

Stormwater Capture – Enhancing Recharge & Direct Use Through Data Collection: 2018 Whitepaper



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07/12/2018

The SCWC Stormwater Task Force of the Southern California Water Coalition issued an April 2018 Whitepaper titled:

Stormwater Capture – Enhancing Recharge & Direct Use Through Data Collection (“Whitepaper”)

The purpose of the Whitepaper is to:

... gain a better understanding of actual stormwater runoff capture volumes, costs, benefits, and project performance across the region to inform future discussions.

SCWC had published a Whitepaper in 2012. Since the publication of the 2012 Whitepaper, a variety of relevant projects are stated to have been constructed and placed in operation.

The 2018 Whitepaper reflects research undertaken by the SCWC Stormwater Task Force (“Task Force”) to evaluate the costs and benefits of various constructed stormwater capture projects. The effort included the development of a data collection form to acquire actual stormwater and urban water runoff capture volumes, costs, benefits, and performance of existing stormwater projects. The form was distributed to 30 Southern California agencies.

The projects were reviewed and assessed for completeness using three criteria which included:

- Actual stormwater flow monitoring data
- At least one full year of stormwater capture volumes
- Actual construction costs to complete the project

The Whitepaper includes costs per acre-foot of captured stormwater. Summarized figures include:

- Costs of the projects range from \$59 per acre-foot to more than \$250,000 per acre-foot. The median cost per acre-foot is \$1,070 and is bracketed by the 25th and 75th percentiles costs range from \$334 to \$4,911.
- Projects that have the ability to annually capture larger amounts of stormwater (over 600 acre-feet) have a lower cost per acre-foot captured (less than \$1,200).
- Median costs for distributed projects are \$25,000 per acre-foot, new centralized projects are \$6,900 per acre-foot, and retrofit projects are \$600 per acre-foot.
- Retrofit Projects tend to be more cost effective than new projects. Since retrofit projects by their nature exclude costs such as land acquisition and have a simpler permitting process, they are generally less expensive than new projects.

Additional conclusions included:

- The average stormwater captured for all 32 projects during the 11-year period was 13,400 AFY.
- As more projects come online, there has been an increasing ability to capture more stormwater per inch of rainfall.
- There was a noticeable reduction in stormwater capture ability in 2016 and this is most likely attributed to a wet year following a period of drought where most rainfall is absorbed in the mountains and not converted to runoff for capture.

The Whitepaper recommendations include:

- Study the relationship between stormwater capture and water supply yield.
- Explore opportunities for multiple agencies to partner on stormwater projects.
- Continue regional collaboration on stormwater data and monitoring.

A [link to the Whitepaper](#) can be found here.