

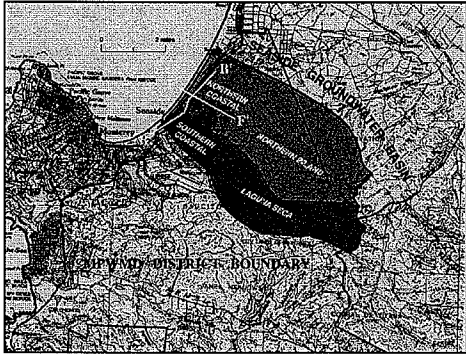
Monterey Peninsula
Water
Management
District

**MPWMD Seaside Basin Aquifer Storage
and Recovery (ASR) Program**

MPWMD July 29, 2004 Board Workshop

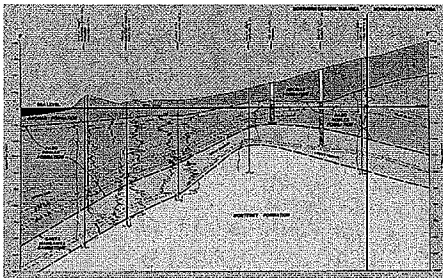
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**WEST-EAST SECTION THROUGH COASTAL
PART OF SEASIDE GROUNDWATER BASIN**



ASR PROGRAM HISTORY

- 1996 Hydraulic demonstration of ASR at Cal-Am Playa #4 well
- 1997 Reconnaissance-Level study of regional ASR feasibility
- 1998 Pilot scale ASR well constructed into Paso Robles Formation at Mission Memorial Cemetery
- 1999 ASR testing at pilot well (hydraulics)
- 2000 Continued testing at Pilot Well (water quality and operations)
- 2001 Full-Scale test well constructed into Santa Margarita Formation at former Fort Ord
- 2002 Injection infrastructure facilities construction (Cal-Am system) and initial testing at Santa Margarita Test well
- 2003 Installation of ASR downhole flow control valve and continued testing at Santa Margarita Test well, including recovery of 440 acre-feet provided to Cal-Am system
- 2004 Continued testing at Santa Margarita Test well with focus on water quality considerations; served as emergency backup supply for Cal-Am system in July 2004.

PLAYA WELL INJECTION DEMONSTRATION PROJECT

- Conducted short-term injection test using Seaside Basin water
- Demonstrated local hydraulic response of aquifer system
- Supported planning effort for future testing in the basin.



PILOT-SCALE ASR WELL PROJECT

- Constructed test well in Mission Memorial Park
- Established injection capacity and production performance characteristics for Paso Robles (PR) Formation aquifer
- Determined PR aquifer limits injection to relatively low rates (350 gpm).





FULL-SCALE ASR WELL PROJECT

- Constructed test well on former Fort Ord
- Preliminary testing showed limitations of Cal-Am delivery system
- Worked with Cal-Am to complete infrastructure improvements
- Testing confirmed injection (1,000 gpm) and recovery (2,000 gpm) estimates could be exceeded.





SEASIDE BASIN ASR STATUS

- ✓ SINCE 1998, THE DISTRICT HAS INJECTED 1,100 ACRE-FEET OF EXCESS WATER FROM THE CARMEL RIVER INTO THE COASTAL AREA OF THE SEASIDE BASIN.
- ✓ IN 2003, 440 ACRE-FEET WERE RECOVERED AND SUPPLIED TO THE CAL-AM SYSTEM FOR CUSTOMER USE.
- ✓ IN 2004 TO DATE, OVER 80 ACRE-FEET HAVE BEEN RECOVERED AND SUPPLIED TO THE CAL-AM SYSTEM AS AN EMERGENCY SUPPLY.



SEASIDE BASIN ASR STATUS

- ✓ STAFF IS DEVELOPING PLANS AND COST ESTIMATES FOR A SECOND INJECTION WELL.
- ✓ STAFF IS COORDINATING WITH CAL-AM ON ADDITIONAL INJECTION WATER DELIVERY IMPROVEMENTS AND ASR OPTIONS AS PART OF THE PROPOSED COASTAL WATER PROJECT.
- ✓ THE DISTRICT HAS APPLIED FOR PERMANENT WATER RIGHTS FOR A LONG-TERM ASR PROJECT AND IS WAITING ON ACTION BY THE SWRCB.
- ✓ STAFF IS INITIATING THE ENVIRONMENTAL REVIEW PROCESS FOR THE DISTRICT'S PROPOSED LONG-TERM ASR PROJECT.
