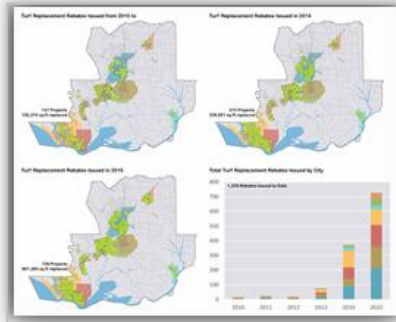


# Residential Water Use and Conservation Potential Study

## Solano County, CA



EKI conducted a pilot study for the Solano County Water Agency (SCWA) to evaluate conservation programs for single-family residential water use, water savings, and remaining conservation potential. The project was conducted in two phases: Phase 1 consisted of a pilot study focusing on the City of Vallejo to develop the analytical methodology, and the Phase 2 study expanded the analysis to additional cities representing over 80% of the single-family residential accounts in the SCWA service area. Phase 2 also included analysis of income effects on program participation and analysis of drought water use.

EKI performed the following:

- Analyzed an over-6-million-record dataset of account-level water use from city water billing systems to quantify the real impact of water conservation programs on water use and evaluate drought response on an account-level basis. Customer account data and conservation program implementation records were matched with Assessor’s Parcel Numbers (APNs) to allow for attribution of property and land use characteristics as well as for the importation of the water use data into ArcGIS for mapping and geospatial analyses.
- Assisted SCWA and its nine retail agencies with quantifying the water conservation benefits achieved to date, the remaining water conservation potential, and identifying potential new water conservation programs for implementation.
- Evaluated geospatial performance of various water conservation programs and account-level water savings achieved to date relative to a representative cohort.
- Used spatial statistical analysis to identify “hot spots” and “cold spots” of program participation and related factors (i.e., socio-economic levels).
- Conducted multi-variant analyses to identify location and volume of remaining water conservation potential to facilitate strategic water conservation program targeting and delivery.
- Evaluated water conservation program participation relative to income neighborhoods, identifying significant areas of conservation opportunity.
- Conducted an account-level analysis of customer water use during the historic 2012-2016 drought.