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FR: Howard Neukrug, PE, Principal, CASE Environmental LLC
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RE: Observations from an Outsider on the Progress for Fresh Water in Hawaii

Thank you all for inviting me to a fantastic summit! I gained such a deep personal understanding of the rich heritage of water in Hawaii and of the great work underway to ensure clean water for future generations.

To sum up my reactions to the workshop in a couple of sentences:

“When it comes to water, Hawaii is clearly on the verge of something BIG. It has laid the foundation for integrating how water is valued and managed for the benefit of its ecosystems, its communities and its businesses for the 21st century and beyond.”

The State of Water in Hawaii

Although Hawaii’s landscape and water features are so unique and beautiful, Hawaii faces similar problems and trends in its water systems as other US great water cities and states.

Drinking water concerns include:

- Legacy groundwater contamination from the 1950s to the 1970s
- Changes in water availability due to changes in rainfall patterns
- The impact of urban growth on water demand
- Aging infrastructure resulting in increased maintenance costs, water loss and eventual catch-up for facility replacement
- New regulatory and treatment costs, eg desalination

Stormwater concerns include:

- Large areas of impervious cover
- Channelized, unattractive streams
- Chronic localized flooding
- Rising groundwater tables prevent infiltration
- Near-shore water quality concerns from untreated runoff
- Inflow and infiltration into the sanitary pipe network
- No designated stormwater utility or direct cost recovery system

Wastewater concerns include:

- Wastewater treatment expansion will cost Hawaiian’s nearly \$6 billion and infiltration and inflow remain a large cost and concern to the wastewater systems

Climate change concerns:

- Rising tides and impact on infrastructure and tourism

- Impact of Changing weather patterns flooding, drought, crop irrigation
- Changes in extreme weather events may bring new challenge to the resiliency of water systems

Other impacts on the water systems:

- Development, transportation and affordable housing pressures add new burdens onto fragile ecosystems and water and wastewater infrastructure systems.
- Some urban streams are not safe, attractive, accessible

The State of Water Politics in Hawaii

While it seems difficult to get majority concurrence on many environmental issues through any legislative body these days, there appears to be considerable political awareness and leadership to support positive change for water-centric issues in Hawaii at the state, city and county levels.

The recent passage of multiple, significant pieces of state water legislation was punctuated by the passage of law that allows the counties to charge stormwater utility fees to reduce runoff into waterways and the ocean.

This is a critical piece of legislation as it will allow not only new funding sources, but place a market value on Hawaii's rainfall. By moving rainwater into the commodity market, this can become a strong base for balanced and equitable change in managing Hawaii's water.

The State of Collaboration

As an "outsider", it was remarkable for me to observe the level of mutual support and collaboration among foundations, non-profits, academic institutions and the local government offices. While considerable additional work will be needed to hone the message and determine and agree on the top priorities, it is very clear that the groundwork has been laid for a collaborative organizational network towards water progress.

The State of Expertise, Advocacy and Leadership

The Summit highlighted for me, and I am sure for all who attended, the level of expertise and passion exhibited by the Hawaiian government, the consulting community and the University of Hawaii. The ability of the program hosts to bring in national experts to this discussion was notable.

The groundwork lay by the University of Hawaii, the utility leaders and the Hawai'i Community Foundation by preparing a Fresh Water Initiative and blueprint speak volumes of existing collaboration and leadership within the various interested

parties. The integrated vision of TOD Honolulu and the HCF shows a real understanding of One Water principles for effective holistic change.

In Summary

There is considerable momentum for positive change in Hawaii's water future. Effecting real change in the urban water environment will require:

- Bold and visionary leadership
- Clear, focused outcomes and messaging of needs
- A whole-urban-water-transportation-housing-food-energy system approach to problem solving
- Recognition of the evolving, adaptive management strategies required to make big change
- Continued growth of stakeholder involvement to incorporate the culture and interests of the people of Hawaii along with the global expertise and examples of effective change elsewhere

Next Steps

The great vision for the future of Honolulu development was evident on our Monday site tour, where the TOD philosophy is being merged with One Water solutions thinking. This is a clear area to most immediately demonstrate on a large scale the innovative thinking of how to balance ecology, community and business interests in a "Hawaiian Sense of Place".

NOW is also a very critical moment in time to move forward aggressively in the technical, financial, messaging, policy and politics to secure the development of a stormwater utility and fee system. A "pilot" of the program should begin in the City and County of Honolulu, given its focused attention on the water issues, the level of expertise and the potential chronic and acute impacts of no action.

The first step will be perhaps the most difficult - to articulate clear purpose and outcomes expected from this endeavor, its costs and benefits, its integration with other land-use and environmental goals for the State, and the organizational location and structure of the new "utility".

If costs are to be minimized and efficiencies realized, it may be prudent to review the current organizational roles and responsibilities of the existing water utility departments/agencies and re-balance to best support a stormwater utility that can be a separate entity, or an increased role for existing government units.