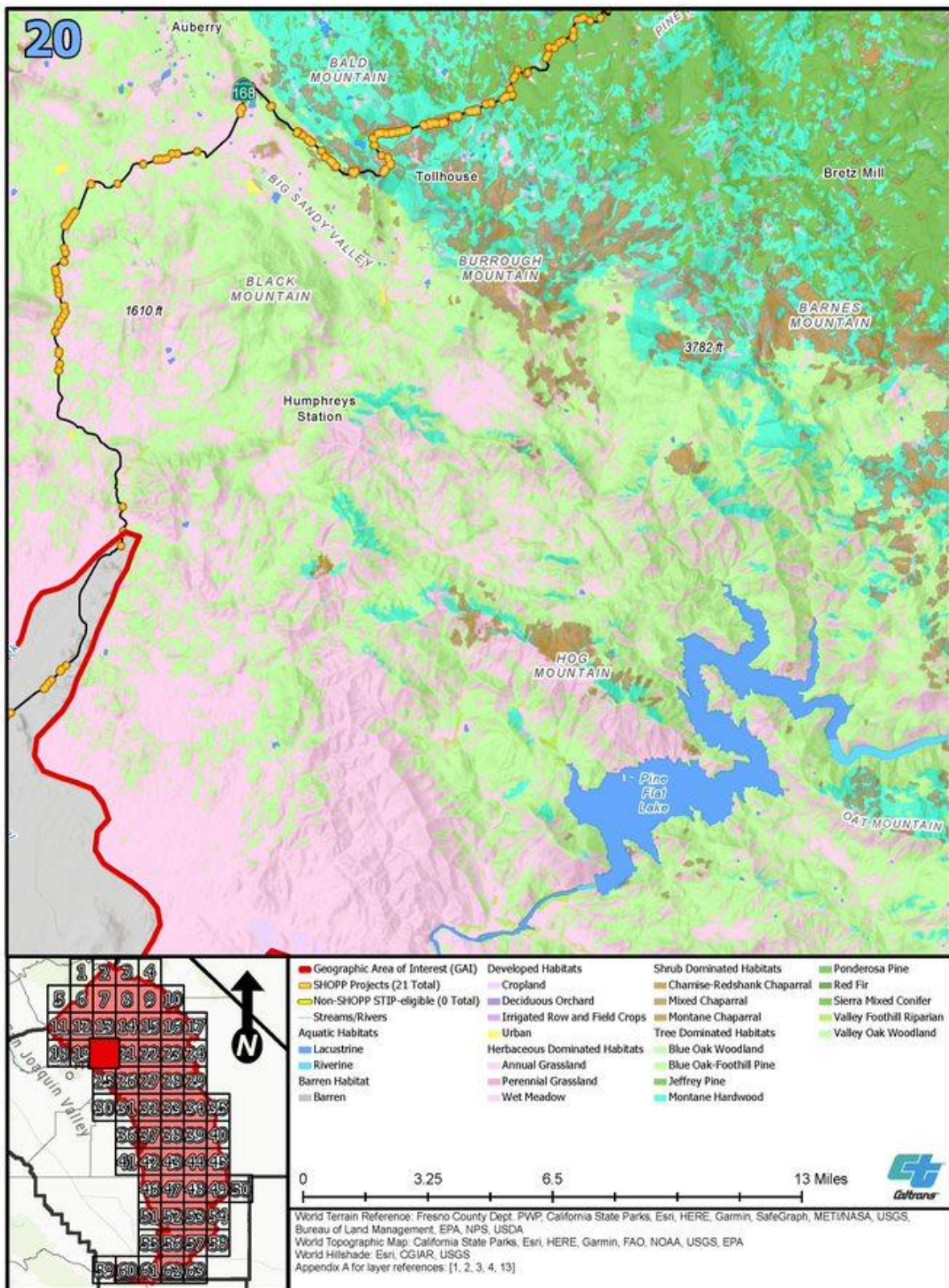




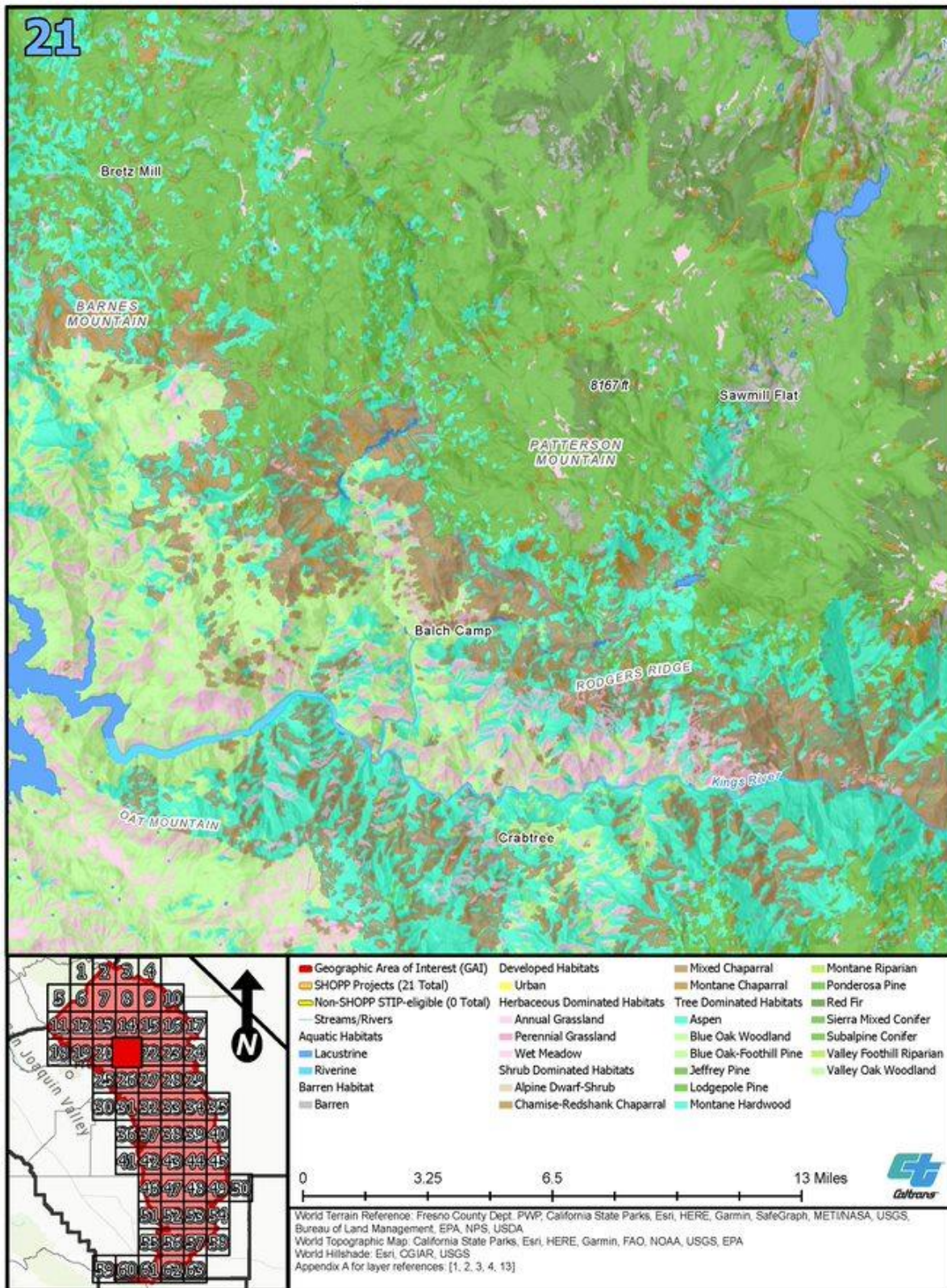




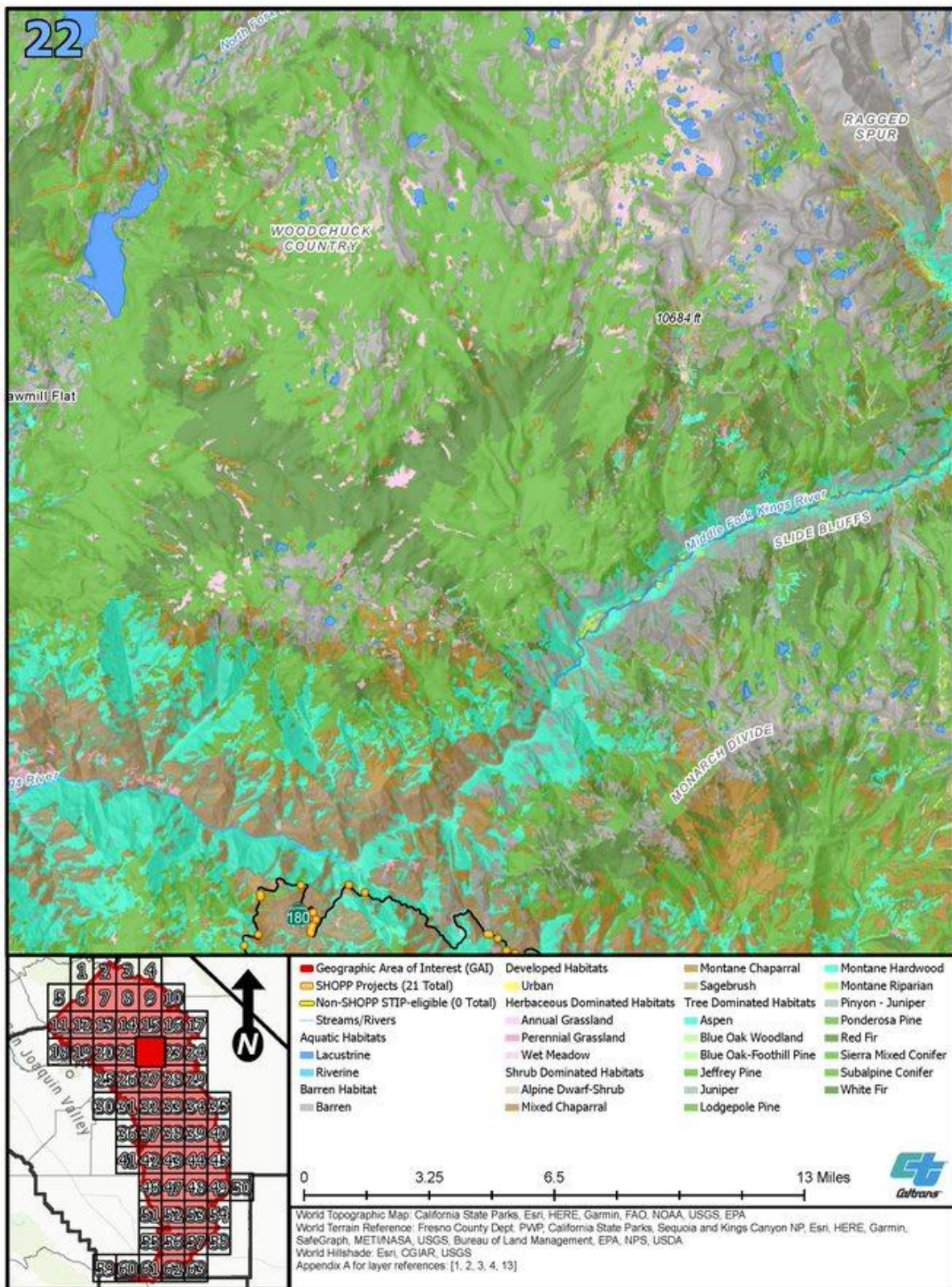




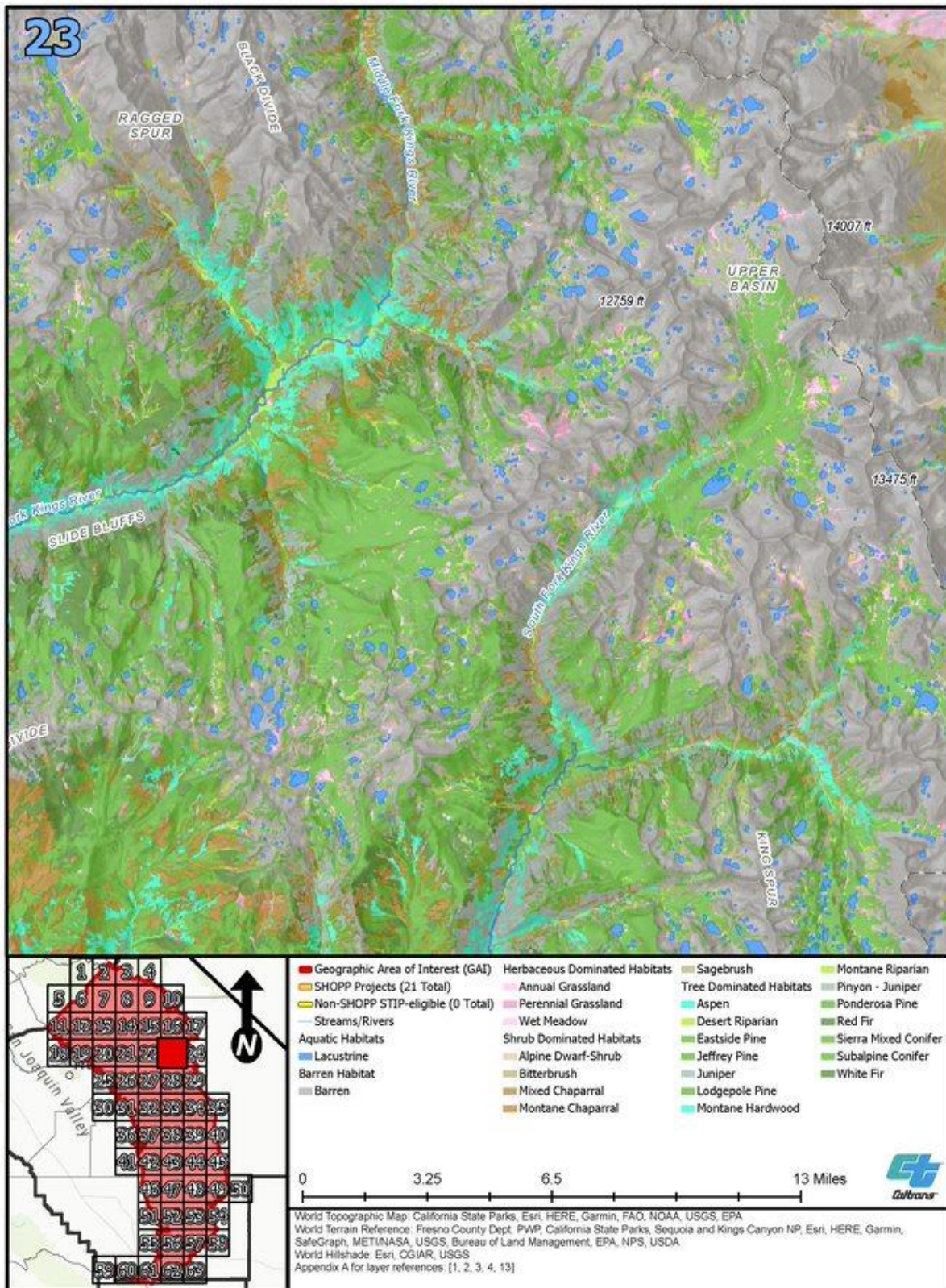




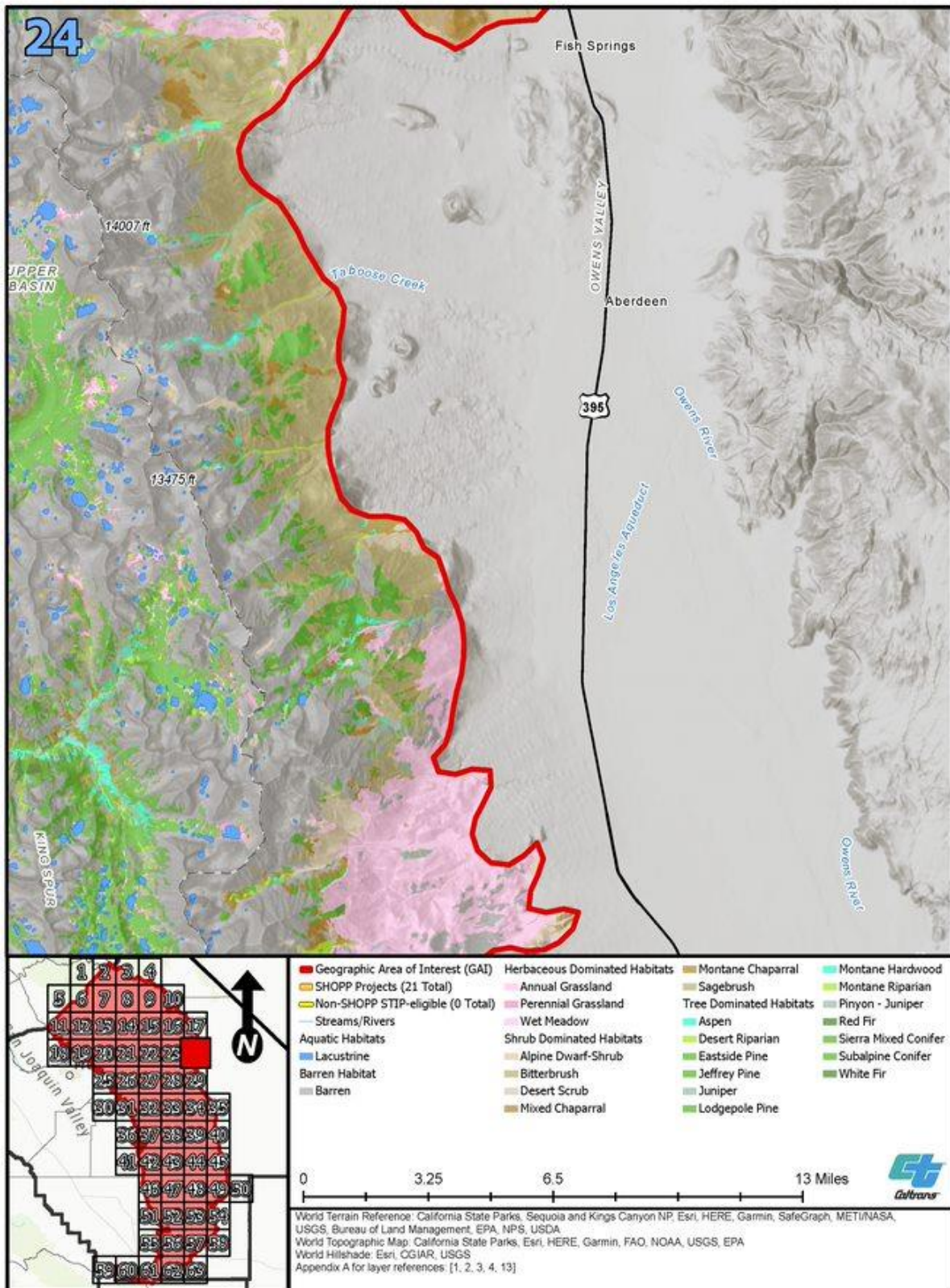


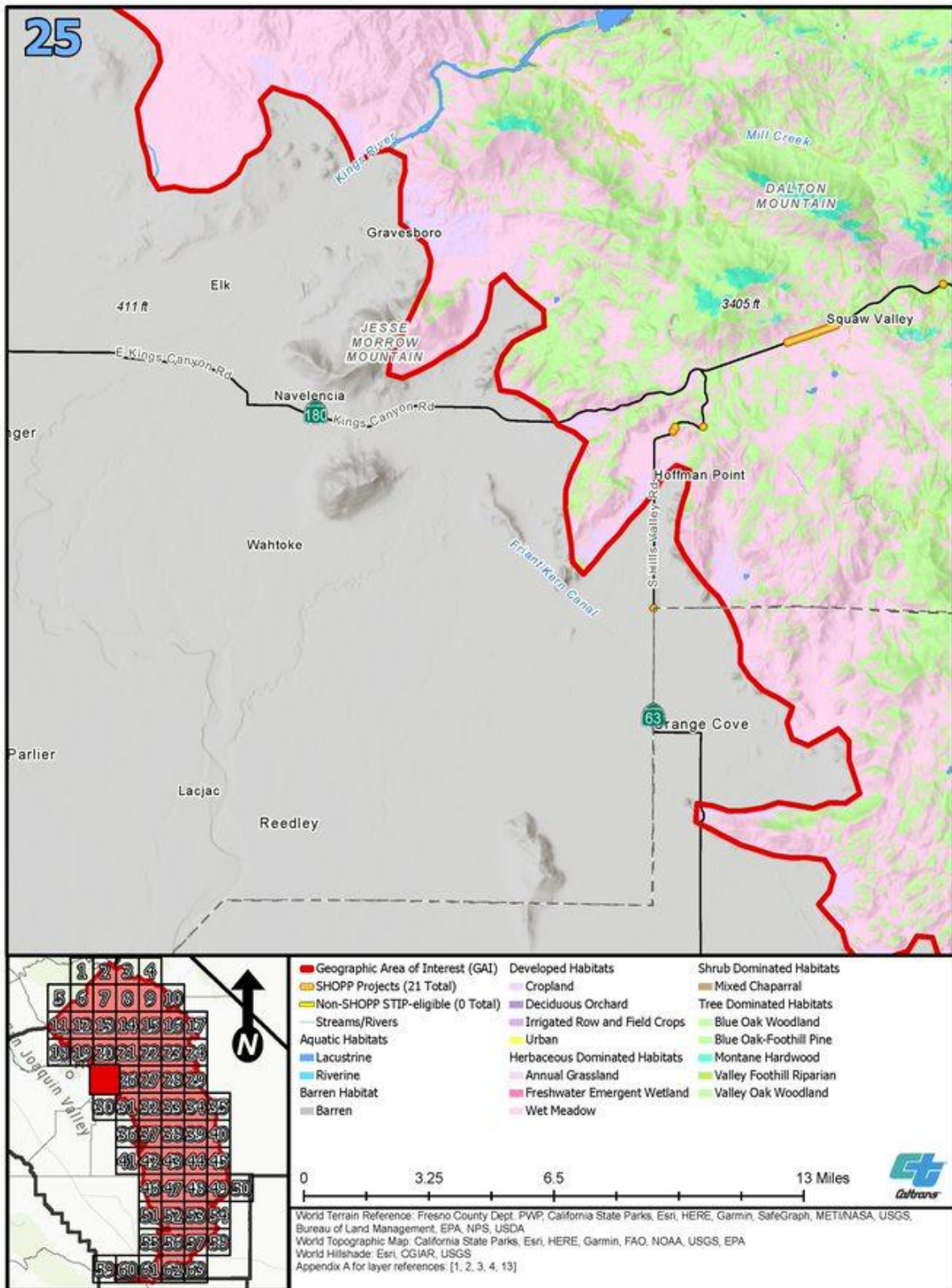




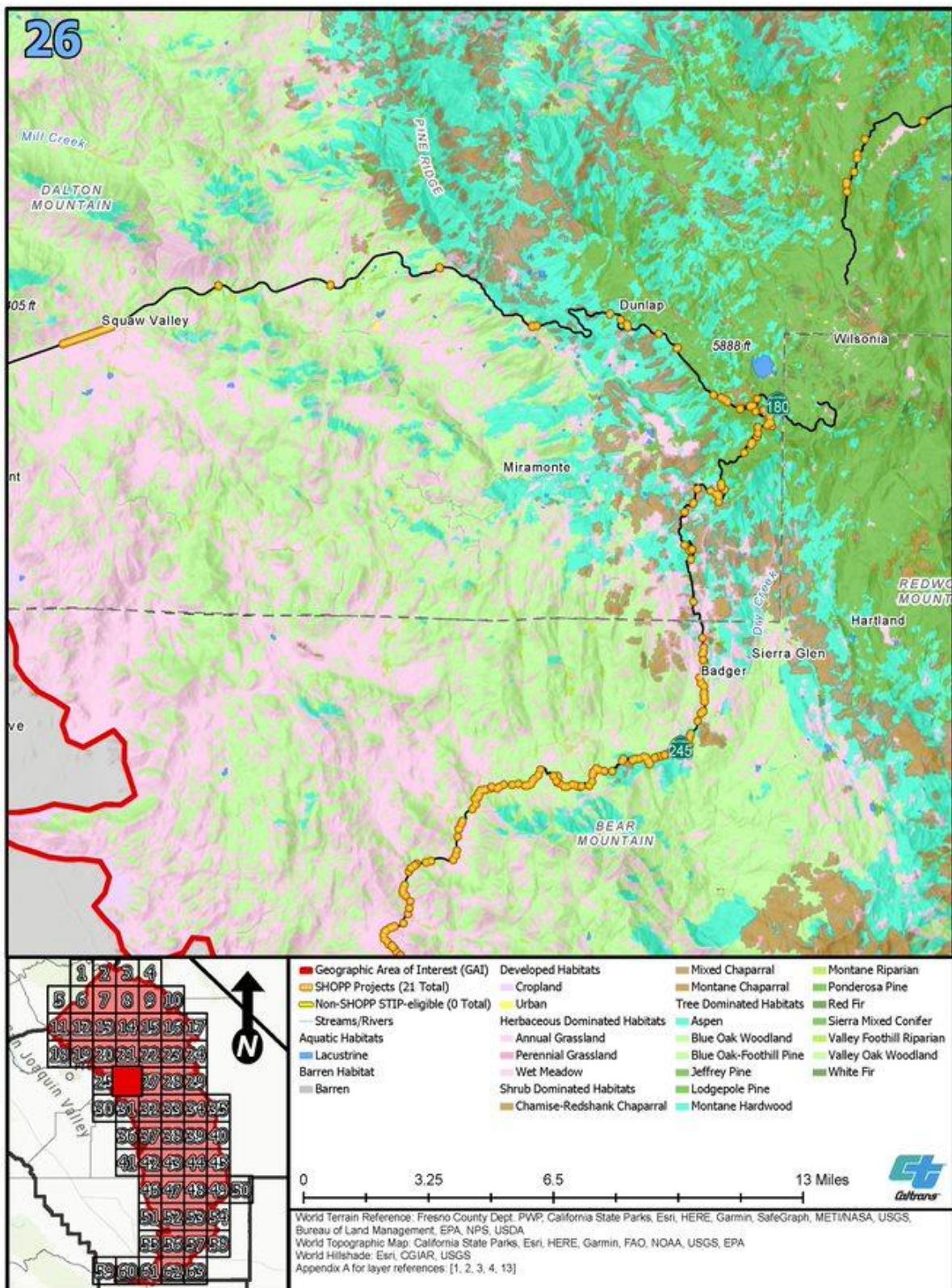




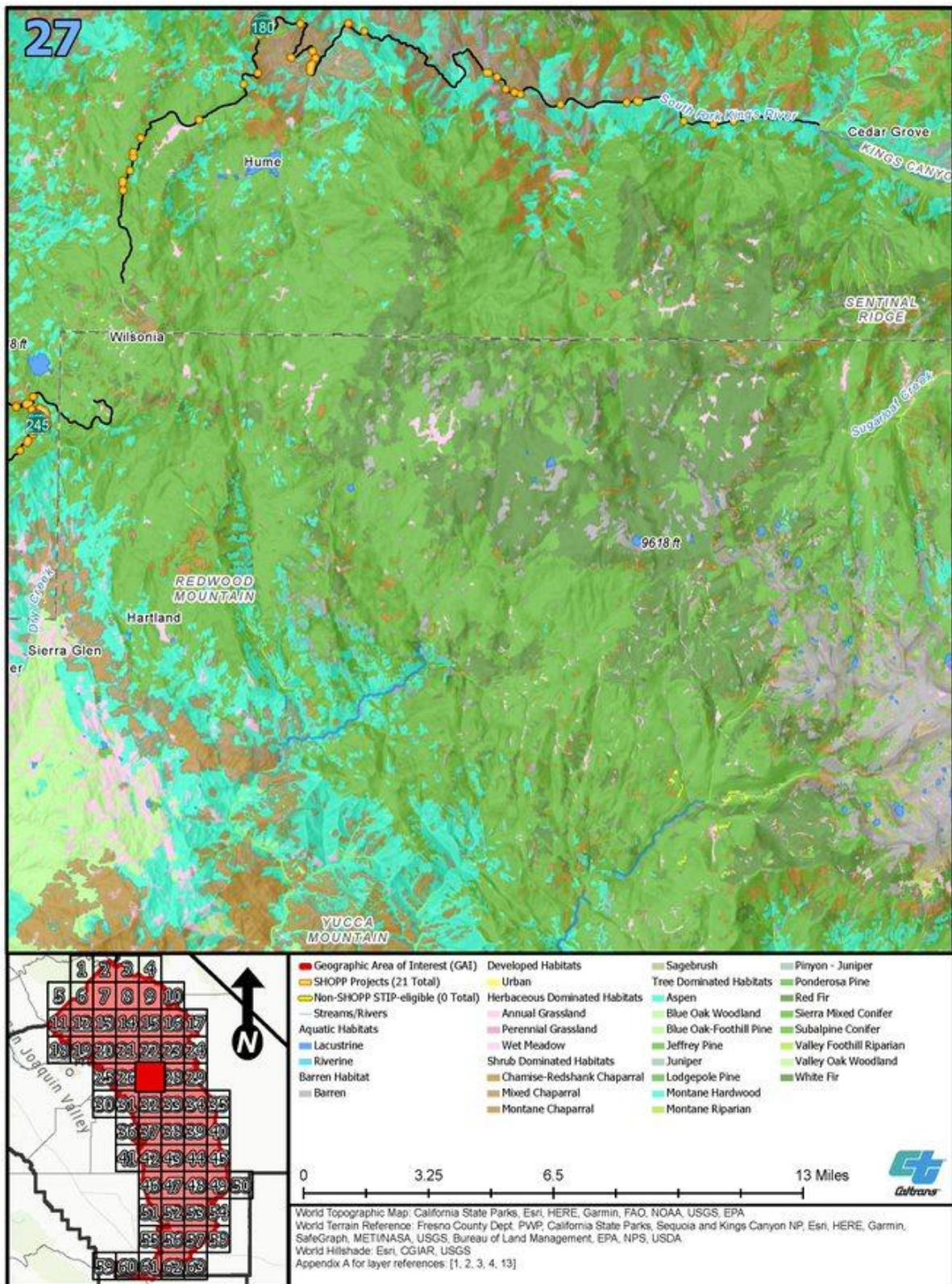




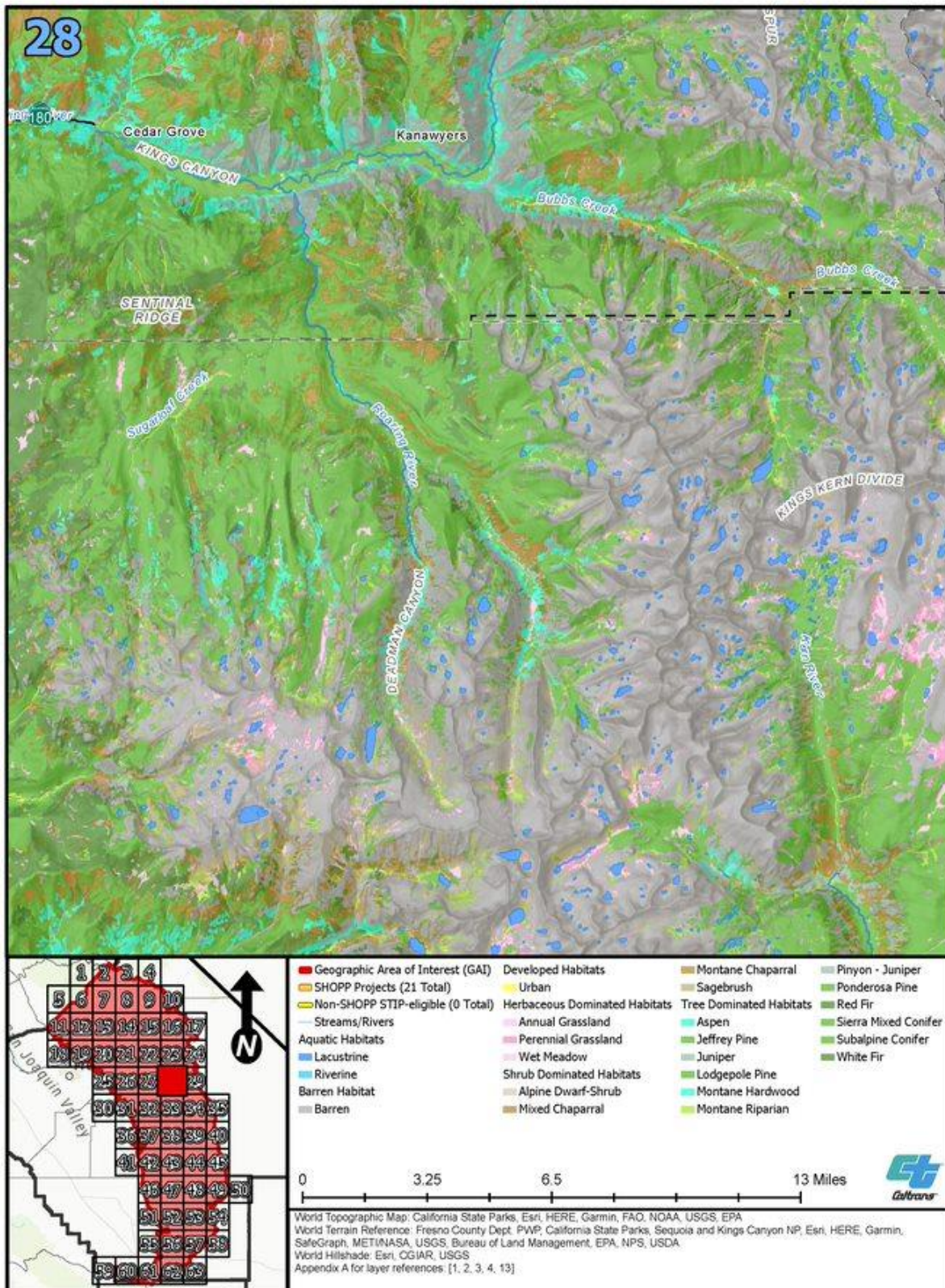




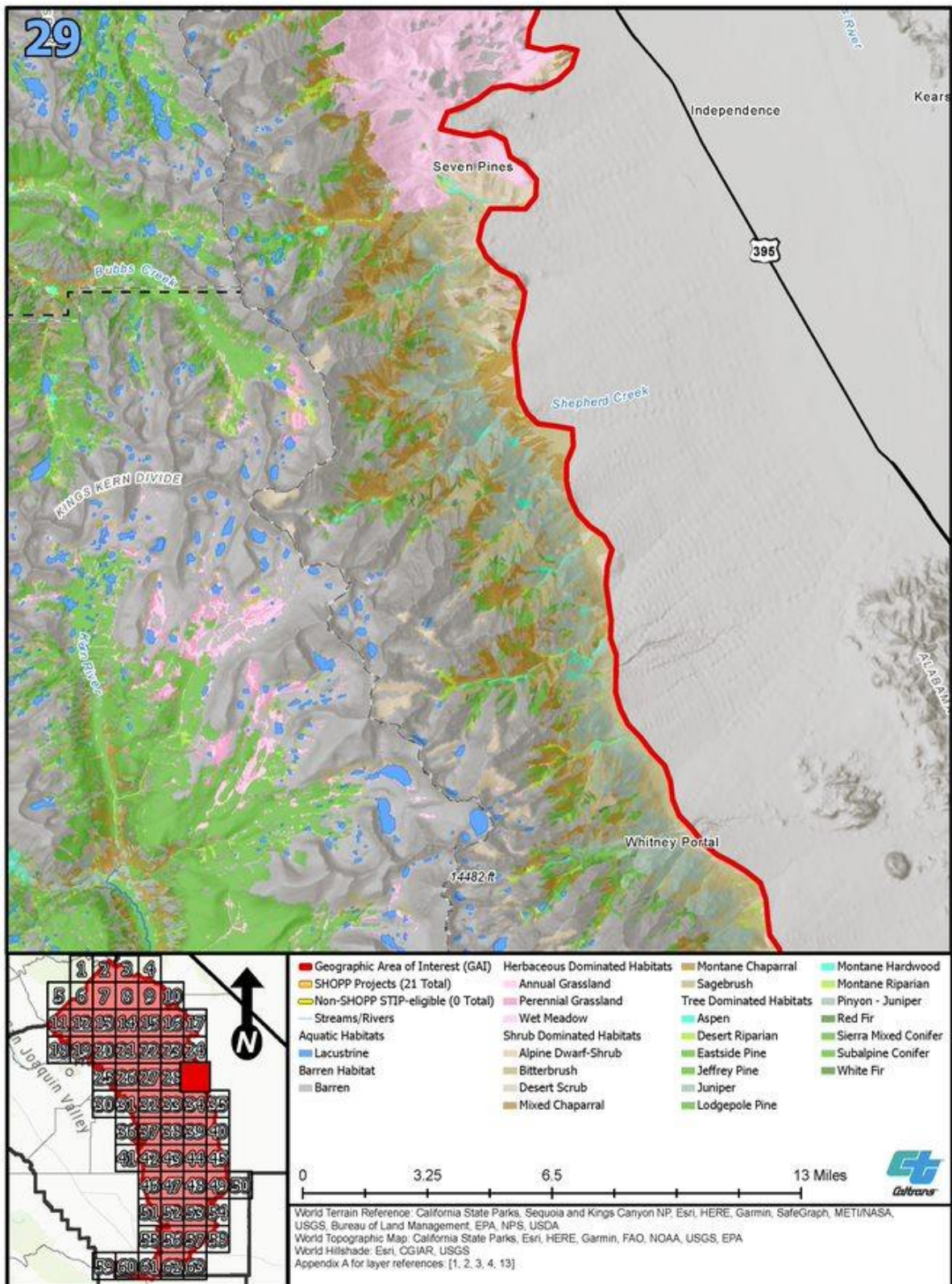


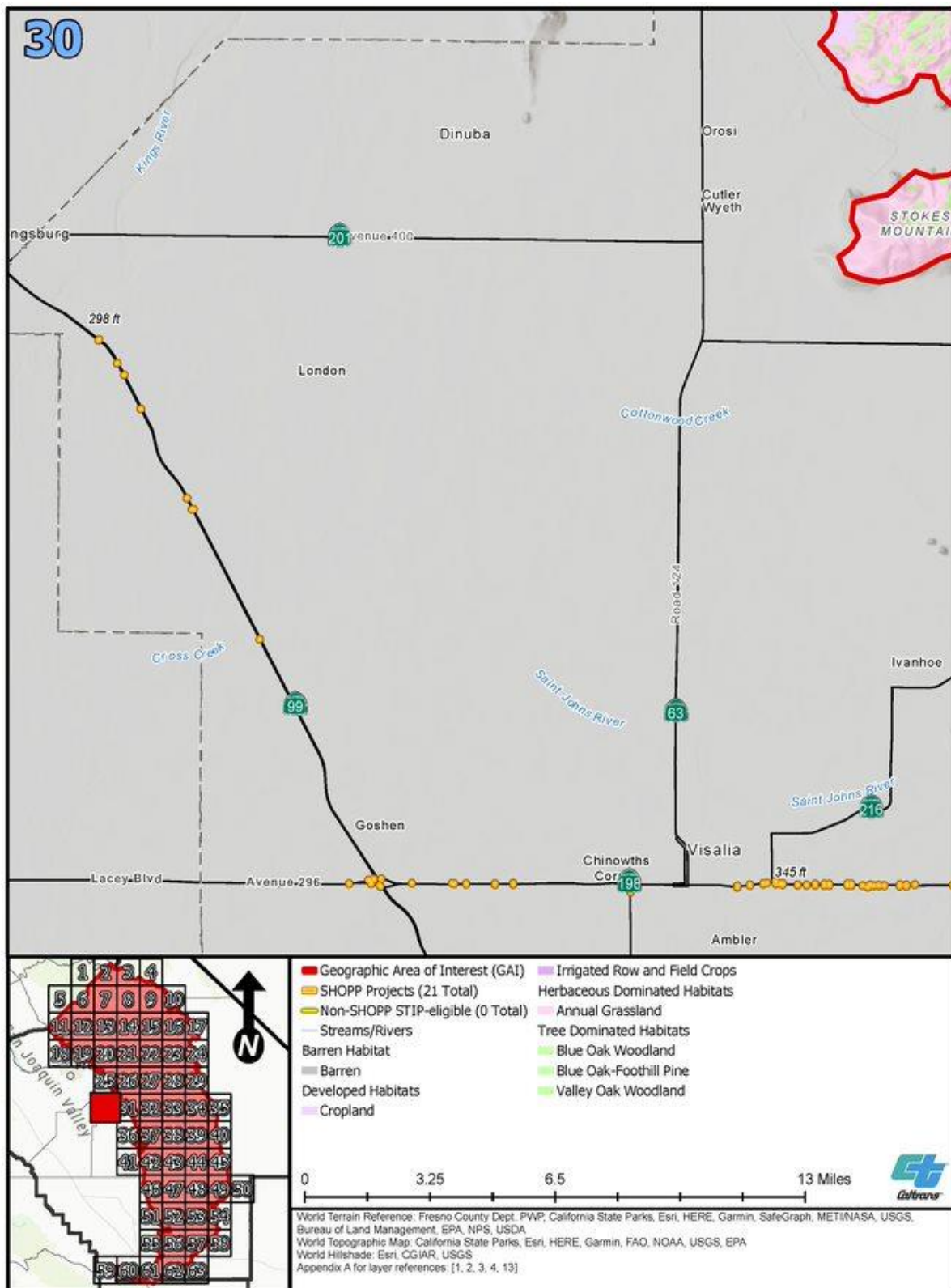




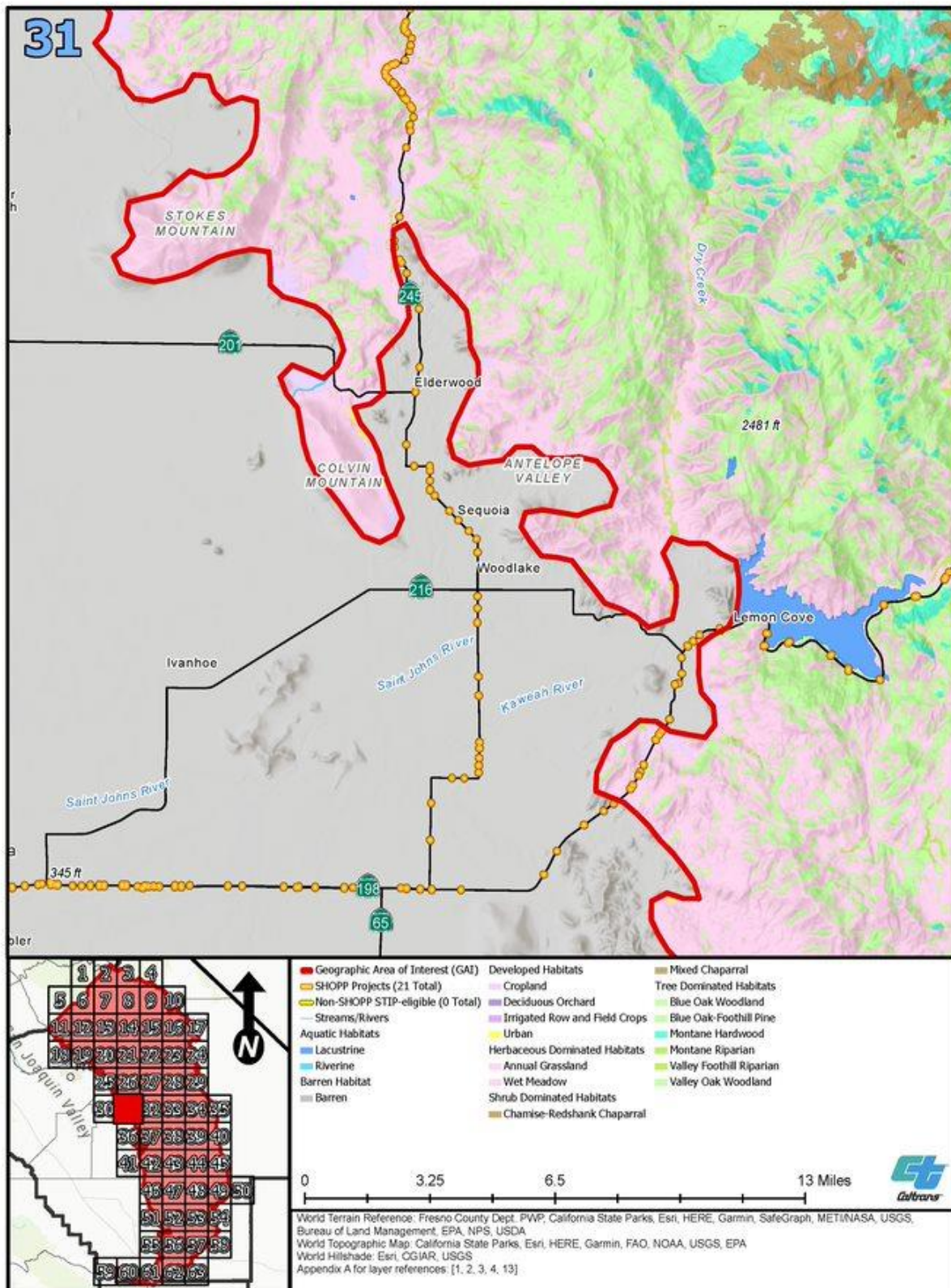




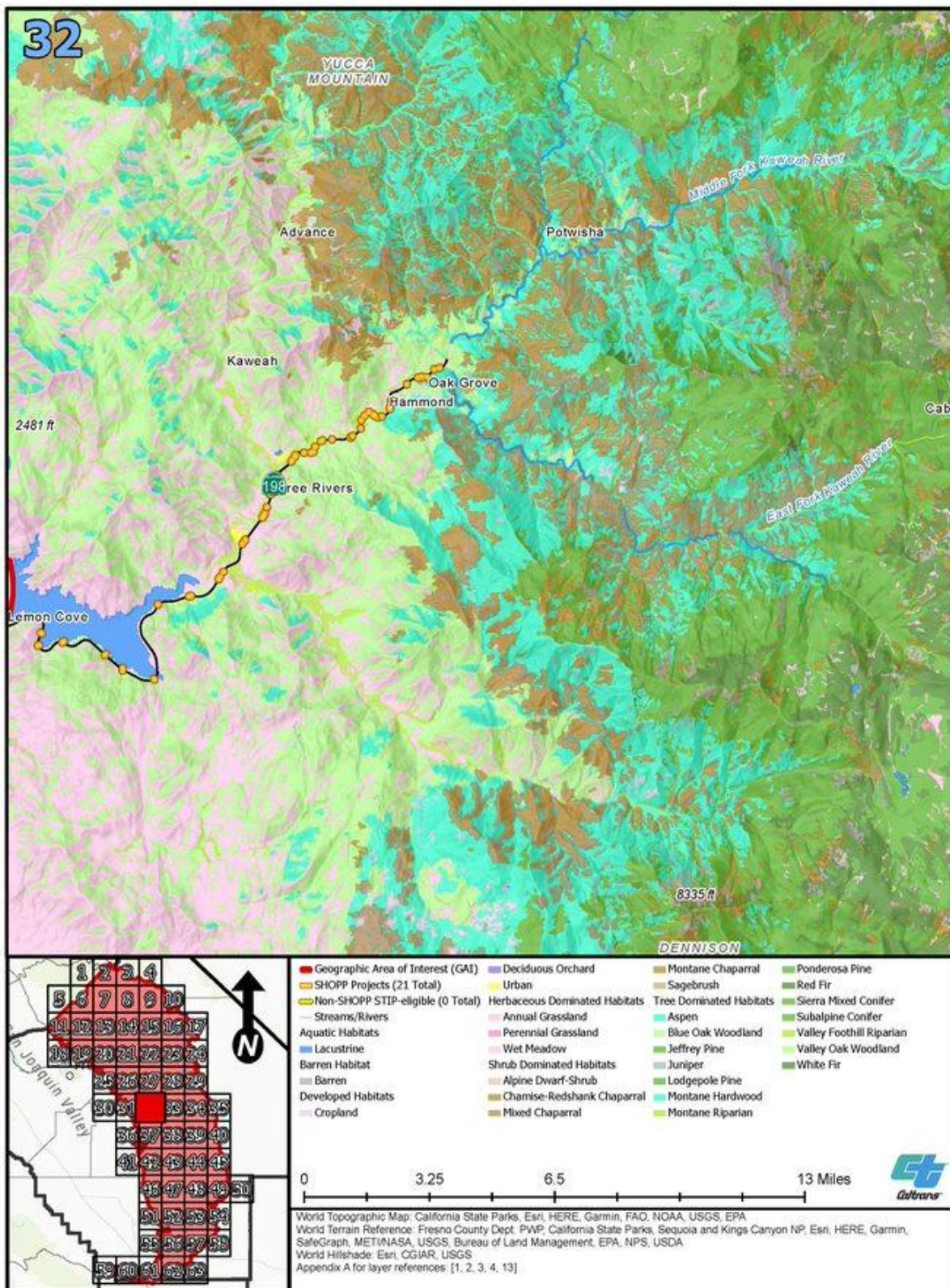




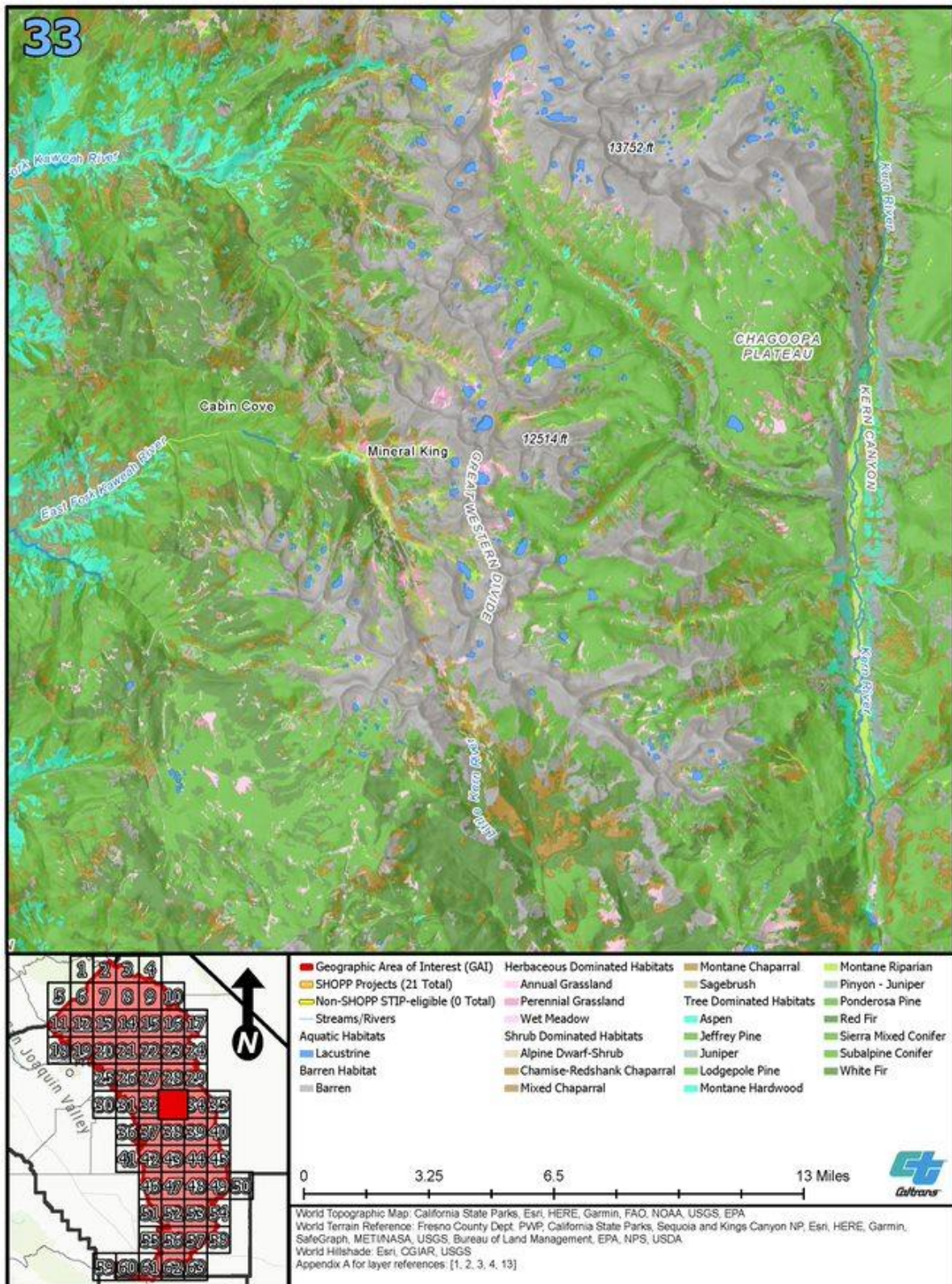




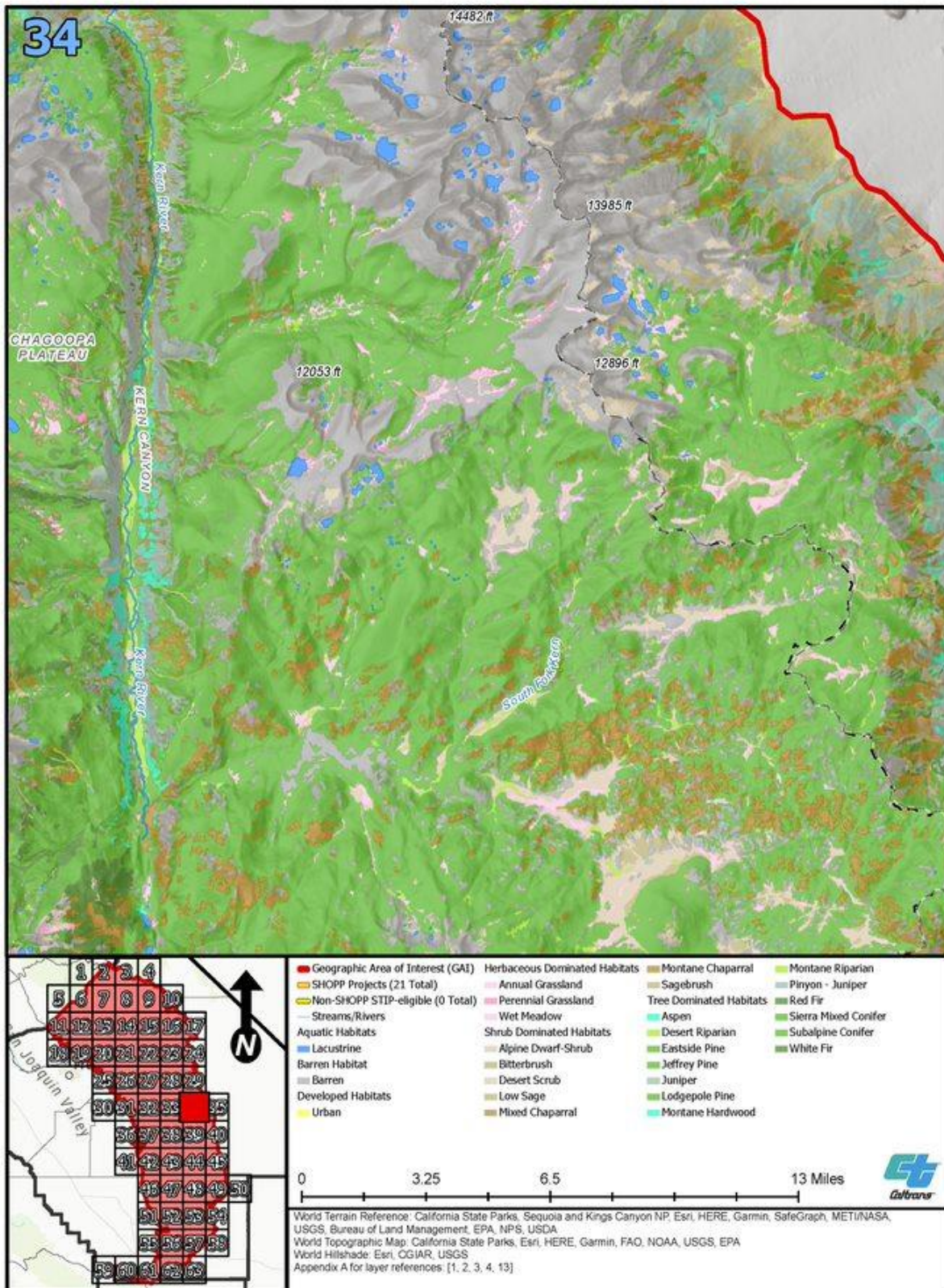




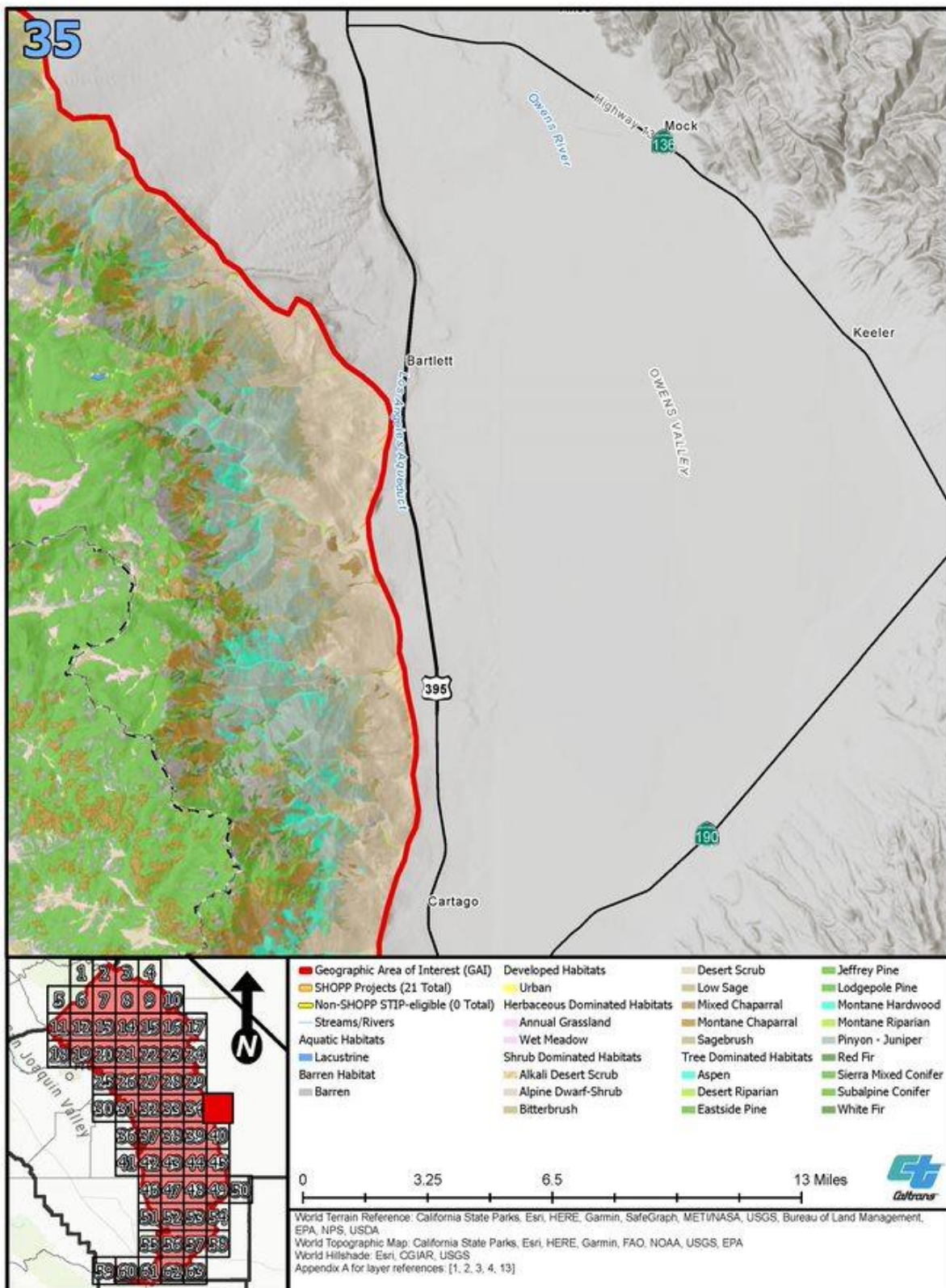




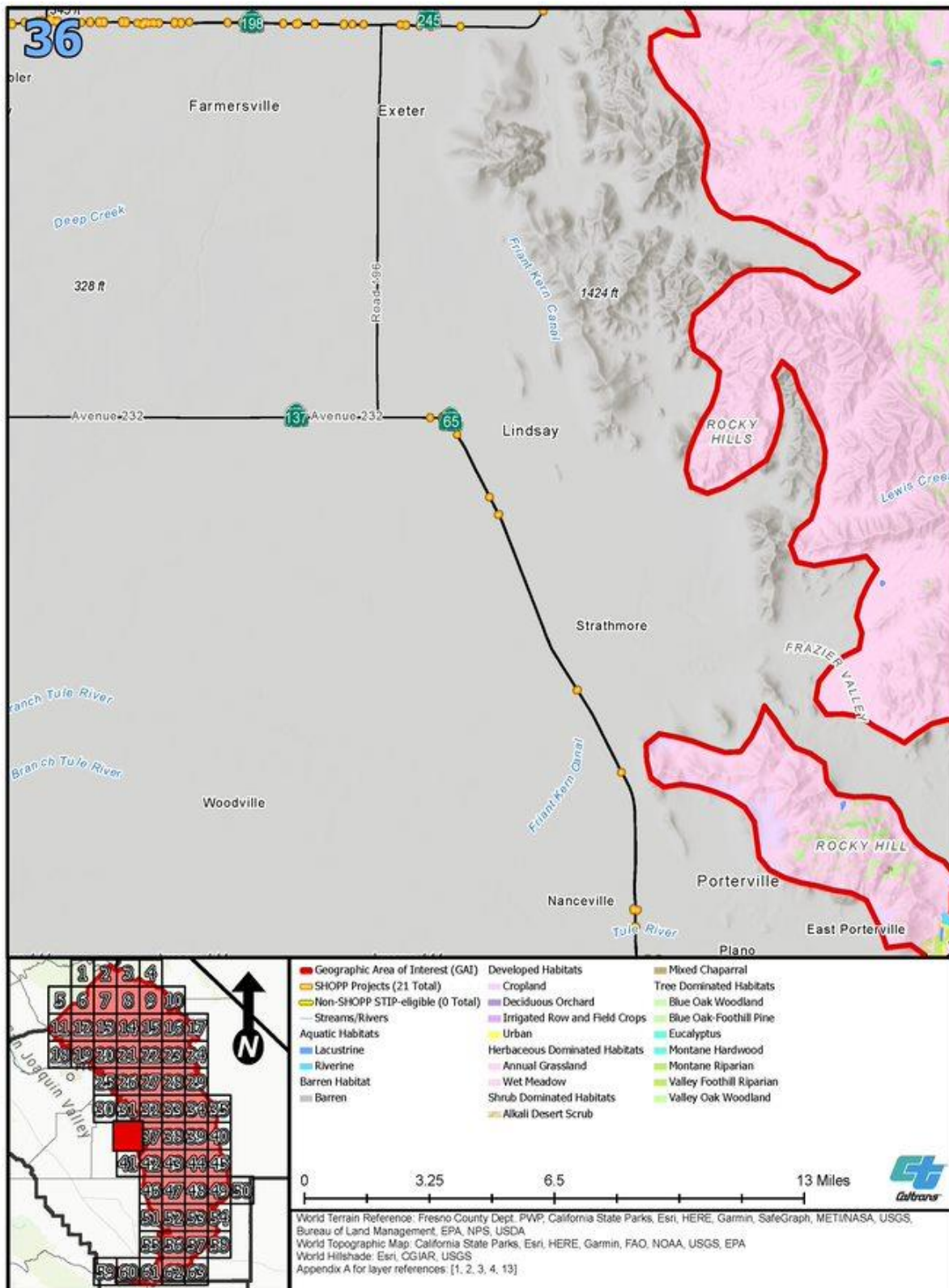


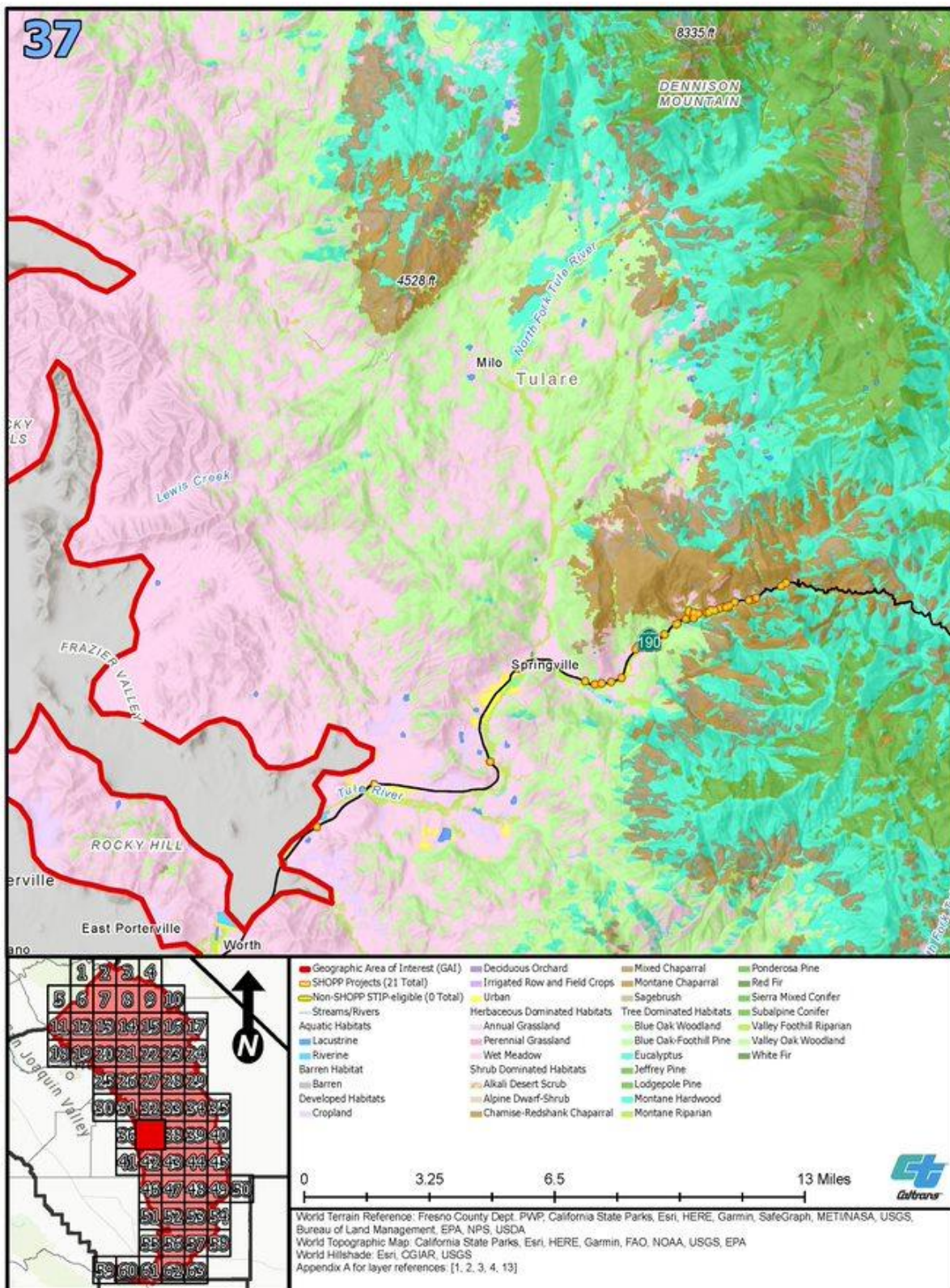




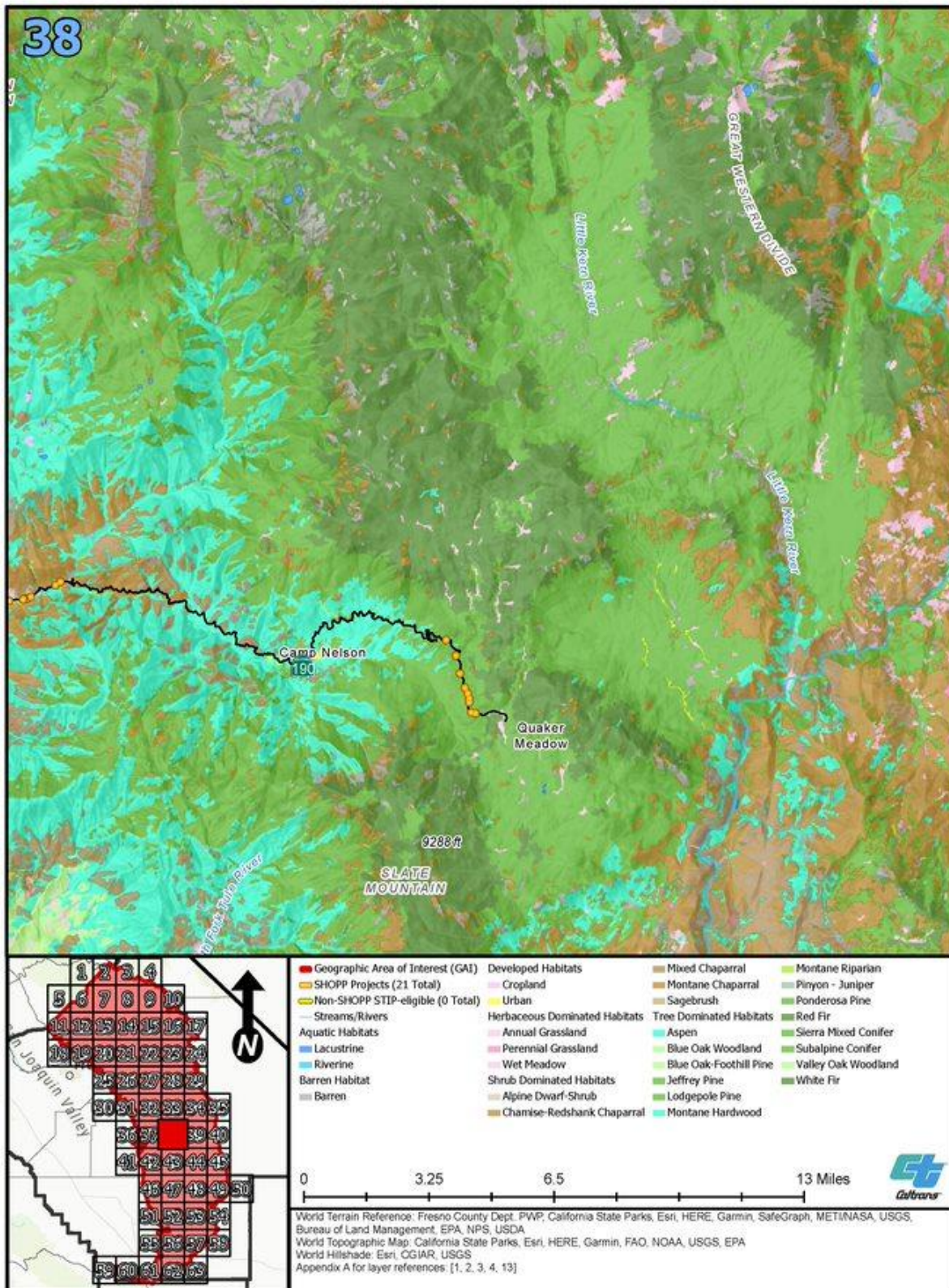




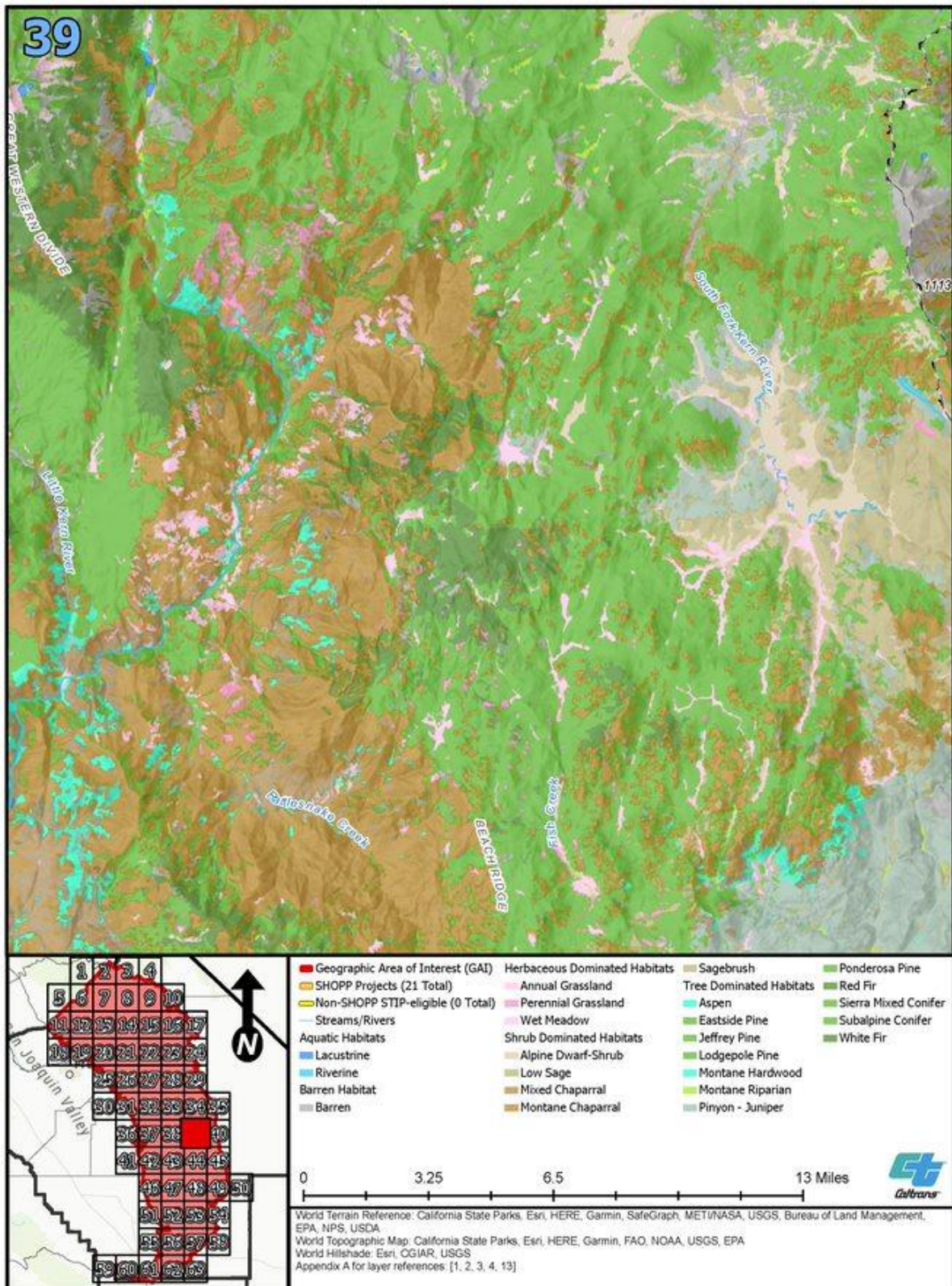




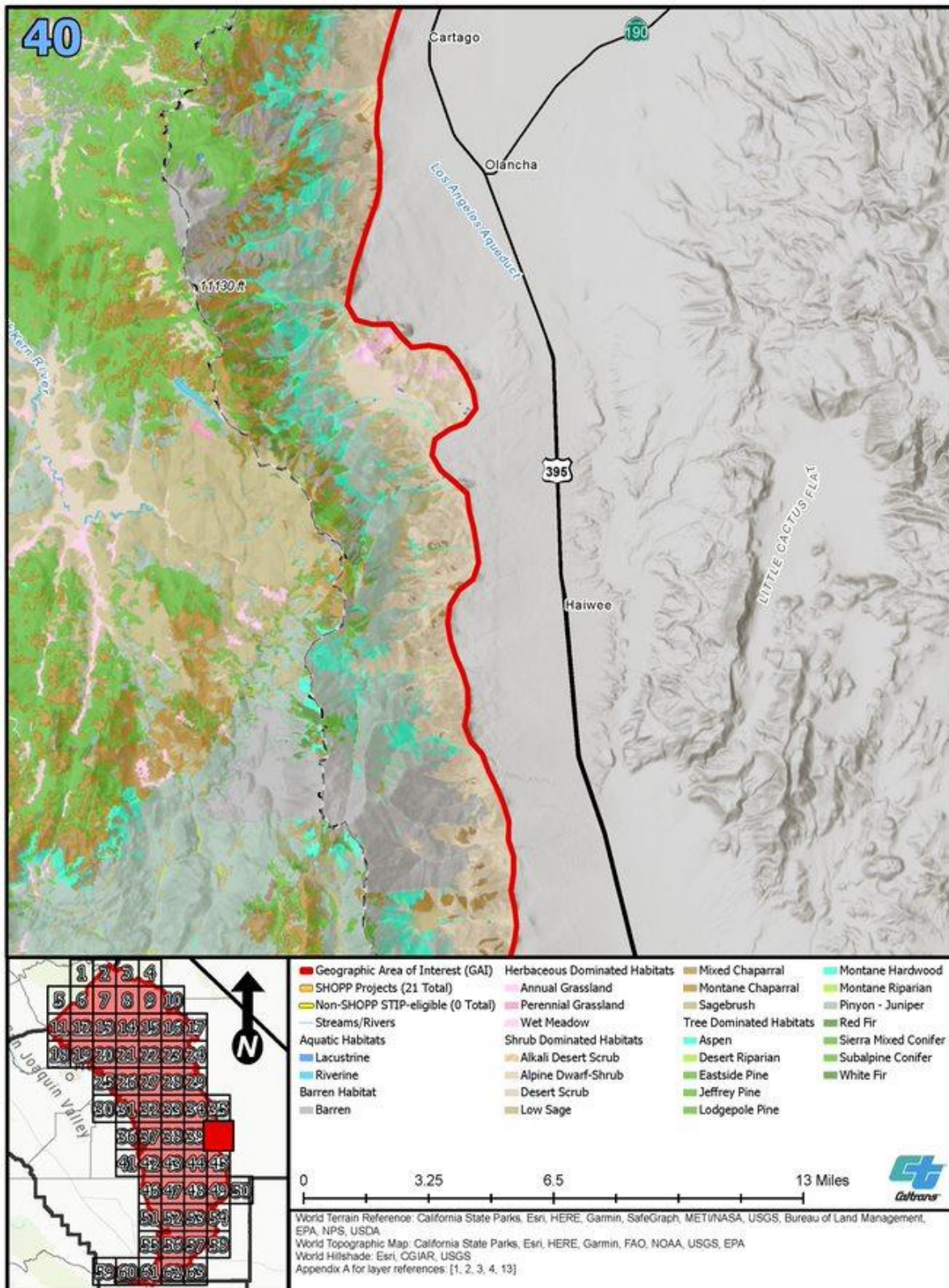


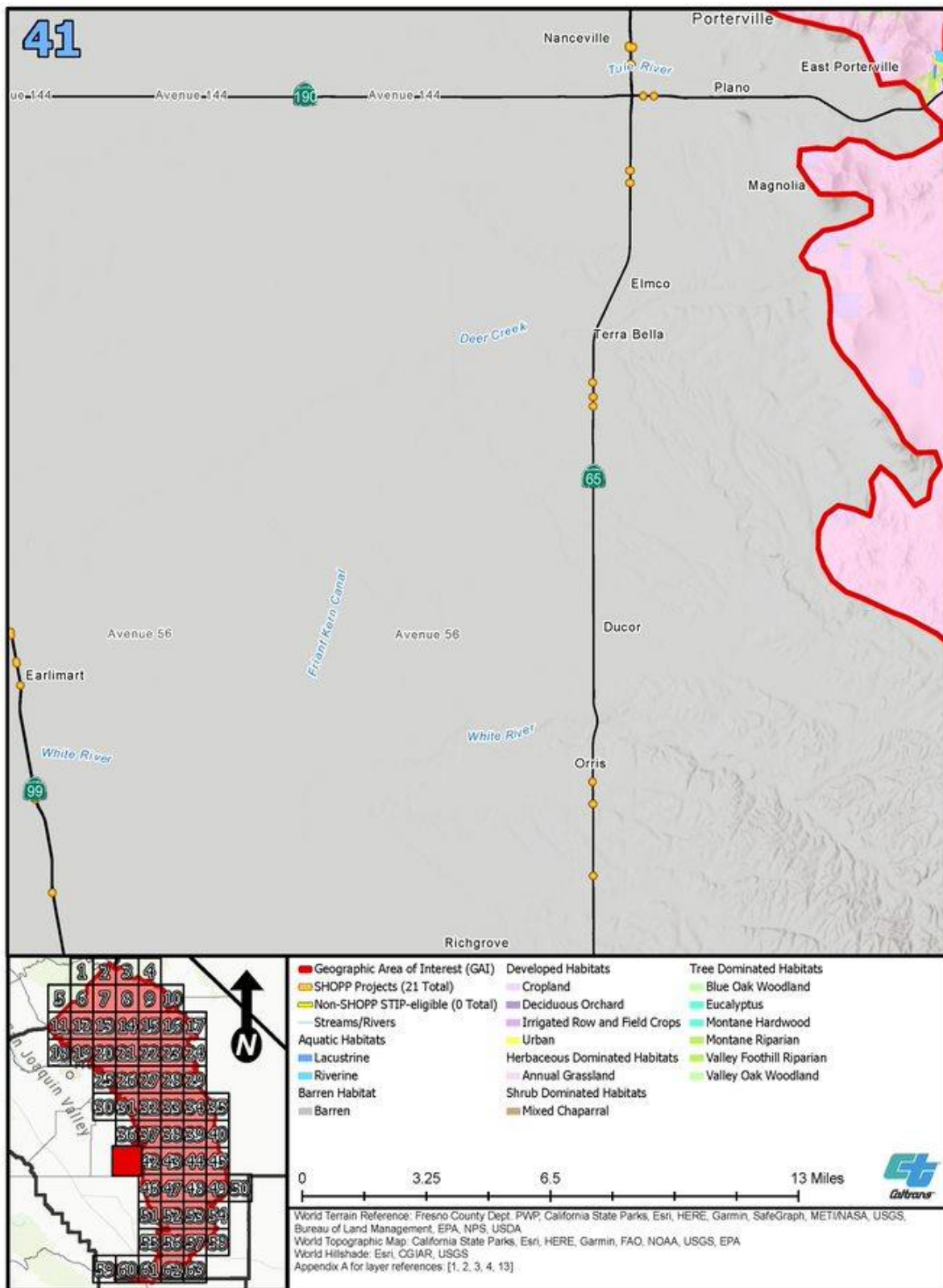




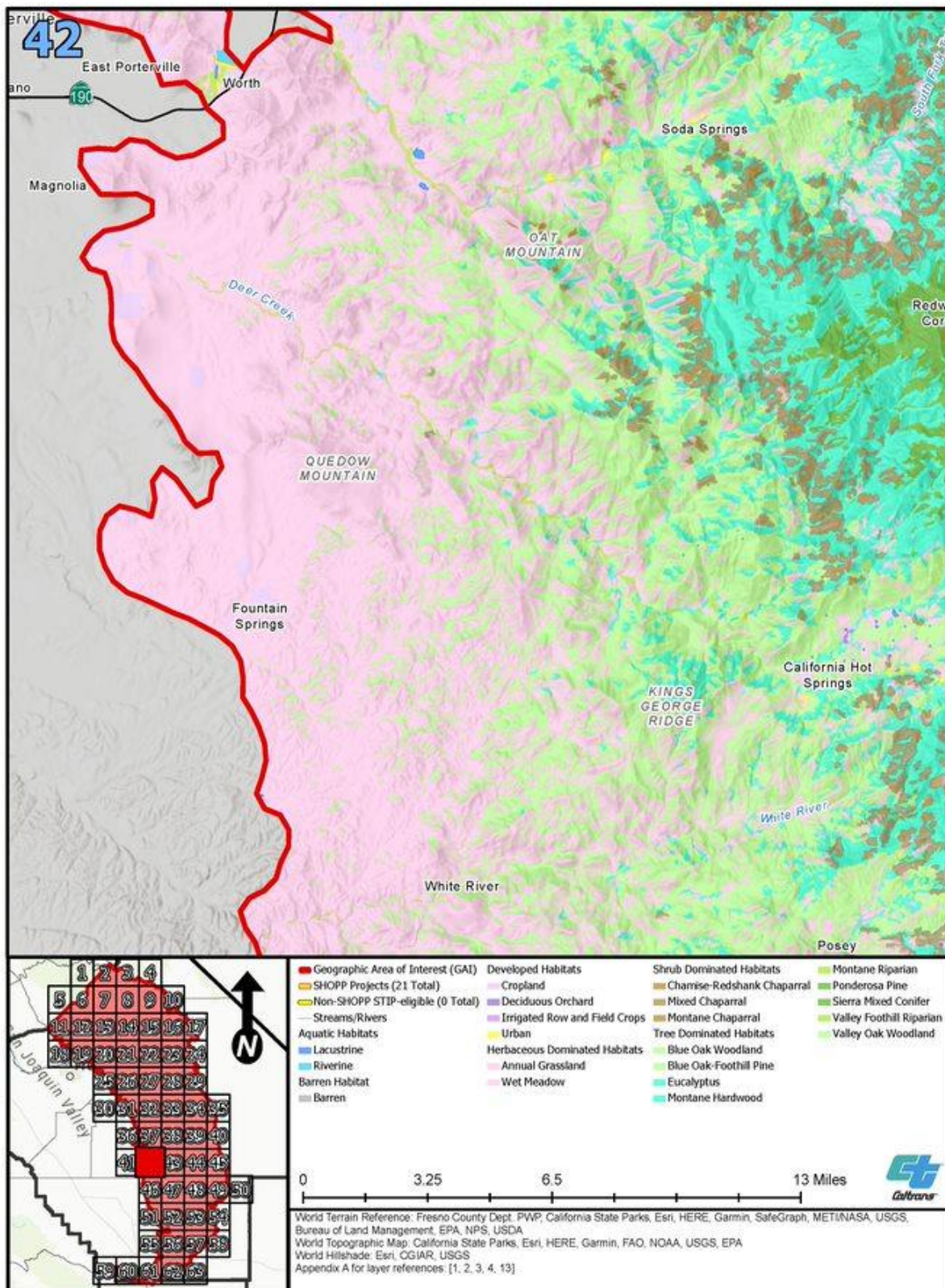




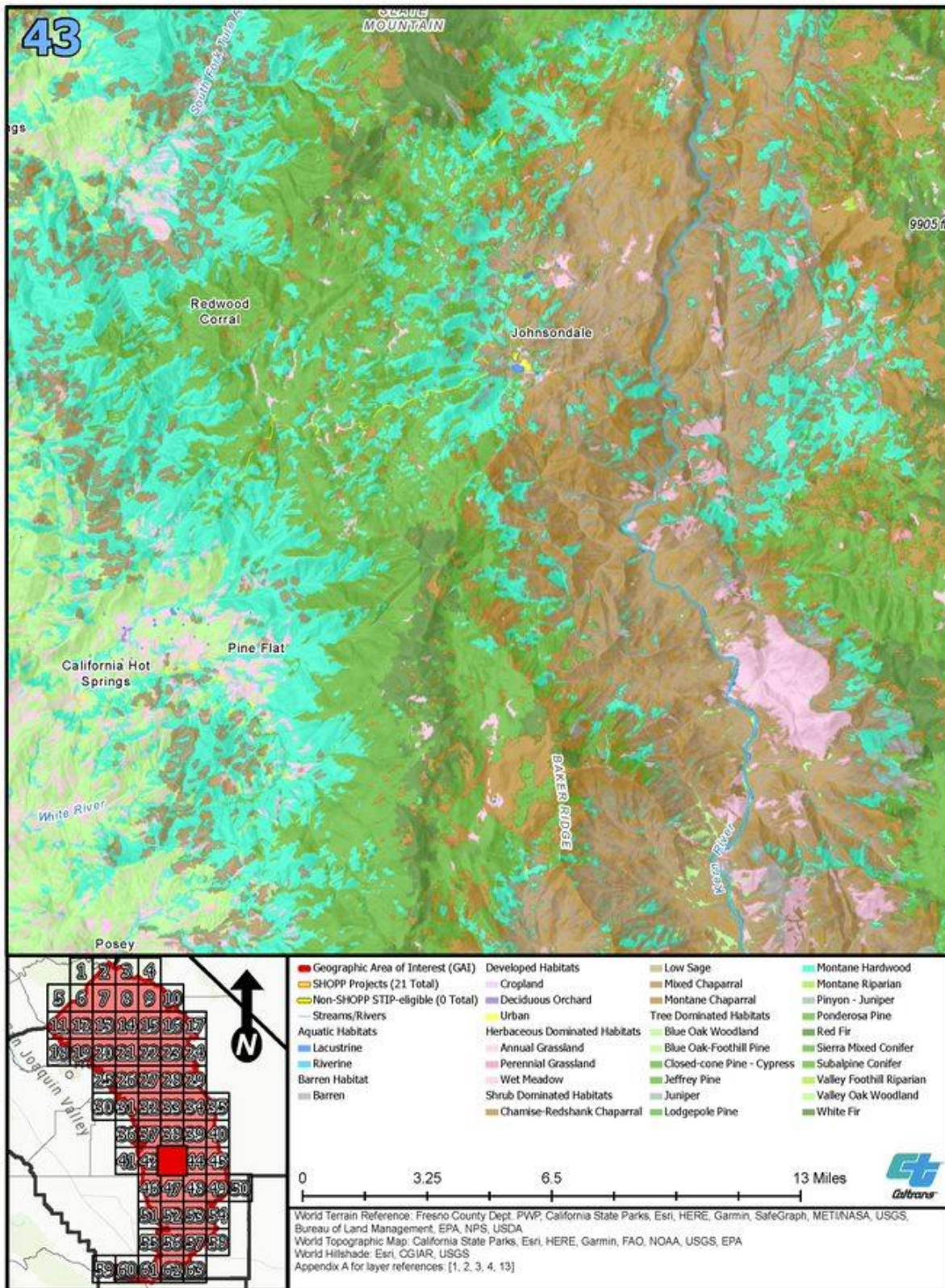




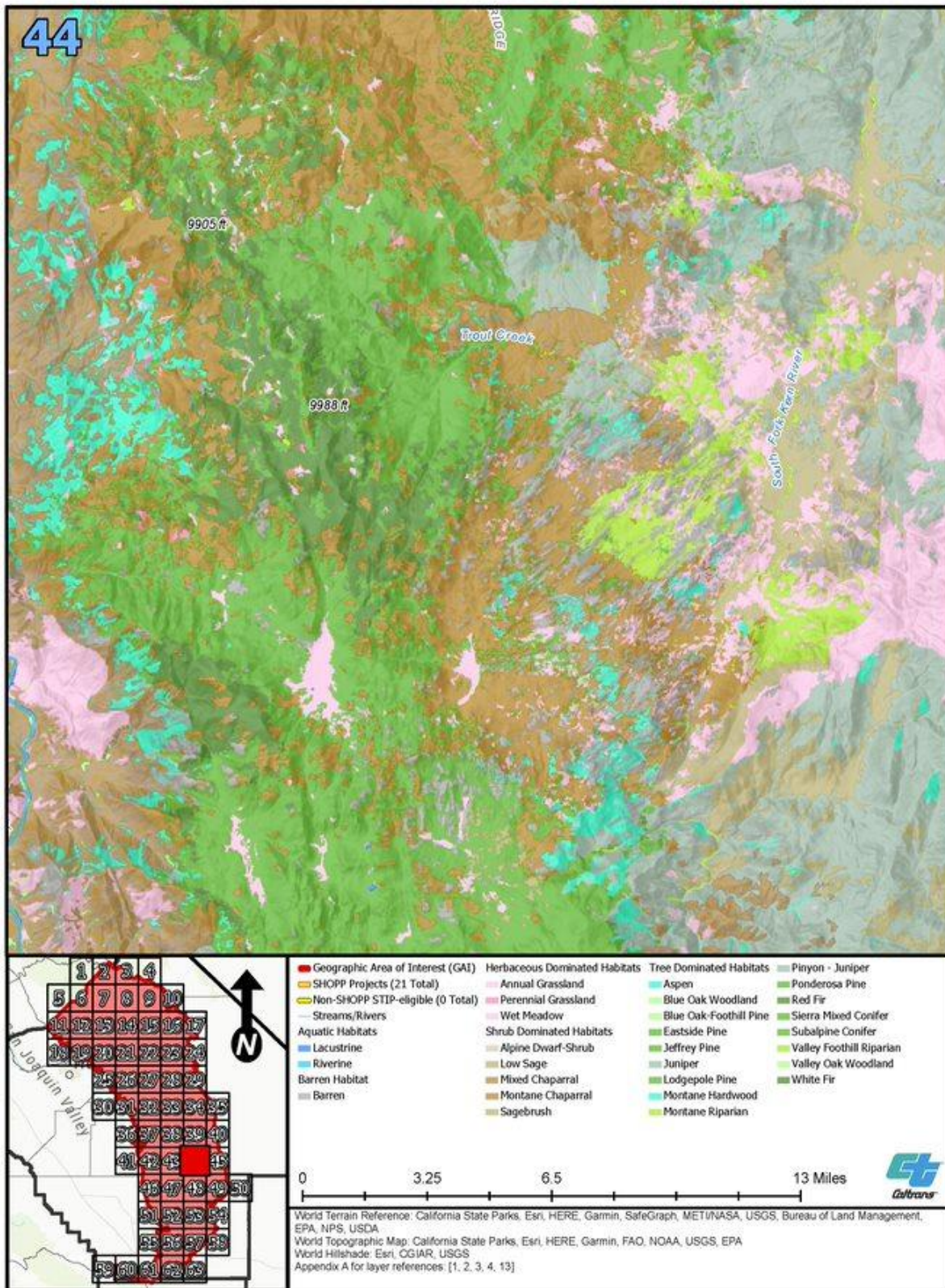




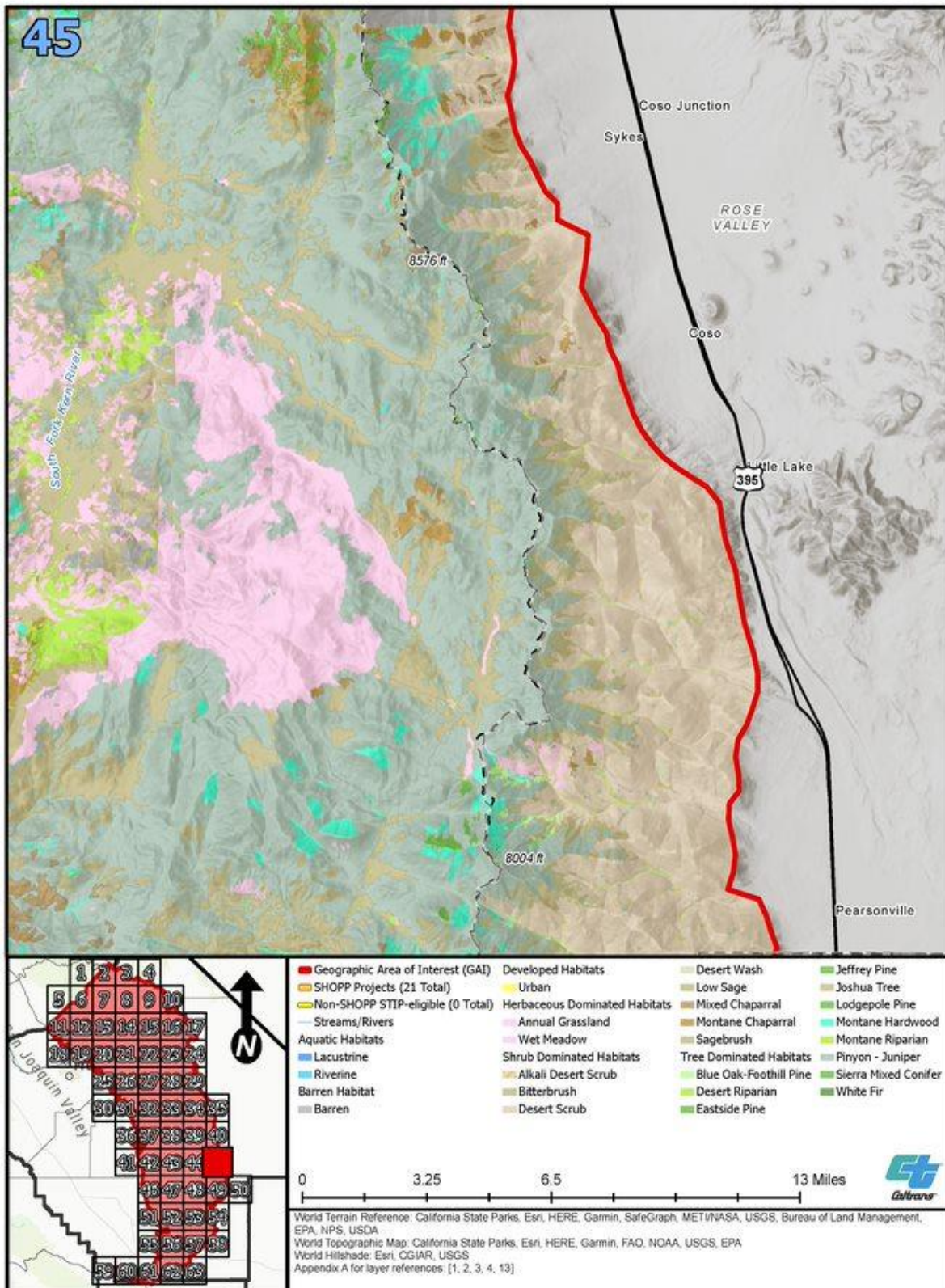




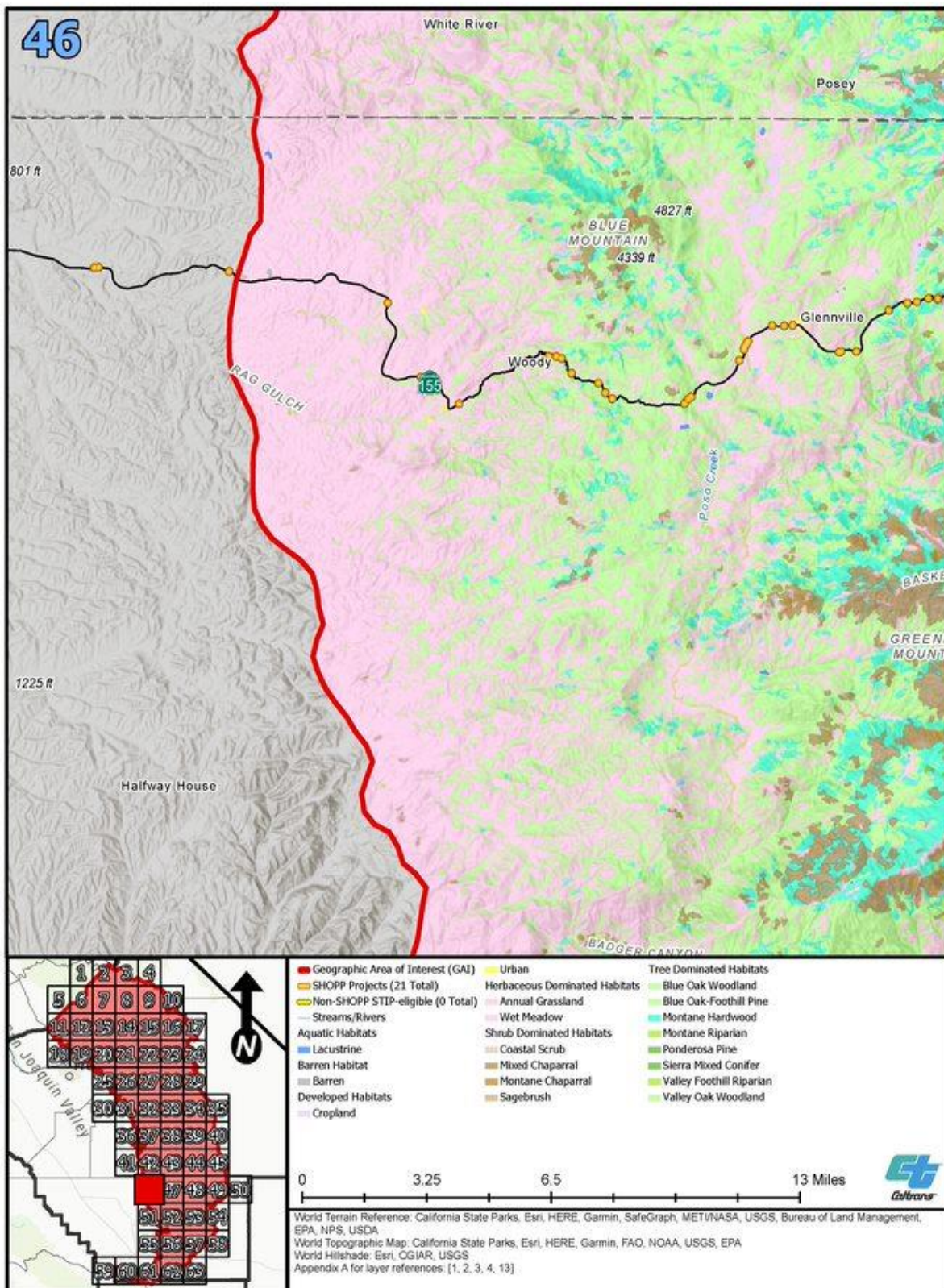




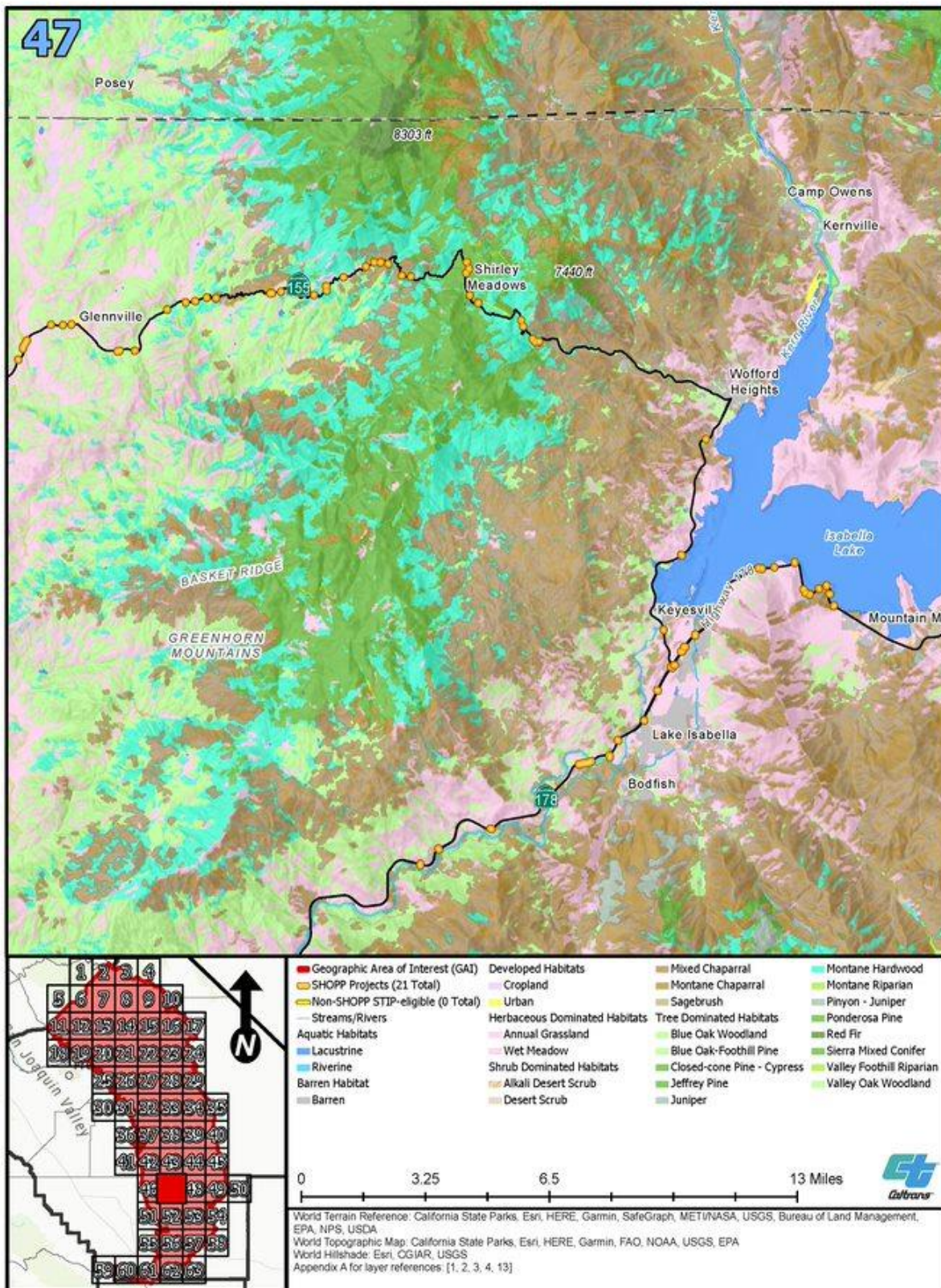




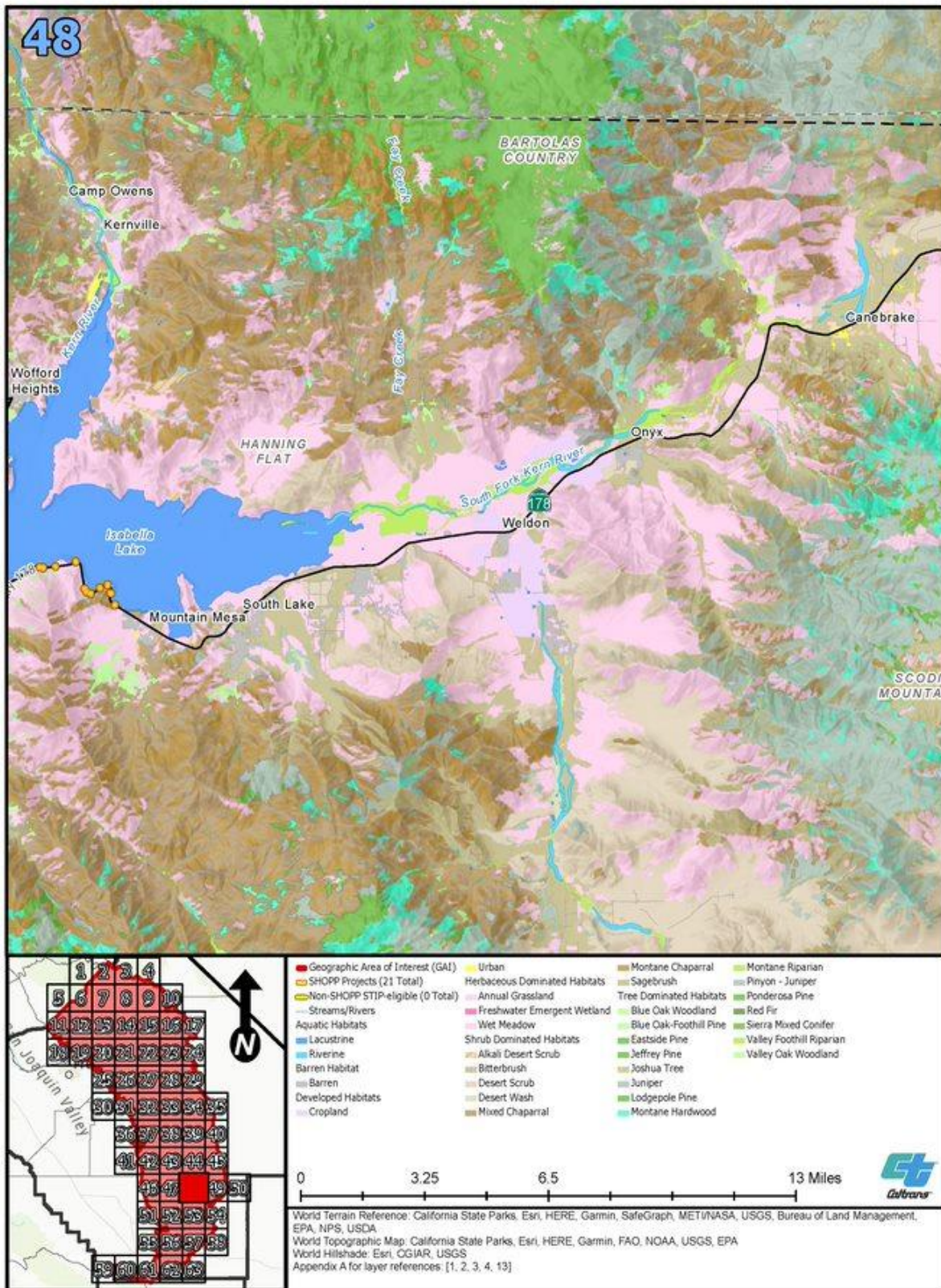




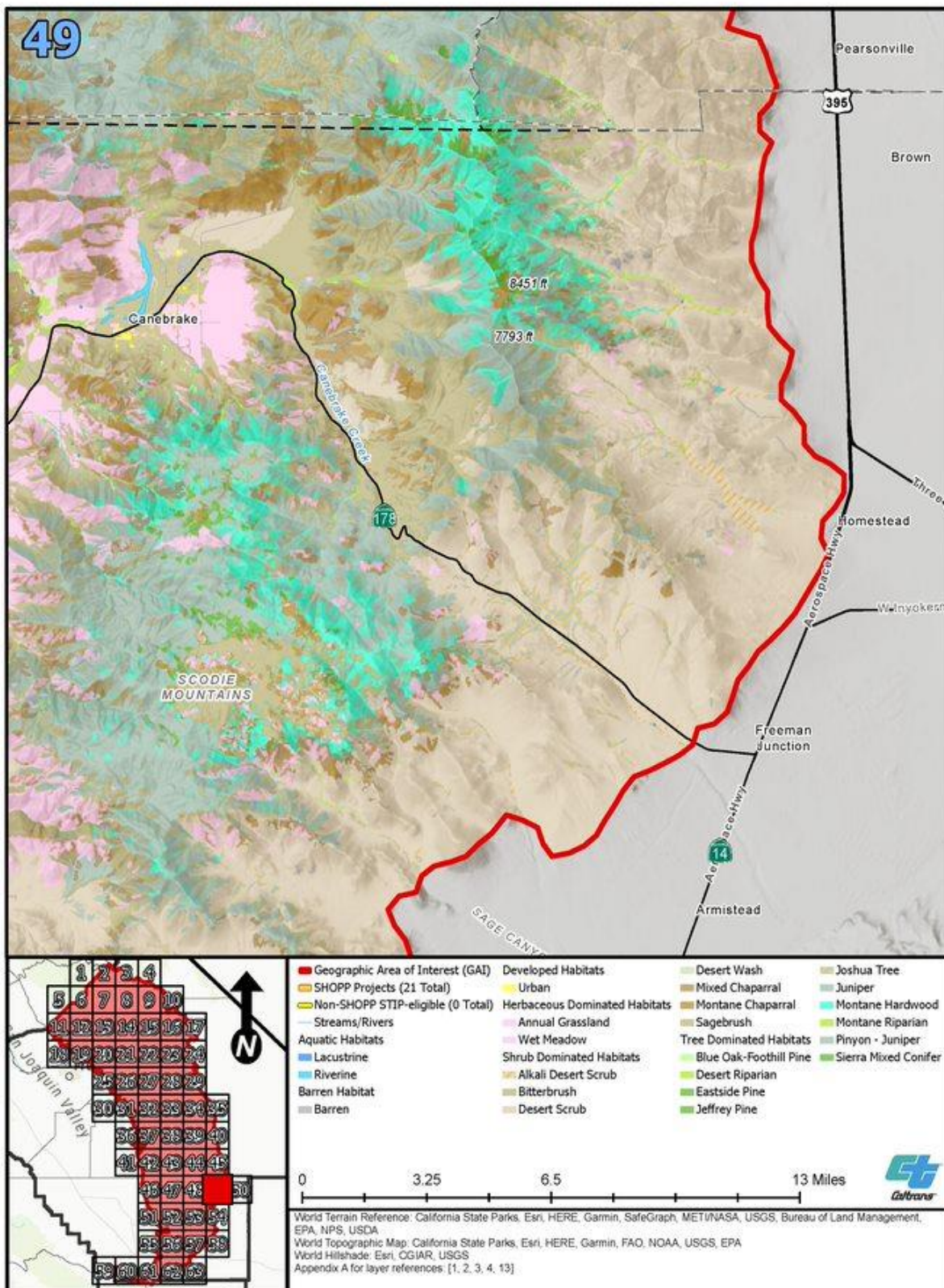


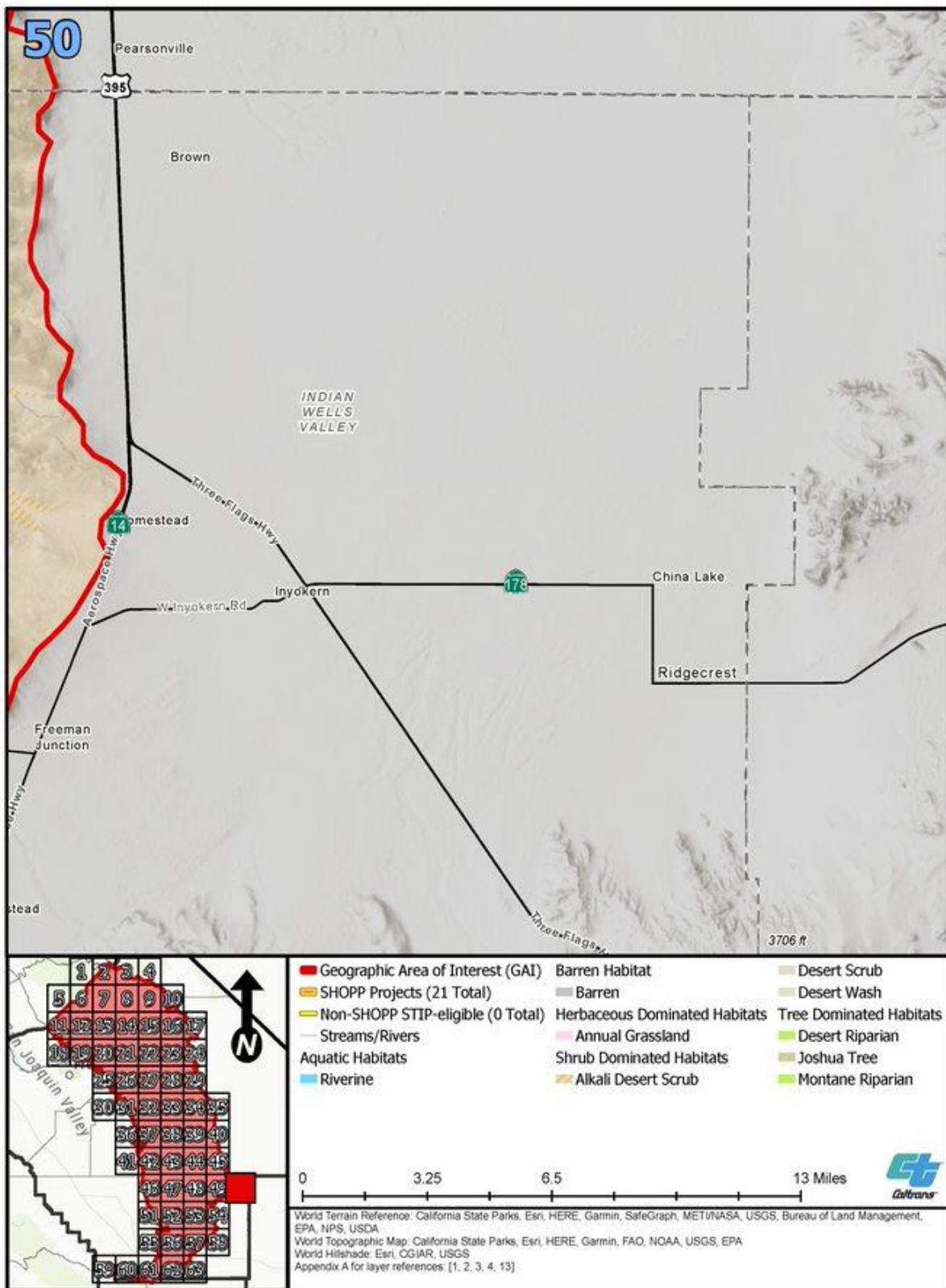




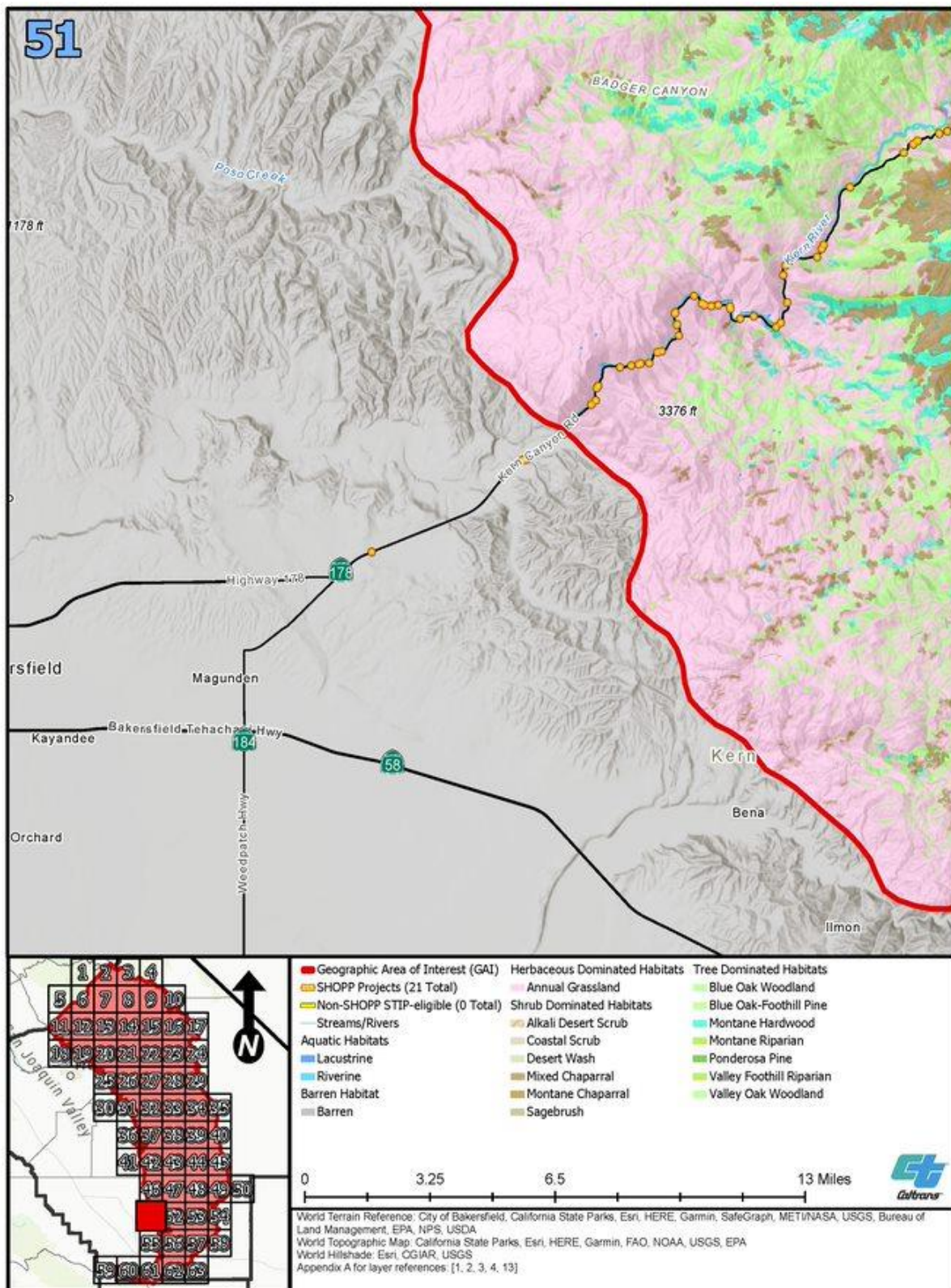




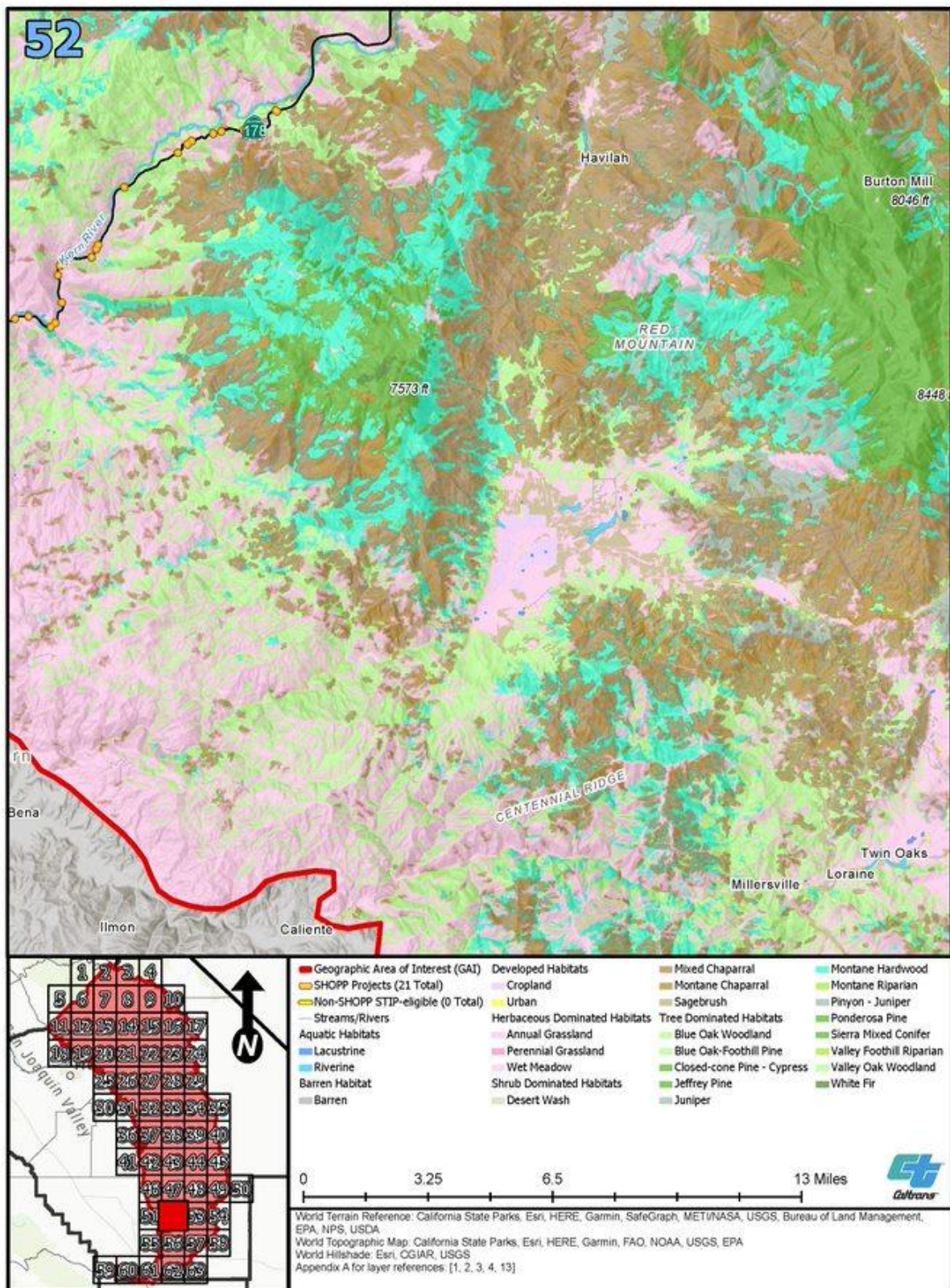




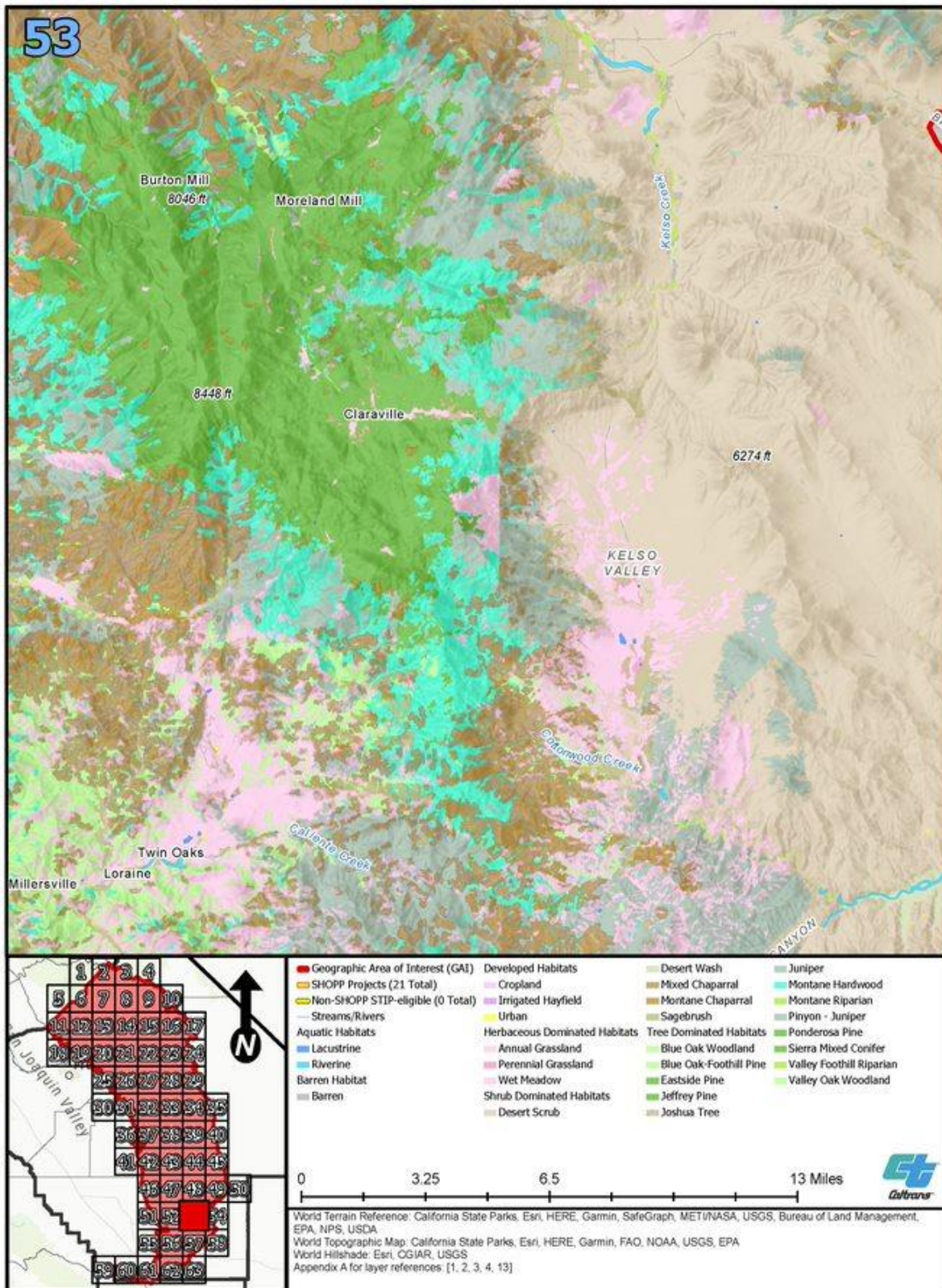


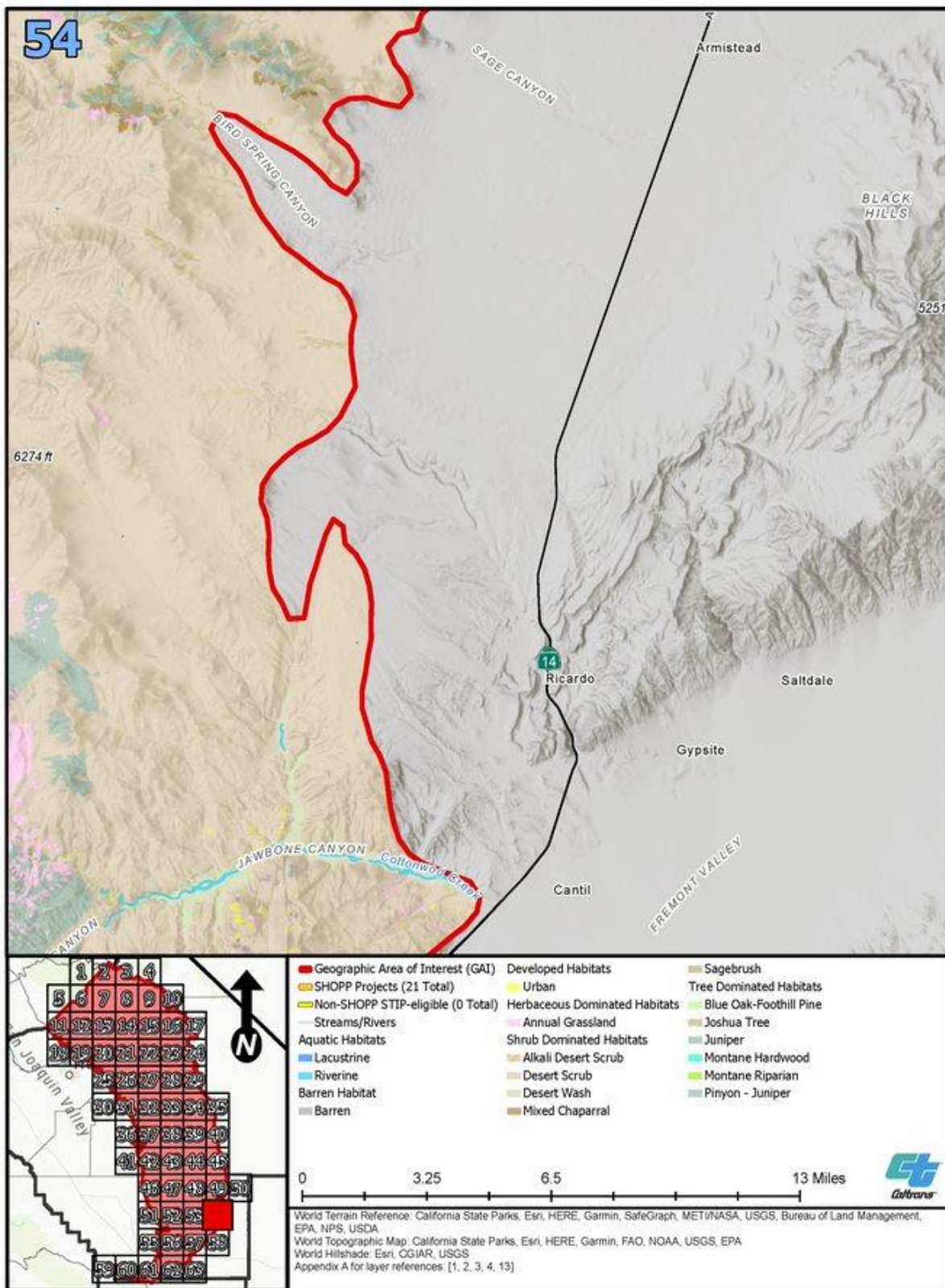




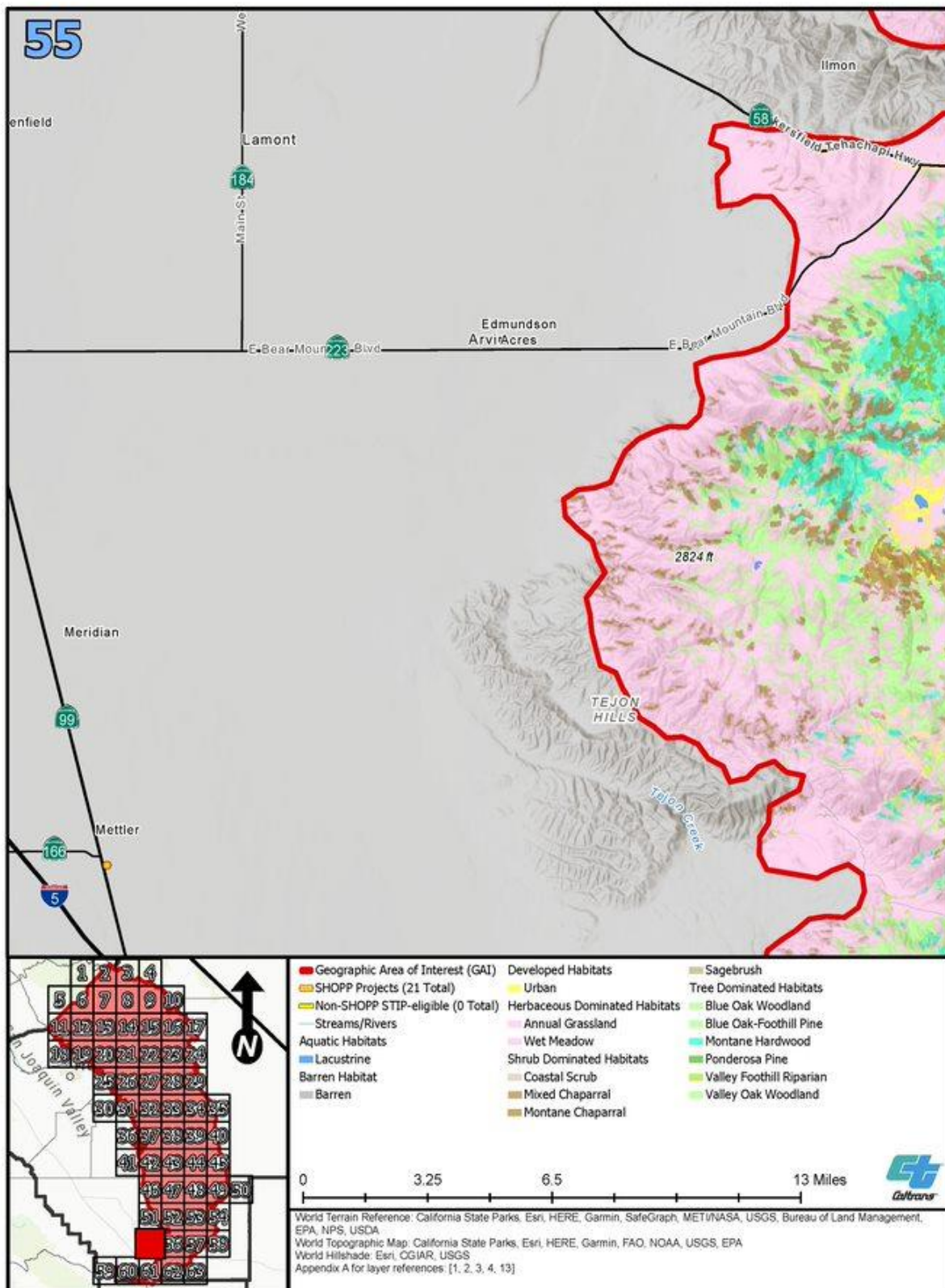


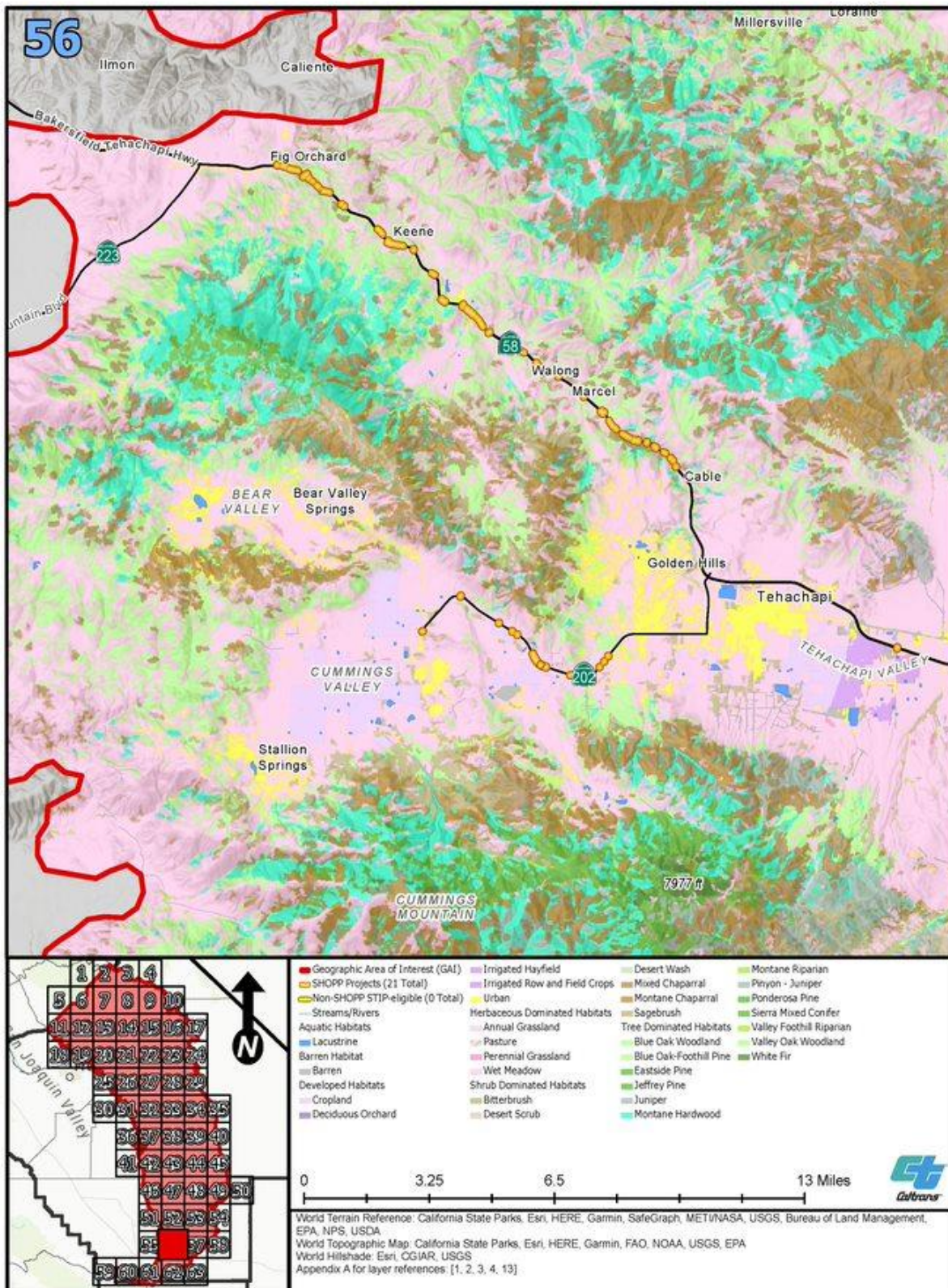




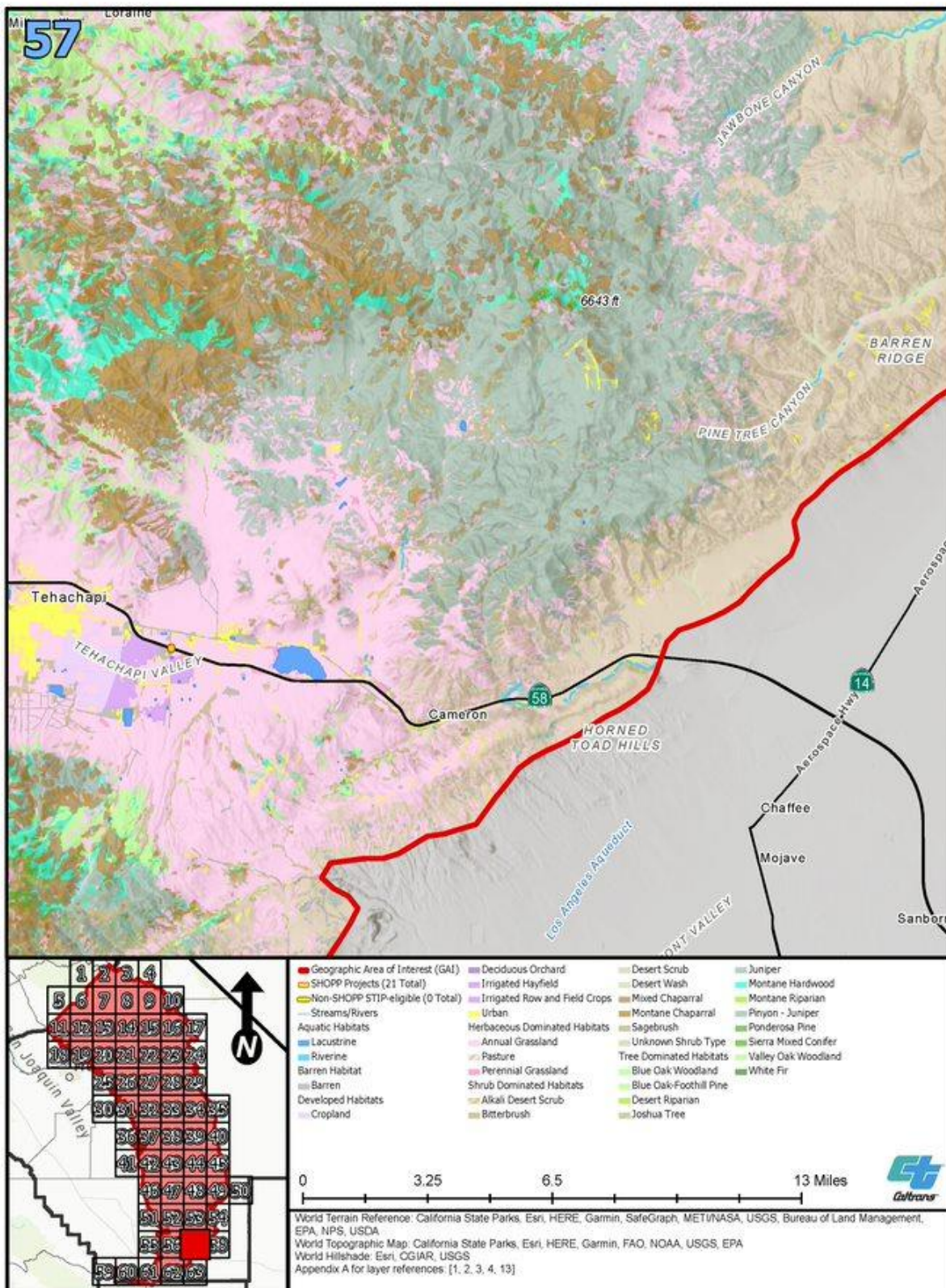


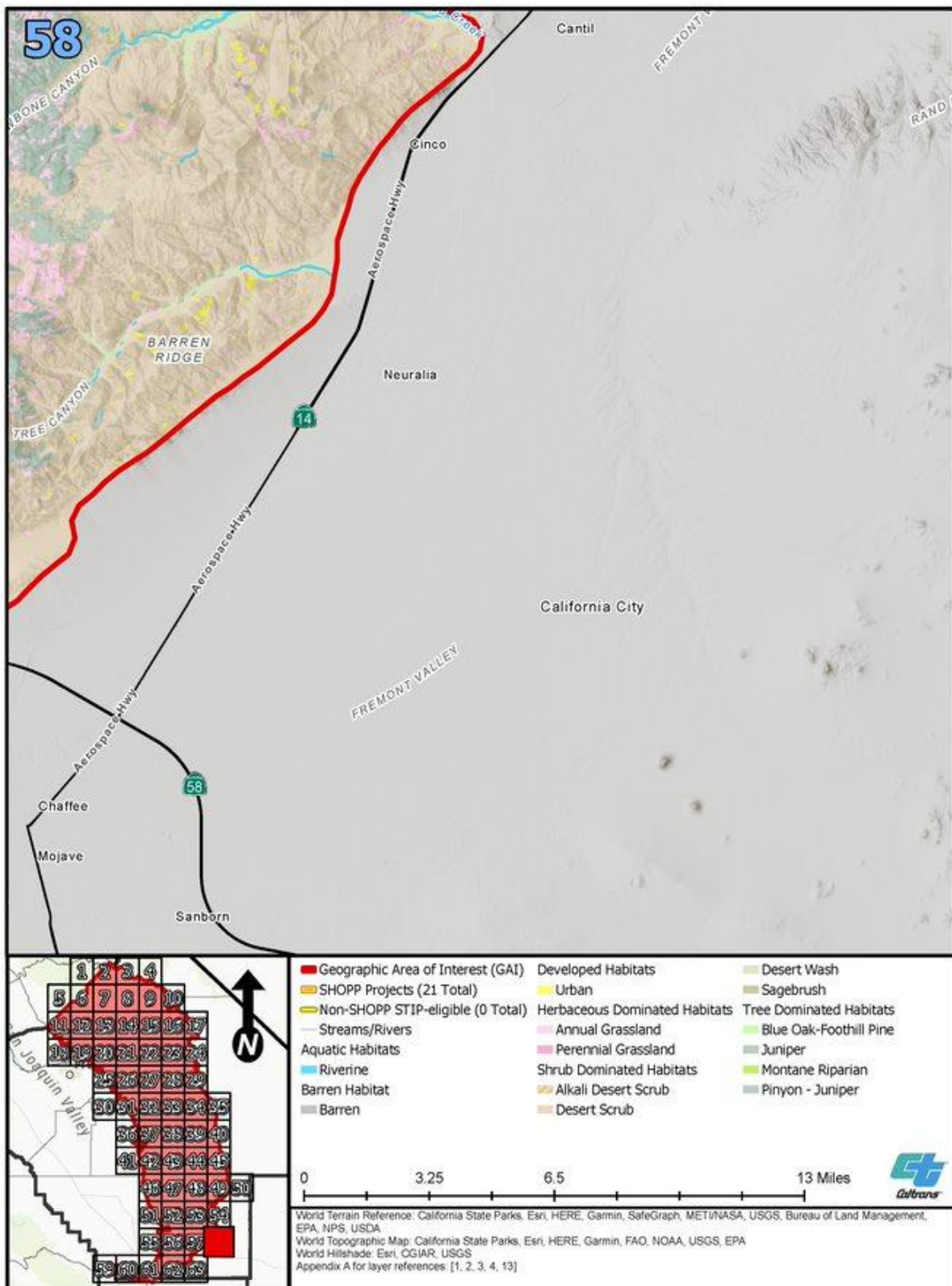




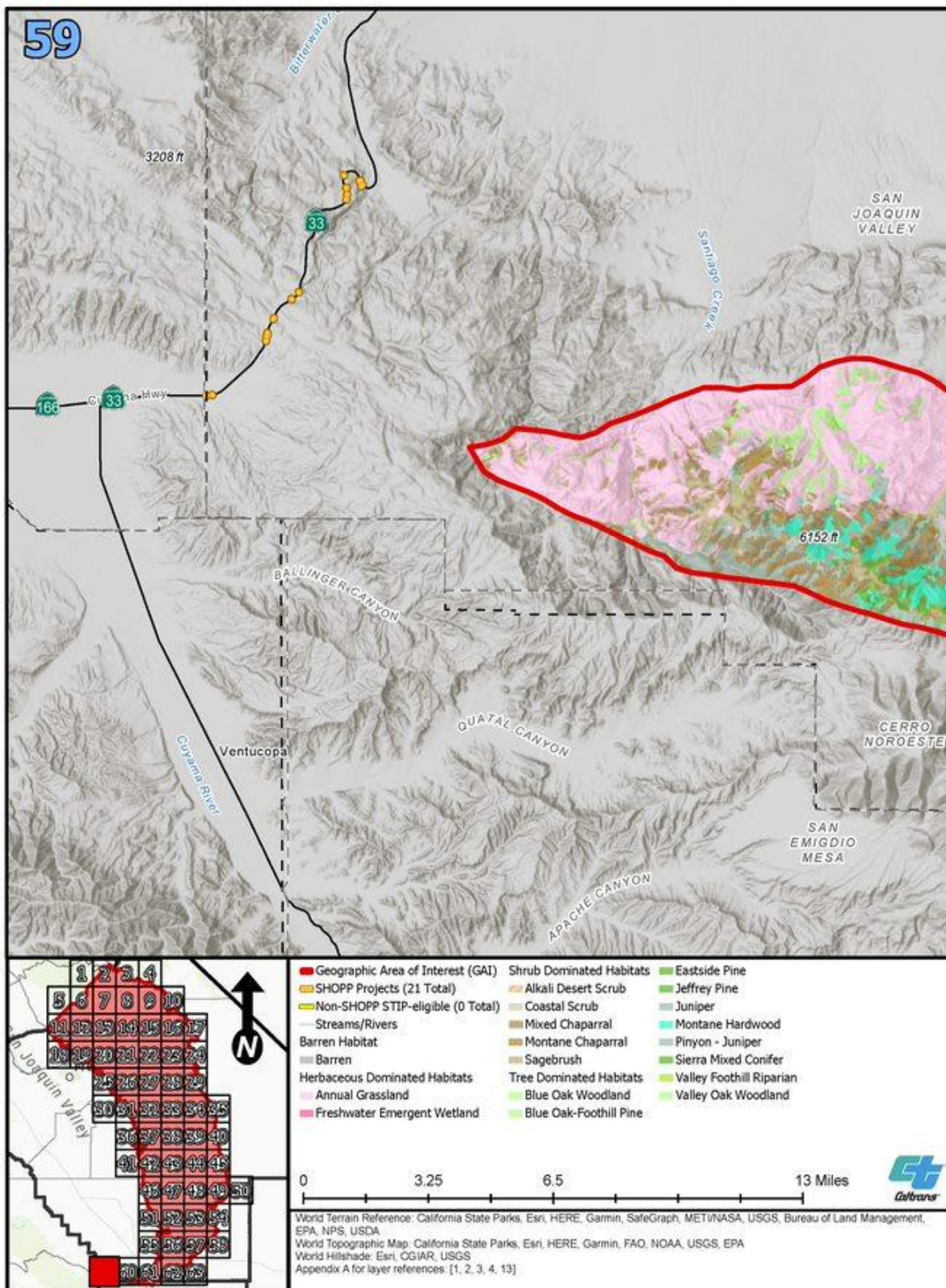




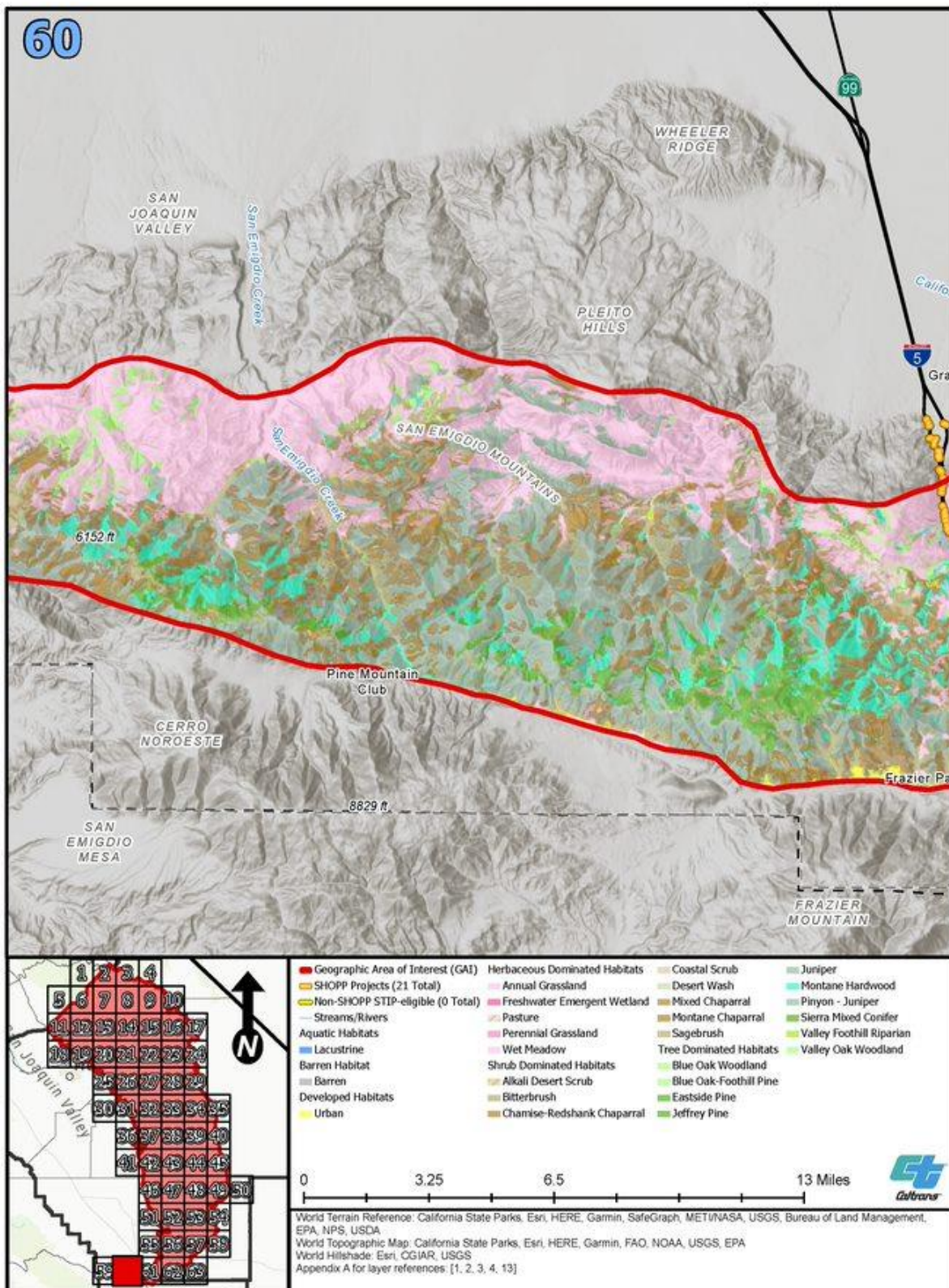




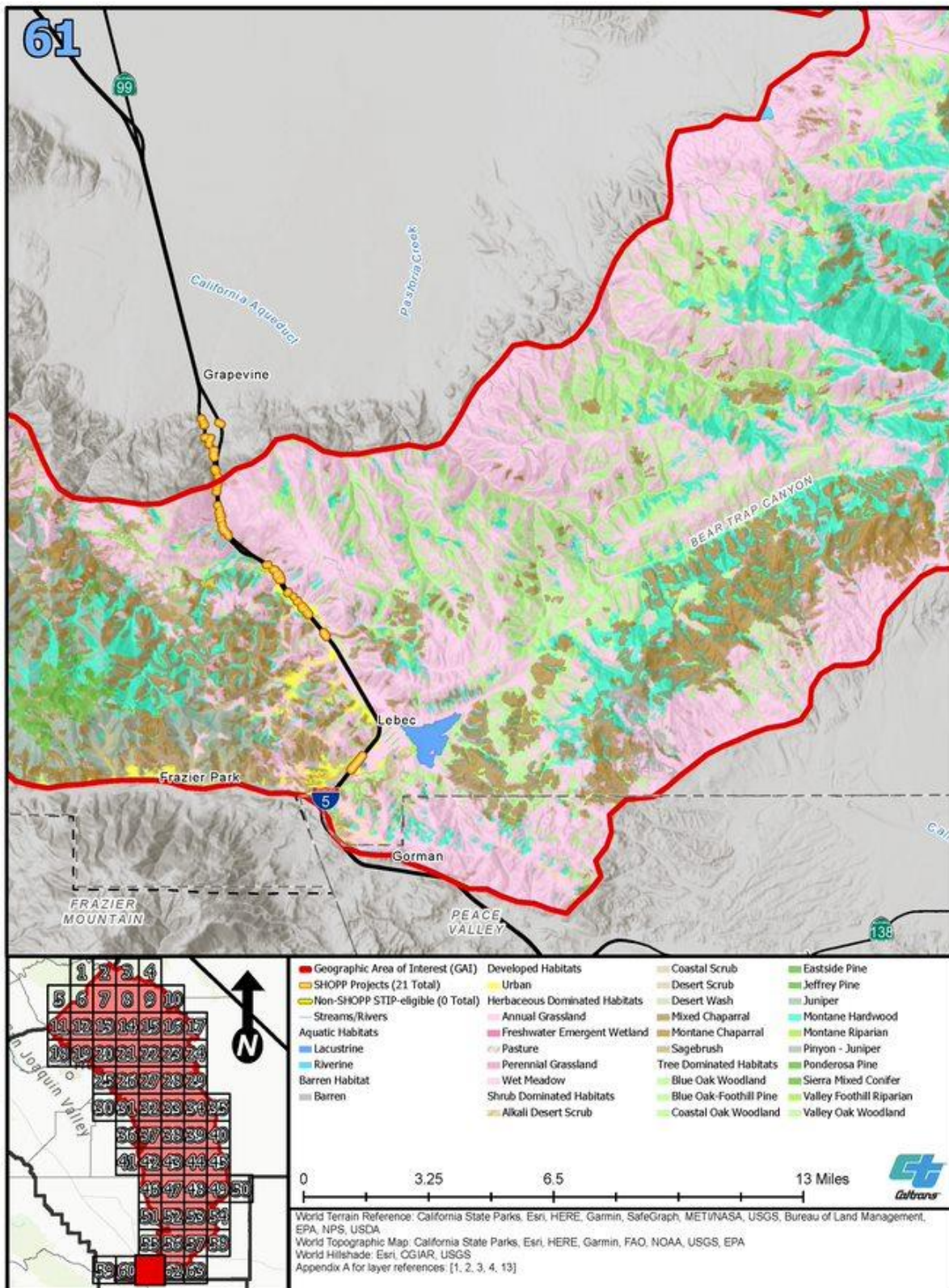




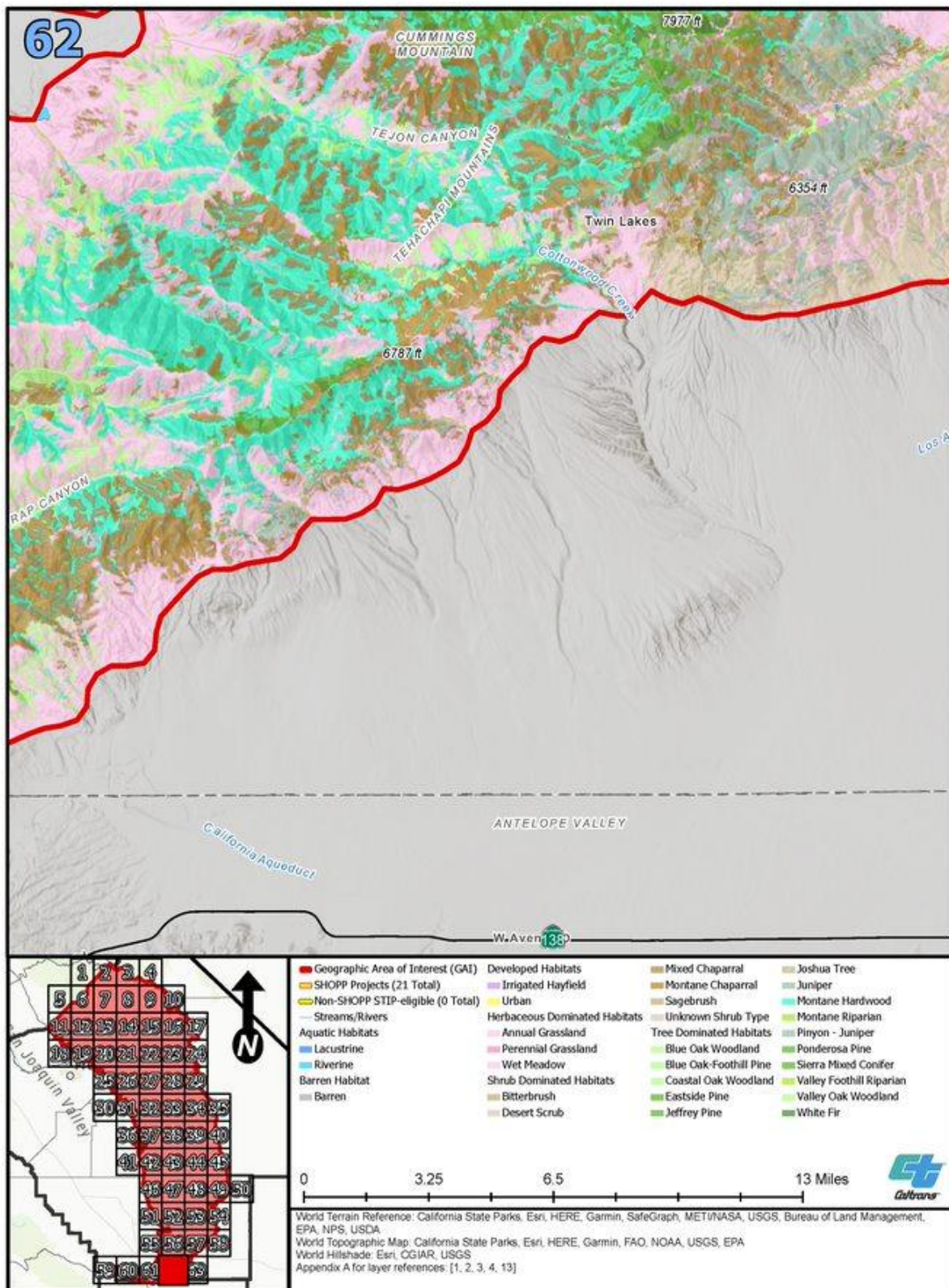




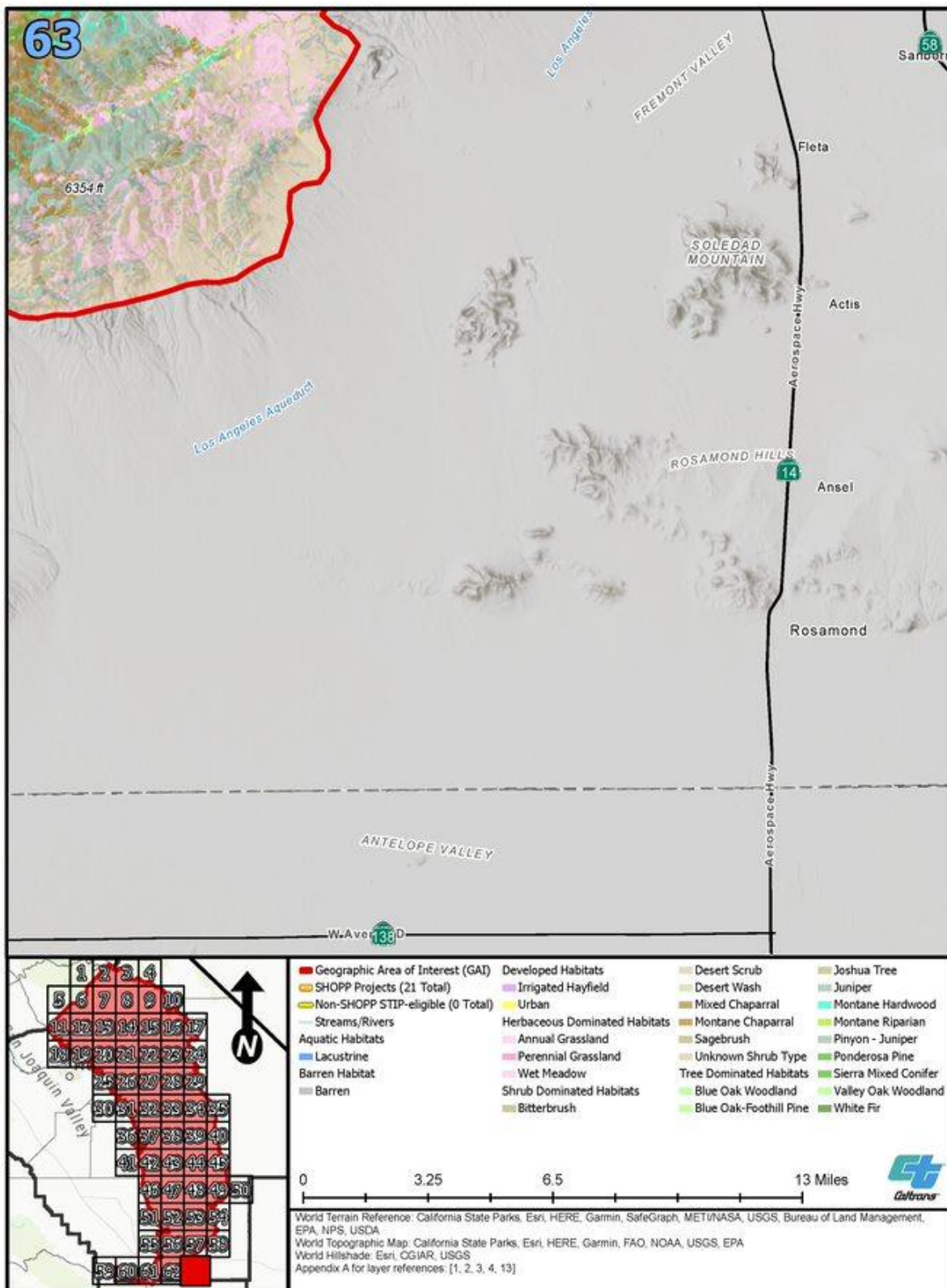












## APPENDIX D: COMPLETE SAMNA SPECIES RESULTS

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-12) within the GAI. The table lists 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 California Natural Diversity Database as potentially present will be incorporated into the analysis of specific advance mitigation projects and future transportation projects.
- Subspecies may or may not have CWHR-supplied or other documented sources showing their home ranges. When a subspecies did not have home range information that could 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 information sources<sup>1</sup> 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-

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<sup>1</sup> 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.



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. The terrestrial species of mitigation need for this GAI include California tiger salamander (*Ambystoma californiense*), San Joaquin kit fox (*Vulpes macrotis mutica*), striped adobe-lily (*Fritillaria striata*), and Springville clarkia (*Clarkia springvillensis*). Several other special-status species share habitat with these species of mitigation need and may be affected by Caltrans' future transportation projects. Advance mitigation planning will consider the special-status species that co-occur in habitats that may also benefit from advance mitigation project planning and scoping 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. The types of habitats for the species of mitigation need with the potential to be affected in the GAI, and the other special-status species that may share these habitats, were excerpted from Table D-1 and are provided in tables in Chapter 5 of the 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. Second Quarter 2021/2022 Fiscal Year. 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 Conversation 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	Bitterbush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Eastside Pine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood - Conifer	Montane Riparian	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Valley Oak Woodland	Wet Meadow	White fir	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
Chinese Camp brodiaea	<i>Brodiaea pallida</i>	FT, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Congdon's lewisia	<i>Lewisia congdonii</i>	SR	0.08	0.00	0.00	0.00	0.00	0.00	0.00	1.17	0.00	2.18	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.53
Congdon's woolly sunflower <sup>a</sup>	<i>Eriophyllum congdonii</i>	SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
Father Crowley's lupine	<i>Lupinus padre-crowleyi</i>	SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
Kaweah brodiaea	<i>Brodiaea insignis</i>	SE	3.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.55
Keck's checkerbloom <sup>a</sup>	<i>Sidalcea keckii</i>	FE	3.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.68
Layne's ragwort <sup>a</sup>	<i>Packera layneae</i>	FT, SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
Mariposa lupine <sup>a</sup>	<i>Lupinus citrinus</i> var. <i>deflexus</i>	ST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
Mariposa pussypaws	<i>Calyptridium pulchellum</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47
Merced clarkia <sup>a</sup>	<i>Clarkia lingulata</i>	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
Mojave tarplant	<i>Deinandra mohavensis</i>	SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
Red Hills vervain <sup>a</sup>	<i>Verbena californica</i>	FT, ST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
San Joaquin adobe sunburst <sup>a</sup>	<i>Pseudobahia peirsonii</i>	FT, SE	3.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.42



Common Name	Scientific Name	Status	Annual Grassland	Barren	Bitterbush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Eastside Pine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood - Conifer	Montane Riparian	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Valley Oak Woodland	Wet Meadow	White fir	Total
Springville clarkia <sup>a</sup>	<i>Clarkia springvillensis</i>	FT, SE	3.42	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.72
Striped adobe-lily	<i>Fritillaria striata</i>	ST	3.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.55
Succulent owl's-clover <sup>a</sup>	<i>Castilleja campestris</i> var. <i>succulenta</i>	FT, SE	3.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.42
Tree-anemone	<i>Carpenteria californica</i>	FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47
Twisselmann's buckwheat	<i>Eriogonum twisselmannii</i>	SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82
Twisselmann's nemacladus	<i>Nemacladus twisselmannii</i>	SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82
Yosemite onion	<i>Allium yosemitense</i>	SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	1.16	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07
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
California newt <sup>b</sup>	<i>Taricha torosa</i>	None	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.28
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	0.08	0.00	0.00	0.10	0.16	0.00	0.00	1.16	0.00	2.05	1.08	0.00	1.12	0.00	0.01	0.00	0.00	0.03	0.00	0.00	5.78
Ensatina <sup>c</sup>	<i>Ensatina eschscholtzii</i>	None	0.00	0.00	0.00	0.90	0.19	0.00	0.00	1.25	0.25	2.31	1.10	0.00	1.12	0.00	0.00	0.00	0.95	0.03	0.02	0.04	8.15
Yellow-blotched salamander	<i>Ensatina eschscholtzii croceator</i>	FS	0.00	0.00	0.00	0.80	0.03	0.00	0.00	0.09	0.03	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.02	0.00	1.21
Foothill yellow-legged frog	<i>Rana boylei</i>	FS, SE, SSC	6.79	0.00	0.00	0.90	0.19	0.51	0.00	1.22	0.25	2.25	1.10	0.00	1.12	0.00	0.00	0.00	0.95	0.03	0.02	0.04	15.36
Mount Lyell salamander	<i>Hydromantes platycephalus</i>	None	0.00	2.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.14	0.00	0.00	0.04	2.48
Sierra Nevada yellow-legged frog	<i>Rana sierrae</i>	FE, ST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.10	0.00	0.17	0.00	0.00	0.28	0.00	0.00	0.04	0.66

Common Name	Scientific Name	Status	Annual Grassland	Barren	Bitterbush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Eastside Pine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood - Conifer	Montane Riparian	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Valley Oak Woodland	Wet Meadow	White fir	Total
Southern mountain yellow-legged frog	<i>Rana muscosa</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.01	0.00	0.08	0.00	0.00	0.00	0.30
Tehachapi slender salamander	<i>Batrachoseps stebbinsi</i>	FS, ST	0.00	0.00	0.00	0.80	0.03	0.00	0.00	0.09	0.03	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.02	0.00	1.21
Yosemite toad	<i>Anaxyrus canorus</i>	FT, 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	0.17	0.00	0.00	0.06	0.00	0.00	0.00	0.23
Reptiles	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Blainville's horned lizard	<i>Phrynosoma blainvillii</i>	FS, SSC	6.64	0.00	0.00	0.80	0.03	0.00	0.00	0.14	0.00	0.00	0.09	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.74
California legless lizard	<i>Anniella pulchra</i>	FS, SSC	0.00	0.00	0.00	0.80	0.03	0.01	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93
California mountain kingsnake <sup>d</sup>	<i>Lampropeltis zonata</i>	None	0.15	0.00	0.00	0.10	0.16	0.00	0.00	1.17	0.25	2.29	1.10	0.00	1.12	0.00	0.00	0.00	0.81	0.03	0.00	0.00	7.18
Coachwhip <sup>e</sup>	<i>Coluber flagellum</i>	SSC	6.64	0.00	0.00	0.80	0.03	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	7.57
Common gartersnake <sup>f</sup>	<i>Thamnophis sirtalis</i>	FE, SE, SFP, SSC	6.79	0.00	0.00	0.90	0.19	0.51	0.00	1.25	0.25	2.31	1.10	0.00	1.12	0.00	0.00	0.00	0.95	0.03	0.02	0.04	15.45
Common sagebrush lizard	<i>Sceloporus graciosus</i>	FS	0.00	0.00	0.18	0.00	0.00	0.00	0.01	1.25	0.25	2.31	1.10	0.00	1.12	0.00	0.00	0.02	0.95	0.00	0.00	0.04	7.22
Desert night lizard	<i>Xantusia vigilis</i>	FS, SSC	6.64	0.00	0.00	0.80	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	7.47
Gophersnake <sup>g</sup>	<i>Pituophis catenifer</i>	None	6.64	0.00	0.00	0.80	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	7.47
Northern rubber boa <sup>h</sup>	<i>Charina bottae</i>	None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	2.31	1.10	0.10	1.12	0.17	0.00	0.00	0.95	0.00	0.02	0.04	6.06
Ring-necked snake <sup>i</sup>	<i>Diadophis punctatus</i>	FS, SSC	0.32	0.00	0.00	0.10	0.16	0.50	0.00	0.84	0.14	1.52	0.44	0.00	0.19	0.00	0.00	0.00	0.20	0.03	0.00	0.00	4.45
Striped racer <sup>j</sup>	<i>Coluber lateralis</i>	FT, ST	0.00	0.00	0.00	0.90	0.19	0.51	0.00	1.25	0.25	2.29	1.10	0.00	1.12	0.00	0.00	0.00	0.81	0.03	0.02	0.00	8.48



Common Name	Scientific Name	Status	Annual Grassland	Barren	Bitterbush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Eastside Pine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood - Conifer	Montane Riparian	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Valley Oak Woodland	Wet Meadow	White fir	Total
Western patch-nosed snake <sup>k</sup>	<i>Salvadora hexalepis</i>	SSC	6.64	0.02	0.00	0.80	0.03	0.00	0.00	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	7.57
Western skink <sup>l</sup>	<i>Plestiodon skiltonianus</i>	FS	0.07	0.00	0.00	0.00	0.00	0.01	0.00	0.05	0.03	0.32	0.07	0.00	0.29	0.00	0.00	0.00	0.18	0.00	0.00	0.00	1.01
Birds	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
American white pelican	<i>Pelecanus erythrorhynchos</i>	SSC	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85
Bald eagle	<i>Haliaeetus leucocephalus</i>	FS, SE, SFP	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.01	0.02	0.95	0.03	0.02	0.04	21.97
Bell's sparrow <sup>m</sup>	<i>Artemisiospiza belli</i>	FT, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Bewick's wren <sup>n</sup>	<i>Thryomanes bewickii</i>	SSC	0.00	0.00	0.00	0.90	0.19	0.51	0.00	1.25	0.25	2.27	1.10	0.10	1.12	0.00	0.00	0.00	0.00	0.03	0.00	0.04	7.75
Black swift	<i>Cypseloides niger</i>	SSC	0.07	1.30	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.38	0.00	0.00	0.00	0.00	0.01	0.00	0.08	0.00	0.00	0.00	2.11
Burrowing owl	<i>Athene cunicularia</i>	FS, SSC	6.46	1.75	0.11	0.02	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.02	0.00	8.48
California condor	<i>Gymnogyps californianus</i>	FE, FS, SE, SFP	6.70	0.69	0.00	0.80	0.03	0.01	0.00	0.09	0.03	0.26	0.02	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	8.81
California quail <sup>o</sup>	<i>Callipepla californica</i>	SSC	6.79	0.00	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.29	1.10	0.10	1.12	0.00	0.00	0.02	0.81	0.03	0.02	0.00	15.57
Spotted owl <sup>p</sup>	<i>Strix occidentalis</i>	None	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	2.24	1.10	0.00	1.12	0.17	0.00	0.00	0.95	0.00	0.00	0.04	5.77
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	0.00	0.00	0.00	0.90	0.19	0.01	0.00	1.25	0.23	2.07	0.77	0.00	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.46
California towhee <sup>q</sup>	<i>Pipilo crissalis</i>	FT, SE	6.64	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	0.02	0.00	6.66
Common yellowthroat <sup>t</sup>	<i>Geothlypis trichas</i>	SSC	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.00	0.02	0.95	0.03	0.02	0.04	21.96
Golden eagle	<i>Aquila chrysaetos</i>	FS, SFP	3.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.59

Common Name	Scientific Name	Status	Annual Grassland	Barren	Bitterbush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Eastside Pine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood - Conifer	Montane Riparian	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Valley Oak Woodland	Wet Meadow	White fir	Total
Great blue heron	<i>Ardea herodias</i>	SFS	6.79	0.00	0.00	0.90	0.19	0.00	0.01	0.00	0.00	2.27	1.10	0.10	1.12	0.00	0.00	0.00	0.95	0.03	0.02	0.04	13.51
Great egret	<i>Ardea alba</i>	SFS	3.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.69
Great gray owl	<i>Strix nebulosa</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	0.17	0.00	0.00	0.95	0.00	0.00	0.04	1.15
Hutton's vireo <sup>s</sup>	<i>Vireo huttoni</i>	SSC	0.00	0.00	0.00	0.90	0.19	0.51	0.00	0.97	0.00	1.99	1.02	0.00	0.99	0.00	0.00	0.00	0.75	0.03	0.00	0.00	7.35
Loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.00	2.29	1.10	0.10	1.12	0.00	0.00	0.02	0.00	0.03	0.02	0.00	20.54
Long-eared owl	<i>Asio otus</i>	SSC	6.79	0.00	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.00	0.00	0.02	0.95	0.03	0.02	0.04	15.76
Sooty grouse <sup>l</sup>	<i>Dendragapus fuliginosus</i>	None	0.15	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	2.31	1.10	0.10	1.12	0.17	0.00	0.02	0.95	0.00	0.00	0.04	5.96
Mount Pinos sooty grouse	<i>Dendragapus obscurus howardi</i>	SSC	3.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.42	0.00	0.84	0.00	0.00	0.00	0.47	0.00	0.00	0.00	6.13
Northern goshawk	<i>Accipiter gentilis</i>	FS, SSC	0.00	0.00	0.18	0.00	0.16	0.51	0.01	1.12	0.25	2.25	1.10	0.10	1.12	0.17	0.00	0.02	0.95	0.03	0.00	0.04	8.00
Northern harrier	<i>Circus cyaneus</i>	SSC	6.64	1.90	0.18	0.80	0.03	0.00	0.01	0.14	0.00	0.06	0.09	0.10	0.03	0.00	0.00	0.02	0.00	0.00	0.02	0.00	10.03
Olive-sided flycatcher	<i>Contopus cooperi</i>	SSC	0.00	0.00	0.00	0.00	0.19	0.51	0.01	1.25	0.00	2.31	1.10	0.10	1.12	0.17	0.00	0.00	0.95	0.00	0.00	0.04	7.74
Vesper sparrow <sup>u</sup>	<i>Poocetes gramineus</i>	None	3.59	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Oregon vesper sparrow	<i>Poocetes gramineus affinis</i>	SSC	3.59	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.66
Osprey	<i>Pandion haliaetus</i>	None	6.79	6.03	0.18	0.90	0.19	0.00	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.01	0.02	0.95	0.03	0.02	0.04	21.46
Peregrine falcon	<i>Falco peregrinus</i>	SFP	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.01	0.02	0.95	0.03	0.02	0.04	21.97
Purple martin	<i>Progne subis</i>	SSC	6.79	0.00	0.00	0.90	0.19	0.00	0.00	0.00	0.00	2.31	1.10	0.00	1.12	0.00	0.01	0.00	0.89	0.03	0.02	0.00	13.36
Red-winged blackbird	<i>Agelaius phoeniceus</i>	SSC	6.79	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	0.02	0.00	6.91



Common Name	Scientific Name	Status	Annual Grassland	Barren	Bitterbush	Blue Oak Woodland	Blue Oak-Foothill Pine	Chamise-Redshank Chaparral	Eastside Pine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood - Conifer	Montane Riparian	Ponderosa Pine	Red Fir	Riverine	Sagebrush	Sierran Mixed Conifer	Valley Oak Woodland	Wet Meadow	White fir	Total
Rufous-crowned sparrow <sup>v</sup>	<i>Aimophila ruficeps</i>	SSC	6.64	0.00	0.00	0.00	0.03	0.00	0.00	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	6.81
Savannah sparrow <sup>w</sup>	<i>Passerculus sandwichensis</i>	SE, SSC	6.64	0.00	0.11	0.90	0.03	0.50	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.02	0.00	8.44
Short-eared owl	<i>Asio flammeus</i>	SSC	3.59	0.00	0.11	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.09	0.10	0.03	0.00	0.00	0.02	0.00	0.00	0.00	0.00	4.01
Song sparrow <sup>x</sup>	<i>Melospiza melodia</i>	SSC	6.79	0.00	0.00	0.90	0.19	0.51	0.01	1.25	0.00	2.31	1.10	0.10	1.12	0.00	0.01	0.00	0.95	0.03	0.02	0.04	15.32
Spotted towhee <sup>y</sup>	<i>Pipilo maculatus</i>	SSC	0.00	0.00	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.00	0.00	0.02	0.95	0.03	0.00	0.04	8.95
Swainson's hawk	<i>Buteo swainsoni</i>	FS, ST	3.59	0.22	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	3.84
Tricolored blackbird	<i>Agelaius tricolor</i>	FS, ST, SSC	3.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.59
Vaux's swift	<i>Chaetura vauxi</i>	SSC	0.00	0.00	0.00	0.00	0.16	0.00	0.00	1.17	0.25	2.31	1.10	0.00	1.12	0.17	0.01	0.00	0.95	0.00	0.00	0.04	7.27
White-tailed kite	<i>Elanus leucurus</i>	FS, SFP	3.59	1.07	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.72
Yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.00	0.00	0.90	0.19	0.51	0.01	1.25	0.25	2.29	1.10	0.10	1.12	0.00	0.00	0.00	0.81	0.03	0.00	0.00	8.56
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
American badger	<i>Taxidea taxus</i>	SSC	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.00	0.02	0.95	0.03	0.02	0.04	21.96
Big-eared woodrat <sup>z</sup>	<i>Neotoma macrotis</i>	FS, SSC	0.00	0.00	0.00	0.90	0.19	0.51	0.00	1.25	0.25	2.29	1.10	0.00	1.12	0.00	0.00	0.00	0.81	0.03	0.02	0.00	8.48
Black-tailed jackrabbit <sup>aa</sup>	<i>Lepus californicus</i>	None	6.79	0.00	0.11	0.90	0.19	0.51	0.00	1.25	0.21	2.29	1.10	0.10	1.12	0.00	0.00	0.02	0.61	0.03	0.02	0.00	15.24
Broad-footed mole <sup>bb</sup>	<i>Scapanus latimanus</i>	SSC	6.79	0.00	0.00	0.90	0.19	0.00	0.01	0.00	0.00	2.31	1.10	0.10	1.12	0.17	0.00	0.00	0.95	0.03	0.02	0.04	13.72
Brush rabbit <sup>cc</sup>	<i>Sylvilagus bachmani</i>	FE, SE	6.79	0.00	0.00	0.90	0.19	0.51	0.00	1.25	0.25	2.29	1.10	0.00	1.12	0.00	0.00	0.00	0.76	0.03	0.00	0.00	15.19
California pocket mouse <sup>dd</sup>	<i>Chaetodipus californicus</i>	SSC	6.70	0.00	0.00	0.80	0.03	0.01	0.00	0.47	0.09	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.82

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California vole <sup>ee</sup>	<i>Microtus californicus</i>	FE, FS, SE, SSC	6.79	0.00	0.00	0.90	0.19	0.00	0.00	0.93	0.17	1.83	0.70	0.00	0.28	0.00	0.00	0.00	0.59	0.03	0.02	0.00	12.43
Deer mouse <sup>ff</sup>	<i>Peromyscus maniculatus</i>	SSC	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.00	0.02	0.95	0.03	0.02	0.04	21.96
Desert woodrat	<i>Neotoma lepida</i>	SSC	0.00	0.00	0.00	0.03	0.00	0.00	0.08	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00
Fisher	<i>Pekania pennanti</i>	FS, FS, ST, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	1.12	0.17	0.00	0.00	0.95	0.00	0.00	0.04	3.37	0.00
Fringed myotis	<i>Myotis thysanodes</i>	FS	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.01	0.02	0.95	0.03	0.00	0.04	21.95	6.03
Heermann's kangaroo rat <sup>gg</sup>	<i>Dipodomys heermanni</i>	FE, SE, SFP	3.59	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.72
Lodgepole chipmunk	<i>Tamias speciosus</i>	FS	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	0.17	0.00	0.00	0.44	0.00	0.00	0.04	0.69
Long-eared myotis	<i>Myotis evotis</i>	FS	0.00	4.87	0.18	0.90	0.03	0.50	0.01	0.41	0.11	0.66	0.31	0.10	0.13	0.17	0.01	0.02	0.52	0.03	0.02	0.04	9.02
Marten	<i>Martes caurina</i>	FS	0.00	4.88	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.79	0.10	1.00	0.17	0.00	0.00	0.85	0.00	0.00	0.04	7.84
Mountain beaver	<i>Aplodontia rufa</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.59	0.92	0.10	1.00	0.17	0.00	0.00	0.77	0.00	0.00	0.04	3.60
Mountain lion <sup>hh</sup>	<i>Puma concolor</i>	SSC	6.79	0.00	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.00	0.02	0.95	0.03	0.02	0.04	15.93
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	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Ornate shrew <sup>ii</sup>	<i>Sorex ornatus</i>	FE, SSC	6.79	0.00	0.00	0.90	0.19	0.00	0.00	0.96	0.00	0.00	0.46	0.00	0.19	0.00	0.00	0.00	0.09	0.03	0.02	0.00	9.64
Pallid bat	<i>Antrozous pallidus</i>	FS, SSC	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.01	0.02	0.95	0.03	0.02	0.04	21.97
Ringtail	<i>Bassariscus astutus</i>	SFP	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.00	0.00	0.02	0.95	0.03	0.02	0.04	21.79
Red fox	<i>Vulpes vulpes</i>	None	0.00	2.77	0.00	0.00	0.00	0.00	0.01	0.27	0.08	0.00	0.00	0.10	0.04	0.17	0.00	0.00	0.33	0.00	0.00	0.04	3.81
San Joaquin pocket mouse	<i>Pergnathus inornatus</i>	FS	6.64	0.24	0.00	0.79	0.00	0.00	0.00	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	7.75
Sierra Nevada red fox	<i>Vulpes vulpes necator</i>	FE, FS, ST	0.00	2.77	0.00	0.00	0.00	0.00	0.01	0.27	0.08	0.00	0.00	0.10	0.04	0.17	0.00	0.00	0.33	0.00	0.00	0.04	3.81



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Small-footed myotis	<i>Myotis ciliolabrum</i>	FS	6.72	3.86	0.18	0.90	0.19	0.50	0.00	0.93	0.03	1.69	0.59	0.10	0.28	0.00	0.00	0.02	0.25	0.03	0.02	0.00	16.29
Southern grasshopper mouse	<i>Onychomys torridus</i>	SSC	6.68	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.27
Spotted bat	<i>Euderma maculatum</i>	FS, SSC	6.79	0.00	0.18	0.90	0.19	0.00	0.01	0.00	0.25	0.00	1.10	0.10	1.12	0.00	0.01	0.02	0.95	0.03	0.02	0.04	11.70
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.01	0.02	0.95	0.03	0.02	0.04	21.97
Western mastiff bat	<i>Eumops perotis</i>	FS, SSC	6.79	5.14	0.00	0.90	0.19	0.51	0.00	0.97	0.19	2.07	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.03	0.02	0.00	19.01
Western red bat	<i>Lasiurus blossevillii</i>	SSC	4.00	0.00	0.00	0.89	0.19	0.51	0.00	0.97	0.17	1.97	0.98	0.00	0.99	0.00	0.00	0.00	0.45	0.03	0.00	0.00	11.14
Western spotted skunk <sup>l</sup>	<i>Spilogale gracilis</i>	SSC	6.79	0.00	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.00	0.02	0.95	0.03	0.02	0.04	15.93
White-tailed jackrabbit	<i>Lepus townsendii</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.03
Wolverine	<i>Gulo gulo</i>	FS, ST, SFP	0.00	2.55	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.42	0.00	0.00	0.17	0.00	0.00	0.52	0.00	0.00	0.04	3.79
Yuma myotis	<i>Myotis yumanensis</i>	FS	6.79	0.00	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.01	0.02	0.95	0.03	0.02	0.04	15.94
Total	Not applicable	Not applicable	6.79	6.03	0.18	0.90	0.19	0.51	0.01	1.25	0.25	2.31	1.10	0.10	1.12	0.17	0.01	0.02	0.95	0.03	0.02	0.04	21.97

Notes: FE = federally endangered; 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

<sup>a</sup> Plant species does not occur in the GAI.

<sup>b</sup> California newt: Only the Coast Range population is special status, and it does not occur in the GAI (only occurs from Monterey County south).

<sup>c</sup> Ensatina: Only the yellow-blotched subspecies (*Ensatina eschscholtzii croceater*) in the Kern County portion of the GAI is special status.

<sup>d</sup> California mountain kingsnake: following recent taxonomic rearrangements, there are currently no kingsnakes on the CDFW Special Animals List.

<sup>e</sup> Coachwhip: Only the San Joaquin subspecies is special status and it does not occur in the Sierra Nevada Ecoregion Section. The red racer subspecies (which does occur in the Sierra Nevada Ecoregion Section) is not special status.

<sup>f</sup> Common gartersnake: Only the San Francisco (*Thamnophis sirtalis tetrataenia*) subspecies and south coast population (*T. s. pop. 1*) are special status, and they do not occur in the GAI.

<sup>g</sup> Gophersnake: Only the Santa Cruz Island subspecies appears on the CDFW Special Animals List and it is only listed as a CDFW Watch List Species.

<sup>h</sup> Northern rubber boa: This species is not special status. However, southern rubber boa is special status (FS, ST) and it occurs in the GAI (from Kern County south).

<sup>i</sup> Ring-necked snake: Only the Regal (Great Basin), San Bernardino, and San Diego subspecies are considered special status and they do not occur in the GAI.

<sup>j</sup> Striped racer: Only the Alameda subspecies is considered special status and it does not occur in the GAI (restricted to the East Bay Area).

<sup>k</sup> Western patch-nosed snake: Only the coast subspecies is special status and it does not occur in the Sierra Nevada Ecoregion Section.

<sup>l</sup> Western skink: Only the coast subspecies is special status and it does not occur in the Sierra Nevada Ecoregion Section.

<sup>m</sup> Bell's sparrow: Only the San Clemente subspecies, which only occurs on San Clemente Island, is special status. Bell's sparrows that occur in the GAI belong to the nominate subspecies which is only on the CDFW Watch List.

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

<sup>o</sup> California quail: Only the Catalina subspecies is special status, and it only occurs on the Channel Islands.

<sup>p</sup> Spotted owl: Only the California subspecies, included in a separate row, occurs in the GAI.

<sup>q</sup> California towhee: Only the Inyo (*Melospiza crissalis eremophilus*) subspecies is special status, and it does not occur in the GAI (only known to occur east of Highway 395 in the Argus and Panamint Ranges).

<sup>r</sup> Common yellowthroat: Only the San Francisco (saltmarsh) subspecies is special status and it does not occur in the GAI (only known to occur in the Bay Area).

<sup>s</sup> Hutton's vireo: Only the Catalina subspecies is considered special status and it does not occur in the GAI (endemic to Santa Catalina Island).

<sup>t</sup> Sooty grouse: Only the Mount Pinos subspecies is special status and is included in a separate row.

<sup>u</sup> Vesper sparrow: Only the Oregon subspecies is special status and is included in a separate row.

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

<sup>w</sup> Savannah sparrow: There are three special-status subspecies of savannah sparrow, none of which occur in the GAI. Belding's and Bryant's are strictly coastal residents, while large-billed winters along the coast and the shores of the Salton Sea.

<sup>x</sup> Song sparrow: There are 5 special-status subspecies and none occur in the GAI (They are restricted to the Channel Islands, the Bay Area, and the Central Valley north of Fresno).

<sup>y</sup> Spotted towhee: Only the San Clemente subspecies is special status, and it only occurs on the Channel Islands.

<sup>z</sup> Big-eared woodrat: Only the Monterey subspecies is considered special status. The taxonomy of this species is still being determined. The distribution of the different subspecies of big-eared woodrat (or whether they even are distinct subspecies) is still a matter of conjecture. It is unclear whether the Monterey subspecies occurs in the GAI.

<sup>aa</sup> Black-tailed jackrabbit: Only the San Diego (*Lepus californicus benettii*) subspecies is special status, and it does not occur in the GAI.

<sup>bb</sup> Broad-footed mole: Only the Alameda Island subspecies is special status and it does not occur in the GAI (endemic to Alameda County).

<sup>cc</sup> Brush rabbit: Only the riparian subspecies is special status and it does not occur in the GAI (restricted to San Joaquin and Stanislaus Counties).

<sup>dd</sup> California pocket mouse: Only the Dulzura (*Chaetodipus californicus femoralis*) subspecies is special status, and it does not occur in the GAI (restricted to San Diego County).

<sup>ee</sup> California vole: There are six special-status subspecies of California vole, none of which occur in the GAI; they occur in Monterey County, the Mohave River Valley, Contra Costa County, the Panamint Range, the Los Angeles coast, and the White Mountains.

<sup>ff</sup> Deer mouse: There are 2 special status subspecies, neither of which occur in the GAI (restricted to the Channel Islands).

<sup>gg</sup> Heermann's kangaroo rat: Only the Morro Bay subspecies is special status and it does not occur in the GAI (endemic to San Luis Obispo County). There are 5 other subspecies on the Special Animals List, but they are all only assigned Global/State Rank.

<sup>hh</sup> Mountain lion: Only the Yuma subspecies is considered special status and it does not occur in the GAI (restricted to the Lower Colorado River Valley). In April 2020, a 12-month status review period was initiated following the proposal of a Southern California ESU for the species which would be listed as SE, but that review appears to be on hold indefinitely and there is no indication of candidate status for this new ESU on the most recent Special Animals List.

<sup>ii</sup> Ornate shrew: There are 5 special-status subspecies and none occur in the GAI: Santa Catalina (restricted to Channel Islands), Suisun (restricted to Bay Area), southern California saltmarsh (restricted to coastal marshes), Monterey (restricted to the central California coast), and Buena Vista Lake. The Buena Vista Lake ornate shrew is the subspecies that is listed as FE, and its known range comes as close to the GAI as Wind Wolves Preserve in Kern County (about 3 miles north of the Grapevine portion of the GAI).

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



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	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	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
Bakersfield cactus	<i>Opuntia basilaris</i> var. <i>treleasei</i>	FE, SE	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.96
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	SE	10.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.52
Braunton's milk-vetch <sup>a</sup>	<i>Astragalus brauntonii</i>	FE	1.49	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56
California Jewelflower	<i>Caulanthus californicus</i>	FE, SE	9.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.33
California Orcutt grass <sup>a</sup>	<i>Orcuttia californica</i>	FE, SE	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49
Chinese Camp brodiaea	<i>Brodiaea pallida</i>	FT, SE	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.73
Colusa grass <sup>a</sup>	<i>Neostapfia colusana</i>	FT, SE	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.96
Conejo buckwheat <sup>a</sup>	<i>Eriogonum crocatum</i>	SR	1.49	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56
Conejo dudleya <sup>a</sup>	<i>Dudleya parva</i>	FT	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49
Congdon's lewisia	<i>Lewisia congdonii</i>	SR	4.54	0.00	0.00	0.00	0.00	0.09	0.00	0.27	0.01	0.00	0.00	0.00	0.00	0.00	0.00	4.91
Congdon's woolly sunflower <sup>a</sup>	<i>Eriophyllum congdonii</i>	SR	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.73
Father Crowley's lupine	<i>Lupinus padre-crowleyi</i>	SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Greene's tuctoria	<i>Tuctoria greenei</i>	FE, SR	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.96
Hairy Orcutt grass	<i>Orcuttia pilosa</i>	FE, SE	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.96
Hartweg's golden sunburst	<i>Pseudobahia bahiifolia</i>	FE, SE	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.73
Hoover's spurge	<i>Euphorbia hooveri</i>	FT	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.96

Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	Total
Kaweah brodiaea	<i>Brodiaea insignis</i>	SE	13.12	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.04	13.69
Keck's checkerbloom	<i>Sidalcea keckii</i>	FE	14.96	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.49
Kern mallow	<i>Eremalche parryi</i> ssp. <i>kernensis</i>	FE	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.96
Lompoc yerba santa <sup>a</sup>	<i>Eriodictyon capitatum</i>	FE	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Lyon's pentachaeta <sup>a</sup>	<i>Pentachaeta lyonii</i>	FE, SE	1.49	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.56
Agoura Hills dudleya <sup>a</sup>	<i>Dudleya cymosa</i> ssp. <i>agourensis</i>	FT	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Marcescent dudleya <sup>a</sup>	<i>Dudleya cymosa</i> ssp. <i>marcescens</i>	FT, SR	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Mojave tarplant	<i>Deinandra mohavensis</i>	SE	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
Nevin's barberry <sup>a</sup>	<i>Berberis nevinii</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Palmate-bracted bird's-beak <sup>a</sup>	<i>Chloropyron palmatum</i>	FE, SE	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.96
Parish's checkerbloom <sup>a</sup>	<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	SR	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Red Hills vervain	<i>Verbena californica</i>	FT, ST	2.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.73
Roderick's fritillary <sup>a</sup>	<i>Fritillaria roderickii</i>	SE	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49
San Fernando Valley spineflower <sup>a</sup>	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	SE	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49
San Joaquin adobe sunburst	<i>Pseudobahia peirsonii</i>	FT, SE	15.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.10
San Joaquin Valley Orcutt grass	<i>Orcuttia inaequalis</i>	FT, SE	10.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.52



Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	Total
San Joaquin woollythreads	<i>Monolopia congdonii</i>	FE	8.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.96
Santa Monica dudleya <sup>a</sup>	<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	FT	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Santa Susana tarplant <sup>a</sup>	<i>Deinandra minthornii</i>	SR	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Santa Ynez false lupine <sup>a</sup>	<i>Thermopsis macrophylla</i>	SR	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Slender-horned spineflower <sup>a</sup>	<i>Dodecahema leptoceras</i>	FE, SE	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Southern mountain buckwheat	<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	FT	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Spreading navarretia <sup>a</sup>	<i>Navarretia fossalis</i>	FT	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49
Springville clarkia	<i>Clarkia springvillensis</i>	FT, SE	13.12	0.00	0.00	0.00	0.00	0.52	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.17
Striped adobe-lily	<i>Fritillaria striata</i>	ST	13.12	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.65
Succulent owl's-clover	<i>Castilleja campestris</i> var. <i>succulenta</i>	FT, SE	15.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.10
Tree-anemone	<i>Carpenteria californica</i>	FT	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05
Twisselmann's buckwheat	<i>Eriogonum twisselmannii</i>	SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Twisselmann's nemacladus	<i>Nemacladus twisselmannii</i>	SR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Verity's dudleya <sup>a</sup>	<i>Dudleya verityi</i>	FT	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Invertebrates	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
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	0.00	0.00	0.08	0.00	0.00	0.08

Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	Total
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	6.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.78
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	6.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.29
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
California newt <sup>b</sup>	<i>Taricha torosa</i>	SSC	5.89	0.00	2.35	0.32	0.30	0.39	0.00	0.00	0.00	0.00	0.14	0.00	0.24	0.52	0.04	10.18
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	10.10	0.00	2.98	0.09	0.00	0.14	0.00	0.47	0.01	0.02	0.00	0.00	0.32	2.09	0.00	16.22
California tiger salamander	<i>Ambystoma californiense</i>	FT, ST	7.41	0.00	1.96	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.42	0.00	9.93
Ensatina	<i>Ensatina eschscholtzii</i>	None	0.00	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.00	0.56	2.64	0.04	10.66
Yellow-blotched salamander	<i>Ensatina eschscholtzii croceator</i>	FS	0.00	0.00	0.74	0.32	0.00	0.60	0.04	0.12	0.00	0.00	0.00	0.00	0.38	0.32	0.04	2.55
Foothill yellow-legged frog	<i>Rana boylei</i>	FS, SE, SSC	15.03	0.00	5.48	0.41	0.00	0.60	0.04	0.80	0.01	0.02	0.14	0.00	0.29	2.59	0.04	25.44
Kern Canyon slender salamander	<i>Batrachoseps simatus</i>	FS, ST	0.00	0.00	0.05	0.23	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.08	0.00	0.67
Relictual slender salamander	<i>Batrachoseps relictus</i>	FS, SSC	0.48	0.00	0.05	0.10	0.00	0.02	0.00	0.00	0.00	0.00	0.14	0.00	0.01	0.08	0.00	0.87
Southern mountain yellow-legged frog <sup>c</sup>	<i>Rana muscosa</i>	FE, SE	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
Tehachapi slender salamander	<i>Batrachoseps stebbinsi</i>	FS, ST	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.09	0.00	0.50
Western spadefoot	<i>Spea hammondi</i>	FS, SSC	10.69	0.00	3.85	0.09	0.11	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.80	0.00	15.68
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
Blainville's horned lizard	<i>Phrynosoma blainvillii</i>	FS, SSC	16.52	0.00	5.48	0.41	0.00	0.67	0.00	0.00	0.01	0.02	0.00	0.00	0.56	2.64	0.00	26.30



Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	Total
Blunt-nosed leopard lizard	<i>Gambelia sila</i>	FE, SE, SFP	1.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31
California legless lizard	<i>Anniella pulchra</i>	FS, SSC	0.00	0.00	2.50	0.32	0.00	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.75	0.00	4.66
California mountain kingsnake <sup>d</sup>	<i>Lampropeltis zonata</i>	None	11.28	0.00	4.74	0.09	0.00	0.10	0.00	0.69	0.01	0.02	0.00	0.00	0.17	2.32	0.00	19.43
Coachwhip	<i>Coluber flagellum</i>	SSC	6.04	0.00	0.20	0.23	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.40	0.28	0.16	0.00	7.82
Common gartersnake <sup>e</sup>	<i>Thamnophis sirtalis</i>	FE, SE, SFP, SSC	16.52	0.00	5.48	0.41	0.30	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	27.88
Common sagebrush lizard <sup>f</sup>	<i>Sceloporus graciosus</i>	FS	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.03	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.81
Desert night lizard	<i>Xantusia vigilis</i>	FS, SSC	6.15	0.00	0.74	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.32	0.00	7.92
Giant gartersnake <sup>g</sup>	<i>Thamnophis gigas</i>	FT, ST	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.18
Gophersnake	<i>Pituophis catenifer</i>	None	16.52	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	27.58
Northern rubber boa <sup>h</sup>	<i>Charina bottae</i>	None	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.80	0.01	0.02	0.00	0.00	0.56	0.00	0.04	1.46
Ring-necked snake <sup>i</sup>	<i>Diadophis punctatus</i>	FS, SSC	15.08	0.00	5.12	0.14	0.00	0.30	0.00	0.51	0.01	0.02	0.00	0.00	0.54	2.49	0.00	24.19
Striped racer <sup>j</sup>	<i>Coluber lateralis</i>	FT, ST	0.00	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.00	0.56	2.64	0.04	10.66
Two-striped gartersnake	<i>Thamnophis hammondi</i>	FS, SSC	1.49	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.06	0.00	1.88
Western patch-nosed snake	<i>Salvadora hexalepis</i>	SSC	3.13	0.41	0.15	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.40	0.26	0.09	0.00	4.65
Western skink <sup>k</sup>	<i>Plestiodon skiltonianus</i>	FS	1.35	0.00	1.05	0.00	0.00	0.03	0.00	0.21	0.00	0.00	0.00	0.00	0.08	0.27	0.00	3.00
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
American white pelican	<i>Pelecanus erythrorhynchos</i>	SSC	0.00	1.99	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	2.32

Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	Total
Bald eagle	<i>Haliaeetus leucocephalus</i>	FS, SE, SFP	16.52	5.86	5.48	0.41	0.30	0.67	0.04	0.80	0.01	0.02	0.14	0.40	0.56	2.64	0.04	33.87
Bell's sparrow <sup>l</sup>	<i>Artemisiospiza belli</i>	FT, SSC	0.00	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.82
Bewick's wren <sup>m</sup>	<i>Thryomanes bewickii</i>	SSC	0.00	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.00	0.56	2.64	0.00	10.62
Black swift	<i>Cypseloides niger</i>	SSC	1.44	0.37	1.12	0.00	0.11	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.12	0.29	0.00	3.65
Burrowing owl	<i>Athene cunicularia</i>	FS, SSC	16.52	5.86	5.48	0.41	0.00	0.67	0.04	0.00	0.00	0.02	0.00	0.40	0.56	2.64	0.04	32.62
California condor	<i>Gymnogyps californianus</i>	FE, FS, SE, SFP	7.91	4.17	2.50	0.32	0.30	0.60	0.04	0.33	0.00	0.00	0.14	0.40	0.00	0.61	0.00	17.31
California quail <sup>n</sup>	<i>Callipepla californica</i>	SSC	16.52	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	27.58
Spotted owl <sup>o</sup>	<i>Strix occidentalis</i>	FT, ST, FS, SSC	0.00	0.00	0.00	0.25	0.25	0.00	0.25	0.80	0.01	0.25	0.25	0.25	0.31	0.00	0.25	1.36
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.80	0.01	0.02	0.00	0.00	0.31	0.00	0.00	1.39
California towhee <sup>p</sup>	<i>Pipilo crissalis</i>	FT, SE	0.00	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.00	0.56	2.64	0.00	10.62
Common loon	<i>Gavia immer</i>	SSC	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
Common yellowthroat <sup>q</sup>	<i>Geothlypis trichas</i>	SSC	14.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.04	14.57
Golden eagle	<i>Aquila chrysaetos</i>	FS, SFP	16.52	5.86	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	33.43
Grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC	15.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.27
Great blue heron	<i>Ardea herodias</i>	SFS	16.52	0.00	5.48	0.41	0.30	0.00	0.00	0.80	0.01	0.02	0.14	0.00	0.56	2.64	0.04	26.91
Great egret	<i>Ardea alba</i>	SFS	16.52	0.00	5.48	0.41	0.30	0.00	0.00	0.00	0.01	0.00	0.14	0.00	0.56	2.64	0.04	26.10
Greater white-fronted goose <sup>r</sup>	<i>Anser albifrons</i>	SSC	8.00	0.00	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	8.11
Hutton's vireo <sup>s</sup>	<i>Vireo huttoni</i>	SSC	0.00	0.00	5.27	0.41	0.00	0.67	0.00	0.80	0.01	0.02	0.00	0.00	0.56	2.64	0.00	10.37



Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	Total
Red-winged blackbird	<i>Agelaius phoeniceus</i>	None	16.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.04	17.12
Kern red-winged blackbird	<i>Agelaius phoeniceus aciculatus</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	0.00	0.00	0.04	0.12
Loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	16.52	5.86	5.48	0.41	0.00	0.67	0.00	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	33.40
Long-eared owl	<i>Asio otus</i>	SSC	16.52	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	27.58
Marsh wren <sup>i</sup>	<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	0.29	0.00	0.00	0.29
Sooty grouse	<i>Dendragapus fuliginosus</i>	None	0.48	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	0.51
Mount Pinos sooty grouse	<i>Dendragapus obscurus howardi</i>	SSC	1.59	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	1.62
Northern goshawk	<i>Accipiter gentilis</i>	FS, SSC	0.00	0.00	0.11	0.05	0.00	0.16	0.04	0.13	0.00	0.00	0.00	0.00	0.00	1.01	0.00	1.50
Northern harrier	<i>Circus cyaneus</i>	SSC	16.52	5.86	5.48	0.41	0.30	0.67	0.04	0.80	0.01	0.02	0.14	0.40	0.56	2.64	0.04	33.87
Olive-sided flycatcher	<i>Contopus cooperi</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Vesper sparrow	<i>Poocetes gramineus</i>	None	16.52	0.00	5.48	0.41	0.41	0.67	0.41	0.00	0.00	0.41	0.41	0.41	0.00	2.64	0.41	25.72
Oregon vesper sparrow	<i>Poocetes gramineus affinis</i>	SSC	16.52	0.00	5.48	0.41	0.00	0.67	0.04	0.00	0.00	0.00	0.00	0.40	0.00	2.64	0.00	26.16
Osprey	<i>Pandion haliaetus</i>	SFS	15.03	5.64	5.48	0.41	0.30	0.60	0.04	0.80	0.01	0.02	0.14	0.00	0.29	2.59	0.04	31.38
Peregrine falcon	<i>Falco peregrinus</i>	SFP	16.52	5.86	5.48	0.41	0.30	0.67	0.04	0.80	0.01	0.02	0.14	0.40	0.56	2.64	0.04	33.87
Purple martin	<i>Progne subis</i>	SSC	1.59	0.00	0.07	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.17	0.00	1.86
Redhead	<i>Aythya americana</i>	SSC	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
Rufous-crowned sparrow <sup>u</sup>	<i>Aimophila ruficeps</i>	SSC	16.52	0.00	0.00	0.41	0.00	0.67	0.04	0.00	0.00	0.00	0.00	0.40	0.56	0.00	0.00	18.59

Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	Total
Sandhill crane <sup>v</sup>	<i>Grus canadensis</i>	FS, ST, SFP, SSC	8.00	0.00	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	8.11
Savannah sparrow <sup>w</sup>	<i>Passerculus sandwichensis</i>	SE, SSC	16.52	0.00	5.48	0.41	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.40	0.56	2.64	0.04	26.71
Short-eared owl	<i>Asio flammeus</i>	SSC	16.52	0.00	5.48	0.41	0.00	0.67	0.00	0.00	0.01	0.02	0.00	0.40	0.56	2.64	0.04	26.74
Song sparrow <sup>x</sup>	<i>Melospiza melodia</i>	SSC	16.52	0.00	5.48	0.41	0.30	0.67	0.00	0.80	0.01	0.02	0.14	0.00	0.56	2.64	0.04	27.58
Spotted towhee <sup>y</sup>	<i>Pipilo maculatus</i>	SSC	0.00	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.00	11.02
Swainson's hawk	<i>Buteo swainsoni</i>	FS, ST	11.40	3.72	0.95	0.32	0.00	0.53	0.04	0.12	0.00	0.00	0.00	0.00	0.12	0.26	0.04	17.50
Tricolored blackbird	<i>Agelaius tricolor</i>	FS, ST, SSC	16.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.04	17.12
Vaux's swift	<i>Chaetura vauxi</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
White-tailed kite	<i>Elanus leucurus</i>	FS, SFP	16.52	5.86	5.48	0.41	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.56	2.64	0.04	32.17
Yellow warbler	<i>Setophaga petechia</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	0.04	0.04
Yellow-breasted chat	<i>Icteria virens</i>	SSC	0.00	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.00	0.56	2.64	0.00	10.62
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.17
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
American badger	<i>Taxidea taxus</i>	SSC	16.52	5.86	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	33.43
Big-eared woodrat <sup>z</sup>	<i>Neotoma macrotis</i>	FS, SSC	0.00	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	11.06
Black-tailed jackrabbit	<i>Lepus californicus</i>	None	16.52	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	27.58
Broad-footed mole <sup>aa</sup>	<i>Scapanus latimanus</i>	SSC	16.52	0.00	5.48	0.41	0.00	0.00	0.00	0.80	0.01	0.02	0.00	0.00	0.56	2.64	0.04	26.47
Brush rabbit <sup>bb</sup>	<i>Sylvilagus bachmani</i>	FE, SE	16.52	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.00	0.56	2.64	0.00	27.14



Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	Total
California pocket mouse <sup>cc</sup>	<i>Chaetodipus californicus</i>	SSC	16.52	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.00	0.00	0.00	0.40	0.00	2.64	0.00	26.96
California vole <sup>dd</sup>	<i>Microtus californicus</i>	FE, FS, SE, SSC	16.27	0.00	5.35	0.41	0.00	0.67	0.04	0.56	0.01	0.00	0.00	0.40	0.53	2.55	0.04	26.80
Deer mouse <sup>ee</sup>	<i>Peromyscus maniculatus</i>	SSC	16.52	5.86	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	33.43
Desert woodrat <sup>ff</sup>	<i>Neotoma lepida</i>	SSC	0.00	0.00	0.00	0.32	0.00	0.60	0.04	0.13	0.00	0.00	0.00	0.40	0.00	0.00	0.00	1.48
Fisher	<i>Pekania pennanti</i>	FE, FS, ST, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.03
Fresno kangaroo rat	<i>Dipodomys nitratoides</i>	FE, SE	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92
Fringed myotis	<i>Myotis thysanodes</i>	FS	16.52	5.86	5.43	0.41	0.30	0.67	0.04	0.80	0.01	0.02	0.14	0.40	0.56	2.64	0.00	33.78
Giant kangaroo rat	<i>Dipodomys ingens</i>	FE, SE	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Heermann's kangaroo rat <sup>gg</sup>	<i>Dipodomys heermanni</i>	FE, SE, SFP	13.71	0.00	5.43	0.19	0.00	0.32	0.04	0.80	0.00	0.00	0.00	0.00	0.00	2.59	0.00	23.07
Kit fox	<i>Vulpes macrotis</i>	None	8.39	0.72	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.16
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE, ST	8.39	0.72	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.16
Long-eared myotis	<i>Myotis evotis</i>	FS	0.00	3.32	0.15	0.15	0.19	0.58	0.00	0.03	0.00	0.00	0.14	0.40	0.26	0.10	0.04	5.37
Marten	<i>Martes caurina</i>	FS	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Mountain beaver	<i>Aplodontia rufa</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.26
Mountain lion <sup>hh</sup>	<i>Puma concolor</i>	SSC	16.52	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	27.58
Nelson's antelope ground squirrel <sup>ii</sup>	<i>Ammospermophilus nelsoni</i>	FS, ST	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13
Northern flying squirrel <sup>jj</sup>	<i>Glaucomys sabrinus</i>	FS, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.22
Ornate shrew <sup>kk</sup>	<i>Sorex ornatus</i>	FE, SSC	0.00	0.00	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	0.11

Common Name	Scientific Name	Status	Annual Grassland	Barren	Blue Oak Woodland	Blue Oak-Foothill Pine	Lacustrine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood-Conifer	Ponderosa Pine	Riverine	Sagebrush	Valley Foothill Riparian	Valley Oak Woodland	Wet Meadow	Total
Pallid bat	<i>Antrozous pallidus</i>	FS, SSC	16.51	0.00	5.47	0.36	0.00	0.58	0.00	0.00	0.01	0.02	0.00	0.00	0.56	2.60	0.04	26.14
Red fox	<i>Vulpes vulpes</i>	FE, FS, ST	16.52	5.86	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.14	0.40	0.56	2.64	0.04	33.57
Ringtail	<i>Bassariscus astutus</i>	SFP	2.68	0.72	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	3.42
San Joaquin pocket mouse	<i>Perognathus inornatus</i>	FS	12.59	3.78	1.12	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	18.35
Small-footed myotis	<i>Myotis ciliolabrum</i>	FS	15.78	5.46	4.58	0.41	0.30	0.67	0.04	0.56	0.01	0.02	0.14	0.40	0.45	2.36	0.04	31.21
Southern grasshopper mouse	<i>Onychomys torridus</i>	SSC	15.92	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.40	0.51	0.00	0.00	17.50
Spotted bat	<i>Euderma maculatum</i>	FS, SSC	16.24	0.00	5.48	0.41	0.00	0.00	0.04	0.00	0.01	0.02	0.14	0.28	0.29	2.59	0.04	25.52
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	16.52	5.86	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.14	0.40	0.56	2.64	0.04	33.57
Western mastiff bat	<i>Eumops perotis</i>	FS, SSC	16.52	5.86	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.00	0.56	2.64	0.04	33.03
Western red bat	<i>Lasiurus blossevillii</i>	SSC	16.20	0.00	5.48	0.39	0.30	0.46	0.04	0.80	0.01	0.02	0.14	0.00	0.56	2.64	0.04	27.07
Western spotted skunk <sup>ll</sup>	<i>Spilogale gracilis</i>	SSC	16.52	0.00	5.48	0.41	0.00	0.67	0.04	0.80	0.01	0.02	0.00	0.40	0.56	2.64	0.04	27.58
White-eared pocket mouse	<i>Perognathus alticolus</i>	FS, SSC	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.46
Wolverine	<i>Gulo gulo</i>	FS, ST, SFP	0.00	1.06	0.00	0.00	0.00	0.00	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.10
Yuma myotis	<i>Myotis yumanensis</i>	FS	16.52	0.00	5.48	0.41	0.30	0.67	0.04	0.80	0.01	0.02	0.14	0.40	0.56	2.64	0.04	28.02
Total	Not applicable	Not applicable	16.52	5.86	5.48	0.41	0.30	0.67	0.04	0.80	0.01	0.02	0.14	0.40	0.56	2.64	0.04	33.87

Notes: FE = federally endangered; 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  
<sup>a</sup> Plant species does not occur in the GAI.  
<sup>b</sup> California newt: Only the Coast Range population is special status, and it does not occur in the GAI (only occurs from Monterey County south).  
<sup>c</sup> Southern mountain yellow-legged frog: Does not occur in the Sierra Nevada Foothills Ecoregion Section.  
<sup>d</sup> California mountain kingsnake: Following recent taxonomic rearrangements, there are currently no special status kingsnakes.



- <sup>e</sup> Common gartersnake: Only the San Francisco (*Thamnophis sirtalis tetrataenia*) subspecies and south coast population (*T. s. pop. 1*) are special status, and they do not occur in the GAI.
- <sup>f</sup> Common sagebrush lizard: Only northern subspecies is considered special status, and it does not occur in the Sierra Nevada Foothills Ecoregion Section. Only the western subspecies occurs in the Sierra Nevada Foothills Ecoregion Section and it is not special status.
- <sup>g</sup> Giant gartersnake: Does not occur in the GAI (restricted to Central Valley and current known range comes as close as the outskirts of the City of Fresno west of the GAI).
- <sup>h</sup> Northern rubber boa: This species is not special status. However, southern rubber boa is special status (FS, ST) and it occurs in the GAI (from Kern County south).
- <sup>i</sup> Ring-necked snake: Only the Regal (Great Basin), San Bernardino, and San Diego subspecies are considered special status and they do not occur in the GAI.
- <sup>j</sup> Striped racer: Only the Alameda subspecies is considered special status and it does not occur in the GAI (restricted to the East Bay Area).
- <sup>k</sup> Western skink: Only the Coronado subspecies is considered special status and it does not occur in the GAI (restricted to San Diego and Riverside Counties).
- <sup>l</sup> Bell's sparrow: Only the San Clemente subspecies, which only occurs on San Clemente Island, is special status. Bell's sparrows that occur in the GAI belong to the nominate subspecies which is not special status.
- <sup>m</sup> Bewick's wren: Only the San Clemente (*Thryomanes bewickii leucophrys*) subspecies is special status, and it does not occur in the GAI (was endemic to San Clemente Island and is now extinct).
- <sup>n</sup> California quail: Only the Catalina subspecies is special status, and it only occurs on the Channel Islands.
- <sup>o</sup> Spotted owl: Only the California subspecies, included in a separate row, occurs in the GAI.
- <sup>p</sup> California towhee: Only the Inyo (*Melospiza crissalis eremophilus*) subspecies is special status, and it does not occur in the GAI (only known to occur east of Highway 395 in the Argus and Panamint Ranges).
- <sup>q</sup> Common yellowthroat: Only the San Francisco (saltmarsh) subspecies is special status and it does not occur in the GAI (only known to occur in the Bay Area).
- <sup>r</sup> Greater white-fronted goose: Only the Tule subspecies is considered special status and it does not occur in the GAI (only known to winter in the Sacramento Valley, North Bay Area, and Sacramento-San Joaquin Delta).
- <sup>s</sup> Hutton's vireo: Only the Catalina subspecies is considered special status and it does not occur in the GAI (endemic to Santa Catalina Island).
- <sup>t</sup> Marsh wren: Only the Clark's subspecies is considered 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).
- <sup>u</sup> Rufous-crowned sparrow: Only the Santa Cruz Island (*Aimophila ruficeps obscura*) subspecies is special status, and it does not occur in the GAI (endemic to Channel Islands).
- <sup>v</sup> Sandhill crane: Only considered special status where they nest or winter. Nests in northeastern corner of the state (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.
- <sup>w</sup> Savannah sparrow: There are three special-status subspecies of savannah sparrow, none of which occur in the GAI. Belding's and Bryant's are strictly coastal residents, while large-billed winters along the coast and the Salton Sea.
- <sup>x</sup> Song sparrow: There are 5 special-status subspecies and none occur in the GAI (they are restricted to the Channel Islands, the Bay Area, and the Central Valley north of Fresno).
- <sup>y</sup> Spotted towhee: Only the San Clemente subspecies is special status, and it only occurs on the Channel Islands.
- <sup>z</sup> Big-eared woodrat: Only the Monterey subspecies is considered special status. The taxonomy of this species is still being determined. The distribution of the different subspecies of big-eared woodrat (or whether they even are distinct subspecies) is still a matter of conjecture. It is unclear whether the Monterey subspecies occurs in the GAI.
- <sup>aa</sup> Broad-footed mole: Only the Alameda Island (*Scapanus latimanus parvus*) subspecies is special status, and it does not occur in the GAI (endemic to Alameda Island).
- <sup>bb</sup> Brush rabbit: Only the riparian subspecies is special status and it does not occur in the GAI (restricted to San Joaquin and Stanislaus Counties).
- <sup>cc</sup> California pocket mouse: Only the Dulzura (*Chaetodipus californicus femoralis*) subspecies is special status, and it does not occur in the GAI (restricted to San Diego County).
- <sup>dd</sup> California vole: There are six special-status subspecies of California vole, none of which occur in the GAI ; they occur in Monterey County, the Mohave River Valley, Contra Costa County, the Panamint Range, the Los Angeles coast, and the White Mountains.
- <sup>ee</sup> Deer mouse: There are 2 special status subspecies, neither of which occur in the GAI (restricted to the Channel Islands).
- <sup>ff</sup> Desert woodrat: Only the San Diego subspecies is special status, but seeing as I can find no information on its distribution, I cannot be certain whether it does or and it does not occur in the GAI.
- <sup>gg</sup> Heermann's kangaroo rat: Only the Morro Bay subspecies is special status and it does not occur in the GAI (endemic to San Luis Obispo County).
- <sup>hh</sup> Mountain lion: Only the Yuma subspecies is considered special status and it does not occur in the GAI (restricted to the Lower Colorado River Valley). In April 2020, a 12-month status review period was initiated following the proposal of a Southern California ESU for the species which would be listed as SE, but that review appears to be on hold indefinitely and there is no indication of candidate status for this new ESU on the most recent Special Animals List.
- <sup>ii</sup> Nelson's antelope ground squirrel: Range does not quite reach GAI, coming closest to the Sierra Nevada Foothills Ecoregion Section near Maricopa and Cuyama Valley.
- <sup>jj</sup> Northern flying squirrel: Only the San Bernardino subspecies is considered special status and it does not occur in the GAI (restricted to Riverside, San Bernardino, and far eastern Los Angeles Counties).
- <sup>kk</sup> Ornate shrew: There are 5 special-status subspecies and none occur in the GAI: Santa Catalina (restricted to Channel Islands), Suisun (restricted to Bay Area), southern California saltmarsh (restricted to coastal marshes), Monterey (restricted to the central California coast), and Buena Vista Lake. The Buena Vista Lake ornate shrew is the subspecies that is listed as FE, and its known range comes as close to the GAI as Wind Wolves Preserve in Kern County (about 3 miles north of the Grapevine portion of the GAI).
- <sup>ll</sup> Western spotted skunk: Only the Channel Islands (*Spilogale gracilis amphiala*) subspecies is special status, and it does not occur in the GAI (endemic to Channel Islands).

## APPENDIX E: HYDROLOGIC UNITS

### Sub-basin Descriptions

Twenty-two 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.

#### Antelope-Fremont Valleys Sub-basin

Within the GAI, the Antelope-Fremont Valleys sub-basin drains an area of 296,433 acres (463 square miles) and includes 920 rivers and streams that traverse 877 miles. As noted in Table E-1, the Antelope-Fremont Valleys sub-basin includes portions of the Antelope, Fremont, Grapevine, Indian Wells, Kern River, and Santa Clara-Calleguas HUs.

The part of the Antelope HU that lies within the Antelope-Fremont Valleys sub-basin includes portions of the Chafee, Neenach, and Willow Springs hydrologic areas.

The part of the Fremont HU that lies within the Antelope-Fremont Valleys sub-basin includes the Dove Springs, East Tehachapi, and Kelson Landis watersheds, and portions of the Koehn watershed.

The Grapevine HU is associated with the San Emigdio, Tehachapi Creek, and Tejon Creek watersheds. Headwaters for the San Emigdio watershed are located on the northeast slope of Mount Pinos, flowing north into the western San Joaquin Valley. The Tehachapi and Tejon Creeks originate within the Tehachapi Mountains, eventually flowing northwest into the southern San Joaquin Valley.

The part of the Indian Wells HU that lies within the Antelope-Fremont Valleys sub-basin includes a portion of the China Lake hydrologic area.

The Kern River HU is associated with the Kern River Watershed. The North Fork Kern River headwaters are within Sequoia National Park while the South Fork Kern River headwaters are within Inyo National Forest. Both forks flow south and confluence at Lake Isabella, eventually flowing southwest toward the valley floor of the San Joaquin Valley (National Wild and Scenic Rivers System n.d.). The part of the Kern River HU that lies within the Antelope-Fremont Valleys sub-basin includes a portion of the Upper Kern hydrologic area.

The Santa Clara-Calleguas HU within the GAI is limited to the northeastern portion of the Piru hydrologic area.

#### Crowley Lake Sub-basin

Within the GAI, the Crowley Lake sub-basin drains an area of 343,796 acres (537 square miles) and includes 408 rivers and streams that traverse 521 miles. As noted in Table E-1, the Crowley Lake sub-basin includes portions of the Kings River, Owens, and San Joaquin River HUs.

The Kings River HU is associated with the Kings River watershed. The Kings River headwaters originate within the Sierra Nevada range and flow toward the Central Valley,



just southeast of the city of Fresno. The South Fork of the river flows into the Tulare Lake Basin and the North Fork flows through Fresno County and joins with the San Joaquin River at Mendota Pool (Water Education Foundation 2022). The part of the Kings River HU that lies within the Crowley Lake sub-basin includes a portion of the Upper Kings hydrologic area.

The Owens HU is associated with the Owens Valley watershed, primarily fed by the Owens River. The river originates within Long Valley and flows south through Owens Valley, where most of the water is diverted into the Los Angeles Aqueduct. Any water not diverted into the aqueduct flows into Owens Lake and evaporates. Other tributaries and rainfall flow into the valley from the surrounding mountain ranges, including the Sierra Nevada (USGS 1998). The part of the Owens HU that lies within the Crowley Lake sub-basin includes portions of the Long, Lower Owens, and Upper Owens hydrologic areas.

The San Joaquin River HU within the Crowley Lake sub-basin is associated with the upper portion of the San Joaquin River, including the Mammoth Pool and North Fork San Joaquin hydrologic areas. This part of the watershed drains Thousand Island Lake within the Sierra Nevada, flowing southeast to Friant Dam (Millerton Reservoir) (National Oceanic and Atmospheric Administration 2022).

### **Cuyama Sub-basin**

Within the GAI, the Cuyama sub-basin drains an area of 128 acres (0.2 square mile). However, this sub-basin does not include any rivers or streams within the GAI. As noted in Table E-1, the Cuyama sub-basin includes portions of the Grapevine and Santa Maria HUs. A description of the Grapevine HU is provided in the Antelope-Fremont Valleys sub-basin section.

The part of the Grapevine HU that lies within the Cuyama sub-basin includes a portion of the San Emigdio hydrologic area.

The Santa Maria HU within the GAI is limited to the eastern portion of the Cuyama Valley hydrologic area. The hydrologic area is correlated to the Cuyama River watershed, with headwaters within the La Panza and Caliente Mountain Ranges, flowing northwest away from the GAI (San Luis Obispo County n.d.).

### **Fresno River Sub-basin**

Within the GAI, the Fresno River sub-basin drains an area of 189,944 acres (297 square miles) and includes 302 rivers and streams that traverse 355 miles. As noted in Table E-1, the Fresno River sub-basin includes portions of the Ahwahnee, Merced River, San Joaquin River, and San Joaquin Valley Floor HUs. A description of the San Joaquin River HU is provided in the Crowley Lake sub-basin section.

The part of the Ahwahnee HU that lies within the GAI includes portions of the Chowchilla River, Daulton, and Fresno River hydrologic areas.

The Merced River HU is associated with the Merced River watershed. The Merced River has headwaters in Yosemite National Park, flowing to Lake McClure and Lake McSwain.

Ultimately, the Merced River discharges into the San Joaquin River. The part of the Merced River HU that lies within the Fresno sub-basin includes a portion of the South Fork Merced hydrologic area.

The part of the San Joaquin River HU that lies within the Fresno River sub-basin includes portions of the Auberry and North Fork hydrologic areas.

The part of the San Joaquin Valley Floor HU that lies within the Fresno River sub-basin includes a portion of the Berenda Creek hydrologic area.

### **Indian Wells-Searles Valleys Sub-basin**

Within the GAI, the Indian Wells-Searles Valleys sub-basin drains an area of 151,149 acres (236 square miles) and includes 223 rivers and streams that traverse 260 miles. As noted in Table E-1, the Indian Wells-Searles Valleys sub-basin includes portions of the Fremont, Indian Wells, and Kern River HUs. Descriptions of the Fremont, Indian Wells, and Kern River HUs are provided in the Antelope-Fremont Valleys sub-basin section.

The part of the Fremont HU that lies within the Indian Wells-Searles Valleys sub-basin includes the Dove Springs hydrologic area.

The part of the Indian Wells HU that lies within the Indian Wells-Searles Valleys sub-basin includes portions of the China Lake and Rose hydrologic areas.

The part of the Kern River HU that lies within the Indian Wells-Searles Valleys sub-basin includes a portion of the Upper Kern hydrologic area.

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

Within the GAI, the Middle Kern-Upper Tehachapi-Grapevine sub-basin drains an area of 753,523 acres (1,177 square miles) and includes 1,998 rivers and streams that traverse 1,969 miles. As noted in Table E-1, the Middle Kern-Upper Tehachapi-Grapevine sub-basin includes portions of the Antelope, Fremont, Grapevine, Kern River, Santa Maria, Santa Clara-Calleguas, South Valley Floor, and Southern Sierra HUs. Descriptions of the Antelope, Fremont, Grapevine, Kern River, and Santa Clara-Calleguas HUs are provided in the Antelope-Fremont Valleys sub-basin section. A description of the Santa Maria HU is provided in the Cuyama sub-basin section.

The part of the Antelope HU that lies within the Middle Kern-Upper Tehachapi-Grapevine sub-basin includes portions of the Neenach and Willow Springs hydrologic areas.

The part of the Fremont HU that lies within the Middle Kern-Upper Tehachapi-Grapevine sub-basin includes portions of the East Tehachapi and Koehn hydrologic areas.

The part of the Grapevine HU that lies within the Middle Kern-Upper Tehachapi-Grapevine sub-basin includes portions of the San Emigdio, Tehachapi Creek, and Cajon Creek hydrologic areas.

The part of the Kern River HU that lies within the Middle Kern-Upper Tehachapi-Grapevine sub-basin includes portions of the Middle Kern and Upper Kern hydrologic areas.

The part of the Santa Maria HU that lies within the Middle Kern-Upper Tehachapi-Grapevine sub-basin includes a portion of the Cuyama Valley hydrologic area.

The part of the Santa Clara-Calleguas HU that lies within the Middle Kern-Upper Tehachapi-Grapevine sub-basin includes a portion of the Piru hydrologic area.

The South Valley Floor HU is correlated to the southern portion of the San Joaquin Valley and intersects with the GAI along the eastern and southern edge of the hydrologic unit, including portions of the Arvin-Weeler Ridge and Kern Uplands hydrologic areas.

The Southern Sierra HU is associated with the Tule River, Deer Creek, White River, and Poso Creek watersheds, all with headwaters within the Sierra Nevada range. The Tule River watershed follows the Tule River. South of the Tule River watershed is the Deer Creek watershed, the White River watershed, and the Poso Creek watershed (Southern Sierra Regional Water Management Group 2018). The part of the Santa Clara-Calleguas HU that lies within the Middle Kern-Upper Tehachapi-Grapevine sub-basin includes a portion of the Poso Creek hydrologic area.

### **Middle San Joaquin-Lower Chowchilla Sub-basin**

Within the GAI, the Middle San Joaquin-Lower Chowchilla sub-basin drains an area of 137,620 acres (215 square miles) and includes 294 rivers and streams that traverse 312 miles. As noted in Table E-1, the Middle San Joaquin-Lower Chowchilla sub-basin includes portions of the Ahwahnee, Kings River, San Joaquin River, and San Joaquin Valley Floor HUs. Descriptions of the Ahwahnee and San Joaquin Valley Floor HUs are provided in the Fresno River sub-basin section. Descriptions of the Kings River and San Joaquin River HUs are 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 part of the Kings River HU that lies within the Middle San Joaquin-Lower Chowchilla sub-basin includes a portion of the Humphreys Station hydrologic area.

The part of the San Joaquin River HU that lies within the Middle San Joaquin-Lower Chowchilla sub-basin includes portions of the Auberry and Little Dry Creek 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 Berenda Creek hydrologic area.

### **Mono Lake Sub-basin**

Within the GAI, the Mono Lake sub-basin drains an area of 26 acres (0.04 square mile). However, this sub-basin does not include any rivers or streams within the GAI. As noted in Table E-1, the Mono Lake sub-basin includes portions of the Merced River, Mono, and



San Joaquin River HUs. A description of the Merced River HU is provided in the Fresno River sub-basin section. A description of the San Joaquin River HU is provided in the Crowley Lake sub-basin section.

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 Mono HU is associated with the southern edge of the Mono Lake watershed. Headwaters for the streams within the watershed are located in the alpine and sub-alpine environments of the surrounding ranges and flow toward Mono Lake. Major streams include Rush Creek, Lee Vining Creek, Mill Creek, Parker Creek, and Walker Creek (Mono Lake Committee 2022). Only the Rush Creek watershed is near the GAI.

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.

### **Owens Lake Sub-basin**

Within the GAI, the Owens Lake sub-basin drains an area of 205,351 acres (321 square miles) and includes 178 rivers and streams that traverse 284 miles. As noted in Table E-1, the Owens Lake sub-basin includes portions of the Indian Wells, Kern River, Kings River, and Owens HUs. Descriptions of the Indian Wells and Kern River HUs are provided in the Antelope-Fremont Valleys sub-basin section. Descriptions of the Kings River and Owens HUs are provided in the Crowley Lake sub-basin section.

The part of the Indian Wells HU that lies within the Owens Lake sub-basin includes a portion of the Rose hydrologic area.

The part of the Kern River HU that lies within the Owens Lake sub-basin includes a portion of the Upper Kern hydrologic area.

The part of the Kings River HU that lies within the Owens Lake sub-basin includes a portion of the Upper Kings hydrologic area.

The part of the Kings River HU that lies within the Owens Lake sub-basin includes a portion of the Upper Kings hydrologic area.

The part of the Owens HU that lies within the Owens Lake sub-basin includes portions of the Lower Owens and Upper Owens hydrologic areas.

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

Within the GAI, the Santa Clara sub-basin drains an area of 1,894 acres (3 square miles) and includes four rivers and streams that traverse 2 miles. As noted in Table E-1, the Santa Clara sub-basin includes portions of the Antelope, Grapevine, and Santa Clara-Calleguas HUs. Descriptions of the Antelope, Grapevine, and Santa Clara-Calleguas HUs are provided in the Antelope-Fremont Valleys sub-basin section.

The part of the Antelope HU that lies within the Santa Clara sub-basin includes a portion of the Neenach hydrologic area.

The part of the Grapevine HU that lies within the Santa Clara sub-basin includes a portion of the San Emigdio hydrologic area.

The part of the Santa Clara-Calleguas HU that lies within the Santa Clara sub-basin includes a portion of the Piru hydrologic area.

### **South Fork Kern Sub-basin**

Within the GAI, the South Fork Kern sub-basin drains an area of 627,984 acres (981 square miles) and includes 815 rivers and streams that traverse 1,100 miles. As noted in Table E-1, the South Fork Kern sub-basin includes portions of the Fremont, Grapevine, Indian Wells, Kern River, and Owens HUs. Descriptions of the Fremont, Grapevine, Indian Wells, and Kern River HUs are provided in the Antelope-Fremont Valleys sub-basin section. A description of the Owens HU is provided in the Crowley Lake sub-basin section.

The part of the Fremont HU that lies within the South Fork Kern sub-basin includes portions of the Dove Springs, Kelson Landis, and Koehn hydrologic areas.

The part of the Grapevine HU that lies within the South Fork Kern sub-basin includes a portion of the Tehachapi Creek hydrologic area.

The part of the Indian Wells HU that lies within the South Fork Kern sub-basin includes portions of the China Lake and Rose hydrologic areas.

The part of the Kern River HU that lies within the South Fork Kern sub-basin includes portions of the Middle Kern and Upper Kern hydrologic areas.

The part of the Owens HU that lies within the South Fork Kern sub-basin includes a portion of the Lower Owens hydrologic areas.

### **Tulare Lake Bed Sub-basin**

Within the GAI, the Tulare Lake Bed sub-basin drains an area of 118,361 acres (185 square miles) and includes 279 rivers and streams that traverse 281 miles. As noted in Table E-1, the Tulare Lake Bed sub-basin includes portions of the Kaweah River, Kings River, and South Valley Floor HUs. A description of the Kings River HU is provided in the Crowley Lake sub-basin section. A description of the South Valley Floor HU is provided in the Middle Kern-Upper Tehachapi-Grapevine sub-basin section.

Within the GAI, the Kaweah River HU is associated with the Kaweah River Basin located at the Sierra Nevada foothills, with two major rivers, including St. Johns River and Kaweah River. The Kaweah River drains water from glacial lakes near the Triple Divide Peak in the Sierra Nevada. Above the town of Three Rivers, the Kaweah River consists of the North, Middle, and Marble Forks, with the South Fork draining into Lake Kaweah. Eventually, waters flow from Lake Kaweah flow west and drain into the San Joaquin valley floor (Corps 1996). The part of the Kaweah River HU that lies within the Tulare Lake Bed sub-basin includes a portion of the Tucker Mountain hydrologic area.

The part of the Kings River HU that lies within the Tulare Lake Bed sub-basin includes portions of the Dunlap, Humphreys Station, Upper Kings, and Wahtoke hydrologic areas.

The part of the South Valley Floor HU that lies within the Tulare Lake Bed sub-basin includes a portion of the Alta hydrologic area.

### **Upper Deer-Upper White Sub-basin**

Within the GAI, the Upper Deer-Upper White sub-basin drains an area of 213,828 acres (334 square miles) and includes 198 rivers and streams that traverse 368 miles. As noted in Table E-1, the Upper Deer-Upper White sub-basin includes portions of the Kern River, South Valley Floor, and Southern Sierra HUs. A description of the Kern River HU is provided in the Antelope-Fremont Valleys sub-basin section. Descriptions of the South Valley Floor and Southern Sierra HUs are provided in the Middle Kern-Upper Tehachapi-Grapevine sub-basin section.

The part of the Kern River HU that lies within the Upper Deer-Upper White sub-basin includes a portion of the Upper Kern hydrologic area.

The part of the South Valley Floor HU that lies within the Upper Deer-Upper White sub-basin includes a portion of the Tule Delta hydrologic area.

The part of the Southern Sierra HU that lies within the Upper Deer-Upper White sub-basin includes portions of the California Hot Springs, Five Dog Creek, Poso Creek, Tule River, and White River hydrologic areas.

### **Upper Dry Sub-basin**

Within the GAI, the Upper Dry sub-basin drains an area of 69,022 acres (108 square miles) and includes 169 rivers and streams that traverse 174 miles. As noted in Table E-1, the Upper Dry sub-basin includes portions of the Kings River, San Joaquin River, and South Valley Floor HUs. Descriptions of the Kings River and San Joaquin River HUs are provided in the Crowley Lake sub-basin section. A description of the South Valley Floor HU is provided in the Middle Kern-Upper Tehachapi-Grapevine sub-basin.

The part of the Kings River HU that lies within the Upper Dry sub-basin includes portions of the Humphreys Station and Upper Kings hydrologic areas.

The part of the San Joaquin River HU that lies within the Upper Dry sub-basin includes portions of the Auberry, Little Dry Creek, and Redinger hydrologic areas.

The part of the South Valley Floor HU that lies within the Upper Dry sub-basin includes portions of the Academy and Fresno hydrologic areas.

### **Upper Kaweah Sub-basin**

Within the GAI, the Upper Kaweah sub-basin drains an area of 528,573 acres (826 square miles) and includes 875 rivers and streams that traverse 929 miles. As noted in Table E-1, the Upper Kaweah sub-basin includes portions of the Kaweah River, Kern River, Kings River, South Valley Floor, and Southern Sierra HUs. A description of the Kaweah River HU is provided in the Tulare Lake Bed sub-basin section. A description of the Kern River HU is provided in the Antelope-Fremont Valleys sub-basin section. A description of the Kings River HU is provided in the Crowley Lake sub-basin section. Descriptions of the



South Valley Floor and Southern Sierra HUs are provided in the Middle Kern-Upper Tehachapi-Grapevine sub-basin section.

The part of the Kaweah River HU that lies within the Upper Kaweah sub-basin includes portions of the Tucker Mountain, Upper Kaweah, and Yokohl Creek hydrologic areas.

The part of the Kern River HU that lies within the Upper Kaweah sub-basin includes a portion of the Upper Kern hydrologic area.

The part of the Kings River HU that lies within the Upper Kaweah sub-basin includes portions of the Dunlap, Upper Kings, and Wahtoke hydrologic areas.

The part of the South Valley Floor HU that lies within the Upper Kaweah sub-basin includes portions of the Kaweah Delta and Orange Cove hydrologic areas.

The part of the Southern Sierra HU that lies within the Upper Kaweah sub-basin includes a portion of the Tule River hydrologic areas.

### **Upper Kern Sub-basin**

Within the GAI, the Upper Kern sub-basin drains an area of 699,177 acres (1,092 square miles) and includes 982 rivers and streams that traverse 1,138 miles. As noted in Table E-1, the Upper Kern sub-basin includes portions of the Kaweah River, Kern River, Kings River, Owens, and Southern Sierra HUs. A description of the Kaweah River HU is provided in the Tulare Lake Bed sub-basin section. A description of the Kern River HU is provided in the Antelope-Fremont Valleys sub-basin section. Descriptions of the Kings River and Owens HUs are provided in the Crowley Lake sub-basin section. A description of the Southern Sierra HU is provided in the Middle Kern-Upper Tehachapi-Grapevine sub-basin section.

The part of the Kaweah River HU that lies within the Upper Kern sub-basin includes a portion of the Upper Kaweah hydrologic area.

The part of the Kern River HU that lies within the Upper Kern sub-basin includes portions of the Middle Kern and Upper Kern hydrologic areas.

The part of the Kings River HU that lies within the Upper Kern sub-basin includes a portion of the Upper Kings hydrologic area.

The part of the Owens River HU that lies within the Upper Kern sub-basin includes a portion of the Lower Owens hydrologic area.

The part of the Southern Sierra HU that lies within the Upper Kern sub-basin includes portions of the California Hot Springs, Poso Creek, Tule River, and White River hydrologic areas.

### **Upper King Sub-basin**

Within the GAI, the Upper King sub-basin drains an area of 988,199 acres (1,544 square miles) and includes 1,491 rivers and streams that traverse 1,629 miles. As noted in Table E-1, the Upper King sub-basin includes portions of the Kaweah River, Kern River, Kings River, Owens, and San Joaquin River HUs. A description of the Kaweah River HU

is provided in the Tulare Lake Bed sub-basin section. A description of the Kern River HU is provided in the Antelope-Fremont Valleys sub-basin section. Descriptions of the Kings River, Owens, and San Joaquin River HUs are provided in the Crowley Lake sub-basin section.

The part of the Kaweah River HU that lies within the Upper King sub-basin includes portions of the Tucker Mountain and Upper Kaweah hydrologic areas.

The part of the Kern River HU that lies within the Upper King sub-basin includes a portion of the Upper Kern hydrologic area.

The part of the Kings River HU that lies within the Upper King sub-basin includes portions of the Dunlap, Humphreys Station, and Upper Kings hydrologic areas.

The part of the Owens HU that lies within the Upper King sub-basin includes portions of the Lower Owens and Upper Owens hydrologic areas.

The part of the San Joaquin River HU that lies within the Upper King sub-basin includes portions of the Lakeshore, Mammoth Pool, and Redinger hydrologic areas.

### **Upper Merced Sub-basin**

Within the GAI, the Upper Merced sub-basin drains an area of 101,196 acres (158 square miles) and includes 152 rivers and streams that traverse 163 miles. As noted in Table E-1, the Upper Merced sub-basin includes portions of the Ahwahnee, Merced River, Mono, San Joaquin River, and Tuolumne River HUs. Description of the Ahwahnee and Merced River HUs are provided in Fresno River sub-basin section. A description of the Mono HU is provided in the Mono Lake sub-basin section. A description of the San Joaquin River HU is provided in the Crowley Lake sub-basin section.

The part of the Ahwahnee HU that lies within the Upper Merced sub-basin includes a portion of the Fresno River hydrologic area.

The part of the Merced River HU that lies within the Upper Merced sub-basin includes portions of the Mount Starr King and South Fork Merced hydrologic areas.

The part of the San Joaquin River HU that lies within the Upper Merced sub-basin includes portions of the Mammoth Pool, North Fork, and North Fork San Joaquin hydrologic areas.

The Tuolumne River HU is associated with the eastern point of the Tuolumne River watershed. The watershed originates within the Sierra Nevada range, flowing southwest from Yosemite National Park to its confluence with the San Joaquin River (National Oceanic and Atmospheric Administration 2022). The part of the Tuolumne River HU that lies within the Upper Merced sub-basin includes a portion of the Hetch Hetchy hydrologic area.

### **Upper Poso Sub-basin**

Within the GAI, the Upper Poso sub-basin drains an area of 145,008 acres (227 square miles) and includes 163 rivers and streams that traverse 255 miles. As noted in Table E-1,

the Upper Poso sub-basin includes portions of the Kern River and Southern Sierra HUs. A description of the Kern River HU is provided in the Antelope-Fremont Valleys sub-basin section. A description of the Southern Sierra HU is provided in the Middle Kern-Upper Tehachapi-Grapevine sub-basin section.

The part of the Kern River HU that lies within the Upper Poso sub-basin includes portions of the Middle Kern and Upper Kern hydrologic areas.

The part of the Southern Sierra HU that lies within the Upper Poso sub-basin includes portions of the Five Dog Creek, Poso Creek, and White River hydrologic areas.

### **Upper San Joaquin Sub-basin**

Within the GAI, the Upper San Joaquin sub-basin drains an area of 1,048,829 acres (1,639 square miles) and includes 1,366 rivers and streams that traverse 1,609 miles. As noted in Table E-1, the Upper San Joaquin sub-basin includes portions of the Ahwahnee, Kings River, Merced River, Mono, Owens, and San Joaquin River HUs. Descriptions of the Ahwahnee and Merced River HUs are provided in the Fresno River sub-basin section. Descriptions of the Kings River, Owens, and San Joaquin River HUs are provided in the Crowley Lake sub-basin section. A description of the Mono HU is provided in the Mono Lake sub-basin section.

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

The part of the Kings River HU that lies within the Upper San Joaquin sub-basin includes portions of the Humphreys Station and Upper Kings hydrologic areas.

The part of the Merced River HU that lies within the Upper San Joaquin sub-basin includes portions of the Mount Starr King and South Fork Merced hydrologic areas.

The part of the Owens HU that lies within the Upper San Joaquin sub-basin includes portions of the Long and Upper Owens hydrologic areas.

The part of the San Joaquin River HU that lies within the Upper San Joaquin sub-basin includes portions of the Auberry, Lakeshore, Little Dry Creek, Mammoth Pool, North Fork, North Fork San Joaquin, and Redinger hydrologic areas.

### **Upper Tule Sub-basin**

Within the GAI, the Upper Tule sub-basin drains an area of 319,395 acres (499 square miles) and includes 492 rivers and streams that traverse 558 miles. As noted in Table E-1, the Upper Tule sub-basin includes portions of the Kaweah River, Kern River, South Valley Floor, and Southern Sierra HUs. A description of the Kaweah River HU is provided in the Tulare Lake Bed sub-basin section. A description of the Kern River HU is provided in the Antelope-Fremont Valleys sub-basin section. Descriptions of the South Valley Floor and Southern Sierra HUs are provided in the Middle Kern-Upper Tehachapi-Grapevine sub-basin section.

The part of the Kaweah River HU that lies within the Upper Tule sub-basin includes portions of the Upper Kaweah and Yokohl Creek hydrologic areas.



The part of the Kern River HU that lies within the Upper Tule sub-basin includes a portion of the Upper Kern hydrologic area.

The part of the South Valley Floor HU that lies within the Upper Tule sub-basin includes portions of the Kaweah Delta and Tule Delta hydrologic areas.

The part of the Southern Sierra HU that lies within the Upper Tule sub-basin includes portions of the California Hot Springs, Frazier Valley, and Tule River hydrologic areas.

### Upper Tuolumne Sub-basin

Within the GAI, the Upper Tuolumne sub-basin drains an area of 96 acres (0.15 square mile). However, this sub-basin does not include any rivers or streams within the GAI. As noted in Table E-1, the Upper Tuolumne sub-basin includes portions of the Merced River and Tuolumne River HUs. A description of the Merced River HU is provided in the Fresno River sub-basin section. A description of the Tuolumne River HU is provided in the Upper Merced sub-basin section.

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

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

### Crosswalk: HUC-8s to HUs

The SAMNA Reporting Tool expresses the landscape in terms of USGS HUC-8 sub-basins (Caltrans 2021; USGS 2014). However, 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 GAI.

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

HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18090206	Antelope-Fremont Valleys	2,155,257	626	Antelope	74,278
18090206	Antelope-Fremont Valleys	2,155,257	625	Fremont	221,729
18090206	Antelope-Fremont Valleys	2,155,257	556	Grapevine	319
18090206	Antelope-Fremont Valleys	2,155,257	624	Indian Wells	10
18090206	Antelope-Fremont Valleys	2,155,257	554	Kern River	84
18090206	Antelope-Fremont Valleys	2,155,257	403	Santa Clara - Calleguas	13
18090102	Crowley Lake	1,227,625	552	Kings River	19
18090102	Crowley Lake	1,227,625	603	Owens	343,594
18090102	Crowley Lake	1,227,625	540	San Joaquin River	52
18090102	Crowley Lake	1,227,625	541	San Joaquin River	132

HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18060007	Cuyama	731,931	556	Grapevine	4
18060007	Cuyama	731,931	312	Santa Maria	124
18040007	Fresno River	414,638	539	Ahwahnee	189,167
18040007	Fresno River	414,638	537	Merced River	6
18040007	Fresno River	414,638	540	San Joaquin River	85
18040007	Fresno River	414,638	545	San Joaquin Valley Floor	686
18090205	Indian Wells-Searles Valleys	1,292,391	625	Fremont	21
18090205	Indian Wells-Searles Valleys	1,292,391	624	Indian Wells	150,943
18090205	Indian Wells-Searles Valleys	1,292,391	554	Kern River	185
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	626	Antelope	215
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	625	Fremont	4,449
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	556	Grapevine	563,725
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	554	Kern River	176,131
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	312	Santa Maria	4
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	403	Santa Clara - Calleguas	11
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	557	South Valley Floor	8,513
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	559	South Valley Floor	238
18030003	Middle Kern-Upper Tehachapi-Grapevine	1,675,078	556	Southern Sierra	238
18040001	Middle San Joaquin-Lower Chowchilla	2,256,113	539	Ahwahnee	90,423
18040001	Middle San Joaquin-Lower Chowchilla	2,256,113	552	Kings River	50
18040001	Middle San Joaquin-Lower Chowchilla	2,256,113	540	San Joaquin River	84

HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18040001	Middle San Joaquin-Lower Chowchilla	2,256,113	541	San Joaquin River	40,749
18040001	Middle San Joaquin-Lower Chowchilla	2,256,113	545	San Joaquin Valley Floor	6,313
18090101	Mono Lake	695,318	538	Merced River	0
18090101	Mono Lake	695,318	601	Mono	6
18090101	Mono Lake	695,318	541	San Joaquin River	21
18090103	Owens Lake	877,214	624	Indian Wells	11,079
18090103	Owens Lake	877,214	554	Kern River	125
18090103	Owens Lake	877,214	552	Kings River	29
18090103	Owens Lake	877,214	603	Owens	194,119
18070102	Santa Clara	1,040,515	626	Antelope	3
18070102	Santa Clara	1,040,515	556	Grapevine	3
18070102	Santa Clara	1,040,515	403	Santa Clara - Calleguas	1,887
18030002	South Fork Kern	627,984	625	Fremont	89
18030002	South Fork Kern	627,984	556	Grapevine	18
18030002	South Fork Kern	627,984	624	Indian Wells	244
18030002	South Fork Kern	627,984	554	Kern River	627,522
18030002	South Fork Kern	627,984	603	Owens	111
18030012	Tulare Lake Bed	2,423,676	553	Kaweah River	395
18030012	Tulare Lake Bed	2,423,676	552	Kings River	114,456
18030012	Tulare Lake Bed	2,423,676	552	South Valley Floor	3,510
18030005	Upper Deer-Upper White	782,939	554	Kern River	62
18030005	Upper Deer-Upper White	782,939	558	South Valley Floor	3,205
18030005	Upper Deer-Upper White	782,939	555	Southern Sierra	210,307
18030005	Upper Deer-Upper White	782,939	556	Southern Sierra	254
18030009	Upper Dry	1,360,692	552	Kings River	66,359
18030009	Upper Dry	1,360,692	540	San Joaquin River	154
18030009	Upper Dry	1,360,692	541	San Joaquin River	49
18030009	Upper Dry	1,360,692	551	South Valley Floor	2,461
18030007	Upper Kaweah	974,567	553	Kaweah River	516,214



HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18030007	Upper Kaweah	974,567	554	Kaweah River	364
18030007	Upper Kaweah	974,567	554	Kern River	84
18030007	Upper Kaweah	974,567	552	Kings River	4,520
18030007	Upper Kaweah	974,567	552	South Valley Floor	1,841
18030007	Upper Kaweah	974,567	558	South Valley Floor	5,468
18030007	Upper Kaweah	974,567	555	Southern Sierra	82
18030001	Upper Kern	699,177	553	Kaweah River	96
18030001	Upper Kern	699,177	554	Kern River	698,653
18030001	Upper Kern	699,177	552	Kings River	90
18030001	Upper Kern	699,177	603	Owens	108
18030001	Upper Kern	699,177	555	Southern Sierra	164
18030001	Upper Kern	699,177	556	Southern Sierra	67
18030010	Upper King	988,199	553	Kaweah River	217
18030010	Upper King	988,199	554	Kern River	244
18030010	Upper King	988,199	552	Kings River	987,428
18030010	Upper King	988,199	603	Owens	56
18030010	Upper King	988,199	540	San Joaquin River	192
18030010	Upper King	988,199	541	San Joaquin River	62
18040008	Upper Merced	812,443	539	Ahwahnee	9
18040008	Upper Merced	812,443	537	Merced River	55,544
18040008	Upper Merced	812,443	538	Merced River	45,556
18040008	Upper Merced	812,443	601	Mono	0
18040008	Upper Merced	812,443	540	San Joaquin River	84
18040008	Upper Merced	812,443	541	San Joaquin River	3
18040008	Upper Merced	812,443	537	Tuolumne River	0
18030004	Upper Poso	368,109	554	Kern River	55
18030004	Upper Poso	368,109	555	Southern Sierra	281
18030004	Upper Poso	368,109	556	Southern Sierra	144,671
18040006	Upper San Joaquin	1,048,829	539	Ahwahnee	229
18040006	Upper San Joaquin	1,048,829	552	Kings River	252
18040006	Upper San Joaquin	1,048,829	537	Merced River	116

HUC-8 #	HUC-8 Name	HUC-8 Acreage <sup>a</sup>	HU #	HU Name	HU Acreage <sup>a</sup>
18040006	Upper San Joaquin	1,048,829	538	Merced River	27
18040006	Upper San Joaquin	1,048,829	601	Mono	2
18040006	Upper San Joaquin	1,048,829	603	Owens	71
18040006	Upper San Joaquin	1,048,829	540	San Joaquin River	801,452
18040006	Upper San Joaquin	1,048,829	541	San Joaquin River	246,612
18030006	Upper Tule	604,540	553	Kaweah River	119
18030006	Upper Tule	604,540	554	Kaweah River	57,644
18030006	Upper Tule	604,540	554	Kern River	141
18030006	Upper Tule	604,540	558	South Valley Floor	4,717
18030006	Upper Tule	604,540	555	Southern Sierra	251,478
18030006	Upper Tule	604,540	556	Southern Sierra	5,296
18040009	Upper Tuolumne	1,198,607	538	Merced River	3
18040009	Upper Tuolumne	1,198,607	537	Tuolumne River	93

Source: Caltrans 2021

<sup>a</sup> 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 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. Water bodies 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? <sup>a</sup>
Upper Kern	Isabella Lake	Nutrients (oxygen, dissolved)	Required, not established yet	Yes
Upper Deer-Upper White	Deer Creek (Tulare County)	Toxicity	Required, not established yet	Yes
Upper Tule	Success Lake	pH	Required, not established yet	Yes
Upper Kaweah	Kaweah Lake	Metals (mercury)	Required, not established yet	Yes
Upper King	Hume Lake	pH	Required, not established yet	Yes
Tulare Lake Bed	Kings River, Lower (Pine Flat Reservoir to Island Weir)	Toxicity <sup>b</sup>	Required, not established yet	Yes
Tulare Lake Bed	Mill Creek (Fresno County)	Toxicity	Required, not established yet	Yes
Tulare Lake Bed	Pine Flat Reservoir	Metals (mercury)	Required, not established yet	Yes
Tulare Lake Bed	Tule River, Lower	Toxicity	Required, not established yet	Yes
Middle San Joaquin-Lower Chowchilla	Eastman Lake (Madera County)	Metals (mercury)	Required, not established yet	Yes
Middle San Joaquin-Lower Chowchilla	San Joaquin River (Friant Dam to Mendota Pool)	Invasive species	Required, not established yet	Yes
Upper San Joaquin	Millerton Lake	Metals (mercury)	Required, not established yet	Yes
Upper San Joaquin	Ramona Lake (Fresno County)	Salinity	Required, not established yet	Yes

Sub-basin	Impaired Water	Impairment	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Upper San Joaquin	Willow Creek (Madera County)	Water temperature	Required, not established yet	Yes
Fresno River	Dry Creek (Madera County)	Toxicity	Required, not established yet	Yes
Fresno River	Fresno River (above Hensley Reservoir to confluence with Nelder Creek and Lewis Fork)	Nutrients (low dissolved oxygen)	Required, not established yet	Yes
Fresno River	Hensley Lake	Metals (mercury)	Required, not established yet	Yes
Crowley Lake	Convict Creek	Indicator bacteria	Required, not established yet	No
Crowley Lake	Hilton Creek	Salinity	Required, not established yet	Yes
Crowley Lake	Horton Creek	Indicator bacteria	Required, not established yet	No
Crowley Lake	Mammoth Creek (headwaters to Twin Lakes outlet)	Salinity	Required, not established yet	Yes
Crowley Lake	Mammoth Creek (Old Mammoth Road to Highway 395)	Nutrients (oxygen, dissolved)	Required, not established yet	Yes
Crowley Lake	Mammoth Creek (Twin Lakes outlet to Old Mammoth Road)	Salinity	Required, not established yet	Yes
Crowley Lake	McGee Creek (Mono County)	Nutrients (phosphate)	Required, not established yet	Yes
Crowley Lake	Mill City Tributary	Metals (arsenic)	Required, not established yet	Yes
Crowley Lake	Pine Creek (Inyo County)	Indicator bacteria	Required, not established yet	No
Crowley Lake	Rock Creek (tributary to Owens River)	Salinity	Required, not established yet	Yes
Owens Lake	Horseshoe Meadow Creek	Indicator bacteria	Required, not established yet	No
Owens Lake	Lone Pine Creek (Inyo County)	Indicator bacteria	Required, not established yet	No

Sub-basin	Impaired Water	Impairment	TMDL Status	Relevant to RAMNA? <sup>a</sup>
Owens Lake	Round Valley Creek	Indicator bacteria	Required, not established yet	No

Source: SWRCB (2021)

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

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

## References

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](https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.html).



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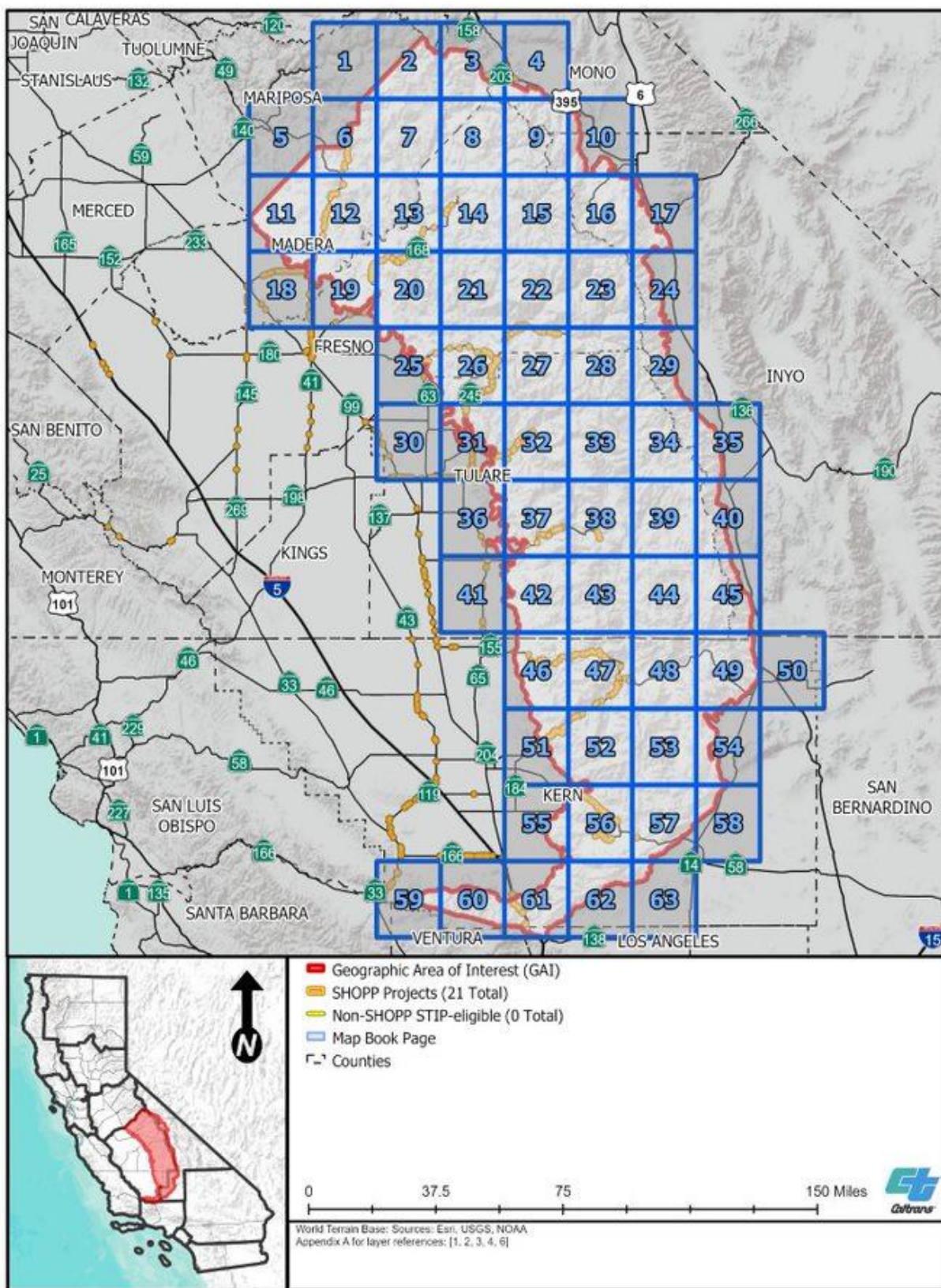
## APPENDIX G: AQUATIC RESOURCE LOCATIONS

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 2021a, 2021b). Hydrologic units are described in Appendix D, which includes a crosswalk table of HUC-8 subbasins and HUs. These 63 maps correspond with the land cover maps in Appendix C.

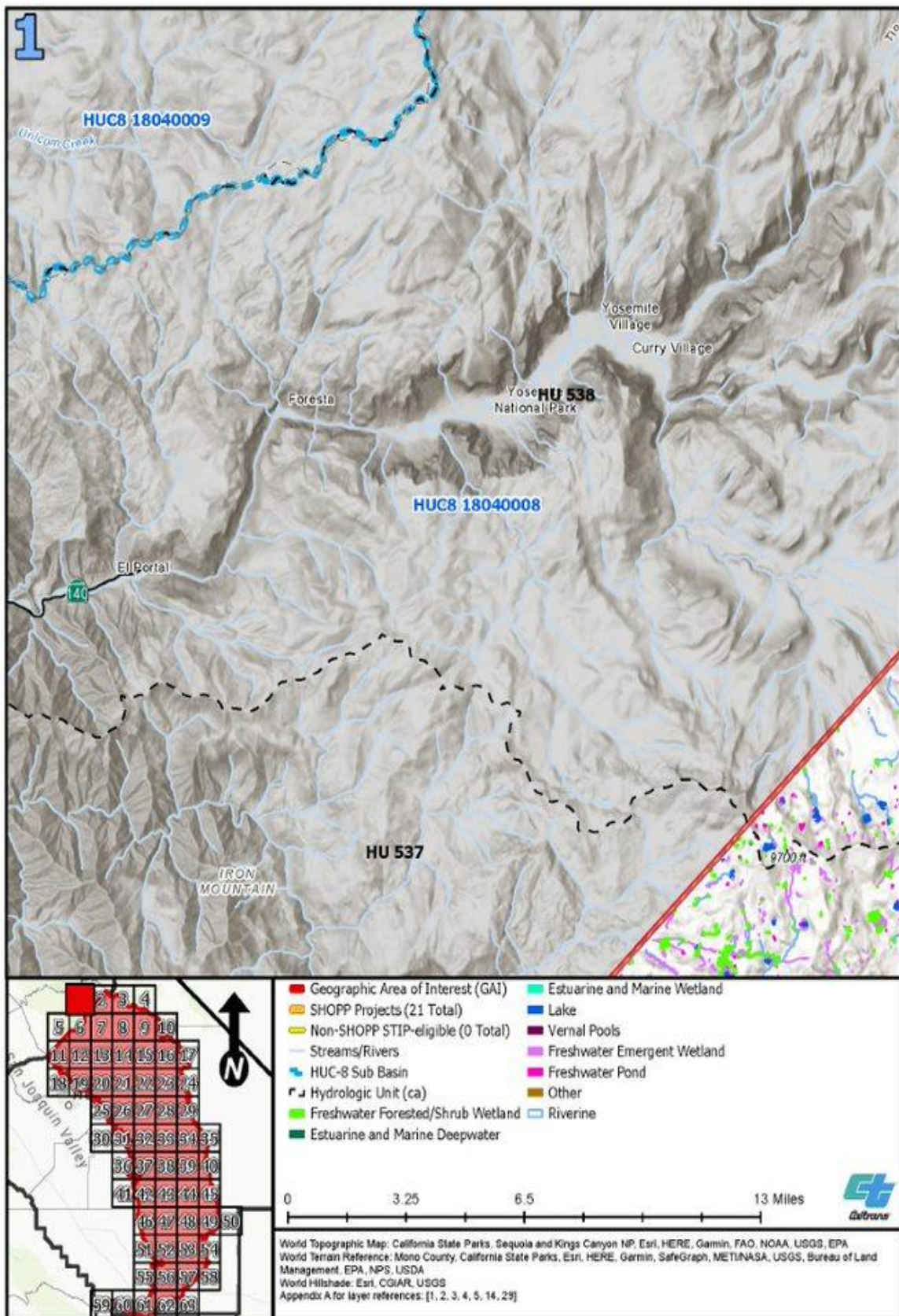
Few sources of information are known to be available that can be used to describe existing and relevant wetland, riparian, and littoral resources. The FWS National Wetlands Inventory (2021) and the San Francisco Estuary Institute California Aquatic Resource Inventory (2018) are the only known datasets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

### References

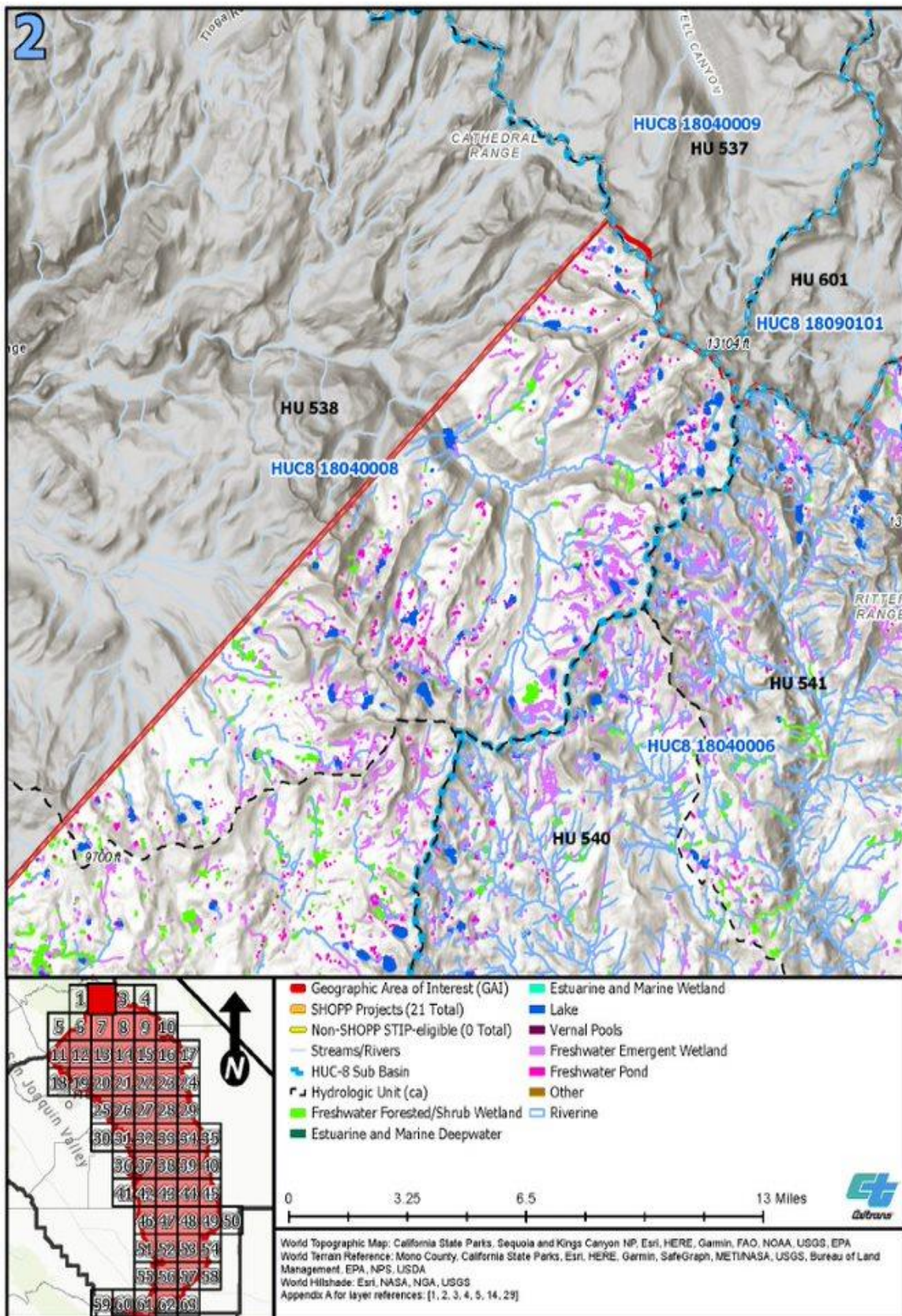
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- . 2021b. "Wetlands\_D06/D07/D09 in Caltrans District 6 Geospatial Data for the Advance Mitigation Needs Assessment for the First Quarter of FY 2021/2022" (data file). Accessed June 15, 2022. <https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation>.
- FWS (U.S. Fish and Wildlife Service). 2021. "National Wetlands Inventory. Wetlands Mapper." Accessed January 6, 2023. <https://www.fws.gov/wetlands/data/mapper.html>.
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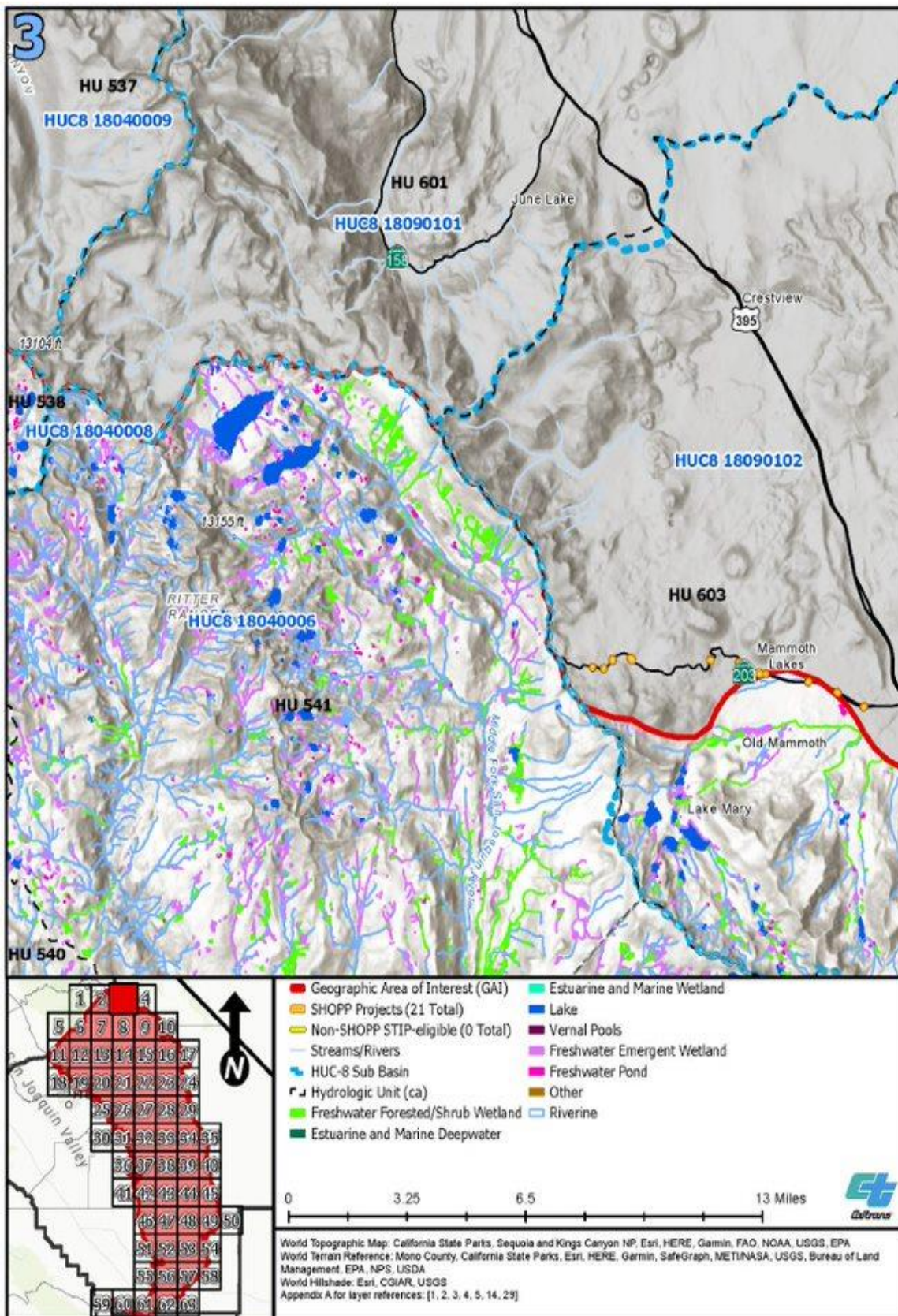




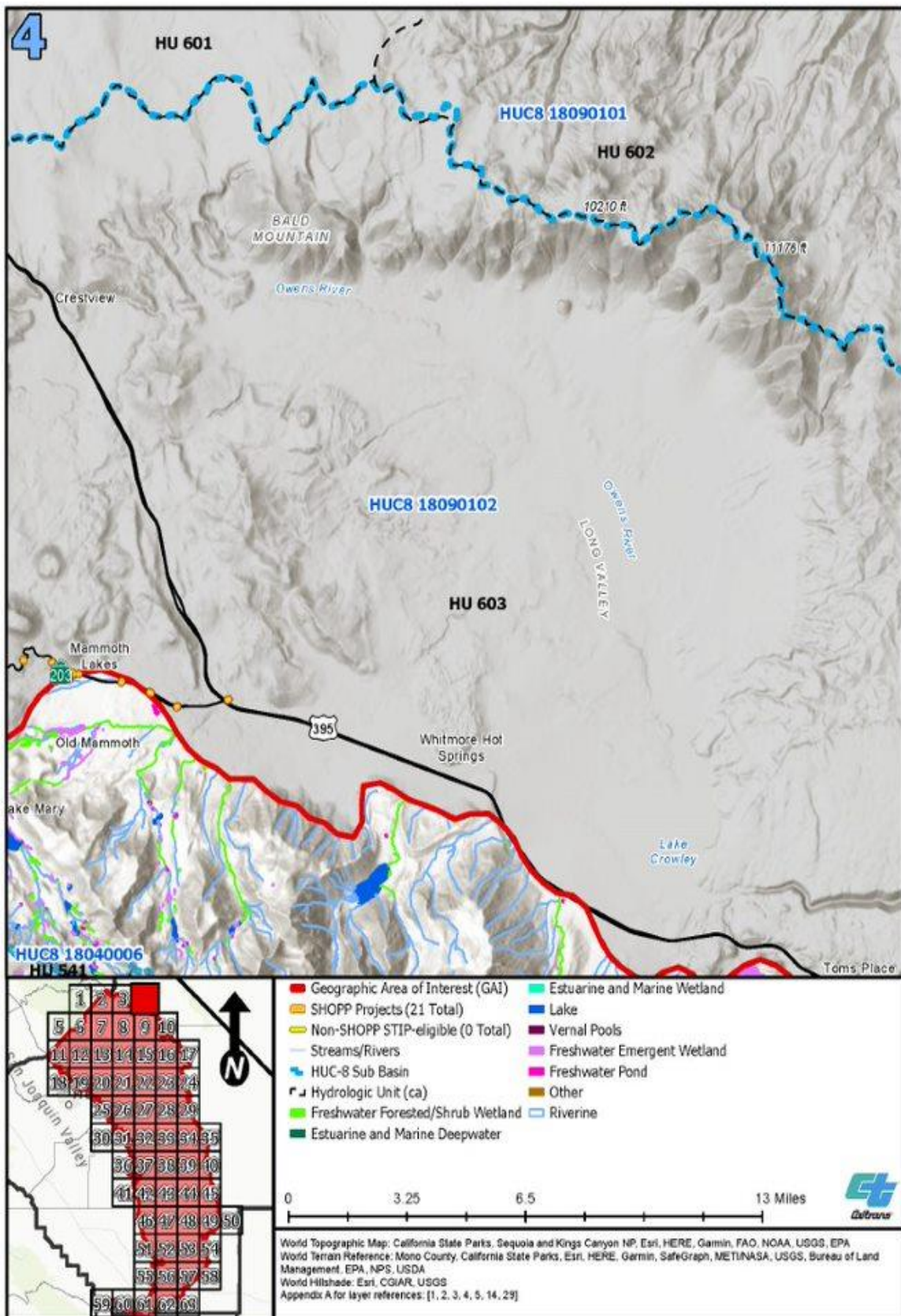




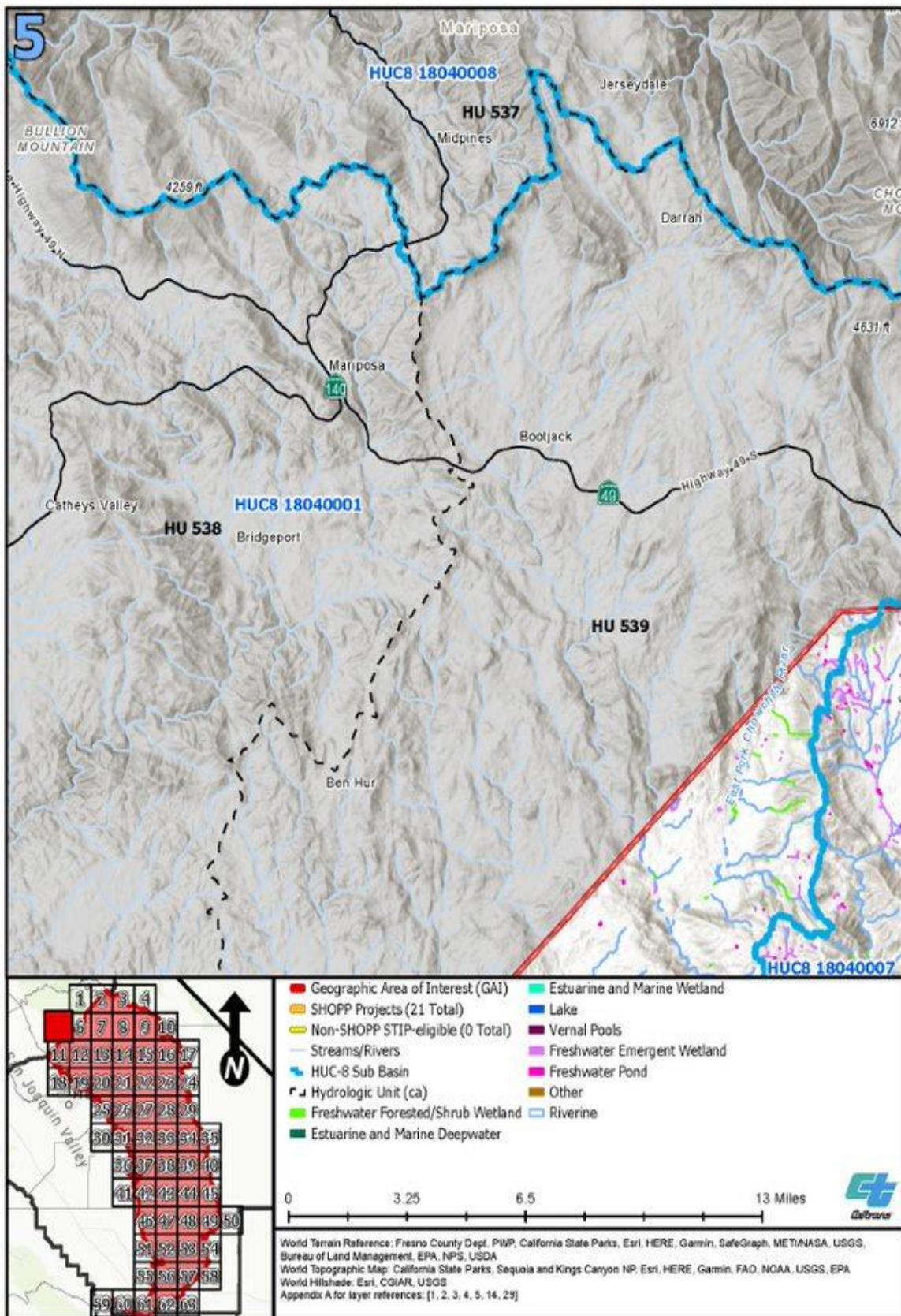




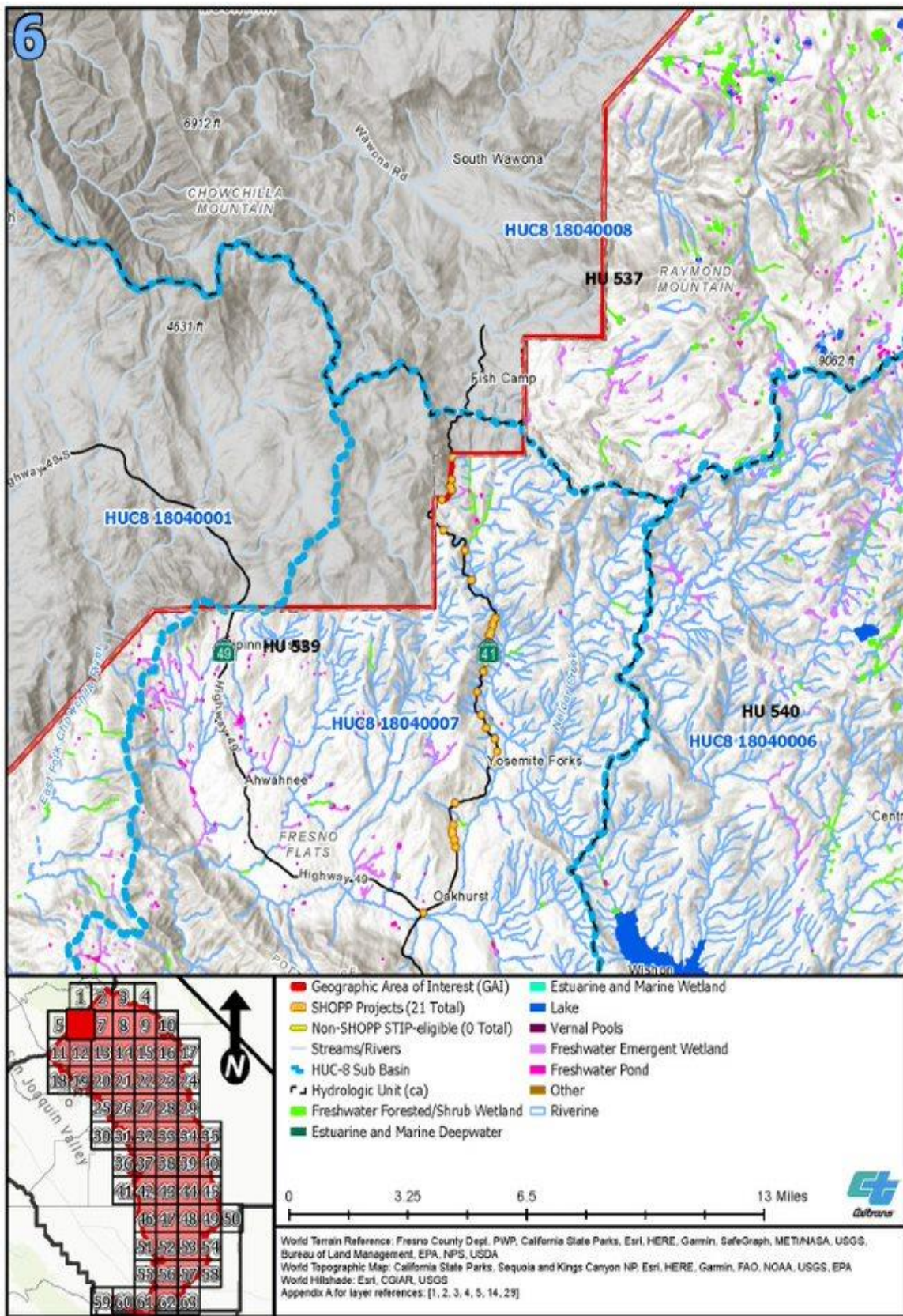




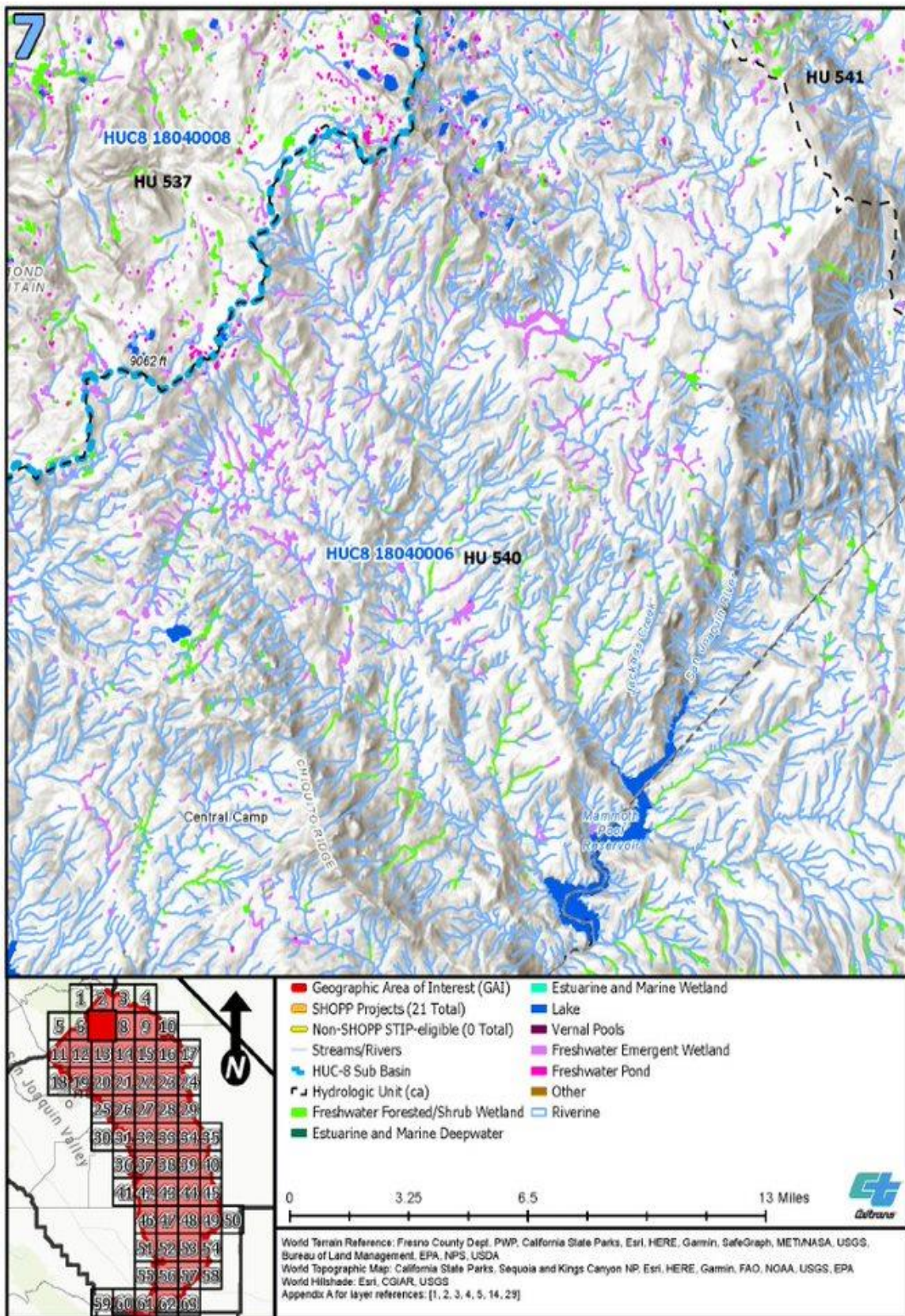




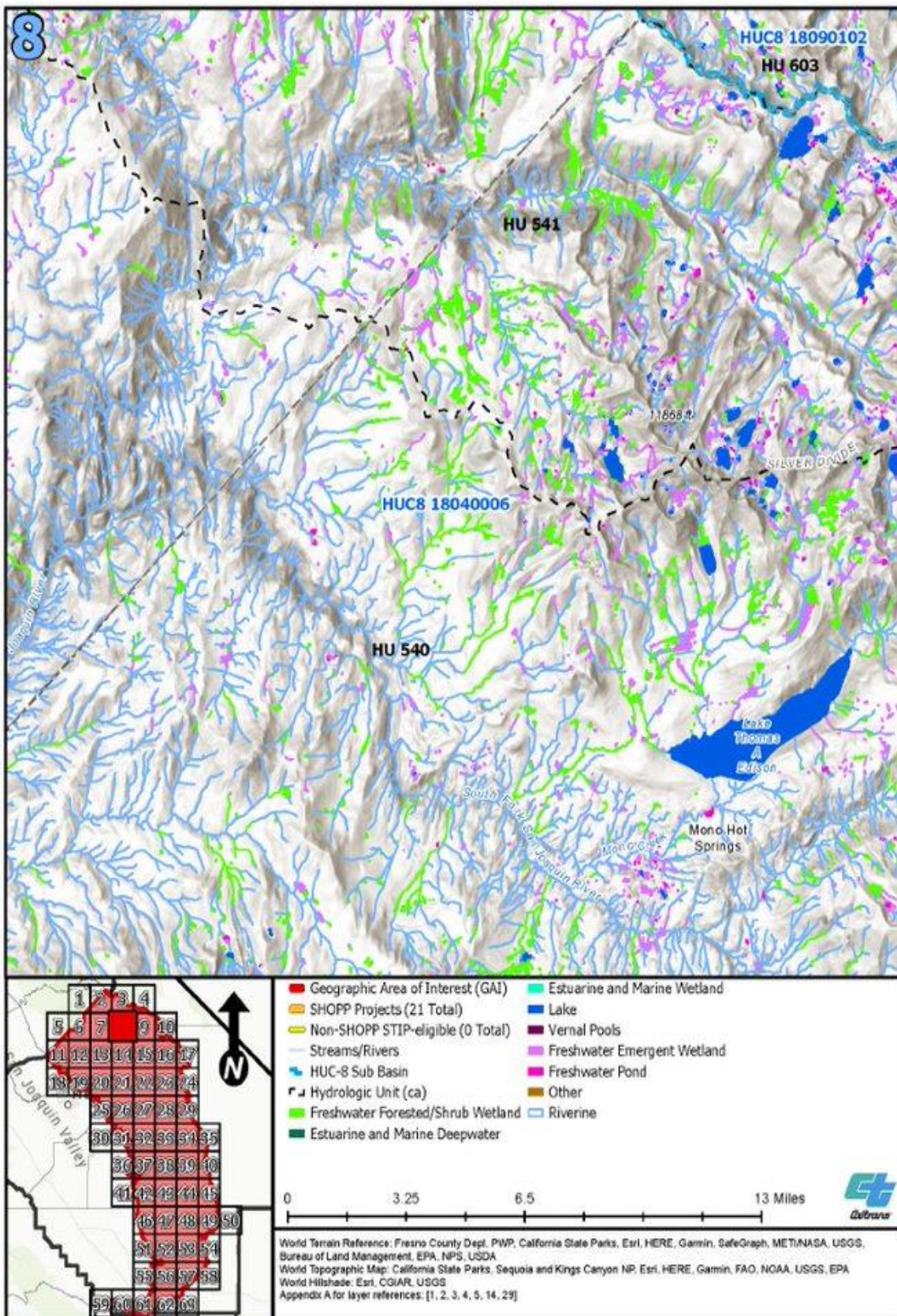




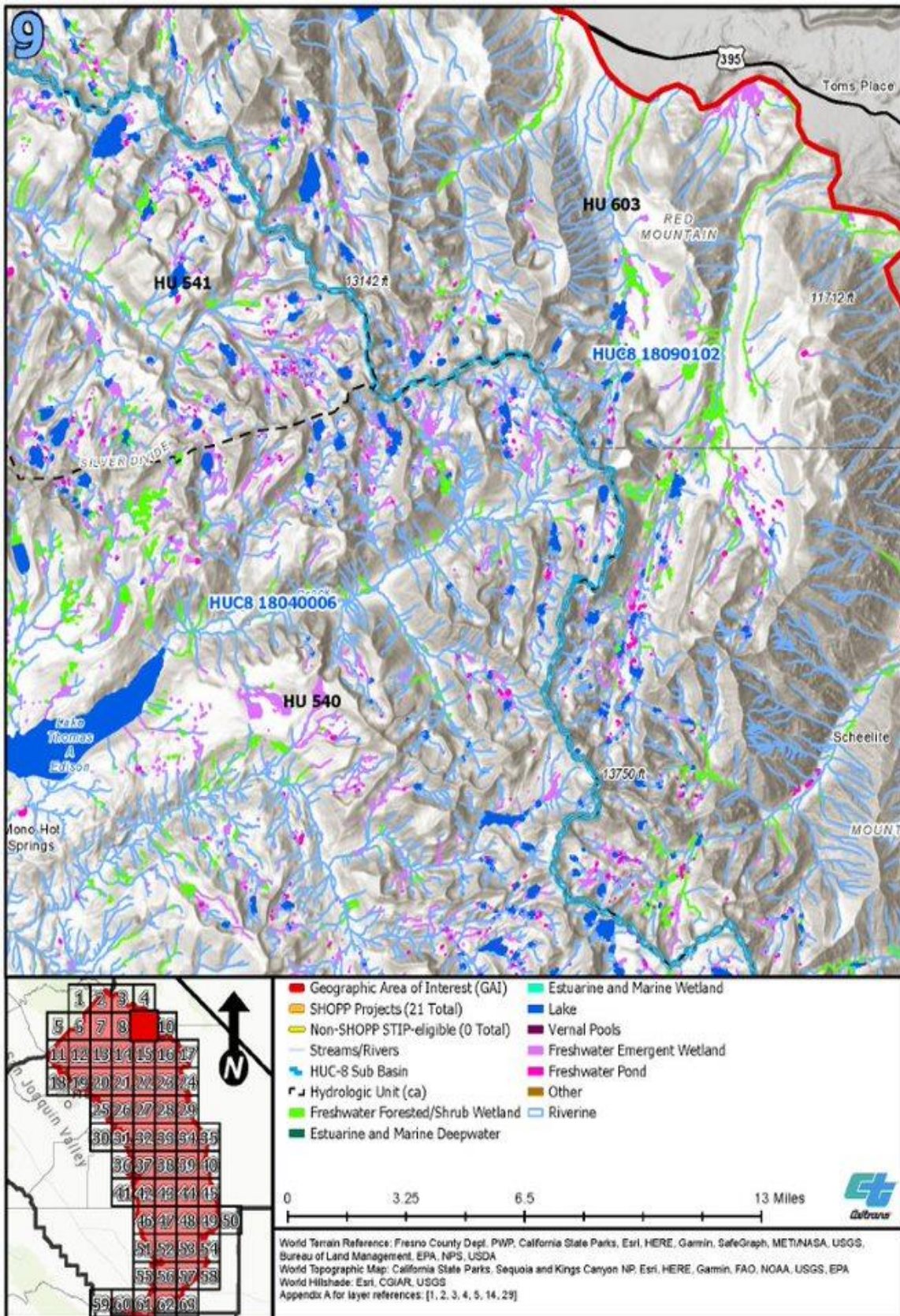




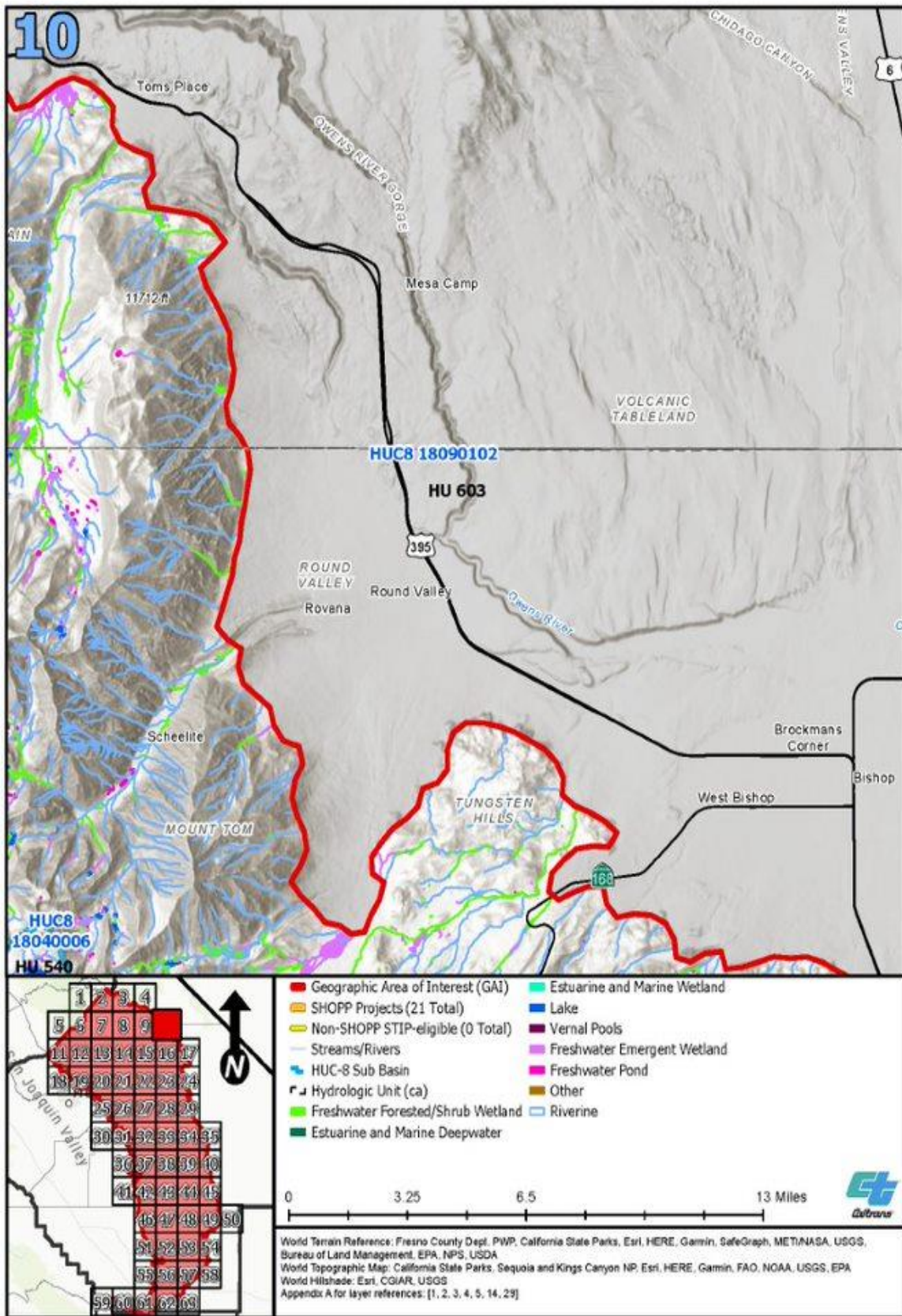




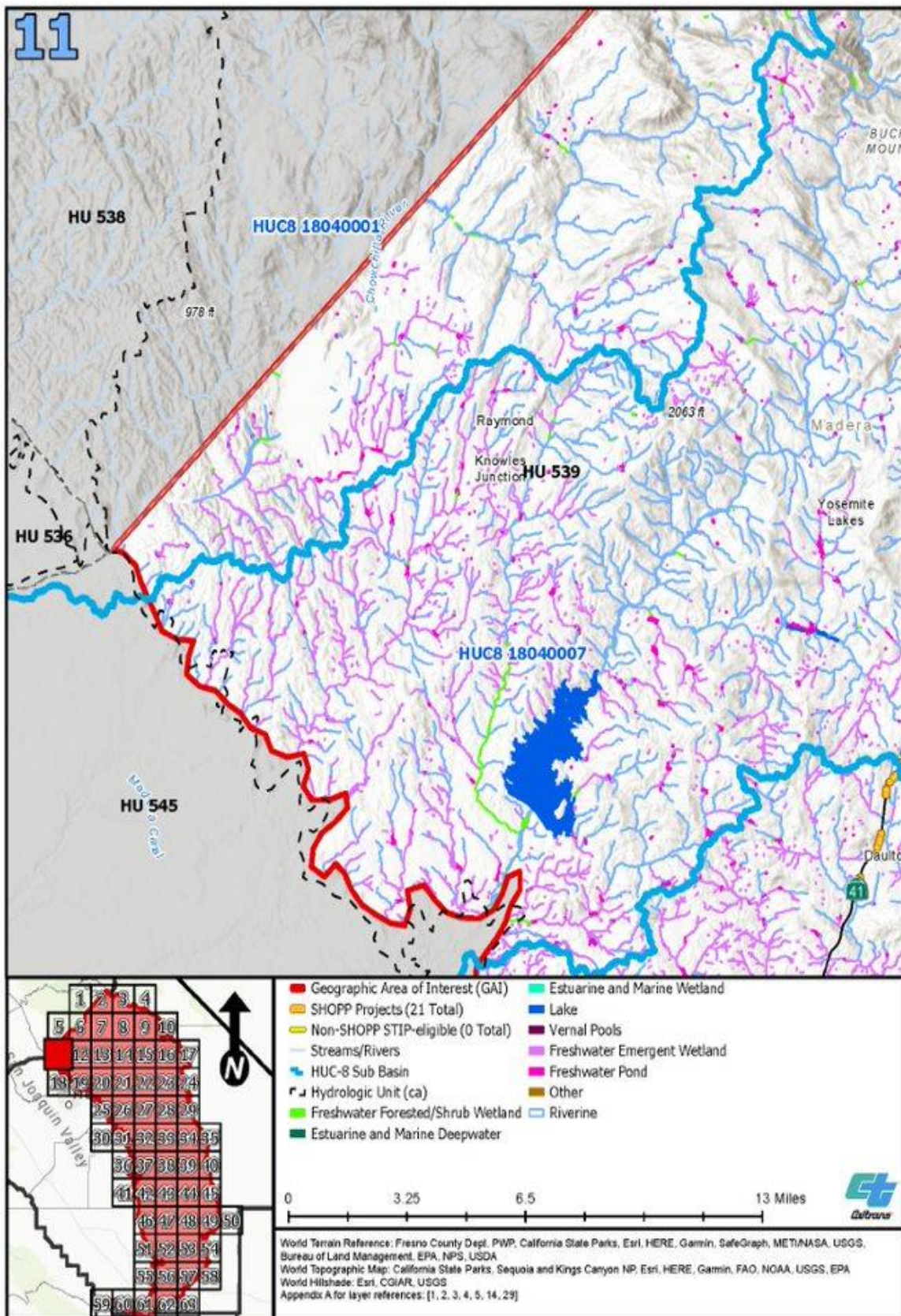




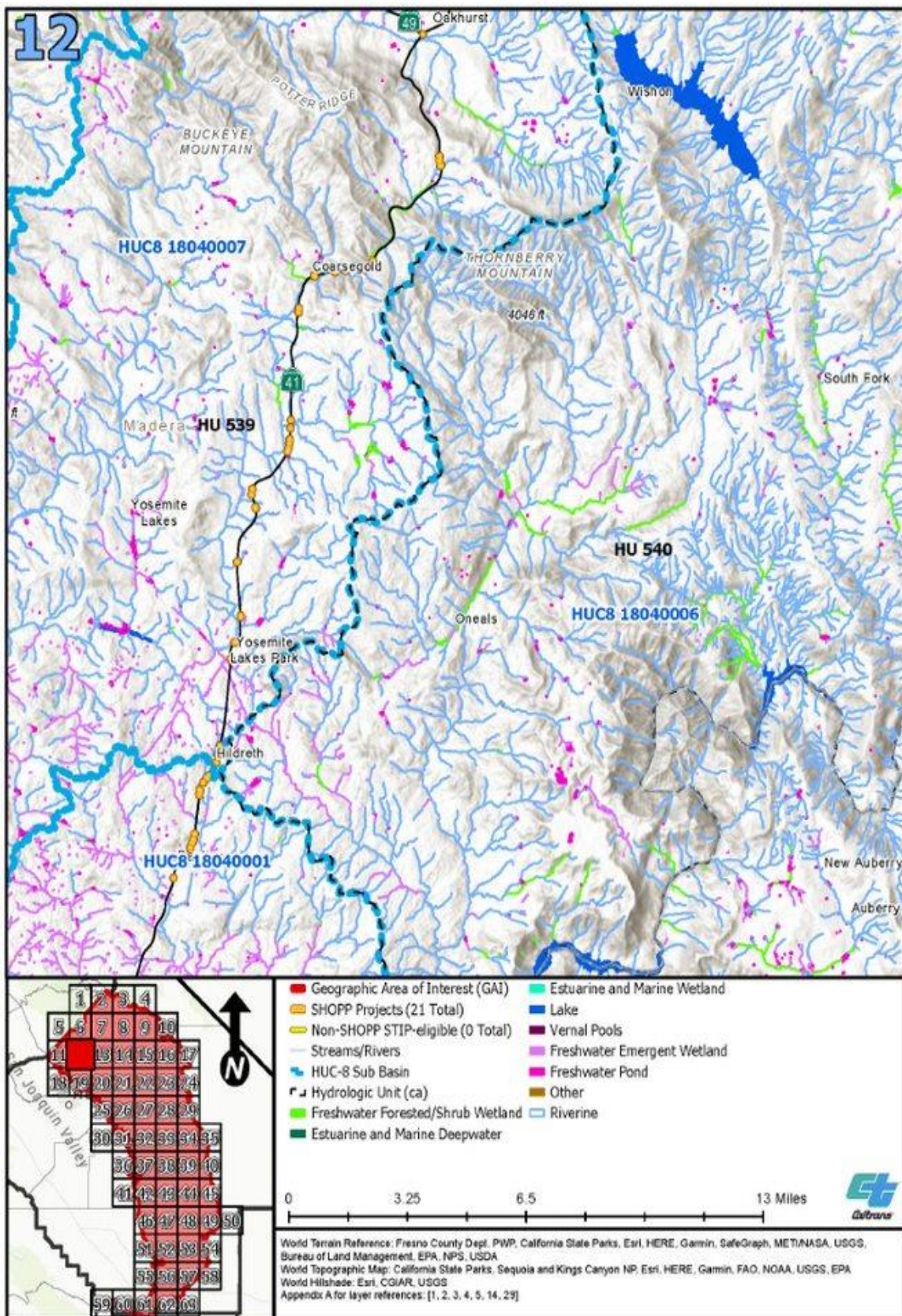




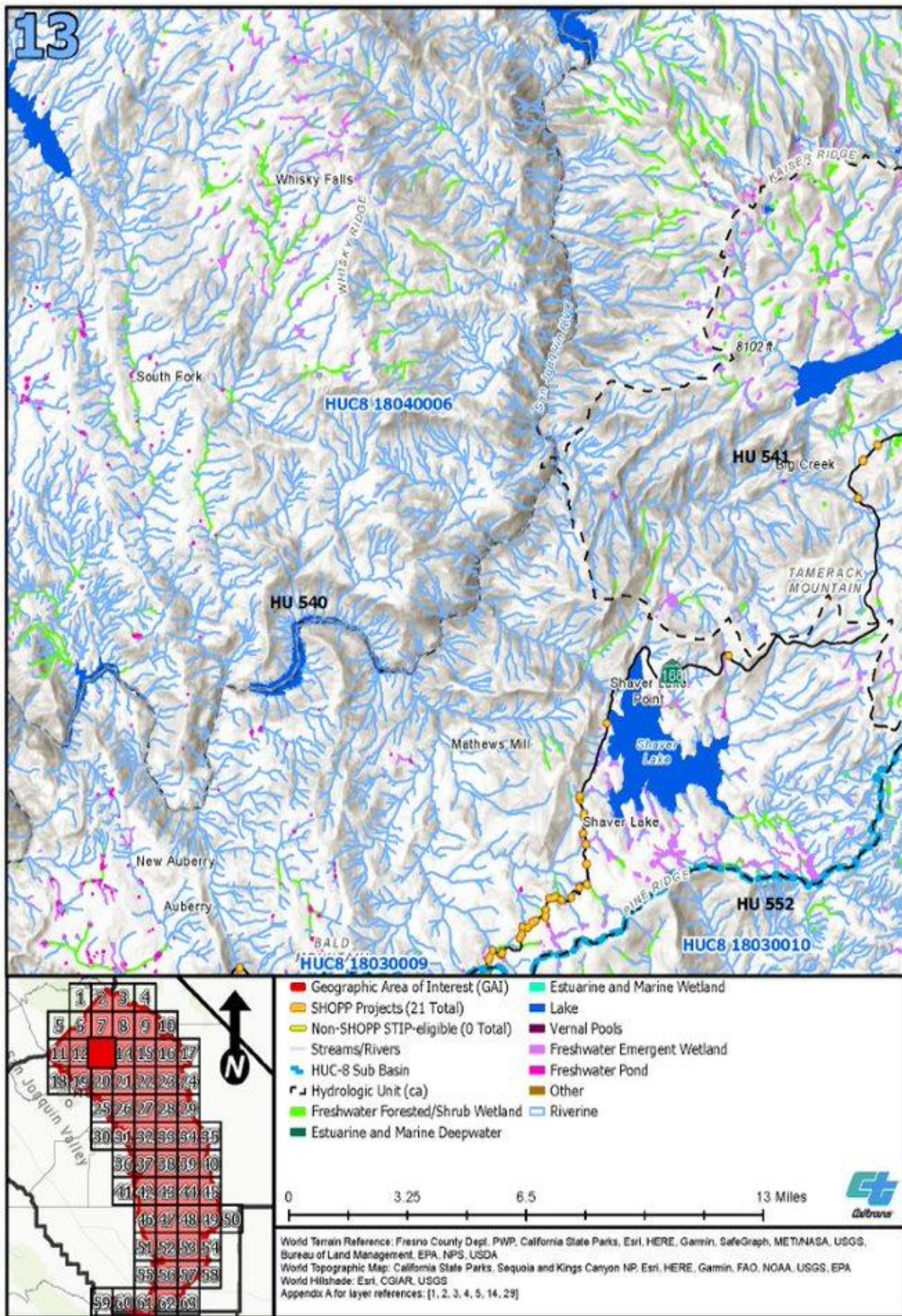




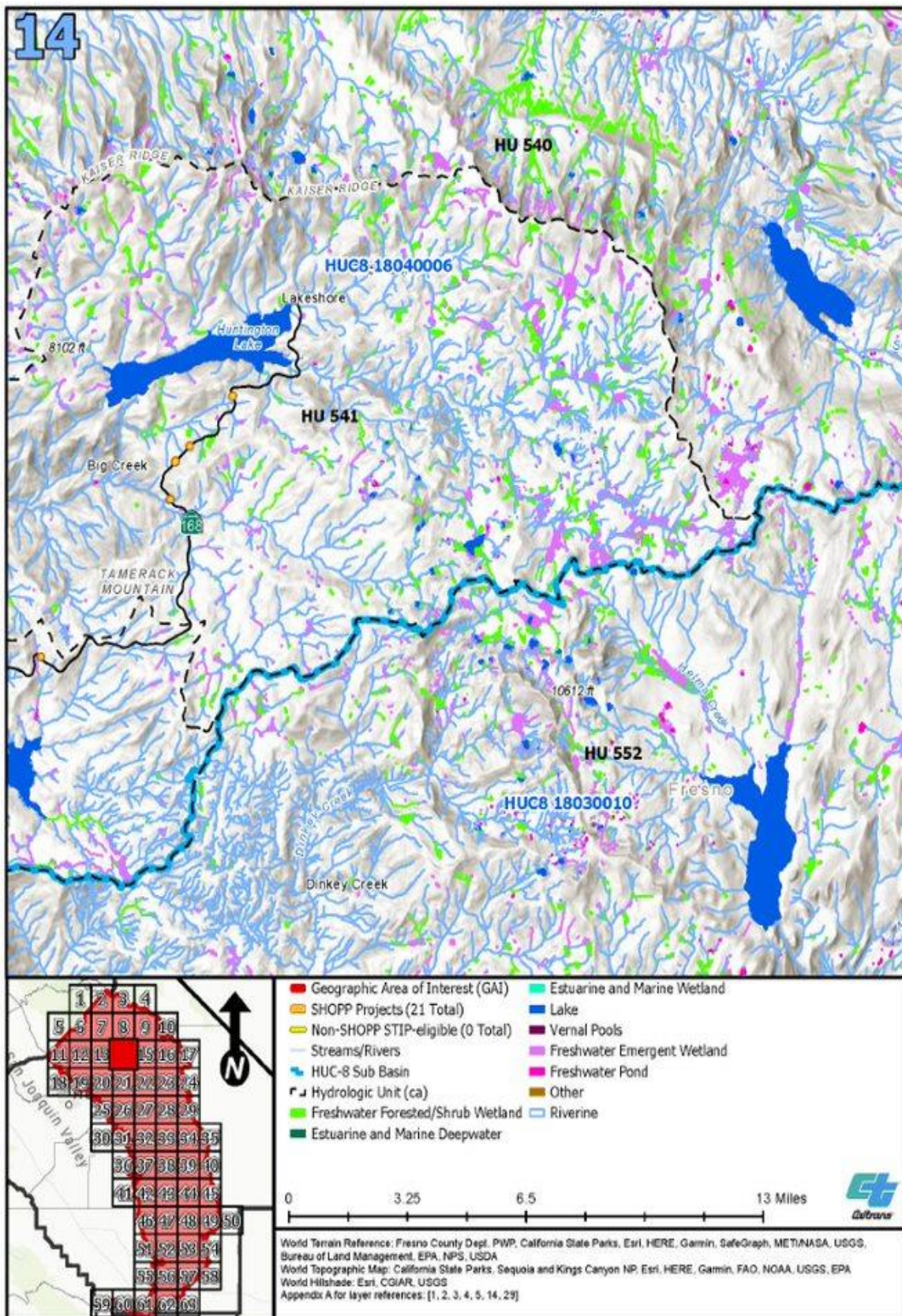




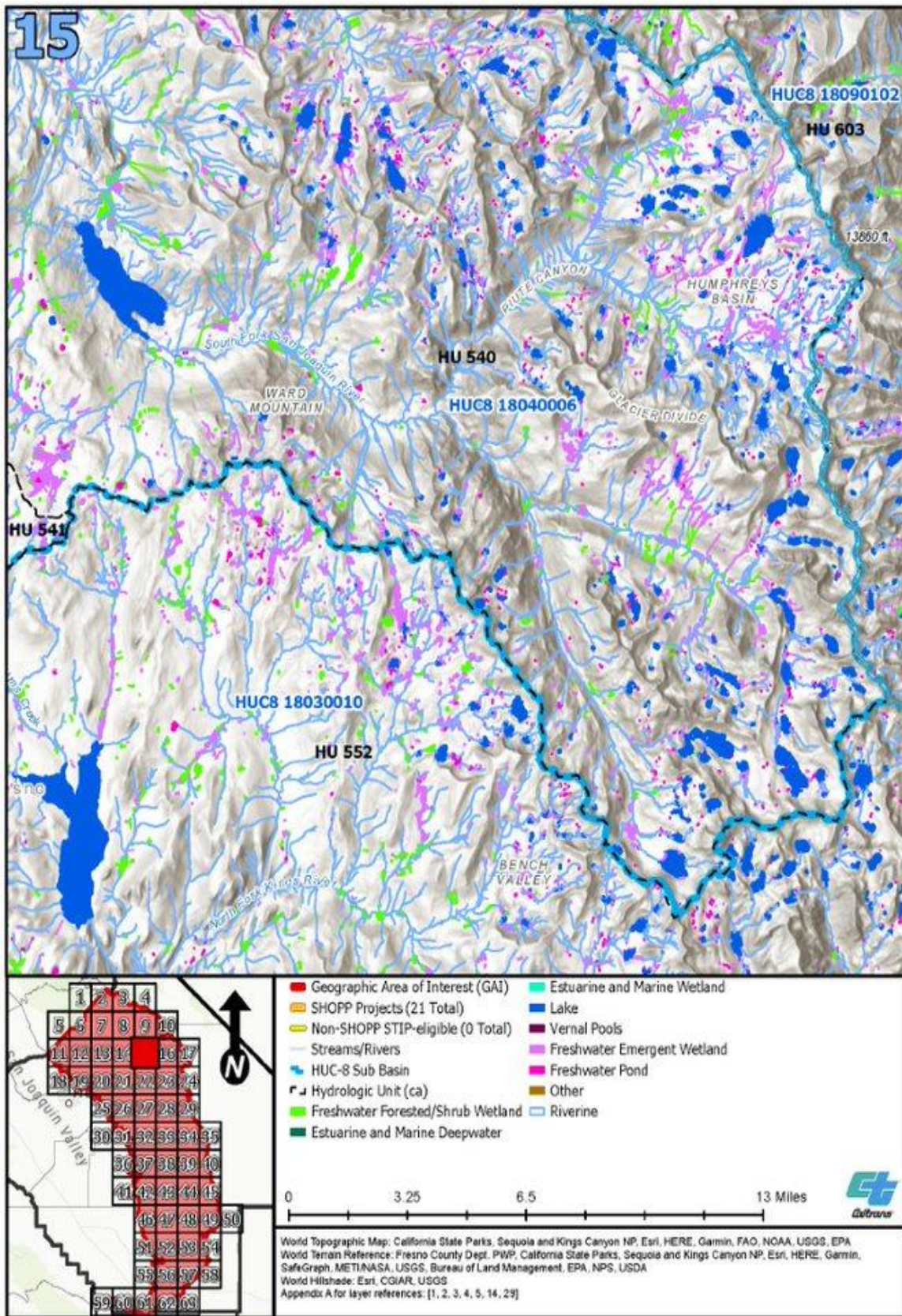




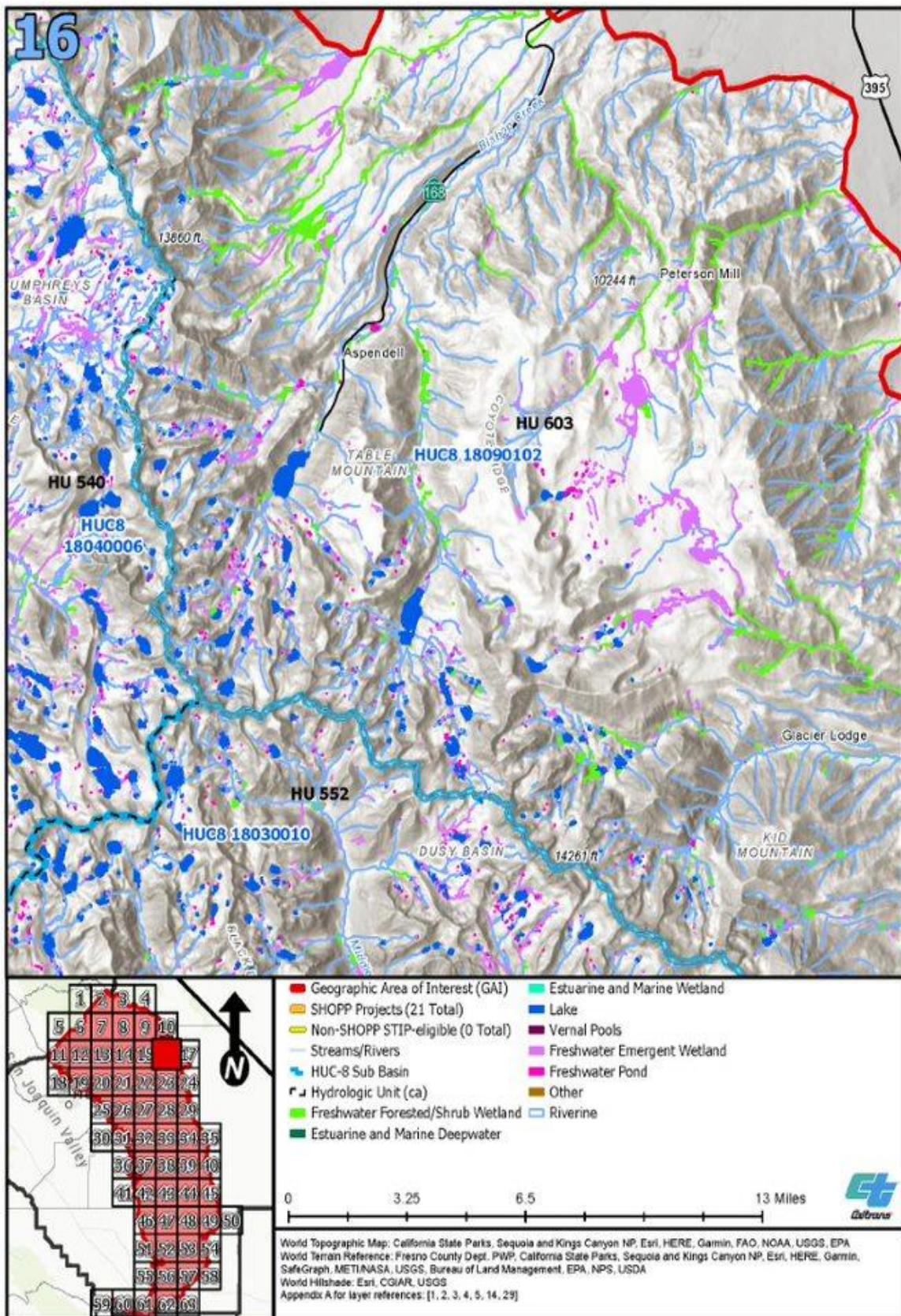




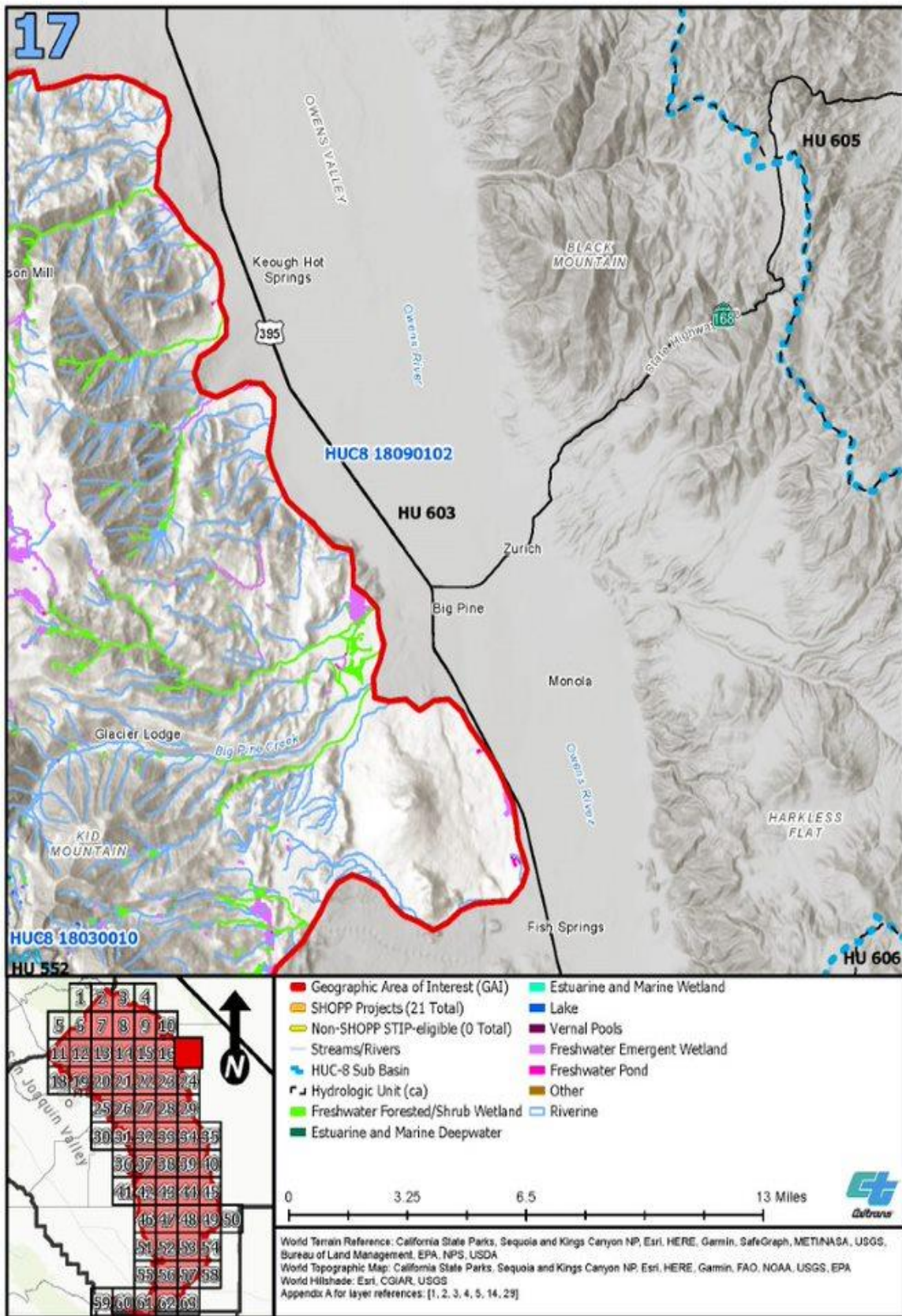


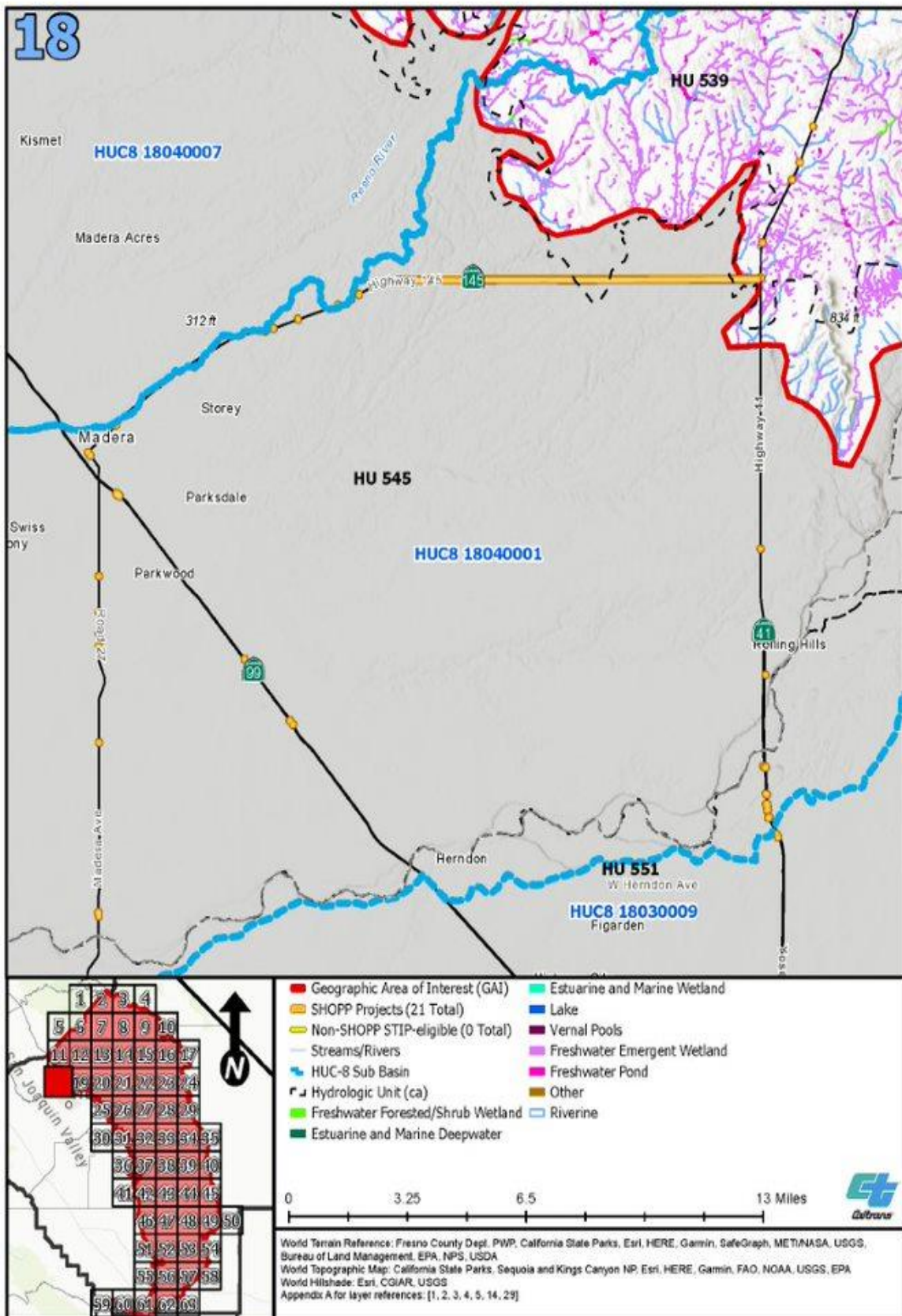




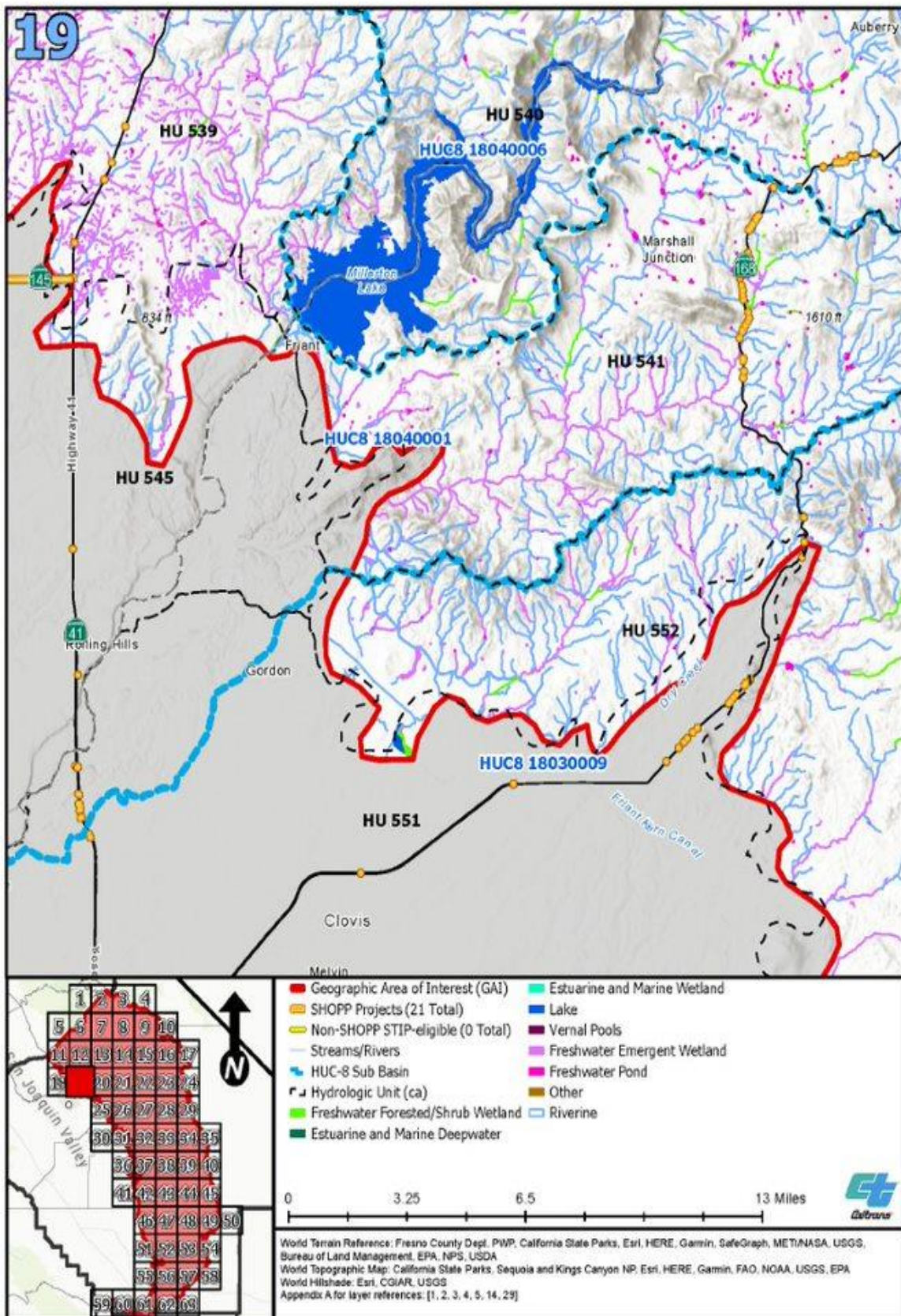




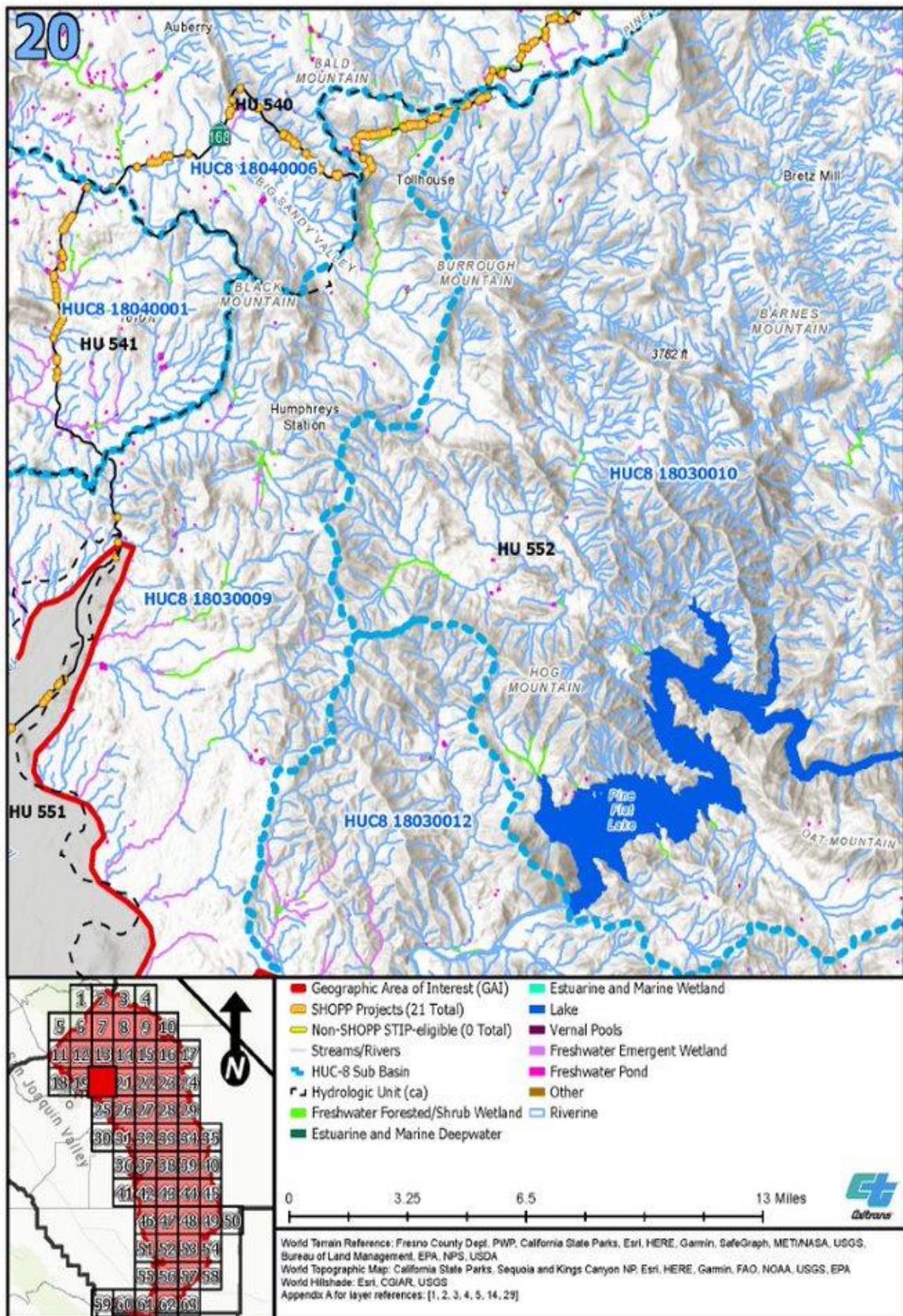




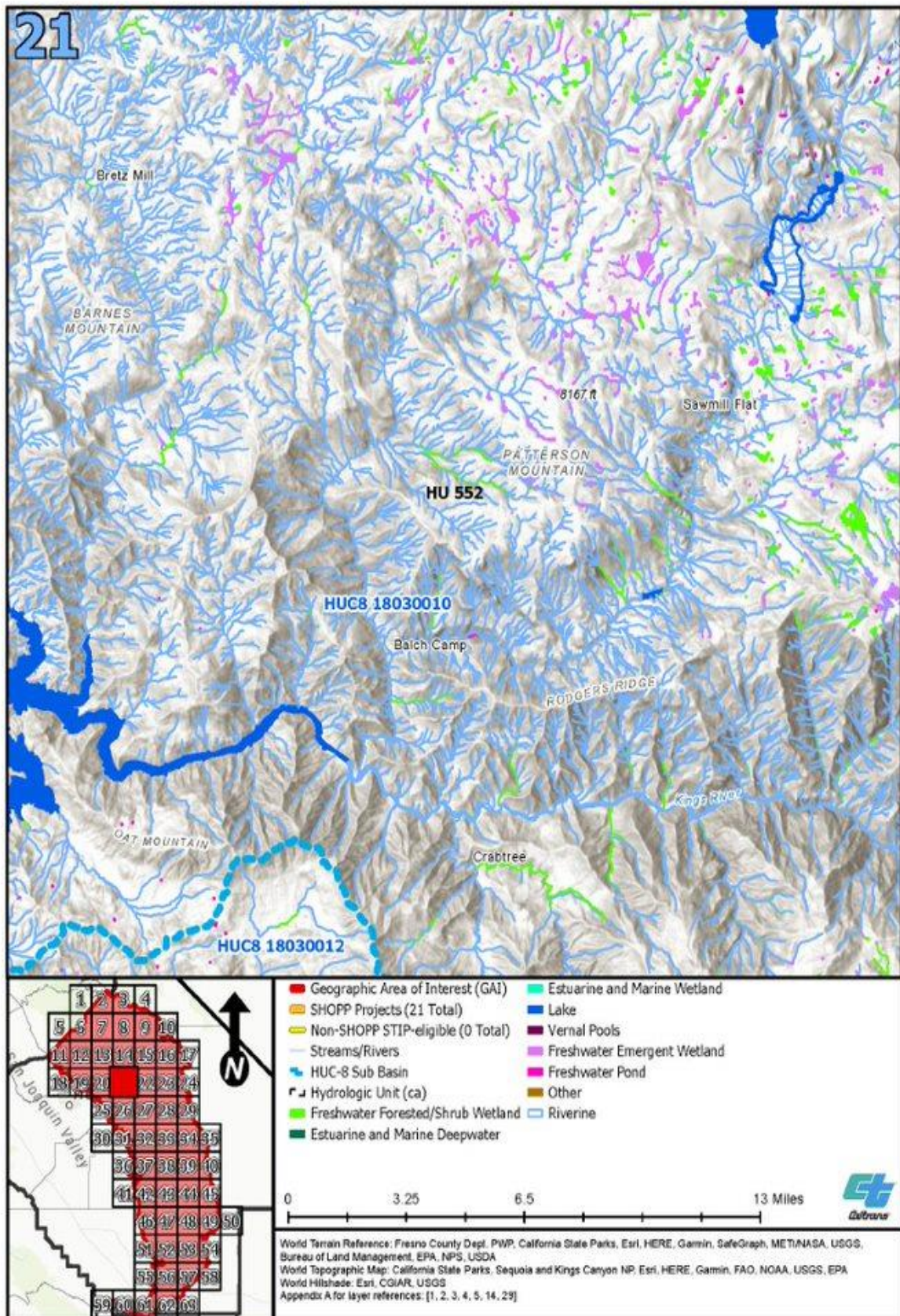




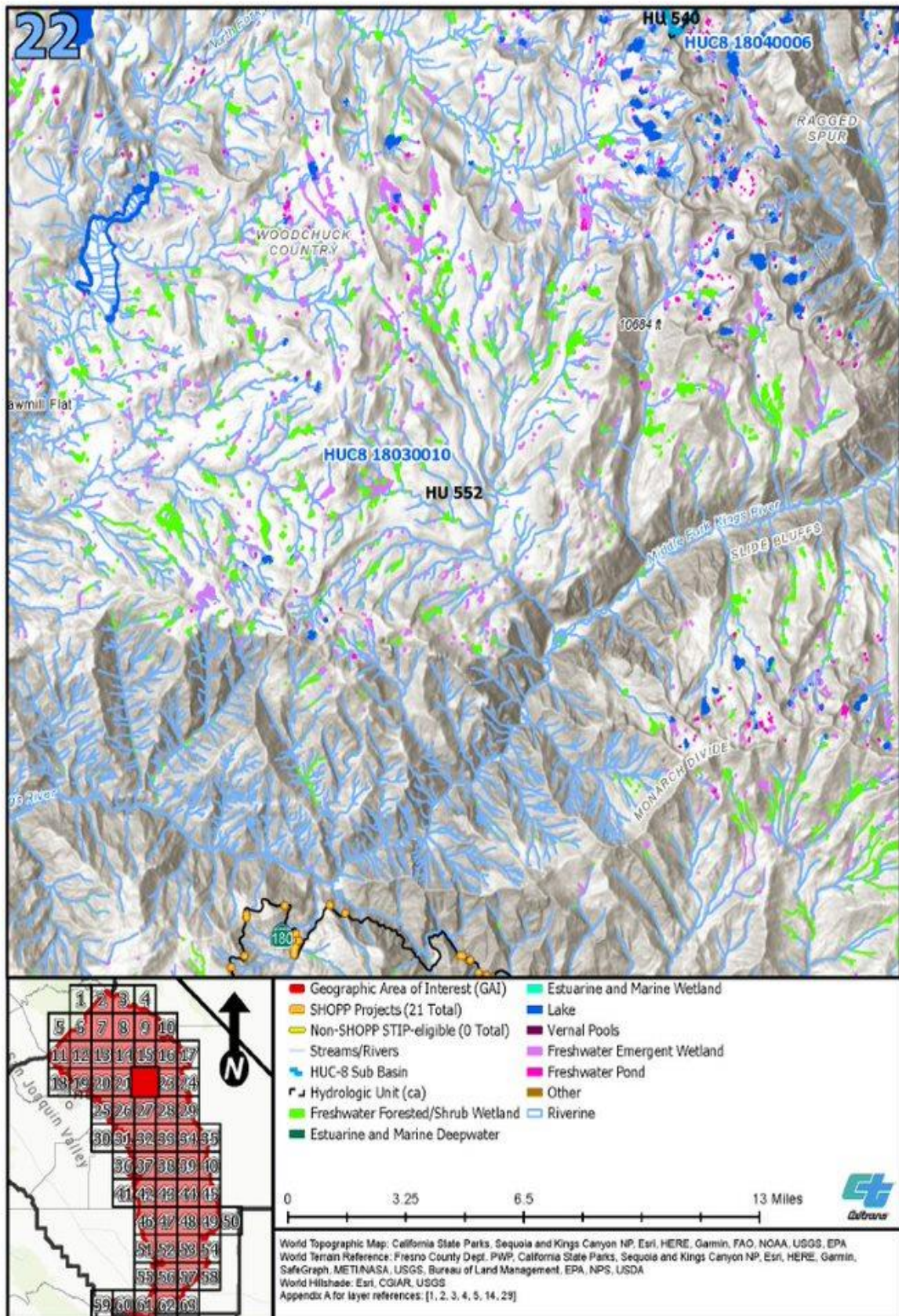




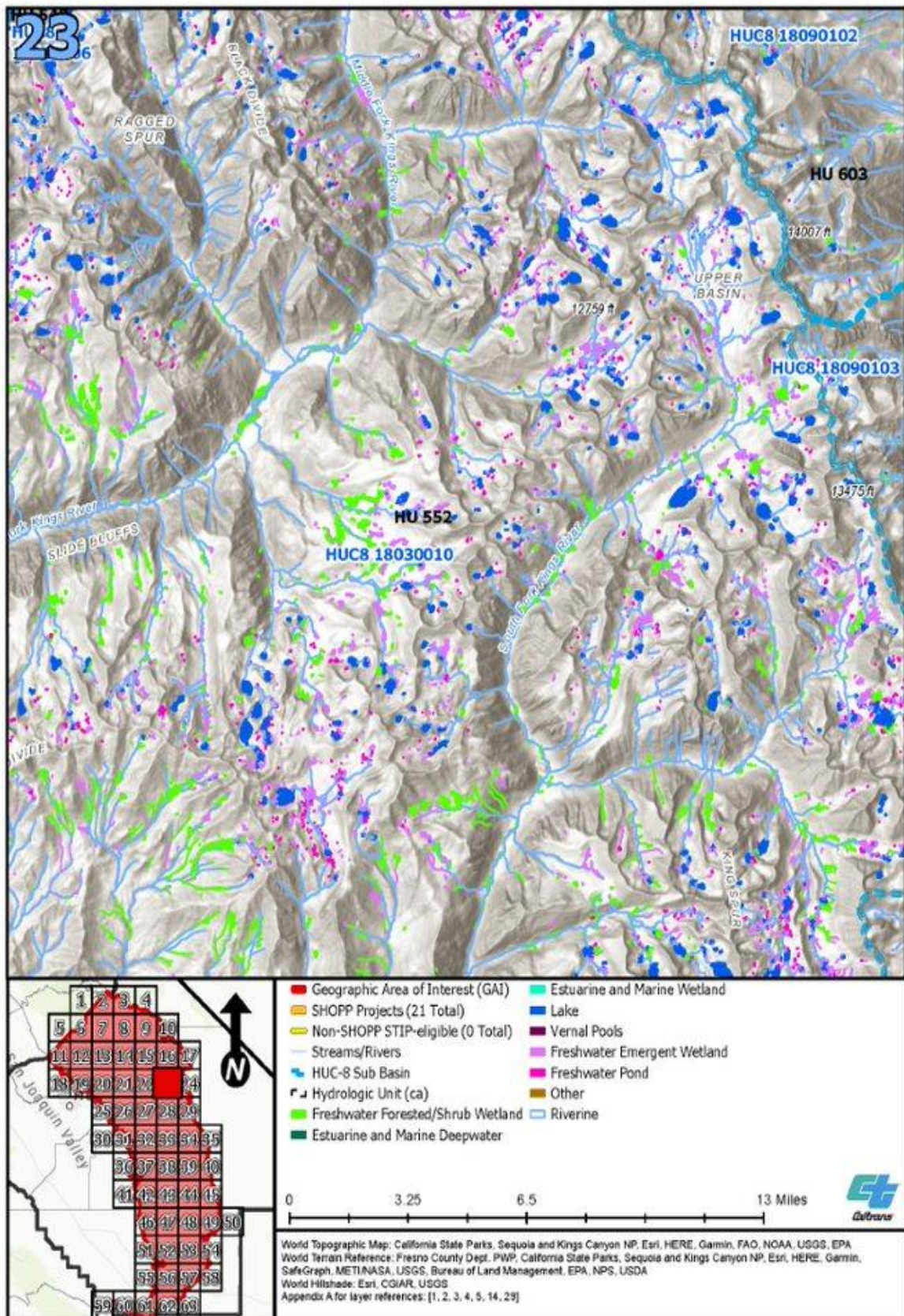




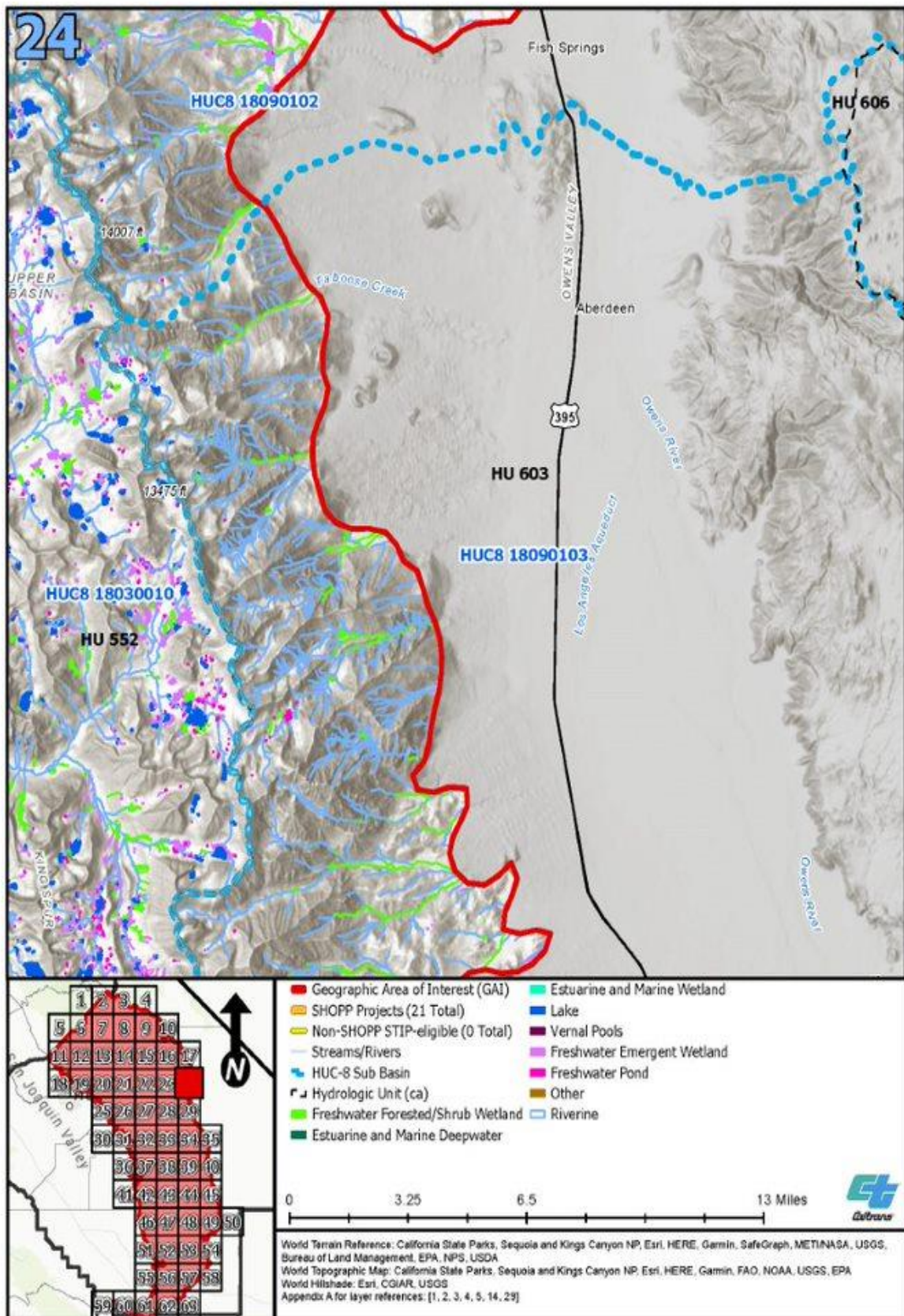




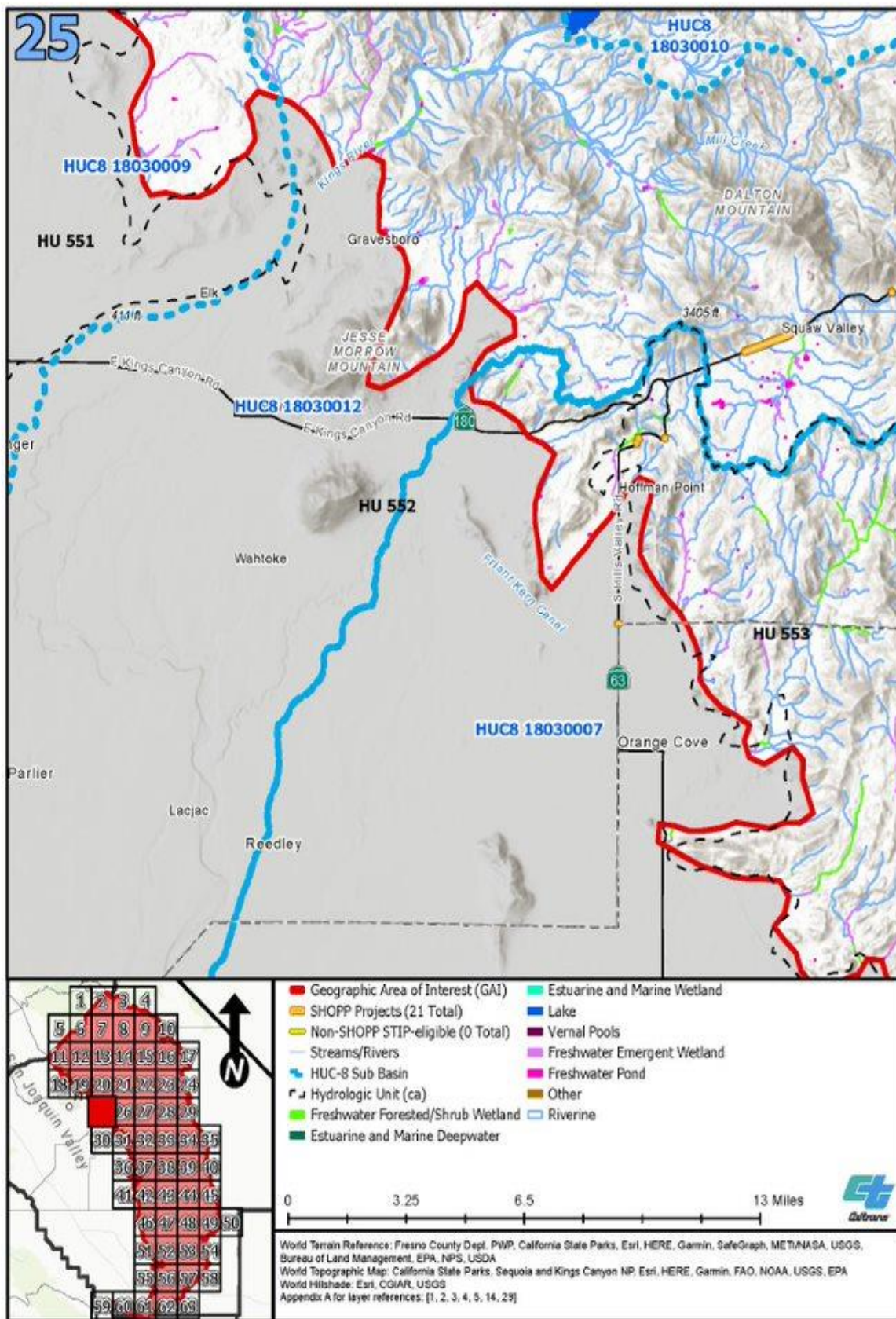




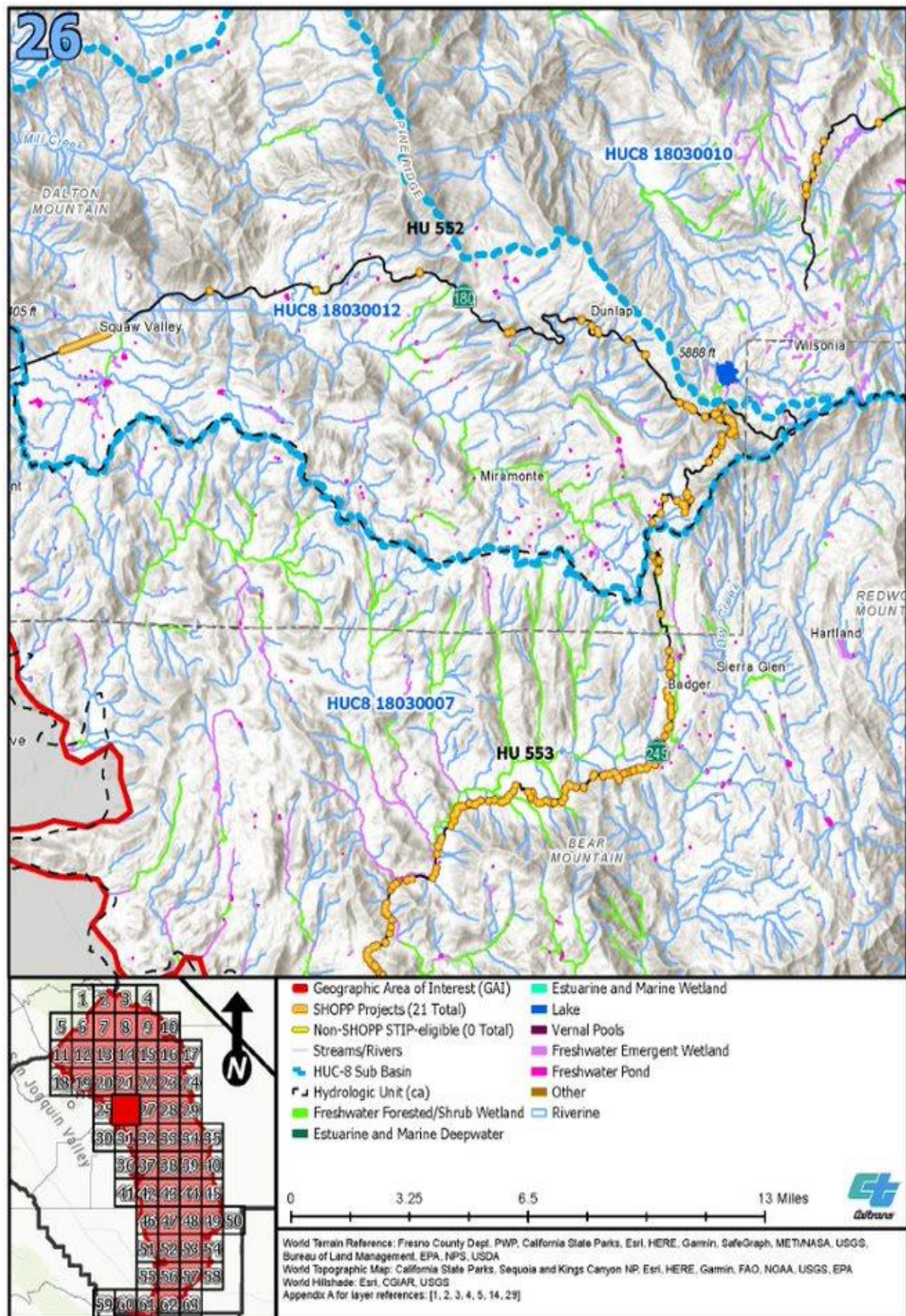




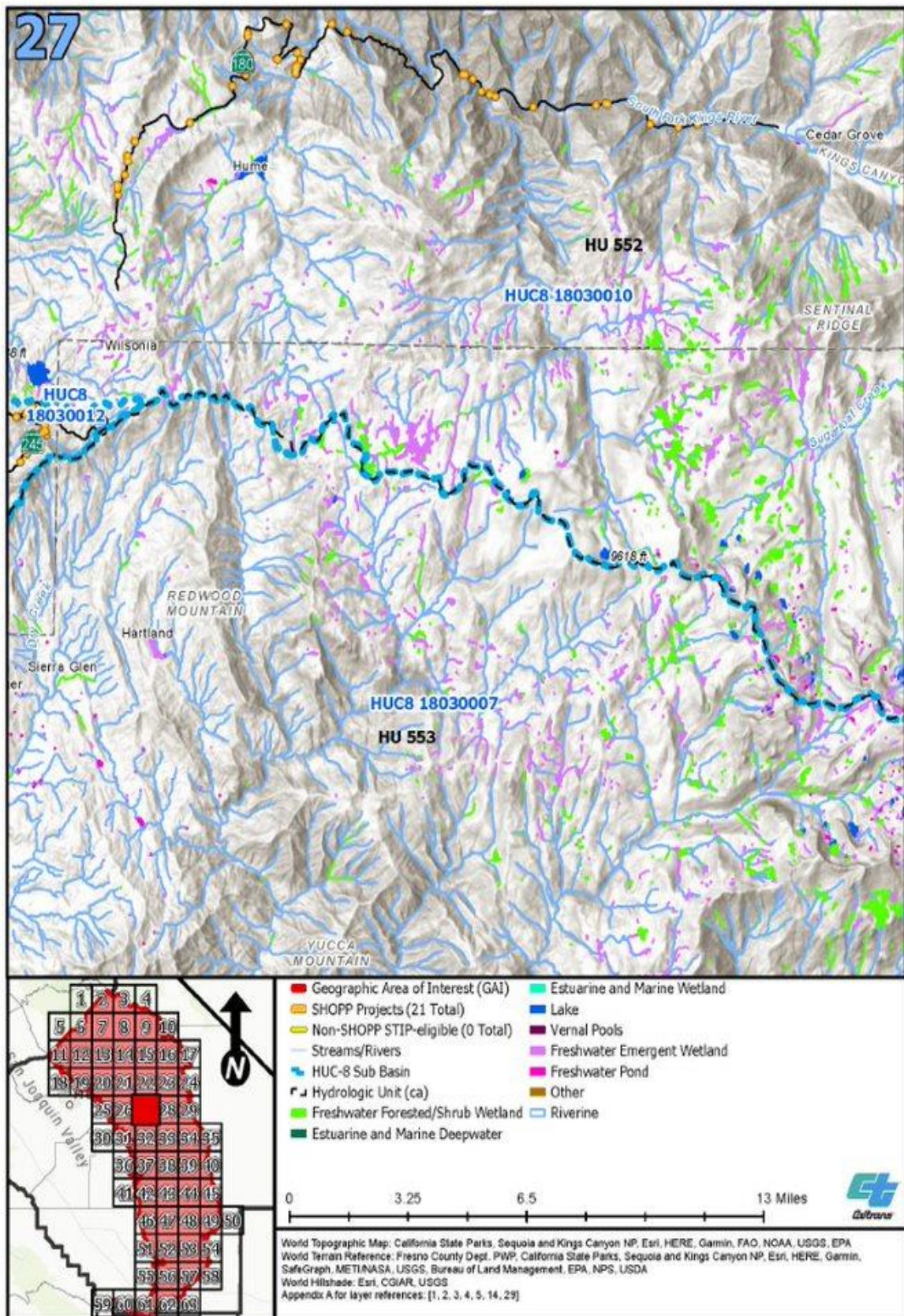




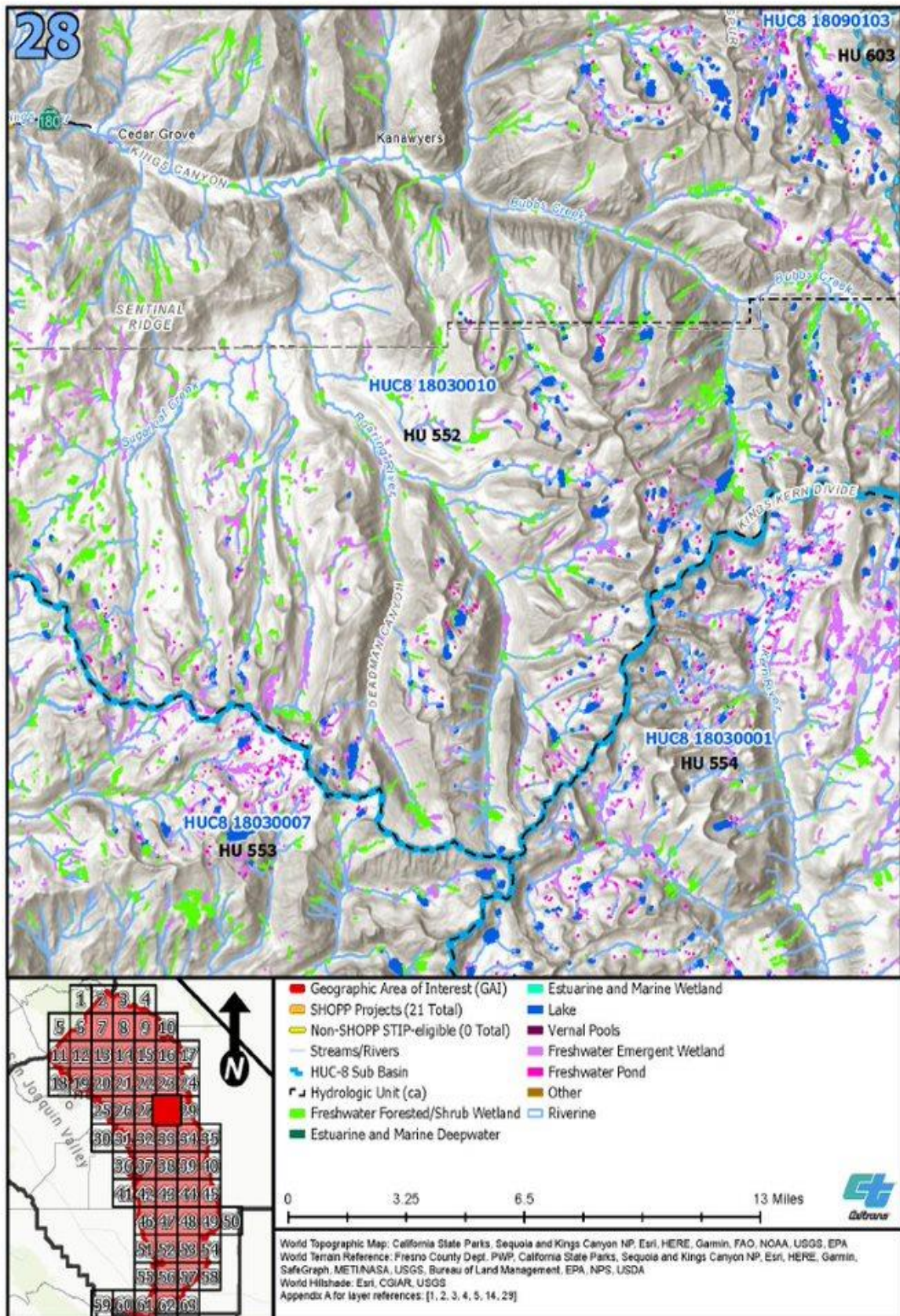




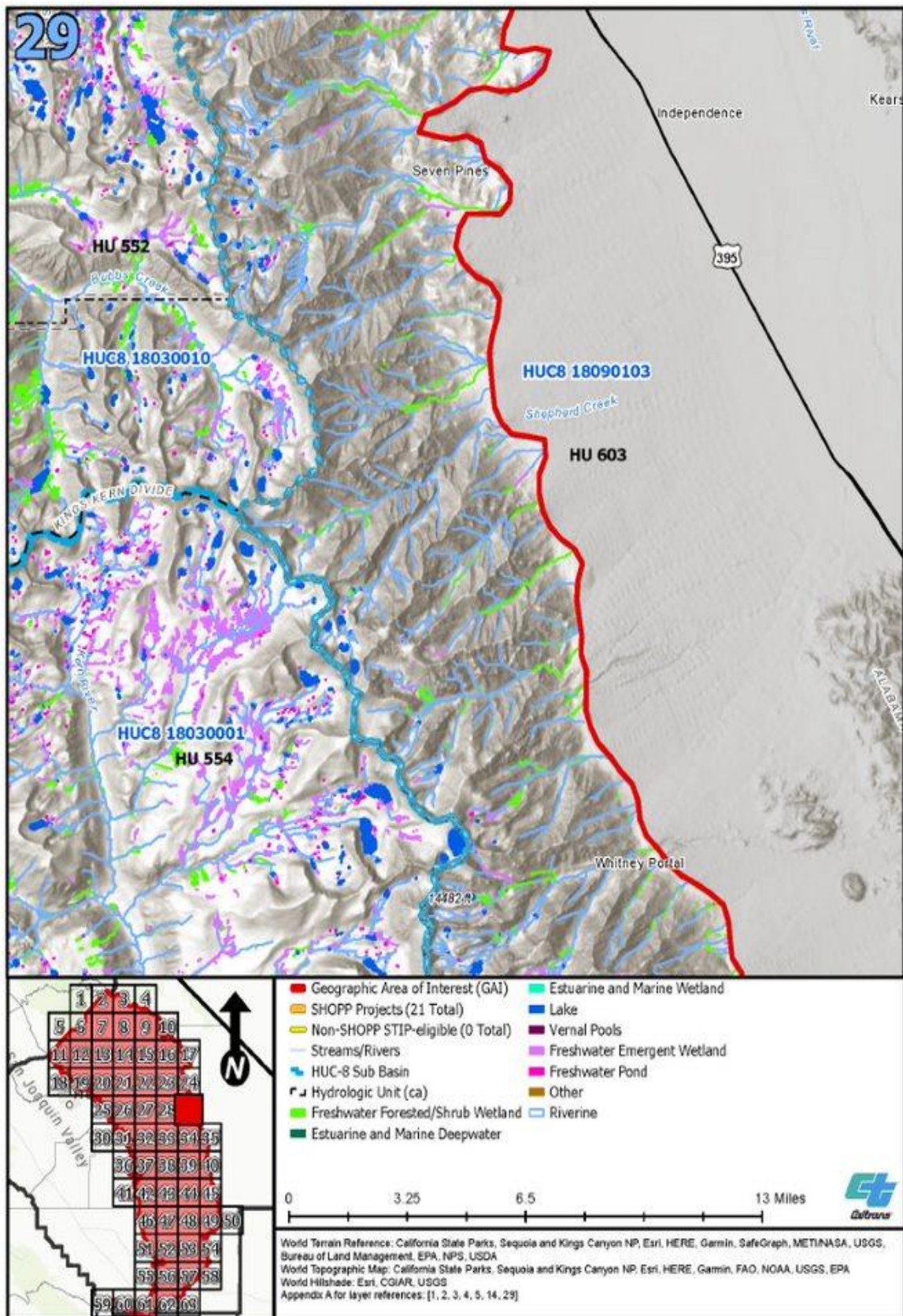




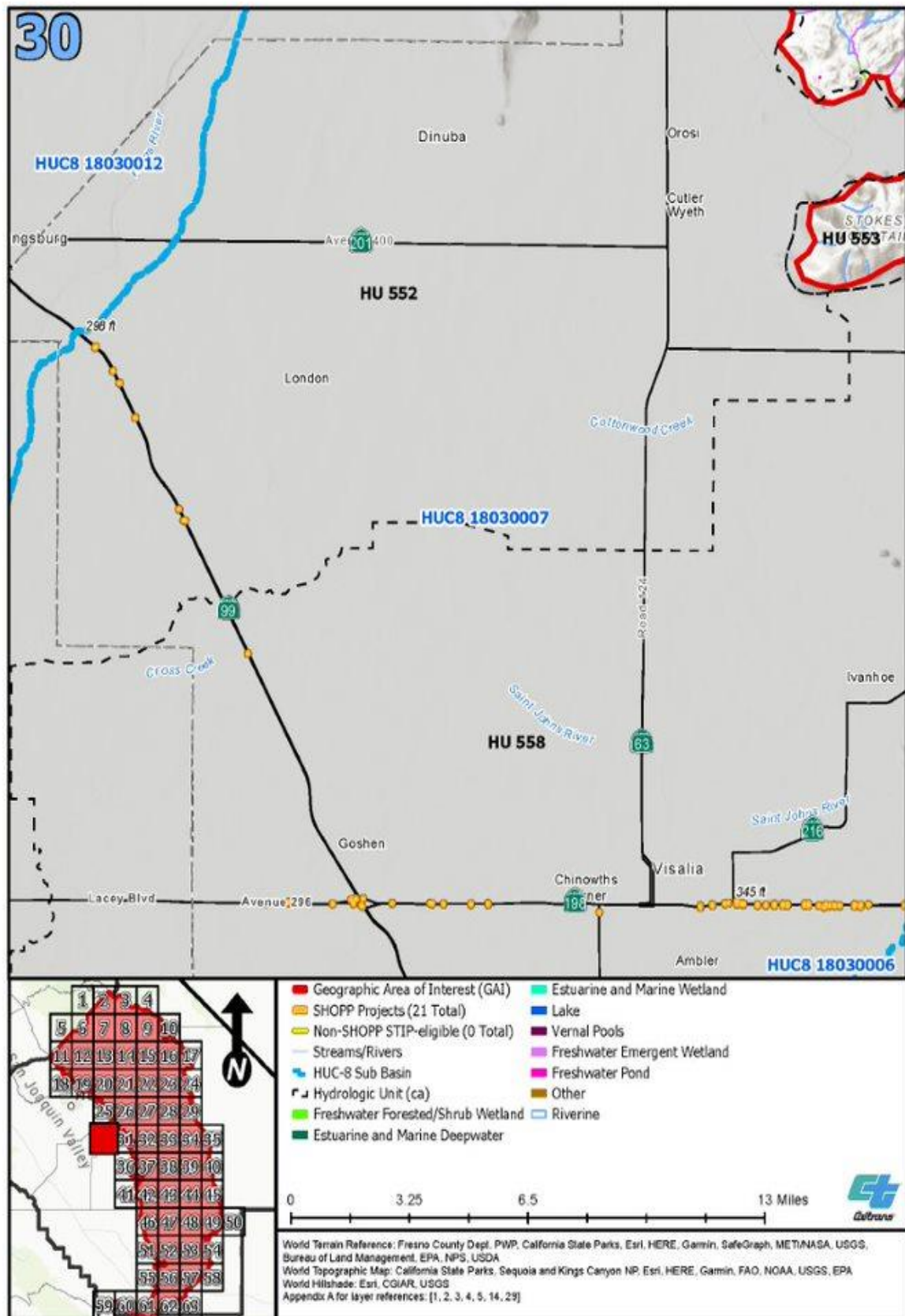


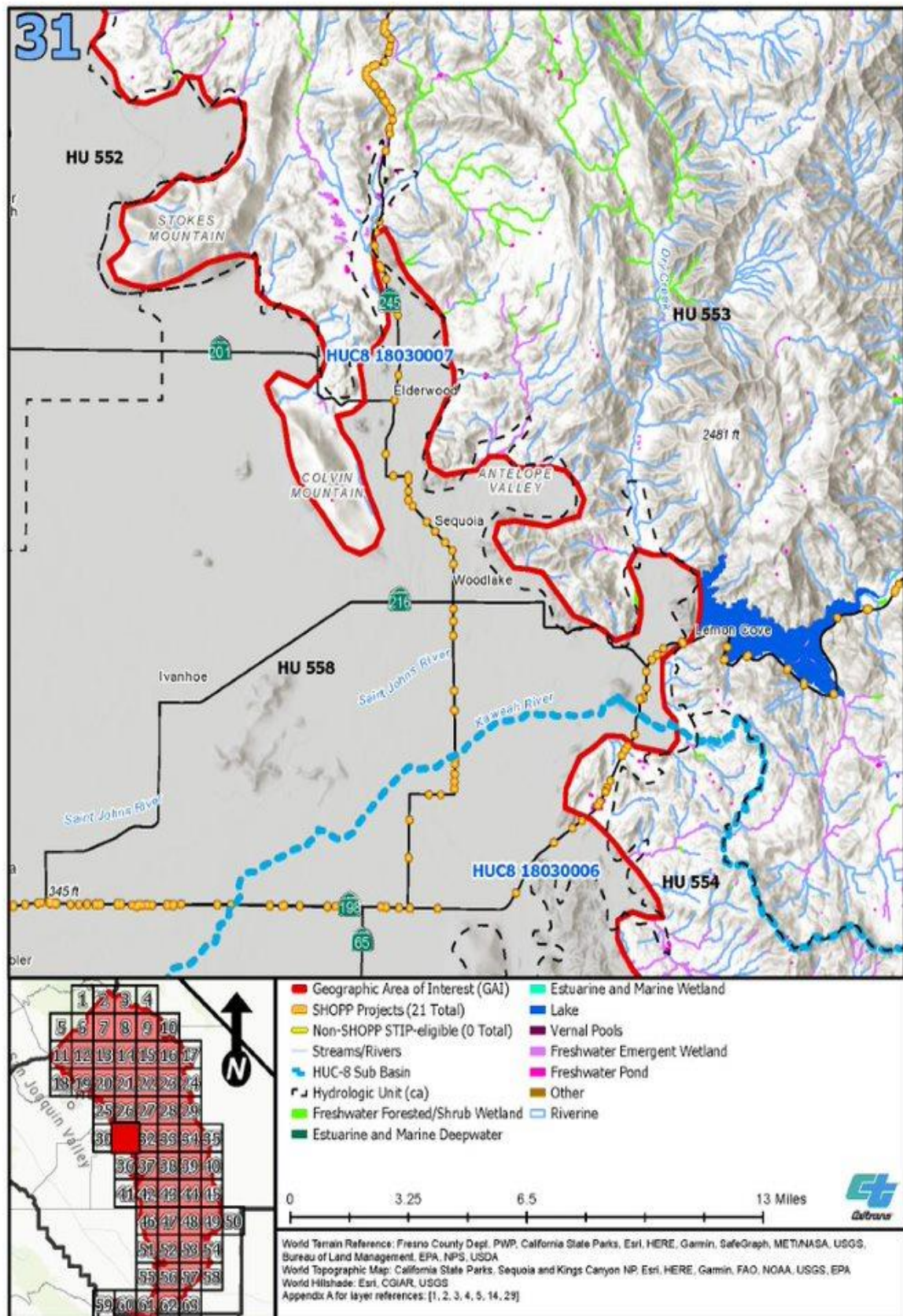




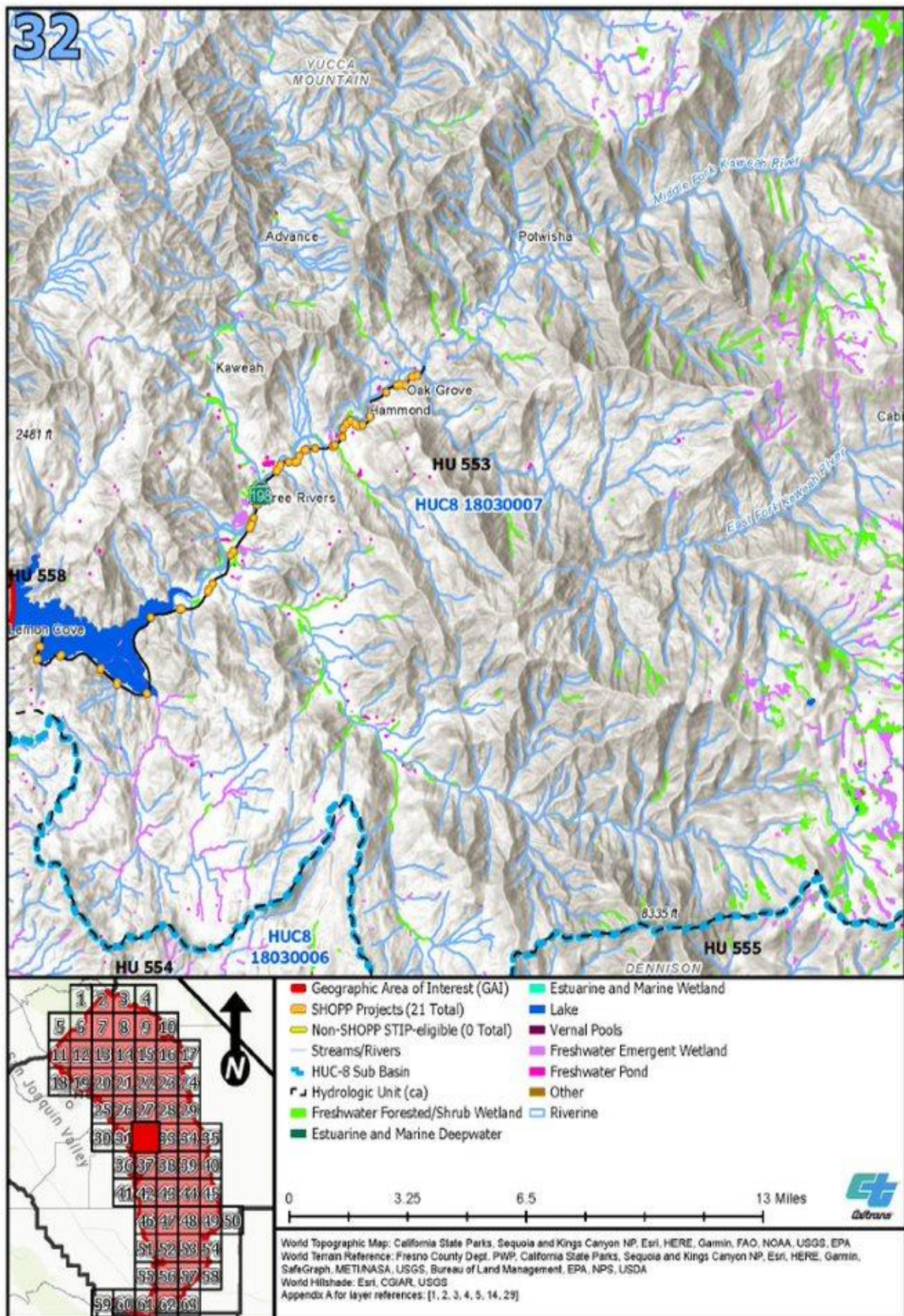




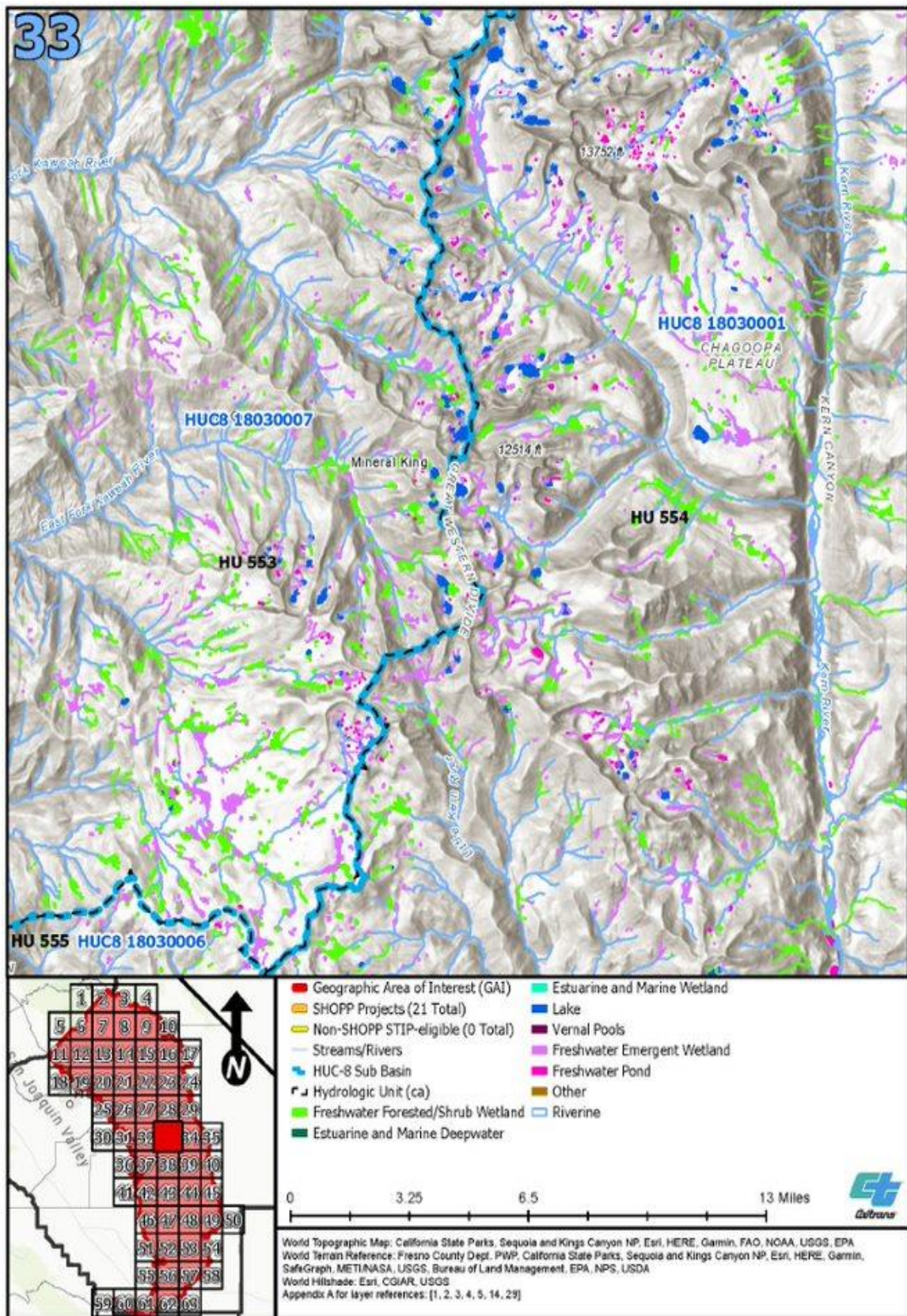




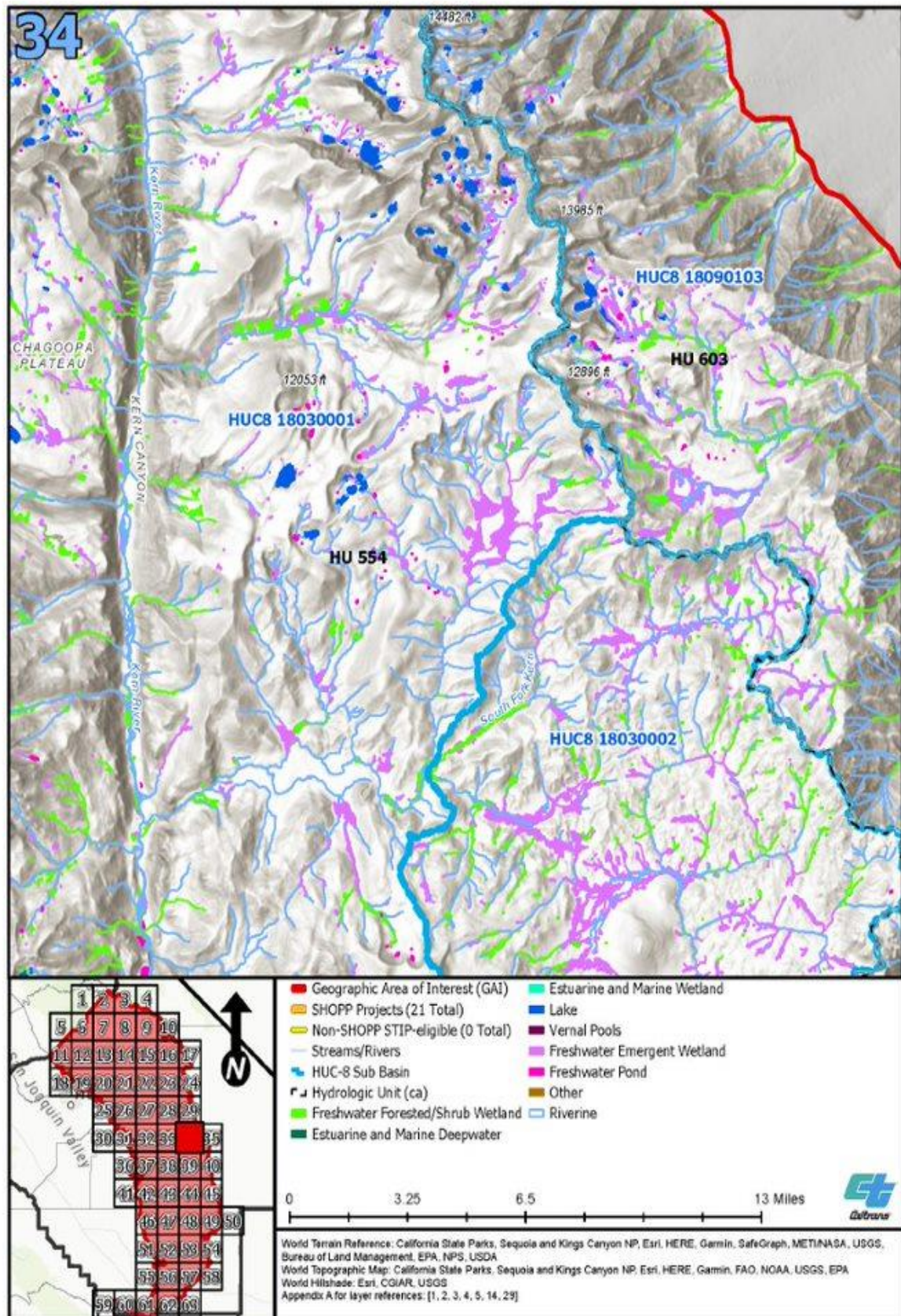




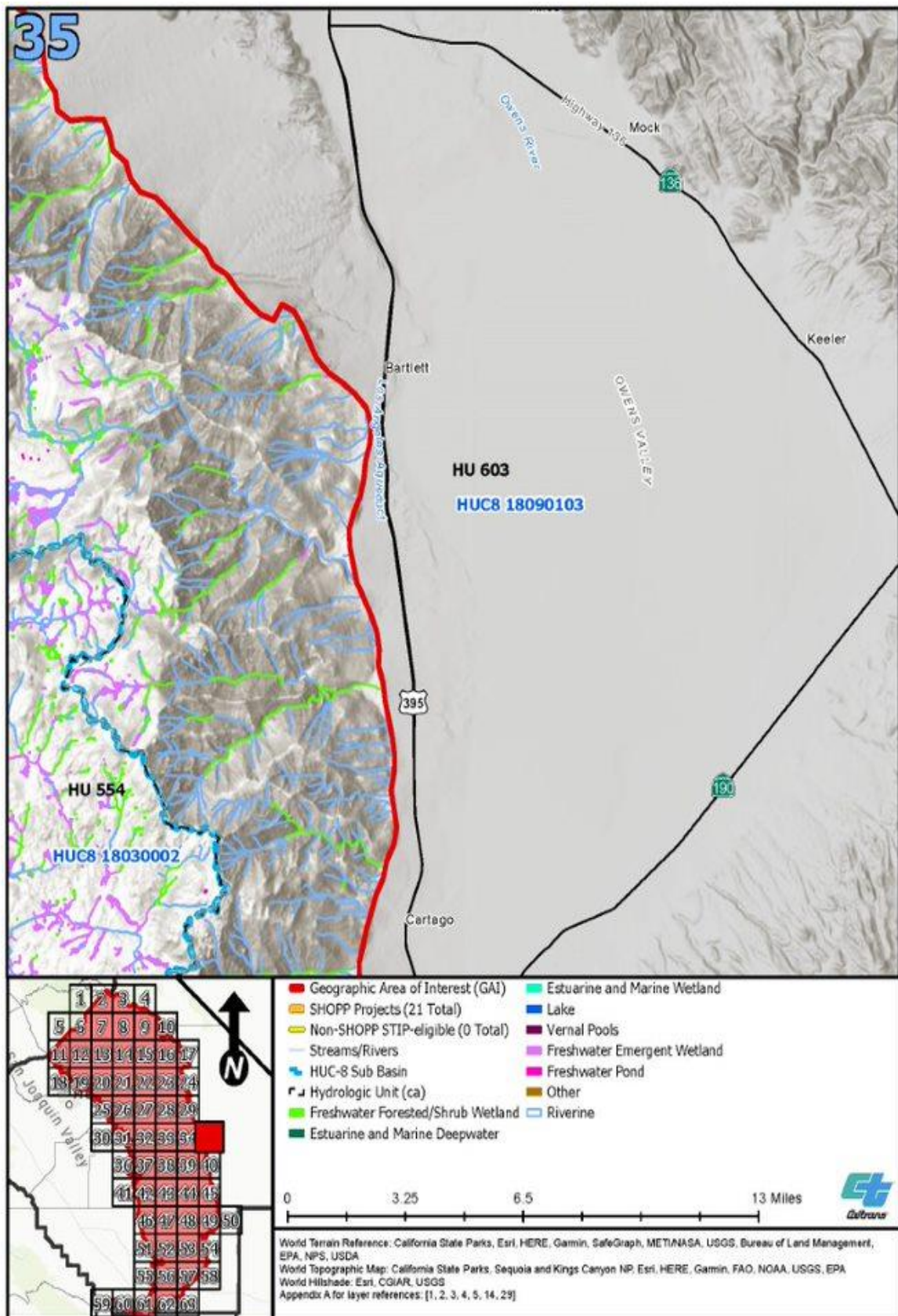




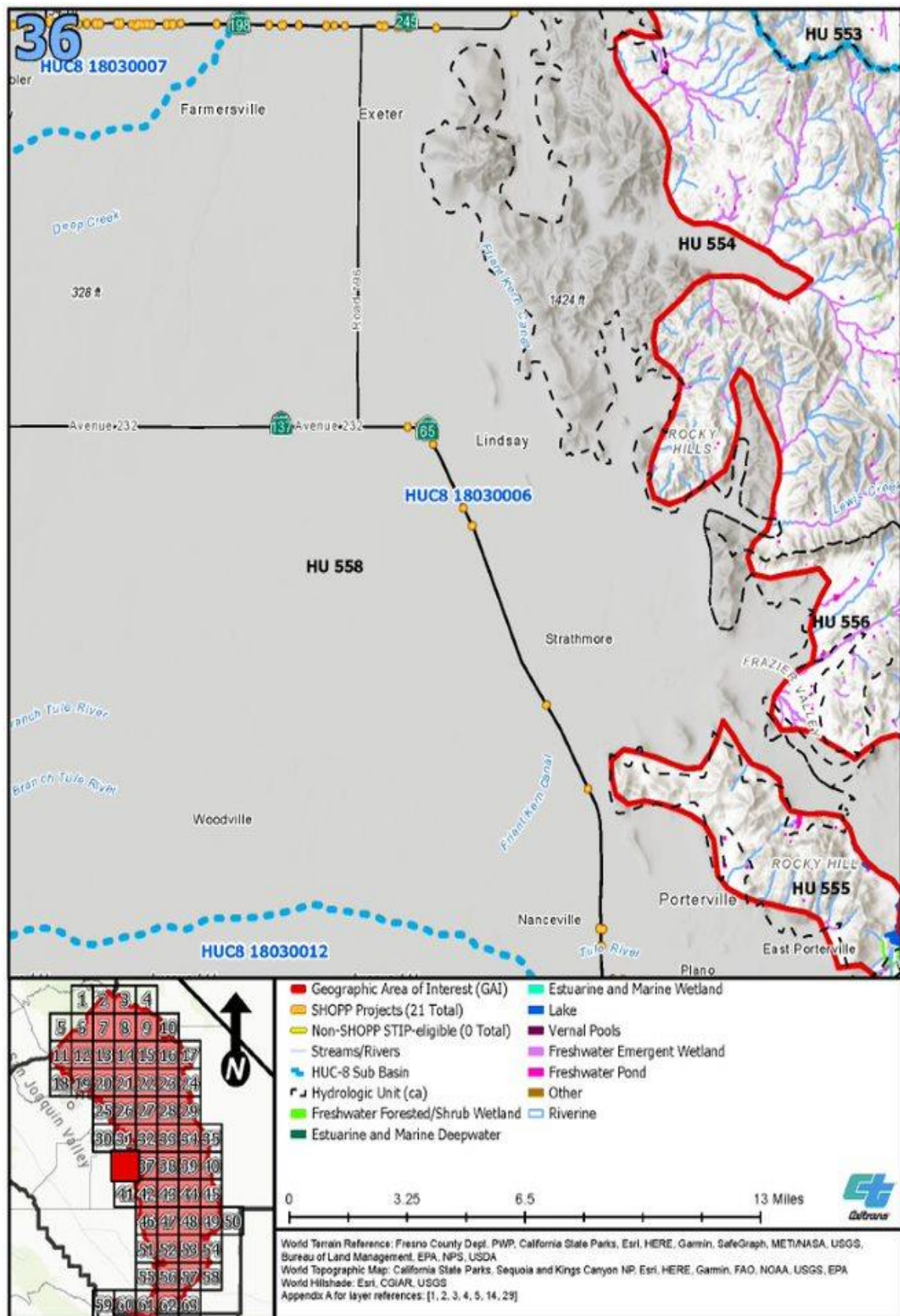




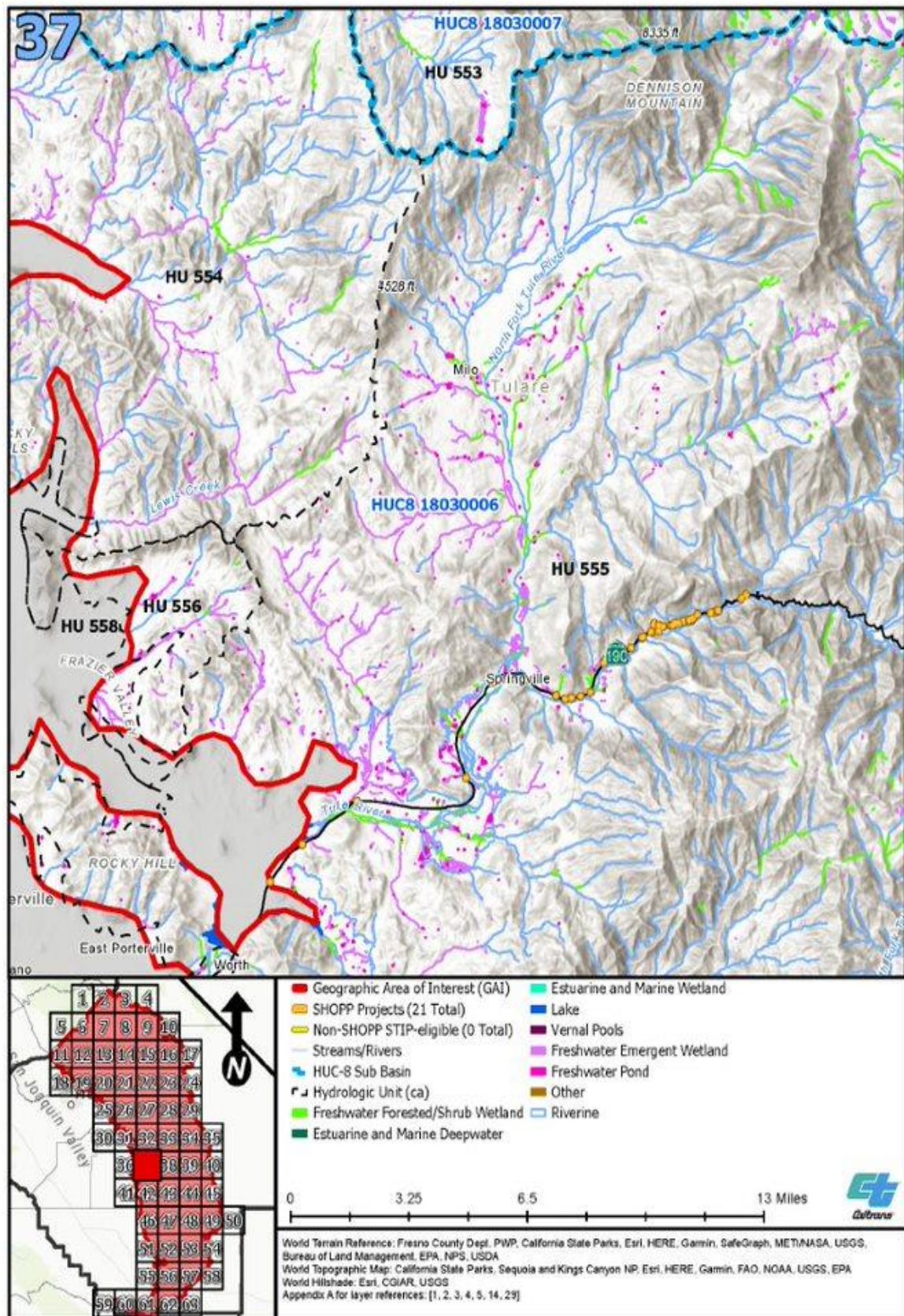




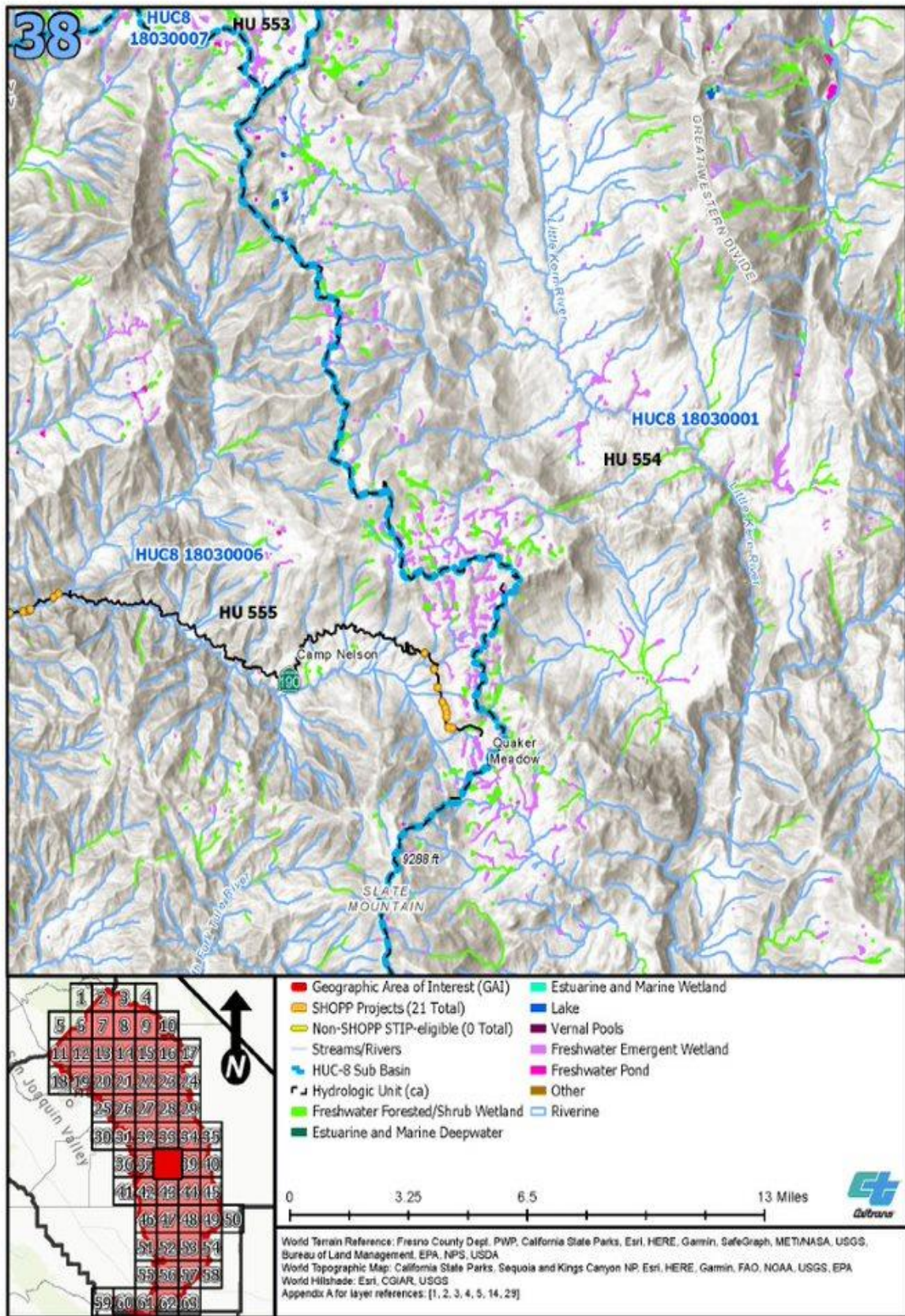




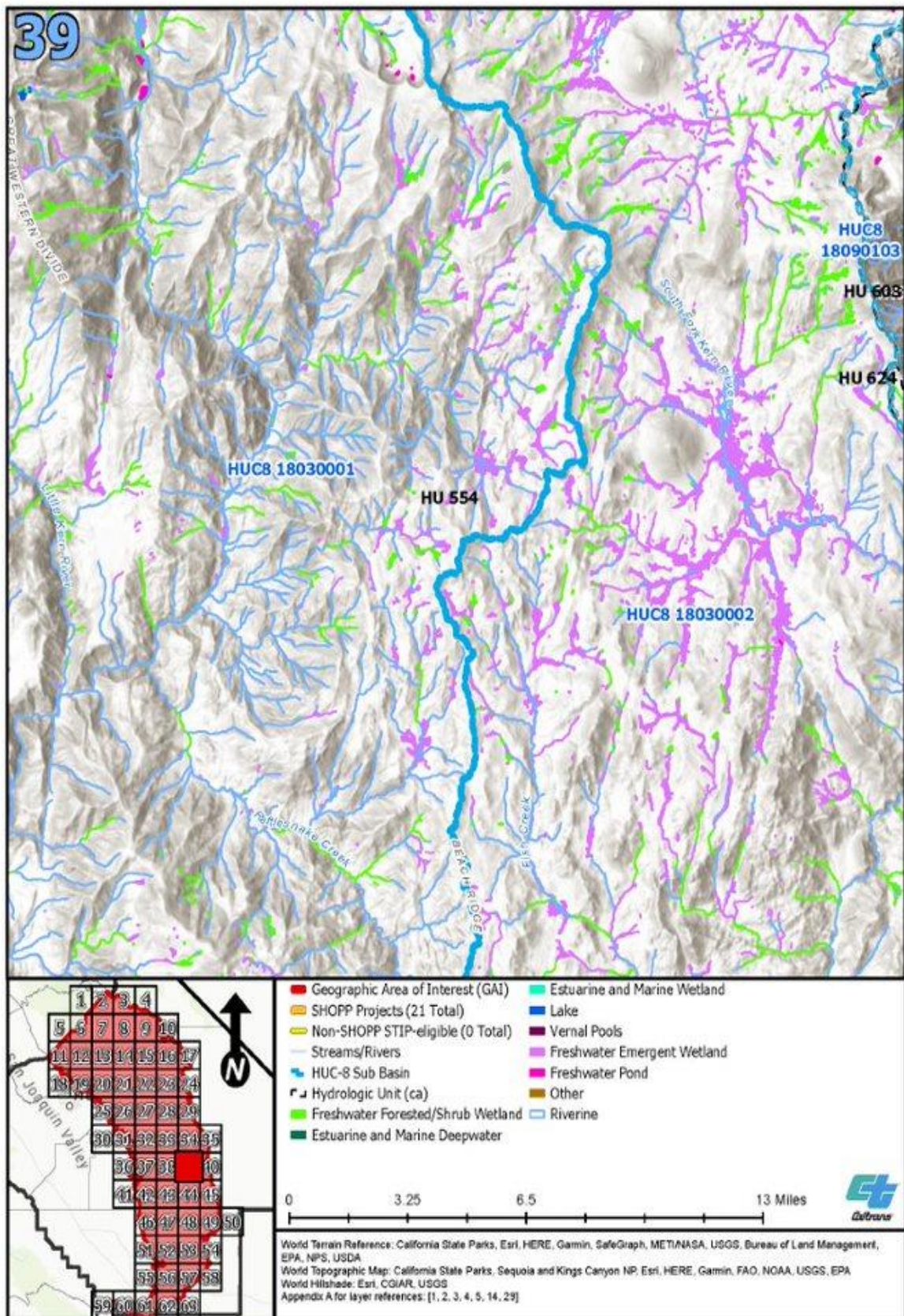




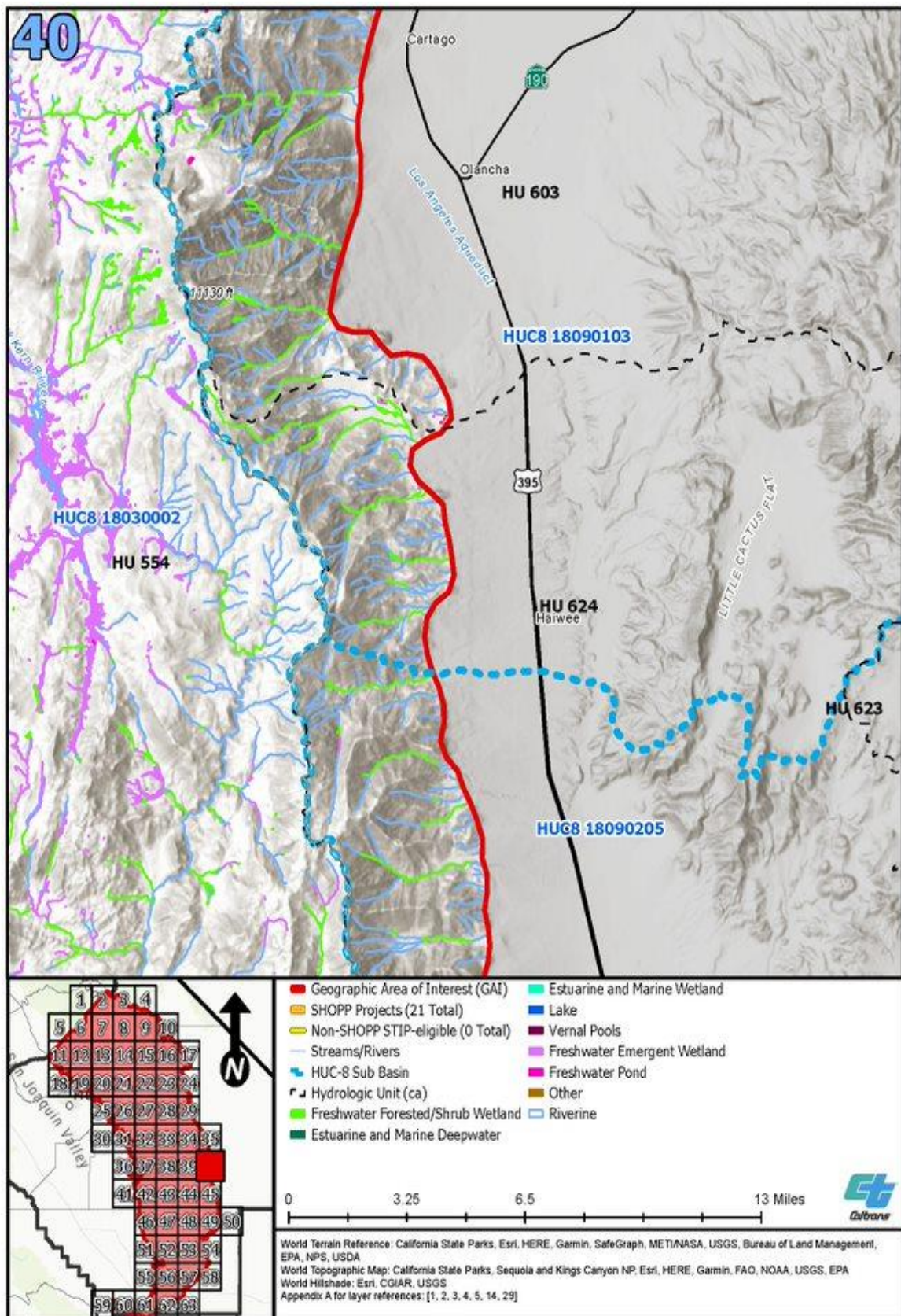


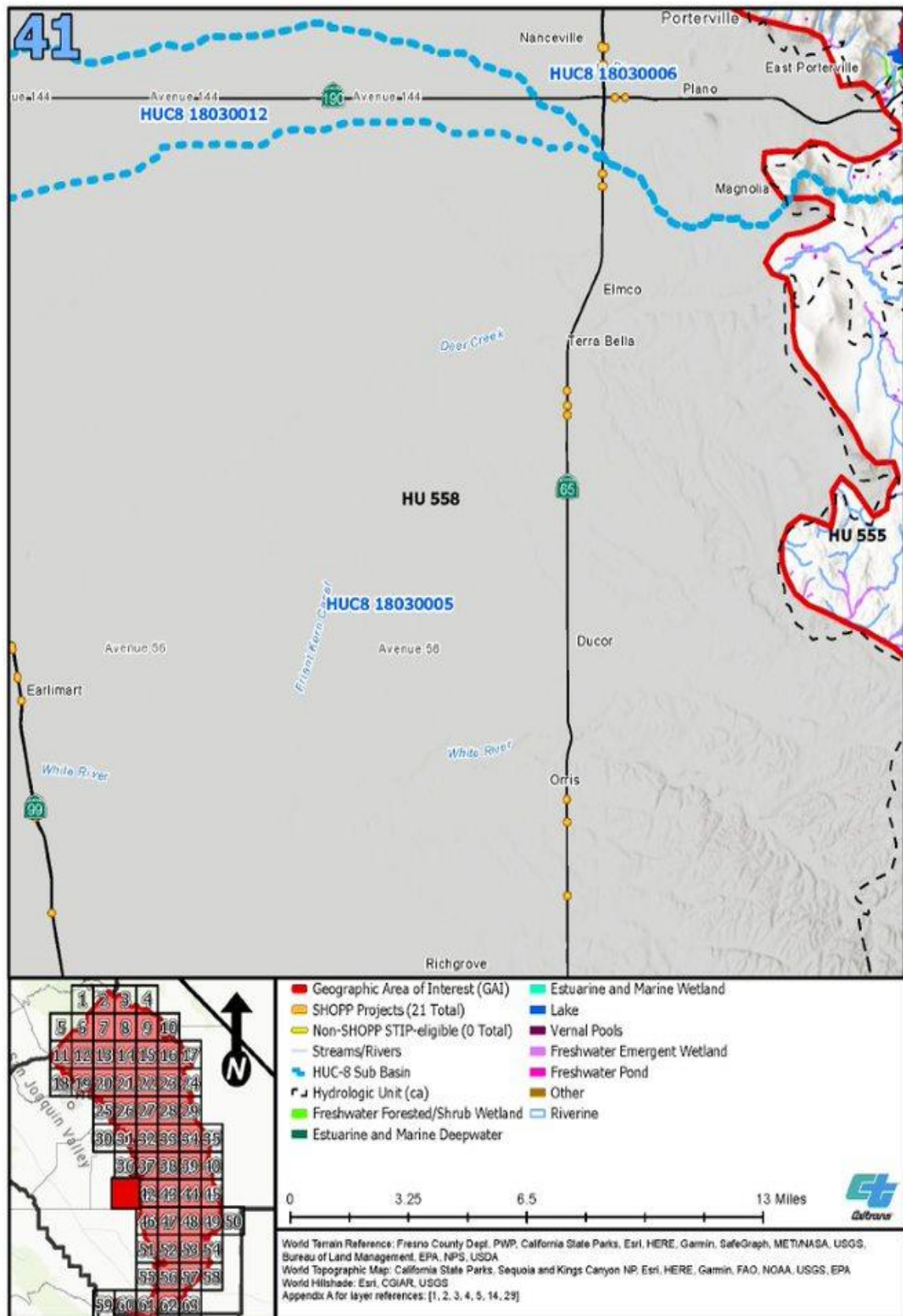




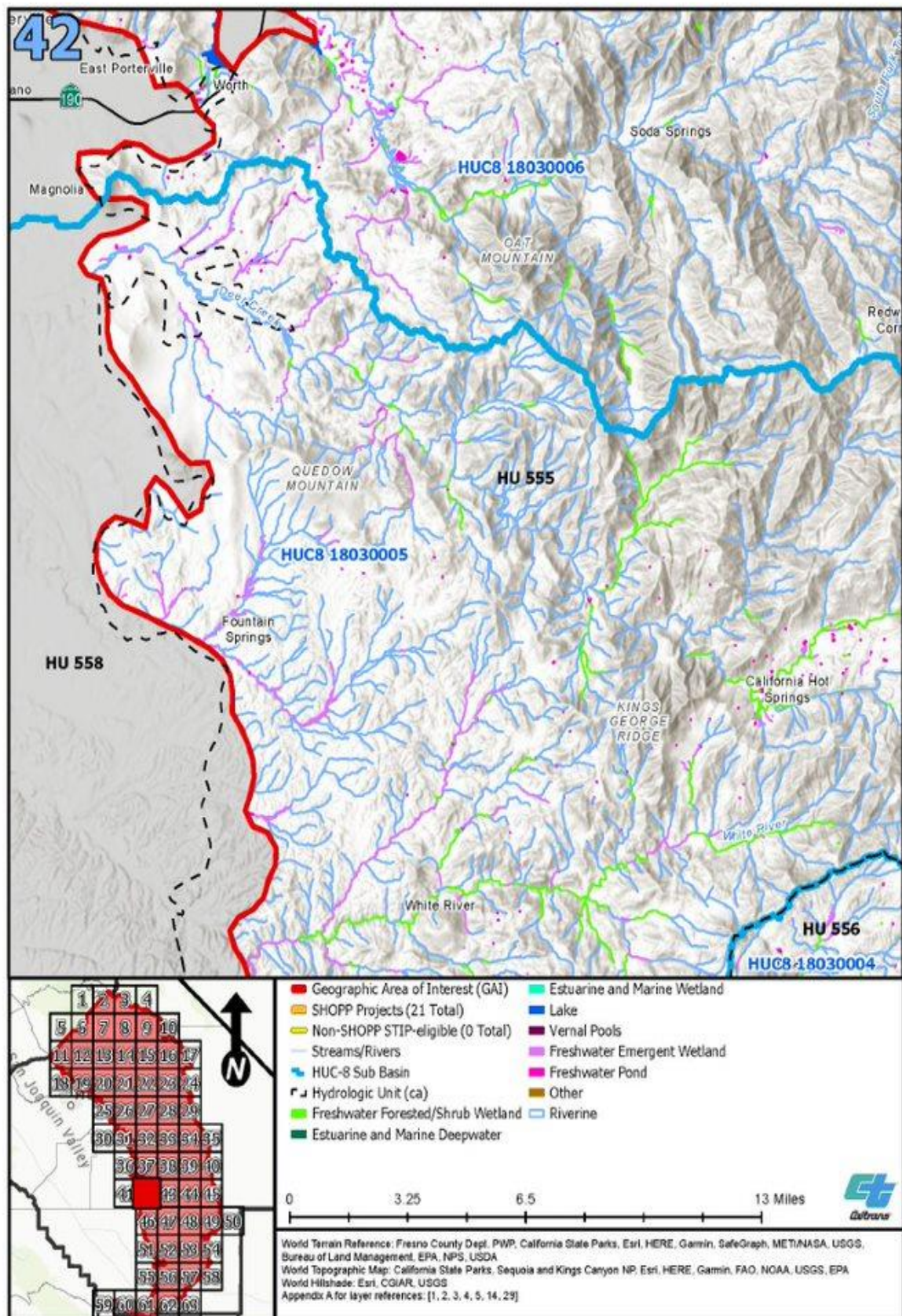




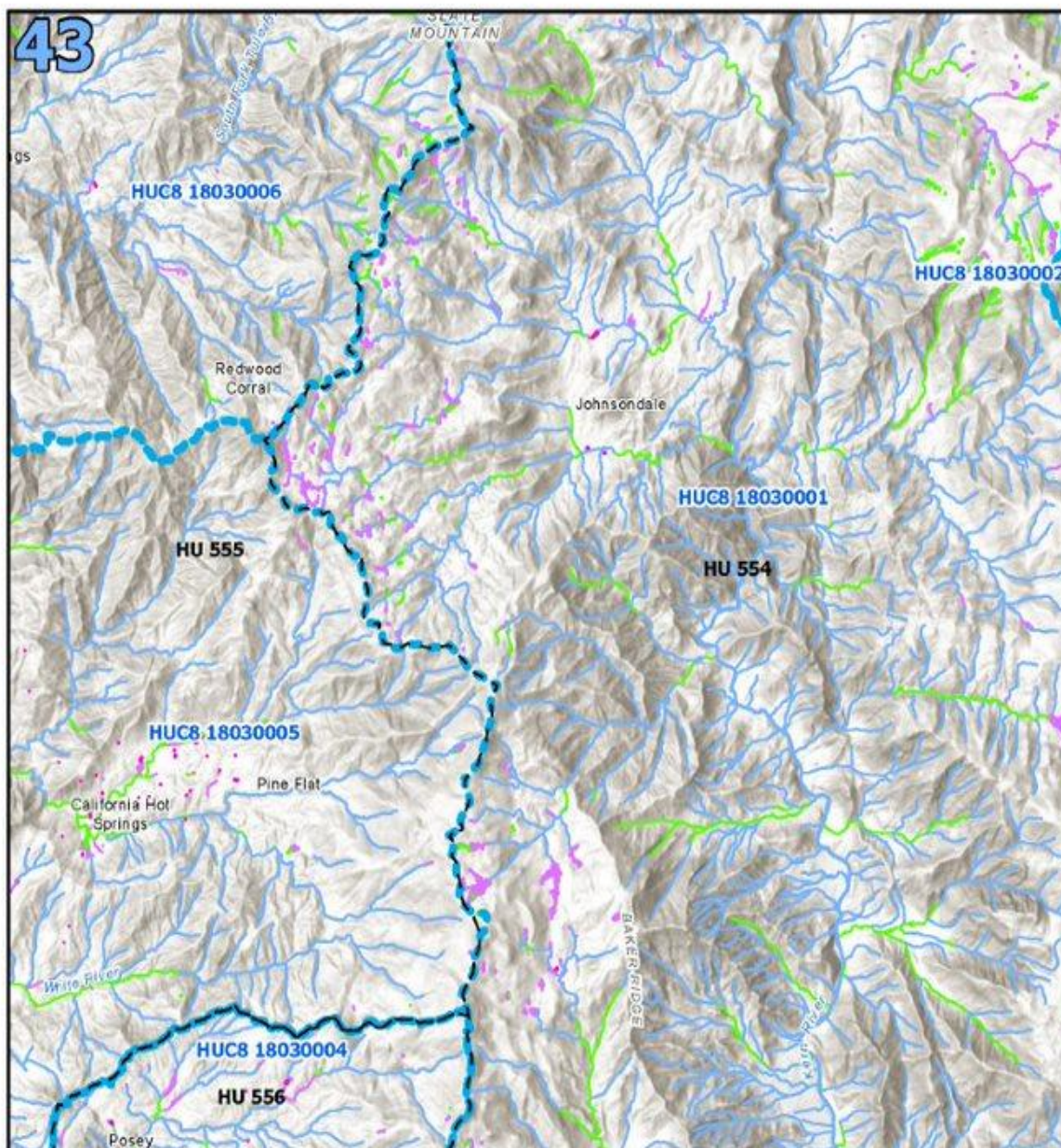




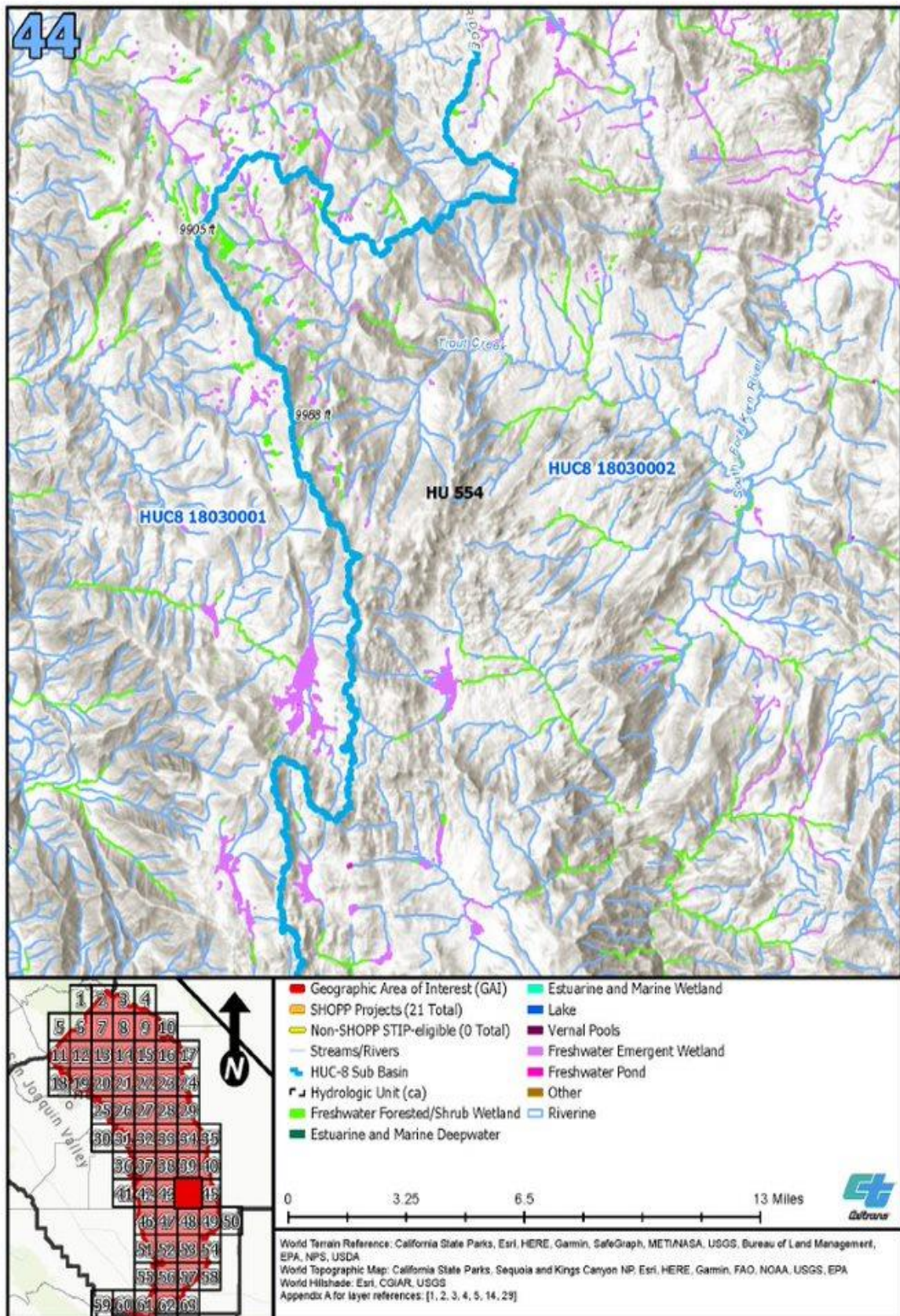




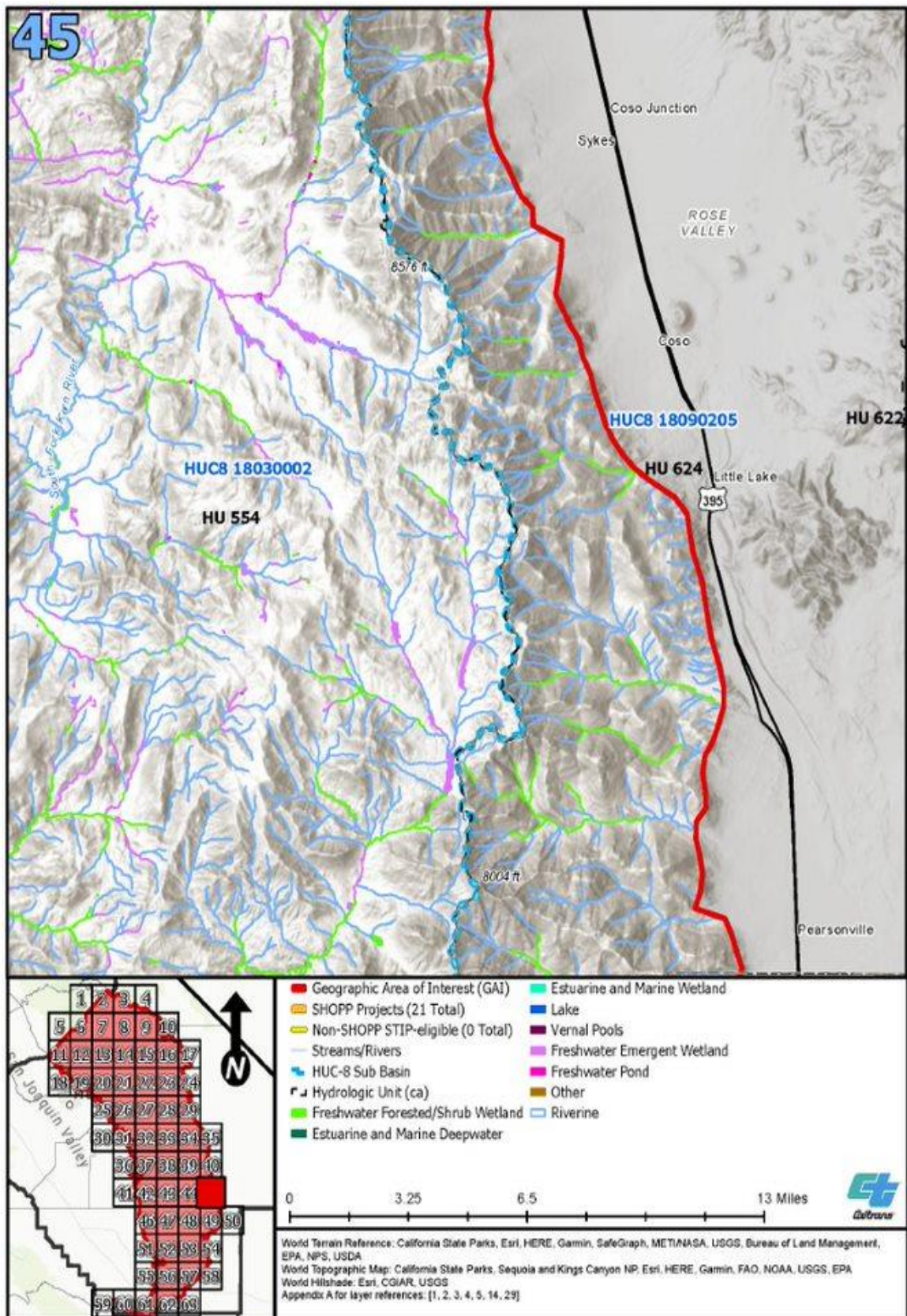




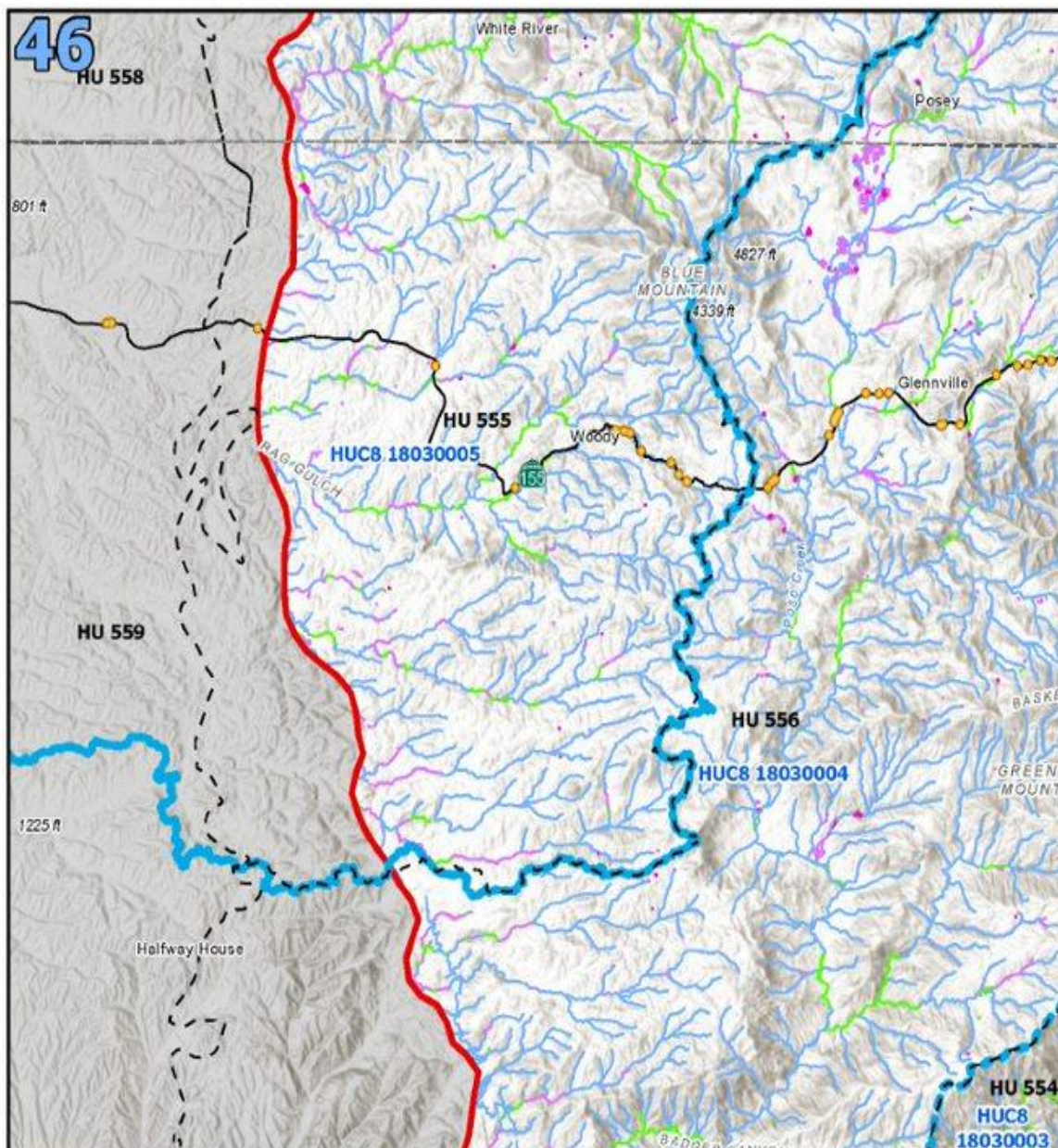




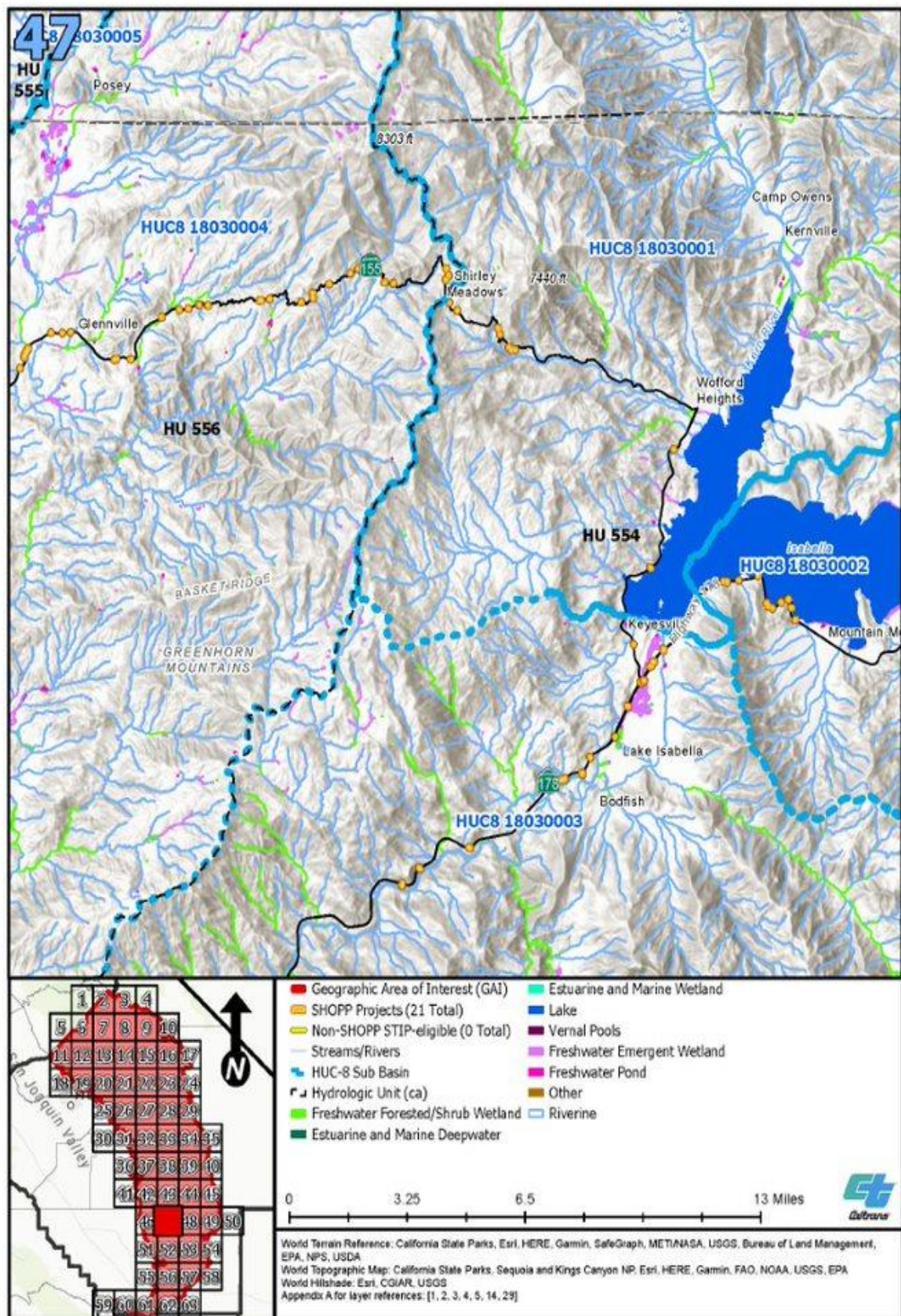




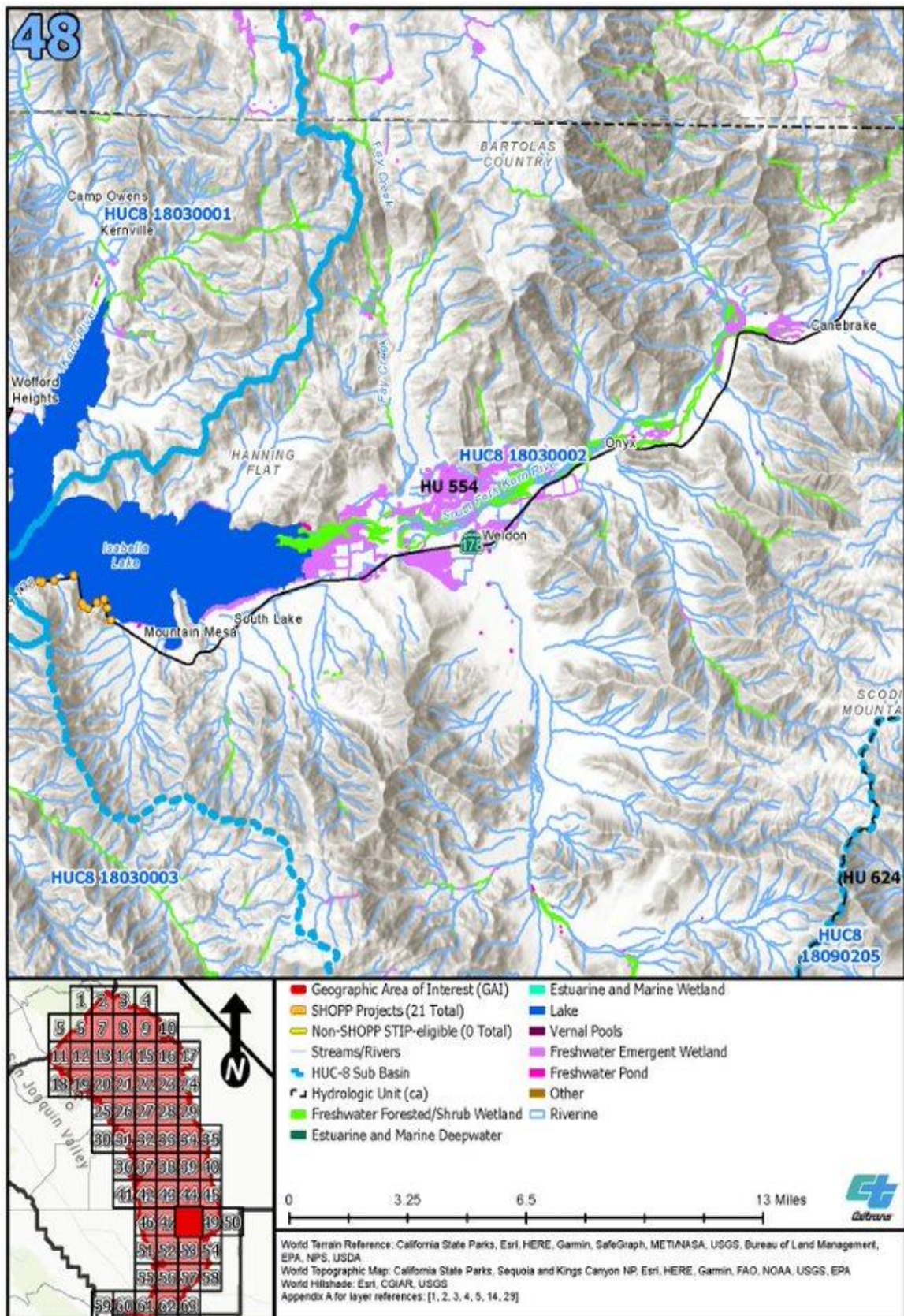




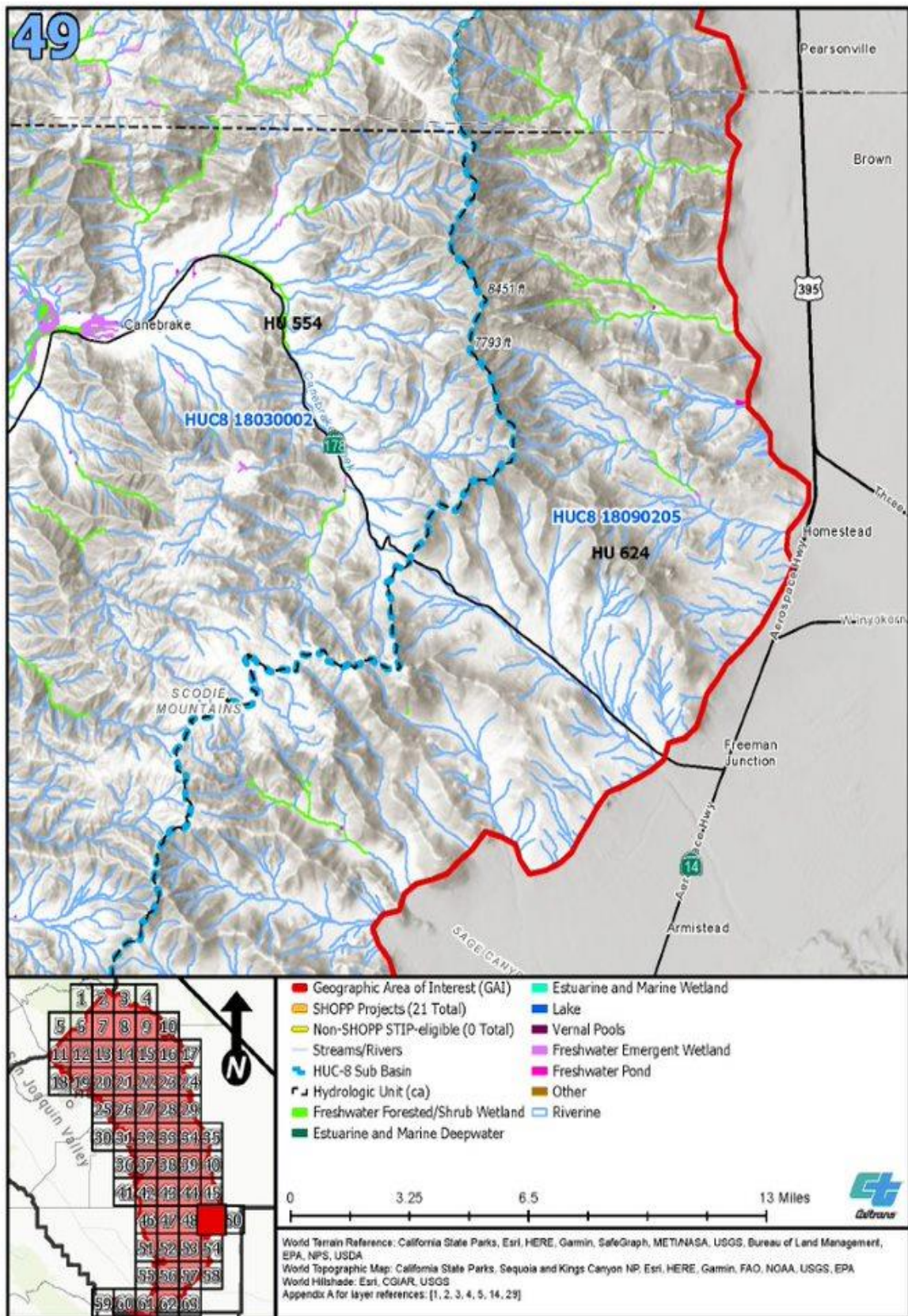




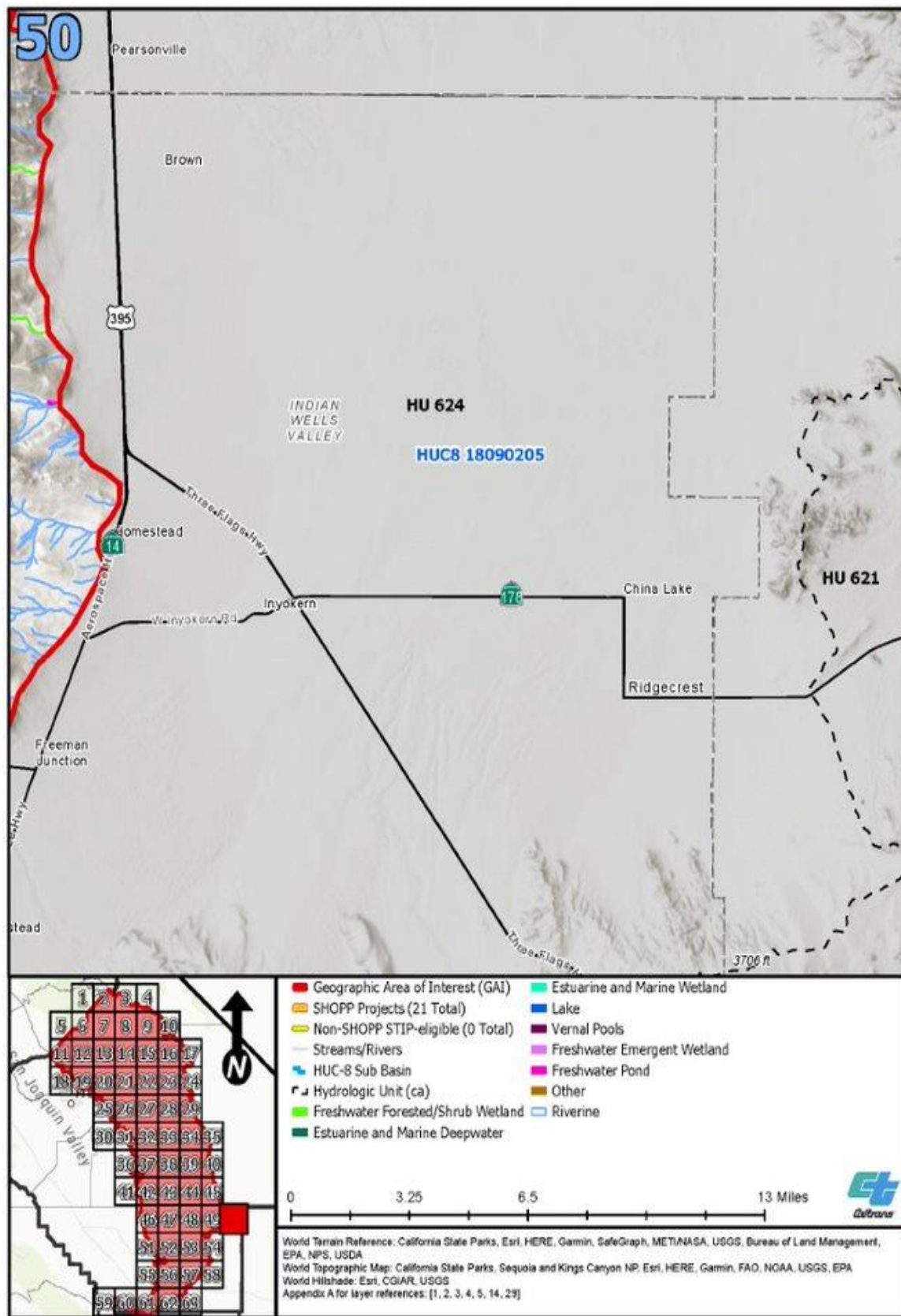


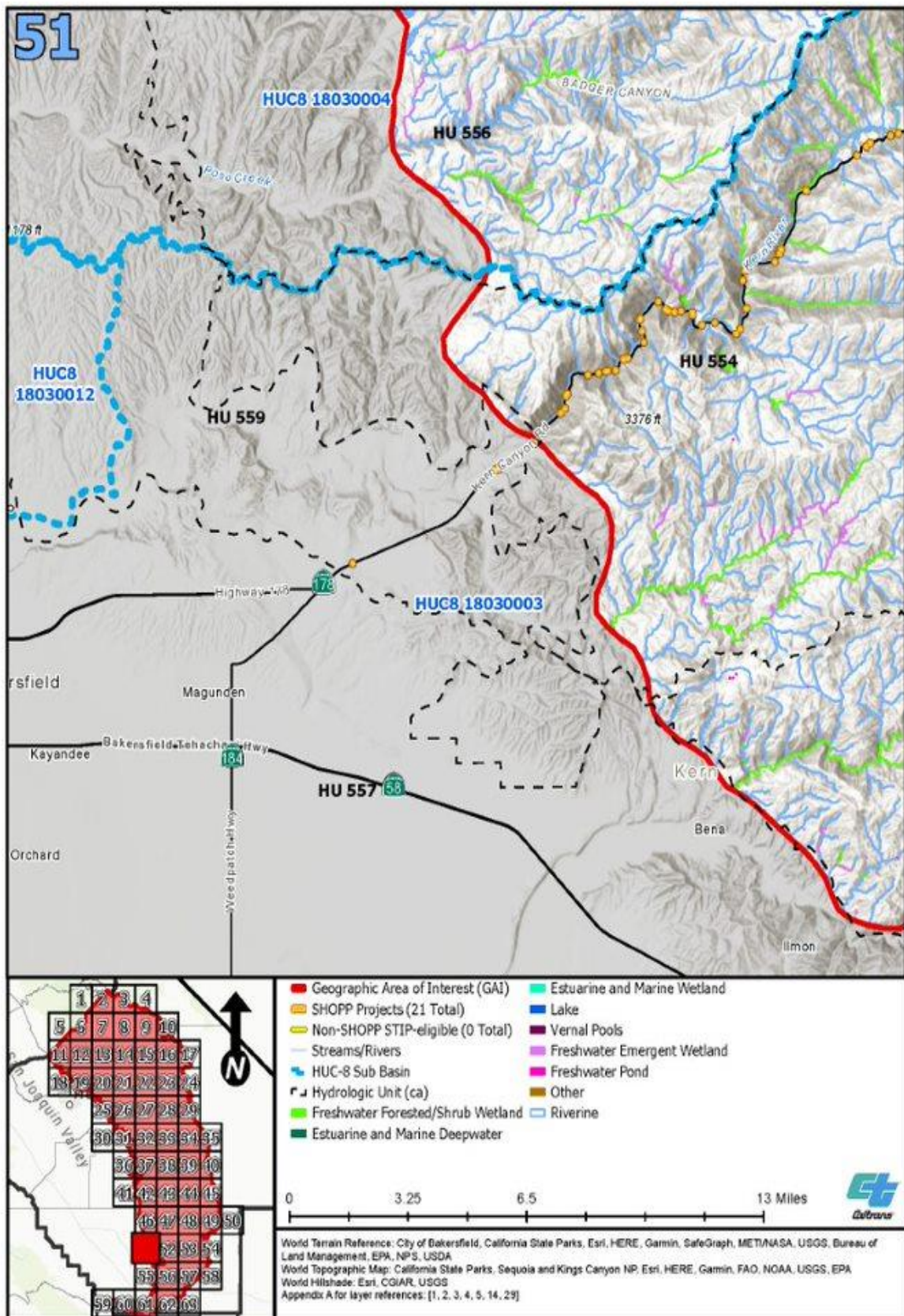




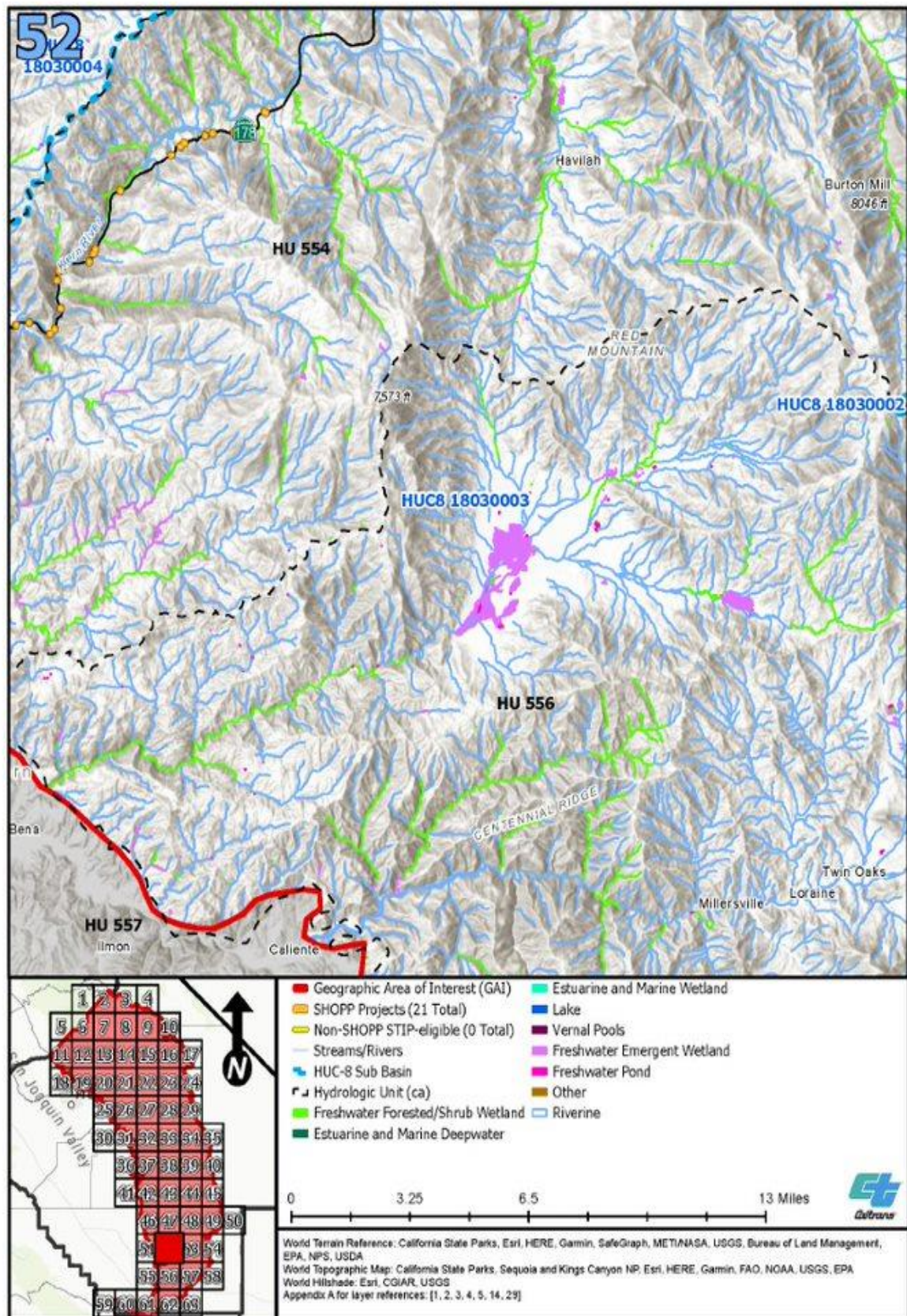




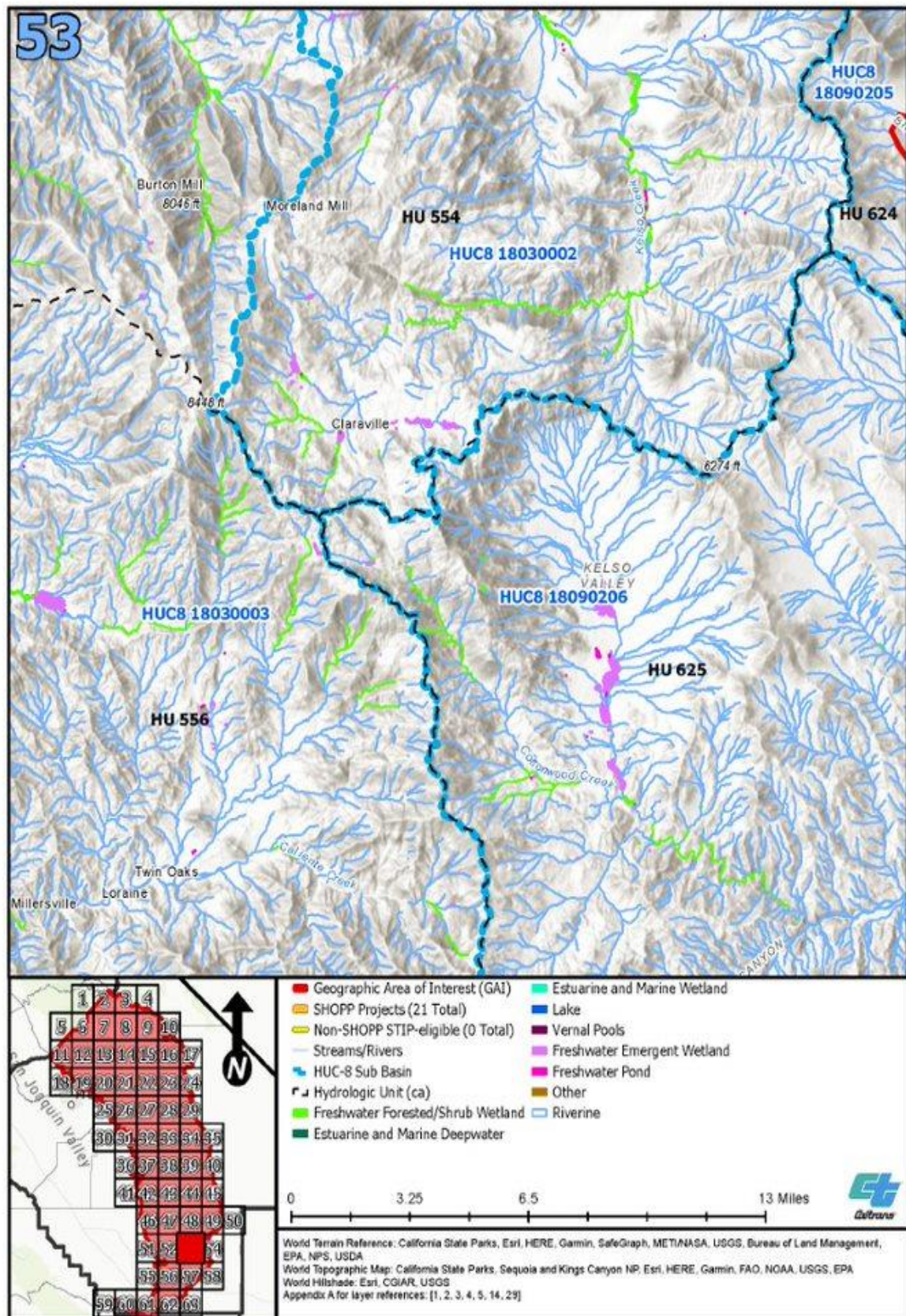




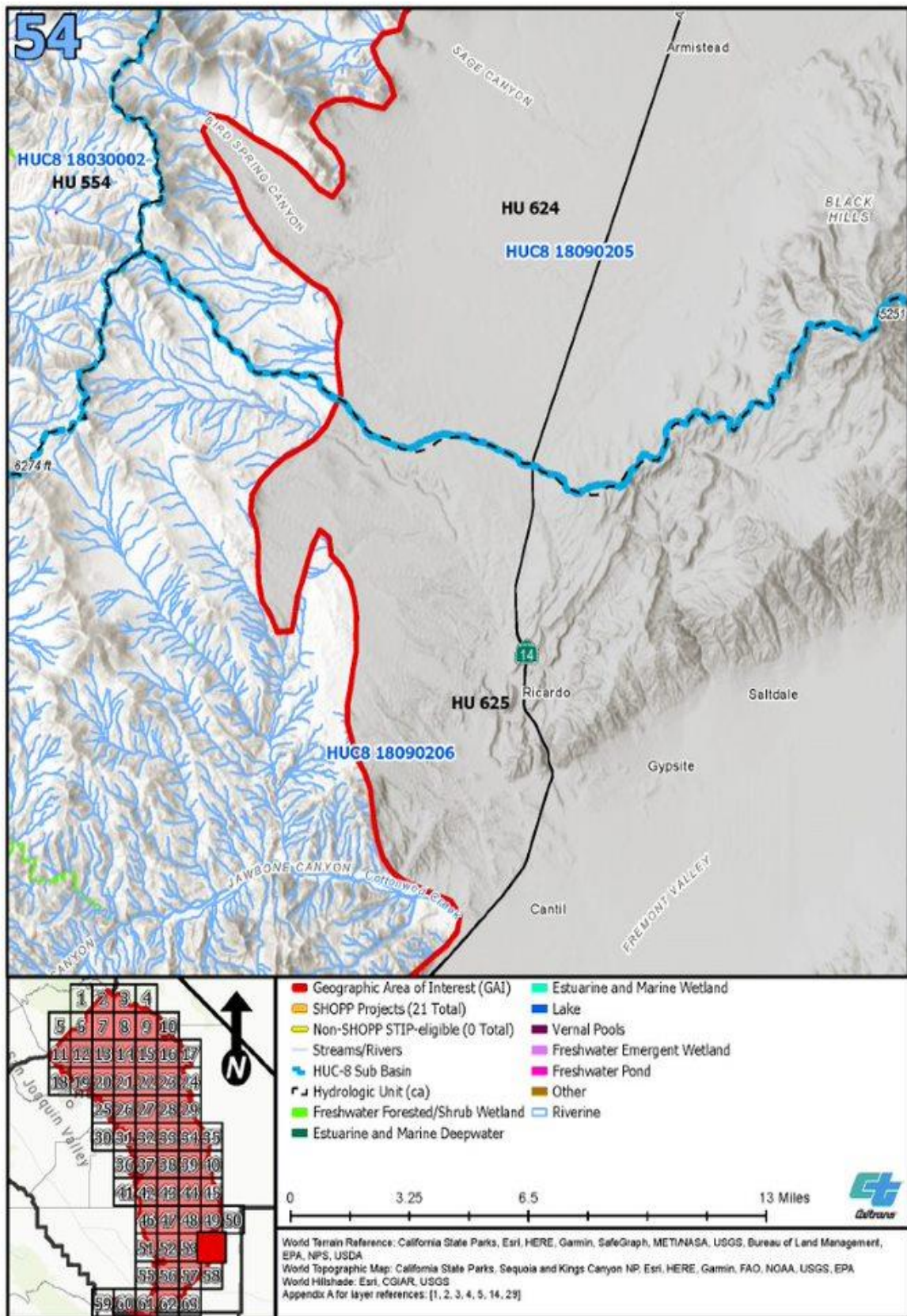


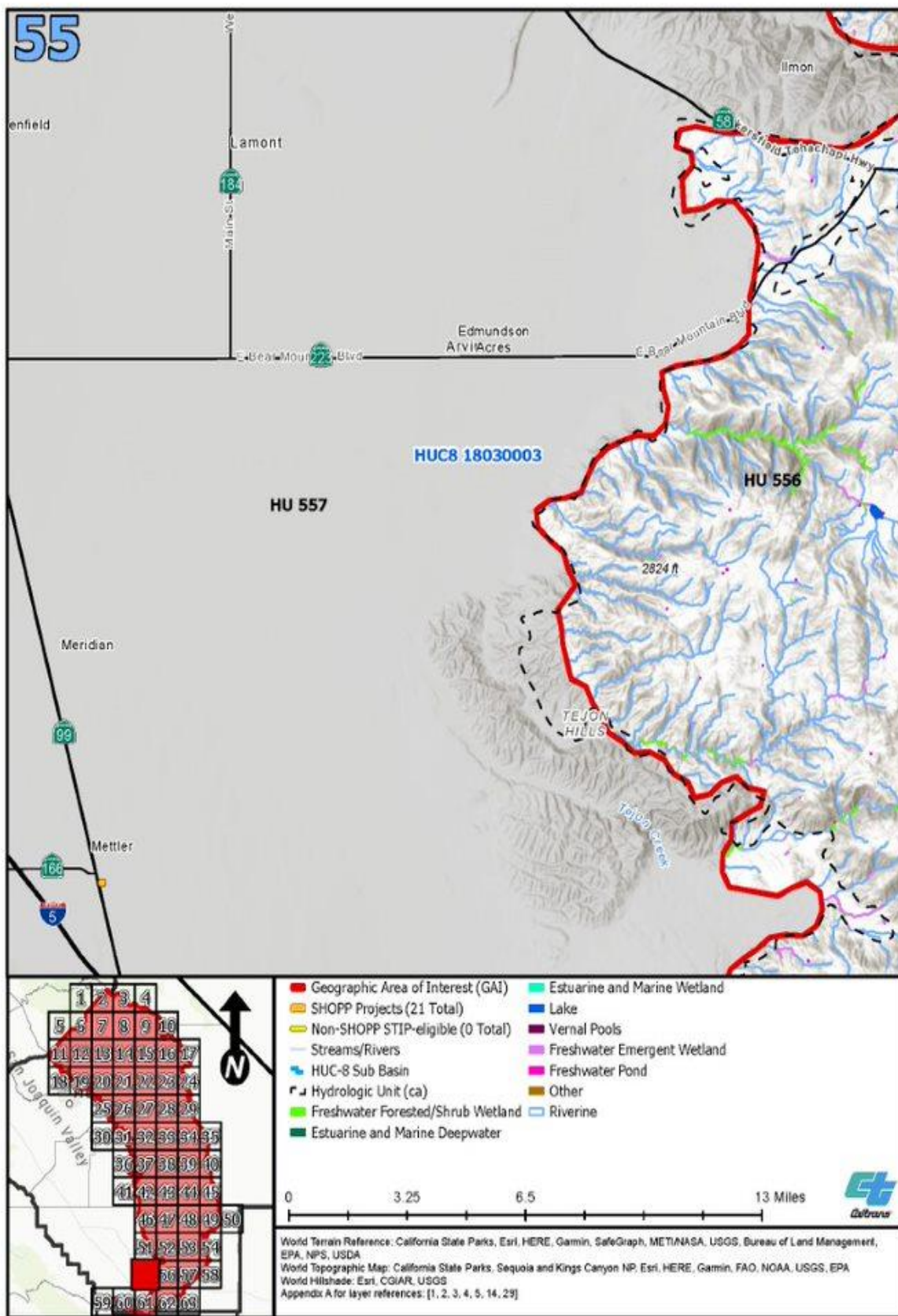




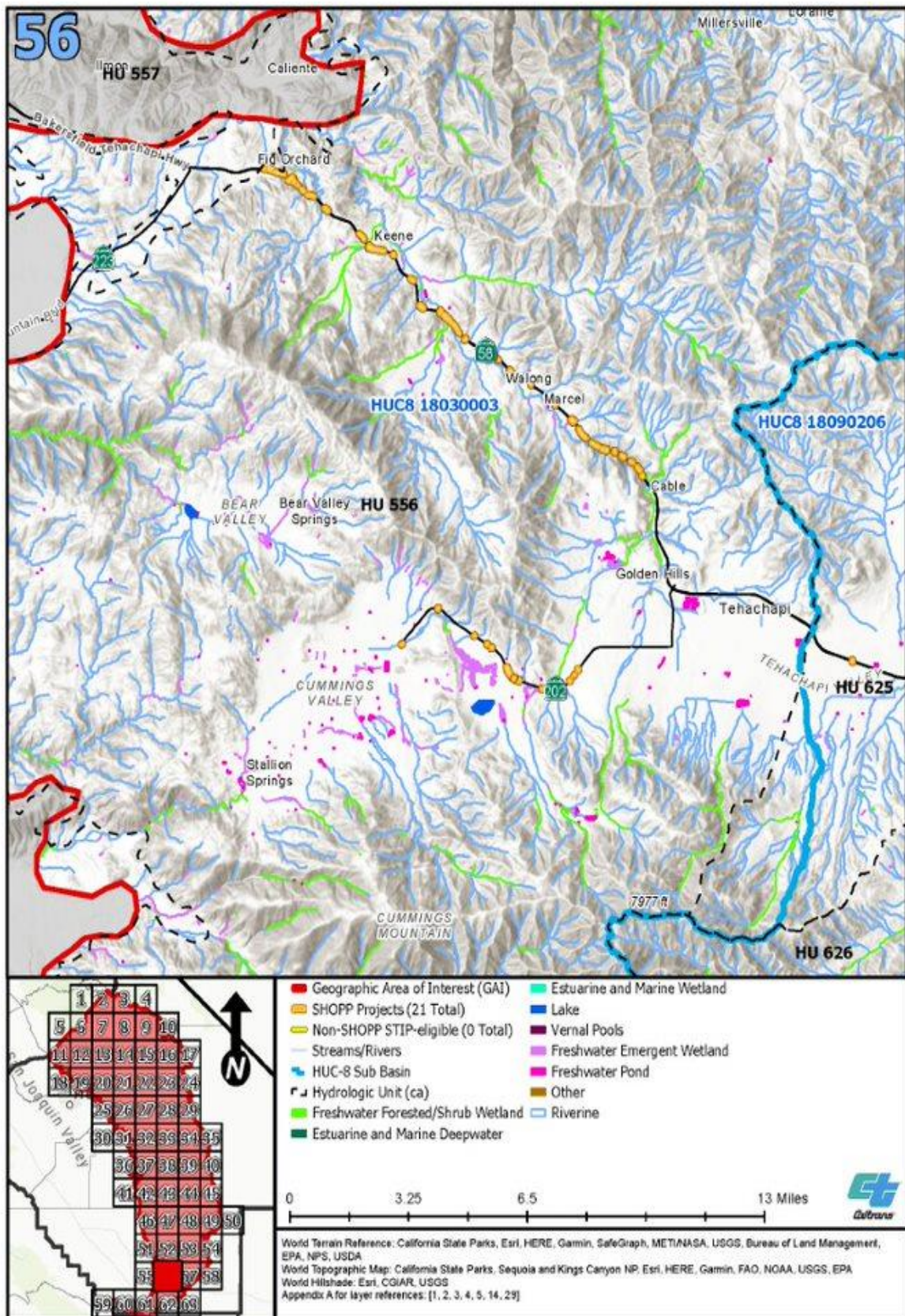




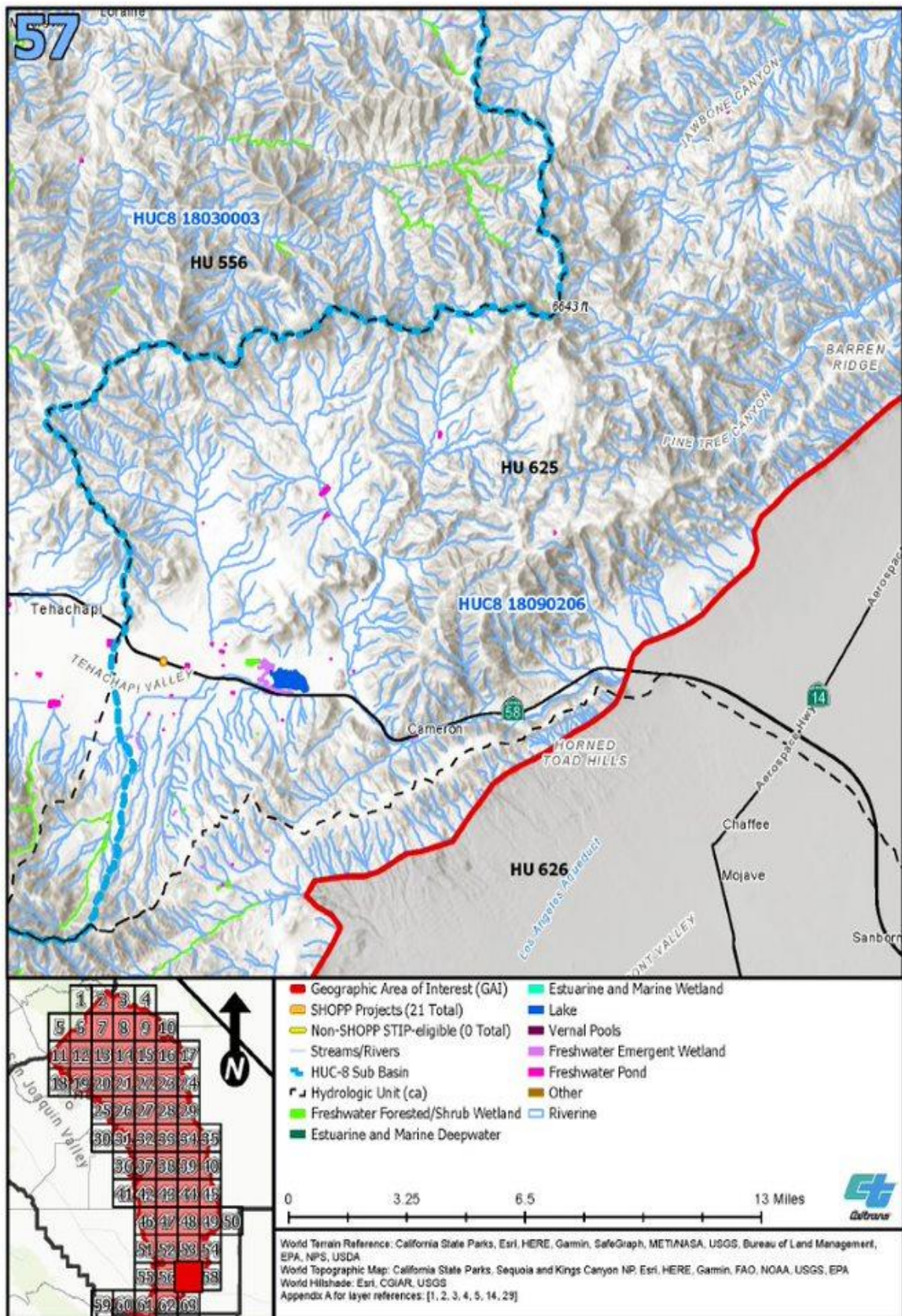




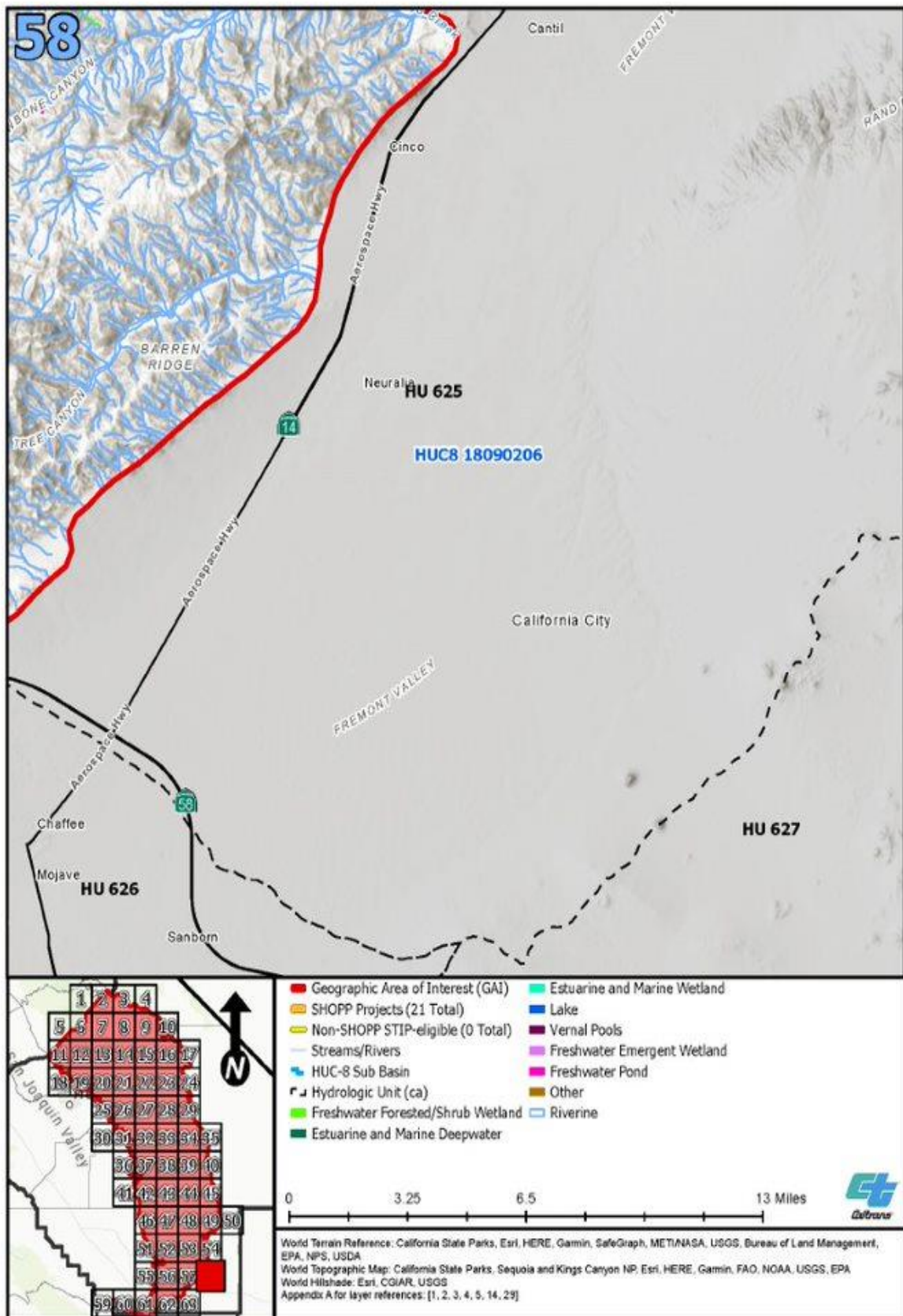


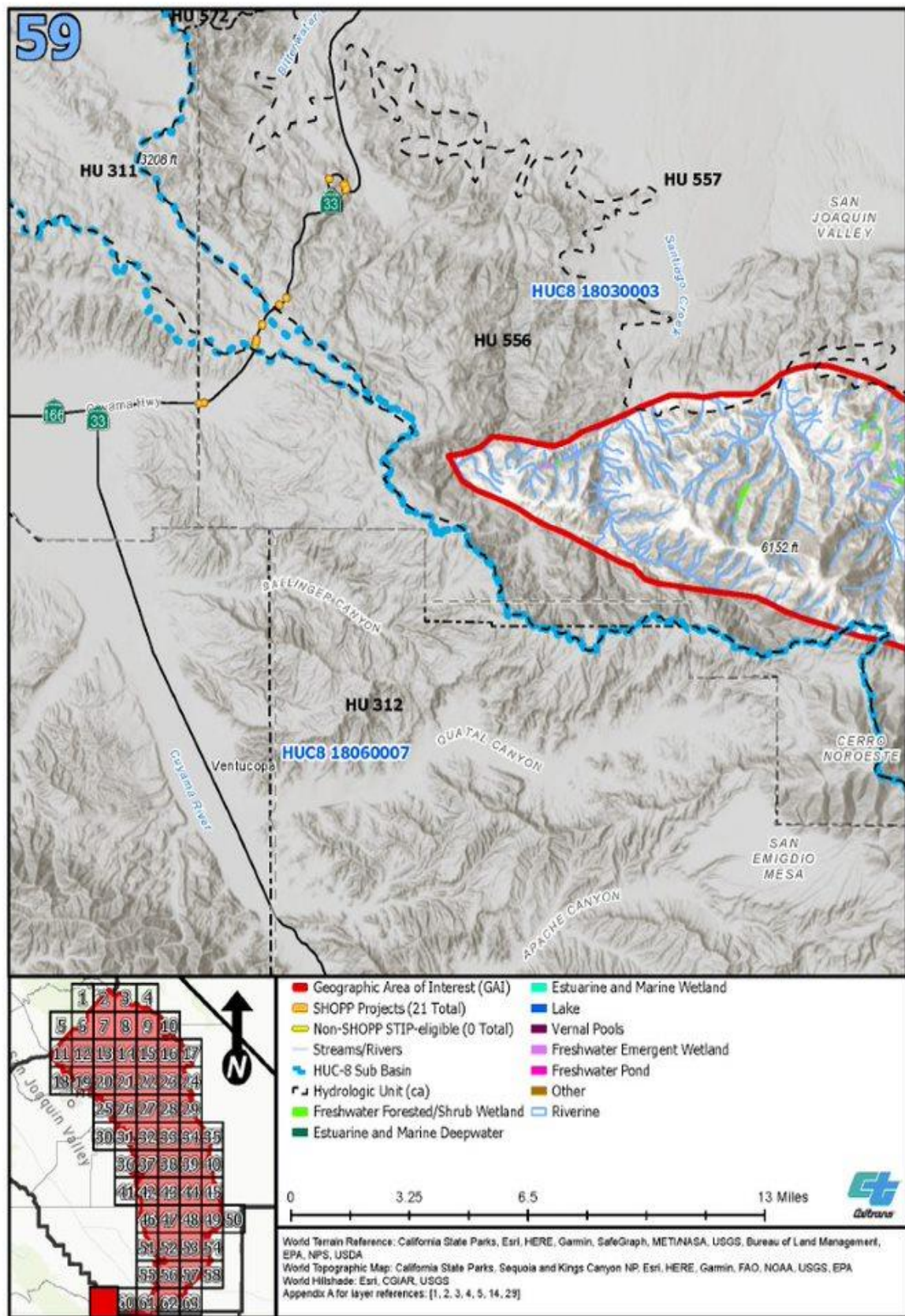




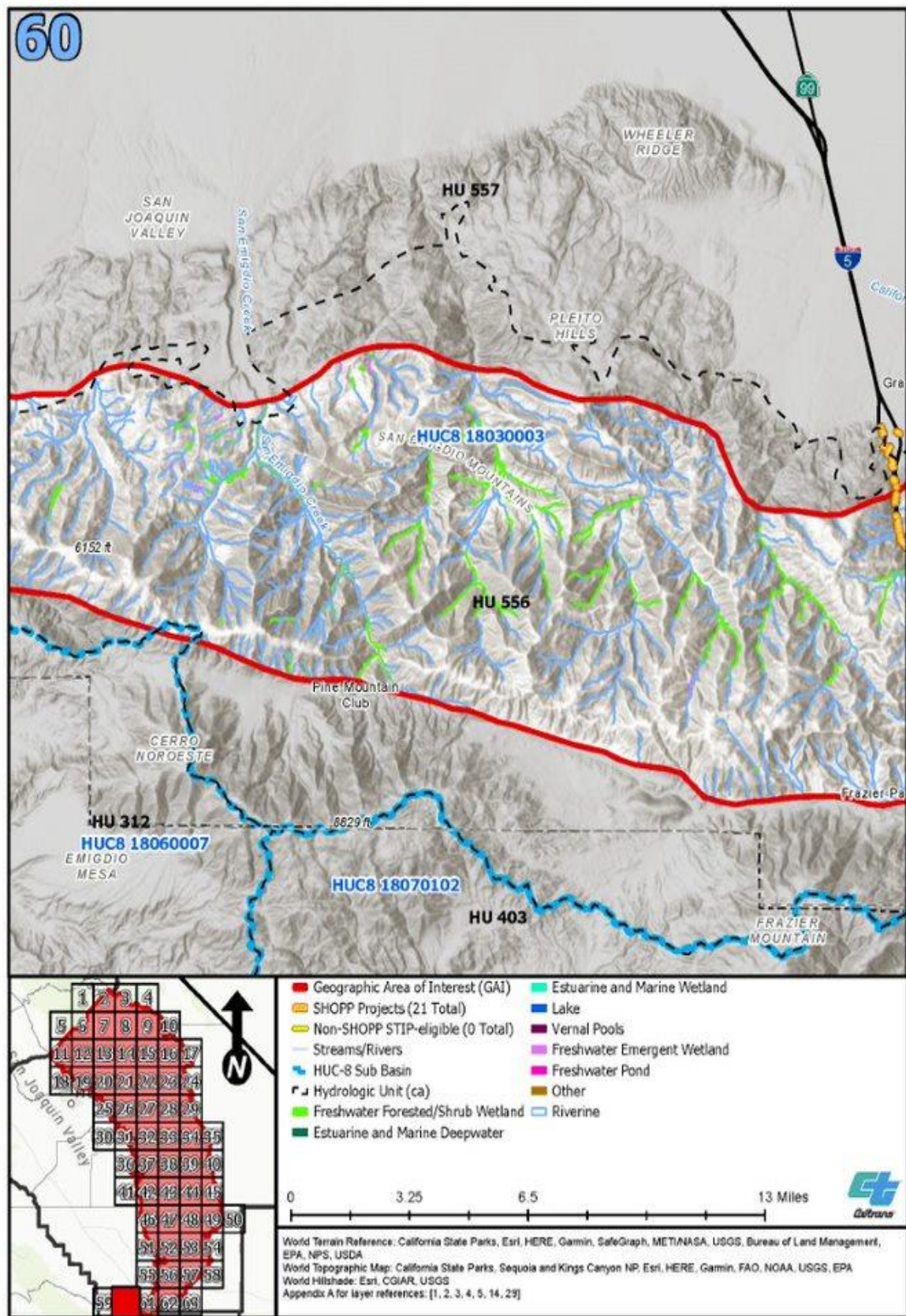




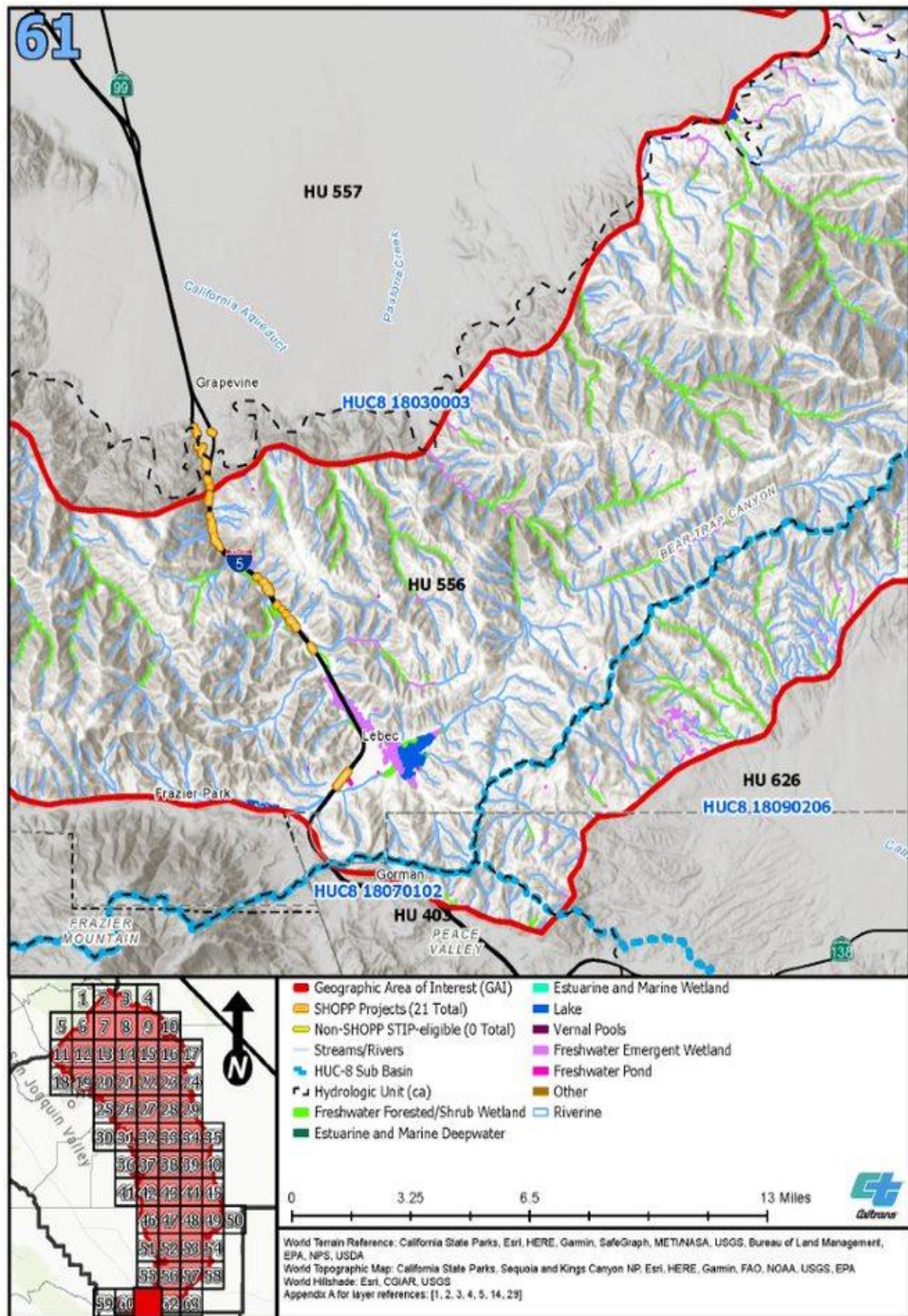




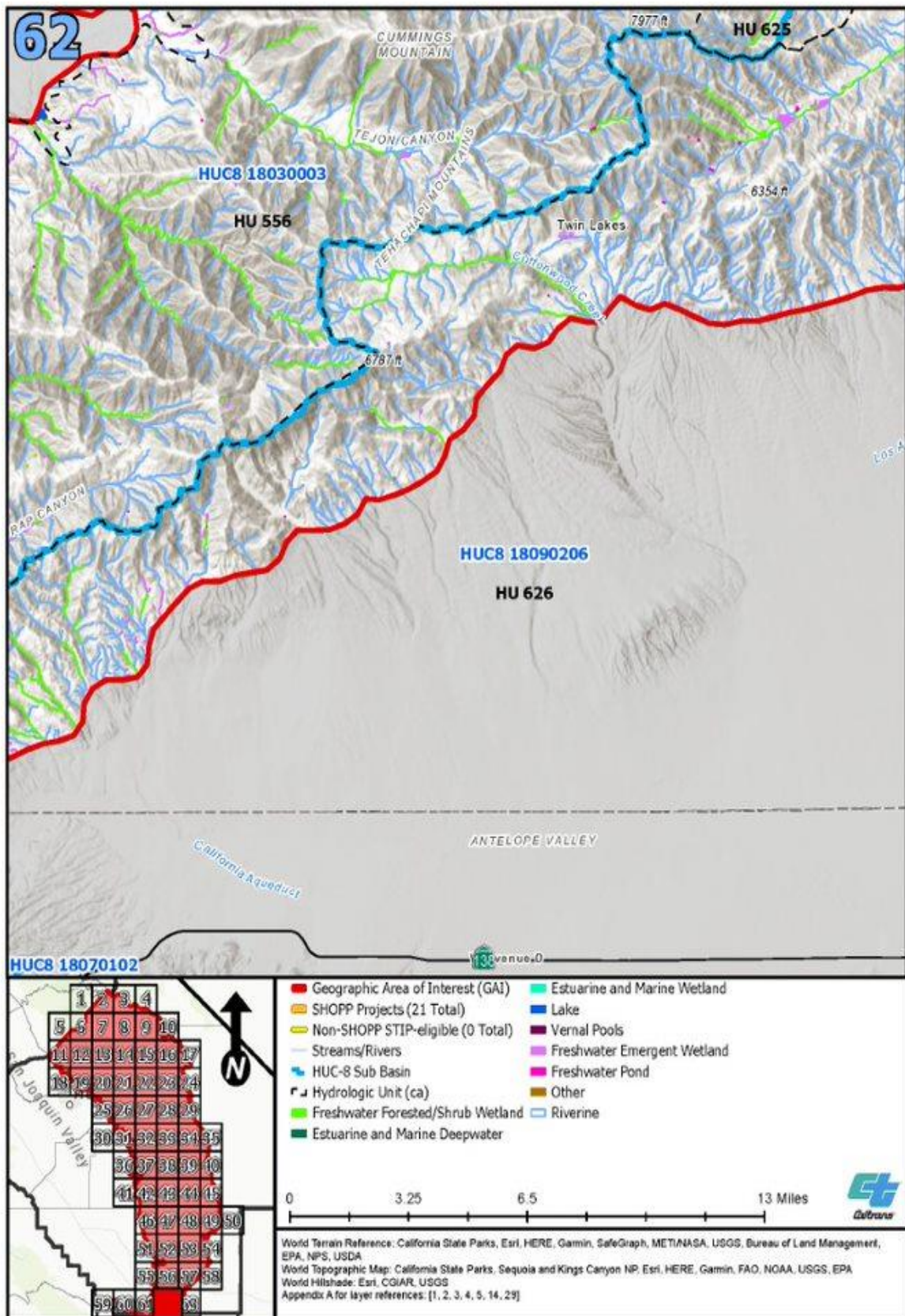


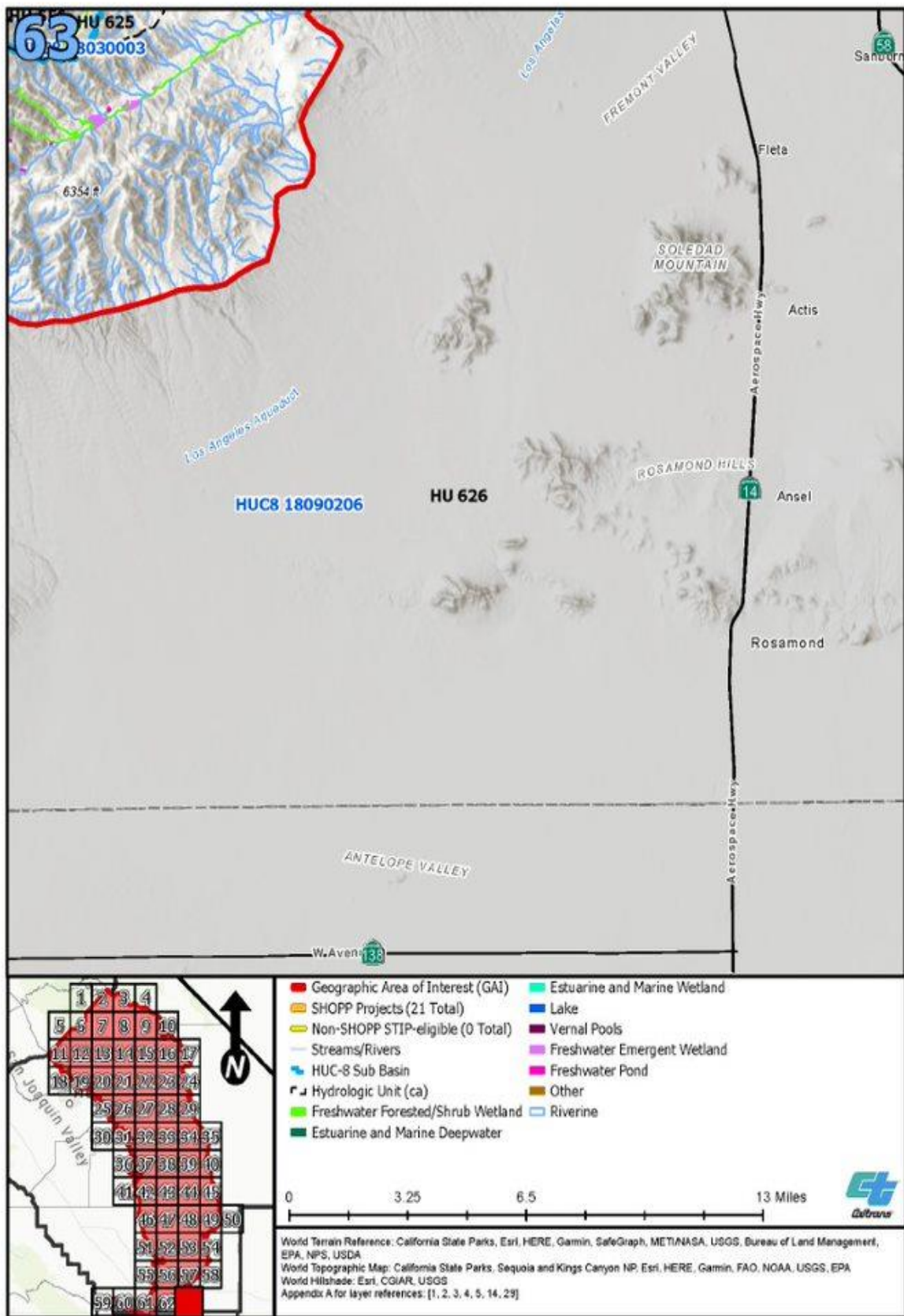














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