

West Coast Basin Barrier Project (WCBBP) Intrinsic Tracer Study

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Since 1995, the West Basin Municipal Water District (District) in Carson, California has injected recycled water (RW) blended with potable water into the WCBBP to combat seawater intrusion. Current maximum allowable recycled water content in the injected water is 75%. The California Regional Water Quality Control Board has authorized the District to inject 100% RW, but the District must first satisfy California Department of Public Health (CDPH) requirements for verification of travel time through RW content in one or more of the three major aquifers.

Since 2008, Todd Groundwater has been conducting intrinsic tracer studies related to the WCBBP to: (1) determine if travel time and RW content could be verified in one or more compliance monitoring wells, (2) confirm whether CDPH requirements for injecting 100% recycled water have been satisfied, and (3) assess effectiveness of WCBBP in combating seawater intrusion. We have evaluated intrinsic water quality parameters using various geochemical plotting methods, such as Brine Differentiation Plots (see below), breakthrough curves, stable isotopes, and other tracers to bring the project into compliance with CDPH requirements.

