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May 22, 2009

State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

IN RE: 20X2020 Water Conservation Plan Draft April 30, 2009

Dear Board Members,

The California Association of Nurseries and Garden Centers appreciates the opportunity to provide comments on the April 30, 2009 draft of the 20X2020 Water Conservation Plan. We also give notice of our intent to make oral arguments during the workshop on May 29, 2009.

General Comments. We remain very concerned and critical of the notion that the scientific basis of recommendations regarding water conservation measures for landscapes should totally rely on WUCOLS for plant water use. The language does not allow accommodation of newer, more accurate information. It restricts and classifies plant species, varieties, and cultivars by committee consensus rather than by scientific evaluation and by making broad category definitions (e.g. cool-season turfgrasses) it ignores the differences between water-conserving grass varieties within a general category. The good is clumped together with the bad. Less than 30 ornamental plant species out of 5,000 or more in cultivation in the horticultural trade have been scientifically evaluated for evaporation data. The technology is well developed for farming crops, but its application via WUCOLS to ornamental landscape plantings is premature and without solid scientific basis.

A second general comment is our concern regarding inclusion of overlapping and accumulative mandates referred to in the plan as "a comprehensive suite of programs to improve landscape water use efficiency in California" (pg. 22) that restrict legitimate choices, options, and actions. This "comprehensive suite of programs" is justified based on non-GPCD water conservation elements (i.e. "benefits such as improved water quality, reduced energy use, and corresponding greenhouse gas emissions, more storm water capture, and less production of green waste") inappropriate to the scoping statement given the drafters of the plan; therefore, they are as out of place here as were other rejected considerations (e.g. recycled water sources, losses in transmission, non-urban use, non-potable water use, user-supplied water, etc). Further, it is entirely one thing to set forth a broad objective (e.g. 17% GPCD) and allow consumers, water agencies, and industry to comply using wholly appropriate measures drawn from the entire spectrum of choices, and quite another to mandate this "comprehensive suite" with an objective, tiered water rates based on consumption, setting of irrigation intervals, restricting plant choices, requiring installation of irrigation sensors and equipment, forcing compliance with EATF-based consumption, and mandating irrigation zoning. The cumulative effect of these overlapping and frequently conflicting mandates is inconsistent with past precedents of regulatory oversight except in criminal-violation penalty setting circumstances. Further, we caution that the process employed, working group composition, availability of quantified research, and potential for un-anticipatable future inventive discoveries regarding irrigation science and plant husbandry make prediction of the impact of these overlapping mandates impossible.

A third general comment pertains to confusion of "outdoor water use" (page 14, et al) with "landscape water use" (page 22, et al) as defined in the draft. This point is most remarkable on page 34 of the plan, where it states "An estimated 50% of total urban potable water is applied to urban landscapes. This sector of water use has the greatest potential for reduction." On pg 14, the draft states that outdoor water consumption in all regions exceeds 40% of urban consumption, is approximately 50% of all GPCD in regions 5-10, and almost 70% of demand in regions 9-10. (Note error: zones 9 and 10 are classified twice, once with 50% and once with 70%). The two terms are therefore incorrectly correlated in the draft. We maintain that insufficient survey data has been cited to quantify landscape watering use from other outdoor water use, and the assumptions of water conservation due to landscape mandates fail to account for significant non-landscape water consumption through such uses as (for instance) residential car-washing, window cleaning, power-spray cleaning, hosing of spills, and recreation use of leisure equipment such as children's water-slides and play pools. The synonymous and interchangeable use of the two terms is inappropriate, misleading, and unfortunate, since "landscape water use" is made to bear the entire "outdoor water use" reduction target in the draft recommendations.

In addition to these general comments, we note the following specifics:

1. On page 17, Potential Conservation Savings from Current Actions, last paragraph, the draft notes "Also, implementation of BMPs to a level that is regionally cost effective can almost double the impact of efficiency codes in certain hydrologic regions, such as San Francisco Bay and South Coast that account for a large share of the state's population, thus also water use." There is no evidence in Table 5 of this assumptive capability, since the line registered "Residential – Outdoor" lists 0% efficiency code water savings for Regions 2 and 4." Assuming a 40% outdoor water consumptive use in regions 2 and 4, one would expect 80% savings attainment compared to regions 5-8, or somewhere between 5 and 10 GPCD. Since these two regions contain more of the state's population than all of the other eight regions combined, this oversight has significant impact on the statewide total for that line and the total savings GPCD potential from baseline water use GPCD.) This also applies to the graphic depiction found in Figure 6, page 26.

2. On page 22, Landscape Practices, 3rd Paragraph: "…In some locations, irrigation restrictions have been combined with subsidies for turf removal. …"

   We note that no consideration is given for replacement of turf grass species that are heavy users of water (such as cool-season grasses) with those that are water efficient (such as warm season grasses including buffalograss UC Verde).

3. The following paragraph on page 22 continues, "In practice, restricting irrigation to one day per week would probably require some major changes. In most parts of the state, lawns can do well with twice weekly irrigation, but not as well with once weekly irrigation. If the more stringent restriction would be put in place, it could be combined with subsidies that incentivize users to convert their turf into drought-tolerant landscapes, or to install drip irrigation. Such "cash for grass" programs have been implemented successfully in California and other states.
   "With twice weekly watering, savings are estimated to be between 11 and 40 GPCD depending on the region. If irrigation were restricted to once per week, then the range would be 20 to 73 GPCD."

   This restriction makes prohibitive ownership and maintenance of any plant that requires more frequent watering, regardless of the total volume restriction or plant's water need. If the goal stated in the Executive Summary is accurate (that is, to reduce the overall amount of water used by some percentage), consideration should be given to either directly restricting use in totality or indirectly achieving reduction through tiered water rates structures. It is inappropriate to manage indirectly by irrigation interval, setting how often or when water may be applied in the landscape.

Scientific study has shown that smaller, more frequent irrigation (for instance, via drip irrigation) may reduce water use overall and offers less waste than infrequent, deep watering subject to runoff. This has the benefit of preserving water efficient species that otherwise would be killed by infrequent watering, and it ignores the potential for water shifting between areas of greater or lesser water need. Irrigation scientists agree that consumers should be incentivized to achieve water savings through goal setting (for instance, via tiered water rates) rather than through an irrigation scheduling approaches that limit flexibility.

Identical issues are raised on page 34, Reduce landscape irrigation demand, paragraph 2, bullet list, bullet 1.

4. On page 30, Establishing targets and goals in statute, bullet points, it seems a huge oversight to our Association that no provision is made in statutory code for a research mandate to establish scientific basis for the various target-setting and deadlines, climate differences, regional compliance issues, differentials of residential water use versus those for other categories, cost-efficacy of compliance measures, and variance between regions due to prior action. An entire section was devoted (Mandate uniform data collection and establish a statewide database, pg. 32) to data collection. The glaring omission of a role for research in attainment and advance of means and methods is remarkable.

5. On page 34, Support the implementation and enforcement of…, the first paragraph states, "The recently updated Model Water Efficient Landscape Ordinance, if complied with as written, will reduce irrigation by roughly 12 percent relative to the earlier Ordinance." This referenced document is also in public comment, and it relies as does the present draft on the WUCOLS data we reject for scientific basis in the general comments. (Out association will be providing comments on the model ordinance directly to that review committee.) The technology of Evaportranspiration ratings is well developed for farming crops, but its application via WUCOLS to ornamental landscape plantings is premature and without solid scientific basis for the reasons enumerated above. Further, there is not a national ET equation accepted and used in all states and regions of the country, but rather a variety of equations are used to determine ETO. Therefore there can be a large difference in the calculated reference ET which requires unique modifiers to correctly estimate plant water use. While this term, ETo would make one think that is the same everywhere, ETo can be calculated using a variety of equations. There can be as much as 30% difference in the calculated ETo depending on what ET equation is used and how a weather station is sited. So although the same weather data can be used, different results are generated. Crop coefficients have been derived and used to modify the reference ET to fit the needs of plants according to the reference ET equation being used. Since crop coefficients are unique to the reference equation that was used to determine them, they are not necessarily transferable from equation to equation or from region to region within California. We draw to your attention a document published by the University of Arizona called "Converting Reference Evapotranspiration into Turf Water Use." (http://ag.arizona.edu/pubs/water/az1195.pdf) Looking at peak water demand of July, there is a 30% difference in the corresponding crop coefficient depending on the equation being used although the same weather data is used to calculate the reference ET. Substitute information such as WUCOLS is often used as a best-guess estimate which may or not be precise or even close.

   Like ETo, ETAF in the Model Ordinance is problematical. The water adjustment factor is confusing to end users because it incorporates a modifier of vague ET information to determine the water needs for specific plants or groups of plants and combines with it an irrigation efficiency factor, in the draft's case, 0.7. There does not appear to be any explanation or justification as to why the factor has been set at this value, and certainly not one based on any scientific study of either newly planted or mature landscape plantings. As an association we do not claim to be experts at knowing the exact amount of water all different kinds of plants need, but we do know that this low plant factor will severely limit the mix and type of plants that could be used in

California residential landscapes and is sufficiently imprecise to cause major errors to be likely, resulting in economic consequences beyond the drafters' scope of intention.

Continuing on the same page, first bullet point, two-day-per-week or less watering may not in fact deliver net water savings. A plan based on water budgeting will deliver the savings sought and should be substituted for irrigation interval regulation. It has the additional benefit of accommodating a broader selection of water-efficient plant species and varieties.

6. On Page 35, Reduce landscape irrigation demand bullet 10: "• Support for rebate programs that fund improved landscape plantings, reduction of turf areas, upgrades to irrigation systems and controllers"

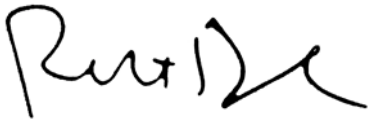
   We suggest adding the language, "promote the use of water-conserving species and varieties of turf grass in turf planting areas" as a number of water-conserving alternatives exist to popular water-consuming species in common use. The term "improved landscape plantings" is imprecise and subject to subjective interpretation.

7. On Page 35, Mandate the landscape irrigation BMP: No provision is made for a qualified, trained staff to review new or renovated landscape plans based on their knowledge of current irrigation technology and plant selection by water efficiency. Such provision is essential to effective and accurate outcomes from the BMPs.

8. On Page 35, Reduce water waste, first paragraph: We suggest inclusion of the concept of proper and timely maintenance of water delivery systems as well as simple leak detection and repair. Our aging water infrastructure and deferred maintenance increasingly provide opportunity for significant losses of potable water.

9. Page 41, top paragraph: This again includes reference to the draft revised Model Water Efficient Landscape Ordinance, which is in public comment. The paragraph fails to provide for the concept of training qualified staff for review, referenced previously on page 35.

Respectfully submitted,



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