



# INSTALL AND MAINTAIN STREAM GAUGES

*This project focuses on inventorying, installation, and maintenance of stream gauges in high- and medium-priority basins. Building on the knowledge and successful track record of DWR's Regional and Statewide Integrated Water Management technical assistance programs, this project supports and is aligned with the Governor's Water Resilience Portfolio (Executive Order N-10-19), the Open and Transparent Data Act (AB 1755), and Sen. Bill Dodd's Stream Gauges Bill (SB19).*

## What is Proposition 68?

The California Drought, Water, Parks, Climate, Coastal Protection and Outdoor for all Fund (Senate Bill 5, Proposition 68) authorized \$4 billion in general obligation bonds for state and local parks, environmental protection and restoration projects, water infrastructure projects, and flood protection projects. The Install and Maintain Stream Gauge project utilizes \$4.95 million on data, tools, and analysis efforts for drought and groundwater investments to achieve regional sustainability in support of the Sustainable Groundwater Management Act (SGMA) over a period of five years.

## How Does This Project Support SGMA?

SGMA requires Groundwater Sustainability Agencies (GSAs) to monitor and assess stream depletion, water budgets, and sustainable yield for the surrounding groundwater basin. SGMA also requires DWR to provide technical assistance to groundwater sustainability agencies (GSAs) and to evaluate the ability of groundwater sustainability plans (GSPs) to avoid depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

This project provides GSAs, related stakeholders, and the public with regional and statewide data, tools, and analysis aligned to the technical requirements of the GSP regulations and SGMA. The resulting information provides standardized statewide data and reporting.

## What is the Value of this Information?

This project supports GSAs and related stakeholders by installing new real-time surface water gauges that

will provide fast and reliable data. Additionally, this project supports GSP development, implementation, and evaluation, as well as groundwater recharge projects. This new surface water data provides multiple benefits to programs within a variety of local, state, and federal agencies including State Water Resources Control Board and the Department of Fish and Wildlife.

## What is New in 2019?

Five stream gauges were recently installed throughout the state at Bear River, Ash Creek, Owens Creek, Tuolumne River, and San Luis Ray River.

## What are the Next Steps?

In the next two years, DWR plans to install approximately 24 additional stream gauges in high- and medium-priority basins. Additionally, DWR will be coordinating with the State Water Resources Control Board and the Department of Fish and Wildlife with implementation of SB19.

## How Does a Stream Gauge Measure Stage and Flow?

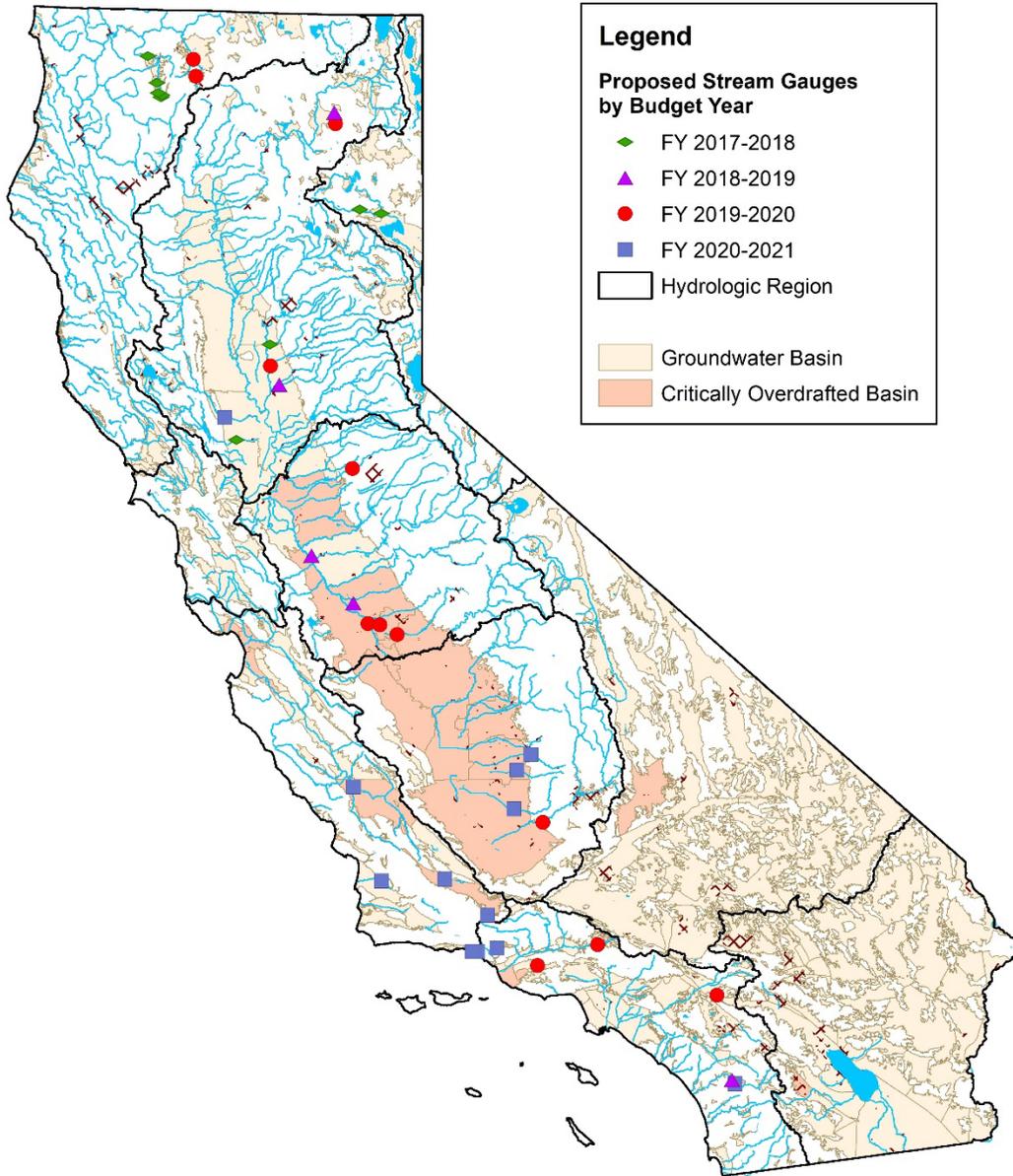
In general, river flow is computed by multiplying the area of water within a cross section of the channel by the average velocity of the water in the cross section such that  $Discharge = Area \times Velocity$ . Stream gauging typically involves 3 steps: (continued on next page)

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1. Measuring the stream stage: Obtaining a continuous record of the height of the water surface at a location on the stream.
2. Flow measurement: Obtaining periodic measurements of the amount of water passing through a location on

the stream. Current meter devices are used to measure the depth and velocity of flow along a cross section within the stream.

3. Establishing a stage-flow relationship: Defining the relation between the stage and flow. Using the stage-discharge relationship, you can convert the continuously measured stage into flow estimates.



### Contact and Additional Information

For more information or questions, contact Teresa Connor at [Teresa.Connor@water.ca.gov](mailto:Teresa.Connor@water.ca.gov)

### DWR SGMA Data Viewer

<https://sgma.water.ca.gov/webgis/?appid=SGMADa taViewer#intersurfacewater>

### DWR SGMA Data and Tools Webpage

[www.water.ca.gov/Programs/Groundwater-Management/Data-and-Tools](http://www.water.ca.gov/Programs/Groundwater-Management/Data-and-Tools)