



May 22, 2009

**Comments of the Natural Resources Defense Council (NRDC) on the  
Draft 20x2020 Water Conservation Plan (April 30, 2009)**

To the 20x2020 Agency Team:

On behalf of the Natural Resources Defense Council, I appreciate the opportunity to provide comments on the Draft 20x2020 Water Conservation Plan (2020 Plan), developed in response to the governor's directive for the state to reduce per capita water use 20 percent by 2020. NRDC strongly supports the findings and recommendations reflected in the 2020 Plan, and we commend the Agency Team for identifying the broad range of measures that will be necessary to reach the governor's goal.

The recommendations described in Chapter 3 of the Plan lay out at a very general level many of the measures that will be key to transforming California water use. Below we offer some recommendations as to how the Plan could be strengthened.

**Recommendation #1: Establish a Foundation for a Statewide Conservation Strategy Loading Order**

The foundation of a Statewide Conservation Strategy should be the recognition of water efficiency as the least cost, and most environmentally sensitive approach to meeting the future water needs of the state. We urge that as a foundational measure, the state codify water efficiency as the preferred resource, as it did for energy efficiency.

The 2020 Plan implicitly recognizes the primacy of water efficiency, noting that "The *California Water Plan Update 2005* as well as the draft *California Water Plan Update 2009* identifies urban water conservation as the water management strategy that will be most effective at matching supply and demand." (p.1) The 2020 Plan also delineates the multiple, broad benefits of water efficiency, noting that in addition to water supply benefits, water efficiency can help the state:

- mitigate climate change by reducing greenhouse gas emissions
- adapt to climate change by reducing water use
- reduce or delay the capital cost of new infrastructure to treat and deliver water
- reduce the demand for wastewater treatment, including capital costs and ongoing treatment costs
- improve the quality of receiving water related to reduced discharge
- reduce use of fertilizers, pesticides and herbicides and reduce escape of these chemicals into surface waters
- reduce production of green waste
- improve habitat value of urban landscapes

In 2003, California's principal energy agencies established an energy resource loading order to guide their energy decisions. The loading order requires the utilities to: first, pursue all cost-

effective energy efficiency savings; second, meet new generation needs with renewable and clean distributed generation resources; and third, use efficient fossil-fueled generation. The loading order was re-adopted by the energy agencies in 2005 and endorsed by the Governor. The Legislature codified energy efficiency as the top priority resource in 2005, requiring that all utilities “first acquire all available energy efficiency and demand reduction resources that are cost effective, reliable, and feasible.” As a result of the energy loading order and supporting policies, California per capita electricity use is half the national average. California should adopt a loading order to achieve the same result for per capita water use.

*Establish Targets and Goals in Statute/ Mandate Uniform Data Collection/Establish a Statewide Database*

NRDC strongly supports the need to establish water efficiency targets and goals in statute, and is sponsoring legislation (AB 49- Feuer-Huffman) that would achieve this goal. The State has adopted a target-based approach in tackling the issues of global warming (AB 32) and solid waste recycling (AB 939) and the model is readily adapted to water. Even once legislative targets have been established, however, it will be imperative for the state to establish uniform methodologies to be used in calculating gallons per capita daily (GPCD) baseline water use, current water use, and 2020 and interim targets. The state will also have a key role in monitoring and evaluating progress, and enforcing consequences. For that reason, as well as for the general purpose of improving resource management decisions, we also strongly support mandating uniform data collection and establishment of a statewide database to manage this information.

*Population Estimates & Weather Normalization*

One of the key methodological issues involved in calculating GPCD, as described above, is the challenge of coming up with consistent population estimates for each utility service area upon which to base the stated per capita consumption goals. The Department of Finance produces population estimates of cities and counties, which only occasionally will coincide exactly with a utility service area. Wherever these state figures cannot be used as is, which will be in most utilities, estimates will have to be made involving household size, service connections, apportionment between single-family and multi-family residents, and vacancy rates. With all consumption divided by population, it's easy to see that a utility could produce a higher population estimate to help it meet its gpcd compliance target. Conversely, some water agencies might low-ball their population estimates during the baseline period to make it easier for them to hit their reduction targets in the out years.

Since there is bound to be some inaccuracy creeping into the process, the key public policy goal would be the development of a *consistent* methodology that all water agencies must follow. Similarly, the State should adopt a uniform weather-normalization method. We recommend that a deadline for preparation of such methodologies be included as a near term task, to be completed in early 2010.

**Recommendation #2 Reduce Landscape Irrigation Demand**

The 2020 report points out that landscape water use represents half or more of urban water use, and thus, significant improvements in this area will be necessary for the state to reach its 2020 goal. However, the specific policies described in the 2020 report may not be adequate to capture the potential savings in the landscape sector, though some measures included under other recommendations, such as accelerating installation of water meters, supporting landscape irrigation equipment standards, and a public outreach campaign will also help improve efficiency in this sector.

As this is still a relatively new area, since traditional water efficiency programs tended to target fixture replacement, the state should identify key areas for additional research and development. In particular, there may be issues related to use of alternative water supplies, such as recycled water, greywater, and stormwater, where additional R&D could help overcome real or perceived barriers. For example, at this time, the opportunity for increasing the beneficial use of graywater outdoors for irrigation under newly proposed plumbing code regulations is somewhat in doubt. As long as there is a requirement to size a graywater system to fully discharge within a short period of time, i.e., 24 hours, such a requirement virtually ensures that graywater will not be able to be consistently applied in an efficient and beneficial manner for irrigation purposes, since irrigation applications need to account for ambient weather conditions. What's more, if graywater cannot be applied as surface irrigation, its usability for turf grass irrigation is virtually nil. Research to identify on-site treatment options that would allow either or both of these requirements to be removed could greatly improve the prospects for the beneficial use of graywater for irrigation.

**Recommendation #3 Reduce Water Waste**

*Water Accounting and Water Loss Control*

A long overdue revision to the Water Loss BMP (BMP #3) is underway, and likely to be adopted by the California Urban Water Conservation Council (CUWCC) by this Fall. To complement this initiative, State policies should include the following:

- Require annual reporting of system water audits by all water service providers to the state. Water audit results should be publicly posted. Audit reports should be attested to by an appropriate manager of the reporting agency.
- Require annual water audit reporting to include apparent losses as well as real losses. Apparent losses in the form of underreporting water meters send an erroneous price signal to the effected accounts and are unfair to other consumers. Furthermore, an accurate assessment of apparent losses is essential for making a reliable assessment of real losses.
- Setting a standard for real losses of 40 gallons per connection per day may be appropriate as an interim standard or a default value. However, such a standard may, in some service areas, leave cost-effective opportunities to reduce losses unachieved. The goal of state policy should be the elimination of *virtually all* losses that are economically recoverable. Within the next two years, the state should adopt a uniform method for each utility to use to determine the economically recoverable level of losses, understanding that as technology, water costs, and energy costs change over time, the specific level of economically recoverable losses will change as well. Once such a methodology has been developed and employed, the state should require that each utility adopt a plan to reduce losses to the economically recoverable level and maintain such performance over time.

**Recommendation #4 Reinforce Efficiency Codes and related BMPs**

*Statewide Retrofit on Resale*

Statewide retrofit upon resale ordinance is included in Chapter 3 as a potential approach to reinforce efficiency codes. We support such an approach.

The most prominent accomplishment of CUWCC's first ten years is the replacement of over 2 million inefficient toilets with water efficient models under BMP 14. Yet BMP 14 required water agencies to achieve rates of replacement that are equivalent to the application of a retrofit on resale requirement within their service territory. Rates of property turnover have been

established for most counties, and it is apparent that relatively few agencies ever attained the level of replacement that would have been achieved by *actually adopting* a retrofit-upon-resale ordinance.

Retrofit-on-resale requirements have been in successful operation for many years in Los Angeles, Santa Monica, San Diego, and elsewhere, and proposed legislation (SB 407 – Padilla), which NRDC supports, would expand this program to the state level. An alternative to avoid placing any burden on realtors would require retrofit upon change of name on any customer water account, as is done by Marin Municipal Water District. Here the burden is on the utility to track the turnover of the housing stock and put procedures in place that require verification of compliant fixtures, or necessary change-outs by a date certain, for all new account holders. Either approach would vastly accelerate replacement of remaining inefficient fixtures.

**Recommendation #5 Provide financial incentives**

*Public Goods Charge*

We are particularly pleased that the 2020 Plan supports adoption of a Public Goods Charge on water sales. As noted by the 2020 Plan, the recommendation for a PGC was included in the AB 32 Scoping Plan, and has been a key to the state's successful energy efficiency programs. Funding for water efficiency lags far behind that for energy efficiency in California. A dedicated funding source for water efficiency provided by such a charge would be transformational, and could be used to support many of the measures included in the 2020 Plan.

*Decoupling*

Decoupling sales from revenue has been a key element of California's remarkable success in energy efficiency. The 2020 Plan correctly points out that the CPUC has adopted such a revenue adjustment mechanism for Class A investor-owned water utilities. Use of such an approach, however, is not limited to publically regulated utilities. Some public water agencies, including LADWP, have also adopted similar mechanisms. The state should explore how to encourage or require broader use of decoupling mechanisms by water agencies.

*Take-or-Pay Contracts*

The state should eliminate any take or pay requirements from wholesale water supply agreements, including the SWP. At a minimum, the State should bar such provisions from any new or renewed wholesale contracts.

*Wastewater Volumetric Pricing*

Volumetric pricing is a well-established technique for the efficient management of water and wastewater systems. The Bureau of Reclamation considers volumetric pricing a "fundamental" conservation practice that should be at the core of any urban or agricultural agency's water management program.<sup>1</sup> BMP 11 calls for metering of water deliveries to customers and billing with volumetric rates. It further calls for agencies that are both water and sewer providers to bill for sewer service on a volumetric basis, and for water agencies that do not provide sewer service to make good faith efforts to encourage the wastewater agencies in their service areas to bill by volume.

Remarkably, only about 13% of the state's wastewater treatment providers bill their customers by volume, while 86% bill with flat rates unrelated to volume, often collected along with

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<sup>1</sup> "Reclamation Policy for Administering Water Conservation Plans Pursuant to Statutory and Contractual Requirements," Commissioner's memorandum to Area Managers, December 10, 1996.

property tax payments.<sup>2</sup> Several of the state's largest wastewater service providers *do* bill by volume, so the relative share of residential customers billed with flat rates is somewhat less, about 70%. Nevertheless, the number of non-volumetric customers – some 20 million – dwarfs the numbers involved in the more widely publicized issue of unmetered, flat rate billing for water service in various cities in the Central Valley, which total about 2 million customers. Indeed, a comparison of the two numbers indicates that about 18 million Californians, well over half the state's population, receive water service through a metered connection but receive sewer service without regard to volume. Black & Veatch reports that in Arizona, 68% of sewer rate structures are volumetric, and in Texas and Florida over 97% bill by volume.

Wastewater volumetric rates may be based upon a consumer's entire metered consumption, or on levels of usage deemed to be more representative of indoor uses that discharge to sewers, such as water consumption in mid-winter months. While indoor water use is recognized as being less responsive to price signals than outdoor use, even the limited elasticity assigned to indoor use (-.10) by DWR would yield significant water savings (>100,000 af/yr) across the huge customer base affected by this issue.<sup>3</sup> To the extent that wastewater charges were based upon total water deliveries (i.e., not specifically designed to focus on indoor use alone), potential water savings would be even greater.

The State Water Resources Control Board should develop policy guidance on this issue and require that appropriate conditions and timetables be written into the NPDES permits of wastewater dischargers as they come up for renewal. State legislation may be useful to guide the data sharing efforts of water and wastewater utilities, including an appropriate allocation of data handling costs. All Californians connected to sewer service should be covered by volumetric rates by 2020.

Recommendation #6 Implement a statewide conservation public information and outreach campaign

We support such a program, which may be particularly helpful in targeting behavioral changes, including landscaping choices.

Recommendation #7 Provide new or exercise existing enforcement mechanisms to facilitate water conservation

The approach of tying grant eligibility into compliance with BMPs or GPCD targets, as required by AB 1420 and proposed in AB 49 is a good first step, but as the 2020 Plan points out, may not reach all water agencies. We support the provision of additional enforcement tools for water agencies and increased use of existing mechanisms by the State Board.

Additionally, we propose that water efficiency be more fully integrated into water-related state activities, consistent with the concept of prioritizing water efficiency in a loading order. Each applicant for state financial assistance for water and wastewater facilities and each utility applying for a new, renewed, or amended water or wastewater appropriation or discharge permit should provide a demonstration that the size and volume of water and facilities covered by the application are consistent with the achievement of the applicable 20x2020 goals. State agencies should adopt a consistent methodology for applicants to demonstrate compliance.

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<sup>2</sup> Black & Veatch Corporation, *California Wastewater Rate Survey 2000*, 2000, p. 2.

<sup>3</sup> Bulletin 98-160, p. 4A-5. Single-family residential price elasticities were assumed to be -0.1 for winter months and -0.2 for summer months.

Recommendation #8 Investigate potential flexible implementation measures

NRDC supports providing implementation flexibility by allowing water agencies to meet GPCD targets on an individual agency or on a regional basis. Further expansion of a cap and trade type program would necessitate substantially better information and data management than the state or agencies currently have. Such an approach should be explored as a means to maximize cost-effectiveness as such data becomes available. Any such program would need careful attention to equity implications, but could, if properly structured, assist disadvantaged communities.

Recommendation # 9: Increase the use of recycled water and other non-traditional sources of water

We agree that increased use of alternative supplies will be key to meeting California's future water needs while protecting the environment. However, the report does not provide any detail as to how the state will increase use of these resources. We offer the following preliminary recommendations on recycled water and storm water capture, and urge a more thorough exploration of how to increase use of these resources during the first phase of 2020 Plan implementation.

*Water Recycling*

Recycled water policy calls for the state to increase the use of recycled water over 2002 levels by at least one million acre-feet per year by 2020. The 2020 Plan can help achieve this goal by requiring "purple piping" for new development, requiring old sewage treatment plants to upgrade to tertiary treatment, and provide funding for the infrastructure needed to deliver water from tertiary-level wastewater treatment plants to customers.

The State Board should direct that Regional Boards no longer approve 301(h) waivers for sewage treatment plants and instead require them to upgrade. When upgrades occur (either from primary to secondary, in the case of the waivers, or for routine upgrades or expansions, in the case of other aging secondary plants), Boards should encourage applicants to upgrade to tertiary treatment.

*Low-Impact Development*

To reduce the need to import water from energy intensive and environmentally damaging sources, the State Board should require in every new or renewed storm water permit on-site retention of storm water at new and redevelopment projects in California of at least the volume of the 85th percentile storm event, emphasizing practices that infiltrate storm water into the ground to recharge groundwater aquifers, or capture storm water runoff for on-site reuse in landscape irrigation and other applications that would otherwise consume potable water supplies.

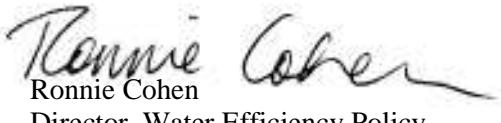
**Conclusion**

We greatly appreciate the comprehensive approach that the Agency Team used to consider the full range of measures that can help improve water use efficiency in California, and understand that resource constraints may have prevented delineation of a more detailed implementation plan and timeline. Nonetheless, these are obviously key to assuring the Plan's success, and we hope that more details on program implementation, including monitoring and evaluation, will be forthcoming.

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Thank you for considering these comments. We look forward to working with the Agency team to finalize and implement the 2020 Plan.

Sincerely,



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