

FEATURE ARTICLE

DOES EVERY DROP REALLY COUNT? AN INCONSISTENT ACCOUNTING OF CALIFORNIA'S WATER SUPPLY

By David E. Cameron

During the current drought, it has been frequently said, that “every drop counts.” Indeed, the emphasis on accounting for all losses to the state’s water system is highlighted by the recent enactment of Senate Bill 555, which requires urban retail water suppliers to conduct annual “water loss audits” to identify water that is escaping the system and identify steps that will be taken to stem such losses. (Water Code § 10608.34(a).) According to the bill’s author, Senator Lois Wolk, “[i]t is estimated that we could save hundreds of thousands of acre-feet this way. Every drop counts.” Emphasis on a proper and full accounting of the state’s water supply is indeed a worthy goal. However, a system-wide review of the state’s water use reveals that not every drop of water in California in fact counts in the same way.

According to the California Water Plan Update, in any given water year, 200 million acre-feet of water fall as precipitation in California. Of this, the Public Policy Institute of California has estimated that roughly 50 percent of water is used for environmental purposes, 40 percent for agricultural purposes, and 10 percent is urban use. Human uses of water—agricultural and urban use—thus total approximately 50 percent of the state’s annual water supply in an average water year. The state’s water rights system applies to this portion of the state’s supply and it is this portion that is currently subject to an emphasis on improved accounting; a strict accounting for environmental uses has not traditionally been emphasized.

Notwithstanding the emphasis on a system-wide accounting of human water use, certain legislative and regulatory policies have taken water out of the system without accounting for their impact on supply. This article examines three such policies: (1) the California Regional Water Quality Control Board

(RWQCB)—Los Angeles Region’s Order Regarding Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County; (2) the Rainwater Capture Act of 2012; and (3) Assembly Bill 964’s (2012) expansion of diversions considered exempt from the State Water Resources Control Board’s (SWRCB) full appropriation process. While the specific policy reasons behind each of these efforts may be sound, the cumulative impacts of such diversions are unquantified and have not undergone environmental review. Potential impacts include those to both existing senior rights holders and protected species. Without quantitative analysis of the effects of such policies on supply, it is difficult to attain the California Constitutional mandate that the “water resources of the State [are] put to beneficial use to the fullest extent of which they are capable,” and the “every drop counts” mantra is inconsistent at best.

The Los Angeles MS4 Permit

Under the federal Clean Water Act (CWA), the discharge of pollutants into the waters of the United States is prohibited unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit, or exempted from having such a permit. In California, a discharger can file for a Notice of Non-Applicability (NONA) if discharges do not reach waters of the United States or all water is retained onsite, including precipitation, and there is no discharge. (33 U.S.C. §§ 1311(a), 1342(a).) “Discharge” under the CWA includes all stormwater, defined as “runoff, snow melt runoff, and surface runoff and drainage.” (40 C.F.R. § 122.26(b)(13).) Discharge of stormwater is typically regulated under a general permit such as a MS4, industrial, or construc-

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tion stormwater permit. States are the primary regulator of water quality standards under the CWA, and these standards require that stormwater discharge be treated to the maximum extent practicable for MS4s or the Best Available Technology (BAT) for industrial or construction sites, using certain best management practices (BMPs). (40 C.F.R. 122.44(k)(2).)

The SWRCB recently upheld a new MS4 permit for the Los Angeles Region, which covers the municipal discharge of stormwater by the Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the coastal watersheds of Los Angeles County (LA Permit). (RWQCB Los Angeles Region, Order No. R4-2012-0175 as amended by SWRCB Order WQ 2015-0075, NPDES Permit No. CAS004001 (June 16, 2015).) The LA Permit requires that, in order to achieve coverage under the permit and avoid liability under the CWA, any potential discharger must:

...“retain on-site the Stormwater Quality Design Volume (SWQDv) defined as the runoff from:

- (a) The 0.75 inch, 24-hour rainfall event or
- (b) The 85th percentile, 24 hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohetal map, whichever is greater. (*Id.* at 101.)

Thus, to obtain compliance with the CWA’s discharge requirements as outlined by the LA Permit, an applicant must retain onsite 100 percent of all water that falls in a 24-hour period as a result of up to an 85 percent percentile storm event. A permittee that cannot retain this amount of water cannot obtain coverage under the permit and is in violation of the CWA.

Under the new regime, permittees will retain significant volumes of water on-site—these flows do not reach the stream systems in their respective watersheds, and system supplies are correspondingly reduced. As the CWA requirements become increasingly strict and difficult to meet—as they have under the new LA Permit—permittees may be more likely to design their systems to not discharge any water at all, under any rainfall event, and thereby exempt themselves from the CWA. Such a path would result in even greater quantities of water removed from the

state’s system. While the policy behind the new LA Permit is well-reasoned—if discharges are reduced, pollutants typically associated with those discharges are kept from reaching the watershed—the LA Permit causes an unquantified reduction in the state’s water supply.

The LA Permit’s requirement of retaining significant quantities of water on-site has the potential to impact both existing water rights holders and protected species. Further, the Central Valley RWQCB is currently formulating the regional MS4 permit for the Sacramento-San Joaquin Valley, and it is anticipated that this permit will have similar on-site retention requirements as the LA Permit. Thus, when entities throughout the Sacramento-San Joaquin Valley seek compliance, there will be a decrease in the amount of water entering the system in those watersheds. Moreover, in the Sacramento and San Joaquin valleys, there are many more downstream diverters who may potentially be impacted by a reduction in supply in comparison to the Los Angeles watershed, where stormwater frequently discharges into channelized facilities to the ocean. Retention of water pursuant to a MS4 permit in fact functions as an exemption to the state’s appropriative rights system, as water retained pursuant to the permit is diverted without application to the SWRCB. The scope of any potential impact to downstream water users, however, is unknown and unquantified. (Water Code § 1201; *Lindblom v. Round Val. Water Co.*, 178 Cal. 450, 453 (1918) [The scope of the appropriation system is broad and attaches to “the run-off from the usual, and annually recurring fall of rain and snow” when ultimately running into a defined stream “constitutes a water course to which... rights attach.”].) If every drop truly does count, the cumulative reduction in supply stemming from compliance with the new requirements of the MS4 permits should be analyzed and quantified.

### The Rainwater Capture Act of 2012

In 2012, California enacted the Rainwater Capture Act of 2012 (RCA). (Water Code § 10570 *et. seq.*) Prior to the RCA, the SWRCB required any party who wanted to capture—and therefore appropriate—water, including precipitation, to apply for and obtain a permit. This process is codified in Water Code § 1201, and serves as the exclusive method by which California’s allows a new appropriation of water. Under this seniority-based system, any new appropri-

tion is junior to those that were made before it, and the junior appropriator may take water only when senior rights have first been satisfied.

The RCA, however, changed the state's permit process for a narrow category of diverters. Specifically, the RCA created a new exemption for those who capture and store precipitation that falls on their rooftops. Under the RCA, this appropriation of rainwater—defined as “precipitation on any public or private parcel that has not entered an offsite storm drain system or channel, a flood channel, or any other stream channel, and has not been previously been put to beneficial use”—is wholly exempt from the Water Code's permit requirement. (*Id.* at §§ 10572(c), 10574.) As with the LA Permit, the policy behind the RCA has appeal—residents, private businesses, and public agencies may create new on-site water supplies to meet landscaping needs, and as a result decrease the use of potable water. However, under the RCA, this new class of diverters may impound an unknown and unquantified amount of water ahead of any existing appropriator. While the act states that “[n]othing in this part shall be construed to...[a]lter or impair any existing rights” or “[c]hange existing water rights law,” there is a risk that the cumulative impact of the RCA may do just that. (*Id.* at § 10572.)

Other Western states have wrestled with the impact of rooftop water collection on overall supply. In Colorado, legislation similar to the RCA ultimately stalled. Opposition to Colorado HR 15-1259 was based on its unknown but potentially adverse impact on system supply and existing water rights. (*Rain Barrel Bill Dies on Calendar* (May 6, 2015), available at: <http://www.coloradostatesman.com/content/995657-rain-barrel-bill-dies-calendar> (accessed November 2015).) Indeed, a proposed amendment required any rainwater catchment system be registered with the state engineer in order to allow that entity to monitor total usage. (*Id.*) Colorado's ultimate reluctance to allow rooftop storage highlights the need for analysis and quantification of water captured and stored under the RCA. As precipitation is captured and stored under the RCA, an unknown amount of water is kept out of the system. If every drop counts, the cumulative reduction in overall supply as a result of RCA should be quantified.

### Assembly Bill 964 (2012): The SWRCB's Expanded Use of Registrations

In 2012, primarily to allow North Coast vineyard operators greater latitude to store water for frost protection, the California Legislature expanded the scope of water diversions that qualify for registration. Registration of a diversion with the SWRCB functions as exemption to the SWRCB's full-blown appropriation process; the registrant does not need to demonstrate water is available and the California Environmental Quality Act (CEQA) does not apply. AB 964 widened the registration process to include “small irrigation use,” defined as:

(A) An irrigation use, heat control use, or frost protection use, not to exceed diversion to storage of 20 acre-feet per annum, including impoundment for incidental aesthetic, fire protection, recreational, or fish and wildlife purposes.

(B) An irrigation use not to exceed direct diversion of 42,000 gallons per day, up to a maximum of 20 acre-feet per annum. (Water Code § 1228.1(b)(2).)

One registrant may hold multiple registrations and impound up to 100 acre-feet per year as long as the registrant holds at least 100 irrigated acres. (*Id.* at § 1228.2(a)(3).) To obtain a small irrigation registration, the registrant submits a form and pays a fee to the SWRCB. (*Id.* at §§ 1228.5; 1525(a).) Further, the diversion of water under a registration is granted by the SWRCB ministerially. (Cal. Code Regs., tit. 23, § 3730.) Under this process, there is no protest procedure available and generally no CEQA review.

Like the RCA, AB 964 changed the state's permit process for a narrow category of new diverters. Water appropriated under the expanded registration process, however, is not quantified, as statements of diversion and use do not need to be filed for small irrigation registrations. (*Id.* at § 5101.) As a result, the amount of water subject to registrations is unknown. The amount may, however, be cumulatively significant as each registrant may impound up to 100 acre-feet per year. Again, if every drop counts, the cumulative amount subject to the expanded registration program, and withdrawn from the system, should be quantified.

## The SWRCB's Existing Model for Cumulative Accounting

The SWRCB has an existing model for analyzing the cumulative of diversions. On October 22, 2013, the SWRCB adopted a "Policy for Maintaining Instream Flows in Northern California Coastal Streams" (North Coast Policy). In general, the policy "establishes principles and guidelines for maintaining instream flows for the protection of fishery resources" in streams located in five northern California counties.

A key mechanism in the North Coast Policy is that it provides principles the SWRCB will use in the administration of water rights, including:

...[t]he cumulative effects of water diversions on instream flows needed for the protection of fish and their habitat shall be considered and minimized. (North Coast Policy, at 3.)

Under this policy, a Cumulative Diversion Analysis is required to evaluate impacts to instream beneficial uses. (*Id.* at 8, A-11.) Under this analysis, "the sum of all permit-specified diversion rate limitations . . . shall not exceed the regionally protective maximum cumulative diversion rate." (*Id.* at 7.) The "maximum cumulative diversion rate," in turn "puts limitations on the cumulative rate of water withdrawal in a watershed." (*Id.*)

In operation:

...this policy requires a water right applicant to conduct a water availability analysis that includes (1) a water supply report that quantifies the amount of water remaining instream after senior diverters are accounted for, and (2) a cumulative diversion analysis to evaluate the effects of the proposed project, in combination with existing diversions, on instream flows needed for fishery resources protection. (*Id.* at 8.)

In other words, before a new appropriation is considered, all existing diversions are quantified and a maximum cumulative diversion rate is adopted. As part of this analysis, the SWRCB presumes that "[a]ny increase in diversion or reduction in return flows corresponds to a decrease in streamflow." (*Id.* at 15.) A new appropriation that increases diversions in any amount is thus presumed to correspond to a decrease

in streamflow. Under this policy, if the maximum cumulative diversion rate is exceeded by the proposed diversion, the SWRCB may modify the appropriation accordingly. (*Id.* at 29.)

The Cumulative Diversion Analysis in the North Coast Policy is a thorough method of evaluating the cumulative impact of small diversions on in-stream uses. Indeed, this approach may provide a model for effectively quantifying and analyzing impacts on existing rights and in-stream uses from other types of small diversions such as those made under the LA Permit, the RCA, AB 964 or future policies. Specifically, an analysis that includes a quantification of water remaining after senior diverters are accounted for, and a cumulative diversion analysis to evaluate the effects of the proposed policy would provide much needed data. Under such an approach, the cumulative impact on existing uses could be analyzed and quantified, which may provide a more informed analysis of any proposed alteration to the state's existing water rights system and ensure that every drop is in fact counted.

## Conclusion and Implications

Article 10, § 2 of the California Constitution declares that:

...the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable.

For water to effectively be put to use to the fullest extent, it is arguably necessary to recognize and quantify all contemplated water uses including uses under the LA Permit, the RCA, and AB 964. From a system-wide perspective, the LA Permit, the RCA, and AB 964 are akin to unaccounted tax expenditures, which provide exemptions to a certain group of rate payers and cause a reduction in revenue without being characterized as a direct expenditure. Here, the LA Permit, the RCA, and AB 964 provide exemptions to certain water diverters, and cause a corresponding reduction in supply, even though water is not formally appropriated. In spite of the recent emphasis on improving the accounting of human water use, these policies have indeed taken water out of the system without accounting for their impact on supply.

The SWRCB is further charged with balancing competing uses of water. (Cal. Const., art. X, § 2;

Water Code §1257; *Environmental Defense Fund, Inc. v. East Bay Mun. Utility District*, 26 Cal.3d 183, 198 (1980).) To effectively balance uses in an era when every drop counts, all uses should be quantified. The impacts from the LA Permit, the RCA, and AB 964 on the state's supply are currently unknown, but potentially significant on a cumulative basis.

Improved accounting would allow the state to make more informed decisions regarding competing uses of water, allocation of water throughout the state, and impacts to existing appropriative rights. Indeed, sound system-wide management requires that exemptions to the state's appropriative rights process be fully analyzed and the cumulative impacts of such policies be quantified.

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