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## **A Time for Changing Values, Ideas, and Solutions in Water Management: Addressing Sustainability of California's Communities**

California water and flood management systems form a strong foundation for the state's economic vitality, providing water supply, sanitation, electricity, recreation, and flood protection. Sustainable development, when linked to water use and environmental stewardship, fosters a strong economy, protects public health and the environment, and enhances the quality of life.

On July 23, 2009, policy makers, community leaders, resource managers, regulators, land use planners and environmental advocates were convened to address the future of water resources management as a critical means of advancing and preserving sustainability of California's communities. The Symposium, organized by the Sacramento Chapters of the American Society of Civil Engineers' (ASCE) Environmental & Water Resources Institute (EWRI)<sup>1</sup> and Committee on Sustainability together with the Floodplain Management Association (FMA)<sup>2</sup>, recognizes that sustainable water resources represent a necessary foundation for community health and associated economic vitality. Preserving the sustainability of California's resources, particularly in the context of water, should be a central focus in any forum or initiative related to effective or improved resource management.

This White Paper presents the key ideas and recommendations set forth by the diverse and distinguished panel members and participants that attended the Symposium. It is our genuine hope that the Governor carefully consider the findings of this Symposium and involve ASCE, EWRI and FMA in any future initiatives on sustainability that might benefit from these ideas and the future work of our organizations.

**The following recommendations are respectfully submitted and should be considered as part of an overall Action Plan for Community Sustainability in California:**

- 1. Establish a Water Sustainability Subcommittee within the Strategic Growth Council with the mandate to help develop, coordinate, and circulate key water resource management strategies and their associated sustainability challenges to various departments, agencies, and the general public.** Create a process that fully integrates all aspects of community planning – water supply, flood protection, water quality, fire, air quality, energy consumption, land use and economics. The focus should be on the development of a dynamic sustainable process for water management that seeks equilibrium over time. The Strategic Growth Council, if properly constituted, can play an important role in helping define salient integrated water resource management topics and recommended strategies, and assist in their dissemination within appropriate departments, agencies and ongoing programs.
- 2. Encourage laws and policies that will better reflect the value of water resources to the State and its residents.** Steps should be taken to recognize the value of our State's waters by appropriately setting the price of water to all users in the State, following beneficiary pays principles. Increase the

focus on conservation, reuse and reclamation measures at all governmental and non-governmental levels while recognizing the water-energy nexus. Steps should also be taken to remove the legal and policy constraints that inhibit the creation of a sustainable financing structure for water quality and resource planning, as well as remove the reliance on public bonds to support critical infrastructure. Further tangible means should be identified to better coordinate multi-jurisdictional planning, oversight, and funding of integrated water resource management between federal, state, regional, county and local entities using a more land-based approach to sustainability as opposed to a jurisdictional approach.

- 3. Create a system that provides economic incentives to advance community sustainability through effective water management.** Identify important economic incentives, such as through the use of federal and state funding for infrastructure, transportation and other purposes, to advance key water management strategies at the State, regional and local levels, essential to building sustainable communities. Substantially improve the knowledge base for water economics and identify and remove regulatory, policy and financial impediments that hamper efforts to advance key water resources strategies
- 4. Create statewide goals, policies and priorities for water management in California to support sustainable communities.** Integrate water management priorities essential to community sustainability into State and regional efforts for growth, transportation, development and sustainability planning, such as the Regional Blueprint Process. Encourage the application of water management strategies in local land use planning and provide incentives for development of ordinances, codes, and regulations directed towards achieving sustainability at the community level through effective water management. Policies should encourage better regional coordination and partnerships through multi-jurisdictional planning, oversight, and funding of integrated water resource management between federal, state, regional, county and local entities.
- 5. Examine and address efficacy of current mechanisms used to govern beneficial use of water.** In light of increasing conflicts over the availability of water for beneficial uses (and recognizing the potential for increased conflicts due to changes in climate, societal values and ecosystem health) an examination of California's current system of water management and administration is much needed, including identifying ways to improve effective groundwater management.

## Background

As background, the Symposium was organized around a plenary panel and three case studies, the latter focusing on key topical areas of water resources management. The case studies included: 1) Dealing with Aging Levees – What Can We Do To Sustain Existing Communities Located in Deep Floodplains?; 2) Ensuring Sustainable Water Resources in California; and 3) Completing the Sustainability Portfolio – The Importance of Water Quality Management to Ensure Economic, Social and Environmental Benefits.

Individuals were asked the prescient question, within the context of contemporary water resources management, “*Are California’s Communities Sustainable?*”

While it was clearly recognized that current budgetary challenges are inhibiting many of our efforts to fund necessary integrated water management projects, experts were also optimistic that with the proper gubernatorial and legislative support, our findings and committed efforts could, in the long term, help shape responsive and truly ground-breaking guiding principles for sustainability.

Although many California communities are eager to incorporate sustainability into their planning efforts, a number of challenges make this difficult:

- In many cases, communities lack a sustainability vision, state leadership, tools, incentives and indicators to effectively ensure their own sustainability;
- Community sustainability needs financing, political will, and appropriate protective regulations;
- Communities are not linked with State actions and policies on sustainability;
- Addressing the connection between land use planning, flood management, water supply, energy consumption and natural resource protection is still in the early stages of implementation;
- Water policy does not sufficiently incorporate the economics of water, or the significant connection between water use and greenhouse gas production; and,
- Planning efforts at local, regional and State levels lack sufficient coordination and integration.

The Symposium discussed additional recommendations that should be considered as part of any Action Plan for Community Sustainability in California:

- State agencies need to provide leadership, tools and strategies for local planning efforts regarding development in floodplains;
- Small communities facing flood risk must address such risk based on actual threats, not just physical location inside or outside of a FEMA mapping designation;
- Emphasize non-structural solutions in flood management (e.g., ecosystem-based restoration) which are critical to sustaining public safety and floodplain resources including water supply;
- Integrate water supply and flood management strategies that recognize the importance of watershed functions as a whole;
- Consider implementing recycled water infrastructure in areas of new development, even if the recycled water supplies are not yet available;
- Revise State policy and regulation to facilitate recycled water permitting;
- Advance stormwater capture as an important source of non-potable water use;
- Educate the public and decision makers on water reuse and desalination, highlighting the ramifications and costs of service without these important elements;
- Encourage and provide incentives for pilot studies to examine promising new ideas and approaches for improving local and regional integrated water management;

- Improve groundwater management systems, which lag behind the nation, in order to address the critical current and future importance of groundwater resources;
- Recognize spatial disparity in water planning – a drought in one part of the State does not necessarily mean that other parts of the State are experiencing similar shortfalls;
- Advance efforts to restore watershed function as a key strategy in integrated water management;
- Address water quality requirements at the local level through low-impact initiatives such as ecosystem-sensitive solutions (e.g., smaller detention basins, wetland function, and use of existing topography); and,
- Develop and implement water quality standards using a multi-objective approach and evaluate them in the context of other local planning processes.

This document was prepared and submitted by the following representatives of the ASCE's Sacramento Chapters of EWRI and Committee on Sustainability and FMA:

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<sup>1</sup> The American Society of Civil Engineers is a professional organization representing more than 146,000 civil engineers. Created in 1999, the Environmental & Water Resources Institute (EWRI) is a specialty institute of ASCE with over 22,000 members nationally. It was intended to bridge the gap between engineering and the other key disciplines that manage, study, and govern our valuable water resources. The mission of EWRI is to provide for the technical, educational and professional needs of its members; promote the sustainable use, conservation, and protection of natural resources and; promote human well-being.

<sup>2</sup> The Floodplain Management Association (FMA) represents over 500 agencies and organizations in California, Nevada and Hawaii engaged in floodplain management through a wide range of strategies from flood loss reduction to floodplain resource protection. FMA members represent the public and private sector in water resources management, land use planning, environmental protection, education and research. FMA promotes the development of principles and tools for carrying out effective state and local floodplain management programs and participates in an advisory role in a number of statewide planning efforts.