October 14, 2016

Submitted via email to AgWUE@water.ca.gov

RE: Agricultural Advisory Group Recommendations

Dear Executive Order State Agencies:

The Natural Resources Defense Council (NRDC) and The Pacific Institute appreciate the opportunity to provide comments to the Department of Water Resources (DWR or the Department), the State Water Resources Control Board (SWRCB or the Water Board), the California Department of Food and Agriculture (CDFA), the California Public Utilities Commission (CPUC), and the California Energy Commission (CEC) (henceforth referred to as the "EO State Agencies"). Governor Brown's Executive Order B-37-16 (EO B-37-16) directed the EO State Agencies to take actions to use water more wisely, eliminate water waste, strengthen drought resilience, and improve agricultural water use efficiency and drought planning. Our recommendation focuses on actions that DWR and the SWRCB should take to improve planning and water use efficiency in California's agricultural sector. As agriculture is the largest user of the state's developed water supply, it plays a critical role in helping California achieve a more sustainable water future.

We recommend that DWR and the SWRCB take the following action to implement the directives of EO B-37-16:

<u>Final Directive</u>

I. Initiate SWRCB enforcement action against agricultural water suppliers that do not comply with requirements pertaining to agricultural water planning and implementation of efficiency practices.

Our recommendation, which is explained in greater detail below, will help implement the California Water Action Plan and achieve the executive order's vision of "making water conservation a California way of life."

I. *Initiate SWRCB enforcement action against agricultural water suppliers that do not comply with requirements pertaining to agricultural water planning and implementation of efficiency practices*

DWR should refer agricultural water suppliers that repeatedly fail to submit required AWMPs and Farm-Gate Delivery Reports or implement critical and conditional EWMPs to the Water Board for investigation and enforcement action, including, but not limited to, findings of waste and unreasonable use of water. If DWR cannot streamline the entire AB 1404 process as outlined in our first recommended action under Directive 6 of EO B-37-16 (submitted separately), we recommend that the reporting function be transferred to the Water Board entirely.

* * *

We respectfully request consideration of this recommendation. We look forward to working with the EO State Agencies to fully implement Governor Brown's May 2016 executive order. By doing so, we can make progress in using our precious water resources more wisely, better preparing communities for periods of limited water availability, and enhancing California's resilience to future droughts and climate change.

Sincerely,

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October 14, 2016

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RE: Agricultural Advisory Group Recommendations

Dear Executive Order State Agencies:

The Natural Resources Defense Council (NRDC), California Climate & Agriculture Network, Community Alliance with Family Farmers, and The Pacific Institute appreciate the opportunity to provide comments to the Department of Water Resources (DWR or the Department), the State Water Resources Control Board (SWRCB or the Water Board), the California Department of Food and Agriculture (CDFA), the California Public Utilities Commission (CPUC), and the California Energy Commission (CEC) (henceforth referred to as the "EO State Agencies"). Governor Brown's Executive Order B-37-16 (EO B-37-16) directed the EO State Agencies to take actions to use water more wisely, eliminate water waste, strengthen drought resilience, and improve agricultural water use efficiency and drought planning. Our recommendations focus on actions that DWR and the SWRCB should take to improve planning and water use efficiency in California's agricultural sector. As agriculture is the largest user of the state's developed water supply, it plays a critical role in helping California achieve a more sustainable water future.

We recommend that DWR and the SWRCB take the following actions to implement the directives of EO B-37-16:

Directive 6

I. Streamline the annual reporting of farm-gate water deliveries required by AB 1404 to improve the quality, timeliness, and accessibility of reported information and to remedy widespread non-compliance;
II. Establish flexible scheduling of water deliveries to customers as a critical EWMP to reduce water waste;

Directive 11

III. Adopt a standardized reporting format and require electronic filing to improve public access, review, and use of Agricultural Water Management Plans (AWMPs);

IV. Develop an AWMP worksheet for agricultural water suppliers to report the implementation status of critical and conditional efficient water management practices (EWMPs);
V. To facilitate implementation of conditional EWMPs, publish a practical and standardized methodology for agricultural water suppliers to use to evaluate the local cost effectiveness and technical feasibility of conditional EWMPs, and develop an AWMP worksheet for reporting these results;
VI. Establish *promotion of soil health* as a new conditional EWMP;

Directive 12

VII. Permanently extend AWMP and EWMP requirements to agricultural water suppliers serving between 10,000 and 25,000 irrigated acres, and continue to make resources available to help these suppliers prepare AWMPs and implement the required water efficiency practices;

Final Directive

VIII. Establish substantive acceptance criteria for AWMPs regarding content and quality;
IX. Identify opportunities for peer-to-peer knowledge sharing of agricultural water management best practices; and
X. Decline to accept grant and loan applications from agricultural water suppliers that do not comply with planning and reporting requirements.

Our recommendations, which are explained in greater detail below, will help implement the California Water Action Plan and achieve the executive order's vision of "making water conservation a California way of life."

I. *Streamline the annual reporting of farm-gate water deliveries required by AB 1404 to improve the quality, timeliness, and accessibility of reported information and to remedy widespread non-compliance*

Delivery of water for irrigation purposes is the core function of agricultural water suppliers. While reporting of annual water deliveries to farm gates has been required by law since 2013, fewer than half of all districts have consistently complied with this reporting requirement, and filed forms often lack required information. The volume of water delivered is crucial for assessing district and on-farm efficiencies, current and projected demands at both the district and basin levels, and assuring that all diverted water is being put to beneficial use. Nevertheless, Farm-Gate Delivery Reports are not consistently submitted electronically, nor are they publicly posted for review and analysis. Moreover, the archiving of paper and PDF reports and report data by DWR is disorganized and confusing. For example, the Department maintains two different databases to archive the data reported by suppliers with the older database, which houses the

overwhelming majority of records, containing incomplete data from the 2012-2014 reports. We recommend that DWR streamline the entire AB 1404 process by:

- Assembling an accurate database of all agricultural water suppliers responsible for reporting water deliveries;
- Requiring the submission of reports in a functional format that will allow for electronic compilation and posting;
- Reviewing submitted forms for accuracy and completion prior to acceptance;
- Notifying all delinquent filers of the status of their submission, or lack thereof; and
- Deferring the processing of any application for state financial assistance from any non-compliant water supplier until its reporting deficiencies are cured.

II. *Establish flexible scheduling of water deliveries to customers as a critical EWMP to reduce water waste*

Modernizing water delivery infrastructure and management systems is a critical step toward improving the water use efficiency of California agriculture. The fixed-schedule water deliveries currently used by many irrigation districts are inherently wasteful because they force the application of water without regard to recent or forecasted precipitation, current soil moisture levels, or crop water needs. In fact, more than 5,300 California farms, or 12% of irrigated farms, still receive water on a rotational and not on an as-needed basis.[1] Requiring water suppliers to offer 24-hour arranged demand delivery would drastically reduce water waste by enabling farmers to precisely time irrigation to meet crop water requirements without impacting crop yields. Providing flexible delivery is also necessary for many on-farm efficiency improvements, including regulated deficit irrigation and drip irrigation. These practices combined-- efficient irrigation technology, improved irrigation scheduling, and regulated deficit irrigation-- could help save between 4.5 million and 6.0 million acre feet of water each year.[2] Agricultural water suppliers already are required to implement flexible water delivery to customers if determined to be locally cost-effective and technically feasible.[3] However, given the significant water savings possible from implementing flexible water delivery systems, DWR should establish this practice as a critical EWMP.

[1] U.S. Department of Agriculture, "Table 22. Methods Used in Deciding When to Irrigate: 2013," *2013 Farm and Ranch Irrigation Survey* (2014), available at https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Farm_and_Ranch_Irrigation_Survey/fris13_1_022_022.pdf.

[2] http://pacinst.org/app/uploads/2014/06/ca-water-ag-efficiency.pdf

[3] CA Water Code § 10608.48(c)(6): "Increase flexibility in water ordering by, and delivery to, water customers within operational limits."

III. *Adopt a standardized reporting format and require electronic filing to improve public access, review, and use of AWMPs*

While AWMPs are posted publicly on DWR's website, the Department can facilitate further review of these plans by requiring that each AWMP and future amendments to a plan be submitted electronically and in a standardized format. Currently, use of the AWMP template and worksheets is merely encouraged and not required even though Section 10608.48(e) of the California Water Code requires agricultural water suppliers to report data in a standardized format.[4] As a result, the content and structure of plans varies from one plan to another, making it difficult for those evaluating a plan (including agency officials, academic researchers, other districts interested in learning from their peers, and other stakeholders) to readily locate information. Ensuring consistency in the format and content of AWMPs will help to facilitate review of these plans by both DWR staff and other stakeholders, including the public. Additionally, requiring electronic submission of plans, as is required of urban suppliers, will provide for expedited review and public posting of AWMP data, including for research purposes and peer-to-peer sharing among districts.[5]

IV. *Develop an AWMP worksheet for agricultural water suppliers to report the implementation status of critical and conditional EWMPs*

California law explicitly identifies the specific EWMPs that agricultural water suppliers must implement.[6] Water suppliers supplying more than 25,000 irrigated acres are required to implement critical EWMPs, such as measurement of the volume of water delivered to customers and adoption of a pricing structure that is based at least in part on the amount of water delivered, and additional EWMPs if found to be "locally cost effective and technically feasible."[7]

As previously mentioned, DWR has developed optional worksheets for agricultural water suppliers to use to fulfill AWMP requirements. Yet there is no single worksheet that provides an overview of an agricultural water supplier's implementation of the two critical and 14 conditional EWMPs. The Department should develop and require agricultural water suppliers to use such a worksheet for reporting the implementation status of EWMPs. This will allow DWR to better more efficiently and effectively assess whether water suppliers are implementing the efficiency practices required by law.

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[4] DWR, *A Guidebook to Assist Agricultural Water Suppliers to Prepare a 2015 Agricultural Water Management Plan* (June 2015), p. 9, available at http://www.water.ca.gov/waterconditions/docs/Approved-Final-2015-AWMP-Guidebook-June2015.pdf. CA Water Code § 10608.48(e) states that "[t]he [agricultural water management] data shall be reported using a standardized form developed pursuant to Section 10608.52."

[5] For comparison, SB 1420 (2014) added Section 10644(a) to the CA Water Code, which requires electronic submission and standardized tables for urban water management plans. Further, DWR has established the Water Use Efficiency (WUE) data tool to allow for urban water suppliers to submit data online (available at https://wuedata.water.ca.gov/).

[6] CA Water Code § 10826.

[7] CA Water Code § 10608.48.

V. *To facilitate implementation of conditional EWMPs, publish a practical methodology for agricultural water suppliers to use to evaluate the local cost effectiveness and technical feasibility of conditional EWMPs, and develop an AWMP worksheet for reporting these results*

State regulations require agricultural water suppliers to implement 14 additional water efficiency practices if they are determined to be "locally cost effective" and "technically feasible."[8] Furthermore, DWR's AWMP guidebook states that agricultural water suppliers must include "documentation that non-implemented EWMPs [are] either not locally cost-effective or technically feasible."[9] Yet a cursory review of select AWMPs indicates that agricultural water suppliers are not providing this documentation as required.[10]

The Department must conduct greater oversight of agricultural water suppliers' implementation of the 14 conditional EWMPs. At the same time, there is a key opportunity for DWR to develop additional technical resources to support meaningful implementation of these efficiency practices. DWR can and should assist agricultural water suppliers by publishing a practical methodology and requiring its use in evaluating the local cost-effectiveness and technical feasibility of the 14 conditional EWMPs. This methodology should be published by January 2019 for use in developing the 2020 AWMP updates. DWR should also develop an AWMP worksheet for agricultural water suppliers to use to report the outcomes of the cost-effectiveness and technical feasibility evaluations, which would have the added benefit of helping to determine the amount of funding needed to support greater adoption of efficiency practices.

VI. *Establish promotion of soil health as a new conditional EWMP*

Practices that improve soil health, such as conservation till and cover cropping, can reduce the need for irrigation by increasing the water infiltration and storage capabilities of soil. On average, conservation-till farmers use 30 percent less irrigation water than their conventional tilling peers.[11] As CDFA is well aware, healthy soil also has many additional benefits, including increased soil fertility, reduced erosion, drought resilience, and carbon storage.[12] A 2015 NRDC analysis estimates that if half of the total field crop acres in California were planted with cover crops, approximately 540,000 metric tons of greenhouse gases could be captured annually and

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[8] CA Water Code § 10608.48(c).

[9] DWR 2015, *A Guidebook to Assist Agricultural Water Suppliers to Prepare a 2015 Agricultural Water Management Plan*, p. 58.

[10] As described in a NRDC letter to Fethi BenJemaa, DWR, (dated September 14, 2016), Lower Tule River Irrigation District's AWMP does not include sufficient documentation of the lack of local cost-effectiveness or technical feasibility for conditional EWMPs not being implemented.

[11] U.S. Department of Agriculture, "Crop production practices for corn: All survey states," accessed October 6, 2016, available at http://www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices/tailored-reports-farm-structure-and-finance.aspx?reportPath=/ARMSr4/Farm finances&survey_abb=CROP&report_num=3&subject_num=1&series=TILLTYP&fips_st=00&series2=FARM&statYear=2010.

[12] CDFA, "Healthy Soils Initiative," accessed September 28, 2016, available at https://www.cdfa.ca.gov/oefi/healthysoils/.

10.9 billion gallons of additional water could be stored in the soil.[13] In recognition of the multiple benefits from improving soil health, DWR should establish a new conditional EWMP for agricultural water suppliers to facilitate or promote beneficial on-farm practices that improve soil health. For example, an agricultural water supplier could implement this EWMP by providing funding for conservation plantings, offering cost shares for cover cropping, or facilitating compost application on farms within its service area.

VII. *Permanently extend AWMP and EWMP requirements to agricultural water suppliers serving between 10,000 and 25,000 irrigated acres, and continue to make resources available to help these suppliers prepare AWMPs and implement the required water efficiency practices*

Directive 13 of Executive Order B-29-15 required agricultural water suppliers serving between 10,000 and 25,000 irrigated acres, which were conditionally exempted from SBx7-7 planning regulations, to develop and submit an AWMP by July 1, 2016.[14] Directive 12 of EO B-37-16 directs the Department to permanently extend AWMP requirements for these agricultural water suppliers. We fully support DWR's proposal to require all agricultural water suppliers serving over 10,000 acres of irrigated land to adopt an AWMP by December 31, 2020 and every five years thereafter. However, these suppliers must also be both required and enabled to implement critical and conditional EWMPs. Thus in addition, we support making resources available to help these suppliers prepare AWMPs and implement the required water efficiency practices.

VIII. *Establish substantive acceptance criteria for AWMPs regarding content and quality*

The usefulness and effectiveness of agricultural water management planning would be greatly enhanced by the establishment of a plan review system within DWR that considers the substance (i.e., content and quality) of plans, rather than simply checking for the inclusion of required elements. DWR should contract for independent professional and academic expertise to evaluate submitted AWMPs, guided by these new substantive criteria for the acceptance of plans as complete. Greater attention should be given to areas including the validity of reported data, the accuracy of calculations, the range of new technologies and practices assessed and implemented in the plan, linkages to capital budgeting, and the sources and quality of forecasted conditions. Each of these areas would contribute to the development of plans that are more actionable for districts themselves, and more valuable for the state in any regional, basin-wide, or statewide planning and analysis. Each area could also become a topic of focus for expanded guidance and technical assistance. DWR's current practice of checking for required plan elements without regard to quality or content encourages plans with superficial coverage and shallow analysis of measures and strategies that otherwise offer great promise for improving water management.

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[13] NRDC, "California," *Climate-Ready Soil: How cover crops can make farms more resilient to extreme weather risks* (2015), available at https://www.nrdc.org/sites/default/files/climate-ready-soil-CA-IB.pdf.
[14] Executive Order B-29-15 (April 1, 2015).

IX. *Identify opportunities for peer-to-peer knowledge sharing of agricultural water management best practices*

Regional workshops dedicated to peer-to-peer learning (including sessions at existing conferences) should be offered to: (1) assist districts with the planning process and (2) enable agricultural water suppliers to share success stories and strategies for overcoming challenges related to the AWMP process and implementation of critical and conditional EWMPs. Although each district faces its own unique challenges, both with planning and with EWMP implementation, providing an opportunity for districts to share their own success stories and strategies for overcoming challenges would be an effective way to ensure that districts are getting the maximum benefit from the planning process.

These knowledge sharing forums would enable water suppliers, extension agents, researchers, consultants, and other stakeholders to discuss best practices and emerging technologies for planning and assessment, water conservation and efficiency, water measurement, water pricing, capital projects, and finance strategies, among other topics. DWR should work with the Water Board and other state agencies to identify new and existing opportunities to facilitate peer-to-peer learning.

X. *Decline to accept grant and loan applications from agricultural water suppliers that do not comply with planning and reporting requirements*

While AWMP regulations have been in place for several years, compliance by agricultural water suppliers continues to be a pervasive problem. In 2013, NRDC and Pacific Institute found that 70 percent of California's irrigation districts had failed to submit their required 2012 water management plan.[15] This lack of compliance has persisted with the most recent 2015 AWMPs. Approximately 40 percent of the agricultural water suppliers supplying more than 25,000 irrigated acres still have not adopted and submitted an AWMP even though there was a January 2016 deadline.[16] Additionally, nearly 70 percent of the agricultural water suppliers serving 10,000-25,000 irrigated acres have yet to adopt and submit an AWMP although there was a compliance deadline of July 1, 2016.[17]

State law prohibits agricultural water suppliers from receiving "a grant or loan awarded or administered by the state" unless they have complied with AWMP requirements.[18] Yet this prohibition largely has not been effective in increasing compliance rates due to DWR's historically lax approach to enforcing this provision and the lack of interest by some suppliers in

[15] NRDC and Pacific Institute, *Implementation of the Agricultural Water Management Planning Act*: *A Review of Agricultural Water Management Plans* (2013), available at https://www.nrdc.org/resources/implementation-agricultural-water-management-planning-act.
[16] CA DWR, "2015 Agricultural Water Management Plans," accessed September 28, 2016, available at http://www.water.ca.gov/wateruseefficiency/.
[17] *Ibid.*
[18] SBx7-7 (Water Conservation Act of 2009), codified at CA Water Code § 10852.

receiving state loans or grants. Although required by state law and Governor Brown's April 2014 executive order, DWR has failed to condition grant eligibility on agricultural water suppliers submitting required plans and reports.[19] To remedy this, the Department must make it a matter of standard practice to reject applications for state funding from agricultural water suppliers that have not submitted an AWMP and all required Farm-Gate Delivery Reports by the application deadline. Timely submission of these plans and reports should be a prerequisite before DWR even begins to evaluate a grant application.

Further, many agricultural water suppliers that have submitted an AWMP are not fully implementing the required critical and conditional EWMPs, and/or have not provided the required analysis to demonstrate that conditional EWMPs not being implemented are neither locally cost effective nor technically feasible. A recent NRDC review of proposed DWR Prop 1 grant awards indicated that many agricultural water suppliers poised to receive funding have not complied with requirements relating to the implementation of critical and conditional EWMPs.[20] To address this issue, the Department must conduct a more substantive assessment of AWMPs to determine the implementation status of the required efficiency practices by agricultural water suppliers. While state regulations prohibit providing state grants or loans to agricultural water suppliers not in compliance with AWMP requirements,[21] suppliers that have not implemented the critical EWMPs are still eligible for state funds if they have submitted to DWR for approval "a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the efficient water management practices."[22] To ensure compliance with these regulations, the Department should include language in standard grant award agreements that establishes clear timetables for implementing critical EWMPs and financial consequences, such as repayment of grant funds, for failing to implement according to the agreed upon schedule.

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We respectfully request consideration of these recommendations. We look forward to working with the EO State Agencies to fully implement Governor Brown's May 2016 executive order. By doing so, we can make progress in using our precious water resources more wisely, better preparing communities for periods of limited water availability, and enhancing California's resilience to future droughts and climate change.

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[19] As referenced previously, NRDC's review of DWR's proposed 2015 Prop 1 Agricultural Water Use Efficiency grants identified $2.7 million in funding proposed for agricultural water suppliers that have not submitted a 2015 AWMP and $15 million in funding proposed for suppliers that have not submitted required annual Farm-Gate Delivery Reports.

[20] A NRDC letter to Fethi BenJemaa, DWR, on September 14, 2016, provides several examples: Reclamation District 108, Richvale Irrigation District, and Semitropic Water Storage District have not fully implemented or submitted a sufficient compliance plan for implementing critical EWMPs. Similarly, Lower Tule River Irrigation District has failed to include sufficient documentation in its AWMP that implementation of conditional EWMPs are neither locally cost-effective nor technically feasible.

[21] CA Water Code § 10608.56(b).

[22] CA Water Code § 10608.56(d).

Sincerely,

Ben Chou

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