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HISTORY OF GROUNDWATER CONJUNCTIVE USE WITH MWD IMPORTED SUPPLIES AND FUTURE OPPORTUNITIES TO INCREASE GROUNDWATER STORAGE IN SOUTHERN CALIFORNIA

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ABSTRACT: The history of Metropolitan Water District's role in groundwater conjunctive use in southern California has been well documented (Bloomquist and Ostrom, "Dividing the Waters", 1991 and MWD Proposed Groundwater Recovery Program, 1992). In general, MWD has promoted and encouraged the adjudication and groundwater basin management strategies within its service area since the 1970s through the following actions:

- * MWD pricing policies to encourage groundwater conjunctive use and cleanup of contaminated aquifers;
- * Rebates for funding recycled water recharge and groundwater cleanup, including brackish desalination; and
- * MWD agreements to fund groundwater storage and recovery projects;
- * Funding and participation in research on technologies to enhance aquifer recharge and recovery ; and
- * Regulatory and legislative advocacy.

In the mid 1990s MWD developed a regional "Integrated Water Resources Plan" that recommended expanded use of the storage and conjunctive use of the groundwater basins within southern California (MWD Integrated Water Resources Plan, 1996). Some of these recommendations have been implemented, but there significant opportunities to expand the storage utilization of the groundwater basins in a regional, collaborative manner (Atwater and Bloomquist, "Rates, Rights, and Regional Planning in the Metropolitan Water District", AWRA, 2002). Recent regional planning studies (RAND, Preparing for an Uncertain Future Climate in the Inland Empire, 2008) highlight the need to expand groundwater recharge and storage to reduce risks of extreme shortages in the future as a result of climate change and other uncertainties with the imported supplies. MWD's draft Integrated Water Resources Plan Update (July, 2010) recommends an adaptive management strategy that includes expanding groundwater storage and recovery throughout southern Calif. To ensure that the region has reliable supplies with the uncertainties of imported water supplies from the Colorado River and northern California, groundwater basin management in southern California will become increasingly important and cost effective. Utilization of new technologies for aquifer recharge and recovery of stored water will be a critical "strategic" investment decision for the region. However, institutional collaboration will be the biggest challenge to implementing these programs to enhance groundwater storage and recovery in southern California.

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