



**ADVANCE MITIGATION PROGRAM
Honey-Eagle Lakes and Feather Sub-basins
Regional Advance Mitigation
Needs Assessment**

Appendices

Version 1.0

**Establishing Caltrans' Need for Advance Mitigation
for the Honey-Eagle Lakes Sub-basins
forecast fiscal years 2023/24 to 2032/33
California Department of Transportation – District 2**

August 2026

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APPENDICES

Appendix A – GIS Sources

Appendix B – Transportation Projects

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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 2 RAMNA GIS Sources

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
1	State Highway Network	Caltrans	8/1/2018	10/11/2018	https://gisdata-caltrans.opendata.arcgis.com/datasets/77f2d7ba94e040a78bfbe36feb6279da_0/about
2	SHOPP	Caltrans	2024/25 Q1	NA	Caltrans System Planning
3	STIP	California Transportation Commission	2024/25 Q1	NA	Caltrans System Planning
4	Ecoregion Section	USFS	1/26/2021	1/26/2021	https://data.fs.usda.gov/geodata/edw/datasets.php?xmlKeyword=Ecomap
5	Watershed Boundary Section (GAI)	USGS	9/26/2014	10/19/2018	https://www.usgs.gov/core-science-systems/ngp/national-hydrography
6	County Boundaries	U.S. Census Bureau	10/26/2021	8/31/2023	https://gisdata-caltrans.opendata.arcgis.com/datasets/111030d0d67e49d789080c47d9e4e618_0/about
7	California Conservation Easements	California Protected Areas Database	6/1/2025	6/30/2025	https://www.calands.org/get-data/
8	California Protected Areas Holdings	California Protected Areas Database	6/1/2025	6/30/2025	https://www.calands.org/get-data/
9	Tribal Land Boundaries	Bureau of Indian Affairs	5/16/2017	10/11/2018	https://biamaps.geoplatform.gov/BIA-OpenData/Data/
10	U.S. Military Installations	U.S. Census Bureau	11/22/2023	1/12/2024	https://www2.census.gov/geo/tiger/TIGER2023/MIL/
11	Farmland Mapping & Monitoring Program (2020)	California Department of Conservation	1/1/2020	6/30/2025	https://gis.conservation.ca.gov/portal/home/group.html?id=b1494c705cb34d01acf78f4927a75b8f#overview

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
12	ACE Climate Resilience – ACE [ds2738]	CDFW	2/22/2018	10/17/2018	https://lab.data.ca.gov/dataset/terrestrial-climate-change-resilience-ace-ds27381
13	Vegetation Geospatial Data for D2 for SAMNA 2.0	SAMNA	1/1/2025	NA	https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation
14	Aquatic/Riparian Geospatial Data for D2 SAMNA 2.0	SAMNA	12/12/2025	NA	https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation
15	FWS Critical Habitat	FWS	12/9/2022	1/5/2023	https://ecos.fws.gov/ecp/report/table/critical-habitat.html
16	Essential Connectivity Areas - CEHC	CDFW	4/28/2014	10/17/2018	https://data.ca.gov/dataset/essential-connectivity-areas-california-essential-habitat-connectivity-cehc-ds620
17	Natural Landscape Blocks - CEHC	CDFW	10/1/2017	10/17/2018	https://www.arcgis.com/sharing/rest/content/items/6a72392df18d4a1a8c24ffc2abe9d034/info/metadata/metadata.xml?format=default&output=html
18	Potential Riparian Connections - CEHC	CDFW	3/1/2010	10/17/2018	https://gis.data.ca.gov/datasets/CDFW::potential-riparian-connections-cehc-ds622/explore?location=37.324177%2C-119.243579%2C6
19	National Flood Hazard Layer	Federal Emergency Management Agency	4/3/2025 (last updated)	12/7/2021	https://www.fema.gov/national-flood-hazard-layer-nfhl
20	CalWater Hydrologic Areas	California Department of Water Resources	11/1/2016	10/19/2018	https://www.fire.ca.gov/Home/What-We-Do/Fire-Resource-Assessment-Program/GIS-Mapping-and-Data-Analytics
21	National Wild and Scenic Rivers	U.S. Forest Service	3/2/2016	8/4/2021	https://www.rivers.gov/mapping-gis.php

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
22	Terrestrial Connectivity – ACE [ds2734]	CDFW	12/19/2025 (last updated)	9/25/2019	https://gis.data.ca.gov/datasets/CDFW::terrestrial-connectivity-ace-ds2734/explore?location=37.246144%2C-119.002310%2C6
23	SWAP Terrestrial Targets – 2015	CDFW	1/30/2025 (last updated)	10/29/2018	https://data.ca.gov/dataset/swap-terrestrial-targets-2015-ds19663
24	Aquatic Biodiversity Summary – ACE [ds2768]	CDFW	2/22/2018	7/3/2019	https://gis.data.ca.gov/datasets/CDFW::aquatic-biodiversity-summary-ace-ds2768/explore?location=37.271896%2C-119.270282%2C6
25	Calfish PAD (Passage Assessment Database)	CDFW	3/30/2026 (last updated)	1/7/2025	https://www.calfish.org/ProgramsData/HabitatandBarriers/CaliforniaFishPassageAssessmentDatabase.aspx
26	Terrestrial Biodiversity Summary – ACE [ds2739]	CDFW	7/30/2024 (last updated)	7/3/2019	https://gis.data.ca.gov/datasets/f3430956f847c4b0e315b83bcd8844_0/explore?location=37.271819%2C-119.270504%2C5&showTable=true
27	Corps Regulatory In-Lieu Fee & Bank Information Tracking System	Mitigation Service Banks	Not available	1/28/2019	https://ribits.ops.usace.army.mil/ords/f?p=107:997:14033841442473
28	CDFW Approved Mitigation Service Areas	Mitigation Service Banks	7/28/2026 (last updated)	1/28/2019	https://data-cdfw.opendata.arcgis.com/datasets/CDFW::cdfw-approved-mitigation-service-areas-ds2659/explore?location=36.723153%2C-118.346371%2C6
29	National Hydrology Dataset Plus	EPA	8/8/2026 (last updated)	4/29/2021	https://www.epa.gov/waterdata/get-nhdplus-national-hydrography-dataset-plus-data
30	Fire Hazard Severity Zones in State Responsibility Area	California Department of Forestry and Fire Protection	11/1/2007	6/1/2022	https://www.fire.ca.gov/Home/What-We-Do/Fire-Resource-Assessment-Program/GIS-Mapping-and-Data-Analytics

ID	GIS Layer	Source Agency	Source Date	Download Date	Website
31	Conservation Plan Boundaries, HCP and NCCP	CDFW	1/30/2025 (last updated)	9/1/2023	https://data.ca.gov/dataset/conservation-plan-boundaries-hcp-and-nccp-ds7601
32	RWQCB Boundaries	SWQCB	NA	4/26/2021	https://www.waterboards.ca.gov/
33	FWS Boundaries	FWS	NA	4/26/2021	https://www.fws.gov/
34	Connectivity Least Cost Corridors (Top 10 percent) - Modoc – Conservation Biology Institute (CBI)	CDFW	1/11/2024 (last updated)	1/15/2026	https://services2.arcgis.com/Uq9r85Potqm3MfRV/ArcGIS/rest/services/biosds3133_fpu/FeatureServer/0
35	Connectivity Cores - Modoc - CBI [ds3134]	CDFW	12/20/2023	1/15/2026	https://apps.wildlife.ca.gov/bios6/?al=3134
36	303(d) List of Impaired Waterbodies	SWQCB	10/26/2021	5/13/2022	https://www.waterboards.ca.gov/water_issue_s/programs/water_quality_assessment/2018_integrated_report.html
37	Zip Codes	U.S. Postal Service	4/13/2026 (last updated)	3/11/2020	https://www.arcgis.com/home/item.html?id=8d2012a2016e484dafaac0451f9aea24

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

To identify the list of SHOPP projects planned for the GAI, Caltrans consulted the SHOPP Ten-Year Project Book for fiscal years 2023/24 to 2032/33 (Caltrans 2024). The intent of the SHOPP Ten-Year Project Book is to raise awareness of planned future transportation projects, and detailed transportation project information is not provided. The SHOPP Ten-Year Project Book includes 19 SHOPP transportation projects in the GAI that are currently in the planning and conceptual phases (Table B-1).

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

The subset of the Caltrans District's 19 SHOPP transportation projects that are planned in the GAI during the planning period covered by this RAMNA, as well as the HUC-8 and ecoregion section, advertised year, and planned activities for each planned transportation project, are listed in Table B-1.

References

Caltrans (California Department of Transportation). 2024. *State Highway Operation and Protection Program Ten-Year Project Book Fiscal Years 2023/24 to 2032/33*. State Highway Operation and Protection Program Fiscal Year 2024/25 (Quarter 1). October. Sacramento, California.

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

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route ^a	Begin Mile ^a	End Mile ^a	Activity
19958	East Branch North Fork Feather	Sierra Nevada	2027/28	2	Plumas	70	33	47	Pavement
20045	East Branch North Fork Feather, North Fork Feather	Sierra Nevada	2027/28	2	Plumas	89	24	30	Pavement
23142	East Branch North Fork Feather	Sierra Nevada	2031/32	2	Plumas	70	23.2	33.072	Pavement
25232	East Branch North Fork Feather	Sierra Nevada	2023/24	2	Plumas	89	12.9	20	Pavement
19217	Honey-Eagle Lakes	Modoc Plateau, Northwestern Basin and Range, Southern Cascades	2023/24	2	Lassen	139	0.74	11	Pavement
21284	Honey-Eagle Lakes	Mono	2026/27	2	Lassen	395	5.6	R20.0	Pavement
23005	Honey-Eagle Lakes	Northwestern Basin and Range	2029/30	2	Lassen	36	0	R26.5	Pavement
22083	Honey-Eagle Lakes	Northwestern Basin and Range	2028/29	2	Lassen	359	29.9	59	Drainage
23137	Honey-Eagle Lakes	Northwestern Basin and Range	2028/29	2	Lassen	395	R20.0	29.9	Pavement

ID Number	HUC-8	Ecoregion Section	Advertised Year	Caltrans District	County	Route ^a	Begin Mile ^a	End Mile ^a	Activity
23936	Honey-Eagle Lakes	Sierra Nevada, Mono, Northwestern Basin and Range	2026/27	2	Lassen	395	7.5	R19.0	Reactive Safety
23001	Honey-Eagle Lakes	Sierra Nevada, Southern Cascades	2027/28	2	Lassen	36	16.7	22.4	Pavement
23305	Honey-Eagle Lakes, Upper Pit, Goose Lake	Modoc Plateau, Northwestern Basin and Range	2032/33	2	Lassen	395	34.3	46.3	Drainage
19924	Middle Fork Feather	Sierra Nevada	2023/24	2	Plumas	70	R78.3	90.3	Pavement
19287	Middle Fork Feather	Sierra Nevada	2025/26	2	Plumas	89	0	8.71	Pavement
24599	Middle Fork Feather	Sierra Nevada	2028/29	2	Plumas	89	8.232	8.232	Bridge - Health
20557	Middle Fork Feather	Sierra Nevada, Foothills	2030/31	3	Butte	163	21	31.07	Pavement
21261	Middle Fork Feather, Truckee	Sierra Nevada	2026/27	3	Sierra	89	0	15.2	Pavement

Source: Caltrans 2024

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

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

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

Source: Caltrans 2019b, Table 1

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APPENDIX C: LAND COVER TYPES

Land cover types within the GAI were excerpted from the SAMNA Reporting Tool's vegetation layer, which was developed by merging CDFW's CWHR Vegetation Classification and Mapping Program GIS database (CDFW 2019), the USFS Classification and Assessment with LandSat of Visible Ecological Groupings, and the California Department of Forestry and Fire Protection vegetation layer (Caltrans 2025a, 2025b). A general description of each land cover type found within the GAI is provided below, and complete descriptions can be found in Mayer and Laudenslayer (1988). Table 2-2 in the RAMNA's main text lists the acreages of each habitat type that is mapped in the Modoc Plateau, Mono, Northwestern Basin and Range, Sierra Nevada, Sierra Nevada Foothills, and Southern Cascades Ecoregion Sections.

A key map, provided after the description of habitat types, references mapbook pages, including zoomed-in views of locations within the GAI and mapped land cover types (page C-4). These 16 maps correspond with the aquatic resources maps in Appendix E, *Aquatic Resource Locations*.

Tree-dominated Habitats: Tree-dominated habitats have at least 10 percent total canopy crown closure. Within the GAI, tree-dominated habitats include aspen, blue oak woodland, blue oak-foothill pine, closed-cone pine-cypress, Douglas fir, Eastside pine, Jeffrey pine, juniper, lodgepole pine, montane hardwood, montane hardwood-conifer, montane riparian, 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. Within the GAI, shrub-dominated habitats include alkali desert scrub, alpine dwarf-shrub, bitterbrush, desert scrub, low sage, mixed chaparral, montane chaparral, and sagebrush.

Herbaceous-dominated Habitats: Herbaceous-dominated habitats have at least 2 percent total cover by herbaceous species and less than 10 percent total cover by tree or shrub species. Within the GAI, herbaceous-dominated habitats include annual grassland, fresh emergent wetland, pasture, perennial grassland, saline emergent wetland, and wet meadow.

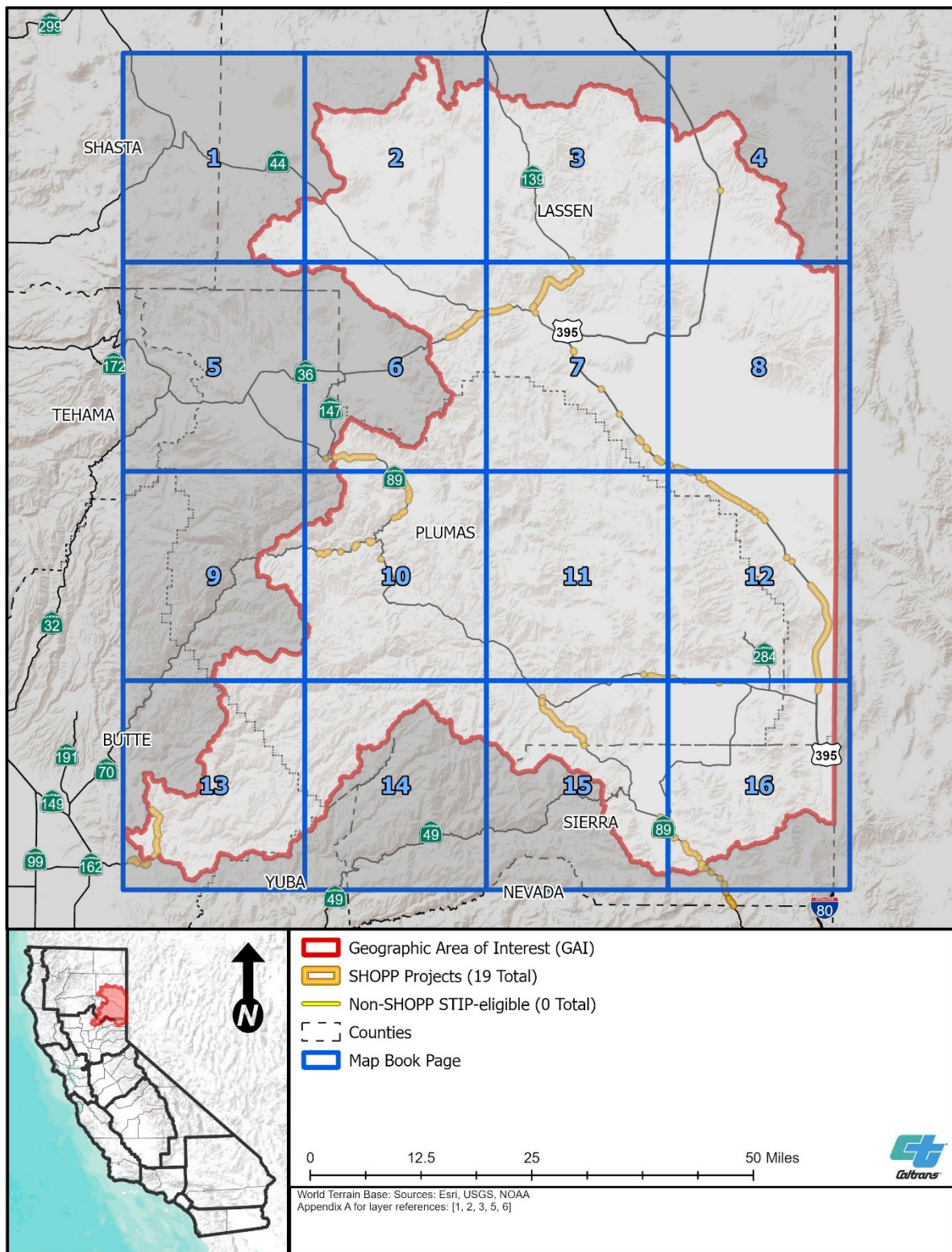
Aquatic Habitats: Aquatic habitats have at least 98 percent total cover by open water and no more than 2 percent total cover by vegetation in the continually exposed shore zone. Within the GAI, aquatic habitats include lacustrine and riverine.

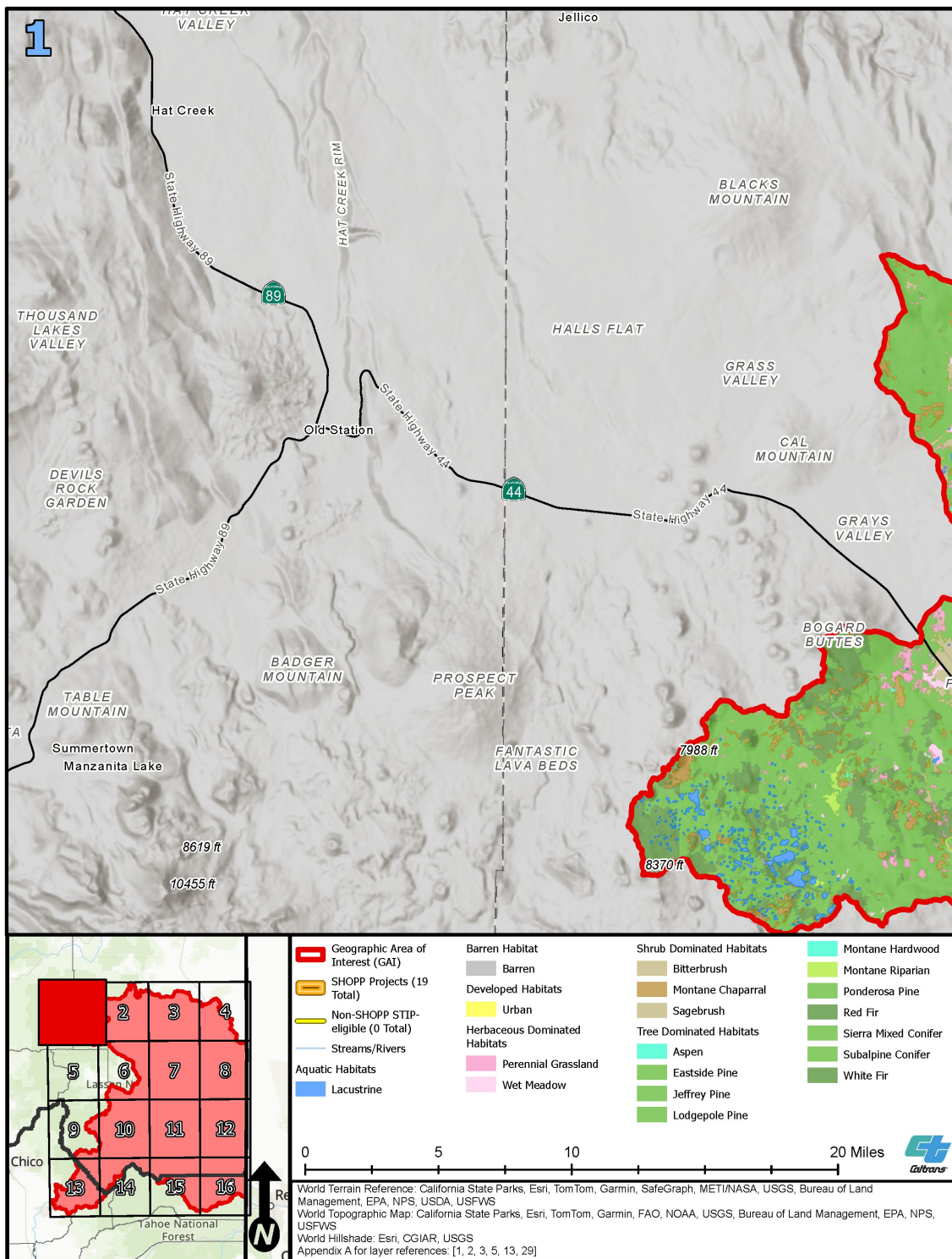
Developed Habitats: Developed habitats have at least 2 percent total cover by non-wildland vegetation grown for food, fiber, or landscaping and do not meet criteria for any wildland habitat. Within the GAI, developed habitats include cropland, evergreen orchard, irrigated hayfield, irrigated row and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

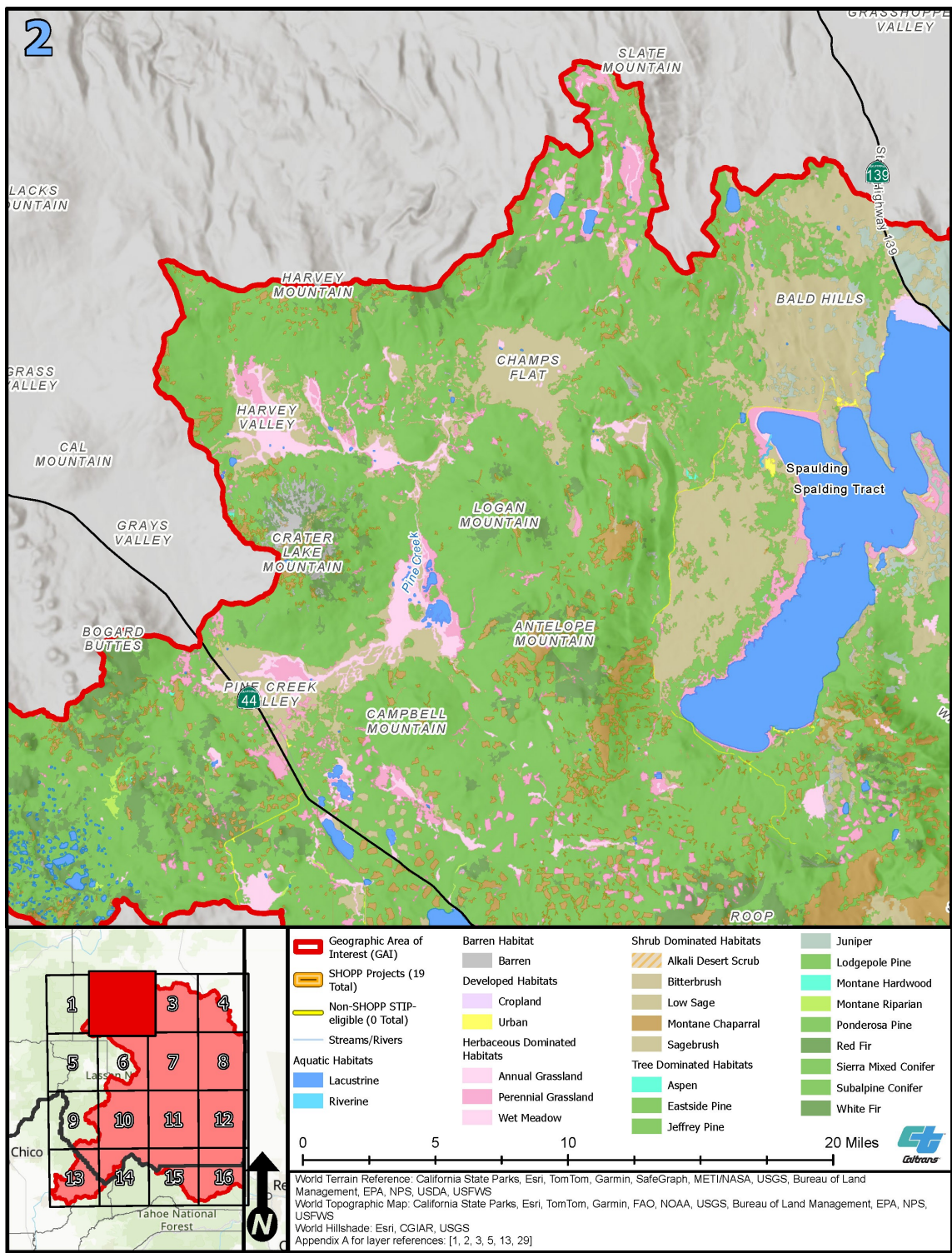
Non-vegetated Habitats: Non-vegetated habitats include barren areas, characterized by less than 2 percent cover by herbaceous species. Within the GAI, non-vegetated habitats consist of barren areas.

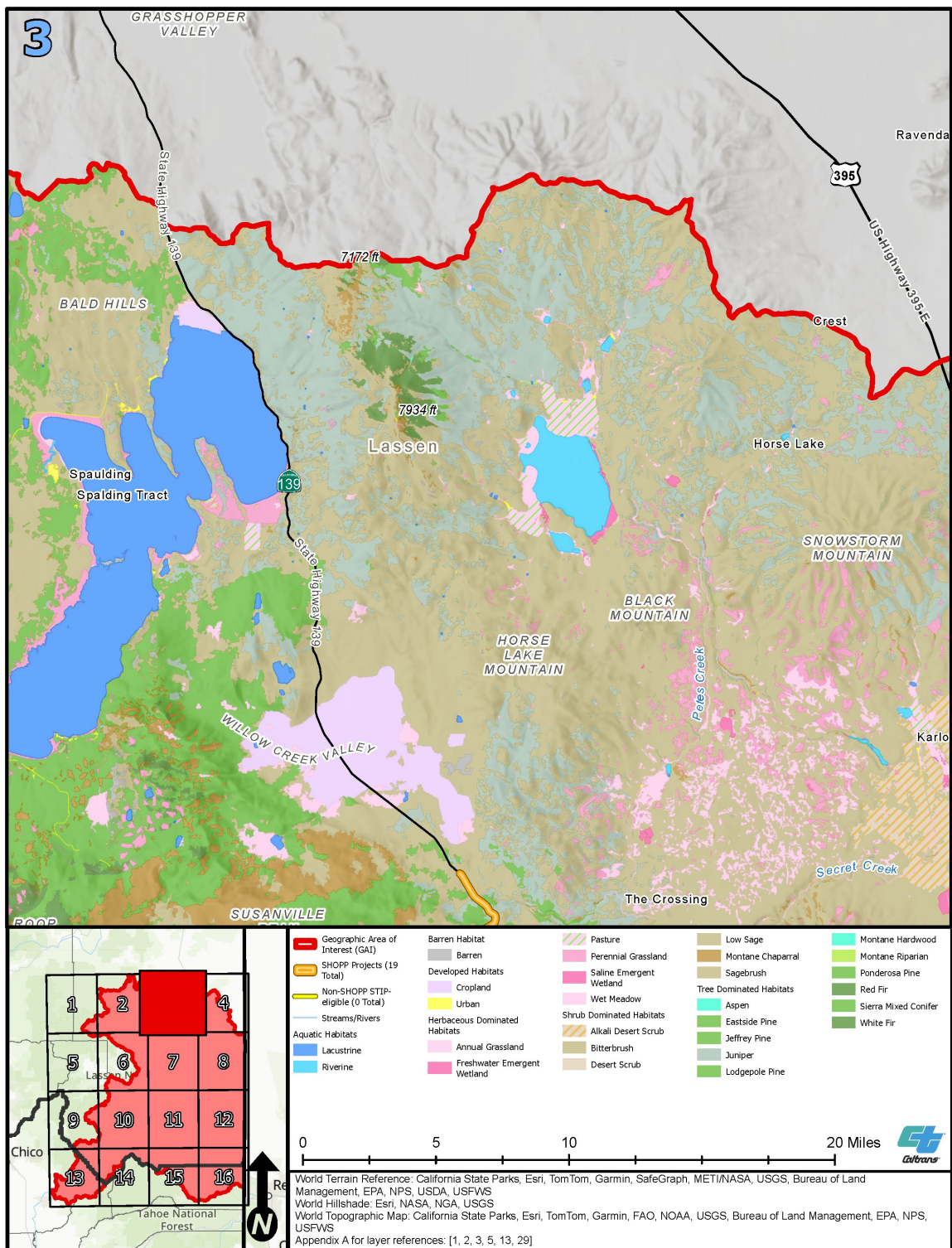
References

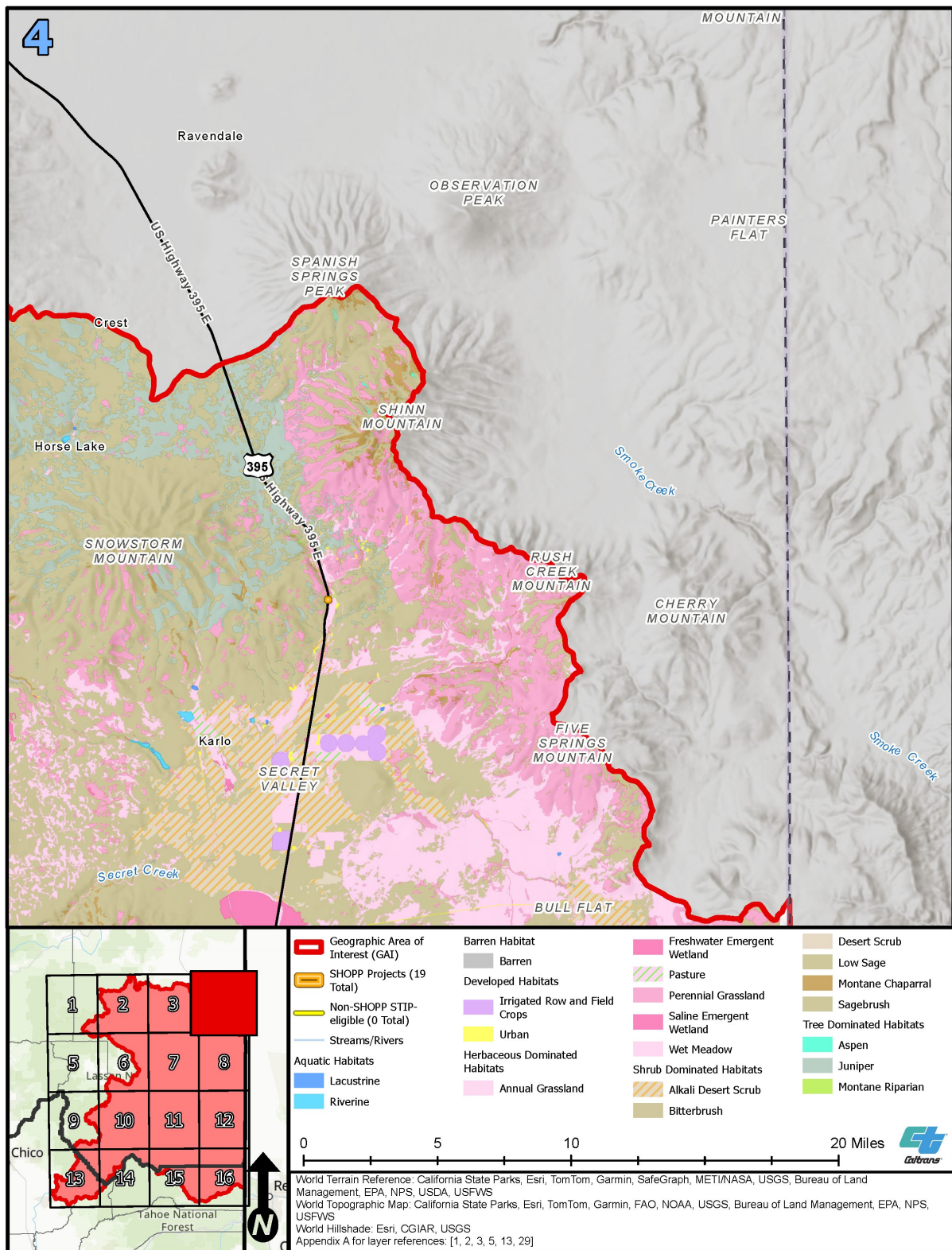
- Caltrans. 2025a. *Statewide Advance Mitigation Needs Assessment Report Appendix K. State Highway Operation and Protection Program. First Quarter 2024/2025 Fiscal Year*. April. Sacramento, California.
<https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation>.
- . 2025b. “Vegetation Geospatial Data for the Statewide Advance Mitigation Needs Assessment 2.0 (SAMNA 2.0)” (data file). Accessed December 17, 2025. Available upon request.
- CDFW (California Department of Fish and Wildlife). 2019. *California Wildlife Habitat Relationships (CWHR) System*. Supported by the California Interagency Wildlife Task Group and maintained by CDFW. Database Version 9.0.
- Mayer, K. E., and W. F. Laudenslayer, Jr., eds. 1988. “A Guide to Wildlife Habitats of California.” State of California, Resources Agency, Department of Fish and Game. Sacramento, California. Including revisions and updates. Accessed February 6, 2026 <https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats>.

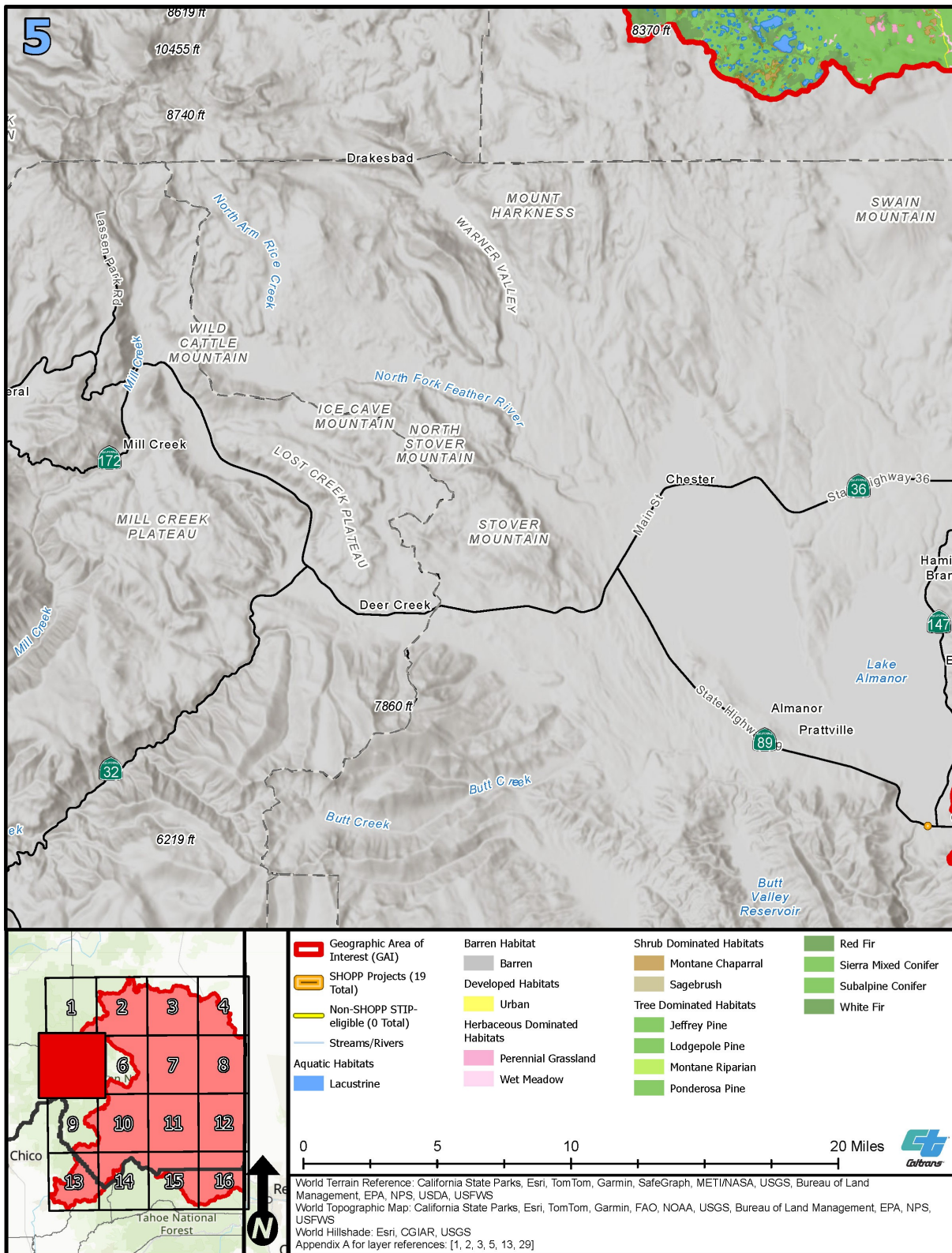


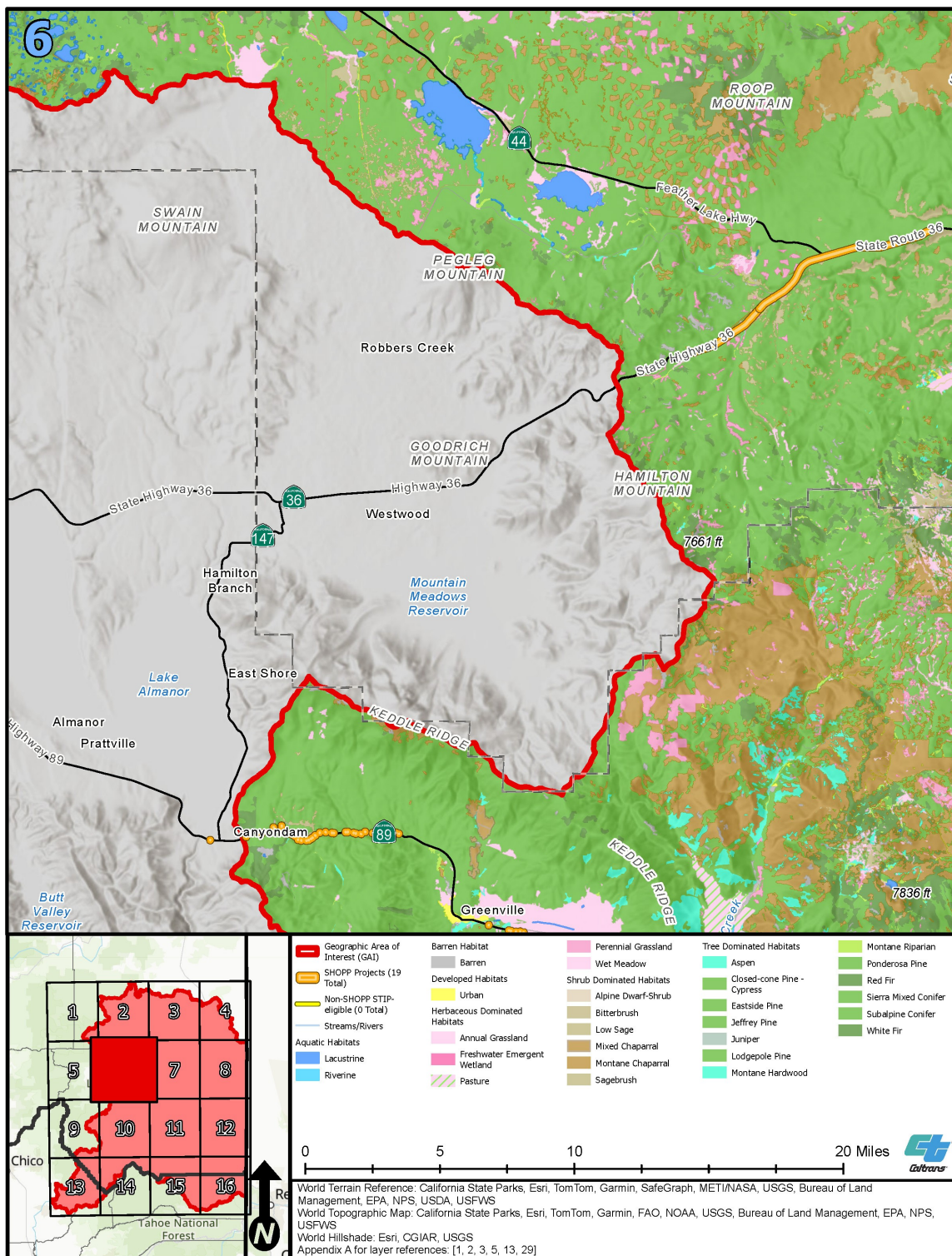


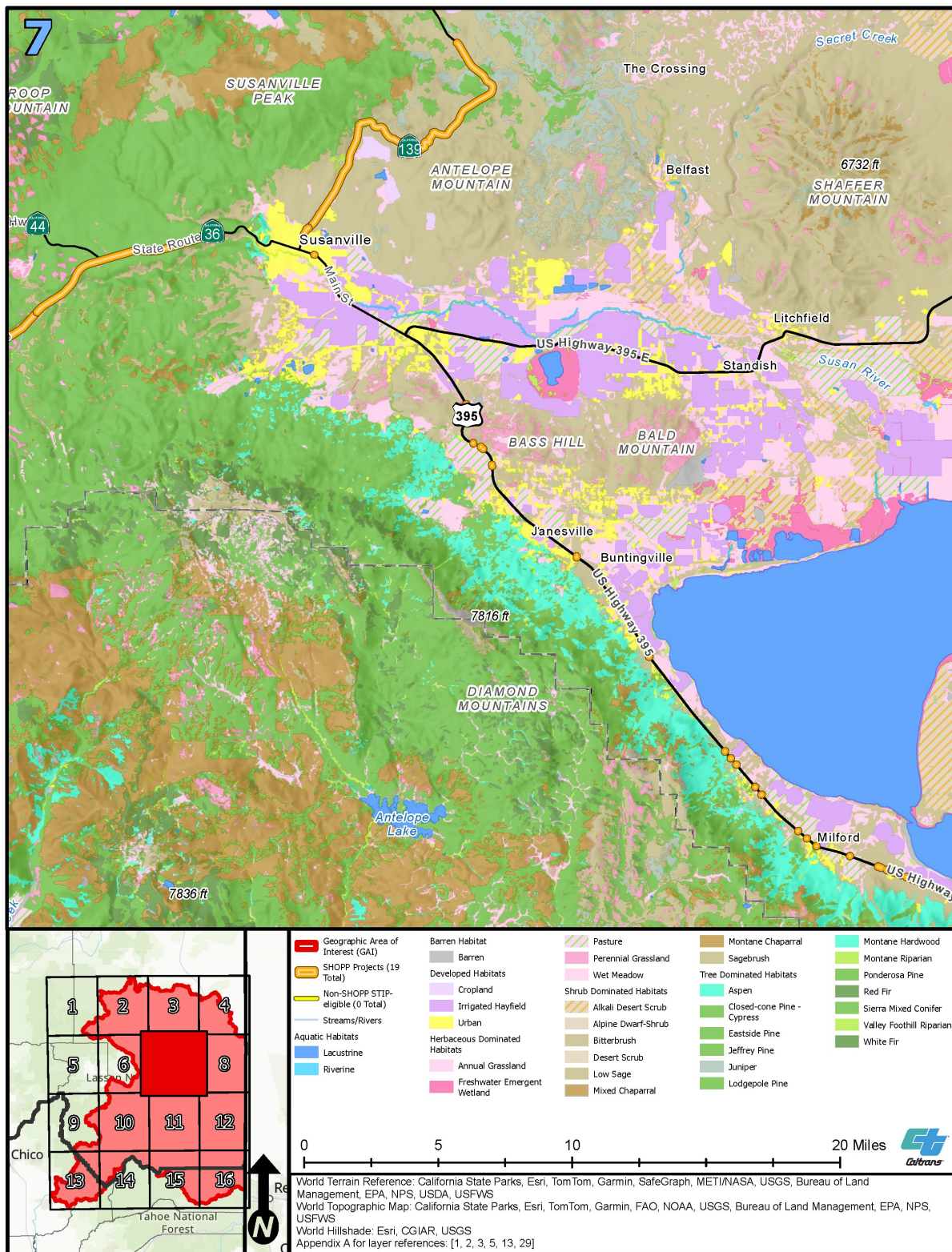


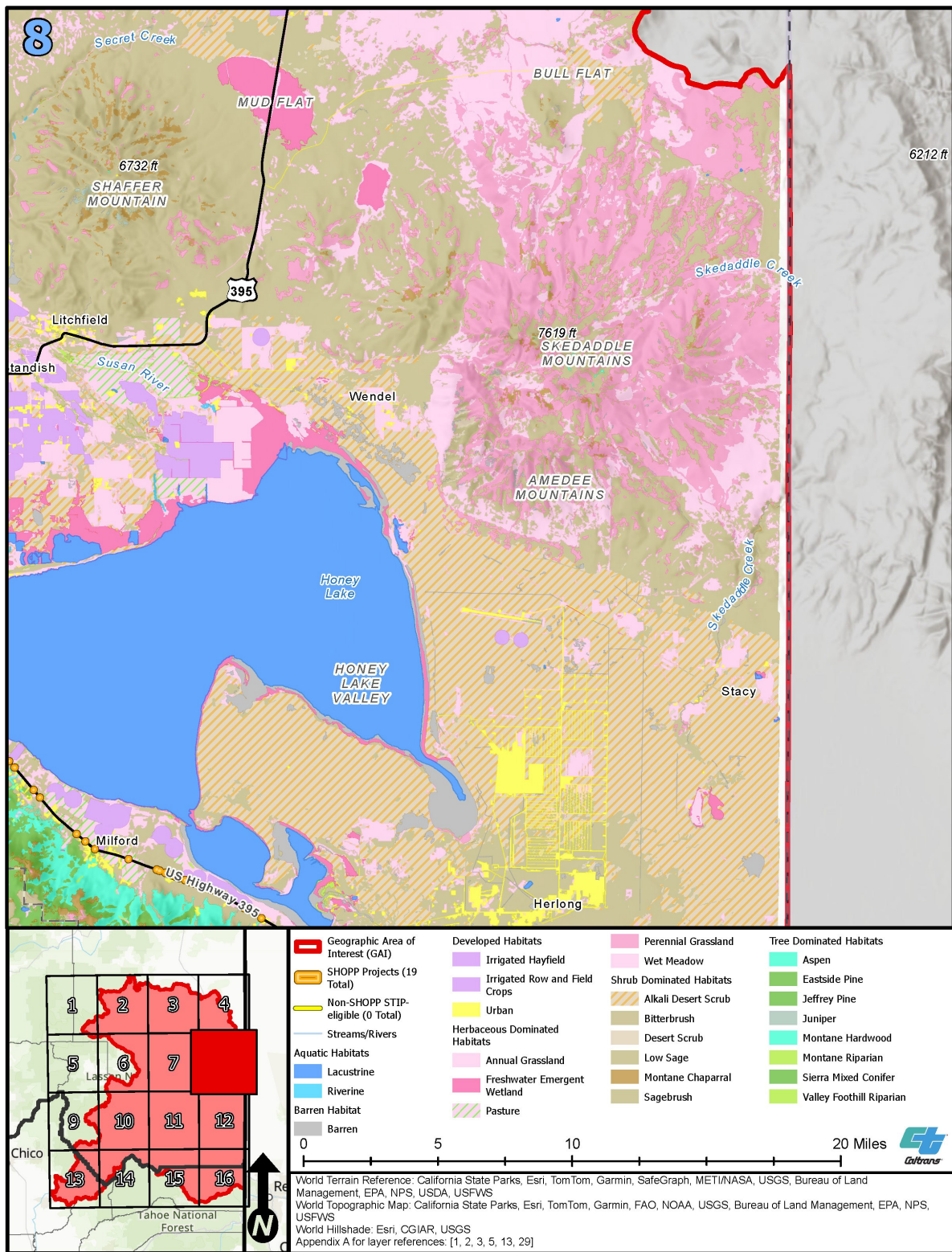


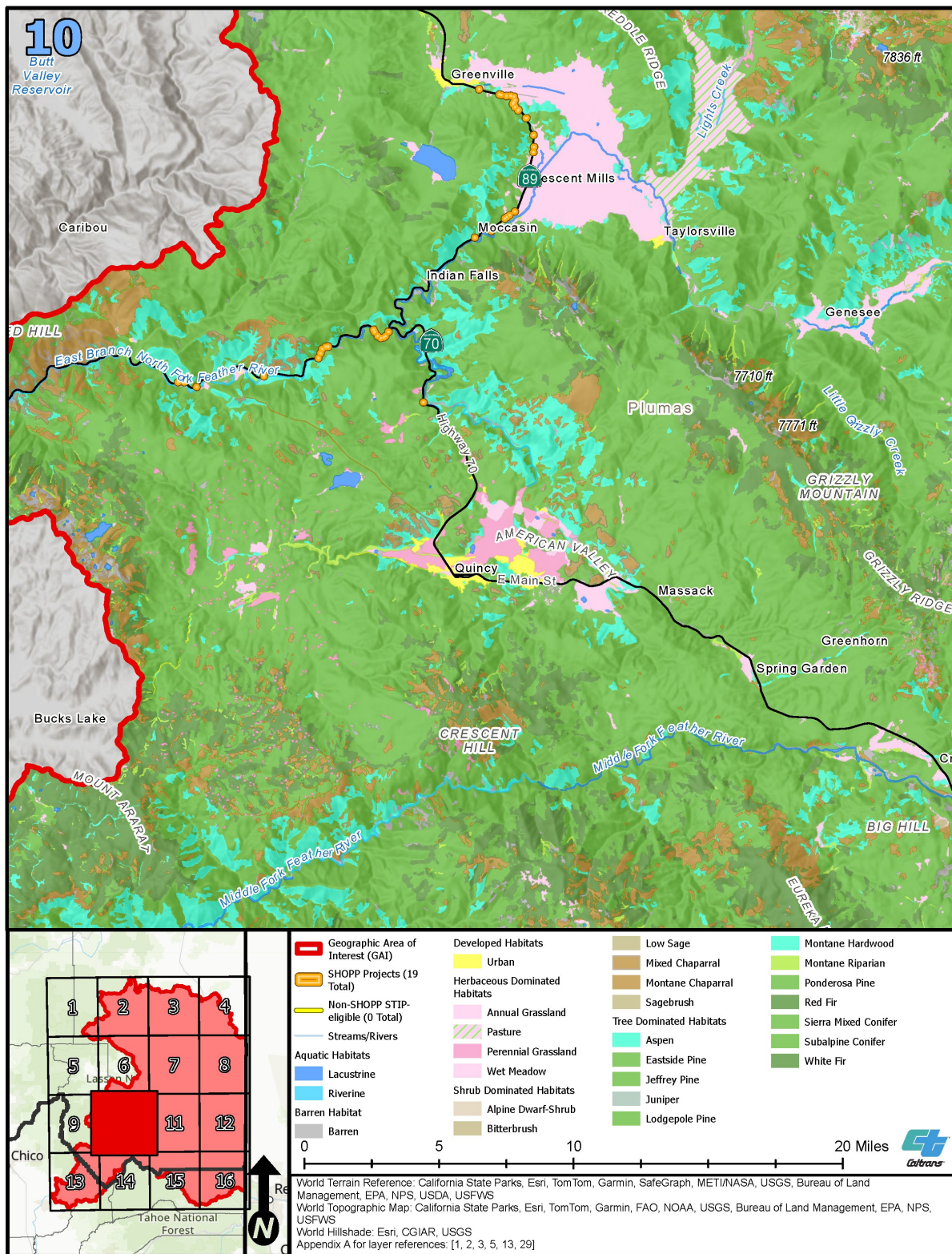


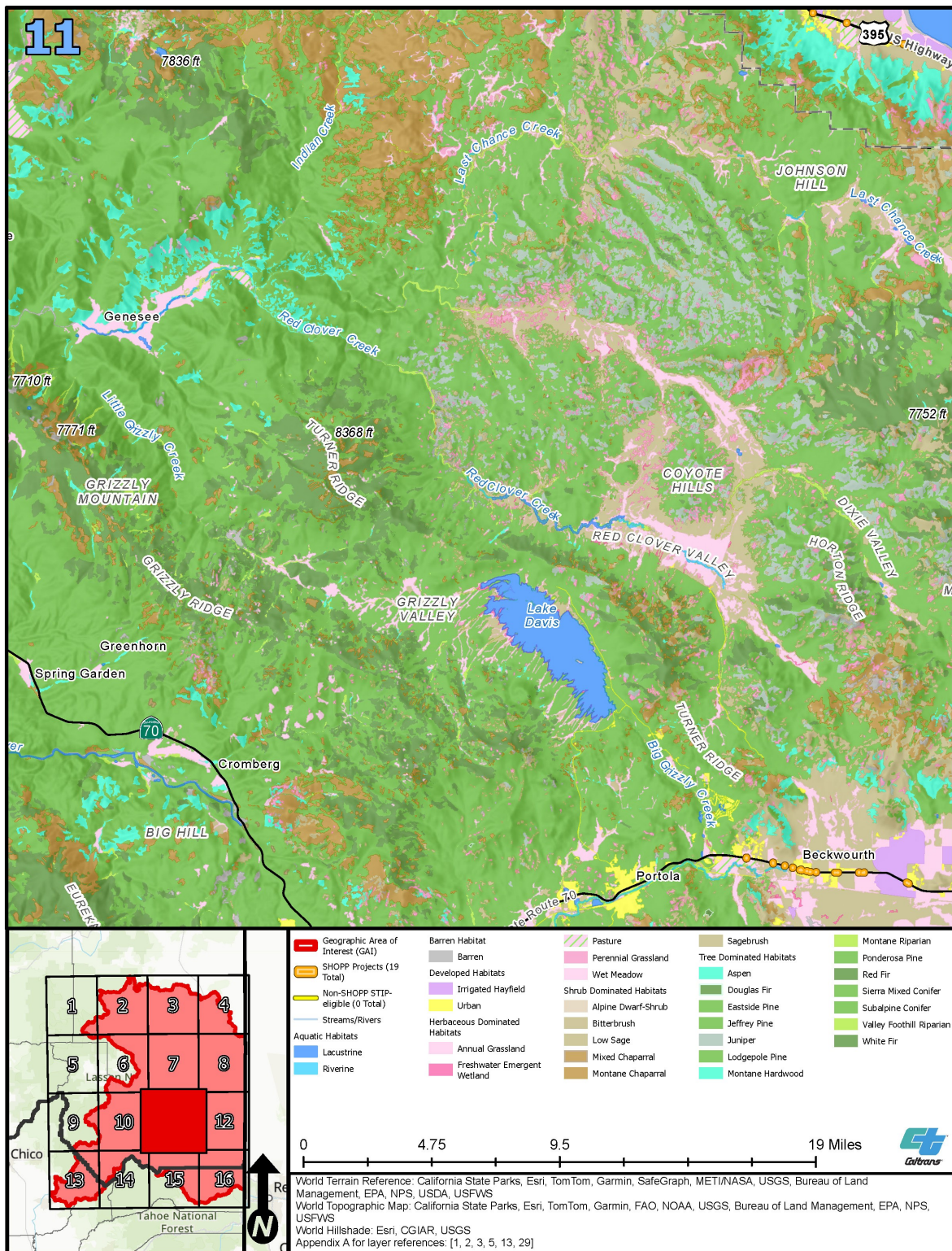


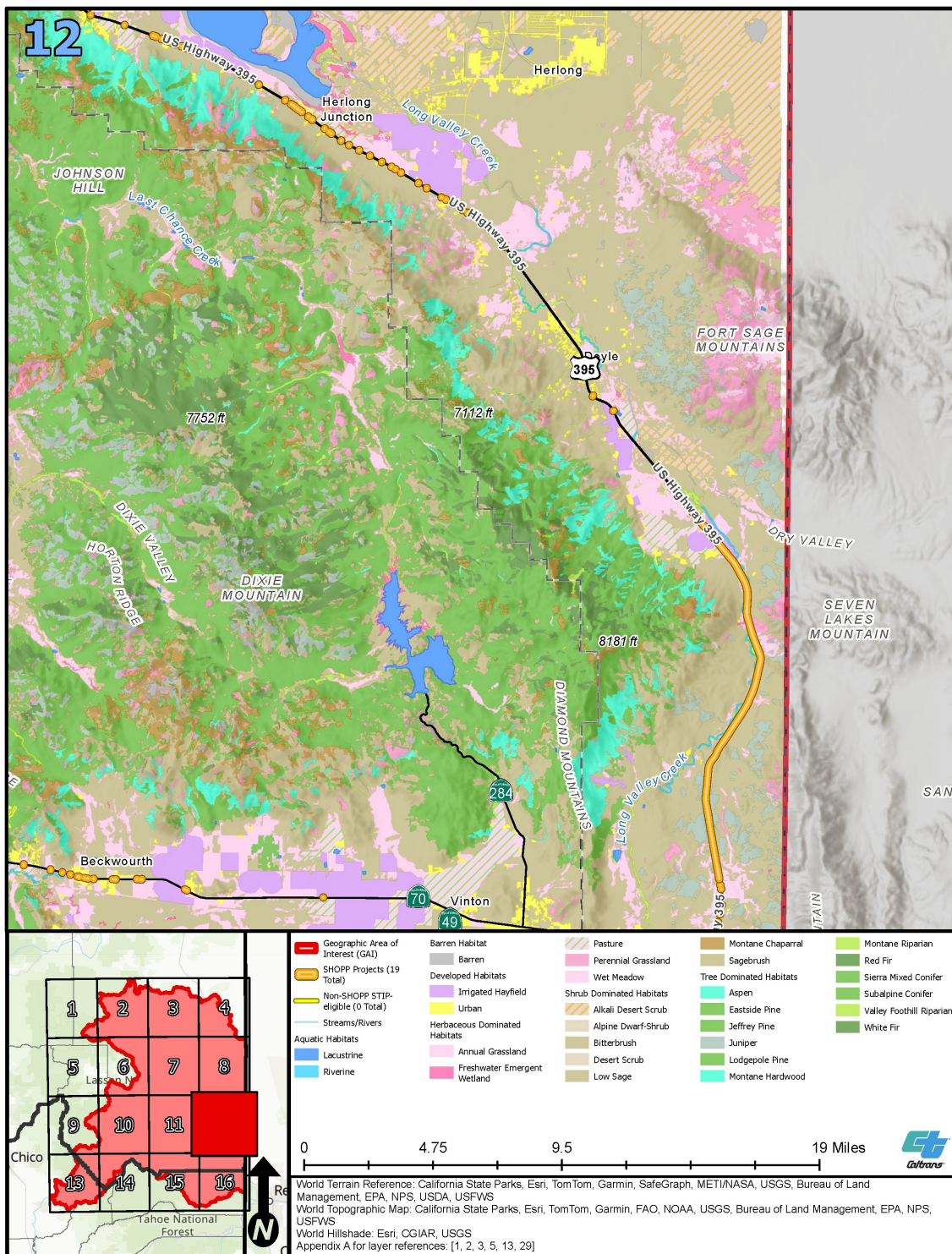


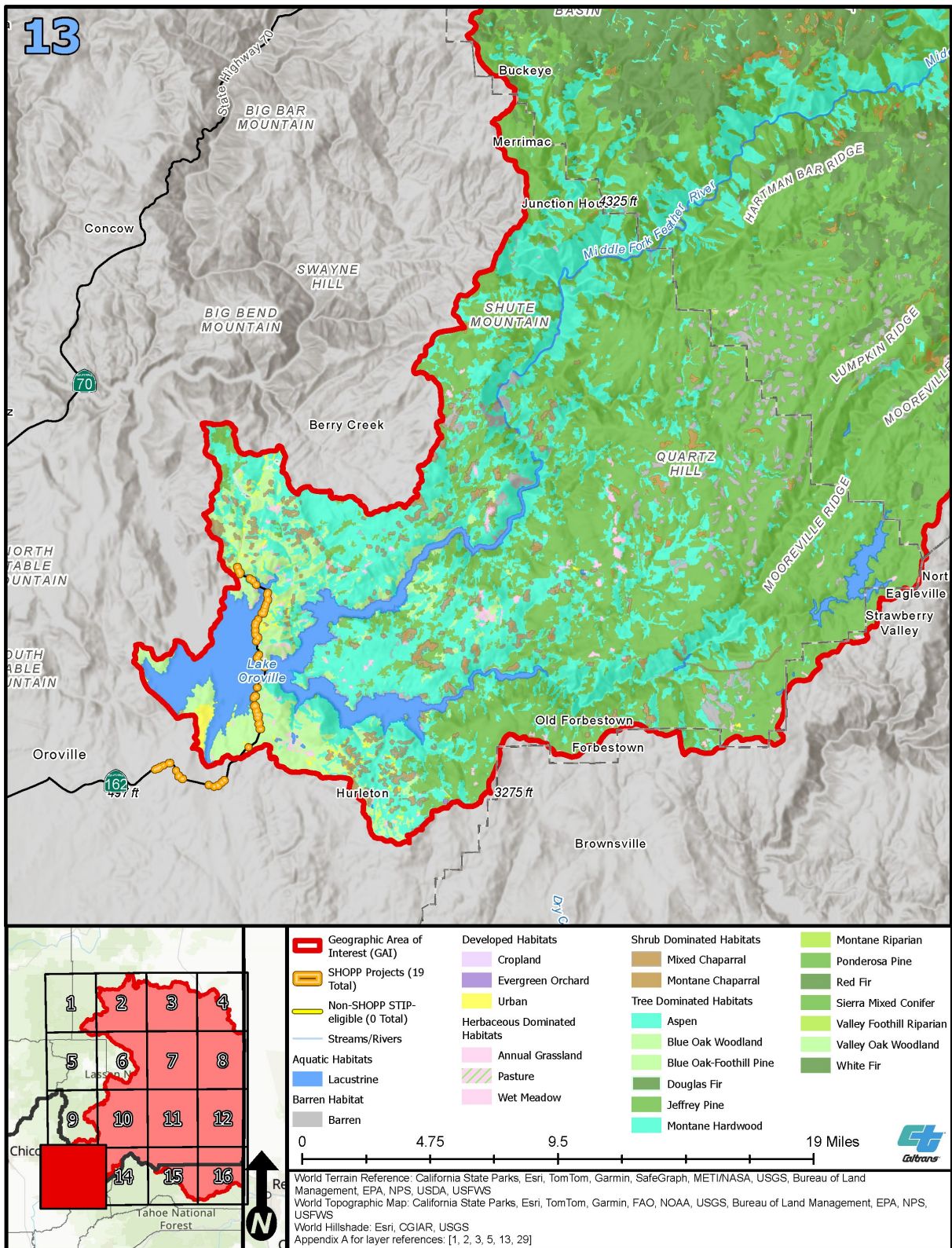


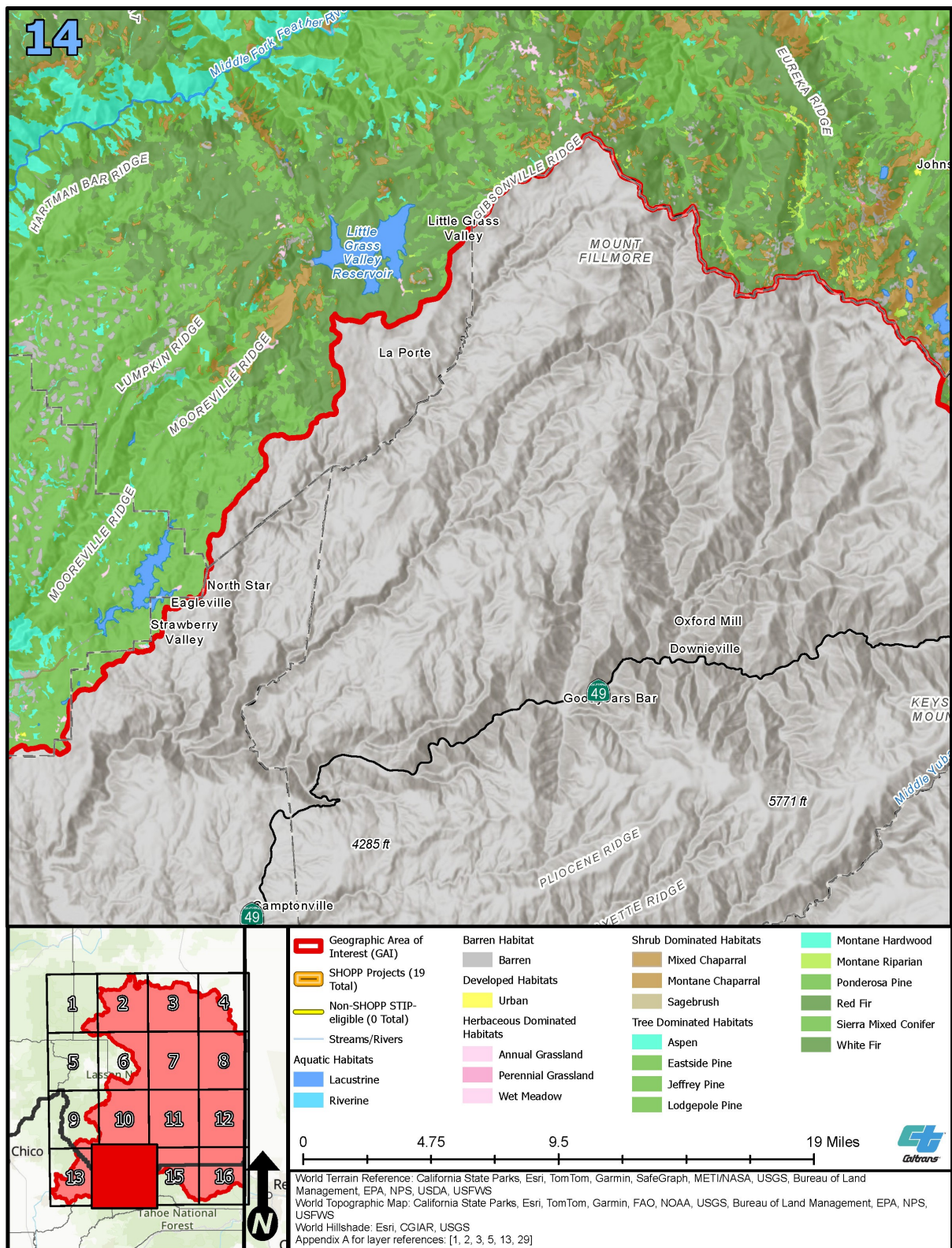


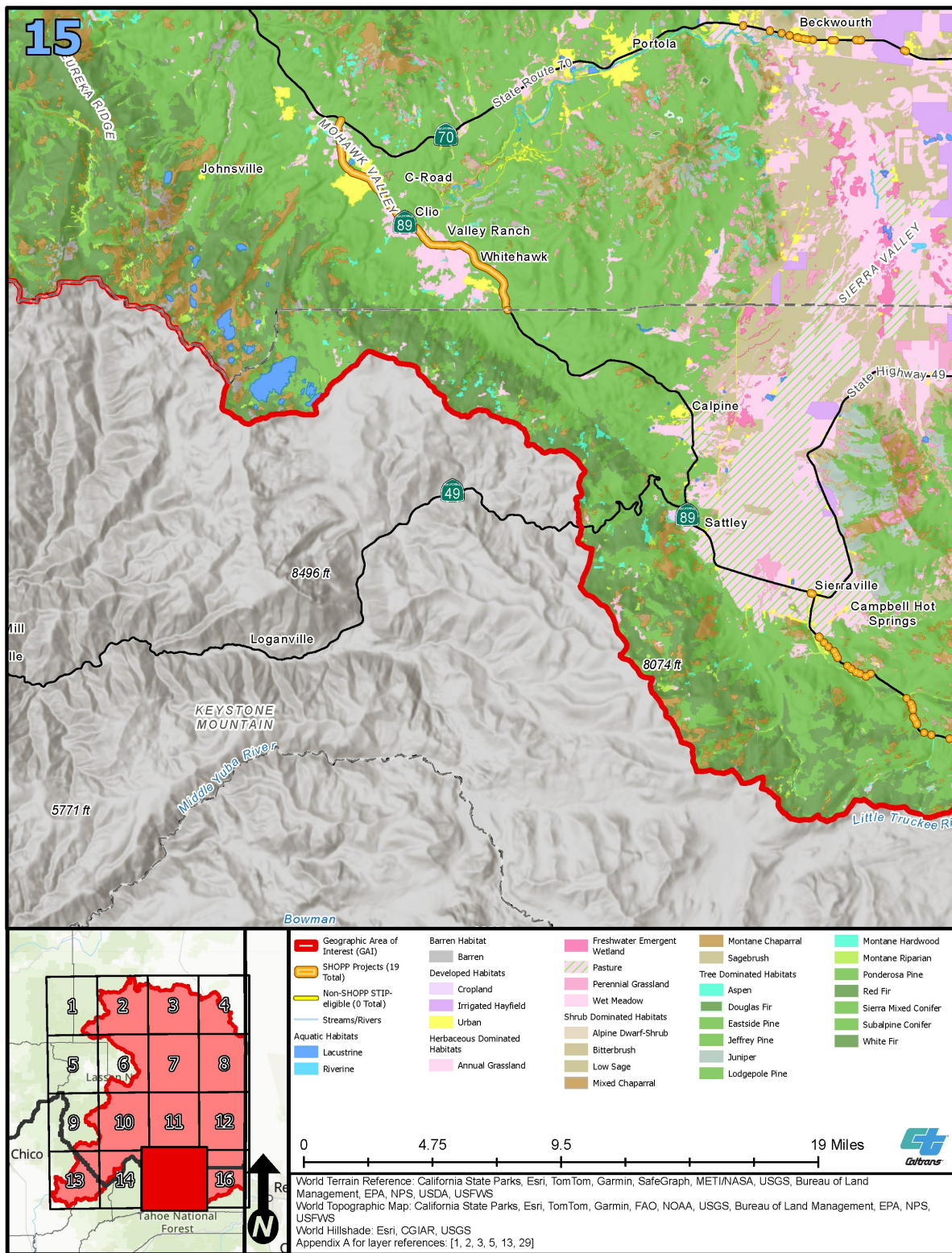


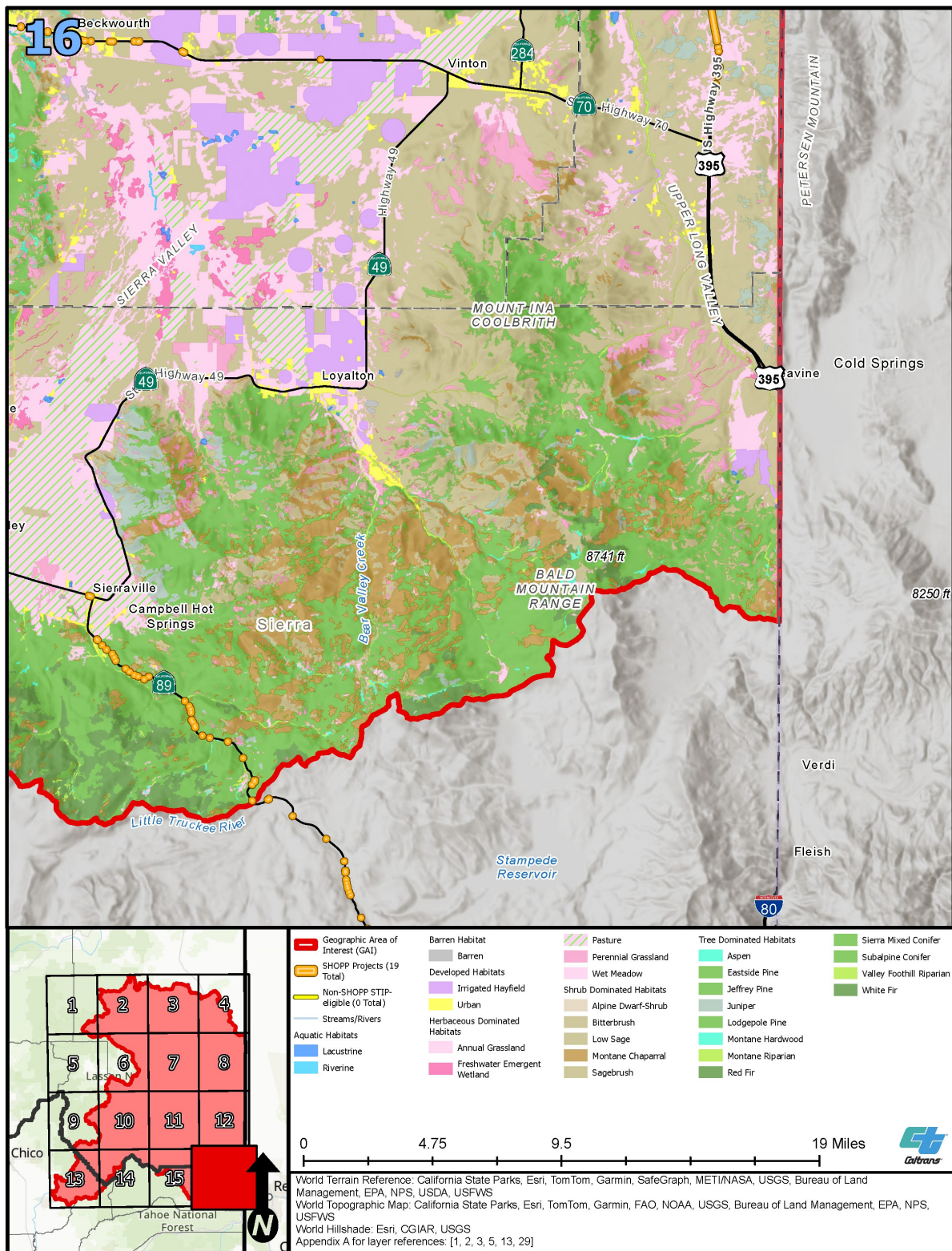












APPENDIX D: COMPLETE SAMNA SPECIES RESULTS

Complete terrestrial species SAMNA results for the GAI are provided in Tables D-1 through D-5, which include SAMNA results for the portions of the Mono Ecoregion Section (starts on page D-3), Northwestern Basin and Range Ecoregion Section (starts on page D-5), Sierra Nevada Ecoregion Section (starts on page D-7), Sierra Nevada Foothills Ecoregion Section (starts on page D-10), for the Southern Cascades Ecoregion Section (starts on page D-11). There are no forecasted impacts for the Modoc Plateau Ecoregion Section within the GAI. The tables list the species for which the SAMNA has enough and the right kind of information to forecast potential impacts from transportation projects conceptualized in long-range transportation plans (Caltrans 2025a). 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 sources¹ 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 within 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 within the GAI, but not in the habitats forecast to be affected by transportation projects.

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

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

Habitats referenced in Tables D-1 through D-5 are mapped in Appendix C, *Land Cover Types*. The terrestrial species of mitigation need for this RAMNA include foothill yellow-legged frog North Feather DPS (*Rana boylei*), Sierra Nevada yellow-legged frog (*Rana sierrae*), Cascades frog (*Rana cascadae*), northwestern pond turtle (*Actinemys marmorata*), golden eagle (*Aquila chrysaetos*), and fisher (*Pekania pennanti*). 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 golden eagle impacts may also provide mitigation to compensate for impacts on other species. Aquatic and riparian habitats are also the focus of this RAMNA. The terrestrial special-status species with the potential to be affected in the GAI were excerpted from Tables D-1 through D-5 and are provided in tables in Chapter 5, *Modeled Estimated Impacts*, of the main text.

References

- Caltrans. 2025a. *Statewide Advance Mitigation Needs Assessment Report Appendix K*. State Highway Operation and Protection Program. First Quarter 2024/2025 Fiscal Year. April. Sacramento, California.
<https://dot.ca.gov/programs/environmental-analysis/biology/advancemitigation>.
- 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 Mono Ecoregion Section in the GAI, by Land Cover (acres)

Common Name	Scientific Name	Status	Annual Grassland	Fresh Emergent Wetland	Juniper	Montane Riparian	Riverine	Sagebrush	Urban	Wet Meadow	Grand Total
Plants	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Tracy's eriastrum	<i>Eriastrum tracyi</i>	FS, SR	0.27	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.27
Webber's ivesia	<i>Ivesia webberi</i>	FE, FS	0.00	0.00	0.00	0.00	0.00	1.91	0.00	0.00	1.91
Reptiles	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
northwestern pond turtle	<i>Actinemys marmorata</i>	FPT, FS, SSC	0.00	0.00	0.00	0.00	0.00	0.00	<0.01	0.00	<0.01
Birds	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
greater sandhill crane	<i>Antigone canadensis tabida</i>	ST, FS, SFP	0.27	0.04	0.00	0.00	0.00	0.00	0.00	0.06	0.36
golden eagle	<i>Aquila chrysaetos</i>	FS, SFS, SFP	0.27	0.04	0.21	0.04	0.00	2.14	0.62	0.06	3.36
short-eared owl	<i>Asio flammeus</i>	SSC	0.27	0.04	0.21	0.04	0.00	2.14	0.00	0.06	2.75
long-eared owl	<i>Asio otus</i>	SSC	0.27	0.00	0.21	0.04	0.00	2.14	0.00	0.06	2.71
burrowing owl	<i>Athene cunicularia</i>	SCE, FS, SSC	0.27	0.00	0.21	0.00	0.00	2.14	0.62	0.06	3.29
redhead	<i>Aythya americana</i>	SSC	0.00	0.04	0.00	0.00	0.03	0.00	0.00	0.00	0.07
Swainson's hawk	<i>Buteo swainsoni</i>	ST, FS	0.27	0.00	0.21	0.00	0.00	2.14	0.62	0.06	3.29
greater sage-grouse	<i>Centrocercus urophasianus</i>	FPT, SCE, FS, SSC	0.00	0.00	0.00	0.00	0.00	2.13	0.00	0.06	2.19
black tern	<i>Chlidonias niger</i>	SSC	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.06	0.10
northern harrier	<i>Circus hudsonius</i>	SSC	0.27	0.04	0.21	0.04	0.03	0.00	0.62	0.06	1.25

Common Name	Scientific Name	Status	Annual Grassland	Fresh Emergent Wetland	Juniper	Montane Riparian	Riverine	Sagebrush	Urban	Wet Meadow	Grand Total
willow flycatcher	<i>Empidonax traillii</i>	SE, FS	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.06	0.10
bald eagle	<i>Haliaeetus leucocephalus</i>	SE, FS, SFP	0.00	0.00	0.00	0.00	0.00	<0.01	0.00	0.00	<0.01
loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	0.27	0.00	0.21	0.04	0.00	2.14	0.62	0.06	3.32
long-billed curlew	<i>Numenius americanus</i>	None	0.27	0.04	0.00	0.00	0.03	0.00	0.00	0.06	0.39
American white pelican	<i>Pelecanus erythrorhynchos</i>	SSC	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.03
yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.00	0.00	0.04	0.00	0.00	0.62	0.00	0.65
yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC	0.27	0.04	0.00	0.00	0.00	0.00	0.00	0.06	0.36
Mammals	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
pallid bat	<i>Antrozous pallidus</i>	FS, SSC	0.27	0.00	0.21	0.04	0.03	2.14	0.62	0.06	3.35
pygmy rabbit	<i>Brachylagus idahoensis</i>	FS, SSC	0.00	0.00	0.00	0.00	0.00	<0.01	0.00	0.00	<0.01
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	0.27	0.00	0.21	0.04	0.03	2.14	0.62	0.06	3.35
spotted bat	<i>Euderma maculatum</i>	FS, SSC	0.27	0.00	0.21	0.04	0.03	2.14	0.62	0.06	3.35
western white-tailed jackrabbit	<i>Lepus townsendii townsendii</i>	SSC	0.00	0.00	0.21	0.00	0.00	2.14	0.00	0.06	2.40
American badger	<i>Taxidea taxus</i>	SSC	0.27	0.00	0.21	0.04	0.00	2.14	0.00	0.06	2.71
Not applicable	Not applicable	Total	0.27	0.04	0.21	0.04	0.03	2.14	0.62	0.06	3.39

Notes: FE = federally endangered, FS = federal sensitive (USFS and/or BLM sensitive), FPT = federally proposed threatened, SE = state endangered, SFP =

state fully protected, SFS = state fire sensitive, SSC = species of special concern (CDFW), ST = state threatened.

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Table D-2. Complete SAMNA Results for the Northwestern Basin and Range Ecoregion Section in the GAI, by Land Cover (acres)

Common Name	Scientific Name	Status	Annual Grassland	Bitterbrush	Irrigated Hayfield	Low Sage	Montane Hardwood	Montane Riparian	Pasture	Perennial Grassland	Sagebrush	Urban	Valley Foothill Riparian	Wet Meadow	Grand Total
Plants	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Tracy's eriastrum	<i>Eriastrum tracyi</i>	FS, SR	0.42	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
Boggs Lake hedge-hyssop	<i>Gratiola heterosepaia</i>	SE, FS	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42
Webber's ivesia	<i>Ivesia webberi</i>	FE, FS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.43
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
western bumble bee	<i>Bombus occidentalis</i>	SCE, FS	0.05	0.09	0.00	0.19	0.00	0.00	0.07	0.00	0.02	0.19	0.00	0.01	0.62
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
northwestern pond turtle	<i>Actinemys marmorata</i>	FPT, FS, SSC	0.42	0.00	0.00	0.00	0.05	<0.01	0.34	0.00	0.00	2.17	<0.01	0.02	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
American goshawk	<i>Astur atricapillus</i>	FS, SSC, SFS	0.00	0.03	0.00	0.00	0.05	<0.01	0.00	0.00	1.16	0.00	<0.01	0.00	1.24
tricolored blackbird	<i>Agelaius tricolor</i>	ST, FS, SSC	0.31	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	1.11	<0.01	0.02	1.63
greater sandhill crane	<i>Antigone canadensis tabida</i>	ST, FS, SFP	0.42	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<0.01	0.06	0.70
golden eagle	<i>Aquila chrysaetos</i>	FS, SFS, SFP	0.42	0.20	0.22	0.19	0.05	<0.01	0.34	0.03	1.71	2.27	<0.01	0.06	5.49
short-eared owl	<i>Asio flammeus</i>	SSC	0.42	0.20	0.22	0.19	0.00	<0.01	0.00	0.03	1.71	0.00	<0.01	0.06	2.83
long-eared owl	<i>Asio otus</i>	SSC	0.42	0.20	0.22	0.19	0.05	<0.01	0.34	0.03	1.71	0.00	<0.01	0.06	3.22
burrowing owl	<i>Athene cunicularia</i>	SCE, FS, SSC	0.42	0.20	0.22	0.19	0.00	0.00	0.34	0.03	1.71	2.18	<0.01	0.06	5.35
Swainson's hawk	<i>Buteo swainsoni</i>	ST, FS	0.42	0.20	0.22	0.19	0.05	<0.01	0.34	0.03	1.71	2.18	<0.01	0.06	5.39
greater sage-grouse	<i>Centrocercus urophasianus</i>	FPT, SCE, FS, SSC	0.00	0.00	0.00	0.00	0.00	<0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.04
Vaux's swift	<i>Chaetura vauxi</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
black tern	<i>Chlidonias niger</i>	SSC	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.27
northern harrier	<i>Circus hudsonius</i>	SSC	0.42	0.20	0.22	0.19	0.05	0.00	0.00	0.03	0.00	2.18	<0.01	0.06	3.35
willow flycatcher	<i>Empidonax traillii</i>	SE, FS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<0.01	0.06	0.06
American peregrine falcon	<i>Falco peregrinus anatum</i>	FS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<0.01	0.09	0.00	0.00	0.09
bald eagle	<i>Haliaeetus leucocephalus</i>	SE, FS, SFP	0.42	0.20	0.00	0.19	0.05	<0.01	0.00	0.00	1.71	0.00	<0.01	0.02	2.59
loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	0.42	0.20	0.22	0.19	0.05	<0.01	0.00	0.03	1.71	2.18	<0.01	0.06	5.05
long-billed curlew	<i>Numenius americanus</i>	None	0.42	0.00	0.22	0.00	0.00	0.00	0.00	0.03	0.00	0.00	<0.01	0.06	0.73
purple martin	<i>Progne subis</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.09
bank swallow	<i>Riparia riparia</i>	ST, FS	0.06	0.11	0.00	0.07	0.00	0.00	0.00	0.00	0.02	0.19	0.00	0.01	0.47

Common Name	Scientific Name	Status	Annual Grassland	Bitterbrush	Irrigated Hayfield	Low Sage	Montane Hardwood	Montane Riparian	Pasture	Perennial Grassland	Sagebrush	Urban	Valley Foothill Riparian	Wet Meadow	Grand Total
yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.00	0.22	0.00	0.05	<0.01	0.00	0.00	0.00	2.27	<0.01	0.00	2.54
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	0.00	0.00	0.00	0.00	0.05	<0.01	0.00	0.00	0.00	0.00	<0.01	0.00	0.05
yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC	0.42	0.00	0.22	0.00	0.00	0.00	0.34	0.03	0.00	0.00	0.00	0.06	1.07
Mammals	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
pallid bat	<i>Antrozous pallidus</i>	FS, SSC	0.42	0.20	0.22	0.19	0.05	<0.01	0.34	0.03	1.71	2.27	<0.01	0.06	5.49
pygmy rabbit	<i>Brachylagus idahoensis</i>	FS, SSC	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	1.71	0.00	0.00	0.00	1.90
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	0.42	0.20	0.22	0.19	0.05	<0.01	0.34	0.03	1.71	2.27	<0.01	0.06	5.49
spotted bat	<i>Euderma maculatum</i>	FS, SSC	0.42	0.20	0.00	0.19	0.00	<0.01	0.00	0.03	1.71	2.27	<0.01	0.06	4.88
Sierra Nevada snowshoe hare	<i>Lepus americanus tahoensis</i>	SSC	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
western white-tailed jackrabbit	<i>Lepus townsendii townsendii</i>	SSC	0.00	0.00	0.22	0.19	0.00	0.00	0.00	0.03	1.71	0.00	0.00	0.06	2.21
American badger	<i>Taxidea taxus</i>	SSC	0.42	0.20	0.22	0.19	0.05	<0.01	0.34	0.03	1.71	0.00	<0.01	0.06	3.22
Not applicable	Not applicable	Total	0.42	0.20	0.22	0.19	0.05	<0.01	0.34	0.03	1.71	2.27	<0.01	0.06	5.49

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

Table D-3. Complete SAMNA Results for the Sierra Nevada Ecoregion Section in the GAI, by Land Cover (acres)

Common Name	Scientific Name	Status	Annual Grassland	Aspen	Barren	Bitterbrush	Eastside Pine	Jeffrey Pine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood- Conifer	Montane Riparian	Pasture	Perennial Grassland	Ponderosa Pine	Riverine	Sagebrush	Sierran Mixed Conifer	Urban	Wet Meadow	Grand Total
Plants	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Webber's ivesia	<i>Ivesia webberi</i>	FE, FS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.75
Invertebrates	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
western bumble bee	<i>Bombus occidentalis</i>	SCE, FS	2.54	0.49	1.73	0.15	2.94	0.77	0.40	0.05	0.00	0.54	0.56	0.11	1.96	0.08	0.01	3.96	2.58	1.59	0.71	21.18
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
southern long-toed salamander	<i>Ambystoma macrodactylum sigillatum</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.54	0.50	0.00	0.00	0.08	0.00	0.00	2.29	0.00	0.71	4.32
northern leopard frog	<i>Lithobates pipiens</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.20
Foothill yellow-legged frog North Feather DPS	<i>Rana boylei</i>	FT, ST, FS	2.54	0.00	0.00	0.00	0.00	0.00	0.40	0.05	0.00	0.54	0.56	0.00	0.00	0.08	0.01	0.00	2.58	0.00	0.71	7.48
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.35
Sierra Nevada yellow- legged frog	<i>Rana sierrae</i>	FE, FT, FS	0.00	0.15	0.00	0.00	0.00	0.76	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.08	0.01	0.00	0.74	0.00	0.00	2.08
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
northwestern pond turtle	<i>Actinemys marmorata</i>	FPT, FS, SSC	2.54	0.00	0.00	0.00	0.00	0.00	0.40	0.05	0.00	0.54	0.56	0.11	0.00	0.08	0.01	0.00	2.58	0.91	0.71	8.50
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
American goshawk	<i>Astur atricapillus</i>	FS, SSC, SFS	0.00	0.49	0.00	0.15	2.94	0.77	0.40	0.05	0.00	0.54	0.56	0.00	0.00	0.08	0.00	3.22	2.58	0.00	0.00	11.79
greater sandhill crane	<i>Antigone canadensis tabida</i>	ST, FS, SFP	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	3.25
golden eagle	<i>Aquila chrysaetos</i>	FS, SFS, SFP	2.54	0.00	1.73	0.15	2.94	0.77	0.40	0.05	0.00	0.54	0.56	0.11	1.96	0.08	0.00	3.97	2.58	1.60	0.71	20.69
short-eared owl	<i>Asio flammeus</i>	SSC	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.06	0.00	0.00	0.83
long-eared owl	<i>Asio otus</i>	SSC	2.54	0.49	0.00	0.15	2.94	0.00	0.40	0.05	0.00	0.54	0.56	0.11	1.96	0.08	0.00	3.97	2.58	0.00	0.71	17.08
burrowing owl	<i>Athene cunicularia</i>	SCE, FS, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.36	0.00	0.34	0.00	0.81

Common Name	Scientific Name	Status	Annual Grassland	Aspen	Barren	Bitterbrush	Eastside Pine	Jeffrey Pine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood- Conifer	Montane Riparian	Pasture	Perennial Grassland	Ponderosa Pine	Riverine	Sagebrush	Sierran Mixed Conifer	Urban	Wet Meadow	Grand Total
Swainson's hawk	<i>Buteo swainsoni</i>	ST, FS	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.36	0.00	0.34	0.00	0.83
Vaux's swift	<i>Chaetura vauxi</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.74	0.40	0.00	0.00	0.54	0.50	0.00	1.96	0.08	0.01	0.00	2.29	0.91	0.71	8.15
black tern	<i>Chlidonias niger</i>	SSC	0.00	0.00	1.08	0.15	1.71	0.74	0.00	0.00	0.00	0.05	0.00	0.00	1.96	0.00	0.00	0.00	0.33	0.34	0.00	6.36
northern harrier	<i>Circus hudsonius</i>	SSC	0.00	0.49	0.00	0.00	2.92	0.77	0.40	0.00	0.00	0.54	0.56	0.00	0.00	0.08	0.00	0.00	2.53	0.00	0.00	8.29
olive-sided flycatcher	<i>Contopus cooperi</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	1.26
willow flycatcher	<i>Empidonax traillii</i>	SE, FS	2.54	0.00	1.73	0.15	2.94	0.77	0.40	0.05	0.00	0.54	0.56	0.00	1.96	0.08	0.01	3.61	2.58	1.30	0.71	19.93
American peregrine falcon	<i>Falco peregrinus anatum</i>	FS	2.54	0.49	1.73	0.15	2.94	0.77	0.40	0.05	0.00	0.54	0.56	0.00	1.96	0.08	0.01	3.97	2.58	0.00	0.71	19.48
bald eagle	<i>Haliaeetus leucocephalus</i>	SE, FS, SFP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01
harlequin duck	<i>Histrionicus histrionicus</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.30	0.00	0.66
yellow-breasted chat	<i>Icteria virens</i>	SSC	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.50	0.00	1.96	0.08	0.01	0.00	2.34	0.95	0.71	9.63
loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	0.00	0.49	0.00	0.00	2.94	0.77	0.40	0.05	0.00	0.54	0.56	0.00	0.00	0.08	0.00	0.00	2.58	1.60	0.00	10.02
long-billed curlew	<i>Numenius americanus</i>	None	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.53	0.00	0.71	3.23
purple martin	<i>Progne subis</i>	SSC	0.00	0.49	0.00	0.00	2.89	0.77	0.00	0.00	0.00	0.54	0.56	0.00	0.00	0.08	0.00	0.00	2.38	0.00	0.00	7.72
bank swallow	<i>Riparia riparia</i>	ST, FS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	1.96	0.00	0.00	0.00	0.00	0.00	0.00	2.07
yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.49	0.00	0.15	2.94	0.77	0.40	0.05	0.00	0.54	0.56	0.00	0.00	0.08	0.00	3.22	2.58	0.00	0.00	11.79
great gray owl	<i>Strix nebulosa</i>	SE, FS, SFS	2.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	3.25
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	2.54	0.00	1.73	0.15	2.94	0.77	0.40	0.05	0.00	0.54	0.56	0.11	1.96	0.08	0.00	3.97	2.58	1.60	0.71	20.69
yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	SSC	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.06	0.00	0.00	0.83
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
pallid bat	<i>Antrozous pallidus</i>	FS, SSC	3.28	0.00	2.60	0.15	2.94	0.96	0.40	0.05	<0.01	0.63	0.63	0.00	0.00	0.24	0.00	0.00	3.24	0.00	0.00	15.22
Point Arena mountain beaver	<i>Aplodontia rufa nigra</i>	FE, SSC	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.63	0.63	0.00	3.17	0.24	0.01	4.48	3.34	2.43	0.80	15.89
pygmy rabbit	<i>Brachylagus idahoensis</i>	FS, SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.63	0.14	3.17	0.24	0.01	4.48	3.34	2.43	0.80	15.88

Common Name	Scientific Name	Status	Annual Grassland	Aspen	Barren	Bitterbrush	Eastside Pine	Jeffrey Pine	Mixed Chaparral	Montane Chaparral	Montane Hardwood	Montane Hardwood- Conifer	Montane Riparian	Pasture	Perennial Grassland	Ponderosa Pine	Riverine	Sagebrush	Sierran Mixed Conifer	Urban	Wet Meadow	Grand Total
gray wolf	<i>Canis lupus</i>	FE, SE	2.16	0.41	0.20	0.00	0.99	0.03	0.00	0.05	0.00	0.63	0.63	0.14	3.17	0.24	0.01	4.48	3.34	2.43	0.80	19.83
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	3.28	0.49	2.60	0.15	2.94	0.96	0.40	0.05	<0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	11.32
spotted bat	<i>Euderma maculatum</i>	FS, SSC	3.28	0.00	0.00	0.15	2.94	0.96	0.00	0.05	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.00	3.24	0.00	0.00	11.19
wolverine	<i>Gulo gulo</i>	FT, ST, FS, SFP	0.00	0.00	1.50	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00	3.17	0.00	0.00	4.42	0.00	0.00	0.10	9.96
Sierra Nevada snowshoe hare	<i>Lepus americanus tahoensis</i>	SSC	0.00	0.40	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.63	0.63	0.14	3.17	0.24	0.00	4.48	3.34	0.00	0.80	14.01
western white-tailed jackrabbit	<i>Lepus townsendii townsendii</i>	SSC	0.00	0.00	0.00	0.00	2.14	0.96	0.00	0.00	0.00	0.22	0.56	0.14	0.00	0.00	0.00	0.11	0.71	1.22	0.80	6.95
fisher	<i>Pekania pennanti</i>	FS, SSC	0.00	0.49	0.00	0.00	2.89	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.09	0.00	0.00	4.59
American badger	<i>Taxidea taxus</i>	SSC	3.28	0.49	2.60	0.15	2.94	0.96	0.40	0.05	<0.01	0.00	0.00	0.00	3.17	0.00	0.00	0.00	0.00	0.00	0.00	14.14
Not applicable	Not applicable	Total	3.28	0.49	2.60	0.15	2.94	0.96	0.40	0.05	<0.01	0.63	0.63	0.14	3.17	0.24	0.01	4.48	3.34	2.43	0.80	26.85

Notes: FE = federally endangered, FS = federal sensitive (USFS and/or BLM sensitive), FPT = federally proposed threatened, 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

Table D-4. Complete SAMNA Results for the Sierra Nevada Foothills Ecoregion Section in the GAI, by Land Cover (acres)

Common Name	Scientific Name	Status	Annual Grassland	Blue Oak Woodland	Blue Oak-Foothill Pine; Blue Oak Woodland	Mixed Chaparral	Montane Hardwood	Urban	Valley Foothill Riparian	Grand Total
Amphibians	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
Foothill yellow-legged frog North Feather DPS	<i>Rana boylei</i>	FT, ST, FS	1.67	0.03	1.68	0.02	0.47	0.00	0.15	4.02
California red-legged frog	<i>Rana draytonii</i>	FT, SSC	1.67	0.03	1.68	0.02	0.47	0.00	0.15	4.02
Reptiles	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
northwestern pond turtle	<i>Actinemys marmorata</i>	FPT, FS, SSC	1.67	0.03	1.68	0.02	0.47	0.10	0.15	4.12
coast horned lizard	<i>Phrynosoma blainvilli</i>	FS, SSC	1.67	0.03	1.68	0.02	0.00	0.00	0.15	3.55
Birds	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
tricolored blackbird	<i>Agelaius tricolor</i>	ST, FS, SSC	1.67	0.00	0.00	0.00	0.00	0.10	0.15	1.92
grasshopper sparrow	<i>Ammodramus savannarum</i>	SSC	1.67	0.00	0.00	0.00	0.00	0.00	0.00	1.67
golden eagle	<i>Aquila chrysaetos</i>	FS, SFS, SFP	1.67	0.03	1.68	0.02	0.47	0.10	0.15	4.12
long-eared owl	<i>Asio otus</i>	SSC	1.67	0.03	1.68	0.02	0.47	0.00	0.15	4.02
black swift	<i>Cypseloides niger</i>	SSC	0.71	0.03	0.96	0.00	0.39	0.10	0.15	2.34
white-tailed kite	<i>Elanus leucurus</i>	FS, SFP	1.67	0.03	1.68	0.02	0.00	0.10	0.15	3.65
willow flycatcher	<i>Empidonax traillii</i>	SE, FS	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.15
bald eagle	<i>Haliaeetus leucocephalus</i>	SE, FS, SFP	1.67	0.03	1.68	0.02	0.47	0.00	0.15	4.02
yellow-breasted chat	<i>Icteria virens</i>	SSC	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.15
loggerhead shrike	<i>Lanius ludovicianus</i>	SSC	1.67	0.03	1.68	0.02	0.47	0.10	0.15	4.12
yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.03	1.68	0.02	0.47	0.10	0.15	2.45
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	0.00	0.00	1.68	0.00	0.47	0.00	0.15	2.29
Mammals	See below	See below	See below	See below	See below	See below	See below	See below	See below	See below
pallid bat	<i>Antrozous pallidus</i>	FS, SSC	1.67	0.03	1.68	0.02	0.47	0.10	0.15	4.12
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	1.67	0.03	1.68	0.02	0.47	0.10	0.15	4.12
spotted bat	<i>Euderma maculatum</i>	FS, SSC	1.67	0.03	1.68	0.00	0.00	0.10	0.15	3.63
western mastiff bat	<i>Eumops perotis californicus</i>	FS, SSC	1.67	0.03	1.68	0.02	0.47	0.10	0.15	4.12
western red bat	<i>Lasiurus frantzii</i>	SSC	1.67	0.03	1.68	0.02	0.47	0.10	0.15	4.12
American badger	<i>Taxidea taxus</i>	SSC	1.67	0.03	1.68	0.02	0.47	0.00	0.15	4.02
Not applicable	Not applicable	Total	1.67	0.03	1.68	0.02	0.47	0.10	0.15	4.12

Notes: FE = federally endangered, FS = federal sensitive (USFS and/or BLM sensitive), FPT = federally proposed threatened, 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

**Table D-5. Complete SAMNA Results for the Southern Cascades Ecoregion
Section in the GAI, by Land Cover (acres)**

Common Name	Scientific Name	Status	Barren	Bitterbrush	Eastside Pine	Sagebrush	Grand Total
Invertebrates	See below	See below	See below	See below	See below	See below	See below
western bumble bee	<i>Bombus occidentalis</i>	SCE, FS	1.34	0.58	0.81	1.56	4.29
Birds	See below	See below	See below	See below	See below	See below	See below
American goshawk	<i>Astur atricapillus</i>	FS, SSC, SFS	0.00	0.58	0.81	1.56	2.95
golden eagle	<i>Aquila chrysaetos</i>	FS, SFS, SFP	1.34	0.58	0.81	1.56	4.29
long-eared owl	<i>Asio otus</i>	SSC	0.00	0.58	0.81	1.56	2.95
burrowing owl	<i>Athene cunicularia</i>	SCE, FS, SSC	1.29	0.58	0.00	1.44	3.31
northern harrier	<i>Circus hudsonius</i>	SSC	0.00	0.00	0.81	0.00	0.81
olive-sided flycatcher	<i>Contopus cooperi</i>	SSC	1.34	0.58	0.81	1.56	4.29
American peregrine falcon	<i>Falco peregrinus anatum</i>	FS	1.34	0.58	0.81	1.56	4.29
bald eagle	<i>Haliaeetus leucocephalus</i>	SE, FS, SFP	1.29	0.00	0.00	0.00	1.29
American white pelican	<i>Pelecanus erythrorhynchos</i>	SSC	0.00	0.00	0.81	0.00	0.81
yellow warbler	<i>Setophaga petechia</i>	SSC	0.00	0.58	0.81	1.56	2.95
California spotted owl	<i>Strix occidentalis occidentalis</i>	FS, SSC	1.34	0.58	0.81	1.56	4.29
Mammals	See below	See below	See below	See below	See below	See below	See below
pallid bat	<i>Antrozous pallidus</i>	FS, SSC	1.34	0.58	0.81	1.56	4.29
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FS, SSC	1.34	0.58	0.81	1.56	4.29
spotted bat	<i>Euderma maculatum</i>	FS, SSC	0.00	0.58	0.81	1.56	2.95
western white-tailed jackrabbit	<i>Lepus townsendii townsendii</i>	SSC	0.00	0.00	0.81	1.56	2.36
Fisher	<i>Pekania pennanti</i>	FS, SSC	0.00	0.00	0.81	0.00	0.81
American badger	<i>Taxidea taxus</i>	SSC	1.34	0.58	0.81	1.56	4.29
Not applicable	Not applicable	Total	1.34	0.58	0.81	1.56	4.29

Notes: FE = federally endangered, FS = federal sensitive (USFS and/or BLM sensitive), SCE = state candidate endangered, SE = state endangered, SFP = state fully protected, SFS = state fire sensitive, SSC = species of special concern (CDFW)

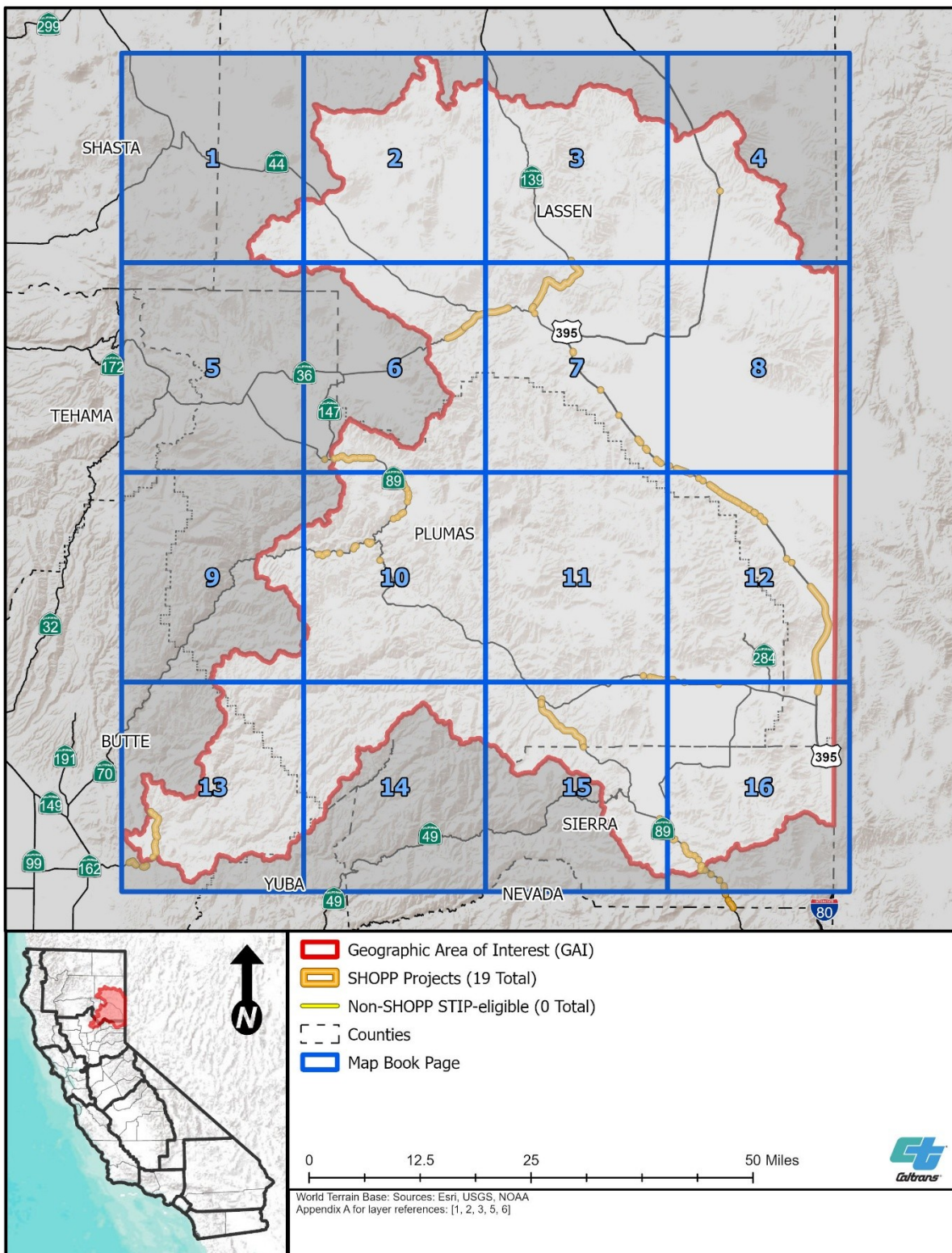
APPENDIX E: AQUATIC RESOURCE LOCATIONS

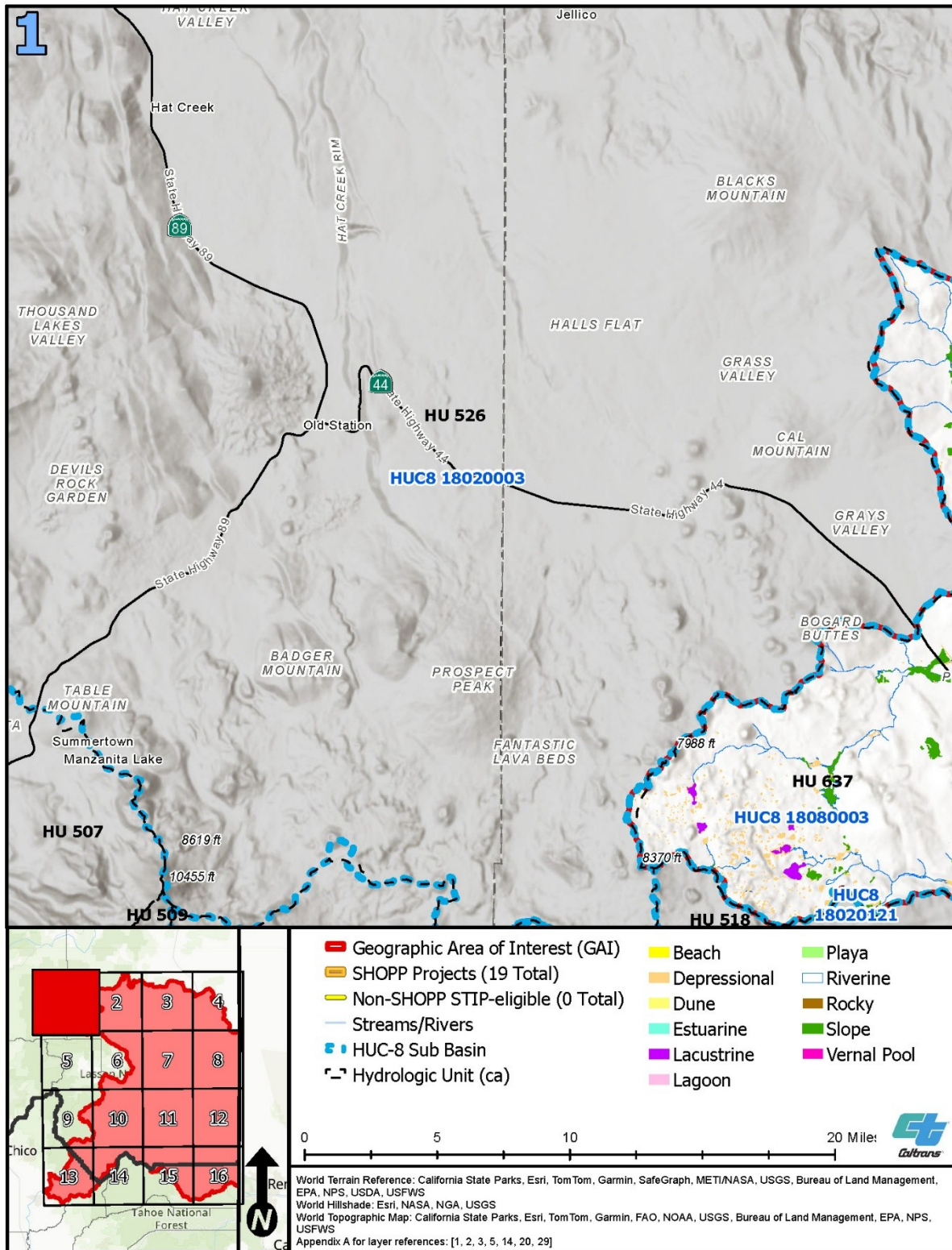
Aquatic resource locations are shown by HUC-8 sub-basin and HU in the following maps, which also include major landmarks for perspective. These locations were excerpted from the SAMNA Reporting Tool's water and wetland layers (Caltrans 2025c). HUs are described in Section 2.11 of the main text, which includes a crosswalk table of HUC-8 sub-basins and HUs. These 16 maps correspond with the land cover maps in Appendix C, *Land Cover Types*. Hydrologic units are described in Chapter 2 *Environmental Setting*, which includes a crosswalk table of HUC-8 subbasins and HUs (Table 2-4).

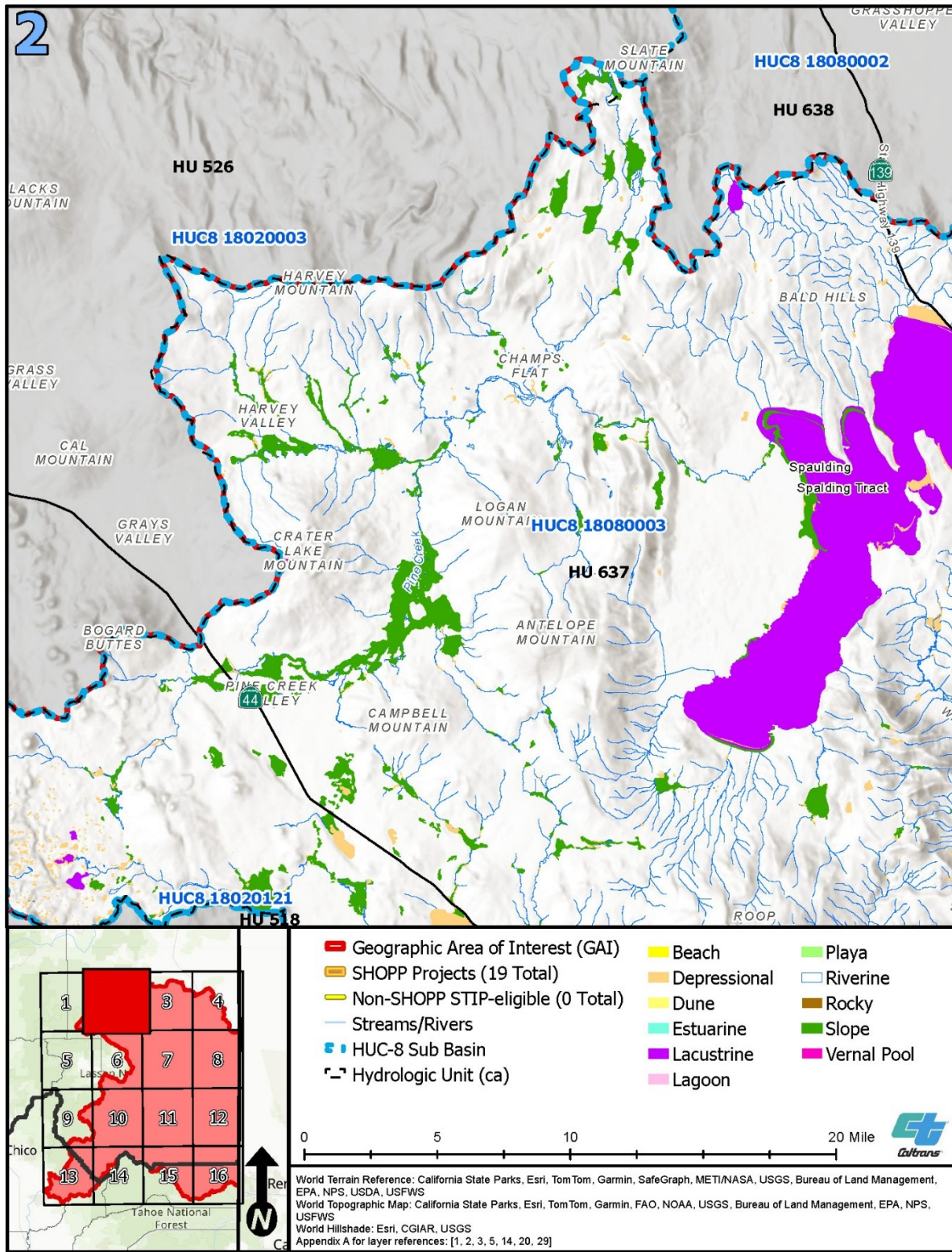
Few sources of information are known to be available that can be used to describe existing and relevant wetland, riparian, and littoral resources. The SAMNA Aquatic/Riparian Geospatial Data is comprised of data from two special San Francisco Estuary Institute projects, the Caltrans-CARl v2.0 and Caltrans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

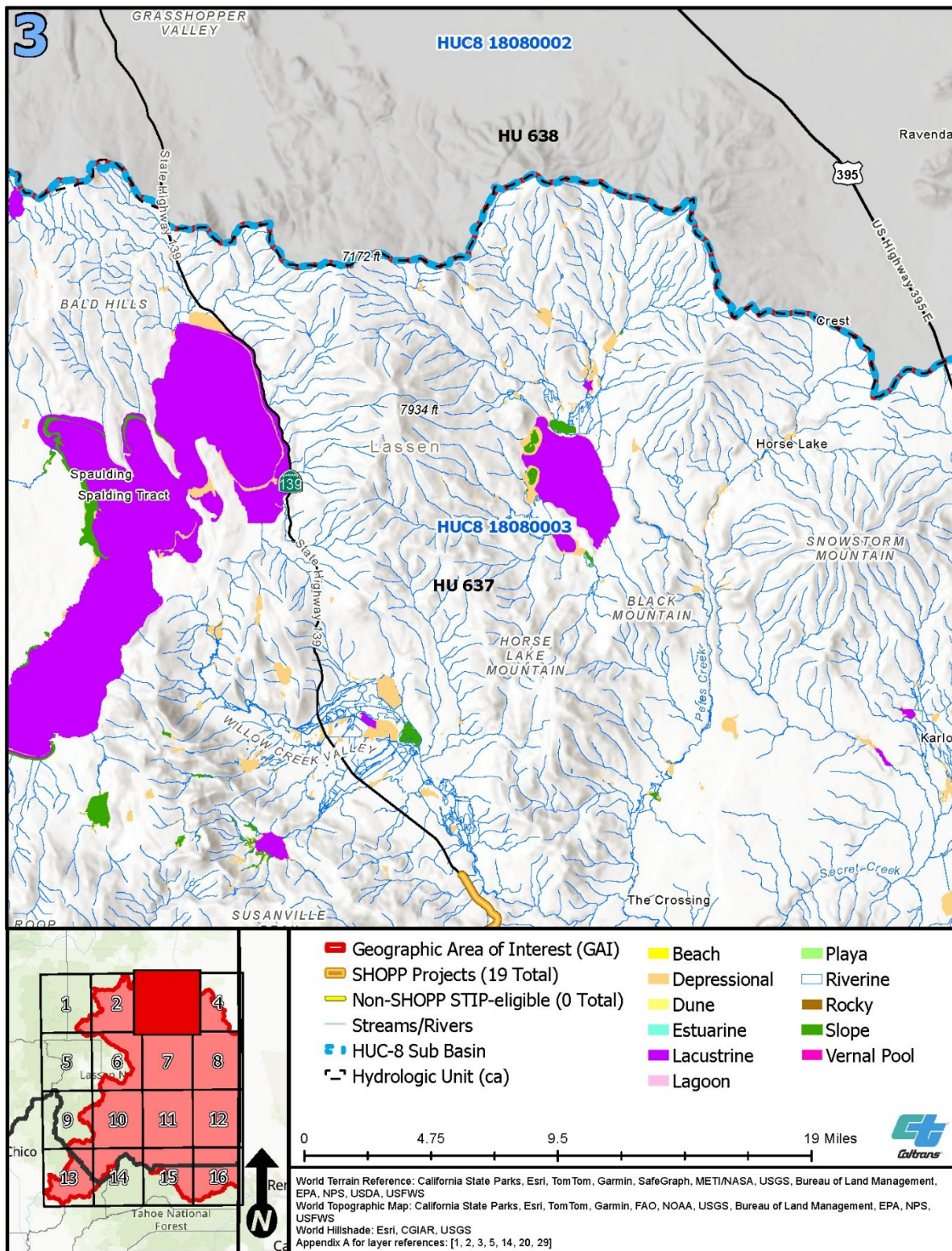
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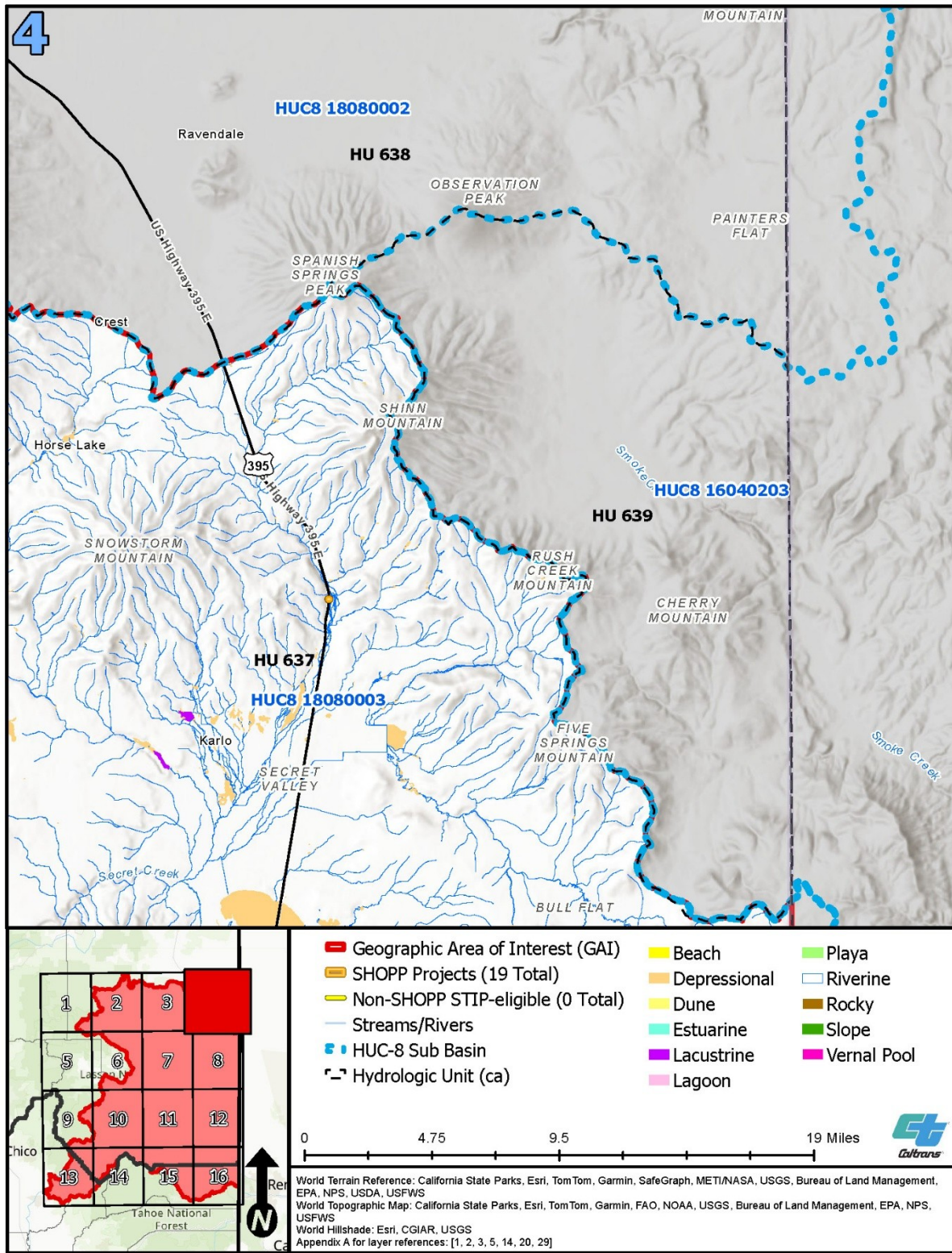
Caltrans. 2025c. "Aquatic/Riparian Geospatial Data for the Statewide Advance Mitigation Needs Assessment 2.0 (SAMNA 2.0)" (data file). Accessed December 17, 2025. Available upon request.

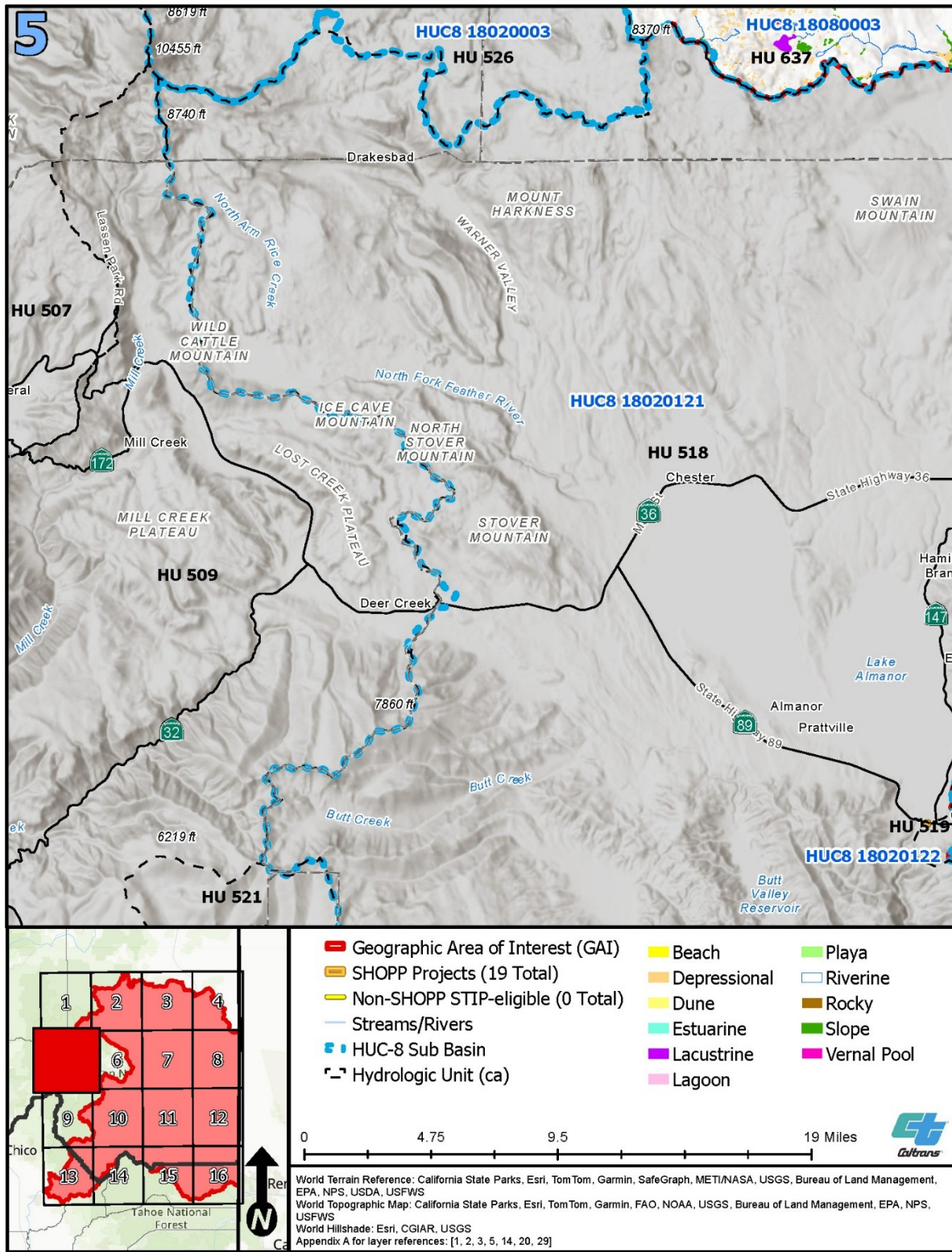


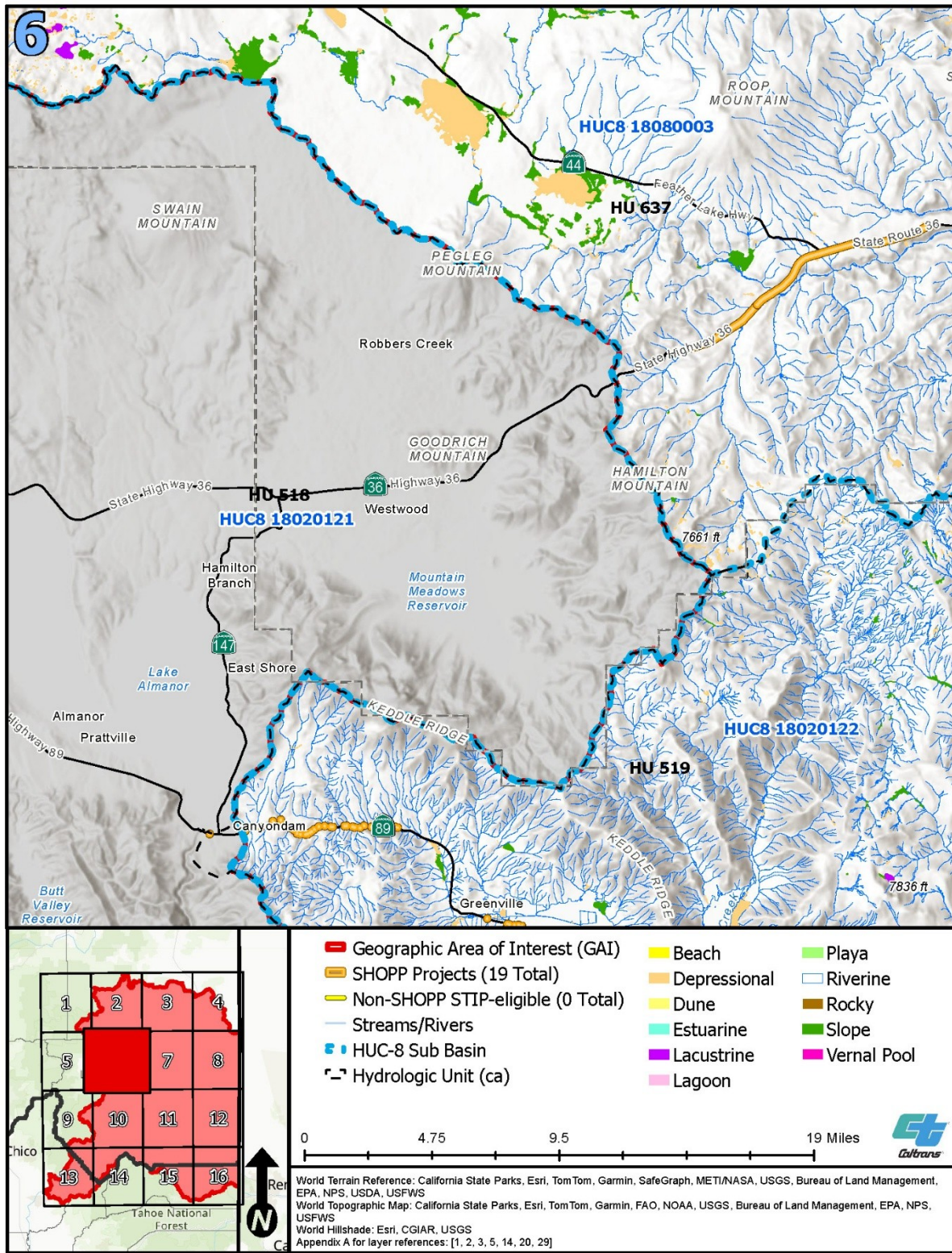


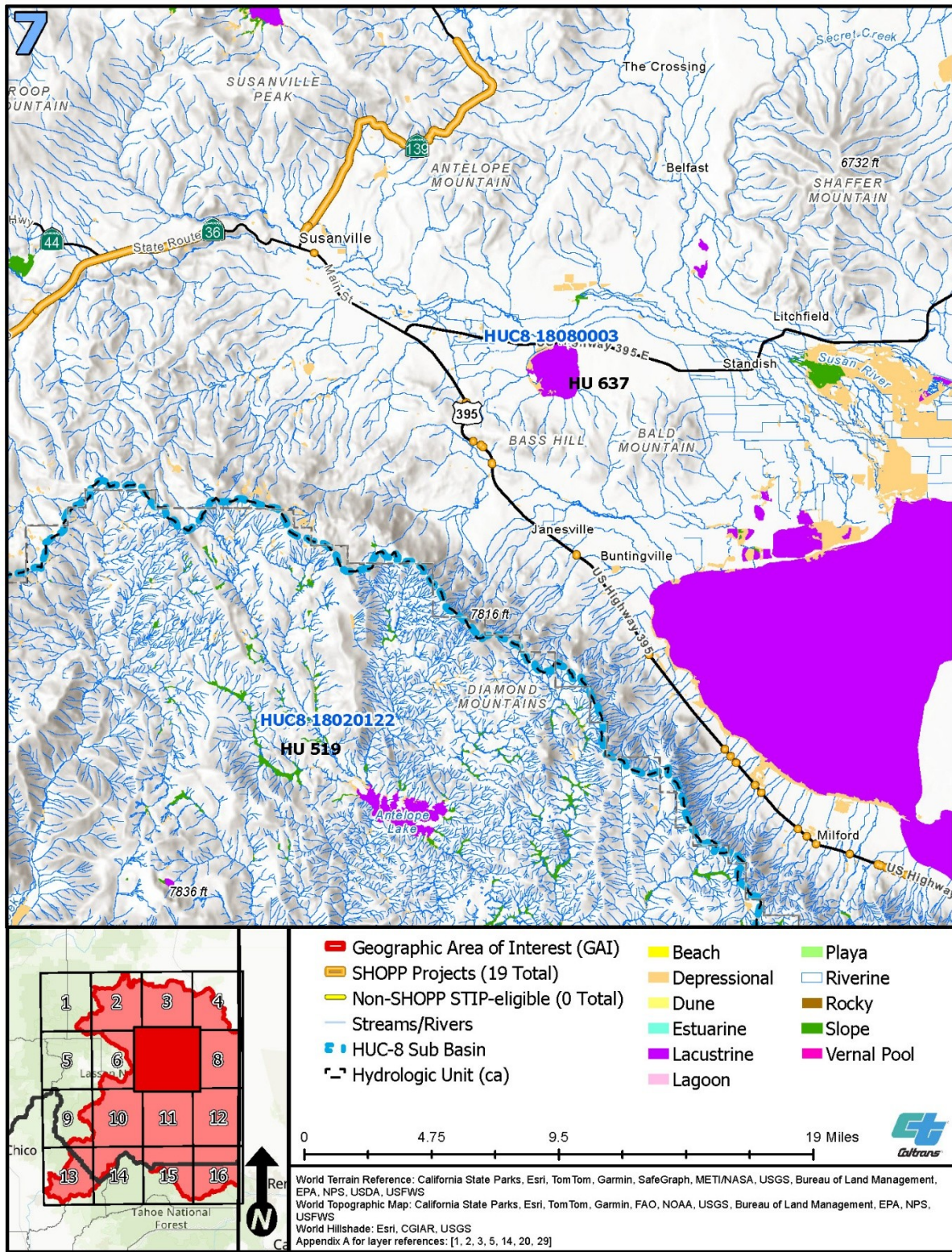


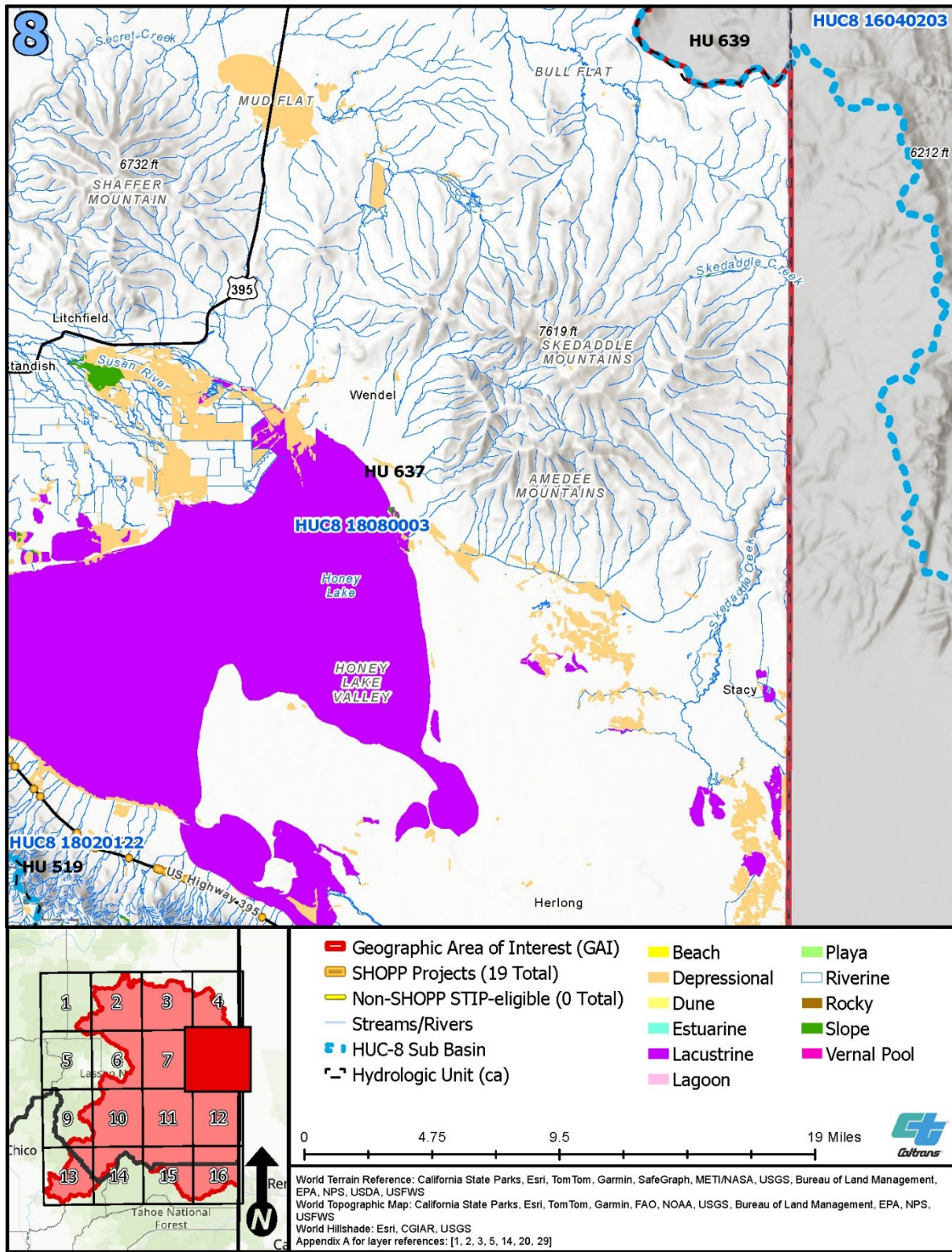


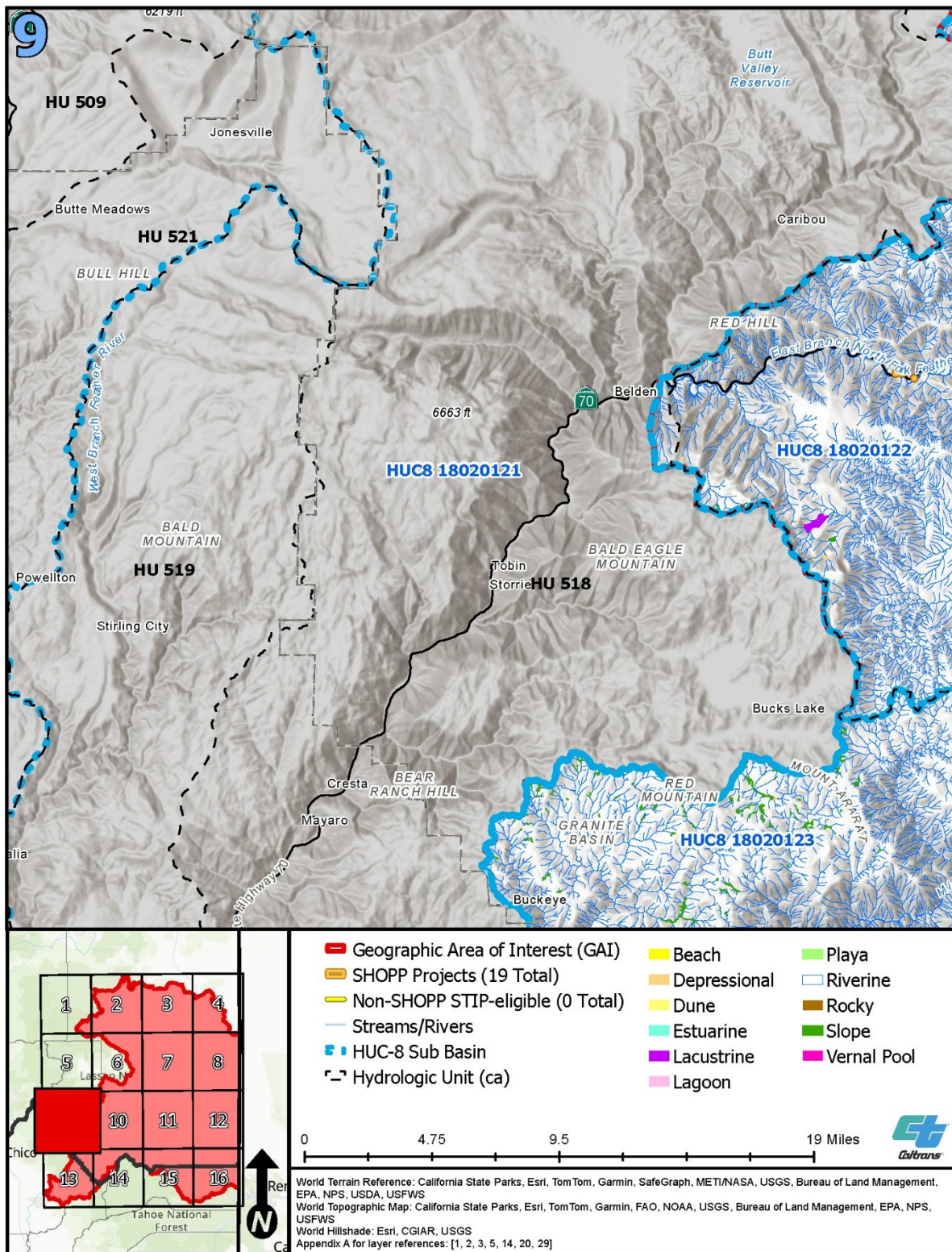


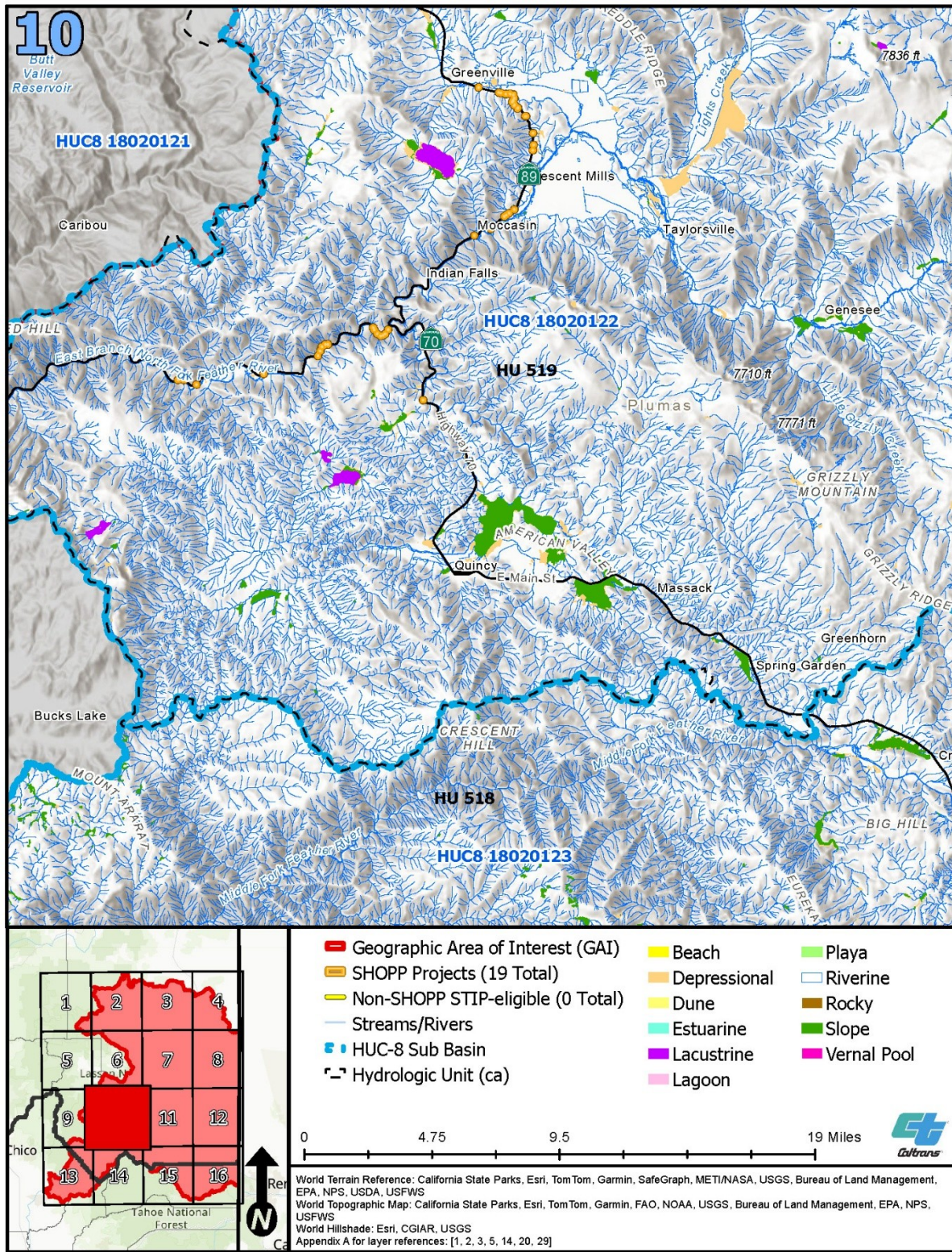


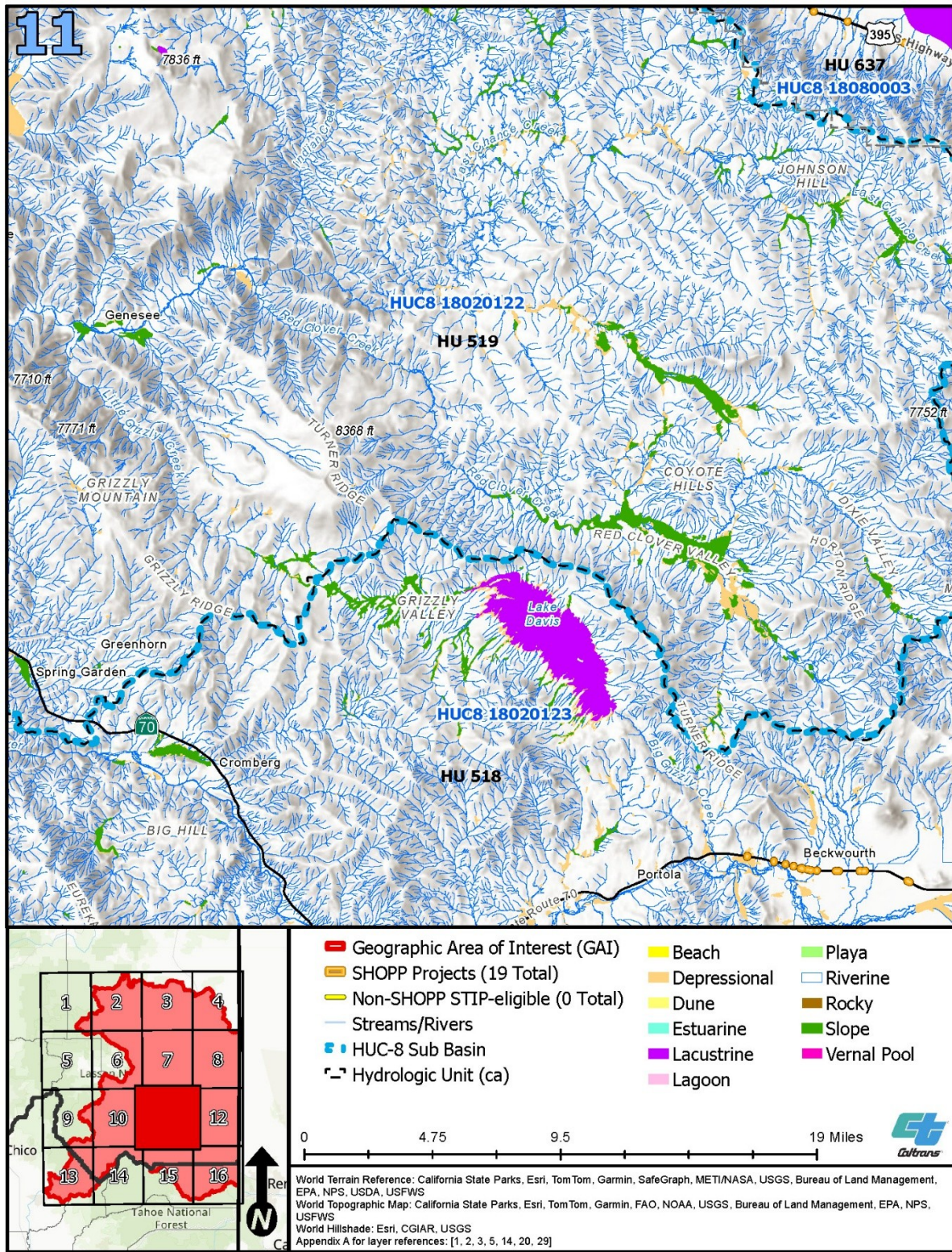


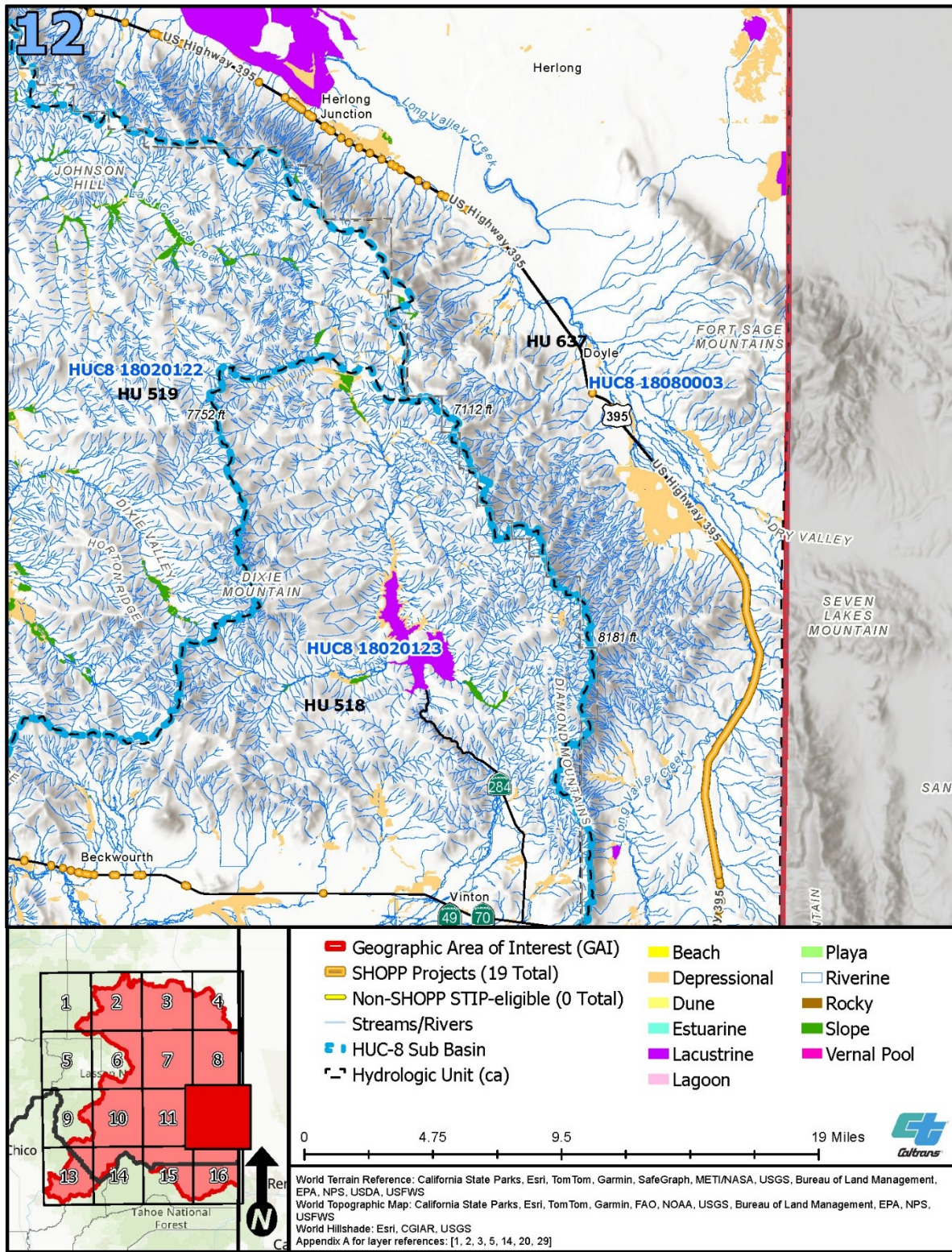


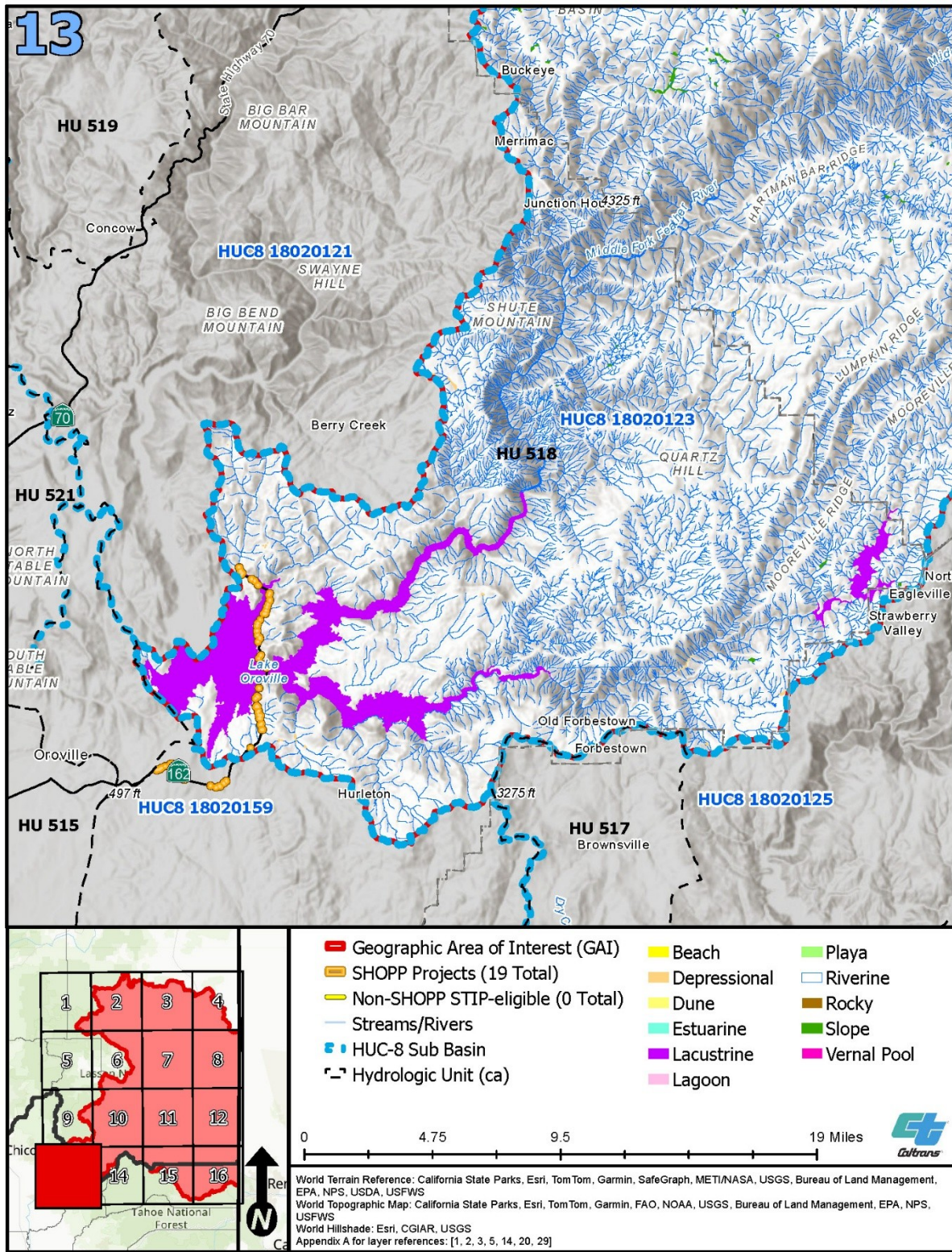


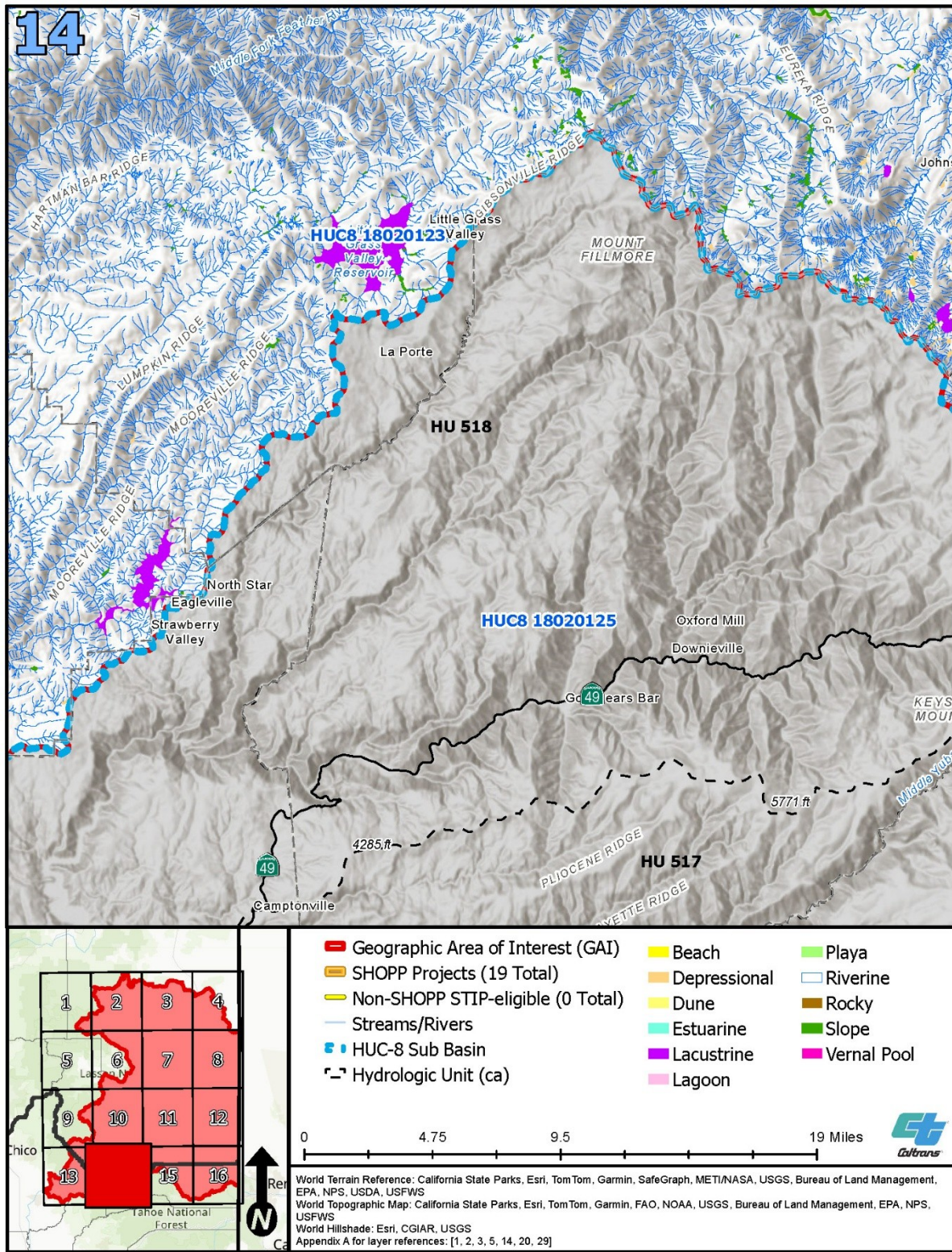


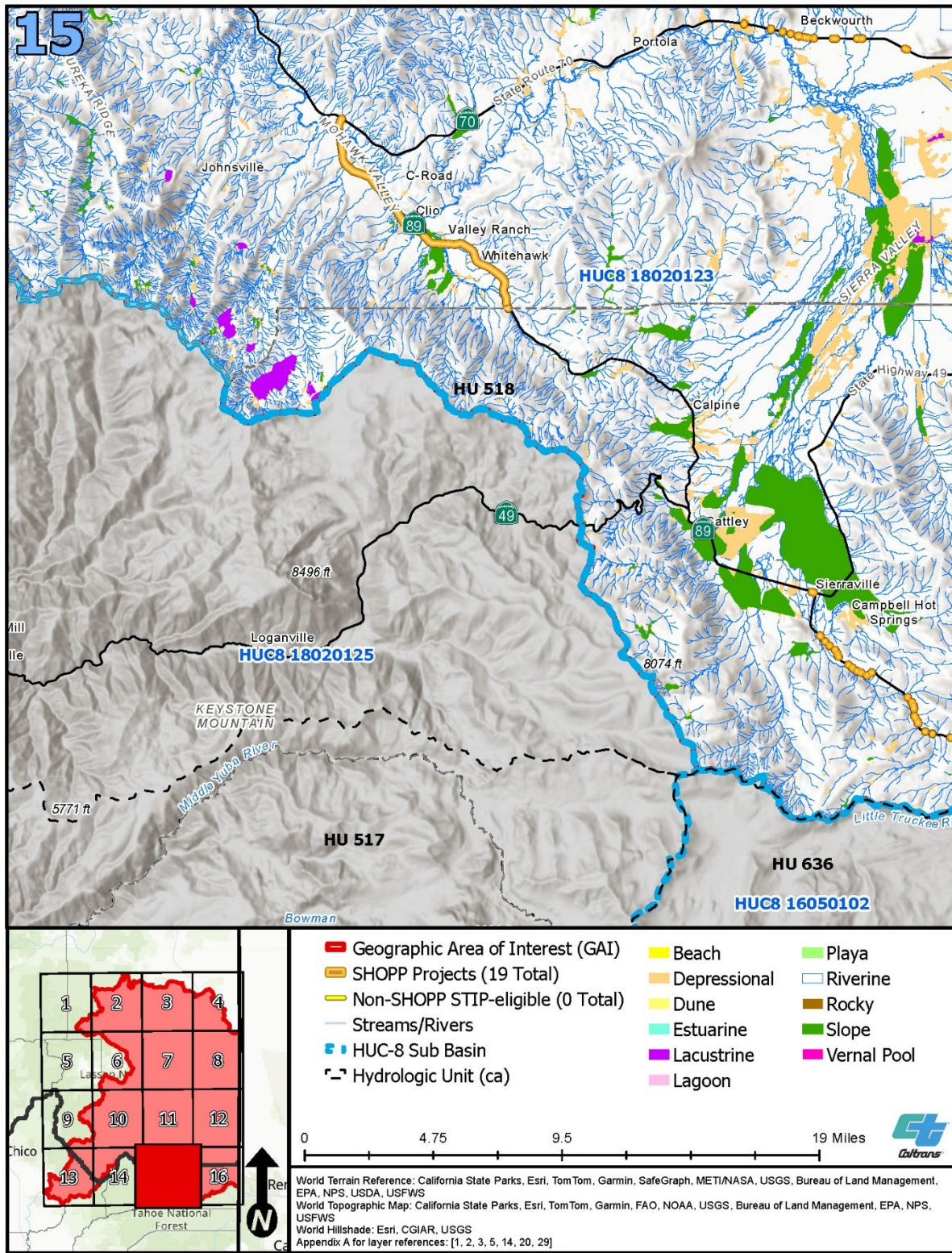


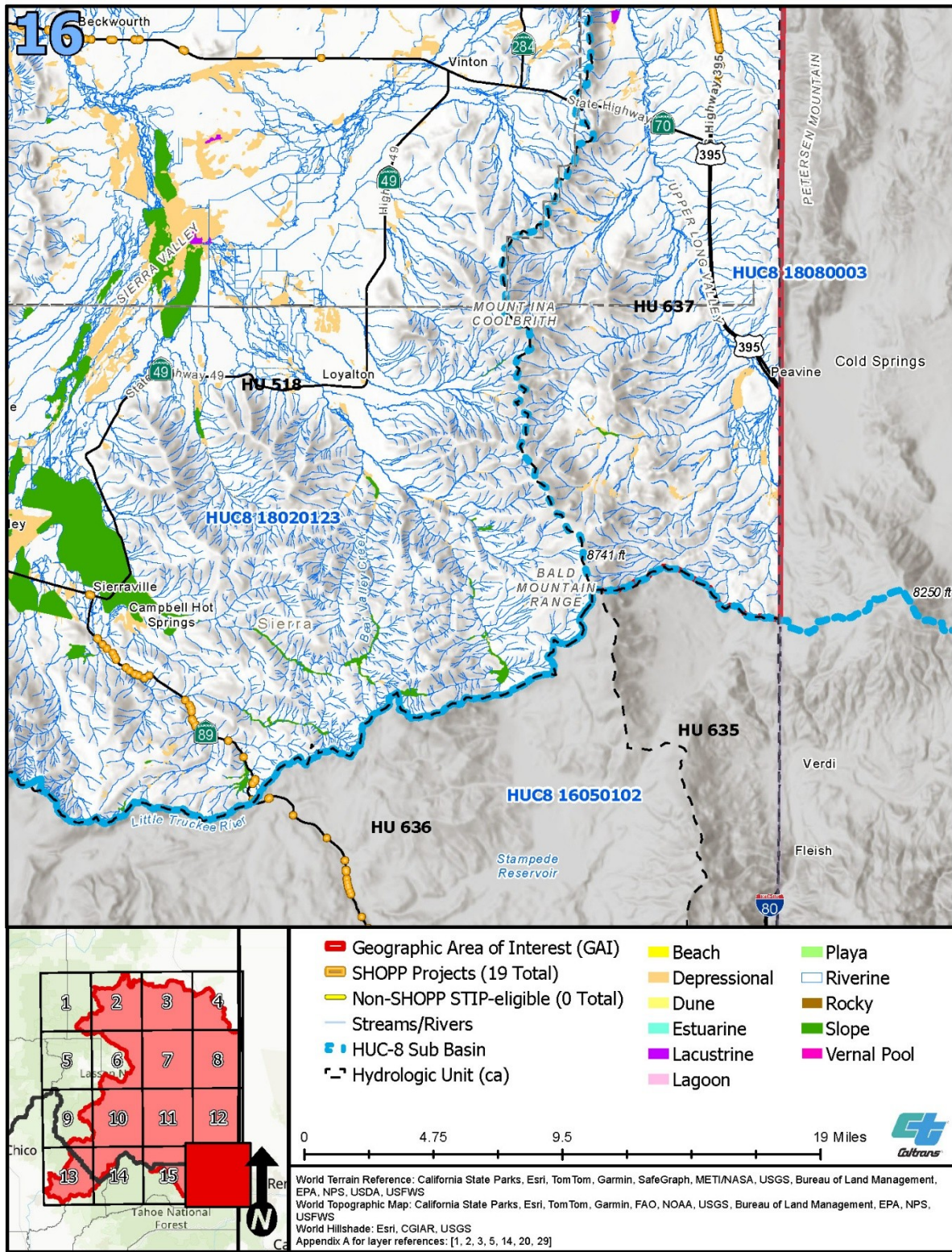












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