Pacific Institute

Media Release

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Peer-Reviewed Article Offers New Approaches to Transcend Old Thinking about California Agricultural Water Use

December 5, 2011 – Oakland, CA: The Pacific Institute provides thoughtful new analysis to help move beyond the theoretical quagmire that has characterized the debate over water use efficiency for decades. A newly published peer-reviewed article in the journal *Water International* analyzes three fundamental flaws in the traditional approach to water-efficiency or the "basin approach," including the assumption that all consumptive water use is beneficial, a lack of attention to water productivity measures, and the numerous, important "co-benefits" that are either ignored or discounted in most basin assessments.

The new article, ***Water-Use Efficiency and Productivity: Rethinking the Basin Approach*** (online at www.pacinst.org/reports/water_international_2011/index.htm) describes how water use goals have changed over the last decade, and therefore why our metrics and approach to understanding the potential for increased efficiency and productivity should also change. In the twentieth century, the primary objective of water policies was to simply make more "new" water available for human use through the construction of infrastructure to store, move, and distribute water. But total water use is now understood to be a poor indicator of the value or productivity of water, and a poor indicator of true efficiency. The "soft path" for water recognizes that the real purpose of water use is measured in the goods and services provided by that use.

Water-Use Efficiency and Productivity: Rethinking the Basin Approach examines how the traditional approach to water management obscures many important opportunities for increased benefits such as increased productivity or important co-benefits that are often completely ignored. The article argues that the failure to consider the many additional benefits of improving water-use efficiency – including improved productivity, improved water quality, greater water supply reliability, decreased energy demands and associated greenhouse gases, and reduced or delayed infrastructure investments – limits the range of solutions for complex real-world problems.

The old "basin approach," developed in the late 1980s and 1990s, calls attention to evaluating water use in basins as a whole, arguing that in water-stressed places like California, most water is ultimately used beneficially or productively, even if there are small-scale or field inefficiencies. It assumes that most losses are simply re-captured and re-used somewhere else downstream and therefore, there is no real potential for improving water efficiency. This way of thinking does not adequately address key issues of concern today, including droughts, water-quality degradation, the ability to improve water productivity, and an array of environmental problems.

"There's no 'one-size-fits-all' solution to water management, despite efforts to find simplistic, 'universal' answers," said Peter Gleick, president of the Pacific Institute and co-author of the article. "Every basin is different and so the mix of demand-side and supply-side solutions will

vary according to what is hydrologically, economically, socially, and politically possible. But it is clear that there is still substantial room for improvement and that many innovative farmers and irrigation districts are already achieving far higher water savings than the proponents of the basin approach claim are possible."

The new *Water-Use Efficiency and Productivity* article points out three fundamental flaws inherent in the narrow basin approach:

1) underestimating the potential for better technology and management to reduce unproductive or non-beneficial evaporation or other consumptive losses of water;
2) ignoring the potential to improve water-use "productivity" because it only values "new" water;
3) failing to account for the many highly significant "co-benefits" of efficiency actions.

"While there are no silver bullets, water conservation and efficiency can play an important role in solving water management challenges," said Heather Cooley, co-director of the Pacific Institute Water Program and article co-author. "The water stewardship practices employed by innovative farmers and districts should be lauded and encouraged rather than undermined, as their on-the-ground efforts will allow the California agricultural sector and environment to continue to thrive in an increasingly uncertain water future."

Based in Oakland, California, the Pacific Institute is a nonpartisan research institute that works to create a healthier planet and sustainable communities. Through interdisciplinary research and partnering with stakeholders, the Institute produces solutions that advance environmental protection, economic development, and social equity – in California, nationally, and internationally. www.pacinst.org