

1 **Appendix S1.** Description of land use types, their county of origin, as well as the biogeographic province and region of origin.

County	Land use	Notes	CA Biogeographic Province	CA Biogeographic Region
Butte	Coniferous forest	Coniferous forest (site 1)	California Floristic Province	Sierra Nevada
		Coniferous forest (site 2)	California Floristic Province	Sierra Nevada
Colusa	Inland grasslands	Serpentine soils	California Floristic Province	Northwest
	Rice fields	Periodically flooded	California Floristic Province	Great Valley
El Dorado	Coniferous forest	Coniferous forest (site 1)	California Floristic Province	Sierra Nevada
		Coniferous forest (sampled across 16 sites)	California Floristic Province	Sierra Nevada
Fresno	Annual agriculture	Cotton fields (site 1)	California Floristic Province	Great Valley
	Annual agriculture	Cotton fields (site 2)	California Floristic Province	Great Valley
	Coniferous forest		California Floristic Province	Sierra Nevada
Kern	Perennial agriculture	Almond orchards	California Floristic Province	Great Valley
	Annual agriculture	Cotton fields (site 1)	California Floristic Province	Great Valley
	Annual agriculture	Cotton fields (site 2)	California Floristic Province	Great Valley
	Annual agriculture	Cotton fields (site 3)	California Floristic Province	Great Valley
	Desert	Mojave Desert	Desert Province	Mojave Desert
	Perennial agriculture	Almond orchards	California Floristic Province	Great Valley
	Perennial agriculture	Fig orchards	California Floristic Province	Great Valley
Kings	Annual agriculture	Cotton fields	California Floristic Province	Great Valley
	Perennial agriculture	Walnut orchards	California Floristic Province	Great Valley
Lake	Inland grasslands	Serpentine soils	California Floristic Province	Northwest
Mendocino	Perennial agriculture	Vineyards (site 1)	California Floristic Province	Northwest
	Perennial agriculture	Vineyards (site 2)	California Floristic Province	Northwest
	Perennial agriculture	Vineyards (site 3)	California Floristic Province	Northwest
Mono	Desert	Great Basin Desert	Great Basin Province	Eastern Sierra Nevada
Monterey	Annual agriculture	Dry-farmed hay fields	California Floristic Province	Central Western
	Annual agriculture	Intensively-farmed vegetable fields	California Floristic Province	Central Western
	Inland grasslands	Non-serpentine soils	California Floristic Province	Central Western
Napa	Perennial agriculture	Vineyards (site 1)	California Floristic Province	Northwest
	Perennial agriculture	Vineyards (site 2)	California Floristic Province	Central Western
	Perennial agriculture	Vineyards (site 3)	California Floristic Province	Central Western
Placer	Coniferous forest	Coniferous forest (sampled across 9 sites)	California Floristic Province	Sierra Nevada
Sacramento	Freshwater wetland	Periodically flooded	California Floristic Province	Great Valley

Sonoma	Coastal grasslands	Non-serpentine soils	California Floristic Province	Central Western
	Perennial agriculture	Vineyards (site 1)	California Floristic Province	Central Western
	Perennial agriculture	Vineyards (site 2)	California Floristic Province	Central Western
	Perennial agriculture	Vineyards (site 3)	California Floristic Province	Northwest
	Perennial agriculture	Vineyards (site 4)	California Floristic Province	Central Western
Stanislaus	Perennial agriculture	Almond orchards	California Floristic Province	Great Valley
	Perennial agriculture	Peach orchards	California Floristic Province	Great Valley
Yolo	Annual agriculture	Bean fields	California Floristic Province	Great Valley
	Annual agriculture	Corn fields (site 1)	California Floristic Province	Great Valley
	Annual agriculture	Corn fields (site 2)	California Floristic Province	Great Valley
	Annual agriculture	Safflower fields	California Floristic Province	Great Valley
	Annual agriculture	Tomato fields (site 1)	California Floristic Province	Great Valley
	Annual agriculture	Tomato fields (site 2)	California Floristic Province	Great Valley
Yuba	Coniferous forest	Coniferous forest (site 1)	California Floristic Province	Sierra Nevada
	Coniferous forest	Coniferous forest (site 2)	California Floristic Province	Sierra Nevada
	Coniferous forest	Coniferous forest (site 3)	California Floristic Province	Sierra Nevada