Field Characterization of Vegetation in the Cosumnes Subbasin

A representative subset of the dominant vegetation communities identified by existing data is needed to verify the existence (or absence) of potential Groundwater Dependent Ecosystem (GDE)[1] type vegetation currently mapped in the Cosumnes Subbasin. Subsamples of key vegetation types will be documented in the field using a combination of on-site inspections and remote viewing from nearby accessible roads and land areas using binoculars. Because of the higher accuracy, on-site inspections are preferred. Results will be extrapolated and applied to the mapped potential GDEs that we cannot inspect in the field to improve characterization of GDE type vegetation in the Cosumnes Subbasin.

A custom smartphone/tablet application will be employed in the field to log information. The tool expands and synthesizes recommended survey techniques within current guidance documents, and the key information logged include the following.

- Visible evidence or absence of groundwater and surface water
- NCCAG[2] described vegetation type (if applicable)
- Current vegetation: Accuracy of the vegetation community described in the NCCAG database, dominant vegetation species, subdominant woody vegetation species, aerial vegetation cover class (woody species, grasses, and weeds), list of observed weed species, indications of moisture stress, and indications of natural reproduction
- Ground cover: Bare ground, rock, litter, cobble, vegetation
- Soils: Surface soil texture, Surface soil moisture, Redox indicators in top 6 inches
- Surface Water: Presence/absence of surface water and surface water indicators, apparent flow consistency, channel dynamics, surface water fate (if applicable), erosion indicators
- Human influence and disturbance: Manmade structures, manmade hydrologic alterations, animal effects, soil disturbance indicators, water diversion observations
- GDE classification system that assigns a GDE type for this basin based on a moisture class, aquifer source, and manmade modifier
- General notes
- Geotagged field photos

On-Site inspections will be conducted by foot and vehicular traffic limited to established roads. All photos and field notes will be provided to the landowner for review prior to formal data analysis and reporting.

Findings based on the data gathered will refine and improve the GDE dataset and results extrapolated to support an overall assessment of map reliability. An updated map of current GDEs will be created to support GSP development for the Cosumnes Subbasin.

[1] "Groundwater dependent ecosystem" refers to ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface.

[2] Natural Communities Commonly Associated With Groundwater (NCCAG).