From: Tom Ash, Inland Empire Utilities Agency (IEUA), Horticulturalist
To: ITP Members
Date: January 4, 2016

REGARDING: Comments to consider on how data and other information can be coordinated in relation to a range of ITP final report recommendations.

I greatly appreciate the time the Panel took to hear our story of how landscape water efficiency could be monitored and potentially enforced across the state using existing state efficiency standards. We feel this approach is equitable for both agencies and their customers, and is based on objective science and customer level data. I hope the Panel can see that the collection of the necessary data is now accessible from a range of private sector providers, some well-known and previously or currently studied by DWR and other agencies.

As I learned of the issues the Panel is trying to address, I wanted to offer comment and draw links to what you are attempting to do in other recommendations and how the same data, essentially land cover analysis and water budgets, would support and make possible more effective implementation of demand management measures for landscape water use. The following comments are intended for Panel consideration only. They are my observations as a horticulturist and 30 years in the water conservation/water agency world, and from seeing the Panel discussion first-hand. The comments should not be considered as representing IEUA. But, these comments would complement our State Board recommendation letter for considering long-term efficiency reporting/monitoring.

Comments:

Section 4: Voluntary Turf Removal

This seems a very good recommendation and would significantly further the goals of the ITP mission.

This action would benefit from utilizing the land cover data described for use in Section 7.6 (Outdoor water use reporting). With a land cover database it would show where the highest parcel percentage of turf is located for potential removal. If combined with customer water use data, the agency and/or the customer could be shown the value of this turf removal tax credit for the highest cost-benefit to the State. Agencies could also identify the best targets for voluntary turf removal tax credits and promote the program to be most effective.

Section 5: Required Improvements in Existing Landscapes

This is an important recommendation in terms of (1) saving landscape water, (2) bringing older landscapes into line with current and new MWELO efficiency standards, and (3) educating

landowners as to their efficiency, and the responsibility to maintain efficient irrigation on their site. The example of smog-checks is a good one.

The land cover analysis (square footage of the total landscape, sf of turf and other plant materials), water budget calculation and customer water use data, would significantly assist the State and local agencies to fulfill this recommendation. Those sites who exceed the accepted landscape efficiency standard could then be targeted for irrigation inspection and upgrade. It may also serve the State and local agencies to use the sites "water budget" as part of the compliance process…making fixes to irrigation systems, use of mulch, learning to "schedule" irrigation and/or require installation of smart irrigation technology to fully comply with the State landscape efficiency standard. Calculation of a water budget is essential to determining if a site is efficient or inefficient prior to undertaking irrigation system and site remedies.

Section 7: Complementary Policies and Regulations

7.1 – I helped conduct the 1st studies of "smart" or "weather-based" controllers while at IRWD. Smart controllers are not created equal, even if they have been certified as per performance tests. Currently there are two "performance" tests for weather-based controllers, the Irrigation Association Smart Water Application Test (SWAT), and the EPA Water Sense test. The SWAT list includes 37 manufacturers. The EPA Water Sense list includes 18 manufacturers. Some products on the SWAT list have not taken or passed the EPA test. If the ITP or any group requires the installation of a weather-based controller, the tests should be (1) rigorous as to the real capabilities of the products, and (2) transparent with results of the accuracy/ability of controllers.

An example of the different abilities of smart controllers can be seen by the experience of Cal Trans District 12 (Orange County). This District historically used a wide range of weather-based controllers. In 2014 in response to the Governors call for conservation, District 12 standardized on a single smart controller technology that automatically calculates irrigation schedules based on site characteristics and barrows it's watering standards from the Irrigation Association and MWELO. This removed the guesswork of irrigation scheduling from the hands of field staff, untrained in water management and horticulture. Over the next year District 12 achieved a 32% reduction in water use…during the hottest year on record (2015). They achieved the highest percentage of water use reduction of any Cal Trans District in the state. District 12 is now undertaking adding Flow Sensing to all controllers that will eliminate water loss due to leaks and broken lines using the capabilities of their new smart controllers.

The potential for Smart controllers is high, but not guaranteed. Making testing/certification rigorous and transparent will greatly assist agencies and consumers to find and use products that meet ITP goals for landscape water use efficiency.

7.3 – Retail Water Pricing

While I have seen first-hand how water budget rates are the most effective method to change

customer behavior and affect landscape changes, this topic may be beyond the scope of the ITP. However, the same land cover data suggested for ongoing efficiency reporting is used to set water budgets for residential and dedicated irrigation metered accounts for water budget rate structures. Should the State provide or require land cover data for agencies across the state, the use of budget-based rates that drive and enforce site by site landscape water efficiency every billing period, can be propelled, as we are seeing in the SAWPA region.

The use of parcel by parcel land cover, specifically irrigated area, also support the Proposition 218 requirement for "proportionality". A parcel "water budget" that is developed using the DWR MWELO equation, is "equitably proportional" to any location and site circumstance in the state. This is a key issue in the Proposition 218 legislation.

7.6 - Water Use Reporting

Land cover analysis and water budgets are now more available and affordable to agencies. For example, data collection and analysis will be completed for 74 agencies in the SAWPA watershed by Spring 2016. This type of data can be used to (1) provide efficiency-based reporting to the State Board, (2) can establish an equitable, objective and science-based standard for measuring the efficiency of any residential and landscape parcel in the state, and (3) the same data can be used to make other ITP recommendations more effective and meet the objectives established by the Panel. This is the most foundational of data for determining, promoting, enforcing landscape water use efficiency

7.7 – Expanded CIMIS

Daily ET data is essential for efficient landscape water use and development of water budgets that can be used in a wide variety of ways, such as providing an accurate and defensible efficiency standard for both agencies and customers. In the IEUA wholesale area, 230 square miles with a population of 850,000, there is no CIMIS station. Orange County, with a population of 3 million, has 1 CIMIS station located mainly away from the majority of coastal development. The need to expand the CIMIS network is essential to achieving landscape water use efficiency.

A second suggestion is that the criteria for a "CIMIS" station be expanded to include an "urban" ET designation. Currently siting requirements limit the expansion of the CIMIS network. Some water agencies have installed their own CIMIS-like equipment/stations but they do not meet the CIMIS site criteria requirements. These "ET stations" do reflect the conditions that urban landscapes live-in. The ITP could consider a recommendation to allow "urban ET stations", using the same CIMIS station equipment, to be placed on the CIMIS website and designated with another name in order to expand the collection of ET data where it is most needed, the urban environment. This recommendation would also help make Spatial CIMIS more robust and useful to agencies and the private sector.

Section 8: Workforce to Accomplish the Transformation

As a former UC Extension Advisor, I understand the value of proper education and training to enable the landscape workforce to understand the intricacies and importance of landscape water management. The most appropriate and accessible landscape educational platform for landscape transformation is Community Colleges, where over 2 million students attend classes each year. I would recommend consideration of the following:

- Recommend a significant grant program for Community Colleges to apply for and undertake curriculum and facility landscape upgrades (transforming the Community College landscapes) that help prepare future landscape professionals in the art and practice of water efficient landscaping, perhaps including:
    - Assist with and/or fund the development of curriculum for landscape water management, plant materials, irrigation system design and maintenance, etc. offered by Community Colleges with horticultural programs.
    - Create a task force from the State and Community Colleges to create the future "template" for home and commercial landscapes that would be taught across the state.
    - Create a grant or funding ability for the installation of demonstration gardens, class-room labs, and native plant growing grounds across the state. This will help speed the "transformation" of California landscapes due to the high visibility (changing students each semester), provide high educational value and will have high water-savings potential at the campuses themselves.

This suggestion coincides with new State legislation for public agencies to utilize native plants and to upgrade irrigation systems.

I appreciate the time of the ITP. You have a monumental task. I wanted to add observations of how data and the different tasks set by the ITP could be considered in coordination with each other. I see this as a very important part of the current water efforts happening in many areas and with many ideas around the state. Keep up the good work!