Conflicts over Water Quality Management in Sacramento-San Joaquin Delta

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Abstract. Economic pressures create high stress in watersheds that are subject to conflicting demands from cities, farms and natural systems. Finding integrated solutions to manage both water quantity and quality is essential for effective solutions in these basins. The paper reports an ongoing study of water management in the Sacramento-San Joaquin Delta (the Delta) Region of California, where planning and management of water has become extraordinarily complex due to the limited water budget along with competing and increasing demands from the domestic sector, as well as the agricultural and industrial sectors, which are multi-billion dollar businesses in California. The problem becomes exacerbated when environmental concerns are also taken into account.

These serious conflicts over how water resources in the Delta are managed have existed for decades, mainly due to the limited supply of water. Enacting new regulations to protect the ecosystem and health of the region has created more limits for the supply and increased the disputes among stakeholders. Although innovative ideas have been developed, they lack an overall framework. The most comprehensive effort to resolve the conflicts was the CALFED Program, which addresses ecosystem health, water quality, and water supply reliability. Although CALFED had strong scientific fundamentals and offered comprehensive and adaptive planning, the program has not been successful and failures to meet critical management goals and to adapt new paradigms of governance were the main problems.

This paper explains the roots of conflicts in the region, the actions taken to resolve the conflicts, and the authors' analysis of why the conflicts have remained unresolved. Potential management scenarios to resolve or reduce the conflicts are proposed and explained, and the agenda for needed hydrologic research is presented.