

THE REGION'S GROUNDWATER BASIN

While it is called the Turlock Subbasin, the region's local groundwater basin has a name that can be a bit of a misnomer. Stretching well beyond the City of Turlock's boundaries and far past TID's irrigation boundaries, the basin underlies an area of approximately 347,000 acres. The basin is more than twice the size of TID's irrigated area, which is approximately 150,000 acres.

The basin lies on the eastern side of California's San Joaquin Valley, and encompasses portions of both Stanislaus and Merced counties. The basin is bounded by the Tuolumne River on the north, the Merced River on the south, and the San Joaquin River on the west. The eastern boundary of the system is the western extent of the outcrop of crystalline basement rock in the foothills of the Sierra Nevada. Land uses in the basin include agriculture, urban, and industrial uses.

WHAT IS CONJUNCTIVE USE?

Planned recharge in wet years, combined with strategic pumping in dry years is known as conjunctive use, and is a standard water management practice across California. Conjunctive use has been managed successfully by TID for nearly 100 years.

TID uses groundwater in conjunction with surface water from the Tuolumne River to provide irrigation water to farmers. When TID customers irrigate their crops, some water percolates into the ground and recharges the groundwater basin. And this model works because TID puts more in the basin than it takes out. A chart illustrating this fact is atop the back page of this fact sheet.

BY THE NUMBERS

14 percent

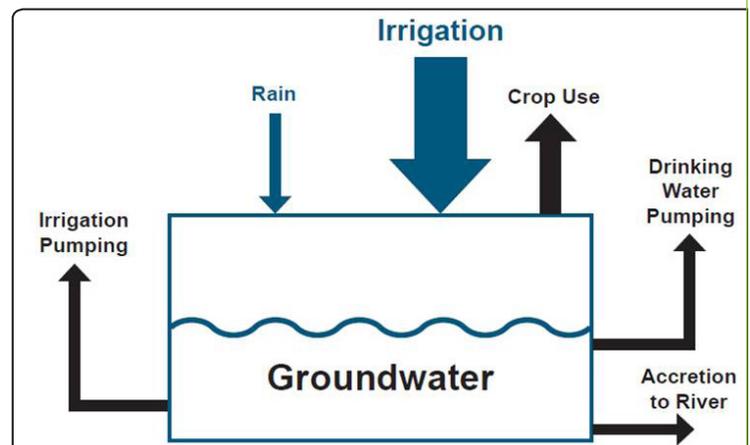
Amount of customer irrigation water that came from groundwater in normal water years during the 1991-2011 time frame. In dry years, that percentage is approximately 17 percent.

117,000 acre-feet

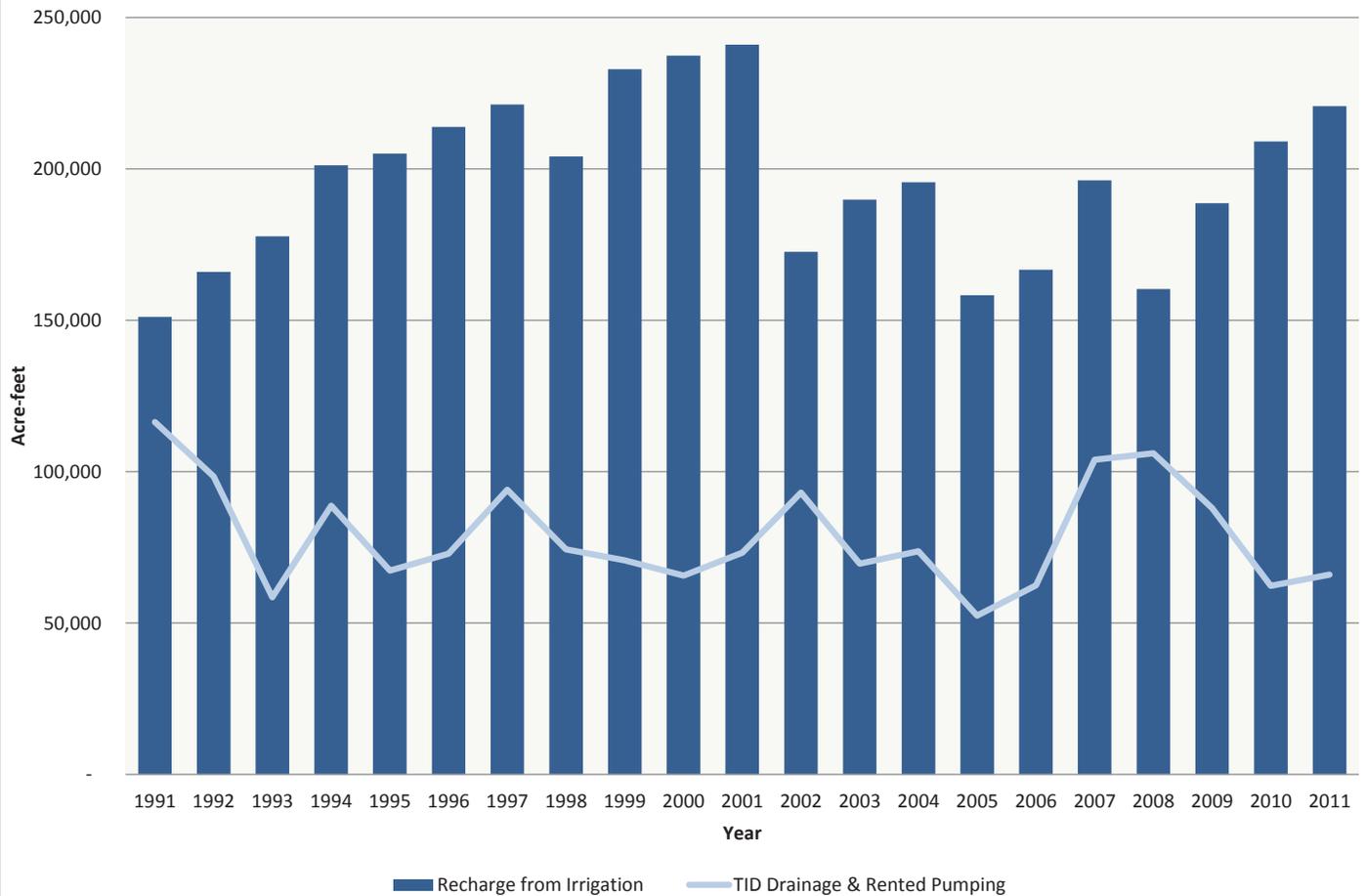
The annual estimated average net gain to the groundwater basin, during the 1991-2011 period, from deep percolation (groundwater recharge) of irrigation water. This translates to an average of 38 billion gallons per year that is added to the basin from irrigation within TID.

347,000 acres

The approximate number of acres that sits atop the groundwater basin. TID irrigates about 150,000 acres of that, or 43 percent. That means there are many others who use water from, and rely on, the basin.



Comparison: Recharge vs. Pumping



This chart illustrates compares 1991-2011 TID groundwater pumping (blue line) with estimated groundwater recharge (vertical blue bars) from TID irrigation.

GROUNDWATER STEWARDSHIP AND PLANNING

Managing surface water has been TID's charge since the District was formed in 1887. However, TID has no authority to regulate groundwater use. Still, TID has become a leader in regional groundwater stewardship because of the close relationship between surface water and groundwater.

From 1991-2011, the portion of the Turlock Groundwater Basin that underlies TID experienced an average net gain of approximately 117,000 acre-feet annually (a 38 billion gallon annual increase) from irrigation within TID. View the chart above for annual details regarding how TID's conjunctive use program consistently puts more water in the basin than it takes out. In many years, recharge exceeds pumping two or three times over.

TID operates under a Groundwater Management Plan created in conjunction with the Turlock Groundwater Basin Association, of which TID is a founding member. There are several objectives in this plan, one of which is to maintain an adequate water level in the groundwater basin. Anyone can view the plan and additional information about groundwater at www.tid.com/groundwater.

