

***ATTACHMENT 7. ECONOMIC ANALYSIS – WATER SUPPLY COSTS AND BENEFITS***

***Projects analyzed: Seaside Groundwater Basin Aquifer Storage and Recovery  
Carmel River Lagoon and Beach Studies***

**ATTACHMENT 7. ECONOMIC ANALYSIS – WATER SUPPLY COSTS AND BENEFITS  
SEASIDE GROUNDWATER BASIN AQUIFER STORAGE AND RECOVERY PROJECT**

MPWMD plans to invest approximately \$6.4 million in a water supply project that will increase the annual firm yield of the Cal-Am municipal supply for the Monterey Peninsula by approximately 2,000 acre-feet of usable water. If the District doesn't invest this money, the Region will have to buy an equivalent 2,000 acre-feet from another source (or build some other project, or enforce new conservation measures).

Assumptions of costs for ASR Project:

- 1) The project is designed for a 100-year life span. The budget includes equipment replacement costs, which are outlined below.
- 2) Injection wells are \$1.5 million each and have a 50-year life, therefore all four wells (two wells at each ASR site) will need to be replaced during the lifespan of the project (Exhibit A). In addition, the ASR wells will need periodic rehabilitation (Exhibit B). These costs are reflected in 2057 and 2058 with the total of \$3 million in the replacement column for each respective year.
- 3) Annual maintenance is estimated at \$98,000 per year. This estimate is summarized in the Pueblo Water Resources, "Preliminary Estimate of O&M Costs for MPWMD Phase 1 SMTIW ASR Facilities". The numbers outlined in this memo have been scaled to include the operation and maintenance of two ASR sites with a total of four wells.

Pump (wear rings, bearings, impellers)	=> 4 wells * \$10,000 per well * 1/3 years = \$ 13,330 per year
Motor (rewind, bearing)	=> 4 wells * \$12,000 per well * 1/3 years = \$ 16,000 per year
Well Rehab (chemical and mechanical)	=> 4 wells * \$ 78,000 per well * 1/5 years = \$ 62,400 per year
Backwash pit (clear, scrub, and scarify)	=> 2 pits * \$ \$4,000 per pit * 1/5 years = \$ 1,600 per year
Disinfection Equipment (R&R pumps)	=> 1 site * \$1,000 per site * 1/2 years = \$ 500 per year
Landscape (general maintenance)	=> 2 sites * \$500 per site * 4 times/year = \$4,000 per year

Total annualized maintenance cost for both sites = \$ 97,830 (\$ 98,000 is used for economic analysis.)

- 4) Annual operation costs are estimated at \$ 80,000 per year. Justification for this estimate is estimated from one full time operator required to operate project and collect data associated with project permits.
- 5) Administration costs for project are to prepare required annual report to Regional Water Quality Control Board. Cost is estimated from actual incurred consultant fees to prepare previous reports.
- 6) Other Costs are estimated at \$ 121,000. This estimate includes Pacific Gas & Electric (PGE) costs to run ASR wells (Exhibit C) and water quality sampling (Exhibit D) costs.

PGE (back flush and recovery)	=> 4 wells * 1780 kWh * \$ 0.12 per kWh = \$86,000 Annually
Water Quality Sampling (RWQCB and DPH)	=> \$35,000 annually

- 7) ASR Project will be online in 2014.

Assumptions for the Cost of Water:

- 1) In "Late-Filed Joint Exhibit 113" in Application 04-09-019 before the CPUC filed June 29, 2010, the "Cost of Water to CAW" for the regional desalination facility is \$5,600 per acre-foot for the for the baseline scenario wherein the cost of the project is \$297.5 million and no state revolving fund loans or grants are used.
- 2) The Regional Project will not be on-line until 2015, best case. Hence, the "without" ASR Project scenario cannot show purchases until then.

## Assumptions for Avoided Costs:

*Avoided water rights violations.* With the 10% regulatory reduction required in the Seaside Groundwater Basin in 2012 ([Exhibit E](#)) and the State Board Ordered reductions in the Carmel Valley, the ASR Project will provide 2,000 AF per year that will allow Cal-Am production to stay below regulatory limits.

1) *Fines for overproduction in Carmel Valley:* The SWRCB can impose fines under Section 1052 of the California Water Code. SWRCB Administrative Civil Liability Complaint No. 262.5-6, issued to CAW on August 19, 1998 established that a penalty of \$500/day for each trespass (diversion in excess of rights) could be imposed. Between July 1995 (when WRO 95-10 was issued) and October 2009 (when WRO 2009-0060 was issued), there were approximately 5,200 days, which could result in a fine of  $5,200 \times \$500 = \$2.6$  million. WR 2009-0060 states (Condition 10):

“The Deputy Director for Water Rights is directed to closely monitor Cal-Am’s compliance with Order 95-10 and this order. Appropriate action shall be taken to insure compliance with these orders including the issuance of additional cease and desist orders under Water Code section 1831, the imposition of administrative civil liability under Water Code section 1055, and referral to the Attorney General under Water Code section 1845 for injunctive relief and for civil liability. If additional enforcement action becomes necessary, the Deputy Director is directed to consider including in such actions all Cal-Am’s violations of Water Code section 1052 since the adoption of Order 95-10.”

CWC Section 1845 (concerning failure to comply with a cease and desist order) allows a fine of up to \$1,000 per day. Since the issuance of WR 2009-0060, fines could amount to \$365,000 annually.

CAW can produce about 30 AF/day from the lower Carmel Valley (below RM 6.5).

$2,000 \text{ AF} / 30 \text{ AF per day} = 66 \text{ Days} \Rightarrow 2,000 \text{ AF from ASR equates to a 66 day reduction in fines}$

$66 \text{ days} * \$1,000 \text{ per day} = \$66,000$  annually saved from avoided violation fees.

SWRCB orders are attached as [Exhibit F](#) - SWRCB Order WRO 95-10 and [Exhibit G](#) - SWRCB WR 2009-0060.

2) *Avoided water purchase costs:* When the Regional Project comes online in 2016, Cal-Am has the option to purchase water. It is assumed that Cal-Am would purchase water from the Regional Project instead of incurring water rights violations. The 2,000 AF produced from the ASR Project would directly reduce the volume of water purchased from the Regional Project.

Cost per AF to purchase from Regional Project  $\Rightarrow$  \$5,600

Cost per AF to produce ASR water  $\Rightarrow$  \$897

$(\$5,600 - \$897) * 2,000 = \$9,406,000$  Annually avoided cost from producing ASR water

Benefits begin to accrue when the project comes online.

3) *Reduced costs for Mitigation Program activities in the Carmel River:* Cal-Am is required under SWRCB Order WRO 95-10 ([Exhibit F](#)) to perform mitigation measures outlined in the Mitigation Program adopted by MPWMD (Option V from the 1990 Allocation EIR for the Region). This was re-affirmed in SWRCB WR 2009-0060 (see Condition 9, p. 62)([Exhibit G](#)). The 2009 order also shows that diversions from the Carmel River Basin must be ramped down from 10,978 in WY 2009-10 to 3,376 in WY 2016-17. The total estimated amount of water that Cal-Am would divert in WY 2009-10 without a legal basis is shown as 6,833 AFA.

A reduction in Carmel River diversions of 2,000 AFA (due to the ASR Project) could initially translate into more water in the Carmel River riparian corridor and potentially lead to a reduction in required mitigation. The most significant effect from the ASR Project would be to shorten the length of time that the lagoon and Carmel River Alluvial Aquifer remain depleted and disconnected. However, it is likely that any improvement to the riparian corridor would take several years to accrue due to the dynamic nature of rainfall and runoff patterns in the Region. The 2008-09 Fiscal Year budget for the Mitigation Program was \$2,400,000. It is estimated that a 2,000 AFA reduction in diversions could result in about a 5% reduction annually in program expenditures - primarily due to reduced fish rescues in some years and a reduced need to irrigate along the river during the dry season.

#### Elasticity of Demand for Water on the Monterey Peninsula

WRO 2009-0060 and the Seaside Groundwater Basin adjudication proposes about a 50% water supply reduction for most of the users in the Region. A conservative quantification of this hardship is between \$17 and \$51 million annually if the Regional Project and/or another water supply project, such as the ASR Project, fail to proceed. The economic impact analysis of this is presented in REBUTTAL TESTIMONY OF MARK P. BERKMAN AND DAVID L. SUNDING ON BEHALF OF MARINA COAST WATER DISTRICT (Exhibit H). The ASR Project would lessen this impact, but cannot mitigate the effect of a severe cutback in supply completely.

#### Exhibits:

Exhibit A – Bid for ASR well construction

Exhibit B – Bid for ASR well rehabilitation

Exhibit C – Preliminary estimate of ASR O&M costs

Exhibit D – Summary of ASR Project Water quality expenditures

Exhibit E - Seaside Adjudication Decision

Exhibit F - SWRCB Order WRO 95-10

Exhibit G – SWRCB Order WR 2009-0060

Exhibit H - REBUTTAL TESTIMONY OF MARK P. BERKMAN AND DAVID L. SUNDING ON BEHALF OF MARINA COAST WATER DISTRICT

**Table 11- Annual Cost of Project**  
 (All costs should be in 2009 Dollars)  
 Project: Seaside Groundwater Basin Aquifer Storage and Recovery Project

YEAR	Initial Costs	Operations and Maintenance Costs <sup>(1)</sup>					Discounting Calculations		
	(a) Grand Total Cost From Table 7 (row (i), column(d))	(b) Admin	(c) Operation	(d) Maintenance	(e) Replacement	(f) Other	(g) Total Costs (a) +....+ (f)	(h) Discount Factor	(i) Discounted Costs(g) x (h)
2006						\$226,415	\$226,415	1.06	\$240,000
2007						\$983,791	\$983,791	1.04	\$1,023,143
2008						\$657,457	\$657,457	1.01	\$664,032
2009						\$352,640	\$352,640	1.000	\$352,640
2010						\$400,000	\$400,000	0.943	\$377,200
2011						\$121,000	\$121,000	0.890	\$107,690
2012	\$6,427,633	\$25,000	\$80,000	\$98,000		\$121,000	\$6,751,633	0.840	\$5,671,372
2013		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.792	\$256,608
2014		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.747	\$242,112
2015		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.705	\$228,407
2016		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.665	\$215,479
2017		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.627	\$203,282
2018		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.592	\$191,775
2019		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.558	\$180,920
2020		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.527	\$170,679
2021		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.497	\$161,018
2022		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.469	\$151,904
2023		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.442	\$143,306
2024		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.417	\$135,194
2025		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.394	\$127,541
2026		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.371	\$120,322
2027		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.350	\$113,511
2028		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.331	\$107,086
2029		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.312	\$101,025
2030		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.294	\$95,306
2031		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.278	\$89,912
2032		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.262	\$84,822
2033		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.247	\$80,021
2034		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.233	\$75,492
2035		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.220	\$71,218
2036		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.207	\$67,187
2037		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.196	\$63,384
2038		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.185	\$59,796
2039		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.174	\$56,412
2040		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.164	\$53,219
2041		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.155	\$50,206
2042		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.146	\$47,364
2043		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.138	\$44,683
2044		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.130	\$42,154
2045		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.123	\$39,768
2046		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.116	\$37,517
2047		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.109	\$35,393
2048		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.103	\$33,390
2049		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.097	\$31,500
2050		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.092	\$29,717
2051		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.087	\$28,035
2052		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.082	\$26,448
2053		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.077	\$24,951
2054		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.073	\$23,539
2055		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.069	\$22,206
2056		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.065	\$20,949
2057		\$25,000	\$80,000	\$98,000	\$ 3,000,000	\$121,000	\$3,324,000	0.061	\$202,759
2058		\$25,000	\$80,000	\$98,000	\$ 3,000,000	\$121,000	\$3,324,000	0.058	\$191,282
2059		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.054	\$17,589
2060		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.051	\$16,594
2061		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.048	\$15,655
2062		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.046	\$14,768
2063		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.043	\$13,932
2064		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.041	\$13,144
2065		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.038	\$12,400
2066		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.036	\$11,698
2067		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.034	\$11,036
2068		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.032	\$10,411
2069		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.030	\$9,822

**Table 11- Annual Cost of Project**

(All costs should be in 2009 Dollars)

Project: Seaside Groundwater Basin Aquifer Storage and Recovery Project

	Initial Costs	Operations and Maintenance Costs <sup>(1)</sup>						Discounting Calculations	
YEAR	(a) Grand Total Cost From Table 7 (row (i), column(d))	(b) Admin	(c) Operation	(d) Maintenance	(e) Replacement	(f) Other	(g) Total Costs (a) +...+ (f)	(h) Discount Factor	(i) Discounted Costs(g) x (h)
2070		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.029	\$9,266
2071		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.027	\$8,741
2072		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.025	\$8,247
2073		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.024	\$7,780
2074		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.023	\$7,339
2075		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.021	\$6,924
2076		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.020	\$6,532
2077		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.019	\$6,162
2078		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.018	\$5,814
2079		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.017	\$5,484
2080		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.016	\$5,174
2081		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.015	\$4,881
2082		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.014	\$4,605
2083		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.013	\$4,344
2084		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.013	\$4,098
2085		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.012	\$3,866
2086		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.011	\$3,647
2087		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.011	\$3,441
2088		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.010	\$3,246
2089		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.009	\$3,062
2090		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.009	\$2,889
2091		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.008	\$2,726
2092		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.008	\$2,571
2093		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.007	\$2,426
2094		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.007	\$2,288
2095		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.007	\$2,159
2096		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.006	\$2,037
2097		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.006	\$1,921
2098		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.006	\$1,813
2099		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.005	\$1,710
2100		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.005	\$1,613
2101		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.005	\$1,522
2102		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.004	\$1,436
2103		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.004	\$1,355
2104		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.004	\$1,278
2105		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.004	\$1,206
2106		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.004	\$1,137
2107		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.003	\$1,073
2108		\$25,000	\$80,000	\$98,000		\$121,000	\$324,000	0.003	\$1,012
Total Present Value of Discounted Costs (Sum of Column (i))									\$11,381,578
Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries									

**Table 12 - Annual Water Supply Benefits**  
 (All benefits should be in 2009 dollars)  
 Project: Seaside Groundwater Basin Aquifer Storage and Recovery Project

(a) Year	(b) Type of Benefit	(c) Measure of Benefit  (Units)	(d) Without Project	(e) With Project	(f) Change Resulting from Project (e) – (d)	(g) Unit \$ Value  (1)	(h) Annual \$ Value  (f) x (g) (1)	(i) Discount Factor  (1)	(j) Discounted Benefits  (h) x (i) (1)
2009								1.000	
2010								0.943	
2011								0.890	
2012								0.840	
2013								0.792	
2014	Avoided Water Rights Violation	day	0	66	66	\$1,000	\$66,000	0.747	\$49,319
2015	Avoided Water Rights Violation	day	0	66	66	\$1,000	\$66,000	0.705	\$46,527
2016	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.665	\$6,255,527
2017	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.627	\$5,901,441
2018	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.592	\$5,567,397
2019	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.558	\$5,252,261
2020	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.527	\$4,954,963
2021	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.497	\$4,674,494
2022	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.469	\$4,409,900
2023	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.442	\$4,160,283
2024	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.417	\$3,924,795
2025	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.394	\$3,702,637
2026	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.371	\$3,493,054
2027	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.350	\$3,295,334
2028	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.331	\$3,108,805
2029	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.312	\$2,932,835
2030	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.294	\$2,766,826
2031	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.278	\$2,610,213
2032	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.262	\$2,462,465
2033	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.247	\$2,323,080
2034	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.233	\$2,191,585
2035	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.220	\$2,067,533
2036	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.207	\$1,950,503
2037	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.196	\$1,840,097
2038	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.185	\$1,735,941
2039	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.174	\$1,637,680
2040	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.164	\$1,544,981
2041	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.155	\$1,457,529
2042	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.146	\$1,375,028
2043	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.138	\$1,297,196
2044	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.130	\$1,223,770
2045	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.123	\$1,154,500
2046	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.116	\$1,089,151
2047	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.109	\$1,027,501
2048	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.103	\$969,340
2049	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.097	\$914,472
2050	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.092	\$862,709

**Table 12 - Annual Water Supply Benefits**  
 (All benefits should be in 2009 dollars)  
 Project: Seaside Groundwater Basin Aquifer Storage and Recovery Project

(a) Year	(b) Type of Benefit	(c) Measure of Benefit  (Units)	(d) Without Project	(e) With Project	(f) Change Resulting from Project (e) - (d)	(g) Unit \$ Value  (1)	(h) Annual \$ Value  (f) x (g)  (1)	(i) Discount Factor  (1)	(j) Discounted Benefits  (h) x (i)  (1)
2051	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.087	\$813,877
2052	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.082	\$767,808
2053	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.077	\$724,347
2054	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.073	\$683,347
2055	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.069	\$644,667
2056	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.065	\$608,176
2057	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.061	\$573,751
2058	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.058	\$541,275
2059	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.054	\$510,636
2060	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.051	\$481,732
2061	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.048	\$454,465
2062	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.046	\$428,740
2063	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.043	\$404,472
2064	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.041	\$381,577
2065	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.038	\$359,978
2066	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.036	\$339,602
2067	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.034	\$320,380
2068	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.032	\$302,245
2069	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.030	\$285,137
2070	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.029	\$268,997
2071	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.027	\$253,771
2072	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.025	\$239,406
2073	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.024	\$225,855
2074	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.023	\$213,071
2075	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.021	\$201,010
2076	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.020	\$189,632
2077	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.019	\$178,898
2078	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.018	\$168,772
2079	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.017	\$159,219
2080	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.016	\$150,206
2081	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.015	\$141,704
2082	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.014	\$133,683
2083	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.013	\$126,116
2084	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.013	\$118,978
2085	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.012	\$112,243
2086	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.011	\$105,890
2087	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.011	\$99,896
2088	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.010	\$94,241
2089	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.009	\$88,907
2090	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.009	\$83,874

**Table 12 - Annual Water Supply Benefits**  
 (All benefits should be in 2009 dollars)  
 Project: Seaside Groundwater Basin Aquifer Storage and Recovery Project

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Year	Type of Benefit	Measure of Benefit  (Units)	Without Project	With Project	Change Resulting from Project (e) - (d)	Unit \$ Value  (1)	Annual \$ Value  (f) x (g) (1)	Discount Factor  (1)	Discounted Benefits  (h) x (i) (1)
2091	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.008	\$79,127
2092	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.008	\$74,648
2093	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.007	\$70,423
2094	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.007	\$66,436
2095	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.007	\$62,676
2096	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.006	\$59,128
2097	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.006	\$55,781
2098	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.006	\$52,624
2099	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.005	\$49,645
2100	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.005	\$46,835
2101	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.005	\$44,184
2102	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.004	\$41,683
2103	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.004	\$39,324
2104	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.004	\$37,098
2105	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.004	\$34,998
2106	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.004	\$33,017
2107	Avoided Purchases from Regional Project	Acre-Feet	0	2,000	2,000	\$4,703	\$9,406,000	0.003	\$31,148
2108									
Project Life									
Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (j) for all Benefits shown in table)									\$110,091,027
Comments:									

<sup>(1)</sup> Complete these columns if dollar value is being claimed for the benefit.

**Table 15. Total Water Supply Benefits**

(All benefits should be in 2009 dollars)

Project: Seaside Groundwater Basin Aquifer Storage and Recovery Project

Total Discounted Water Supply Benefits (a)	Total Discounted Avoided Project Costs (b)	Other Discounted Water Supply Benefits (c)	Total Present Value of Discounted Benefits (d) (a) + (c) or (b) + (c)
\$110,091,027	\$ -	\$1,672,979	\$111,764,006

Comments:

## Jonathan Lear

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**From:** Joe Oliver

**Sent:** Friday, June 18, 2010 2:42 PM

**To:** 'Robert C. Marks'; 'Michael Burke'; 'Steve Tanner'

**Subject:** Fitch School ASR Test Well -- Bid Opening, June 18, 2010 2:00 PM

Robert and all:

Four bids were received prior to the bid closing for the Fitch School ASR Test Well Project at 2:00 PM today. Here are the results in the order opened and read:

- |                                |                |
|--------------------------------|----------------|
| • Layne Christensen Company    | \$1,326,000.00 |
| • ZIM Industries, Inc.         | \$1,111,096.00 |
| • Best Drilling and Pump, Inc. | \$1,217,650.00 |
| • Hydro Resources-West, Inc.   | \$1,453,316.00 |

Please repackage these bid opening results into an email addressed to all addressees that signed up at the mandatory 6/10 pre-bid meeting. The email will be simply a notice of the bid opening. We will be scanning the full bid packets to send to your office later today for your review for conformance. The notice of award to the successful responsive and responsible low bidder will not be made, if made, before the MPWMD Board authorizes this and the MPUSD authorizes the use of the property for this work.

Please let me know if you have any questions.

Thanks and talk soon,

--Joe

---

Joseph Oliver, PG, CHg  
 Water Resources Manager  
 Monterey Peninsula Water Management District  
 P.O. Box 85  
 Monterey, CA 93942-0085

(831) 658-5640 office

(831) 644-9560 fax

 Please consider the environment - only print if necessary

## Jonathan Lear

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**From:** Robert C. Marks [rmarks@pueblo-water.com]  
**Sent:** Tuesday, November 16, 2010 5:10 PM  
**To:** Joe Oliver  
**Cc:** 'Michael Burke'; 'Steve Tanner'  
**Subject:** RE: Santa Margarita ASR-2 well rehabilitation -- bid opening  
 Joe,

I have reviewed both bid submittals and find that the two Contractors included all of the required submittals with their bids, and that the submittals received were responsive with respect to the bid requirements. As such, I recommend awarding the project to the lowest responsive bidder, ZIM Industries, Inc.

Let me know if you need anything else regarding this matter.

Regards,  
 RM

**Robert C. Marks, PG, CHg**  
 Principal Hydrogeologist  
 Pueblo Water Resources, Inc.  
 4478 Market St, Suite 705  
 Ventura, CA 93003  
 805-644-0470 x2 (phone)  
 805-644-0480 (fax)  
 805-620-2034 (cell)  
[rmarks@pueblo-water.com](mailto:rmarks@pueblo-water.com)

---

**From:** Joe Oliver [mailto:Joe@mpwmd.dst.ca.us]  
**Sent:** Tuesday, November 16, 2010 2:27 PM  
**To:** Robert C. Marks; Steve Tanner  
**Subject:** Santa Margarita ASR-2 well rehabilitation -- bid opening

Robert / Steve,  
 Attached are two bids that were received by the 2 PM deadline for the Santa Margarita ASR-2 well rehabilitation:

- |                              |          |
|------------------------------|----------|
| 1. Layne Christensen Company | \$82,144 |
| 2. ZIM Industries, Inc.      | \$80,600 |

Please review these and let me know if you see any irregularities with respect to bid specification conformance on either bid and we will do the same. Assuming both bids conform to the requirements, then we will plan on notifying the successful bidder as soon as possible to get this work underway quickly. Our board is concerned that this work not hold up the potential for initiating injection operations at this well during the upcoming season, to the extent possible.

Thanks and discuss soon,  
 --Joe

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No virus found in this message.

Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 10.0.1153 / Virus Database: 424/3260 - Release Date: 11/16/10

**Preliminary Estimate of O&M**  
**Costs for MPWMD Phase 1 SMTIW ASR Facilities**

**Basis:**

- Two ASR wells in service
- Injection @ 1500 gpm ea, avg. 79 days/year (1046 AF)
- Production, 1 well @ 3000 gpm, in operation 75 days/yr (993 AF)
- Produced water chlorine demand 0.5 mg/L, free Cl residual desired = 1.5 mg/L
- No dechlorination of injected water
- Production destination is Hilby Tanks, via 18 in. temp. HDPE line, 7600 ft., pipeline = 16.6 in. avg. ID
- Assumed SWL = 360 ft., S.C. = 35 gpm/ft., HGL = 346 ft., overall pump efficiency = 76%

**Operating Costs:**

- Required Hp (actual) = 508
- Kw-Hr per day = 9100
- Kw.-Hr per season (production) = 682,500
- Kw.-Hr per season (injection) = 34,200
- Hypochlorite use (12.5%, gpd) = 72
- Hypochlorite use (season) = 5,400 gal. of 12.5%
- Operations Labor, Injection (man-hr/day) = 1.6
- Operations Labor, Production (man-hr/day) = 0.5
- Total operations labor (annual) = 202 man-hrs



**Maintenance Costs:**

Item	Maintenance Detail	Quantity	\$/Event (each)	Frequency	\$/year Total
Pump	Wear rings, bearings, impellers	2	10K	1/3 yrs.	6.6K
Motor	Rewind, bearings	2	12K	1/3 yrs.	8K
Well Rehab	Mechanical + Chemical	2	78K	1/5 yrs.	31.2K
Backwash Pit	Clear, grub, scarify	1	2K	1/5 YRS.	0.4k
Disinfection Equipment	R&R pumps, analyzers	1	1K	½ yrs.	0.5 K
Landscape	General maintenance	1	0.5K	4x/yr.	2K
			Maintenance Total = \$48,700 / year		
			Incremental Maintenance = \$46.56 / AF		

**Notes:**

- Annual throughput based on average year diversions/rainfall.
- Maximum year conditions are 183 days injection , 153 days recovery; minimum year is 0 days injection.
- Water delivery to future Terminal Storage Reservoir will require similar production Hp and energy costs.

<b>Phase 1 ASR Project Groundwater Quality Laboratory Costs</b>					
<b>Lab</b>	<b>Invoice No.</b>	<b>Invoice Date</b>	<b>Cost</b>	<b>Cumulative Cost</b>	<b>Remaining Budget</b>
<b>FY 2009-2010 Budget</b>					<b>\$34,000.00</b>
MBAS	8294	1/10/2010	\$540.00	\$540.00	\$33,460.00
MBAS	8546	3/11/2010	\$2,534.60	\$3,074.60	\$30,925.40
MBAS	8556	3/16/2010	\$270.00	\$3,344.60	\$30,655.40
MBAS	8557	3/16/2010	\$1,334.00	\$4,678.60	\$29,321.40
MBAS	8598	3/25/2010	\$320.00	\$4,998.60	\$29,001.40
MBAS	8603	3/29/2010	\$290.00	\$5,288.60	\$28,711.40
MBAS	8628	4/5/2010	\$934.00	\$6,222.60	\$27,777.40
MBAS	8771	4/30/2010	\$4,057.00	\$10,279.60	\$23,720.40
MBAS	8806	5/5/2010	\$1,459.00	\$11,738.60	\$22,261.40
MBAS	8823	5/11/2010	\$1,334.00	\$13,072.60	\$20,927.40
MBAS	8853	5/18/2010	\$1,334.30	\$14,406.90	\$19,593.10
MBAS	8950	6/21/2010	\$1,599.00	\$16,005.90	\$17,994.10
MBAS	8978	6/30/2010	\$320.00	\$16,325.90	\$17,674.10
MBAS	8985	7/1/2010	\$320.00	\$16,645.90	\$17,354.10
MBAS	9076	7/23/2010	\$910.00	\$17,555.90	\$16,444.10
<b>FY 2010-2011 Budget</b>					<b>\$30,000.00</b>
MBAS	9218	8/26/2010	\$2,668.00	\$2,668.00	\$27,332.00
MBAS	9411	10/13/2010	\$1,170.00	\$3,838.00	\$26,162.00
MBAS	9469	10/26/2010	\$1,334.00	\$5,172.00	\$24,828.00
MBAS	9530	11/3/2010	\$1,180.00	\$6,352.00	\$23,648.00
MBAS	9669	12/8/2010	\$2,668.00	\$9,020.00	\$20,980.00
MBAS				\$9,020.00	\$20,980.00
MBAS				\$9,020.00	\$20,980.00
MBAS				\$9,020.00	\$20,980.00
MBAS				\$9,020.00	\$20,980.00

**NOTES:**

1. See annual budgets for cost estimates.
2. Charges go to Account # 4-04-7860.04.
3. Lab costs are for regular and special WQ sampling associated with ASR program.

1 SOMACH, SIMMONS & DUNN  
A Professional Corporation  
2 STUART L. SOMACH, ESQ. (SBN 090959)  
SANDRA K. DUNN, ESQ. (SBN 119161)  
3 NICHOLAS A. JACOBS, ESQ. (SBN 210091)  
813 Sixth Street, Third Floor  
4 Sacramento, CA 95814-4407  
Telephone: (916) 446-7979  
5 Facsimile: (916) 446-8199

**FILED**

FEB - 9 2007

LISA M. GALDOS  
CLERK OF THE SUPERIOR COURT  
DEPUTY

6 Attorneys for Plaintiff and Cross-Defendant  
CALIFORNIA AMERICAN WATER

7  
8 IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA  
9 IN AND FOR THE COUNTY OF MONTEREY

10  
11 CALIFORNIA AMERICAN WATER, )

Case No. M66343

12 Plaintiff, )

~~PROPOSED~~ ORDER RE: (1)  
WATERMASTER'S POST-JUDGMENT  
PETITION; AND (2) JOINT POST-  
JUDGMENT MOTION TO REQUEST  
CLARIFICATION OF THE COURT'S  
FINAL DECISION RELATING TO THE  
CALCULATION OF THE OVER-  
PRODUCTION REPLENISHMENT  
ASSESSMENT

13 vs. )

14 CITY OF SEASIDE; CITY OF )  
MONTEREY; CITY OF SAND CITY; )  
15 CITY OF DEL REY OAKS; SECURITY )  
NATIONAL GUARANTY, INC.; GRANITE )  
16 ROCK COMPANY, INC.; D.B.O. )  
DEVELOPMENT COMPANY NO. 27, )  
17 INC.; MURIEL E. CALABRESE 1987 )  
TRUST; ALDERWOODS GROUP )  
18 (CALIFORNIA), INC.; PASADERA )  
COUNTRY CLUB, LLC; LAGUNA SECA )  
19 RESORT, INC; BISHOP MC INTOSH & )  
MC INTOSH, a general partnership; THE )  
20 YORK SCHOOL, INC.; and DOES 1 )  
through 1,000, Inclusive, )

(Assigned to Hon. Roger D. Randall, Ret.)

21 Defendants. )

22 \_\_\_\_\_ )  
23 MONTEREY PENINSULA WATER )  
MANAGEMENT DISTRICT, )

24 Intervenor. )

25 \_\_\_\_\_ )  
26 MONTEREY COUNTY WATER )  
RESOURCES AGENCY, )

27 Intervenor. )

28 \_\_\_\_\_ )  
AND RELATED CROSS-ACTIONS )

[PROPOSED] ORDER RE: (1) WATERMASTER'S POST-JUDGMENT PETITION; AND (2) JOINT POST-JUDGMENT MOTION TO REQUEST CLARIFICATION OF THE COURT'S FINAL DECISION RELATING TO THE CALCULATION OF THE OVER-PRODUCTION REPLENISHMENT ASSESSMENT

1 Both the Watermaster's Post-Judgment Petition and the City of Seaside's and California  
2 American Water's Joint Post-Judgment Motion to Request Clarification of the Court's Final  
3 Decision Relating to the Calculation of the Over-Production Replenishment Assessment came  
4 regularly for hearing before this Court on January 12, 2007. Present and appearing for their  
5 parties were attorneys Nicholas Jacobs for California American Water, Russell McGlothlin and  
6 Donald Freeman for City of Seaside, James Heisinger for City of Sand City, David Laredo for  
7 Monterey Peninsula Water Management District (MPWMD) and Eric Robinson for Bishop,  
8 McIntosh and McIntosh and specially appearing for Laguna Seca Resort, Inc., Pasadera Country  
9 Club, LLC, and the York School, Inc.

10 Having reviewed and considered the pleadings, the memoranda of points and authorities,  
11 and the documents submitted by the parties, and having heard oral argument by counsel, the Court  
12 HEREBY ORDERS:

13 1. The Court adopts California American's approach to calculating the Over-  
14 Production Replenishment Assessment. The Watermaster shall amend its Rules and Regulations  
15 to include the calculation methodology proposed by California American.

16 2. With the revisions set forth below, which were ordered by the Court at the January  
17 12, 2007 hearing, the Court approves the Basin Monitoring and Management Program (MMP)  
18 submitted with the Watermaster Petition. The MMP shall be revised as follows:

19 a. Watermaster staff shall coordinate with MPWMD and California  
20 American to report their quarterly water quality testing in the Seaside Basin. Reports of the testing  
21 shall be prepared within ninety days of the testing and made available upon request to the  
22 Watermaster.

23 b. Any detection of salinity intrusion in the Seaside Basin by the  
24 Watermaster staff or any party to this matter shall be reported immediately to the Watermaster and  
25 to the Court.

26 c. No later than March 13, 2007, Watermaster shall report to the Court that a  
27 contract has been let for a consultant to oversee implementation of the MMP.

1 d. No later than June 11, 2007, Watermaster shall report to the Court that  
2 consultants implementing the MMP have designated and identified the sites for drilling the  
3 groundwater monitoring wells required by the MMP.

4 3. The Decision shall be amended to reflect that after the potential 10% reduction in  
5 Operating Yield that may occur on January 1, 2009, subsequent potential reductions would occur  
6 triennially thereafter on October 1<sup>st</sup> of 2011, 2014, 2017, 2020, 2024, etc. This change reflects the  
7 switch from an Administrative Year to a Water Year/Fiscal Year. For the initial potential 10%  
8 reduction in Operating Yield that will occur, if at all, on January 1, 2009, the 10% reduction would  
9 apply to 75% of the Operating Yield, because 25% of the Water Year would have already elapsed.  
10 Assuming the current Operating Yield of 5600 acre-feet, the Basin-wide Operating Yield would be  
11 reduced to 5,180 acre-feet on January 1, 2009. Subsequent potential Operating Yield reductions  
12 would occur on the Water Year schedule set forth in the MMP.

13 4. With the exceptions ordered by the Court at the hearing on this matter, the Court  
14 approves the revisions to the Decision requested in the Watermaster Petition. The Amended  
15 Decision is attached as Exhibit A to this Order.

16 5. The Watermaster shall ~~consider~~ <sup>revis</sup> ~~revising~~ its Rules and Regulations to address the  
17 following issues:

18 a. Section 9.0 should set forth the quantum of proof required in Watermaster  
19 proceedings. The Court suggests a preponderance of the evidence standard.

20 b. Section 11.0 should contain more information regarding the types of  
21 acceptable water measuring devices and/or a requirement that the Watermaster approve of each  
22 party's measuring device(s).

23 IT IS SO ORDERED.

24  
25 Dated: 9 February 07

By 

26 Honorable Roger D. Randall

PROOF OF SERVICE

I am employed in the County of Sacramento; my business address is Hall of Justice Building, 813 Sixth Street, Third Floor, Sacramento, California; I am over the age of 18 years and not a party to the foregoing action.

On January 26, 2007, I served a true and correct copy of

[PROPOSED] ORDER RE: (1) WATERMASTER'S POST-JUDGMENT PETITION; AND  
(2) JOINT POST-JUDGMENT MOTION TO REQUEST CLARIFICATION OF THE  
COURT'S FINAL DECISION RELATING TO THE CALCULATION OF THE OVER-  
PRODUCTION REPLENISHMENT ASSESSMENT

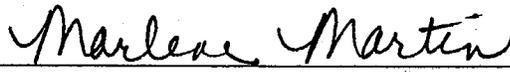
X (by mail) on all parties in said action listed below, in accordance with Code of Civil Procedure §1013a(3), by placing a true copy thereof enclosed in a sealed envelope in a designated area for outgoing mail, addressed as set forth below. At Somach, Simmons & Dunn, mail placed in that designated area is given the correct amount of postage and is deposited that same day, in the ordinary course of business, in a United States mailbox in the City of Sacramento, California.

\_\_\_ (by personal delivery) by personally delivering a true copy thereof to the person and at the address set forth below:

\_\_\_ (by facsimile transmission) to the person at the address and phone number set forth below:

SEE ATTACHED SERVICE LIST

I declare under penalty of perjury that the foregoing is true and correct under the laws of the State of California. Executed on January 26, 2007, at Sacramento, California.

  
\_\_\_\_\_  
Marlene Martin

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# EXHIBIT A



1 **I. INTRODUCTION**

2 This Decision sets forth the adjudicated rights of the parties to this lawsuit (with certain  
3 exceptions noted in section I.D. below), including Plaintiff California American Water, and  
4 Defendants the City of Seaside, the City of Monterey, the City of Sand City, the City of Del Rey  
5 Oaks, Security National Guaranty, Inc., Granite Rock Company, D.B.O. Development Company  
6 No. 27, Muriel E. Calabrese 1987 Trust, Alderwoods Group (California), Inc., Pasadera Country  
7 Club, LLC, Laguna Seca Resort, Inc., Bishop, McIntosh & McIntosh, and The York School, Inc.  
8 (hereinafter “Water User Defendants”) to use the water resources of the Seaside Groundwater  
9 Basin (“Seaside Basin” or “Basin”) and provides for a physical solution for the perpetual  
10 management of the Basin, which long-term management will provide a means to augment the water  
11 supply for the Monterey Peninsula.

12 A. Seaside Groundwater Basin.

13 The Seaside Basin is located in Monterey County and underlies the Cities of Seaside,  
14 Sand City, Del Rey Oaks, Monterey, and portions of unincorporated county areas, including the  
15 southern portions of Fort Ord, and the Laguna Seca Area. The boundaries of the Basin are  
16 depicted in Exhibit B of this Decision. Generally, the Seaside Basin is bounded by the Pacific  
17 Ocean on the west, the Salinas Valley on the north, the Toro Park area on the east, and Highways  
18 68 and 218 on the south. The Seaside Basin consists of subareas, including the Coastal subarea  
19 and the Laguna Seca subarea in which geologic features form partial hydrogeologic barriers  
20 between the subareas.

21 B. The Parties.

22 1. Plaintiff California American Water (“Plaintiff” or “California American”) is  
23 an investor-owned public utility incorporated under the laws of the State of California. (See Pub.  
24 Utilities Code, §§ 1001 et seq. and 2701 et seq.) California American produces groundwater  
25 from the Seaside Basin and delivers it for use on land within its certificated service area that both  
26 overlies portions of the Seaside Basin, and is located outside of the Seaside Basin Area, all within  
27 the County of Monterey.

28 //

1           2.       Defendant City of Seaside (“Seaside”) is a general law city situated in the  
2 County of Monterey. Seaside produces groundwater from the Seaside Basin (1) for use on two  
3 city-owned golf courses that overlie the Basin, and (2) for municipal water service to its residents.  
4 (*See* Cal. Const., Art. XI, § 9; Gov. Code, § 38730.)

5           3.       Defendant City of Sand City (“Sand City”) is a charter city situated in the  
6 County of Monterey. Sand City produces groundwater from the Seaside Basin and delivers it for  
7 use on private and publicly owned lands within its incorporated boundaries, all of which overlie  
8 the Seaside Basin. (*See* Cal. Const., Art. XI, § 9; Gov. Code, § 38730.)

9           4.       Defendant City of Del Rey Oaks (“Del Rey Oaks”) is a general law city situated  
10 in the County of Monterey. Land within Del Rey Oaks’ incorporated boundaries overlies the  
11 Seaside Basin. The two wells Del Rey Oaks presently operates for irrigation of public lands are  
12 located outside the Seaside Basin area and are, therefore, excluded from this Stipulation. (*See*  
13 Cal. Const., Art. XI, § 9; Gov. Code, § 38730.)

14           5.       Defendant City of Monterey (“Monterey”) is a charter city situated in the  
15 County of Monterey. Monterey owns and controls land that overlies the Seaside Basin area.

16           6.       Defendant Security National Guaranty, Inc. (“SNG”) is a California corporation  
17 with its principal place of business in the City and County of San Francisco. SNG’s primary  
18 business activity is real estate development. As part of its operation, SNG and/or its  
19 predecessors-in-interest have produced groundwater from the Seaside Basin. SNG also owns  
20 land overlying the Seaside Basin.

21           7.       Defendant Granite Rock Company (“Granite”) is a California corporation with  
22 its principal place of business in the County of Santa Cruz. Granite’s primary business activity  
23 is the production and sale of concrete aggregate and building materials. As part of its Seaside  
24 concrete and building materials plant, Granite has produced groundwater from the Seaside Basin.  
25 Granite also owns land overlying the Seaside Basin.

26           8.       Defendant D.B.O. Development No. 27 (“D.B.O.”), erroneously sued herein as  
27 D.B.O. Development Company, is a California limited liability company with its principal place  
28 of business in the County of Monterey. D.B.O.’s primary business activity is the ownership and

1 development of real property for commercial, industrial, residential, and public uses. As part of  
2 their ownership and development of land overlying the Seaside Basin, D.B.O. and/or its  
3 predecessor in interest have produced groundwater from the Basin. D.B.O. also owns and  
4 controls land overlying the Seaside Basin.

5 9. Defendant Muriel E. Calabrese 1987 Trust (“Calabrese”) is an irrevocable trust  
6 that holds property in the County of Monterey. Calabrese and/or its predecessor in interest have  
7 produced groundwater from the Seaside Basin in relation to the operation of its paving, grading  
8 and construction business and operation of a concrete batch plant in Sand City. Calabrese also  
9 owns and controls land overlying the Seaside Basin.

10 10. Defendant Alderwoods Group (California), Inc. (“Alderwoods Group”), DBA  
11 Mission Memorial Park (“Mission Memorial”) is a California corporation with its principal  
12 place of business in the County of Monterey. Mission Memorial’s primary business activity is  
13 the operation of a cemetery in the City of Seaside. As part of maintenance of the cemetery,  
14 Mission Memorial has produced groundwater from the Seaside Basin. Mission Memorial also  
15 owns land overlying the Seaside Basin.

16 11. Defendant Pasadera Country Club, LLC (“Pasadera”) is a California limited  
17 liability company with its principal place of business in the County of Monterey. Pasadera’s  
18 primary business activity is the operation of a private golf course. As part of its golf course  
19 operations, Pasadera has produced groundwater from the Seaside Basin. Pasadera also owns  
20 land overlying the Seaside Basin.

21 12. Defendant Bishop, McIntosh & McIntosh (“Bishop”) is a general partnership,  
22 with its principal place of business in the County of Monterey. Bishop owns land overlying the  
23 Laguna Seca Subarea of the Seaside Basin. Defendant Laguna Seca Resort, Inc. (“Laguna  
24 Seca”) is a California corporation with its principal place of business in the County of Monterey.  
25 Laguna Seca’s primary business activity is the operation of a public golf course on land owned in  
26 fee by Bishop. Laguna Seca operates the golf course pursuant to a lease with Bishop. As part of  
27 the golf course’s operations, groundwater is produced from the Laguna Seca Subarea of the  
28 Seaside Basin for irrigation purposes. Laguna Seca filed a cross-complaint against California

1 American, and Bishop filed a cross-complaint against California American and all defendants  
2 other than Laguna Seca Defendants Laguna Seca Resort, Inc. and Bishop, McIntosh & McIntosh  
3 shall collectively be referred to as "Laguna Seca/Bishop." However, the pumping allocation  
4 established in Section III.B., below, is held only by Bishop, as the overlying property owner.  
5 Laguna Seca is a Water User Defendant now exercising Bishop's pumping allocation and  
6 operating the golf course facilities. The damages provided for in Section III.G. shall be based on  
7 the Average Gross Annual Income of the entity operating the golf course facilities, which is now  
8 Laguna Seca (Bishop's lessee).

9 13. Defendant County of Monterey owns land on which is operates the Laguna Seca  
10 Park. County of Monterey has produced groundwater from the Seaside Basin for use at Laguna  
11 Seca Park. County of Monterey owns land overlying the Seaside Basin.

12 14. Intervenor Monterey Peninsula Water Management District ("MPWMD") is a  
13 district formed pursuant to Water Code Appendix sections 118-1 et seq. MPWMD intervened  
14 as a party defendant as against California American, cross-complained against the other parties as  
15 a plaintiff, and is a defendant in a cross-complaint filed by Seaside and joined in by City  
16 defendants.

17 15. Intervenor Monterey County Water Resources Agency ("MCWRA") is a duly  
18 constituted Water Resources Agency created pursuant to California Water Code Appendix  
19 section 52-3 et seq. MCWRA intervened inn this action as a plaintiff as against all parties.

20 16. Defendant The York School, Inc. ("York" or "York School"), is a nonprofit  
21 corporation, founded in 1959 as an independent day school providing college preparatory  
22 education. Its primary activity is the operation of a school. York leases approximately 31.4 acres  
23 of property from the United States, Department of the Army, on the former Fort Ord. This  
24 property is located immediately north of the main campus, across York Road, and is a portion of a  
25 larger parcel, approximately 107 acres in size, that is scheduled to be transferred as a public  
26 benefit conveyance to York from the federal government. This parcel overlies the Seaside Basin  
27 and is subject to this Decision. York has produced groundwater from the Seaside Basin. York  
28 is not an agent of the United States, nor can York bind the United States to this Decision.

1 C. The Complaint.

2 On or about August 14, 2003, Plaintiff filed a complaint against Defendants and Does 1  
3 through 1,000 requesting a declaration of Plaintiff's and Defendants' individual and collective  
4 rights to groundwater and a mandatory and prohibitory injunction requiring the reasonable use  
5 and coordinated management of groundwater within the Seaside Basin pursuant to Article X,  
6 Section 2 of the California Constitution. The pleadings further allege that Plaintiff and  
7 Defendants collectively claim substantially all rights of groundwater use, replenishment and  
8 storage within the Seaside Basin area, that the Natural Safe Yield (as defined in Section III.A.) is  
9 being exceeded, and that absent a physical solution and coordinated groundwater management  
10 strategy, the Seaside Basin is in imminent risk of continued lowering of water levels, increased  
11 pump-lifts, diminution of water supply and quality, seawater intrusion, and possible land  
12 subsidence. Accordingly, Plaintiff requested: (1) a determination of the Seaside Basin's safe  
13 yield; (2) an operating plan for the management of the Basin; (3) a declaration of the rights of the  
14 parties named in this Complaint; (4) a declaration and quantification, as part of a physical  
15 solution, of the parties' respective rights to make use of the Seaside Basin's available storage  
16 space; and (5) the appointment of a Watermaster to administer the Court's Decision.  
17 Subsequently, Plaintiff has twice amended its complaint and the operative complaint is now the  
18 Second Amended Complaint, which sets forth the same general allegations as the original  
19 complaint.

20 D. Defendants' Responses.

21 Water User Defendants in this action have all responded to the Complaint pursuant to  
22 Answers. In addition, they have all joined in a motion seeking Court approval of a Stipulated  
23 Judgment. The Monterey Peninsula Water Management District and the County of Monterey,  
24 including the Monterey County Water Resources Agency, did not join in the Stipulation.

25 On or about September 24, 2003, Intervenor MPWMD filed a complaint in intervention  
26 against the defendants named in the Complaint. Defendants to that complaint responded to the  
27 cross-complaint pursuant to an Answer, containing a general denial and affirmative defenses.

28 //

1 Seaside, on or about January 9, 2004, filed a cross-complaint against MPWMD.  
2 MPWMD responded to the cross-complaint by filing an Answer, containing a general denial and  
3 affirmative defenses.

4 Laguna Seca, on or about April 23, 2004, filed a cross-complaint against California  
5 American. California American responded to the cross-complaint pursuant to an Answer,  
6 containing a general denial and affirmative defenses.

7 Bishop, on or about September 23, 2004, filed a cross-complaint against California  
8 American and against all defendants other than Laguna Seca. California American, Granite, Sand  
9 city, Alderwoods Group, York School, D.B.O., Monterey, MPWMD, Seaside, and Pasadera  
10 responded to the cross-complaint pursuant to Answers containing general denials and affirmative  
11 defenses.

12 SNG, on or about July 26, 2005, filed a cross-complaint against MPWMD. MPWMD  
13 responded to the cross-complaint by filing an Answer, containing a general denial and affirmative  
14 defenses.

15 At the conclusion of argument on December 22, 2005, the various defendant cross-  
16 complainants agreed that the relief they had sought via their cross-complaints had been subsumed  
17 in the litigation of the complaint and complaints in intervention, the answers thereto, and the  
18 Settlement Agreement and General Mutual Release executed by all parties save the intervenors  
19 and the County of Monterey.

20 E. Joint Motion for Entry of Judgment.

21 Plaintiff and Water User Defendants filed a Motion for the Entry of Judgment along with  
22 a Stipulation for Entry of Judgment, which was opposed by both intervenors. The Motion for  
23 Entry of Judgment requested that the Court approve the Stipulation and enter the Judgment. The  
24 motion was heard by this Court on December 12, 2005. At the request of the moving parties, it  
25 deferred its ruling until it had taken evidence in the trial of this matter.

26 Having now received the evidence, and having considered written and oral argument from  
27 the various parties, the Court denies the Motion for Entry of Judgment. The Court accepts the  
28 stipulation of certain of the parties entitled "Settlement Agreement and General Mutual Release"

1 filed with the Court during trial insofar as the stipulation does not conflict with the ruling set forth  
2 herein.

3 F. Jurisdiction. This Court has jurisdiction to enter a Judgment declaring and adjudicating  
4 Plaintiff's and Water User Defendants' rights to the reasonable and beneficial use of  
5 groundwater in the Seaside Basin Area, including the imposition of a physical solution, pursuant  
6 to Article X, Section 2 of the California Constitution.

## 7 **II. FINDINGS**

8 A. Importance of Groundwater. Groundwater is an important water supply source for  
9 businesses, individuals and public agencies that overlie or Extract groundwater from the Seaside  
10 Basin. The overwhelming majority of the groundwater appropriated from the Seaside Basin has  
11 been and continues to be dedicated to a public use in accordance with the provisions of the  
12 California Constitution, Article X, Section 5. The Plaintiff and the Water User Defendants rely  
13 upon continued availability of groundwater to meet their demands. The intervenors, MPWMD  
14 and MCWRA, have a legislatively mandated interest in the preservation and enhancement of  
15 groundwater in the Basin.

16 B. Status of the Groundwater Basin.

17 1. Perennial Natural Safe Yield. The Perennial Natural Safe Yield (as defined in  
18 Section III.A. and hereinafter referred to as "Natural Safe Yield") of the Seaside Basin is solely  
19 the result of natural percolation from precipitation and surface water bodies overlying the Basin.  
20 The Court finds that the Natural Safe Yield of the Basin as a whole, assuming no action is taken  
21 to capture subsurface flow exiting the northern boundary of the Basin, is from 2,581 to 2,913 acre  
22 feet per year. The Natural Safe Yield for the Coastal Subarea is estimated from 1,973 to 2,305  
23 acre feet peer year, and the Natural Safe Yield for the Laguna Seca Subarea is 608 acre feet per  
24 year.

25 2. Groundwater Production. Production records demonstrate that the cumulative  
26 annual groundwater production of the Parties from the Seaside Basin area in each of the five (5)  
27 years immediately preceding the filing of this action has been between approximately 5,100 and  
28 6,100 acre feet. Therefore, the Court finds that groundwater production has exceeded the Natural

1 Safe Yield during the preceding five (5) years throughout the Seaside Basin and in each of its  
2 subareas. While no one can predict with precision when it will occur, all parties agree continued  
3 indefinite production of the Basin Groundwater in excess of the Natural Safe Yield will  
4 ultimately result in seawater intrusion, with deleterious effects on the Basin. The evidence  
5 demonstrates that the stage is set for such an occurrence in the foreseeable future.

6 C. Legal Claims.

7 1. Groundwater Rights. Certain Parties allege that they have produced groundwater  
8 openly, notoriously, continuously, and without interruption in excess of the Natural Safe Yield of  
9 the Basin for more than five (5) years. As a result, these Parties allege that they have accrued  
10 prescriptive rights as articulated by the California Supreme Court in *City of Pasadena v. City of*  
11 *Alhambra* (1948) 33 Cal.2d 908. In defense of these claims, other Parties deny that the elements  
12 of prescription have been satisfied, and further allege the affirmative defense of “self help” as  
13 recognized in *Pasadena, supra*, 33 Cal.2d at pp. 932-32. Those Parties responsible for public  
14 water service also raise Civil Code section 1007 as an affirmative defense against prescription.

15 The Court finds that there is merit to the claim that certain prescriptive rights have accrued,  
16 but also finds that there is merit to the aforementioned affirmative defenses. Accordingly, the  
17 Court finds that the Parties collectively possess a variety of rights based in prescription and other  
18 original rights (including overlying and appropriative rights). Each Party’s right to produce  
19 naturally occurring groundwater from the Seaside Basin therefore reflects the amount of their  
20 historical production from the Basin, and respects the priority of allocations under California law.  
21 The physical solution set forth by this Decision is intended to ultimately reduce the drawdown of  
22 the aquifer to the level of the Natural Safe Yield; to maximize the potential beneficial use of the  
23 Basin; and to provide a means to augment the water supply for the Monterey Peninsula.

24 2. Storage Rights. The Court finds that the public interest is served by augmenting  
25 the total yield of the Seaside Basin through artificial groundwater recharge, storage, and recovery.  
26 It is well established that an entity which artificially recharges a groundwater basin with the intent  
27 to later recapture that water maintains an exclusive right to recapture that quantity of water by  
28 which said recharge augments the retrievable water supply of the groundwater basin, so long as

1 such recharge and recapture (i.e., storage) does not materially harm the groundwater basin or any  
2 other entity's prior rights associated with the groundwater basin. (*City of Los Angeles v. City of*  
3 *San Fernando* (1975) 14 Cal.3d 199, 264; *City of Los Angeles v. City of Glendale* (1943)  
4 23 Cal.2d 68, 76-77; see also Water Code, § 7075.) The Court finds, therefore, that the right to  
5 store and recover water from the Seaside Basin shall be governed by the provisions of the  
6 Decision, and the rules and regulations promulgated by the Seaside Basin Watermaster, the basic  
7 provisions of which are described in Section III.H.

8 3. De Minimis Production. The Court finds that production of groundwater by any  
9 person or entity less than five (5) acre feet per year is not likely to significantly contribute to a  
10 Material Injury (as defined in Section III.A.) to the Seaside Basin or any interest related to the  
11 Seaside Basin. Accordingly, this Decision is not intended to govern the production of  
12 groundwater by any person or entity that produces a total quantity of groundwater that is less  
13 than five (5) acre feet per year. However, to the extent the Court determines in the future that  
14 this exemption has contributed to or threatens to contribute to a Material Injury to the Seaside  
15 Basin or any interest related to the Seaside Basin, including any contribution caused by  
16 production subject to this exemption in combination with all other production from the Seaside  
17 Basin, the Court will modify or eliminate this exemption as it deems prudent pursuant to its  
18 reserved jurisdiction provided in Section III.O.

19 4. Transferability of Seaside Basin Rights. The Court finds that maximum  
20 beneficial use of the Seaside Basin's resources is encouraged by the ability to sell and lease  
21 production allocations. Such transferability will also provide necessary flexibility to satisfy  
22 future water supply needs. Accordingly, the Court finds that production allocations should be  
23 assignable, subject to the rules and regulations promulgated by the Watermaster, and subject to  
24 certain Parties' participation in the Alternative Production Allocation, described in Section III.B.3,  
25 which election will restrict their transfers of water.

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**III. DECISION**

**IT IS HEREBY ORDERED, ADJUDGED AND DECREED:**

A. Definitions.

1. "Alternative Production Allocation" is the amount of Groundwater that a Producer participating in this allocation method may Produce from a Subarea of the Seaside Basin as provided in Section III.B.3.

2. "Artificial Replenishment" means the act of the Watermaster, directly or indirectly, engaging in or contracting for Non-Native Water to be added to the Groundwater supply of the Seaside Basin through Spreading or Direct Injection to offset the cumulative Over-Production from the Seaside Basin in any particular Water Year pursuant to Section III.L.3.j.iii. It shall also include programs in which Producers agree to refrain, in whole or in part, from exercising their right to produce their full Production Allocation where the intent is to cause the replenishment of the Seaside Basin through forbearance in lieu of the injection or spreading of Non-Native Water.

3. "Base Water Right" is the percentage figure or the fixed amount assigned to each Party as provided in Section III.B.2, which is used to determine various rights and obligations of the Parties as provided in Sections III.B.2, III.B.3, III.L.3.c, and III.L.3.j.iii.

4. "Brackish Water" means water containing greater than 1,000 parts of chlorides to 1,000,000 parts of Water.

5. "Carryover" means that portion of a Party's Production Allocation that is not Extracted from the Basin during a particular Water Year. Each acre-foot of Carryover establishes an acre-foot of Carryover Credit.

6. "Carryover Credit(s)" means the quantity of Water established through Carryover, that a Party is entitled to Produce from the Basin pursuant to Section III.F.

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1           7.           “Coastal Subarea” means those portions of the Seaside Basin that are west of  
2 North-South Road, and further as shown on the Basin map attached as Exhibit B to this  
3 Decision.

4           8.           “Direct Injection” means a method of Groundwater recharge whereby Water is  
5 pumped into the Basin through wells or other artificial channels.

6           9.           “Extraction,” “Extractions,” “Extracting,” “Extracted,” and other variations  
7 of the same noun or verb, mean pumping, taking, diverting or withdrawing Groundwater by any  
8 manner or means whatsoever from the Seaside Basin.

9           10.          “Feasible” means capable of being accomplished in a successful manner within  
10 a reasonable period of time, taking into account economic, environmental, social, and  
11 technological factors.

12          11.          “Fiscal Year” means the twelve (12) month period from January 1 through  
13 December 31.

14          12.          “Groundwater” means all Water beneath the ground surface in the Seaside  
15 Basin, including Water from Natural Replenishment, Artificial Replenishment, Carryover, and  
16 Stored Water.

17          13.          “Laguna Seca Subarea,” or “Laguna Seca Area,” means those portions of the  
18 Basin that are east of the Southern Coastal Subarea and south of the Northern Inland Subarea, as  
19 shown on the Seaside Basin map attached as Exhibit B to this Decision.

20          14.          “Landowner Group” means all Producers that own or lease land overlying the  
21 Seaside Basin and Produce Groundwater solely for use on said land, except California American,  
22 Seaside (Municipal), Monterey, Del Rey Oaks, and Sand City.

23          15.          “Material Injury” means a substantial adverse physical impact to the Seaside  
24 Basin or any particular Producer(s), including but not limited to: seawater intrusion, land  
25 subsidence, excessive pump lifts, and water quality degradation. Pursuant to a request by any  
26 Producer, or on its own initiative, Watermaster shall determine whether a Material Injury has  
27 occurred, subject to review by the Court as provided for in Section III.N.

1           16.       “Natural Replenishment” means all processes by which Water may become a  
2 part of the Groundwater supply of the Seaside Basin without the benefit of the Physical Solution  
3 and the coordinated management it provides. Groundwater that occurs in the Seaside Basin as a  
4 result of the Physical Solution, which is not Natural Replenishment, includes, but is not limited to  
5 Storage, Carryover, and Artificial Replenishment.

6           17.       “Natural Safe Yield” or “Perennial Natural Safe Yield” means the quantity of  
7 Groundwater existing in the Seaside Basin that occurs solely as a result of Natural  
8 Replenishment. The Natural Safe Yield of the Seaside Basin as a whole, assuming no action is  
9 taken to capture subsurface flow exiting the northern boundary of the Basin, is from 2,581 to  
10 2,913 acre feet per year. The Natural Safe Yield for the Coastal Subareas is from 1,973 to 2,305  
11 acre feet per year. The Natural Safe Yield for the Laguna Seca Subarea is 608 acre feet per year.

12           18.       “Non-Native Water” means all Water that would not otherwise add to the  
13 Groundwater supply through natural means or from return flows from surface applications other  
14 than intentional Spreading.

15           19.       “Overdraft” or “Overdrafted” refers to a condition within a Groundwater  
16 basin resulting from long-term depletions of the basin over a period of years.

17           20.       “Operating Safe Yield” means the maximum amount of Groundwater resulting  
18 from Natural Replenishment that this Decision, based upon historical usage, allows to be  
19 produced from each Subarea for a finite period of years, unless such level of production is found  
20 to cause Material Injury. The Operating Safe Yield for the Seaside Basin, as a whole, is 5,600  
21 acre feet. The Operating Yield is 4,611 acre feet for the Coastal Subarea and 989 acre feet for the  
22 Laguna Seca Subarea. The Operating Yield established here will be maintained for three (3)  
23 years from the date of this Decision or until a determination is made by the Watermaster,  
24 concurred in by this Court, that continued pumping at this established Operating Yield will cause  
25 Material Injury to the Seaside Basin or to the Subareas, or will cause Material Injury to a  
26 Producer due to unreasonable pump lifts. In either such event the Watermaster shall determine  
27 the modified Operating Yield in accordance with the Principles and Procedures attached hereto as  
28 Exhibit A, and through the application of criteria that it shall develop for this purpose.

1           21.        “Over-Production” and other variations of the same term means (1) with regard  
2 to all Production from the Seaside Basin, that quantity of Production which exceeds an initially  
3 assumed Natural Safe Yield of 3,000 afy (or such adjusted calculation of Natural Safe Yield as  
4 further study of the Basin by the Watermaster shall justify); or (2) with regard to each Producer,  
5 that quantity of Water Produced in any Water Year in excess of that Producer’s Base Water  
6 Right, as applied to an initially assumed Natural Safe Yield of 3,000 afy (subject to adjustment as  
7 further study shall justify). For a Party producing under the Alternative Production Allocation,  
8 the calculation shall be based upon the Base Water Right assigned to them in Table 1, infra, only  
9 to the extent that Party has elected to convert all or part of an Alternative Production Allocation  
10 into a Standard Production Allocation, pursuant to Section III.B.3.e.

11           22.        “Operating Yield Over-Production” means pumping of Native Water by Producers  
12 in excess of their Standard Production Allocation or Alternative Production Allocation, as  
13 discussed in Section III.L.3.j.iii.

14           23.        “Person” or “Persons” includes individuals, partnerships, associations,  
15 governmental agencies and corporations, and any and all types of entities.

16           24.        “Physical Solution” means the efficient and equitable management of  
17 Groundwater resources within the Seaside Basin, as prescribed by this Decision, to maximize the  
18 reasonable and beneficial use of Water resources in a manner that is consistent with Article X,  
19 Section 2 of the California Constitution, the public interest, and the basin rights of the Parties,  
20 while working to bring the Production of Native Water to Natural Safe Yield.

21           25.        “Produce,” “Produced,” or “Production” means (1) the process of Extracting  
22 Water or (2) the gross amount of Water Extracted.

23           26.        “Producer” means a Party possessing a Base Water Rights.

24           27.        “Production Allocation” is the amount of Groundwater that a Producer may  
25 Produce from a Subarea of the Seaside Basin based on the Parties’ election to proceed under  
26 either the Standard Production Allocation or the Alternative Production Allocation set forth in  
27 Sections III.B.2 and III.B.3, respectively.

1           28.     “Replenishment Assessment” means an assessment levied by the Watermaster  
2 per each acre-foot of Over-Production against each party Over-Producing Groundwater in the  
3 previous Water Year. The amount of the assessment shall be sufficient to cover the cost of  
4 Artificial Replenishment in an amount necessary to off-set that Producer’s Over-Production, and  
5 levied as provide in Section III.L.3.j.iii. The assessment must of necessity be initially determined  
6 based upon the estimated cost of providing Non-Native water to replenish the Basin, as  
7 determined by the Watermaster.

8           29.     “Seaside Basin” is the underground water basin or reservoir underlying the  
9 Seaside Basin Area, the exterior boundaries of which are the same as the exterior boundaries of  
10 the Seaside Basin Area.

11           30.     “Seaside Basin Area” is the territory depicted in Exhibit B to this Decision.

12           31.     “Spreading” means a method of introducing Non-Native Water into the Seaside  
13 Basin whereby Water is placed in permeable impoundments and allowed to percolate into the  
14 Seaside Basin.

15           32.     “Standard Production Allocation” is the amount of Groundwater that a Producer  
16 participating in this allocation method may Produce from a Subarea of the Seaside Basin as  
17 provided in Section III.B.2, which is determined by multiplying the Base Water Right by the  
18 Operating Yield.

19           33.     “Storage” means the existence of Stored Water in the Seaside Basin.

20           34.     “Storage Allocation” means that quantity of Stored Water in acre feet that a  
21 Party is allowed to Store in the Coastal Subarea or the Laguna Seca Subarea at any particular  
22 time.

23           35.     “Storage Allocation Percentage” means the percentage of Total Usable Storage  
24 Space allocated to each Producer proceeding under the Standard Production Allocation.  
25 Producers proceeding under the Alternative Production Allocation are not allocated Storage rights  
26 and, consequently, their share of the Total Usable Storage Space is apportioned to the Producers  
27 proceeding under the Standard Production Allocation. Pursuant to the terms of Section III.B.3,  
28 Parties proceeding under the Alternative Production Allocation enjoy a one-time right to change

1 to the Standard Production Allocation. Due to the recalculation of the Storage Allocation  
2 Percentage necessitated when a Party changes to the Standard Production Allocation, the  
3 Watermaster will maintain the up-to-date Seaside Basin Storage Allocation Percentages.

4 36. "Storage and Recovery Agreement" means an agreement between Watermaster  
5 and a Party for Storage pursuant to Section III.L.3.j.xx.

6 37. "Store" and other variations of the same verb refer to the activities establishing  
7 Stored Water in the Seaside Basin.

8 38. "Stored Water" means (1) Non-Native Water introduced into the Seaside Basin  
9 by a Party or any predecessors-in-interest by Spreading or Directly Injecting that Water into the  
10 Seaside Basin for Storage and subsequent Extraction by and for the benefit of that Party or their  
11 successors-in-interest; (2) Groundwater within the Seaside Basin that is accounted for as a  
12 Producer's Carryover; or (3) Non-Native water introduced into the Basin through purchases by  
13 the Watermaster, and used to reduce and ultimately reverse Over-Production.

14 39. "Stored Water Credit" means the quantity of Stored Water augmenting the  
15 Basin's Retrievable Groundwater Supply, which is attributable to a Party's Storage and further  
16 governed by this Decision and a Storage and Recovery Agreement.

17 40. "Subarea(s)" means either the Laguna Seca Subarea or the Coastal Subarea.

18 41. "Total Useable Storage Space" means the maximum amount of space available  
19 in the Seaside Basin that can prudently be used for Storage as shall be determined and modified  
20 by Watermaster pursuant to Section III.L.3.j.xix, less Storage space which may be reserved by  
21 the Watermaster for its use in recharging the Basin.

22 42. "Transfer" and other variations of the same verb refers to the temporary or  
23 permanent assignment, sale, or lease of all or part of any Producer's Production Allocation,  
24 Storage Allocation, Carryover Credits, or Stored Water Credits. Pursuant to Section III.B.3.,  
25 Transfer does not include the use of Water on properties identified in Exhibit C for use under an  
26 Alternative Production Allocation.

27 43. "Water" includes all forms of Water.

28 //

1           44.     “Watermaster” means the court-appointed Watermaster pursuant to Section  
2 III.L. of this Decision for the purpose of executing the powers, duties, and responsibilities  
3 assigned therein.

4           45.     “Watermaster Rules and Regulations” means those rules and regulations  
5 promulgated by the Watermaster consistent with the terms of this Decision.

6           46.     “Water Year” means the twelve (12) month period from October 1<sup>st</sup> through  
7 September 30<sup>th</sup>.

8     B.     Physical Solution.

9           1.     Groundwater Rights. The Parties have Produced Groundwater from the Seaside  
10 Basin openly, notoriously, continuously, and without interruption, which Production has been  
11 determined to be in excess of the Natural Safe Yield of the Seaside Basin and each of its  
12 Subareas for more than five (5) years. Accordingly, Parties have accrued mutual prescriptive  
13 rights and/or have preserved their overlying, appropriative, and prescriptive rights against further  
14 prescription by self-help. These individual and competitive rights, whether mutually prescriptive,  
15 appropriative or overlying rights, can be most efficiently exercised and satisfied by the  
16 implementation of this Physical Solution and in the manner expressly set forth herein.

17           2.     Standard Production Allocation. Each Producer is authorized to Produce its  
18 Production Allocation within the designated Subarea in each of the first three Water Years.  
19 Except for those certain Parties electing to proceed under the Alternative Production Allocation, as  
20 set forth in Section III.B.3., each Producer’s Production Allocation for the first three Water Years  
21 shall be calculated by multiplying its Base Water Right, as set forth in Table 1 below, by that  
22 portion of the Operating Yield which is in excess of the sum of the Alternative Production  
23 Allocations. The Operating Yield for the Seaside Basin, as a whole, is set at 5,600 acre feet  
24 annually (afa). The Operating Yield for the Coastal Subarea is 4,611 afa, with 743 afa committed  
25 to Alternative Production Allocations and 3,868 afa committed to Standard Production  
26 Allocations. The Operating Yield for the Laguna Seca Subarea is 989 afa, with 644 afa  
27 committed to Alternative Production Allocations and 345 afa committed to Standard Production  
28 Allocations. The Operating Yield established here will be maintained for three (3) Water Years

1 from the date Judgment is granted or until a determination is made by the Watermaster, concurred  
2 in by this Court, that continued pumping at this established Operating Yield will cause Material  
3 Injury to the Seaside Basin or to the Subareas or will cause Material Injury to a Producer due to  
4 unreasonable pump lifts. In the event of such Material Injury the Watermaster shall determine  
5 the modified Operating Yield in accordance with the Principles and Procedures attached hereto as  
6 Exhibit A, and through the application of criteria that it shall develop for this purpose.<sup>1</sup>

7 Commencing with the fourth Water Year<sup>2</sup>, and triennially thereafter the Operating Yield  
8 for both Subareas will be decreased by ten percent (10%) until the Operating Yield is the  
9 equivalent of the Natural Safe Yield unless:

- 10 a. The Watermaster has secured and is adding an equivalent amount of  
11 Non-Native water to the Basin on an annual basis; or  
12 b. The Watermaster has secured reclaimed water in an equivalent amount  
13 and has contracted with one or more of the Producers to utilize said water in lieu  
14 of their Production Allocation, with the Producer agreeing to forego their right to  
15 claim a Stored Water Credit for such forbearance; or  
16 c. Any combination of a and b which results in the decrease in Production  
17 of Native Water required by this decision; or  
18 d. The Watermaster has determined that Groundwater levels within the  
19 Santa Margarita and Paso Robles aquifers are at sufficient levels to ensure a  
20 positive offshore gradient to prevent seawater intrusion.

21  
22  
23 <sup>1</sup> If the Operating Yield changes, Standard Production Allocations will be calculated by multiplying the  
24 portion of the changed Operating Yield committed to Standard Production Allocations by the Standard Producers'  
25 Base Water Rights. This calculation will result in a remaining quantity of water already committed to Standard  
26 Production Allocations (due to the Base Water Right percentages assigned to Alternative Producers but which are  
27 not used to calculate the Standard Production Allocations), which will be further allocated to the Standard Producers  
28 in proportion to their Base Water Rights until no quantity remains unallocated.

<sup>2</sup> As ordered by the Court at the January 12, 2007 hearing, the initial potential 10% reduction in Operating  
Yield will occur, if at all, on January 1, 2009. The 10% reduction would apply to 75% of the Operating Yield,  
because 25% of the Water Year would have already elapsed. Assuming the current Operating Yield of 5600 acre-  
feet, the Basin-wide Operating Yield would be reduced to 5,180 acre-feet for the remainder of the Water Year.  
Subsequent potential Operating Yield reductions would occur on the Water Year schedule set forth in the MMP.

TABLE 1<sup>3</sup>

Standard Production Allocations

Party:	Percentage of Operating Yield Coastal Subarea
California American Water	77.55%
City of Seaside (Municipal)	6.36%
City of Seaside (Golf Courses)	10.47%
City of Sand City	0.17%
Granite Rock Company	0.60%
SNG	2.89%
D.B.O. Development No. 27	1.09%
Calabrese	0.27%
Mission Memorial Park	0.60%

Producer:	Percentage of Operating Yield for Laguna Seca Sec area
California American Water Company	45.13%
Pasadera Country Club	22.65%
Bishop	28.88%
York School	2.89 %
Laguna Seca County Park	0.45%*

\* Because the County of Monterey has not joined in the Settlement Agreement and General Mutual Release, its right to Produce water will be governed by the provisions made for those Producers selecting Alternative Production Allocations.

3. Alternative Production Allocation. The following Parties, which all assert overlying Groundwater rights, have chosen to participate in an Alternative Production Allocation: Seaside with regard to the Groundwater that it Produces for irrigation of its golf courses; Sand City, SNG, Calabrese, Mission Memorial, Pasadera, Bishop, York School, and Laguna Seca.

The Alternative Production Allocation provides the aforementioned Parties with a prior and paramount right over those Parties Producing under the Standard Production Allocation to

feet, the Basin-wide Operating Yield would be reduced to 3,7805,180 acre-feet for the remainder of the Water Year. Subsequent potential Operating Yield reductions would occur on the Water Year schedule set forth in the MMP.

<sup>3</sup> Certain Parties including Seaside (Golf Courses), Sand City, SNG, Calabrese, Mission Memorial, Pasadera, Bishop and York School hold an Alternative Production Allocation in the fixed amount shown in Table 2. If any of these Parties subsequently elects to convert to the Standard Production Allocation, then the Base Water Right shown in Table 1 for such converting Party will be used to determine that Party's Standard Production Allocation consistent with the terms provided in Section III.B.3.e.

1 subject to any reductions under Section III.B.2 or at such times as the Watermaster determines to  
2 reduce the Operating Yield in accordance with Section III.L.3.j.ii., subject to the following terms:

3 a. The Alternative Production Allocation may not be transferred for use on  
4 any other property, but shall be limited to use on the respective properties (including subdivisions  
5 thereof) identified in Exhibit C;

6 b. The Party electing the Alternative Production Allocation may not establish  
7 Carryover Credits or Storage rights;

8 c. The Party electing the Alternative Production Allocation is obligated to  
9 adopt all reasonably Feasible Water conservation methods, including methods consistent with  
10 generally accepted irrigation practices;

11 d. In the event a Party electing the Alternative Production Allocation is  
12 required to utilize reclaimed Water for irrigation purposes, pursuant to the terms of sections  
13 13550 and 13551 of the California Water Code, that Party shall have the first opportunity to  
14 obtain and substitute reclaimed Water for its irrigation demands. Should that Party not pursue  
15 such substitution with due diligence, any other Party may provide reclaimed Water for the  
16 irrigation purpose pursuant to the terms of sections 13550 and 13551 of the California Water  
17 Code. Under either circumstance, the Party providing the reclaimed Water for substitution shall  
18 obtain a credit to Produce an amount of Groundwater equal to the amount of substituted  
19 reclaimed Water in that particular Water Year, provided that such credit shall be reduced  
20 proportionately to all reductions in the Operating Yield in accordance with Section III.L.3.j.ii.  
21 The Alternative Production Allocation of the Party utilizing the reclaimed Water shall be debited  
22 in an amount equal to the reclaimed Water being substituted.

23 e. In the event that this Court, the Watermaster, or other competent  
24 governmental entity requires a reduction in the Extraction of Groundwater from the Seaside Basin  
25 or either of its Subareas, then Parties exercising a Standard Production Allocation in the affected  
26 subarea shall reduce their Groundwater Extractions *pro rata* to accommodate the required  
27 reduction. Only after such Parties exercising a Standard Production Allocation reduce their  
28 Extractions to zero, may Parties exercising an Alternative Production Allocation in the affected

1 subarea be required to reduce their Groundwater Extractions. In such case, those Parties  
 2 exercising an Alternative Production Allocation shall reduce their pumping in an amount  
 3 correlative to each other in accordance with the California law pertaining to allocation of rights to  
 4 Overdrafted Groundwater basins between overlying landowners.

5 **TABLE 2**  
 6 **Alternative Production Allocations**

7 <b>Party:</b>	<b>Coastal Subarea</b>
8 Seaside (Golf Courses)	540 afa
9 SNG	149 afa
10 Calabrese	14 afa
Mission Memorial	31 afa
Sand City	9 afa

11 <b>Producer:</b>	<b>Alternative Production Allocation</b>
12 Pasadera	251 afa
13 Bishop	320 afa
14 York School	32 afa
Laguna Seca County Park	41 afa*

15 \* The County of Monterey possesses certain water rights based upon its use of water from the  
 16 aquifer for maintenance of Laguna Seca Park. Its historic Production of Groundwater has  
 17 averaged 41 afy. It has not joined in the stipulation of the other Producers, but is entitled to draw  
 18 up to 41 afy from the Laguna Seca Subarea as if it were a party to the Alternative Production  
 19 Allocations.

20 At any time prior to the expiration of the initial three-year operating period of this  
 21 Decision, as designated in Section III.B.2, any of the aforementioned Parties, except the County  
 22 of Monterey, may choose to change all or a portion of their Alternative Production Allocation to  
 23 the Standard Production Allocation method set forth in Section III.B.2 and shall be entitled to all  
 24 of the privileges associated with said Production Allocation as set forth herein (e.g.,  
 25 transferability, Storage rights, and Carryover rights). A Party choosing to change to the Standard  
 26 Production Allocation shall do so by filing a declaration with the Court, and serving said  
 27 declaration on all other parties. Once a Party chooses to change to the Standard Production  
 28 Allocation method set forth in Section III.B.2, that Party shall not be allowed to thereafter again  
 choose to participate in the Alternative Production Allocation. The Parties under the Standard

1 Production Allocation shall not be allowed at any time to change from the Standard Production  
2 Allocation to the Alternative Production Allocation.

3 C. Production of Brackish Water. Sand City shall have the right to Produce Brackish Water  
4 from the brackish Groundwater aquifer portion of the Coastal Subarea of the Seaside Basin for  
5 the purpose of operating its proposed desalinization plant, said Production being limited to the  
6 Aromas Sands Formation, so long as such Production does not cause a Material Injury. Upon  
7 receiving a complaint supported by evidence from any Party to this Decision that the Production  
8 of Brackish Water by Sand City is causing a Material Injury to the Seaside Basin or to the rights  
9 of any Party to this Decision as set forth herein, the Watermaster shall hold a noticed hearing.  
10 The burden of proof at such hearing shall be on the Party making the complaint to show, based  
11 on substantial evidence, that the Production of Brackish Water by Sand City is causing a Material  
12 Injury. If the Watermaster determines, based on substantial evidence, that the Production of  
13 Brackish Water by Sand City is causing a Material Injury to the Seaside Basin or to the rights of  
14 any Party to this Decision as set forth herein, the Watermaster may impose conditions on such  
15 Production of Brackish Water that are reasonably necessary to prevent such Material Injury.

16 D. Injunction of Unauthorized Production. Each Producer is prohibited and enjoined from  
17 Producing Groundwater from the Seaside Basin except pursuant to a right authorized by this  
18 Decision, including Production Allocation, Carryover, Stored Water Credits, or Over-Production  
19 subject to the Replenishment Assessment. Further, all Producers are enjoined from any Over-  
20 Production beyond the Operating Yield in any Water Year in which Watermaster has declared  
21 that Artificial Replenishment is not available or possible.

22 E. No Abandonment. It is in the interest of reasonable beneficial use of the Seaside Basin  
23 and its Water supply, that no Producer be encouraged to take and use more Water in any Water  
24 Year than is actually required, Therefore, failure to Produce all of the Water to which a Producer  
25 is entitled hereunder for any amount of time shall, in and of itself, not be deemed to be, or  
26 constitute an abandonment of such Producer's Base Water Right or Production Allocation, in  
27 whole or in part. The Water unused by any Party (either as Production or Carryover) will  
28

1 otherwise contribute to the ongoing efficient administration of the Decision and the Physical  
2 Solution.

3 F. Right to Carryover Unused Production Allocation; Carryover Credits. Except for those  
4 certain Parties electing to proceed under the Alternative Production Allocation, as set forth in  
5 Section III.B.3., for the first three Water Years each Producer who, during a particular Water  
6 Year, does not Extract from the Basin a total quantity equal to such Producer's Standard  
7 Production Allocation for the particular Water Year may establish Carryover Credits, up to the  
8 total amount of that Producer's Storage Allocation; provided, however, in no circumstance may  
9 the sum of a Producer's Storage Credits and Carryover Credits exceed that Producer's available  
10 Storage Allocation. Use (Extraction) of Carryover Credits shall be governed as otherwise  
11 provided in this Decision and the Watermaster Rules and Regulations. In consideration of the  
12 Seaside Basin's hydrogeologic characteristics, the Watermaster may discount the quantity of  
13 Water that may be Extracted pursuant to a Carryover Credit.

14 G. Damages and Prohibition on Enjoining Municipal Pumping. The Parties recognize that  
15 California American's pumping is for municipal purposes, including drinking Water supplies for  
16 most of the Monterey Peninsula, including within all of the Defendant Cities and to all of the  
17 Defendant landowners. In this context, if California American's Groundwater pumping causes  
18 an "Intrusion" upon a Water User Defendant's Production Allocation, then it shall compensate  
19 the Water User Defendant for damages caused by this Intrusion. An "Intrusion" occurs when a  
20 Water User Defendant exercising an Alternative Production Allocation is directed by the  
21 Watermaster, this Court or any other competent governmental entity to reduce its Groundwater  
22 pumping to a level below that Water User Defendant's Alternative Production Allocation, while  
23 California American continues pumping Groundwater from the same subarea. This damages  
24 provision does not alter the priority of the Alternative Production Allocation over the Standard  
25 Production Allocation pursuant to Section III.B.3, and is intended to address potential exigent  
26 circumstances that might arise regarding California American's municipal water service.

27 1. Damages from an Intrusion shall be calculated based upon the losses incurred by  
28 the Water User Defendant that are caused by the Intrusion. These losses may include the loss of

1 crop yield and associated income, measured against the average achieved over the preceding five  
2 (5) years from the date of the loss. Where an Intrusion occurs with respect to a Water-User  
3 Defendant's exercise of an Alternative Production Allocation for golf course irrigation (i.e., an  
4 Intrusion to a "Golf Course Water User"), the Intrusion may cause discoloration, thinning and  
5 damage to the golf course turf and may require replacement of golf course turf and other golf  
6 course landscaping. Such conditions may, in turn, cause the loss of income from reduced golf  
7 course facilities usage and loss of good will. It may be difficult to quantify such damages to a  
8 sum certain. Accordingly, where a Golf Course Water User demonstrates that an Intrusion  
9 caused discoloration, thinning or loss of golf course turf, the following criteria shall be utilized to  
10 determine damages for an Intrusion to a Golf Course Water User.

11 a. Lost Income.

12 i. The Golf Course Water User's "Average Gross Annual Income"  
13 shall be determined by summing its gross annual income from each of the five (5) years  
14 preceding the year of the Intrusion and dividing that sum by five, except where a Golf Course  
15 Water User (Pasadera) has not been in operation for seven (7) years at the time of the Intrusion,  
16 the Average Gross Annual Income shall be determined by summing the gross annual income  
17 from each of the three years preceding the year of the Intrusion and dividing that sum by three;

18 ii. The Golf Course Water User's gross annual income during the  
19 year of an Intrusion shall be subtracted from its Average Gross Annual Income, with the resulting  
20 difference constituting the amount of lost income damages for that year of Intrusion; and

21 iii. If an Intrusion occurs in two or more years within a five-year  
22 period, damages shall be calculated using an Average Gross Annual Income based on the last  
23 consecutive five-year period preceding the first year of Intrusion, or if a Golf Course Water User  
24 (i.e., Pasadera) has not been in operation for a full seven (7) years at the time of the Intrusion,  
25 damages shall be calculated using an Average Gross Annual Income based on the last consecutive  
26 three-year period preceding the first year of Intrusion. Gross Annual Income shall not be  
27 calculated based upon a year in which an Intrusion occurred.

28 //

1                   iv.       Water User Defendants shall make Feasible efforts to mitigate  
2 damages caused by an Intrusion (e.g., including use of evapotranspiration rates to schedule turf  
3 grass irrigation).

4                   b.       Property Damage/Out-of-Pocket Repair Costs.

5                   i.       Actual costs of repairing and/or replacing golf course turf and/or other  
6 golf course landscaping and associated labor costs shall be added to the lost income damages  
7 calculated as set forth in subparagraph (1), above.

8                   ii.       The Golf Course Water User shall make Feasible efforts to  
9 mitigate damages by employing the best irrigation practices, including use of evapotranspiration  
10 rates to schedule turf grass irrigation.

11                2.       A damages Claim with all substantiating gross annual income data shall be  
12 provided to California American within 120 days after December 31 of the year in which the  
13 Intrusion occurred. California American shall accept or reject the Claim within 30 days  
14 thereafter. If within 35 days after receipt of a Claim, California American fails to notify the  
15 claimant of California American's acceptance or rejection of that Claim, such Claim is deemed  
16 accepted. If the Claim is affirmatively accepted, payment will be made at the time of Claim  
17 acceptance. If the Claim is deemed accepted by California American's failure to timely accept or  
18 reject the Claim, payment will be made within 30 days after the date the Claim is deemed  
19 accepted. If the Claim is rejected, all or in part, the Water User Defendant may proceed to a  
20 hearing before the Court to determine the appropriate damages, considering the above referenced  
21 criteria. The hearing shall be by motion with all supporting documentation and contest thereto  
22 submitted and supported by declaration.

23               H.       Allowed Storage.

24               1.       Public Resource. Underground Storage within the Seaside Basin is and shall  
25 remain a public resource. Subject to this paramount public right, the Parties hereto shall be  
26 permitted to utilize available Storage space for bona fide Groundwater Storage projects. This use  
27 shall be subject to the supervision of the Watermaster and this Court and shall be governed by the  
28 following more specific provisions.

1           2.       In General. Except for those certain Parties electing to proceed under the  
2 Alternative Production Allocation as set forth in Section III.B.3., each Producer is entitled to  
3 Store Water in the Basin as provided for in this Decision and Watermaster's Rules and  
4 Regulations up to the amount of their Storage Allocation. Each Producer's Allowed Storage  
5 Allocation in each Subarea shall be calculated by multiplying its Storage Allocation Percentage by  
6 the Total Useable Storage Space, less space reserved by the Watermaster as herein below set  
7 forth. The initial Storage Allocation Percentages are equal to the Base Water Rights, Table 1, less  
8 Storage reserved for the Watermaster and certain public agencies. Parties with an Alternative  
9 Production Allocation are entitled to their Storage Production Allocation when they elect to  
10 change to Standard Production Allocation

11           3.       California American Storage Allocation. All Storage Allocation held by  
12 California American shall be held in trust by California American: (i) first for the benefit of  
13 California American's retail Water service customers within its service territory on the Monterey  
14 Peninsula and the County of Monterey and cities within its service territory which it serves; and  
15 (ii) then for other purposes as California American deems appropriate. In the event of a reduction  
16 in service from the Seaside Basin, California American will allocate service, including that which  
17 is associated with its Storage Allocation, in a manner that is consistent with and proportionate to  
18 its historic deliveries to all then-current customers. Further, to the extent that California American  
19 has excess Storage Allocation available after meeting its responsibilities to its retail Water service  
20 customers within its service territory on the Monterey Peninsula and the cities which it serves,  
21 upon request by the County of Monterey, Monterey, Seaside, Sand City, or Del Rey Oaks,  
22 California American shall make available portions of its Storage Allocation within the Coastal  
23 Subarea for use by the requesting city in the Coastal Subarea as provided herein. Specifically, the  
24 city's request shall be made in writing and generally describe the public purpose and proposed  
25 use of the Storage Allocation by the requesting city. California American shall not deny the  
26 request unless making the requested portion of the Storage Allocation available to the city would  
27 unreasonably interfere with California American's ability to operate its system or to otherwise  
28 provide service to its customers. Should California American not be able to accommodate all

1 requests by all cities without unreasonably interfering with its operations and service  
2 responsibilities, first priority to excess Storage Allocation shall be given to each respective city  
3 requesting the use of a portion of the Storage Allocation up to an amount equal to the percentage  
4 that the total quantity of Water delivered by California American for retail service to the  
5 requesting city bears to the total quantity of Water delivered to all cities at the date the Decision  
6 is entered. Notwithstanding the paramount rights of each city described in this section, 5 percent  
7 of any Storage Allocation held in trust by California American will be reserved for *de minimis*  
8 Storage opportunities and made available for the benefit of any requesting city on the basis of  
9 first in time, first in right. Additionally, provision of Storage Allocation by California American  
10 to a requesting city shall not be construed as a waiver of California American's rights under  
11 section 1501 et seq. of the California Public Utilities Code or consent to duplication of its retail  
12 Water service. Moreover, California American shall not charge any fee for use of its Storage  
13 Allocation by Monterey, Seaside, Sand City, or Del Rey Oaks. However, the capital or other  
14 value of California American's Storage Allocation shall belong to California American. Finally,  
15 no city may request use of California American's Storage Allocation unless it has first used all of  
16 its own Storage Allocation as provided herein.

17 4. Determination of Total Useable Storage Space. Watermaster shall determine and  
18 declare the Total Useable Storage Space in the Basin, and may annually adjust the Total Useable  
19 Storage Space pursuant to Section III.L.3.j.xix of this Decision. If and when Watermaster  
20 adjusts the Total Useable Storage Space in the Basin, each Producer's Storage Allocation shall be  
21 adjusted accordingly.

22 Each Storage Allocation is of the same legal force and effect, and each is without priority  
23 with reference to any other Producer's Storage Allocation. Watermaster shall, however, consider  
24 each proposal to Store Water independently pursuant to Section III.L.3.j.xx.

25 5. Carryover. Each Producer operating under the Standard Production Allocation  
26 shall have the right to use their respective Storage Allocation to Store any Carryover Water  
27 subject to the provisions of this Decision. Unused (not Extracted) Stored Water Credits and  
28 Carryover Credits shall be carried over from year to year for the first three Water Years.

1 Thereafter Carryover Water withdrawal is subject to a percentage decrease consistent with  
2 percentage decreases in the Operating Yield, according to the terms of this Decision. Due to the  
3 hydrogeologic characteristics of the Seaside Basin, naturally occurring losses of stored Water  
4 may require Watermaster to discount the percentage of Stored Water that may be Extracted.  
5 Watermaster shall study the efficiencies of Storage in the Seaside Basin and set a uniform  
6 percentage for withdrawals of Stored Water.

7 6. Injection and/or Spreading. Each Producer operating under the Standard  
8 Production Allocation, and the Watermaster, and certain public agencies, shall have the right to  
9 Store Water by Direct Injection, Spreading, or other artificial means so long as such Storage does  
10 not cause Material Injury to any other Party. Except as provided in Section III.H.5., no Producer  
11 herein granted a Storage Allocation may Store Water in the Seaside Basin without first executing  
12 a Storage and Recovery Agreement with Watermaster, pursuant to Section III.L.3.j.xx. Each  
13 Storage and Recovery Agreement shall further define the terms and conditions by which a  
14 Producer may exercise its Storage Allocation and associated Stored Water Credits.

15 I. Injunction Against Unauthorized Storage. Each Producer is enjoined and restrained from  
16 Carrying Over or Storing any quantity of Water in the Seaside Basin greater than that Producer's  
17 Storage Allocation. Further, each Producer is enjoined from Storing any Water in the Seaside  
18 Basin except as provided in Section III.H.5. (establishment of Carryover Credits) or as  
19 authorized by a Storage and Recovery Agreement issued by Watermaster pursuant to Section  
20 III.L.3.j.xx.

21 J. Measurement of Extractions and Storage. All Producers shall install, maintain, and use  
22 adequate measuring devices on all Groundwater Production facilities as directed by Watermaster  
23 and report accurate measurements of all Groundwater Produced from the Seaside Basin in the  
24 manner required by Watermaster's Rules and Regulations. Such measuring devices shall not  
25 conflict with any monitoring devices required by MPWMD. All Producers shall comply with the  
26 provisions for measurement of any Storage of Water in the Seaside Basin, as provided in  
27 Watermaster's Rules and Regulations, and as may be further provided for in a Storage and  
28 Recovery Agreement issued by Watermaster for such Storage.

1 K. Order of Accounting for the Production of Groundwater. Unless otherwise requested by  
2 a Producer in writing to Watermaster, Watermaster shall account for all Production of Water  
3 form the Seaside Basin by a Producer in any Water Year as follows: Production shall first be  
4 deemed Production of that Producer's Production Allocation up to that Producer's total  
5 Production Allocation, and thereafter shall be deemed Production of that Producer's Carryover  
6 Credits, if any, and thereafter shall be deemed Production of that Producer's Stored Water  
7 Credits, if any. So long as consistent with this section, Watermaster may prescribe  
8 administrative rules within its Rules and Regulations concerning the method and manner of  
9 accounting for the Production of Groundwater.

10 L. Appointment of Watermaster; Watermaster Administrative Provisions.

11 1. Establishment of Watermaster. A Watermaster shall be established for the  
12 purposes of administering and enforcing the provisions of this Decision and any subsequent  
13 instructions or orders of the Court. The Watermaster shall consist of thirteen (13) voting  
14 positions held among nine (9) representatives. California American, Seaside, Sand City,  
15 Monterey, and Del Rey Oaks shall each appoint one (1) representative to Watermaster for each  
16 two-year term of Watermaster. The Landowner Group shall appoint two (2) representatives to  
17 Watermaster for each two-year term of Watermaster. The MPWMD shall have one (1)  
18 representative and the MCWRA shall have one (1) representative. The representatives elected to  
19 represent the Landowner Group shall include one (1) representative from the Coastal Subarea and  
20 one (1) representative from the Laguna Seca Subarea. The California American representative  
21 shall possess three (3) voting positions; the Seaside, MPWMD, and MCWRA representatives  
22 shall each possess two (2) voting positions; and every other representatives shall possess one (1)  
23 voting position. Each representative from the Landowner Group shall carry one-half of the  
24 Landowner Representative vote. Each representative under the Landowner Group may also act as  
25 an alternate for the other.

26 The right to assign a representative to Watermaster and the representative's respective  
27 voting power shall only transfer upon permanent sale of 51 percent or more of the Party's Base  
28 Water Right, but not upon the lease of any portion of the member's Base Water Right.

1 Thereafter Carryover Water withdrawal is subject to a percentage decrease consistent with  
2 percentage decreases in the Operating Yield, according to the terms of this Decision. Due to the  
3 hydrogeologic characteristics of the Seaside Basin, naturally occurring losses of stored Water  
4 may require Watermaster to discount the percentage of Stored Water that may be Extracted.  
5 Watermaster shall study the efficiencies of Storage in the Seaside Basin and set a uniform  
6 percentage for withdrawals of Stored Water.

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8 Production Allocation, and the Watermaster, and certain public agencies, shall have the right to  
9 Store Water by Direct Injection, Spreading, or other artificial means so long as such Storage does  
10 not cause Material Injury to any other Party. Except as provided in Section III.H.5., no Producer  
11 herein granted a Storage Allocation may Store Water in the Seaside Basin without first executing  
12 a Storage and Recovery Agreement with Watermaster, pursuant to Section III.L.3.j.xx. Each  
13 Storage and Recovery Agreement shall further define the terms and conditions by which a  
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24 manner required by Watermaster's Rules and Regulations. Such measuring devices shall not  
25 conflict with any monitoring devices required by MPWMD. All Producers shall comply with the  
26 provisions for measurement of any Storage of Water in the Seaside Basin, as provided in  
27 Watermaster's Rules and Regulations, and as may be further provided for in a Storage and  
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4 deemed Production of that Producer's Production Allocation up to that Producer's total  
5 Production Allocation, and thereafter shall be deemed Production of that Producer's Carryover  
6 Credits, if any, and thereafter shall be deemed Production of that Producer's Stored Water  
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9 accounting for the Production of Groundwater.

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15 Monterey, and Del Rey Oaks shall each appoint one (1) representative to Watermaster for each  
16 two-year term of Watermaster. The Landowner Group shall appoint two (2) representatives to  
17 Watermaster for each two-year term of Watermaster. The MPWMD shall have one (1)  
18 representative and the MCWRA shall have one (1) representative. The representatives elected to  
19 represent the Landowner Group shall include one (1) representative from the Coastal Subarea and  
20 one (1) representative from the Laguna Seca Subarea. The California American representative  
21 shall possess three (3) voting positions; the Seaside, MPWMD, and MCWRA representatives  
22 shall each possess two (2) voting positions; and every other representatives shall possess one (1)  
23 voting position. Each representative from the Landowner Group shall carry one-half of the  
24 Landowner Representative vote. Each representative under the Landowner Group may also act as  
25 an alternate for the other.

26 The right to assign a representative to Watermaster and the representative's respective  
27 voting power shall only transfer upon permanent sale of 51 percent or more of the Party's Base  
28 Water Right, but not upon the lease of any portion of the member's Base Water Right.

1           2.       Quorum and Agency Action. A minimum of six (6) representatives shall be  
2 required to constitute a quorum for the transaction of Watermaster affairs. Unless otherwise  
3 provided herein, the affirmative vote of seven (7) voting positions shall be required to constitute  
4 action by Watermaster.

5           3.       Qualification, Nomination, Election, and Administrative Procedures.

6           a.       Qualification. Any duly authorized agent of the entities or groups  
7 provided for in Section III.L.1. is qualified to serve as a representative on the Watermaster board.

8           b.       Term of Office. Each new Watermaster board shall assume office at the  
9 first regular meeting in January of every second year. Each Watermaster board member shall  
10 serve for a two-year term, subject to the retained jurisdiction of the Court. Should a vacancy arise  
11 on the Watermaster board for any reason, the respective entity or group from which that vacancy  
12 arises shall appoint a replacement representative in the manner prescribed by Watermaster Rules  
13 and Regulations. Such replacement shall complete the remainder of the term of the vacated  
14 office. Within 30 days of the appointment of any new Watermaster board member, any Party  
15 may file a motion with the Court challenging the appointment. The Court, acting *sua sponte*, may  
16 reject any Watermaster board appointment within the 30-day period. Challenges shall be based  
17 on allegations that the appointed board member does not possess the requisite skills necessary to  
18 effectively serve as a member of the Watermaster board.

19           c.       Nomination and Election of Landowner Representative. The nomination  
20 and election of the Landowner Group representatives shall occur in November of every second  
21 year in the manner designated by Watermaster Rules and Regulations. The nomination and  
22 election of the Landowner Group representatives shall be by cumulative voting with each member  
23 of the Landowner Group entitled to one (1) vote for each acre-foot of annual entitlement under  
24 the member's Alternative Production Allocation. Voting rights may only be transferred upon  
25 permanent sale of 51 percent or more of the Landowner Party's Base Water Right.

26           d.       Organization. At the first meeting of each newly comprised Watermaster  
27 board, the Watermaster shall elect a chairman and a vice-chairman from its membership. It shall  
28

1 also select a secretary, a treasurer and such assistant secretaries and assistant treasurers as may be  
2 appropriate, any of whom may, but need not, be representatives appointed to Watermaster.

3 e. Minutes. Minutes of all Watermaster meetings shall be kept and shall  
4 reflect a summary of all actions taken by the Watermaster. Copies thereof shall be furnished to  
5 all Parties and interested Persons as provided for in Section III.P.2. Copies of minutes shall  
6 constitute notice of any Watermaster action therein reported.

7 f. Regular Meetings. The Watermaster shall hold regular meetings at places  
8 and times to be specified in the Watermaster Rules and Regulations. Its first meeting must be  
9 held within 15 days from the date Judgment is granted in this case. Notice of the scheduled or  
10 regular meetings of the Watermaster and of any changes in the time or place thereof shall be  
11 mailed to all Parties and interested Persons as provided for in Section III.P.2.

12 g. Special Meetings. Special meetings of the Watermaster may be called at  
13 any time by the chairman or vice chairman or by any three (3) representatives appointed to  
14 Watermaster by written notice delivered personally or mailed to all Parties and interested Persons  
15 as provided for in Section III.P.2., at least twenty-four (24) hours on a business day before the  
16 time of each such meeting in the case of personal delivery, and five (5) days' notice prior to such  
17 meeting in the case of mail if the special meeting is being called under urgent circumstances. If a  
18 special meeting is called and no urgent circumstance exists, then at least ten (10) days' notice  
19 must be provided to all Parties. The notice shall specify the time and place of the special meeting  
20 and the business to be transacted at such meeting.. No other business shall be considered at such  
21 meeting.

22 h. Meeting Procedures. Watermaster shall designate the procedure for  
23 conducting meetings within its Rules and Regulations. Rules and regulations for conducting  
24 meetings shall conform to the procedures established for meetings of public agencies pursuant to  
25 the California Open Meetings Law ("Brown Act"), California Government Code section 54950  
26 et seq., as it may be amended from time to time.

27 i. Appointment of the Initial Watermaster Board. The initial Watermaster  
28 board, which shall take office immediately from the date Judgment is granted, shall be composed

1 of the duly authorized representatives of California American, Seaside, Sand City, Del Rey Oaks,  
2 Monterey, MCWRA, MPWMD, and two individuals to be designated by the landowners as the  
3 initial representatives of the Landowner Group for the Coastal and Laguna Seca Subareas,  
4 respectively.

5 j. Duties, Powers and Responsibilities of the Watermaster. To assist the  
6 Court in the administration and enforcement of the provisions of this Decision, the Watermaster  
7 shall have and is limited to the following duties, powers, and responsibilities:

8 i. Preparation of Monitoring and Management Plan. Within sixty  
9 (60) days from the date Judgment is granted, Watermaster will prepare a comprehensive  
10 monitoring and management plan for the Seaside Basin (“Monitoring and Management Plan”).  
11 The Monitoring and Management Plan must be consistent with the criteria set forth in Exhibit A.

12 ii. Declaration of Operating Yield. Based upon the evidence at trial  
13 concerning historic Production in the Basin, the Court sets the Operating Yield for the Seaside  
14 Basin, as a whole, as 5,600 acre feet. The Operating Yield for the Coastal Subarea is 4,611 acre  
15 feet and 9889 acre feet for the Laguna Seca Subarea. The Operating Yield established here will  
16 be maintained for three (3) years from the date Judgment is granted, or until a determination is  
17 made by the Watermaster, concurred in by this Court, that continued pumping at this established  
18 Operating Yield will cause Material Injury to the Seaside Basin or to the Subareas or will cause  
19 Material Injury to a Producer due to unreasonable pump lifts. In that event, the Watermaster shall  
20 determine the modified Operating Yield in accordance with the Principles and Procedures  
21 attached hereto as Exhibit A, and through the application of criteria that it shall develop for this  
22 purpose.

23 iii. Artificial Replenishment and Replenishment Assessments. Each  
24 Water Year, the Watermaster will determine a Replenishment Assessment for Artificial  
25 Replenishment of the Seaside Basin necessary to offset the cumulative Basin Over-Production  
26 (as defined in Section III.A.21.), and levy a Replenishment Assessment. Said Replenishment  
27 Assessment does not apply to Production under an Alternative Production Allocation so long as  
28 such Production is within the fixed amount established for that Producer in Table 2 of

1 Section III.B.3. Funds so generated may be accumulated for multiple Water Years, if necessary,  
2 and shall be utilized solely for replenishment of the Basin Groundwater supply with Non-Native  
3 water.

4 An additional Watermaster Replenishment Assessment shall be levied after the close of  
5 each Water Year against all Producers that incurred Operating Yield Over-Production during the  
6 Water Year. Said assessment shall be in addition to the Replenishment Assessment addressed in  
7 Section III.A.21. The Replenishment Assessment based upon Operating Yield Over-Production  
8 shall be levied against the Parties participating in the Alternative Production Allocation for only  
9 such Production that exceeds the Parties' respective fixed Alternative Production Allocation  
10 identified on Table 2. In the event Watermaster cannot procure Artificial Replenishment Water to  
11 offset Operating Yield Over-Production during the ensuing Water Year, the Watermaster shall so  
12 declare in December and no Operating Yield Over-Production then in effect may occur during the  
13 ensuing Water Year. Funds generated by the Operating Yield Over-Production Assessment shall  
14 be utilized by the Watermaster to engage in or contract for Replenishment of the Operating Yield  
15 Over-Production occurring in the Preceding Water Year as expeditiously as possible.

16 Replenishment Assessments based on Over-Production and on Operating Yield Over-  
17 Production shall be assessed within 60 days of the end of each Water Year on a per acre-foot  
18 basis on each acre-foot, or portion of an acre-foot, of Over-Production, and payment shall be due  
19 no later than January 15<sup>th</sup> of the following year. The per acre-foot amount of the Replenishment  
20 Assessments shall be determined and declared by Watermaster in October of each Water Year in  
21 order to provide Parties with advance knowledge of the cost of Over-Production in that Water  
22 Year.

23 Payment of the Replenishment Assessment shall be made by each Producer incurring a  
24 Replenishment Assessment within 40 days after the mailing of a statement for the Replenishment  
25 Assessment by Watermaster. If payment by any Producer is not made on or before said date, the  
26 Watermaster shall add a penalty of 5 percent thereof to such Producer's statement. Payment  
27 required of any Producer hereunder may be enforced by execution issued outside of this Court,  
28 by order of this Court, or by other proceedings by the Watermaster or by any Producer on the

1 Watermaster's behalf. All proceeds of Replenishment Assessments shall be used to procure  
2 Non-Native water, including, if appropriate, substitute reclaimed water.

3 iv. Budget Assessments. The Watermaster budget for each Fiscal  
4 Year, and for the initial funding of the Monitoring and Management Plan, shall be funded by  
5 Budget Assessments. The Watermaster budget will be composed of three separate budgets. The  
6 first budget is solely for the funding of the Monitoring and Management Plan. The initial, one-  
7 time funding for the Monitoring and Management Plan shall not be in excess of \$1,000,000. The  
8 annual budget for the Monitoring and Management Plan shall not be in excess of \$200,000 for  
9 the first Fiscal Year, and thereafter as determined by the Watermaster. The Budget Assessment  
10 for the Monitoring and Management budget shall be assessed against each Producer (except  
11 those in the Landowner Group) by multiplying the amount of the Monitoring and Management  
12 Plan budget for the ensuing Fiscal Year by the following percentages:

13	(1)	California American	91%
14	(2)	City of Seaside	7%
15	(3)	Granite Rock Company	1%
16	(4)	D.B.O. Development No. 27	1%

17 At such times as a Party within the Coastal Subarea chooses to change its Alternative Production  
18 to a Standard Production Allocation that Party will be assessed a proportionate share of the  
19 Budget Assessment for the Monitoring and Management Plan Budget based upon a modification  
20 of the percentages to include any new Standard Production.

21 The administrative budget shall be fixed at \$100,000 annually for the first Fiscal Year, and  
22 thereafter as determined by the Watermaster. The Budget Assessment for the administrative  
23 budget shall be assessed against each Producer (except those inn the Landowner Group) by  
24 multiplying the amount of the budget for the ensuing Fiscal Year by the following percentages:

25	(1)	California American	83%
26	(2)	City of Seaside	14.4%
27	(3)	City of Sand City	2.6%

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1 The Replenishment Budget shall be calculated based upon the anticipated cost of  
2 obtaining replenishment water, and shall be assessed as set forth in Section III.A.21, and in  
3 Section III.L.3.j.iii.

4 Except for the initial Budget Assessment which shall be due 30 days from the date  
5 Judgment is granted, payment of the Administrative Assessment and the Monitoring and  
6 Management Assessment, subject to any adjustment by the Court as provided in Section III.N.,  
7 shall be made on or before January 15<sup>th</sup> of the Fiscal Year for which the assessments have been  
8 levied. If such payment by any Producer is not made on or before said date, the Watermaster  
9 shall add a penalty of 5 percent thereof to such Producer's statement. Payment required of any  
10 Producer hereunder may be enforced by execution issued outside of this Court, by order of this  
11 Court, or by other proceedings by the Watermaster or by any Producer on the Watermaster's  
12 behalf.

13 v. Reports, Information, and Records. The Watermaster will require  
14 Parties to furnish such reports, information, and records as may be reasonably necessary to  
15 determine compliance or lack of compliance by any Party with the provisions of this Decision.

16 vi. Requirement of Measuring Devices. The Watermaster will  
17 require all Parties owning or operating any Groundwater Extraction and/or Storage facilities to  
18 install appropriate Water measuring devices, and to maintain said Water measuring devices at all  
19 times in good working order at such Party's own expense. Such devices shall not interfere with  
20 any measuring gauges required by MPWMD.

21 vii. Inspections by the Watermaster. The Watermaster will make  
22 inspections of Water Production facilities and measuring devices at such times and as often as  
23 may be reasonable under the circumstances, and to calibrate or test such devices.

24 viii. Collection of Arrears. The Watermaster will undertake any and all  
25 actions necessary to collect the arrears of any Party with regard to any and all components of the  
26 Budget Assessment and/or the Replenishment Assessment.

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1 ix. Hearing Objections; Review and Approvals. The Watermaster  
2 will hear all objections and/or review and determine approval or denial of the action(s) of any  
3 Party as provided for by any other provision of this Decision.

4 x. Annual Report. The Watermaster will prepare, file with the Court  
5 and mail to each of the Parties on or before the 15th day of November, an annual report for the  
6 preceding Water Year, the scope of which shall include but not be limited to the following:

- 7 • Groundwater Extractions;
- 8 • Groundwater Storage;
- 9 • Amount of Artificial Replenishment, if any, performed by Watermaster;
- 10 • Leases or sales of Production Allocation;
- 11 • Use of imported, reclaimed, or desalinated Water as a source of Water for  
12 Storage or as a Water supply for lands overlying the Seaside Basin;
- 13 • Violations of the Decision and any corrective actions taken;
- 14 • Watermaster administration costs;
- 15 • Replenishment Assessments;
- 16 • All components of the Watermaster budget; and
- 17 • Recommendations.

18 xi. Annual Budget and Appeal Procedure in Relation Thereto. The  
19 Watermaster will annually adopt a tentative budget for each Fiscal Year stating the anticipated  
20 expense for administering the provisions of this Decision, including reasonable reserve funds.  
21 The adoption of each Fiscal Year's tentative budget shall require the affirmative vote of seven (7)  
22 voting positions. The Watermaster shall mail a copy of said tentative budget to each of the  
23 Producers hereto at least 60 days before the beginning of each Fiscal Year. The Landowner  
24 Group representative shall not participate in any vote concerning the approval of the Watermaster  
25 budget. If any Producer hereto has any objection to said tentative budget, it shall present the  
26 same in writing to the Watermaster within 15 days after the date of mailing of said tentative  
27 budget by the Watermaster. If no objections are received within said period, the tentative budget  
28 shall become the Final budget. If objections are received, the Watermaster shall, within 10 days

1 thereafter, consider such objections, prepare a Final budget, and mail a copy thereof to each  
2 Producer, together with a statement of the amount assessed to each Producer (Administrative  
3 Assessment). Any Producer may apply to the Court within 15 days after the mailing of such  
4 Final budget for a revision thereof based on specific objections thereto in the manner provided in  
5 Section III.N. The Producer challenging the budget shall make the payments otherwise required  
6 of them to the Watermaster, despite the filing of the request for revision with the Court. Upon  
7 any revision by the Court, the Watermaster shall either remit to the Producers their pro rata  
8 portions of any reduction in the budget, or credit their accounts with respect to their  
9 Administrative Assessment for the next ensuing Fiscal Year, as the Court shall direct. The  
10 amount of each Producer's Budget Assessment shall be determined as provided in Section  
11 III.L.3.j.iv.

12 Any money in Watermaster's budget not expended at the end of any Fiscal Year shall be  
13 applied to the budget of the succeeding Fiscal Year.

14 xii. Rules and Regulations. The Watermaster will adopt and amend  
15 from time to time such Rules and Regulations as may be reasonably necessary to carry out its  
16 duties, powers and responsibilities under the provisions of this Decision. The Rules and  
17 Regulations and any amendments thereto, shall be effective on such date after the mailing thereof  
18 to the Parties as is specified by the Watermaster, but not sooner than thirty (30) days after such  
19 mailing. The Watermaster shall adopt initial Watermaster Rules and Regulations within ninety  
20 (90) days from the date Judgment is granted.

21 xiii. Acquisition of Facilities. The Watermaster may purchase, lease,  
22 acquire and hold all necessary property and equipment as necessary to perform the duties,  
23 powers, and responsibilities provided to Watermaster by this Decision; provided, however, that  
24 Watermaster shall not acquire any interest in real property in excess of year-to-year tenancy for  
25 necessary quarters and facilities.

26 xiv. Employment of Staff and Consultants. The Watermaster may  
27 employ such administrative, engineering, geologic, accounting, legal, or other specialized  
28 personnel or consultants as may be deemed appropriate to the carrying out of its duties, powers,

1 and responsibilities and to require appropriate bonds from all officers and employees handling  
2 the Watermaster funds.

3 xv. Investment of Funds. The Watermaster may hold and invest any  
4 and all funds that the Watermaster may possess in investments authorized from time to time for  
5 public agencies in the State of California.

6 xvi. Borrowing. The Watermaster may borrow in anticipation of  
7 receipt of assessment proceeds an amount not to exceed the annual amount of assessments levied  
8 but uncollected.

9 xvii. Contracts. The Watermaster may enter into contracts for the  
10 performance of any administrative power herein granted.

11 xviii. Cooperation with Public and Private Entities. The Watermaster  
12 may act jointly or cooperate with any public or private entity to the end that the purposes of the  
13 Physical Solution may be fully and economically carried out. Where it is more economical to do  
14 so, Watermaster is directed to use such facilities of a public or private entity as are available to it  
15 to execute the duties, powers, and responsibilities provided to Watermaster under this Decision.

16 xix. Declaration of Total Usable Storage Space. The Watermaster will  
17 declare the Total Useable Storage Space and periodically issue adjustments to the same.

18 xx. Review of Storage Applications; Regulation of Storage; Issuance  
19 of Storage and Recovery Agreements. The Watermaster will review applications for Storage in  
20 the Seaside Basin, regulate the Storage of Non-Native Water in the Seaside Basin, and issue  
21 Storage and Recovery Agreements, all as provided below. All applications for Storage in the  
22 Seaside Basin shall be considered and voted on before a noticed meeting of the Watermaster.  
23 However, all such applications shall be approved absent the issuance of findings that a Material  
24 Injury to the Seaside Basin or Producers will or is likely to occur as a result of the proposed  
25 Storage program and no reasonable conditions could be imposed to eliminate such risk. If a  
26 Storage application is approved, the Watermaster shall issue a Storage and Recovery Agreement.  
27 The Storage and Recovery Agreement may include, among other possible elements and/or  
28 provisions, the following conditions to avoid Material Injury: (1) the quantity of Water authorized

1 to be Spread or Directly Injected into the Seaside Basin, (2) the location of the authorized  
2 Spreading or Direct Injection, (3) the location(s) where the Water may be recaptured, (4) the  
3 particular Water quality characteristics that are required pursuant to the Storage and Recovery  
4 Agreement, (5) the amount of Water that may be recaptured pursuant to the Stored Water Credits  
5 calculated by Watermaster, (6) any other terms and conditions deemed necessary to protect the  
6 Seaside Basin and those areas affected by the Seaside Basin. Such Storage and Recovery  
7 Agreements may provide for different locations for introduction and Extraction of Stored Water if  
8 deemed appropriate by the Watermaster.

9                   xxi.    Monitoring and Study of the Seaside Basin and All Seaside Basin  
10 Activities. The Watermaster will monitor and perform or obtain engineering, hydrogeologic, and  
11 scientific studies concerning all characteristics and workings of the Seaside Basin, and all natural  
12 and human-induced influences on the Seaside Basin, as they may affect the quantity and quality  
13 of Water available for Extraction, that are reasonably required for the purposes of achieving  
14 prudent management of the Seaside Basin in accord with the provisions of this Decision.

15                   xxii. Relocation of Authorized Production Locations. The Watermaster  
16 will order relocation of the authorized quantity of Production pursuant to any Producer's  
17 Production Allocation from a specific location or from a specific aquifer within the same Subarea  
18 of the Seaside Basin, provided that it allows equivalent Production from any other location/aquifer  
19 in the Seaside Basin within the same Subarea that would not also create a reasonable potential for  
20 Material Injury. Watermaster may only order relocation of Production after issuing findings that  
21 a Material Injury has occurred or is likely to occur as a result of the then-authorized quantity and  
22 geographic distribution of Production. Watermaster may not order the relocation of Production  
23 by any Producer that is a member of the Landowner Group.

24                   xxiii. Water Quality. The Watermaster will take any action within  
25 the Seaside Basin, including, but not limited to, capital expenditures and legal actions, which in  
26 the discretion of Watermaster is necessary or desirable to accomplish any of the following:  
27  
28

- 1 • Prevent contaminants from entering the Groundwater supplies
- 2 of the Seaside Basin, which present a significant threat to the Groundwater quality of the
- 3 Seaside Basin, whether or not the threat is immediate;
- 4 • Remove contaminants from the Groundwater supplies of the
- 5 Seaside Basin presenting a significant threat to the Groundwater quality of the Seaside Basin;
- 6 • Determine the existence, extent, and location of contaminants in, or
- 7 which may enter, the Groundwater supplies of the Seaside Basin;
- 8 • Determine Persons responsible for those contaminants; and
- 9 • Perform or obtain engineering, hydrologic, and scientific studies as
- 10 may be reasonably required for any of the foregoing purposes.

11 xxiv. Other Specified Powers Pursuant to Decision Terms. The

12 Watermaster will undertake any other powers, duties, or responsibilities provided through any

13 other provision of this Decision.

14 xxv. No Power to Alter Allocation or Rights. Watermaster has no

15 power to adjust any Producer's Base Water Right or the formula for determining Production

16 Allocation, except to accommodate the intervention of a new Party pursuant to Section III.O.1.b.

17 However, should an adjustment of Base Water Right and/or Production Allocation within a

18 Subarea be required to accommodate the intervention of a new Party, no adjustment shall be made

19 to the Base Water Right or Production Allocations possessed by any Party operating under the

20 Alternative Production Allocation within the Landowner Group until the Production Allocations

21 for that Subarea possessed by Parties operating under the Standard Production Allocation have

22 been reduced to zero.

23 xxvi. Effect of Non-Compliance by Watermaster With Time

24 Provisions. Failure of the Watermaster to perform any duty, power or responsibility set forth

25 in this Decision within the time limitation herein set forth shall not deprive the Watermaster

26 of authority to subsequently discharge such duty, power, or responsibility, except to the extent

27 that any such failure by the Watermaster may have rendered some otherwise required act by a

28 Party impossible.



1 Commission ("CPUC"). Accordingly, California American will not be considered in default  
2 under this Section III.M.1 if it uses reasonable best efforts to obtain the required approvals  
3 and authorizations.

4 d. Credit Toward Replenishment Assessment. California American's  
5 expenditures for water supply augmentation may also provide replenishment water for the  
6 Basin. Accordingly, on an annual basis, California American will provide the Watermaster  
7 with an accounting of all expenditures it has made for water supply augmentation that it  
8 contends has or will result in replenishment of the Basin. The Watermaster shall review these  
9 expenditures and if it concurs reduce California American's Replenishment Assessment  
10 obligation, for that year, by an amount equal to the amount claimed by California American.  
11 To the extent that the Watermaster rejects any of the claimed amounts, it shall provide  
12 California American with an explanation for the rejection and allow California American an  
13 opportunity to meet and confer on the disputed amount. In the event that the Watermaster and  
14 California American cannot agree, the matter may be referred to the Court through a request  
15 filed by California American.

16 2. Assignment and Transfer of Production Allocation. Subject to other  
17 provisions of this Decision, and any applicable Watermaster Rules and Regulations, the  
18 Parties may assign and transfer any portion of their respective Production Allocation either on  
19 an annual Water Year basis or in perpetuity to any Person for use within the Basin.

20 The Parties may also assign and transfer the right to Extract any quantity of Water  
21 associated with an existing Stored Water Credit or Carryover Credit, subject to other  
22 provisions of this Decision, and any applicable Watermaster Rules and Regulations.

23 3. Export of Groundwater Outside of Subarea or Seaside Basin.

24 a. Exports Authorized from the Coastal Subarea. Producers may export  
25 Water Produced from the Coastal Subarea for reasonable and beneficial uses within another  
26 Subarea of the Seaside Basin. Only California American may export water outside the Basin,  
27 and then only to provide water to its current customers. This means that, in any Water Year,  
28 any Producer may export from the Coastal Subarea up to, but not in excess of, a quantity

1 equal to the sum of that Producer's Production Allocation, plus Stored Water Credits, plus  
2 Carryover Credits. Export of Groundwater in excess of a Producer's total rights (Production  
3 Allocation, plus Stored Water Credits, plus Carryover Credits), however, is prohibited.

4 b. Exports of Natural Replenishment Water Prohibited from the Laguna  
5 Seca Subarea. Exports from the Laguna Seca Subarea of Natural Replenishment Water and  
6 Carryover Credits not caused by Artificial Replenishment are prohibited.

7 c. Portability Authorized Within Subareas; Portability Prohibited  
8 Between Subareas. Any Producer may change the location of its Production facilities within  
9 its respective Subarea or join other Production facilities within its Subarea, so long as such  
10 relocation does not cause a Material Injury or threat of Material Injury to the Basin or  
11 interfere with the Production by any pre-existing Production facilities operated by another  
12 Producer(s). No Party may Produce Groundwater from the Coastal Subareas pursuant to any  
13 right recognized by this Decision in the Laguna Seca Subarea, and *vice versa*.

14 N. Watermaster Decision Review Procedures. Any action, decision, rule or procedure of  
15 the Watermaster pursuant to this Decision shall be subject to review by the Court on its own  
16 motion or on timely motion by any Party, as follows:

17 1. Effective Date of the Watermaster Action. Any order, decision or action of the  
18 Watermaster pursuant to this Decision on noticed specific agenda items shall be deemed to  
19 have occurred on the date of the order, decision or action.

20 2. Notice of Motion. Any Party may, by a regularly noticed motion, petition the  
21 Court for review of the Watermaster's action or decision pursuant to this Decision. The  
22 motion shall be deemed to be filed when a copy, conformed as filed with the Court, has been  
23 delivered to the Watermaster together with the service fee established by the Watermaster  
24 sufficient to cover the cost to photocopy and mail the motion to each Party. The Watermaster  
25 shall prepare copies and mail a copy of the motion to each Party or its designee according to  
26 the official service list which shall be maintained by the Watermaster according to Section  
27 III.P.2. A Party's obligation to serve notice of a motion upon the Parties is deemed to be  
28 satisfied by filing the motion as provided herein. Unless ordered by the Court, any such

1 petition shall not operate to stay the effect of any Watermaster action or decision that is  
2 challenged.

3 3. Time for Motion. A motion to review any Watermaster action or decision will  
4 be filed within thirty (30) days after such Watermaster action or decision, except that motions  
5 to review Budget Assessments and Replenishment Assessments hereunder shall be filed  
6 within fifteen (15) days of mailing of notice of the Assessment.

7 4. De Novo Nature of Proceedings. Upon filing of a petition to review a  
8 Watermaster action, the Watermaster shall notify the Parties of a date when the Court will take  
9 evidence and hear argument. The Court's review shall be de novo and the Watermaster  
10 decision or action shall have no evidentiary weight in such proceeding.

11 O. Reserved Jurisdiction and Other Remedies.

12 1. Continuing Jurisdiction.

13 a. Jurisdiction Reserved. Full jurisdiction, power and authority are  
14 retained by and reserved by the Court upon the application of any Party or by the  
15 Watermaster, by a noticed motion to all Parties, to make such further or supplemental orders  
16 or directions as may be necessary or appropriate for interpretation, enforcement, or  
17 implementation of this Decision. The Court may also modify, amend or amplify any of the  
18 provisions of this Decision upon noticed motion to all the Parties. The Court, through its  
19 reserved and retained jurisdiction, however, shall not have the authority to adjust any  
20 Producer's Base Water Right or Production Allocation, except to accommodate the  
21 intervention of a new Party pursuant to Section III.O.1.b. However, should an adjustment of  
22 Base Water Right and/or Production Allocation within a Subarea be required to accommodate  
23 the intervention of a new Party, no adjustment shall be made to the Base Water Right or  
24 Production Allocations possessed by any Party operating under the Alternative Production  
25 Allocation within the Landowner Group until the Production Allocations within that Subarea  
26 possessed by Parties operating under the Standard Production Allocation have been reduced  
27 to zero.

28 //

1                   b.     Intervention After Decision. Any non-party who is Producing or  
2 proposes to Produce Groundwater from the Seaside Basin in an amount equal to or greater  
3 than five (5) acre feet per year, may seek to become a Party to this Decision through (1) a  
4 stipulation for intervention entered into with the Watermaster or (2) any Party or the  
5 Watermaster filing a complaint against the non-party requesting that the non-party be joined  
6 in and bound by this Decision. The Watermaster may execute said stipulation on behalf of  
7 the other Parties herein, but such stipulation shall not preclude a Party from opposing such  
8 intervention at the time of the Court hearing thereon. A stipulation for intervention must be  
9 filed with the Court, and the Court will then consider an order confirming said intervention  
10 following thirty (30) days' notice to the Parties. Thereafter, if approved by the Court, such  
11 intervenor shall be a Party bound by this Decision and entitled to the rights and privileges  
12 accorded under the Physical Solution herein.

13                   2.     Reservation of Other Remedies.

14                   a.     Claims By and Against Non-Parties. Nothing in this Decision shall  
15 expand or restrict the rights, remedies or defenses available to any Party in raising or  
16 defending against claims made by any non-party. Any Party shall have the right to initiate an  
17 action against any non-party to enforce or compel compliance with the provisions of this  
18 Decision.

19                   b.     Claims Between Parties on Matters Unrelated to the Decision.

20 Nothing in this Decision shall either expand or restrict the rights or remedies of the Parties  
21 concerning any subject matter that is unrelated to the use of the Seaside Basin for Extraction  
22 and/or Storage of Water as allocated and equitably managed pursuant to this Decision.

23                   P.     General Provisions.

24                   1.     Decision Constitutes Inter Se Adjudication. This Decision constitutes an inter  
25 se adjudication of the respective rights of all Parties.

26                   2.     Service Upon and Delivery to Parties and Interested Persons of Various  
27 Papers. This Decision and all future notices, determinations, requests, demands, objections,  
28 reports and other papers and processes Produced from this Court shall be served on all

1 Parties by first class mail, postage prepaid, addressed to the designee and at the address  
2 designated for that purpose in the list attached as Exhibit E to this Decision, or in any  
3 substitute designation filed with the Court.

4 Each Party who has not heretofore made such a designation, within thirty (30) days  
5 from the date Judgment is granted, shall file with the Court, with proof of service of a copy  
6 upon the Watermaster, a written designation of the Person to whom, and the address at which,  
7 all future notices, determinations, requests, demands, objections, reports and other papers and  
8 processes to be served upon that Party or delivered to that Party are to be so served or  
9 delivered.

10 A later substitute designation filed and served in the same manner by any Party shall be  
11 effective from the date of the filing as to the then future notices, determinations, requests,  
12 demands, objections, reports and other papers and processes to be served upon or delivered to  
13 that Party.

14 Watermaster shall maintain at all times a current list of Parties to whom notices are to be  
15 sent and their address for purposes of service. Copies of such lists shall be available to any  
16 Person. If no designation is made, a Party's designee shall be deemed to be, in order of priority:  
17 (a) the Party's attorney of record; (b) if the Party does not have an attorney of record, the Party  
18 itself at the address on the Watermaster list.

19 Watermaster shall also maintain a list of interested Persons that shall include all Persons  
20 whom, by written request to Watermaster, request to be added to Watermaster's list of interested  
21 Persons. All notices, determinations, requests, demands, objections, reports and other papers and  
22 processes required to be delivered to interested Persons shall be delivered to all Parties and all  
23 Persons on Watermaster's list of interested Persons.

24 Delivery to or service upon any Party or interested Person by Watermaster, by any other  
25 Party, or by the Court, of any document required to be served upon or delivered to a Party under  
26 or pursuant to this Decision shall be deemed made if made by deposit thereof (or by copy  
27 thereof) in the mail, first class postage prepaid, addressed to the designee of the Party and at the  
28 address shown in the latest designation filed by that Party.

1 Any Party desiring to be relieved of receiving deliveries from Watermaster may file a  
2 waiver of notice on a form to be provided by Watermaster.

3 3. Decision Binding on Successors. All provisions contained in this Decision are  
4 applicable to and binding upon and inure to the benefit of not only the Parties to this action, but  
5 also to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and  
6 to the agents, employees and attorneys in fact of any such Persons.

7 Q. The Complaints in Intervention

8 The Complaint in Intervention of MPWMD seeks declaratory relief regarding its statutory  
9 right to manage and control pumping in the Basin, to store water in and Extract water from the  
10 Basin, to store and use reclaimed water, to manage all water distribution facilities within the  
11 Basin, and “the quantification and prioritization of its water and storage rights”. It also sought a  
12 Physical Solution for the management of the Basin’s water resources, with MPWMD being  
13 appointed as Watermaster to administer the Court’s judgment. It also sought parallel injunctive  
14 relief against the parties to the lawsuit.

15 The Complaint in Intervention of MCWRA sought declaratory and injunctive relief  
16 regarding its right to manage and control water resources including, inter alia, those within the  
17 boundaries of the Seaside Basin, and a permanent injunction prohibiting any party to the lawsuit  
18 from exercising control “in any fashion” of the Basin in contravention of its water management  
19 authority.

20 On December 12, 2005, the Court asked the parties to brief the issue of whether  
21 MPWMD should be designated as Watermaster. Briefs were submitted by MPWMD, Plaintiff,  
22 Cal Am, and the City of Seaside. The court had previously received an Amicus brief from the  
23 Sierra Club which dealt with the issue of the powers of MPWMD land the effect on those  
24 powers if the court were to appoint a Watermaster other than MPWMD. The Court has read  
25 and considered each submitted brief. It has also read the Act which created MPWMD (Water  
26 Code Appendix, Chapter 118), and has had the benefit of the arguments of the parties concerning  
27 the subject. Being so informed it has concluded that the appointment of a collaborative  
28 Watermaster does not interfere with the powers of the District.

1 The District has argued that appointment of a Watermaster other than itself would violate  
2 the Separation of Powers doctrine. It urges that the legislature has vested it with the power to  
3 regulate pumping, and therefore only it is qualified to serve as Watermaster. On the other hand,  
4 the District has asked the Court to adopt a Physical Solution for the Basin. In so arguing, it  
5 necessarily concedes that this Court possesses power to regulate use of the Basin beyond any  
6 power the District currently possesses. Furthermore, the undisputed evidence in this case has  
7 shown that, although the District is empowered to adopt a Groundwater management plan it has  
8 never done so. The language of Water Code Section 10753 is instructive regarding the issue of  
9 the Separation of Powers:

10 “(a) Any local agency, whose service area includes a groundwater basin... that is  
11 not subject to groundwater management pursuant to... a court order, judgment, or  
12 decree, may... adopt and implement a groundwater management plan.”

13 (Emphasis added.)

14 Pursuant to the quoted provisions of the foregoing section, the District will not be able in the  
15 future to adopt a Groundwater management plan for the Seaside Basin. Clearly the legislature  
16 contemplated that courts had the power to develop management plans for aquifer management  
17 even if a water management district already existed in a geographical area.

18 The District further argues that if the Court appoints a Watermaster other than itself, the  
19 authority of the Watermaster must not conflict with the MPWMD’s authority. It is certainly  
20 true that the District possesses certain authority, which it is free to exercise according to the  
21 legislative mandate which created it. However, it is apparent the legislature did not intend that all  
22 of the powers it granted to the District be held exclusively by the District, else it would not at a  
23 later time have created the Monterey County Water Resources Agency and endowed it with  
24 many of the powers granted to the MPWMD. Rather, in creating the MCWRA, the legislature  
25 mandated that the two agencies cooperate with one another (Water Code Appendix Section 52-  
26 85). Similarly, the judgment contemplated in this Decision requires the Watermaster to “... act  
27 jointly or cooperate with any public...entity to the end that the purposes of the Physical Solution  
28 may be fully... carried out.” (Section III.L.3.j.xviii)

1 On pages 15-16 of its brief, the District lists 9 powers and asserts those powers would  
2 “encompass the duties of any appointed watermaster.” The Court has compared those 9  
3 asserted powers and has concluded that those powers, to the extent that they exist or are currently  
4 being utilized by the District, do not encompass all the duties of a Watermaster appointed by the  
5 judgment. Furthermore, to the extent the Watermaster may be given powers akin to those of the  
6 District, this Court retains jurisdiction to determine any conflict which may arise in the future.  
7 For example, the Decision directs that any metering of Production wells by the Watermaster  
8 shall be done in a way which does not conflict with the MPWMD gauging already in place on all  
9 producing wells. The MPWMD is still able to develop water resources within its boundaries  
10 and can store water for the benefit of the District in the Basin, although it has not to date done  
11 either of those things with regard to the Seaside Basin.

12 One asserted power deserves more precise attention: the asserted “...power and duty to  
13 manage and regulate the transferability of the water among users- (Water Code Appendix)  
14 Section 328(g).” The plain reading of the referenced section does not encompass the right  
15 asserted. Furthermore, to the extent that section purports to grant the District the power to  
16 “...declare rights in the natural flow of any subterranean supply of water...” it is apparent that  
17 the legislature did not intent to interfere with the ultimate right of the courts to determine the  
18 water rights of parties claiming such rights. To read the section otherwise would be to create a  
19 true Separation of Powers issue.

20 In fairness to the District, it had, of necessity, to confine its analysis of the duties of the  
21 proposed Watermaster to those set forth in the Proposed Stipulated Judgment. The Decision,  
22 while obviously relying on the structure and format of the Stipulated Judgment, does not track all  
23 provisions of said Judgment. For example, many of the concerns of the District revolve around  
24 its statutory right to store water in subterranean reservoirs. The Decision preserves that right.  
25 Similarly, while the Decision allows the assignment of Production rights (which the District is  
26 not empowered to affect by its referenced legislation, Water Code Section 328(g)), it does not  
27 provide for the transferability of Storage rights, a matter which might be of concern to the  
28 District under certain circumstances.

1 The District argues that the proposed powers of the Watermaster regarding maintenance  
2 and modification of the Operating Safe Yield would conflict with the District's authority. Much  
3 of its argument is addressed to language in the Proposed Stipulated Judgment which does not  
4 appear in the Decision. The Decision grants certain rights of control to the Watermaster for the  
5 purpose of maintaining the viability of the aquifer. However, it does not purport to forbid any  
6 regulation of the Basin which may be required by a public agency possessing the power to  
7 impose such regulation. In this regard it should be noted that the complaint in this case first  
8 raised the issue of the Overdraft status of the Basin, and the initial pleadings of the District stated  
9 that it did not know if that were true or not. The Decision does not conflict with any procedure  
10 or plan currently in place by the District to establish an Operating Yield for the Basin.

11 Of concern to the District is the fact that the Watermaster will be empowered to augment  
12 the underground water supply. While Water Code Section 118-343 gives the District the power  
13 to levy a Groundwater charge for the purpose of augmenting underground water supplies, in fact  
14 from the time of its creation in 1977 to the present the District has established no such charge,  
15 and has not augmented the underground water supply of the Basin. The fact that the  
16 Watermaster is authorized in the contemplated judgment to assess charges for replenishment of  
17 the Basin does not prevent the District in the future from undertaking such augmentation, if it  
18 determines it is appropriate to do so.

19 Based upon the evidence adduced at trial, which demonstrated that a collaborative  
20 Watermaster will likely provide more tangible results than any single individual or entity  
21 Watermaster, the Court has decided to appoint a collaborative board as Watermaster.

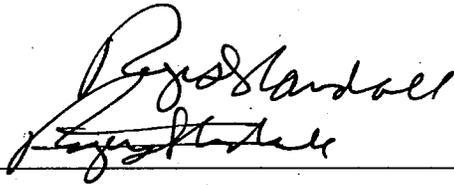
22 The prayer of MPWMD for injunctive relief is denied, except insofar as the court will  
23 issue injunctive relief as set forth in the Decision at the request of all parties. The prayer that  
24 the Court adopt a Physical Solution for the Seaside Basin is granted. The request for declaratory  
25 relief is granted to the extent that the court finds that the statutory rights of MPWMD are not in  
26 conflict with the Physical Solution and the appointment of a Watermaster in this proceeding.

27 The Complaint in Intervention of MCWRA also seeks declaratory and injunctive relief, but  
28 does not urge the appointment of itself or any other entity as Watermaster. The request for

1 injunctive relief is denied as moot, since the lawsuit does not challenge the statutory authority of  
2 the Agency. The request for declaratory relief is granted to the extent that the Court finds that  
3 the statutory rights of MCWRA are not in conflict with the Physical Solution adopted by the  
4 Court in this proceeding.

5 A statement of decision, if requested by any party, will be prepared by Plaintiff. If no  
6 party within ten days of the filing of this Decision specifies controverted issues or makes  
7 proposals not covered in the Decision this Decision shall become the Statement of Decision,  
8 and Plaintiff shall prepare a judgment thereon.

9  
10 Dated: ~~9 February 07~~  
11 9 February 07

By   
Honorable Roger D. Randall



**Order on  
Four Complaints Filed Against  
The California-American  
Water Company**

**Carmel River  
Monterey County**

**Order No. WR 95-10**

**JULY 6, 1995**

**STATE WATER RESOURCES CONTROL BOARD  
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY**

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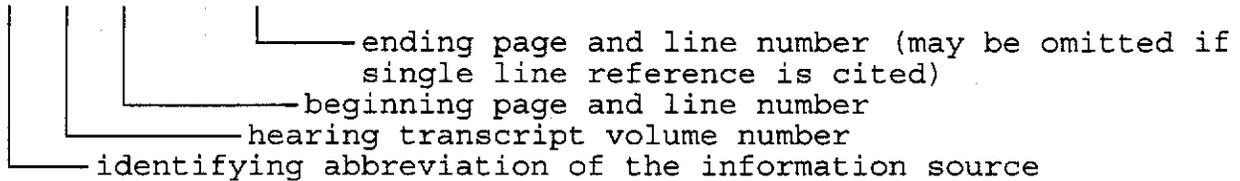
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CITING THE RECORD

When citing evidence in the hearing record, the following conventions have been adopted:

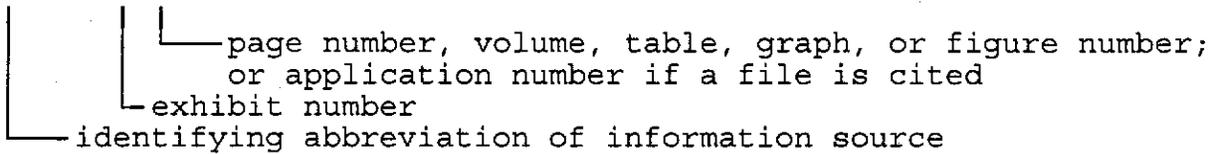
Information derived from the hearing transcript:

T,II,12:1 - 15:17



Information derived from an exhibit:

SWRCB:5,4



Abbreviations of information sources:

AC	Archeological Consulting
ACOE	U.S. Army Corps of Engineers
CAL-AM	California American Water Company
CRSA	Carmel River Steelhead Association
CSPA	California Sportfishing Protection Alliance
DISTRICT or MPWMD	Monterey Peninsula Water Management District
DFG	California Department of Fish and Game
ESSELEN TRIBE	Esselen Tribe of Monterey County
ESSELEN NATION	Esselen Nation of United Families of the Central Coast of CA
EVANS	Willis Evans
PARK	Monterey Peninsula Regional Park District
PHBr	Post-Hearing Brief
SWRCB	State Water Resources Control Board
SIERRA CLUB	Ventana Chapter of the Sierra Club
T	Hearing Transcript

Other commonly used abbreviations:

af	Acre-feet
afa	Acre-feet annually
cfs	Cubic feet per second
CEQA	California Environmental Quality Act
gpm	Gallons per minute
RM	River mile, measured from river mouth
USGS	United States Geologic Survey

**ORDER FINDING AGAINST RESPONDENT, IN PART,  
AND DIRECTING CORRECTIVE ACTIONS**

**SYNOPSIS**

The California-American Water Company (Cal-Am) currently diverts water from the Carmel River and supplies the water, primarily, for use outside of the watershed to users on the Monterey Peninsula. Four complaints were filed with the State Water Resources Control Board (SWRCB) against Cal-Am for its diversion of water from the Carmel River. The complaints generally allege that Cal-Am: (a) does not have the legal right to divert water from the river and (b) diversions are adversely affecting public trust resources within the river. The SWRCB concludes that Cal-Am: (a) does not have legal right for about 10,730 acre-feet annually which is currently diverted from the river (about 69 percent of the water currently supplied to Cal-Am users) and (b) diversions are having an adverse affect on the public trust resources of the river. This order directs Cal-Am to:

- (a) diligently proceed in accord with a time schedule to obtain rights to cover its existing diversion and use of water and
- (b) implement measures to minimize harm to public trust resources. Measures to minimize harm to public trust resources require Cal-Am to reduce the quantity of water which is currently being pumped from the river. Because water is not available for appropriation by direct diversion in the river during summer months, Cal-Am must either obtain the right to additional water supplies from: (a) sources other than the river, (b) a storage project similar to the New Los Padres (NLP) project proposed by the Monterey Peninsula Water Management District (District), or (c) contract with the District for supply from the proposed NLP project.

STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Complaints Against )  
Diversion and Use of Water by the )

**CALIFORNIA-AMERICAN WATER COMPANY,** )

Respondent, )

**CARMEL RIVER STEELHEAD  
ASSOCIATION, RESIDENTS WATER  
COMMITTEE, SIERRA CLUB,  
CALIFORNIA DEPARTMENT OF PARKS  
AND RECREATION,** )

Complainants. )

ORDER: WR 95-10

SOURCE: Carmel River  
Tributary  
to Pacific Ocean

COUNTY: Monterey

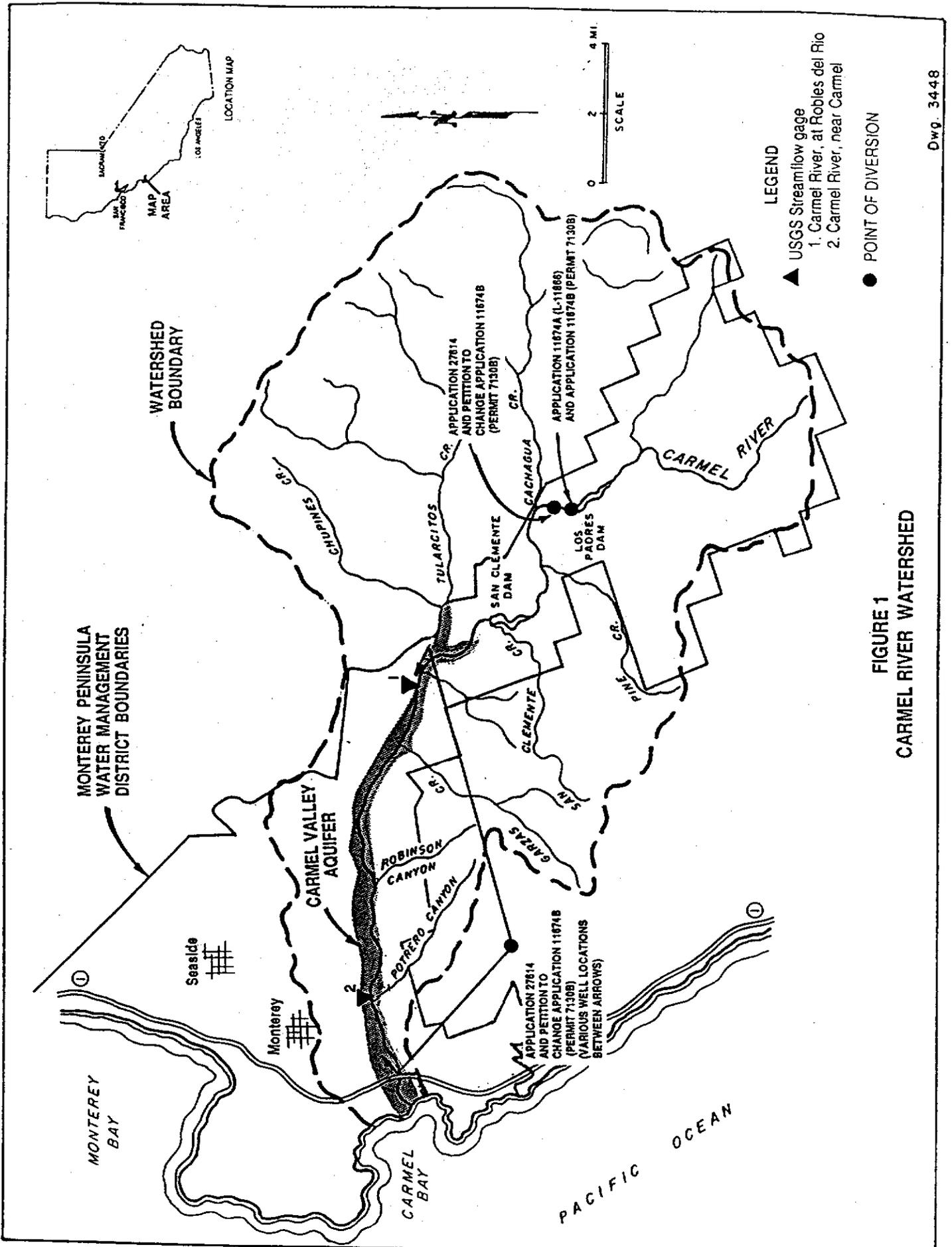
**ORDER FINDING AGAINST RESPONDENT,  
IN PART, AND  
DIRECTING CORRECTIVE ACTIONS**

BY THE BOARD:

Complaints having been filed against Cal-Am for its diversion and use of water from the Carmel River by Carmel River Steelhead Association, Residents Water Committee, Sierra Club, and Department of Parks and Recreation; a hearing having been held on August 24, 25, 26, 31, September 1, 8, and 9, October 19 and 21, and November 7, 8, and 22, 1994; the complainants, Cal-Am, and other interested persons having been provided opportunity to present evidence; closing briefs having been filed; the evidence and briefs having been duly considered; the Board finds as follows:

**1.0 CAL-AM, CAL-AM FACILITIES AND CAL-AM OPERATIONS**

Cal-Am is an investor-owned public utility subject to the jurisdiction of the California Public Utilities Commission. (T, Sept. 9, 1992, 95:1-95:7; T, I, 49:14-49:22.) Cal-Am currently diverts about 14,106 afa of water from the Carmel River and



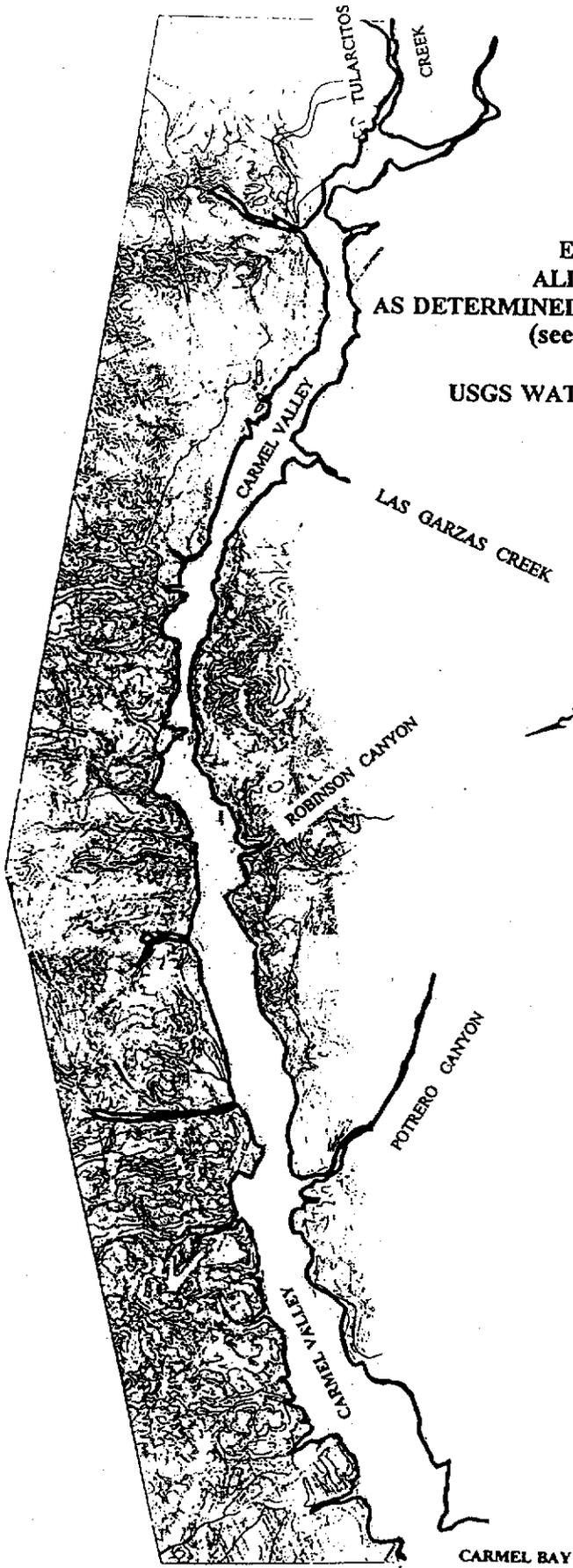
**FIGURE 1**  
**CARMEL RIVER WATERSHED**

Dwg. 3448

FIGURE 2

EXTENT OF CARMEL VALLEY  
ALLUVIAL GROUNDWATER BASIN  
AS DETERMINED BY THE U.S. GEOLOGICAL SURVEY (USGS)  
(see area defined by the bold lines)

USGS WATER INVESTIGATIONS REPORT 83-4280  
JUNE 1984



THE CARMEL RIVER (NOT SHOWN)  
FLOWS THROUGH CARMEL VALLEY

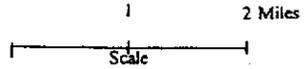
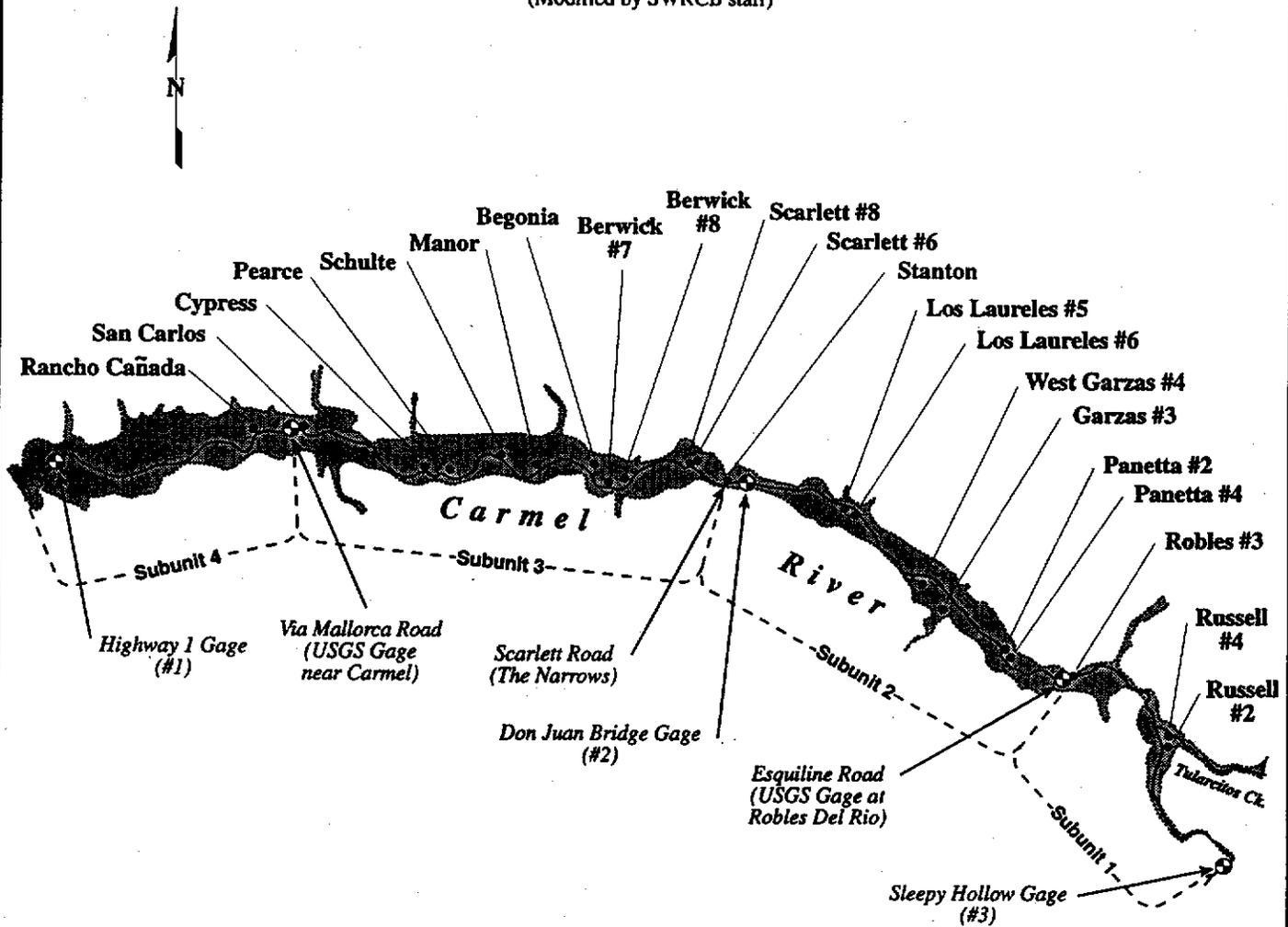


FIGURE 3

ALLUVIAL GROUNDWATER BASIN SHOWING THE LOCATION OF THE CALIFORNIA-AMERICAN WATER COMPANY WELLS

Information obtained from MPWMD Exhibit 287 - Figure 7-2  
(Modified by SWRCB staff)



LEGEND

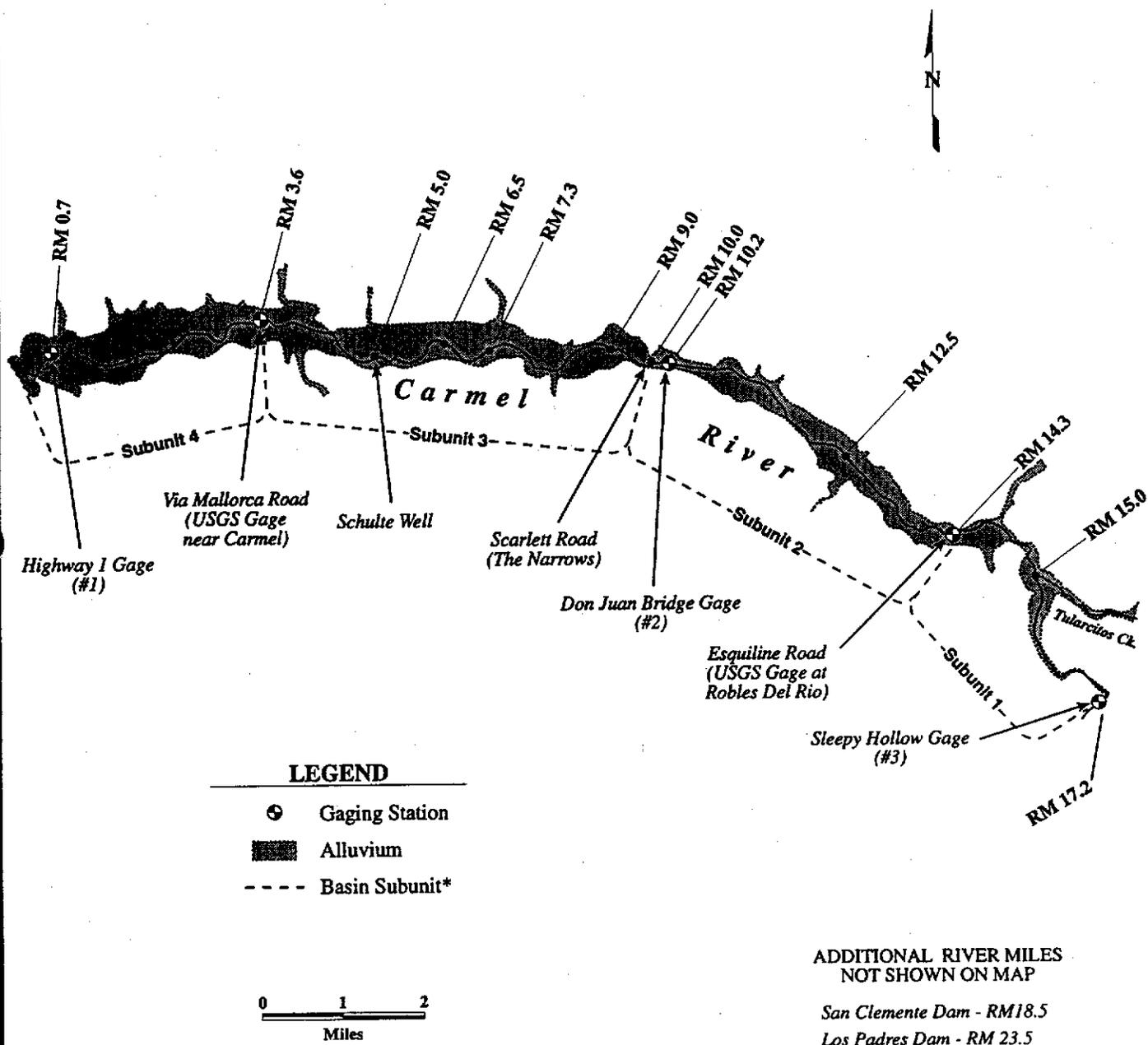
- Water Well
- ⊗ Gaging Station
- ▨ Alluvium
- Basin Subunit\*

0 1 2  
Miles

\* Subunits 1-4 form the Carmel Valley Groundwater Basin. The subunit boundaries are: 1. Via Mallorca Road (USGS Gage Near Carmel), 2. Scarlett Road (The Narrows), 3. Esquiline Road (USGS Gage at Robles Del Rio), 4. Sleepy Hollow Gage. Streamgaging will occur at the Highway 1 Gage (#1), Don Juan Bridge Gage (#2), and Sleepy Hollow Gage (#3).

FIGURE 4

ALLUVIAL GROUNDWATER BASIN  
IDENTIFYING RIVER MILES (RM)



\* Subunits 1-4 form the Carmel Valley Groundwater Basin. The subunit boundaries are: 1. Via Mallorca Road (USGS Gage Near Carmel), 2. Scarlett Road (The Narrows), 3. Esquiline Road (USGS Gage at Robles Del Rio), 4. Sleepy Hollow Gage. Streamgaging will occur at the Highway 1 Gage (#1), Don Juan Bridge Gage (#2), and Sleepy Hollow Gage (#3).

supplies the water, primarily, for use outside of the watershed to users on the Monterey Peninsula.<sup>1</sup> About 105,000 persons are provided service by Cal-Am, most are supplied water from the Carmel River. (T,I,48:1-48:18.)

The primary source of water supply for Cal-Am customers is 21 wells situated on the lower Carmel River. (CAL-AM:91.) These wells supply about 69 percent of the water needs of Cal-Am customers. The balance of the water delivered to Cal-Am customers is supplied from: (1) San Clemente and Los Padres reservoirs in the upper reaches of the Carmel River and (2) pumped ground water in the City of Seaside.<sup>2</sup> (T,I,131:1-19.)

San Clemente Dam has a storage capacity of approximately 2,140 af. Water is stored in this facility under claim of pre-1914 appropriative right.<sup>3</sup> (Statement of Water Diversion and Use No. 8538.) Los Padres Dam is operated pursuant to License 11866 (Application 11674) and authorizes maximum annual withdrawal of 2,950 af. Stored water is released from Los Padres to the river and it is rediverted for use at San Clemente Dam. (T,I,130:16-24.) Sedimentation has reduced the combined usable storage at the

---

<sup>1</sup> Cal-Am supplies about 17,000 af during a normal year. This estimate is obtained by adding the 2,700 af which is supplied from the wells in Seaside (T,I,131:1-19) to the 14,106 af which is obtained from the Carmel River. (CAL-AM:90.) The 14,106 af represents the recent average, non-drought use (average use from 1979 through 1988, based upon Cal-Am Exhibit 90). (14,106 + 2,700 = 16,806 af, or approximately 17,000 afa.)

<sup>2</sup> In addition to supplies from the Carmel River and pumped ground water in the area of Seaside, reclaimed wastewater is available to some Cal-Am users from the Carmel Area Wastewater District/Pebble Beach Community Services District Wastewater Reclamation Project. The Project will provide 800 acre-feet of reclaimed water for the irrigation of golf courses and open space in the Del Monte Forest. In return for financial guarantees, the Pebble Beach Company and other sponsors, received a 380 af potable water entitlement from the District, based upon issuance of an appropriative right permit to the District, for development within Del Monte Forest. As of the end of fiscal 1993-1994, the District had not allocated the remaining 420 af of project yield. (MPWMD,337,25.)

<sup>3</sup> Diversion at San Clemente Dam was the sole supply for the Monterey Peninsula until the 1940s when wells at the upper end of the Carmel Valley began producing water to meet summer demand (SWRCB:1, A-27614, Folder 6A).

reservoirs to about 2,600 af, about one-half of their combined original capacity. The reservoirs supply about 15 percent of Cal-Am's estimated normal year customer demand. (MPWMD:106,7.) Finally about 2,700 afa is produced from wells in Seaside, California.

## **2.0 COMPLAINTS**

Between 1987 and 1991, the SWRCB received four complaints regarding Cal-Am's operations in the Carmel River watershed. The complaints are summarized below:

### **2.1 Carmel River Steelhead Association (CRSA)**

On July 27, 1987 CRSA filed a complaint alleging that Cal-Am diversions from the underflow of the Carmel River are unauthorized and are destroying the public trust resources of the river, including steelhead. As a possible solution, the CRSA recommended rescue and rearing in ponds of fish stranded by the unauthorized diversions, irrigation of riparian vegetation affected by the unauthorized diversions, and release of more water from San Clemente Dam for redirection through wells downstream. (SWRCB,1,a, Complaint File, Monterey Co., 27-01; CSRA:10,35-28.)

### **2.2 Resident's Water Committee (RWC)**

On August 9, 1989 RWC filed a complaint with the Public Utilities Commission alleging that the supply of water needed to serve Cal-Am's customers exceeded available supply.<sup>4</sup> RWC also alleges that Cal-Am diversions from the Carmel River will reduce steelhead in the Carmel River to remnant levels. RWC recommends that Cal-Am be prohibited from serving new customers until an additional supply of water is obtained. (SWRCB:1, A-27614, Folder G.)

### **2.3 Ventana Chapter of the Sierra Club (Sierra Club)**

On March 5, 1991, the Sierra Club filed a complaint alleging:  
(1) Cal-Am's pumping from the subsurface flow of the Carmel River

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<sup>4</sup> A copy of the complaint was received by the SWRCB around the same time.

is unauthorized and (2) Cal-Am's diversion from San Clemente Reservoir during low-flow periods is an unreasonable method of diversion. The Sierra Club's proposed solution includes the following: (1) Cal-Am should be enjoined from diverting water during periods of low flow, (2) Cal-Am and Water West should apply for appropriative water rights from the SWRCB, (3) Cal-Am and Water West should be required to pay for development and implementation of a program to restore public trust resources affected by their diversions,<sup>5</sup> and (4) Cal-Am should be required to release all diversions at San Clemente Reservoir down the Carmel River for collection at downstream wells, instead of diverting water at San Clemente. (SWRCB:1,A-27614, Folder J.)

#### **2.4 California Department of Parks and Recreation (DPR)**

On March 8, 1991, DPR filed a complaint alleging that Cal-Am's diversion of water from the underflow of the Carmel River is: (1) unauthorized, (2) results in mortality to mature riparian forests along a 4,000-foot length of river within the Carmel River State Beach, and (3) interferes with DPR's riparian right to divert water from the Carmel River for irrigation purposes. DPR's proposed solution is for Cal-Am to apply for an appropriative water right with the SWRCB and be subject to conditions to protect riparian, wetland, and aquatic resources in the lower Carmel River, and lagoon and riparian rights along the lower Carmel River. (SWRCB:1, A-27614, Folder J.)

#### **2.5 Monterey Peninsula Water Management District**

On May 5, 1992, the District petitioned to intervene in the complaints against Cal-Am because of its interest in assuring an appropriate balance between competing demands for the use of the limited water supply. (SWRCB:1, A-27614, Folder K.)

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<sup>5</sup> Water West is a water company owned by Cal-Am. Water West has rights to divert and use water at about one-half mile below San Clemente Dam. The complaint was directed at only Cal-Am's diversions. Although Water West is not a party to this proceeding, its diversions are analyzed as diversions under the control of Cal-Am.

## 2.6 Interested Persons

In addition to the complainants and the District, other persons participated in the hearing. Participation was directed at the effect Cal-Am diversions were having on the instream resources of the Carmel River and measures which might be taken to mitigate such effects. Such participants included the DFG, Willis Evans, John Williams, Charity Crane and others appearing on their own behalf.

## 3.0 DESCRIPTION OF THE WATERSHED

The Carmel River drains a 255-square mile watershed tributary to the Pacific Ocean. Its headwaters originate in the Santa Lucia Mountains at 4,500 to 5,000-foot elevations, descend and merge with seven major stream tributaries along a 36-mile river course, and discharge into Carmel Bay about 5 miles south of the City of Monterey. Above the confluence of Tularcitos Creek, the Carmel River constitutes about 65 percent of the watershed. Downstream from RM 15, the river has a 40 feet per mile gradient where the river flows to the bay are over and within an alluvium-filled Carmel Valley floor.

Carmel River flow is in a well-defined channel. The channel in the lower 15 river miles ranges from 20 to 150 feet wide. (SWRCB:19.) The channel changes progressively from cobble to gravel between RM 15 and RM 7, from gravel to sand between RM 7 and RM 2.5 and consists entirely of sand from RM 2.5 to Carmel Bay. (DFG:4,2.)

Downstream from RM 15, alluvial deposits comprise a ground water basin which underlies the river flow in the Carmel Valley portion of the watershed. The legal classification of the ground water basin is discussed in Section 3.2 *infra*. Local ground water levels within the aquifer are influenced by pumping or production at supply wells, evapotranspiration by riparian vegetation, seasonal river flow infiltration and subsurface inflow and outflow.

During the dry season, pumping of wells has caused significant declines in the ground water levels. The Carmel River surface flow

decreases due to pump-induced infiltration which recharges the seasonally-depleted ground water basin. During normal water years, surface flow in the lower Carmel Valley is known to become discontinuous or non-existent. Downstream from RM 3.2, there was no river runoff between April 1987 and March 1991. (MPWMD:287, 2-8.)

### 3.1 Geologic Setting

The principal hydrogeologic units (from oldest to youngest) along the Carmel River alluvial basin that are significant include: (1) pre-tertiary metamorphic and igneous rocks, (2) tertiary sedimentary rocks comprised primarily of sandstone beds (Paleocene and Miocene age) and Monterey shale (Miocene age), (3) older alluvium (Pleistocene age), and (4) younger alluvium (Holocene age). (SWRCB:19.)

Metamorphic (mainly schist and gneiss) and igneous (granitic) rocks form the basement complex which is extensively exposed along or near the river upstream from RM 10 at the downstream extremity of the river narrows. Tertiary sandstone units, which overlie the basement rocks, are exposed primarily along the southern flank of the alluvial valley from about RM 1.5 to 3 and 5.5 to 12.5. The Monterey Shale formation overlies the sandstone. It is exposed extensively along the north side of the Carmel Valley alluvium from approximately RM 2 to 12 and surficially borders the southern side of the valley from about RM 3 to 5.5 (in the vicinity of Potrero Canyon) and RM 14.5 to 15.5 (in the community of Carmel Valley). The older alluvium, consisting mainly of gravel and sand, form remnant terraces which directly overlie the Monterey shale and/or basement complex rocks. These terraces are laterally discontinuous patches along the north side of the valley alluvium from RM 1 to 16 and along both sides from about RM 16.5 to 18. The basement complex and the shale formation are considered to be non-water bearing. The sandstone has no subsurface hydrologic significance and the older alluvium is found on terraces above the level of ground water. (SWRCB:19.)

The younger alluvium, which formed the valley floor, consists principally of boulders, cobbles, gravel, and sand (which contains silt and clay layers of limited horizontal and vertical extent downstream from the river narrows). This alluvium was deposited by river flows (along the lowermost 18 miles of the drainage basin) within a canyon that was incised (by earlier flows) into the shale formation, sandstone units, and basement complex rocks. Its thickness varies from less than a foot at RM 18 to approximately 200 feet in the vicinity of the river mouth. These deposits comprise the most important aquifer in Carmel Valley (MPWMD:105,3) because of their ability to transmit significant amounts of subsurface water to wells.

### **3.2 Physical (Hydrologic) Characteristics of the Carmel Valley Aquifer**

Carmel River surface flow is generally within the well-defined 20- to 150-foot wide channel over the alluvial deposits that form the valley floor. These deposits are the younger alluvium that comprise the Carmel Valley aquifer.

On behalf of the District, Thomas M. Stetson reviewed District Exhibit 108 and SWRCB Exhibits 19, 24, 27, and 29 in connection with his evaluation of the physical aspects of the subsurface water in Carmel Valley. Mr. Stetson also reviewed hydrographs of Carmel Valley aquifer water levels obtained at numerous wells.

(MPWMD:107.) In addition, he reviewed Carmel River streamflow hydrographs for the USGS Robles Del Rio and Carmel gaging stations. By superimposing surface and subsurface water level hydrographs, Mr. Stetson established that there is a direct relationship between recovery of seasonally-lowered subsurface water levels at wells and recurrent river flow increases during ensuing wet periods. On this basis, Mr. Stetson concluded that surface flow recharges river underflow and, consequently, causes a rise in Carmel Valley aquifer water levels. (MPWMD,107,4.)

Mr. Stetson provided written testimony that such underflow is only through the younger alluvium within a known and definite channel

along the entire length of Carmel Valley. (MPWMD:107,4.) Mr. Stetson supported his testimony utilizing the following information: (1) essentially nonwater-bearing rocks (described in Section 3.1) border and underlie the younger alluvium or Carmel Valley aquifer and (2) the average hydraulic conductivity of the younger alluvium is about 60 feet per day (ft/day), as compared to the hydraulic conductivity of the rocks which is in the order of 0.1 to 0.0001 ft/day or less. (MPWMD:107,6.) Mr. Stetson concluded that the hydraulic conductivity difference is substantial and renders the aquifer a "pipeline" for subsurface flow. (MPWMD:107,6.)

Mr. Stetson's testimony is consistent with the findings of SWRCB staff. Ms. Laudon submitted testimony and evidence that the relatively impermeable granitic and sedimentary rocks form the bed and banks of a known and definite channel which restricts the flow of subsurface water to the alluvium. (SWRCB:7&8.) This information is further supported by evidence regarding the subsurface occurrence of granitic or sedimentary rocks beneath the Carmel Valley aquifer at all well installations throughout the valley.

Except where water levels have been influenced by drawdown due to pumping, the general down valley or westerly subsurface flow direction within the aquifer is the same as that of the Carmel River flow. The subsurface flow has a pattern which demonstrates that it is within a known and definite channel rather than that of a diffused body of percolating ground water. (MPWMD:107,6.)

Cal-Am and other parties did not contest the testimony and evidence which describes the subsurface flow of the Carmel River as a subterranean stream flowing through a known and definite channel. Nor did Cal-Am or other parties offer evidence that the ground water in the alluvial basin should be classified as percolating ground water not within the SWRCB's permitting jurisdiction. Accordingly, we find that downstream of RM 15 the aquifer underlying and closely paralleling the surface water course of the

Carmel River is water flowing in a subterranean stream and subject to the jurisdiction of the SWRCB.

### 3.3 Location of Cal-Am Wells

The locations of Cal-Am's wells are described in the following table:

CAL-AM CARMEL RIVER WELLS (CAL-AM EXHIBIT 91)			
Well Name	Well Location	Depth To Water Static/ Pumping	Date Drilled
Los Laureles #5	NE¼ of SE¼ of Sect.29,T16S,R2E	18 feet/44 feet	1947
Los Laureles #6	SE¼ of SE¼ of Sect.29,T16S,R2E	16 feet/43 feet	1977
Robles #3	NE¼ of NE¼ of Sect.10,T17S,R2E	12 feet/30 feet	1989
Russell #4	SW¼ of SE¼ of Sect.11,T17S,R2E	16 feet/35 feet	1947
Russell #2	SE¼ of SE¼ of Sect.11,T17S,R2E	16 feet/35 feet	1947
Scarlett #6	SW¼ of SW¼ of Sect.19,T16S,R2E	20 feet/26 feet	1963
Scarlett #8	SW¼ of SW¼ of Sect.19,T16S,R2E	20 feet/35 feet	1989
Manor #2	NE¼ of SW¼ of Sect.23,T16S,R1E	30 feet/65 feet	1989
Schulte	SW¼ of NW¼ of Sect.23,T16S,R1E	15 feet/58 feet	1967
Stanton	NW¼ of NE¼ of Sect.30,T16S,R2E	3 feet/35 feet	1977
Begonia #2	NW¼ of SW¼ of Sect.24,T16S,R1E	not listed	1990
Berwick #7	SW¼ of SW¼ of Sect.24,T16S,R1E	23 feet/63 feet	1981
Berwick #8	SE¼ of SW¼ of Sect.24,T16S,R1E	20 feet/50 feet	1986
Rancho Cañada (aka Cañada)	NE¼ of SW¼ of Sect.17,T16S,R1E	15 feet/49 feet	1981
San Carlos	NE¼ of SE¼ of Sect.17,T16S,R1E	16 feet/55 feet	1982
Pearce	SE¼ of NW¼ of Sect.22,T16S,R1E	16 feet/50 feet	1981
Cypress	SW¼ of NW¼ of Sect.22,T16S,R1E	15 feet/48 feet	1981

Continued to next page

**CAL-AM CARMEL RIVER WELLS (CAL-AM EXHIBIT 91)**

Well Name	Well Location	Depth To Water Static/ Pumping	Date Drilled
<i>Continued from previous page</i>			
Panetta #1	NW¼ of NW¼ of Sect.03,T17S,R2E	13 feet/16 feet	1989
Panetta #2	NW¼ of NW¼ of Sect.03,T17S,R2E	16 feet/22 feet	1989
Garzas #3	SW¼ of SE¼ of Sect.33,T16S,R2E	13 feet/16 feet	1989
Garzas #4	NE¼ of SW¼ of Sect.33,T16S,R2E	12 feet/16 feet	1989

In addition, the location of these wells in relation to the Carmel River and the aquifer associated with the river is shown by Figure 3. The depth to water for each well is identified in the above table. Figure 3 and the table demonstrate that Cal-Am's wells are extracting water from the subterranean stream associated with the Carmel River.

**4.0 ANALYSIS OF CAL-AM'S WATER RIGHTS**

Among the issues noticed for hearing is the following:

"Does [Cal-Am] have a legal right to divert water from wells located adjacent to the Carmel River?" (SWRCB 1, June 1992 Hearing Notice.)

Cal-Am extracts, on average, 14,106 afa via 21 wells from the alluvial aquifer along the Carmel River. Cal-Am claims the right to divert and use this water under pre-1914 appropriative, riparian, prescriptive, and rights acquired under License 11866. (CAL-AM:92,1,10-27; October 1, 1992 letter to SWRCB from Cal-Am transmitting supplemental exhibits.) During the hearing, Cal-Am's representatives presented testimony and numerous exhibits in support of its claimed rights to divert water from the river. The following sections analyze Cal-Am's rights to divert and use water from the Carmel River.

#### 4.1 Applicable Water Law

The following sections set forth the law applicable to the water rights claimed by Cal-Am.

##### 4.1.1 Pre-1914 Appropriative Rights

Prior to 1914, an appropriative right for the diversion and use of water could be obtained two ways.<sup>6</sup> First, one could acquire a nonstatutory (common law) appropriative right by simply diverting water and putting it to beneficial use. (Haight v. Costanich (1920) 194 P. 26, 184 Cal. 426.) Second, after 1872, a statutory appropriative right could be acquired by complying with Civil Code Sections 1410 et seq. (*Id.*) Under the Civil Code, a person wishing to appropriate water was required to post a written notice at the point of intended diversion and record a copy of the notice with the County Recorders Office which stated the following: the amount of water appropriated, the purpose for which the appropriated water would be used, the place of use, and the means by which the water would be diverted. (Cal. Civil Code Sections 1410-1422, now partially repealed and partially reenacted in the Water Code; Wells A. Hutchins, The California Law of Water Rights (1956) at 89.)

Generally, the measure of an appropriative right is the amount of water that is put to reasonable beneficial use, plus an allowance for reasonable conveyance loss. (Felsenthal v. Warring (1919) 40 Cal.App. 119, 133, 180 P. 67.) The quantity of water to which an appropriator is entitled, however, is not necessarily limited to the amount actually used at the time of the original diversion. Rather, under the doctrine of "progressive use and development", pre-1914 appropriations may be enlarged beyond the original appropriation. (Haight, 194 P. 26 at 28-29; Hutchins at 118; 62 Cal.Jur. at 370.)

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<sup>6</sup> After 1914, an appropriative right could only be obtained by complying with the provisions of the California Water Code for the appropriation and use of water. (Water Code Section 1225; Stats. 1913, C. 586, p. 1012, Section 1(c).)

Under the progressive use and development doctrine, the quantity of water to which an appropriator is entitled is a fact-specific inquiry. According to Haight, "this right to take an additional amount of water reasonably necessary to meet increasing needs is not unrestricted; the new use must have been within the scope of the original intent, and additional water must be taken and put to a beneficial use in keeping with the original intent, within a reasonable time by the use of reasonable diligence...." (194 P. at 29.) Thus, the progressive use and development doctrine allows an appropriator to increase the amount of water diverted under a pre-1914 right, provided: (a) the increased diversion is in accordance with a plan of development and (b) the plan is carried out within a reasonable time by the use of reasonable diligence. (Senior v. Anderson (1896) 115 Cal. 496, 503-504, 47 P. 454; Trimble v. Heller (1913) 23 Cal.App. 436, 443-444, 138 P. 376.)

#### **4.1.2 Riparian Rights**

The riparian doctrine confers on the owner of land abutting a watercourse the right to the reasonable and beneficial use of water on the land. California riparian rights have the following general characteristics. The riparian right is part and parcel of land which abuts a river, stream, lake, or pond. The riparian right may be used only for direct diversion of naturally occurring flow. Unless adjudicated, the riparian right is unquantified and extends to the use of as much water as can reasonably and beneficially be used on riparian lands. A riparian right is a shared right and, therefore, a riparian has a right to the use of the watercourse in common with the equal and correlative rights of other riparians. Finally, the riparian right generally is paramount to all other rights, and must be satisfied before appropriative rights are exercised. (CEB Manual, Water Rights, Water Supply, & Water Related Law (1987) at 7.)

#### **4.1.3 Prescriptive Rights**

Generally, "prescription" means the taking of another person's property by adverse use. With regard to water, prescription can only be accomplished by the adverse diversion and use of water that

other private persons are entitled to use under the law. Subsequent to 1914, prescription will not lie against the State for the unappropriated waters of the State. (Water Code Sections 102 and 1225; Stats. 1913, C. 586, p. 1012, Section 1(c); Crane v. Stevinson (1936) 5 Cal.2d 387; People v. Shirokow (1980) 26 Cal.3d 301.)

As to private persons, prescription can be accomplished only by adverse possession that is actual, open and notorious, continuous and uninterrupted, exclusive, hostile and adverse, and under claim of right or color of title for a period of not less than five years. (Locke v. Yorba Irr. Co. (1950) 35 Cal.2d 205; City of Pasadena v. City of Alhambra (1949) 33 Cal.2d 908.) Even though some private rights may be prescribed, the unappropriated waters of the State and post-1914 appropriative water rights cannot be prescribed unless they are supported by a permit. (Shirokow.)

#### **4.1.4 Licenses**

Under the California permit system, once a permittee has completed construction of a diversion structure and applied the water to beneficial use, the SWRCB investigates to confirm completion and compliance. The SWRCB will issue a license confirming the amount of water found to have been perfected by reasonable beneficial use subject to the terms and conditions included in the permit and required by statute and California case law. (Water Code Sections 1600, et seq.)

#### **4.2 Analysis of Cal-Am's Water Right Claims**

Sections 4.2.1 through 4.2.4, *infra*, analyze the evidence introduced in support of Cal-Am's claimed water rights. For purposes of this order when evaluating Cal-Am's claims, the evidence in the hearing record is considered in the light most favorable to Cal-Am due to the difficulty, at this date, of obtaining evidence that specific pre-1914 appropriative claims of right were actually perfected and have been preserved by continuous use.

#### 4.2.1 Analysis of Pre-1914 Appropriative Rights

The lower Carmel River Valley, Monterey Peninsula, and surrounding areas were settled and developing before 1800. Many of Cal-Am's predecessors in interest developed or acquired appropriative water rights to divert water from the Carmel River and its subsurface waters prior to 1914. (CAL-AM:93, Attachment 1.) Cal-Am's predecessors in interest included: C.P. Huntington, Pacific Improvement Company, Monterey County Water Works, the Monterey County Water Works, Del Monte Properties Co., and California Water and Telephone Company. (Id.) Some of these appropriative rights were initiated and probably acquired in accordance with Civil Code Sections 1410, et seq. Other appropriative rights were acquired by the nonstatutory method of simply taking the water and putting it to reasonable beneficial use. (See 4.1.1, *supra*.)

Cal-Am submitted over 100 documents, including deeds and notices of appropriations by Cal-Am's predecessors, "which represent virtually all title documents bearing upon Cal-Am's water rights and chain of title." (CAL-AM, PHBr at 14:15-18.) Cal-Am Exhibit 93 (Attachment 1) summarizes the deeds and notices of appropriation pertaining to Cal-Am's appropriative rights. Nevertheless, Cal-Am did not present nor does the record contain any evidence which would enable the SWRCB to determine for each claimed pre-1914 appropriative right:<sup>7</sup> (1) whether diversion works were actually constructed, (2) whether water was ever diverted and used under any claimed right prior to 1914 or pursuant to a notice given in accordance with Civil Code Section 1410, or (3) the quantity of water which was put to reasonable beneficial use and maintained by continuous use by Cal-Am's predecessors.

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<sup>7</sup> Despite the fact that Issue #2 was clearly noticed for hearing, Cal-Am asserted throughout the proceedings that the complaint proceedings were not the proper forum to evaluate Cal-Am's appropriative rights. (October 1, 1992 letter to Messrs. Stubchaer and Samaniego from Leonard G. Weiss transmitting supplemental exhibits at 1, n.1; CAL-AM Post-Hearing Brief, 13:14-18.) Nonetheless, Cal-Am submitted extensive evidence of its water rights based on deeds, notices of appropriation, and other documents.

Cal-Am submitted two categories of documents to establish the total quantity of water used under all of its pre-1914 appropriative rights. These are:

"(1) Direct evidence of actual usage in 1913 and earlier; and (2) Material dating back to the 1880s which demonstrate ... the existence of the water company's physical plant, dollar volumes of sales, and the like, prior to 1914." (CAL-AM, PHBr at 15:6-11; October 1, 1992 letter to SWRCB from Cal-Am transmitting supplemental exhibits.)

Several parties objected to the admissibility of the above exhibits on the ground that they are hearsay. (E.g., Carmel Valley Water Users, Closing Brief, 5-8.)

Title 23, California Code of Regulations, Section 761(d) provides, in part, that in a hearing before the SWRCB:

"The hearing need not be conducted according to technical rules relating to evidence and witnesses. Any relevant, non-repetitive evidence shall be admitted if it is the sort of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs. Hearsay evidence may be used for the purpose of supplementing or explaining any direct evidence but shall not be sufficient by itself to support a finding unless it would be admissible over objection in civil actions ...." (Emphasis added.)

Cal-Am exhibits are admissible under Section 761(d) because:

(a) it is the sort of evidence on which responsible persons are accustomed to rely and (b) the exhibits would likely be admissible over objection in a civil action.<sup>8</sup> Moreover, these exhibits

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<sup>8</sup> The SWRCB is of the opinion that those exhibits pertaining to proceedings of the California Railroad Commission would be admissible over objection in a civil trial. It is difficult to find a clear statement in the California Evidence Code or cases specifically addressing this evidentiary issue. However, there are multiple theories, including: the official notice doctrine, the official records exception to the hearsay rule, and other "residual" exceptions to the hearsay rule that support this conclusion.

Official notice may be taken of the existence of any specific record of the California Railroad Commission. While official notice generally may not be taken of the truth of the Railroad Commission's factual findings (see Sosinsky v. Grant (1992) 8 Cal.Rptr.2d 552, 558-59), the factual statements within such exhibits are admissible under the official records exception to (continued...)

likely are the best, if not the only, evidence available for events which occurred over eighty years ago. Thus, the SWRCB will allow Cal-Am's exhibits as evidence for the purpose of evaluating its pre-1914 appropriative claims.

These documents, however, do not show the amount of water that was actually used beneficially or maintained by continuous beneficial use by Cal-Am's predecessors under any specific pre-1914 appropriative rights. Thus, Cal-Am has not demonstrated that the

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<sup>8</sup>(...continued)  
the hearsay rule. Section 1280 of the Evidence Code provides:

"Evidence of a writing made as a record of an act, condition, or event is not made inadmissible by the hearsay rule when offered to prove the act, condition, or event if:

- (a) The writing was made by and within the scope of duty of the public employee;
- (b) The writing was made at or near the time of the act, condition, or event; and
- (c) The sources of information and method and time of preparation were such as to indicate its trustworthiness."

In this case, those exhibits pertaining to proceedings of the California Railroad Commission generally satisfy the requirements of Section 1280. However, some courts have held that the public employee must have had personal knowledge of the act, condition, or event, or received the information recorded from someone in the agency who had personal knowledge in order for the official records exception to apply. (See People v. Parker (1992) 8 Cal.App.4th 114.) Because it is unclear whether any public official had personal knowledge of the quantity of water allegedly being used by Cal-Am's predecessor, it is possible that a court may find such information inadmissible under the official records exception. Nonetheless, the SWRCB concludes that these exhibits should be admitted under the official records exception because "the sources of information and method of time of preparation were such as to indicate [the exhibits'] trustworthiness." (See Cal. Evidence Code Section 1280(c).)

Alternatively, these exhibits would likely be admissible under one of the "residual" exceptions to the hearsay rule that allow California courts to recognize hearsay exceptions "in addition to those exceptions expressed in the statutes." (In re Malinda S., 51 Cal.3d 368, 376 (1990).) For example, evidence of a statement contained in a writing more than 30 years old is admissible if "the statement has been since generally acted upon as true by persons having an interest in the matter." (Cal. Evidence Code Section 1331.)

The deeds are admissible for the purpose of demonstrating chain of title. (Cal. Evidence Code Sections 1330 and 1600.) Finally, Exhibit 93 (Schematic of Chain of Title) is also admissible, but only to the extent the information therein is confirmed by the underlying documents which it purports to summarize.

notices of appropriation were ever perfected into appropriative rights.<sup>9</sup>

The best evidence regarding the amount of water actually put to reasonable beneficial use prior to 1914 by Cal-Am's predecessors is found in Cal-Am Exhibits 126, 131 and 133. The following sections briefly describe these exhibits:

- (a) Exhibit 126 is a copy of a "Petition of the Monterey County Water Works For an Increase of its Water Rates," (MCWW) Application No. 950, filed before the California Railroad Commission on or about January 14, 1914. Exhibit "C" of this petition shows that in 1913 the MCWW sold a total of 314,879,755 gallons (966 afa) of water to its customers.
- (b) Exhibit 131 is an MCWW brief to the Railroad Commission dated June 29, 1914, supporting its position for increased water rates. Page 6 of this brief discusses various estimates of water use and presents a likely total annual water use of 370,515,000 gallons (1,137 afa).
- (c) Exhibit 133 is a January 27, 1915, engineer's report to the MCWW about the impact of the Railroad Commission's Decision regarding the MCWW's petition for a rate increase. Table 1A of this exhibit presents the MCWW's annual use of water in 1913-1914 as 43,444,600 cubic feet (997 afa).<sup>10</sup>

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<sup>9</sup> Cal-Am's claimed pre-1914 appropriative rights could not possibly have been perfected and maintained for the face value of the rights being claimed. Assuming that the appropriative rights conveyed to Cal-Am were all perfected and maintained by continuous reasonable beneficial use, the maximum quantity which could be diverted from the Carmel River would be 751,608 afa, an amount which vastly exceeds the amount of water available in the river during even the wettest years of record. (MPWMD:199, Attachment 1 (showing maximum unimpaired Carmel River flow of approximately 325,000 afa).)

<sup>10</sup> The record contains other contradictory evidence as to the amount of water used prior to 1914. For example, less than 507 afa is reported as having been used in 1916. (CAL-AM:90.)

These exhibits shed some light on the amount of water used by Cal-Am's predecessor in interest around 1914. These exhibits are inconclusive as to the actual amount of water used by the MCWW around 1914 due to the different water use figures. For purposes of this analysis and order, the 1,137 afa figure is used because: (1) the range between the high and low values is only fifteen percent and (2) it is reasonable to use the maximum annual water use estimate of 1,137 afa to establish the baseline quantity of water being used under pre-1914 appropriative claims.

In addition to the actual quantity of water used by Cal-Am's predecessors prior to 1914, Cal-Am might have been entitled to an additional quantity of water under the progressive use and development doctrine. However, Cal-Am neither asserted such a claim nor presented evidence which might support findings that it is entitled to additional water under the doctrine.<sup>11</sup> In addition, the diversion of a large amount of the water currently taken from the river or its underflow was not initiated until rapid growth occurred on the Monterey Peninsula, which commenced after 1960. (T,I,48:1-9; T,I,38:12-18; CAL-AM,90.) Cal-Am drilled 18 of its 21 wells after 1960. (CAL-AM:91.) Thus, Cal-Am is not entitled to additional water under the progressive use and development doctrine. Cal-Am's pre-1914 rights, therefore, should be limited to the estimated actual use by Cal-Am's predecessors in 1913, an amount which does not exceed 1,137 afa.<sup>12</sup>

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<sup>11</sup> Indeed, Cal-Am requested that the Board "decline to attempt to quantify Cal-Am's rights until it hears Cal-Am's pending applications for permits." (CAL-AM's Post Hearing Brief at 21:9-11.) This request is rejected because this issue was noticed for this proceeding and Cal-Am had an opportunity to present evidence on the issue.

<sup>12</sup> Pre-1914 appropriative claims for San Clemente Dam. Persons diverting water under pre-1914 claims or right are required to file Statements of Diversion and Use with the SWRCB. (Water Code Sections 5100, et seq.) Cal-Am filed its first statements for San Clemente Dam in 1975. Cal-Am contends that this right was established under four Notices filed under the Civil Code. (CAL-AM, Exhibit A, pp.3 and 4; CAL-AM exhibits 4, 5, 6 and 8.)

The first statements included water diverted for years 1972 through 1975. The statements indicate that Cal-Am was able to divert 1,529 af to storage at San Clemente Reservoir and that Cal-Am was claiming the right to divert up to 20 cfs by direct diversion. Over succeeding years, Cal-Am has  
(continued...)

#### 4.2.2 Analysis of Riparian Rights

Cal-Am's riparian claims are limited to the use of water on only those parcels which adjoin the surface water course of the river or which overlie water flowing in the subterranean channel.<sup>13</sup> Clearly, Cal-Am wells extract water flowing in the subterranean channel. Cal-Am also presented testimony indicating that 60 afa were used to irrigate riparian habitat along the river. (T,I,54:3-10.) Nevertheless, Cal-Am did not identify any specific parcels for which riparian claims were asserted. In summary, although Cal-Am did not submit testimony or exhibits in support of any specific riparian claim, it appears that Cal-Am has riparian rights and it is not unlikely that such rights are being exercised to divert 60 af to irrigate riparian vegetation along the Carmel River.<sup>14</sup>

#### 4.2.3 Analysis of Prescriptive Rights

Cal-Am bases its claim to prescriptive water rights on the alleged fact that the claimed combined diversions of two of Cal-Am's predecessors depleted the flow in the Carmel River (CAL-AM: October 1, 1992 letter to SWRCB from Cal-Am transmitting supplemental exhibits, pp. 7 and 8; CAL-AM:136,2) during some years and the fact that the Carmel River often has no surface flow. (CAL-AM:132,14.) Assuming the truth of these facts, Cal-Am's post-1914 claims of prescriptive rights are, nevertheless, not supported

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<sup>12</sup>(...continued)

stated that it has approximately diverted between 1,200 to 8,000 af per year under this claim. (SWRCB, Files, Statements of Diversion and Use, Statement 8538.) More recent information indicates the dam can only store between 320 and 800 af. (MPWMD:287,4-49.) Amounts which are currently directly diverted are taken at the Carmel Valley Filter Plant about one-half mile below the San Clemente Dam.

San Clemente Dam was constructed in 1921, seven years after the modern Water Code respecting appropriation became effective. No evidence was presented: (1) as to which, if any, Notice is the basis for the pre-1914 claim of right, (2) that work was commenced on facilities to divert water prior to 1914, or (3) that water was diverted and used prior to 1914 or within a reasonable time thereafter under any Civil Code Notice.

<sup>13</sup> Cal-Am does not claim that water being diverted from the subterranean channel associated with the Carmel River can be served to persons on the Monterey Peninsula under riparian rights claims. (T,I,91:13-92:8.)

<sup>14</sup> Cal-Am does not claim that water served outside the valley can be diverted from the river under riparian right claims. (T,I,91:13-92:8.)

by the record because Cal-Am failed to introduce other essential evidence necessary to support prescriptive claims. Cal-Am did not: (1) demonstrate that the basic elements of prescription were met and (2) identify any specific persons, lands, or types of water rights that were allegedly prescribed. Thus, there is no basis for finding that Cal-Am is entitled to divert any water from the river under the doctrine of prescription.

#### **4.2.4 Analysis of Rights Under License 11866 (Application 11674A)**

On February 14, 1986, Cal-Am was issued License 11866 (Application 11674A) to divert 3,030 afa to storage from October 1 to May 31 from the Carmel River for municipal, domestic, industrial, and recreational uses. (SWRCB:1,b.) The maximum annual withdrawal under this right, however, is 2,950 afa. The above analysis of appropriative, riparian, and prescriptive rights does not affect the rights exercised under License 11866.

#### **4.3 Conclusions Regarding Cal-Am's Claimed Water Rights**

In summary, Cal-Am has valid pre-1914 appropriative rights to divert no more than 1,137 afa, based upon the amount of water actually used by Cal-Am's predecessors prior to 1914. Cal-Am is not entitled to additional water under the progressive use and development doctrine because Cal-Am did not present evidence of a plan of development carried out within a reasonable time.

Cal-Am has riparian rights for use within the Carmel River Valley on only those parcels which adjoin the surface watercourse of the river or which overlie water flowing in the subterranean channel. It is not unlikely that such rights are being exercised to irrigate the riparian vegetation along the Carmel River. Such rights do not extend to water that is served outside the valley or water served to non-riparian parcels located within the valley.

Cal-Am is not entitled to any prescriptive water rights because Cal-Am did not identify the persons, lands, or types of water rights that are allegedly prescribed. Cal-Am has an appropriative

right to divert 3,030<sup>15</sup> afa of water to storage in Los Padres Reservoir from October 1 to May 31 pursuant to the conditions imposed by License 11866. Thus the total quantity of water which Cal-Am is presently using under legal rights is 3,376 afa.<sup>16</sup>

Because the amount of water to which Cal-Am is legally entitled under the appropriation and riparian doctrines, pre-1914 storage rights, and License 11866 is much less than the amount Cal-Am presently is diverting, Cal-Am is diverting about 10,730<sup>17</sup> afa from the Carmel River or its underflow without a valid basis of right. Accordingly, Cal-Am should be required to diligently develop and implement a plan for obtaining water from the Carmel River or other sources consistent with California water law.

#### **5.0 EFFECT OF CAL-AM DIVERSION ON INSTREAM BENEFICIAL USES**

The following sections will discuss the effects of Cal-Am's diversions on the instream beneficial uses of the Carmel River. Such effects include the loss of riparian habitat in the lower river and the near extinction of the Carmel River steelhead run. Cal-Am diversions, standing alone, are not the sole cause of current conditions in the Carmel River. Other causes include the diversion and use of water by other persons and, significantly, a series of dry and critically dry years during the late 1980s and early 1990s. Nevertheless, Cal-Am's combined diversions from the Carmel River constitute the largest single impact to the instream beneficial uses of the river.

#### **5.1 Vegetative Resources**

Three vegetation communities are found within the Carmel River watershed: coastal wetlands within the Carmel River Lagoon,

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<sup>15</sup> The actual diversion is limited to 2,179 af due to siltation.

<sup>16</sup> 1,137 afa, pre-1914 appropriative + 60 afa, riparian + 2,179 afa, license 11866 = 3,376.

<sup>17</sup> 10,730 afa represents Cal-Am's total diversions from the Carmel River minus that amount which appears to be legally diverted. (14,106 - 3,376 = 10,730.)

riparian communities along the river itself, and upland vegetation on the upper alluvial terraces and hills surrounding the valley. Mature multistoried riparian vegetation supports a wide diversity of plant and animal species, including a number of which are protected pursuant to federal and state endangered species acts.

Historically, riparian vegetation was more extensive than at present, particularly in the lower nine river miles. Prior to 1956, losses were primarily attributable to agricultural development. Since that time, the decline has coincided with the increasing export of ground water to meet growing urban demand on the Monterey Peninsula. (SWRCB:17; SWRCB:42,III-28.) Were it not for the extensive riparian corridor irrigation efforts of the District and Cal-Am, it is estimated that current ground water pumping would severely stress approximately 59 percent of the existing riparian vegetation in the upper portion of Aquifer Subunit 3 (see Figure 2) in normal water years, and nearly all vegetation during critically dry years. (MPWMD:289,9G-1.)

The Carmel River Lagoon contains a mixture of freshwater and salt marsh vegetation. Coastal salt marsh is considered one of the most fragile and rapidly disappearing habitats in California. The Carmel River coastal wetland represents some of the last remaining habitat of this type on the Central Coast. (SWRCB:42,III-32.)

Upland vegetation within the watershed is composed of a mixture of coastal scrub, hardwood forest, coastal dune, chaparral, and closed-cone coniferous forest. Cal-Am's diversions have no direct effect on such resources.

## **5.2 Wildlife Resources**

Carmel River riparian and wetland communities support a diverse group of resident and migratory wildlife. A number of amphibian and reptile species occur within the riparian and wetland zones as well, including the red-legged frog and the western pond turtle. These are, respectively, a proposed and candidate species for listing under the Federal Endangered Species Act. A more detailed

description of these resources is found in the District's EIR/EIS.  
(MPWMD:287-290.)

### **5.3 Fishery Resources**

The Carmel River supports populations of at least ten resident freshwater and anadromous fish species. Of these fishes, the steelhead (*Onchrrhynchus mykiss*) has been considered the most important, and extensive studies have been performed to define its ecology in the river. (SWRCB:42,III-41.)

Adult steelhead live in the ocean and migrate into the upper reaches of the Carmel River to spawn. Migration may begin in the fall after the Lagoon sandbar is breached by artificial means or by the first major storm and when sufficient flow is established in the lower river to allow upstream passage.

Typically, in early January the adults spawn and migrate back to the ocean. After approximately three to eight weeks of incubation, depending on water temperature, the eggs hatch and fry soon emerge from the gravel. These fry continue development in the river until fall. By fall, fry will have developed into juveniles and begin moving downstream. They remain in the lower reaches of the river and the lagoon adapting to brackish water until late spring. In late spring, as high river flows are receding, they migrate out into the Pacific Ocean. Some juveniles and adults remain in the river for one or two additional years before migrating to the ocean, hence these life stages may be found in the river throughout the entire year. (SWRCB:42,III-42.)

### **5.4 Extent of the Steelhead Resource**

When first seen by Spanish explorers in 1603, the Carmel River supported a spectacular steelhead run, believed to have been well in excess of 12,000 fish annually. (CSRA:5,2.) Heavy fishing in the 1850s through the 1870s diminished the fishery. Fish planting began in 1910 and continued through the 1940s. (MPWMD:289,8-8.)

When San Clemente Dam was constructed in 1921 (RM 18.5), a fish ladder was also built. (MPWMD:289,8-8.) Access to a major portion of the steelhead spawning and rearing habitat was effectively eliminated in 1949 with the construction of Los Padres Dam at RM 23.5. (CSRA:5,2.) Although a fish trap was installed downstream of the dam and captured adults transported into the reservoir, the facility proved ineffective at maintaining steelhead populations. (MPWMD:289,8-8.)

Annual counts of steelhead passing through the San Clemente fishway began in 1961. The critical dry years of 1976-77 and 1987-92, drought, and diversion by Cal-Am from its wells have combined to reduce water available to steelhead and have also reduced the steelhead population to remnant levels. Only one fish was recorded in 1991 and 15 fish in 1992. (MPWMD:337,49.) Past reviews of Carmel River environmental problems have identified flow reduction and habitat alteration as major factors associated with steelhead decline. (SWRCB:42,III-44.)

Paralleling the declining steelhead population during this period was the rising urban demand for water. Originally, the Monterey Peninsula water supply was diverted entirely from the two reservoirs and from surface flow. When demand exceeded the developed surface resources, wells drilled in the Carmel Valley alluvium aquifer were added to supplement supply. In recent times, dry season surface flows below the Narrows at RM 10 have been depleted in most years as a result of heavy ground water pumping. This results in the stranding and death of many juvenile fish as surface flow recedes. (DFG:4,32.)

#### **5.5 The Effect of Cal-Am Diversions Should be Mitigated**

To summarize, Cal-Am diversions have historically had an adverse effect on: (1) the riparian corridor along the river below RM 18.5, (2) wildlife which depend on riparian habitat, and (3) steelhead and other fish which inhabit the river. Measures should be adopted requiring Cal-Am to mitigate the effect of its diversions on the environment until such time as it is able to

obtain water from the Carmel River or other sources consistent with California water law.

## **6.0 MITIGATING EFFECTS OF CAL-AM DIVERSIONS**

The following sections identify the measures which are in effect to mitigate the effect of Cal-Am's diversions in the instream beneficial uses of the Carmel River. Many significant measures to protect the instream beneficial uses of the river have been initiated and are being carried out by the Monterey Peninsula Water Management District. In order to avoid confusion, an explanation of the District's role is necessary.

The District was created by special act of the Legislature in 1977. (Water Code Appendix Section 118-2.) The District is responsible for managing available surface and ground water sources to supply water within the District and to protect the environmental quality of the area's water resources, including the protection of fish and wildlife resources. (*Id.*; MPWMD:16,1-2.) Much of the watershed of the Carmel River is within the District's boundaries (Figure 1) and the District has broad powers over the use and distribution of water within its boundaries, including the operations of Cal-Am. (Water Code Appendix Sections 118-2, 118-102.)

### **6.1 Interim Relief Program**

In 1988, as a result of the complaint filed by the CRSA (Section 2.1), the District formed an Environmental Advisory Committee. The committee was composed of citizen groups and public agency representatives, including representatives from Cal-Am and DFG. (MPWMD:53;3&4.) Their efforts resulted in an Emergency Relief Program and an Interim Relief Program, both designed to address chronic environmental degradation in the lower Carmel River. (MPWMD:53.)

The focus of the Interim Relief Program was on rescuing stranded steelhead during critically dry years, preserving the riparian corridor, and enhancing aquatic habitat by increasing streamflow. Specifically, the District undertook to: (1) limit surface

diversion at San Clemente Dam to 29 percent of total Cal-Am production, (2) hire fishery professionals to assess habitat and coordinate steelhead rescue efforts, and (3) monitor the health of riparian vegetation and install, operate, and maintain drip irrigation systems along the lower Carmel River. The provisions of the program expired in November 1993, but are carried forward as elements of the Water Allocation EIR mitigation program of the District. (MPWMD:53; SWRCB:42.)

## 6.2 Water Allocation Mitigation Program

In 1981, the District established an annual Water Allocation Program to apportion water to each of its member jurisdictions. In 1990, a Water Allocation Program EIR was completed and certified by the District. (SWRCB:42; MPWMD:16.) The EIR analyzed the environmental and socioeconomic impacts of varying levels of water production from the Monterey Peninsula Water Resource System, including the Carmel River. The document found that the amount of water which could be produced without significant environmental impact was less than previous estimates. As a result, the Cal-Am allocation was reduced from 18,600 to 16,744 afa.<sup>18</sup> Even at the reduced level, diversion of water from the Carmel River was found to have significant adverse environmental impacts on fisheries, riparian vegetation and wildlife, and the Lagoon. Therefore, the District also approved the Water Allocation Mitigation Program and committed itself to implement the mitigation program. The Program provides for the following mitigation measures:

### Fisheries (MPWMD:16,55)

- Continue Interim Relief Program
- Expand program to capture emigrating smolts in spring
- Prevent stranding of early fall and winter migrants
- Rescue juveniles downstream of Robles Del Rio in summer

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<sup>18</sup> The quantity of water which the District allocated to Cal-Am was not based on the amount of water diverted by Cal-Am and not on Cal-Am's legal right to divert water.

- Modify spillway and transport juveniles around Los Padres Dam

Riparian Vegetation and Wildlife (MPWMD:16,64)

- Continue Interim Relief Program
- Conservation and water distribution management to retain water in the Carmel River
- Prepare and oversee a Riparian Corridor Management Plan (MPWMD:69)
- Implement the Riparian Corridor Management Plan
- Expand monitoring programs for soil moisture and vegetative stress

Lagoon Vegetation and Wildlife (MPWMD:16,72)

- Continue Interim Relief Program
- Assist with Lagoon Enhancement Plan investigations
- Expand long-term monitoring program
- Identify feasible alternatives to maintain adequate Lagoon volume

The program was adopted and funded by the District for an initial five-year period, due to expire in late 1995, after which allocations are to be reassessed based on results of monitoring studies. Annual progress reports have been prepared by the District and submitted to the SWRCB. (SWRCB:43; MPWMD:307-308.) Funded primarily by user fees and taxes, the program costs will slightly exceed \$6.5 million over five years. (MPWMD:309.)

The effectiveness of this mitigation program and the degree to which the District has implemented the mitigation program was the subject of considerable testimony during the SWRCB hearing. Both the CSRA and the DFG expressed dissatisfaction with the implementation of the program. (CRSA:94-1,3; T,X,100:2.) Further, DFG stated that it was the Department's position that fish rescue is inappropriate as a long-term mitigation measure and that provision of adequate instream flow is the preferable alternative. (T,IX,8:2.)

### **6.3 Other District Actions**

In addition to the above programs, the District has engaged in a number of other activities to lessen the impact of water extraction on the Carmel River system. These measures include:

- Limitation on total system production
- Mandatory rationing and moratoriums
- Conservation and community education programs
- Development of Seaside aquifer
- Wastewater reclamation

Although these programs have been effective in reducing demand on the Carmel River, their combined effect is inadequate to reverse severe environmental degradation. It is the position of the District and DFG wildlife experts that river flow is the critical element in reversing this degradation. The District has also concluded that a firm municipal supply and water for environmental restoration cannot be provided without additional water storage upstream of Cal-Am's existing well field. (MPWMD:287,2-8.)

### **6.4 Conditions On the Operation of Los Padres and San Clemente Dams**

In 1948 the SWRCB adopted Decision 582 approving an appropriative right for the Los Padres Dam. The Decision and Permit 7130 require, in general, that Cal-Am maintain a flow of not less than 5 cfs in the channel of the Carmel River directly below the outlet structure of the Los Padres Dam at all times during which water is being stored under this permit.

Diverting under a claim of pre-1914 appropriative right, San Clemente Dam has no bypass requirement and, until the early 1980s, the entire summer streamflow was diverted into the filter plant downstream of San Clemente Dam. (DFG:4,8.) During the 1980s, DFG and Cal-Am began negotiating year-to-year agreements for the release of some water at San Clemente Dam to benefit fish in the river. Bypass flows have generally been in the range of 3.5 to 5 cfs. Under more normal hydrologic conditions, the bypass

maintains flow in the stream to the Narrows at RM 10. This habitat below San Clemente Dam is considered significant steelhead habitat.

#### **6.5 Interim Measures to Mitigating Effects of Cal-Am Diversions Should Continue to be Implemented**

As previously stated, Cal-Am's diversions have an adverse effect on the instream beneficial use of the river. Although the interim measures discussed herein are beneficial, they are by no means sufficient to offset the total effect of Cal-Am's diversions. Thus, these measures should be continued until such time as Cal-Am is able to obtain water from the Carmel River or other sources consistent with California water law.

That most interim measures have been undertaken by the District and not Cal-Am is a matter of concern. There is no assurance that the District will indefinitely continue to mitigate the effects of Cal-Am's diversions. Furthermore, there is no basis for the SWRCB to order the District to continue implementing the interim measures on behalf of Cal-Am. Thus, a condition should be adopted requiring Cal-Am to implement these interim measures in the event the District fails to continue with its programs.

#### **7.0 OTHER PROPOSALS FOR MITIGATING THE EFFECTS OF CAL-AM DIVERSIONS FROM THE CARMEL RIVER**

In addition to the interim mitigation measures being implemented by the District, the Complainants, DFG, and Mr. Evans contend that additional mitigation measures should be implemented by Cal-Am. Some of these measures are discussed in the following sections.

##### **7.1 Maximize Production in Seaside Aquifer, Minimize Production from Carmel River**

Several parties advanced the concept that production from the Seaside aquifer should be increased and diversions from the Carmel River should be reduced. Cal-Am produces about 2,700 afa from the Seaside ground water basin from wells in Seaside, California. The Seaside northern and southern coastal ground water subbasins have a usable storage capacity of 4,700 af. (MPWMD:101,6,144.) The long-term yield of the Seaside ground water subbasin, however, is

estimated to be 3,300 afa, using the practical rate of withdrawal method. (SWRCB:1, "Hydrology Update, Seaside Coastal Ground Water Basins, Monterey County, California", Staal, Gardner & Dunne, Inc., 1990, p.22.) A new well became available to Cal-Am and its customers during 1994, the Peralta Well, which is located in the Seaside aquifer. The well is capable of producing approximately 1,000 afa. The District has allocated the potential production from the Peralta Well for purposes which include water for community benefit and among eight jurisdictions for new connections, remodeling, and additions. (MPWMD,291,4:1-17; MPMD,3378,28,Figure 10.) By more fully utilizing water available in the Seaside aquifer, Cal-Am can reduce its diversions from the Carmel River and the effects of such diversions on public trust values. Thus, we find that Cal-Am should be required to maximize production from the Seaside aquifer and reduce diversions from the river to the greatest practicable extent.

## **7.2 Maximize Production from the Most Downstream Wells**

Several parties advanced the proposal that by maximizing production from the most downstream wells that surface water in the Carmel River could be extended farther downstream.<sup>19</sup> The benefit of operating the wells in this manner would be to provide more habitat for fish during some years and seasons. (T,IV,248:24-251:3.) Testifying for DFG, Keith Anderson indicated that Cal-Am was already operating in this manner pursuant to an agreement with DFG. (T,IX,17:2-10.) Testimony did indicate, however, that too much pumping of wells nearer to the Lagoon might result in water quality degradation and adversely affect supply of water to other wells. Thus, we find that Cal-Am should be required to satisfy the water demands of its customers outside of the Carmel River watershed by extracting water from its most downstream wells to the maximum practicable extent.

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<sup>19</sup> Some parties advocated drilling more wells farther down the river as near to the Lagoon as possible. The feasibility of this proposal was not demonstrated. Testimony and exhibits indicated that such wells and pumping could result in: (a) poorer water quality for Cal-Am customers, (b) dewatered wells used by other persons in the area, and (c) seawater intrusion into the lower aquifer. (T,IV,251:4-254:4; 258:5-269:4; 272:14-284:2.)

### 7.3 Supply Water to the Carmel Village Filter Plant from Wells

The Carmel Village is supplied water from a filter plant located downstream of the San Clemente Dam. The filter plant is supplied water from the dam via a pipeline. Several parties advanced the proposal that more surface flow could remain in the river if the filter plant was supplied water from wells instead of the dam. The water diverted to storage at the dam could then be released to the river for fish and to recharge the subterranean stream from which the downstream wells extract water. No evidence was presented to demonstrate the feasibility of the proposal. Indeed the evidence indicates that it is not feasible to supply water to the filter plant from the most downstream wells. No evidence was introduced which would indicate whether the filter plant could be supplied from more nearby wells and thus keep more water at the surface of the stream for some additional distance. We find that Cal-Am should be required to conduct a reconnaissance level study of the feasibility, benefits, and costs of this proposal.<sup>20</sup>

### 7.4 Bypass Early Storm Runoff at the Dams

On behalf of DFG, Keith Anderson suggested that runoff from early storms be passed by the Los Padres and San Clemente Dams. (T, IX, 21:4-22:6.) This proposal can result in recharging the subterranean stream and restoring surface water flows in the river at an earlier date. An earlier reestablishment of surface flows would increase the likelihood that steelhead could successfully migrate up and down the stream to complete their life cycle. The record does not include any evidence which demonstrates the feasibility of this suggestion; however, the storage capacity of the dams is so small that it appears likely that this suggestion could be implemented in even the driest water years and the

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<sup>20</sup> The SWRCB recognizes that the wells nearest the filter plant are not the most downstream wells. The feasibility of supplying the filter plant may depend upon supplying the plant via the nearest wells. Supplying the filter plant from nearby wells would, implicitly, conflict with the principle that water be supplied to Cal-Am customers via the most downstream wells to the maximum practicable extent. Nevertheless, we find that the feasibility, benefits, and costs of this proposal should be evaluated.

reservoirs could still be refilled. We find that Cal-Am should be required to study the feasibility of this proposal.

#### **7.5 Modify Critical Stream Reaches to Facilitate Fish Passage**

In the context of this section, a critical stream reach means any portion of the river which, due to low flow, acts as a barrier to migrating steelhead. Such barriers interfere with the ability of steelhead to successfully complete all life stages and to reproduce in the river. Testifying for DFG, Keith Anderson expressed the opinion that modifying critical stream reaches was an action which could be taken to mitigate the effect of Cal-Am's diversions from the river. (T, IX, 20:24-21:3.) Thus, we find that Cal-Am should be required to conduct a study of the feasibility, benefits, and cost of this proposal.

#### **7.6 Remove Boulder Below Los Padres Dam**

A large boulder or rock outcrop is situated below the spillway of Los Padres Dam. A significant percentage of steelhead juvenile fail to survive downstream migration during low water conditions over the spillway because they fall upon the rock. Removal of the rock could improve the survival rate of steelhead juvenile moving downstream from Los Padres Dam. Accordingly, Cal-Am should be required to remove the rock or implement some other reliable measure to assure safe passage for fish over or around the rock.

#### **8.0 ENFORCEMENT OPTIONS**

Three enforcement options are available to the SWRCB for the unlawful diversion and use of water. First, Water Code Section 1052 declares that the unauthorized diversion of water is a trespass. Such diversions may be referred to the Attorney General for injunctive relief. (Section 1052(c).) Persons committing a trespass may be liable for up to \$500 for each day in which a trespass occurs. (Section 1052(d).)

Second, Water Code Sections 1055 and 1052 authorizes the SWRCB to impose administrative civil liability for the unlawful diversion and use of water. Persons committing a trespass may be liable for

up to \$500 for each day in which a trespass occurs. (Section 1052(b).) Persons committing a trespass may be liable for up to \$500 for each day in which a trespass occurs.

Finally, Sections 1825, et seq. authorizes the SWRCB to adopt cease and desist orders for violation of conditions in permits and licenses. Cease and desist orders may require compliance forthwith or in accordance with a time schedule. (Section 1831.) Diversion of water in excess of the quantity authorized by permit or license can be treated as a violation subject to enforcement under Section 1831. Persons failing to comply with a cease and desist order are liable for \$1,000 for each day in which violation occurs.

This proceeding was not noticed under any of the enforcement provisions and the SWRCB cannot, at this time, proceed directly to an order under Sections 1055 or 1830. The SWRCB, however, can request the Attorney General to take action under Section 1052. Alternatively, the SWRCB can suspend such a referral provided that Cal-Am takes appropriate actions to: (a) mitigate the effect of its diversions on the environment and (b) develop and diligently pursue a plan for obtaining water from the Carmel River or other sources consistent with California water law.<sup>21</sup>

#### **8.1 Considerations Mitigating Against the Use of Punitive Enforcement Options**

In the short term, Cal-Am cannot significantly reduce its extraction from the wells along the Carmel River. As previously stated, most of Cal-Am's supply is obtained from the Carmel River and most of that supply is provided by the wells along the river. The people and businesses on the Monterey Peninsula must continue to be served water from the Carmel River in order to protect public health and safety.

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<sup>21</sup> Cal-Am could satisfy this requirement by contracting with MPWMD for the supply from its proposed project or by proposing to develop water under applications to appropriate water from the Carmel River by storage or from other sources.

Cal-Am introduced exhibits during the hearing which show that during 1980 and 1981, on the basis of available information, the SWRCB was not of the opinion that the water pumped by the wells would require a permit from the SWRCB. (CAL-AM, F and G.) Further, Cal-Am does not contend that the wells are not extracting water from a subterranean stream. (CAL-AM, Closing Brief, 20.) Indeed, Cal-Am has filed an application to appropriate water with the SWRCB. (Application 30215.)<sup>22</sup>

Cal-Am also supports the New Los Padres Project proposed by the District as one means for providing a reliable and legal water supply for its customers. (CAL-AM, Closing Brief, 2:4-12.) Finally, Cal-Am has cooperated with the District, DFG, and others to develop and implement measures to mitigate the effect of its diversions on the instream resources of the river. (MPWMD:287,2-15.)

Under circumstances such as these, the imposition of monetary penalties make little sense. Rather, the SWRCB's primary concern should be the adoption of an order which, until a legal supply of water can be developed or obtained, will require that Cal-Am: (1) minimize its diversions from the Carmel River, (2) mitigate the environmental effects of its diversions, and (3) prepare a plan setting forth: (a) specific actions to develop or obtain a legal supply of water and (b) the dates specific actions will have occurred so that progress on the plan can be objectively monitored.

## 9.0 SUMMARY AND CONCLUSIONS

To summarize the foregoing, we find that:

1. Downstream of RM 15 of the Carmel River, the aquifer underlying and closely paralleling the surface water course of the Carmel River is water flowing in a subterranean stream and subject to

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<sup>22</sup> Administrative notice is taken that on May 29, 1992, Cal-Am submitted Application 30215 to the SWRCB. The application is for the direct diversion of 42 cfs from its wells along the river.

the jurisdiction of the SWRCB. Cal-Am's wells are drawing water from the subterranean stream associated with the Carmel River.

2. Cal-Am is diverting about 10,730 afa from the Carmel River or its underflow without a valid basis of right. In addition, Cal-Am does not have a pre-1914 right to divert and use water at San Clemente Dam. Cal-Am should be required to diligently develop and implement a plan for obtaining water from the Carmel River or other sources consistent with California water law.
3. Cal-Am diversions are having an adverse effect on: the riparian corridor along the river below San Clemente Dam at RM 18.5, wildlife which depend on instream flows and riparian habitat, and steelhead which spawn in the river. Interim measures mitigating the effects of Cal-Am diversions undertaken by the District should continue to be implemented. Cal-Am should be required to implement interim measures in the event the District fails to continue with its program. In addition, Cal-Am should be required to implement other mitigation measures. Cal-Am should be required to mitigate the effect of its diversions until such time as it is able to obtain water from the Carmel River or other sources consistent with California water law.
4. The SWRCB can request the Attorney General to take action under Section 1052. Alternatively, the SWRCB can suspend such a referral provided that Cal-Am takes appropriate actions to: mitigate the effect of its diversions on the environment and develop and diligently pursue a plan for obtaining water from the Carmel River or other source consistent with California water law. The SWRCB's primary concern should be the adoption of an order requiring Cal-Am to: (1) prepare a plan setting forth (a) specific actions which will be taken to develop or obtain a legal supply of water and (b) the dates specific actions will have occurred so that progress on the plan can be

objectively monitored, (2) minimize its diversions for the Carmel River, and (3) mitigate the environmental effects of its diversions.

#### ORDER

**NOW THEREFORE, IT IS HEREBY ORDERED** that Cal-Am shall comply with the following conditions:

1. Cal-Am shall forthwith cease and desist from diverting any water in excess of 14,106 afa from the Carmel River, until unlawful diversions from the Carmel River are ended.
2. Cal-Am shall diligently implement one or more of the following actions to terminate its unlawful diversions from the Carmel River: (1) obtain appropriative permits for water being unlawfully diverted from the Carmel River, (2) obtain water from other sources of supply and make one-for-one reductions in unlawful diversions from the Carmel River, provided that water pumped from the Seaside aquifer shall be governed by condition 4 of this Order not this condition, and/or (3) contract with another agency having appropriative rights to divert and use water from the Carmel River.
3. (a) Cal-Am shall develop and implement an urban water conservation plan. In addition, Cal-Am shall develop and implement a water conservation plan based upon best irrigation practices for all parcels with turf and crops of more than one-half acre receiving Carmel River water deliveries from Cal-Am. Documentation that best irrigation practices and urban water conservation have already been implemented may be substituted for plans where applicable.  
  
(b) Urban and irrigation conservation measures shall remain in effect until Cal-Am ceases unlawful diversions from the Carmel River. Conservation measures required by this Order in combination with conservation measures required

by the District shall have the goal of achieving 15 percent conservation in the 1996 water year and 20 percent conservation in each subsequent year.<sup>23</sup> To the extent that this requirement conflicts with prior commitments (allocations) by the District, the Chief, Division of Water Rights shall have the authority to modify the conservation requirement. The base for measuring conservation savings shall be 14,106<sup>24</sup> afa. Water conservation measures required by this order shall not supersede any more stringent water conservation requirements imposed by other agencies.

4. Cal-Am shall maximize production from the Seaside aquifer for the purpose of serving existing connections, honoring existing commitments (allocations), and to reduce diversions from the Carmel River to the greatest practicable extent. The long-term yield of the basin shall be maintained by using the practical rate of withdrawal method.
5. Cal-Am shall satisfy the water demands of its customers by extracting water from its most downstream wells to the maximum practicable extent, without degrading water quality or significantly affecting the operation of other wells.
6. Cal-Am shall conduct a reconnaissance level study of the feasibility, benefits, and costs of supplying water to the Carmel Valley Village Filter Plant from its more nearby wells downstream of the plant. The objective of supplying water from the wells is to maintain surface flow in the stream as far downstream as possible by releasing water from San Clemente Dam for maintenance of fish habitat. The results

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<sup>23</sup> Each water year runs from October 1 to September 30 of the following year.

<sup>24</sup> 14,106 afa represents Cal-Am's total diversions from the Carmel River.

of the study and recommendations shall be provided to the District and DFG for comment.

7. Cal-Am shall evaluate the feasibility of bypassing early storm runoff at Los Padres and San Clemente Dams to recharge the subterranean stream below San Clemente Dam in order to restore surface water flows in the river at an earlier date. The results of the study and recommendations shall be provided to the District and DFG for comment.
8. Cal-Am shall conduct a study of the feasibility, benefits, and costs of modifying critical stream reaches to facilitate the passage of fish. The study shall be designed and carried out in consultation with DFG and the District. The results of the study and recommendations shall be provided to the District and DFG for comment.
9. The studies required by conditions 6, 7, and 8 shall be carried out by persons with appropriate professional qualifications. The studies required by condition 7 shall be completed and submitted to the Chief, Division of Water Rights, within 5 months from the date of this order. The Chief, Division of Water Rights may extend the time for performing the study required by condition 8 upon making a finding that adequate flows were not available to perform the study. The studies required by conditions 6 and 8 shall be completed and submitted to the Chief, Division of Water Rights, within 12 months from the date of this order. The Chief, Division of Water Rights may extend the time for performing the study required by condition 8 upon making a finding that adequate flows were not available to perform the study. The report (or reports) transmitting the results of the study (or studies) shall describe the action (or actions) which Cal-Am will undertake to correct the problems addressed by the studies. Cal-Am shall provide a written response to any comments received on the study. If no action (or actions) will be taken to correct the underlying problem (or problems),

Cal-Am's report shall provide written justification why corrective action is not appropriate. Based upon the results of the studies, recommendations, comments by the District and DFG, and Cal-Am responses, the Chief, Division of Water Rights, shall determine what actions shall be taken by Cal-Am consistent with this Order and establish reasonable times for implementation.

10. Cal-Am shall remove the large rock immediately below the spillway of the Los Padres Dam which results in substantial loss of juvenile steelhead or implement some other reliable measure (or measures) to assure safe passage for fish over or around the rock. Prior to removing the rock Cal-Am shall consult with DFG and obtain any streambed alteration permit required by Fish and Game Code Section 1601. If Cal-Am leaves the rock in place, it shall consult with DFG when evaluating what other measures can be used to assure safe fish passage. Cal-Am shall comply with this measure within 4 months.
  
11. Cal-Am shall be responsible for implementing all measures in the "Mitigation Program for the District's Water Allocation Program Environmental Impact Report" not implemented by the District after June 30, 1996.<sup>25</sup> Not later than August 30, 1996, Cal-Am shall submit a report to the Chief, Division of Water Rights, identifying mitigation measures which the District does not continue to implement after June 30, 1996. At the same time, Cal-Am shall submit a plan for the approval of the Chief, Division of Water Rights, detailing how it will implement mitigation measures not implemented by the District. The Chief, Division of Water Rights, may excuse Cal-Am from implementing specific mitigation measures only upon making a finding that Cal-Am has demonstrated that it does not have

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<sup>25</sup> On November 5, 1990 the District adopted a mitigation program to be carried out for five years. The plan is summarized in Section 6.2, *infra*. There is no assurance the District will continue with any or all of the elements of its mitigation program after November of 1995. (MPWMD:289, Vol. III, Appendix 2-D.)



14. The Chief, Division of Water Rights, is authorized to refer any violation of these conditions to the Attorney General for action under Section 1052 or to initiate such other enforcement action as may be appropriate under the Water Code.

**CERTIFICATION**

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on July 6, 1995.

AYE: John P. Caffrey  
Mary Jane Forster  
Marc Del Piero  
James M. Stubchaer  
John W. Brown

NO: None

ABSENT: None

ABSTAIN: None

  
Maureen Marché  
Administrative Assistant to the Board



STATE OF CALIFORNIA  
STATE WATER RESOURCES CONTROL BOARD

**ORDER WR 2009-0060**

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In the Matter of the Unauthorized Diversion and Use of Water  
by the California American Water Company

Parties

**Water Rights Prosecution Team<sup>1</sup>  
California American Water Company**

Interested Parties

**Monterey Peninsula Water Management District, City of Carmel by the Sea,  
City of Seaside, Seaside Basin Watermaster, Pebble Beach Company,  
Monterey County Hospitality Association, City of Monterey, City of Sand City,  
Division of Ratepayers Advocates of the California Public Utilities Commission,  
Public Trust Alliance, Carmel River Steelhead Association,  
Ventana Chapter of the Sierra Club, California Sportfishing Protection Alliance,  
Planning and Conservation League, California Salmon and Steelhead Association,  
National Marine Fisheries Service**

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SOURCE: Carmel River

COUNTY: Monterey

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**CEASE AND DESIST ORDER**

BY THE BOARD:

**INTRODUCTION**

The California American Water Company (Cal-Am or CAW) diverts water from the Carmel River in Monterey County. The water is used to supply the residential, municipal, and commercial needs of the Monterey Peninsula area (peninsula) communities. In 1995 the State Water

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<sup>1</sup> The Water Rights Prosecution Team includes: (1) James Kassel, Assistant Deputy Director for Water Rights, (2) John O'Hagan, Manager, Water Rights Enforcement Section (3) Mark Stretars, Senior Water Resource Control Engineer, (4) John Collins, Environmental Scientist and (5) Staff Counsels Reed Sato, Yvonne West and Mayumi Okamoto. In addition, for purposes of complying with *ex parte* prohibitions, Kathy Mrowka, Senior Water Resource Control Engineer, is also treated as a member of the Prosecution Team.

Resources Control Board (State Water Board) adopted Order WR 95-10 ([WR 95-10](#)). Among other matters, the order found that Cal-Am was diverting about 10,730 acre feet per annum (afa) of water from the Carmel River without a valid basis of right and directed that Cal-Am should diligently implement actions to terminate its unlawful diversion. Alleging that 13 years after the adoption of Order 95-10 Cal-Am continues to divert about 7,150 afa from the river without a valid basis of right, the Prosecution Team (Prosecution Team or PT) seeks issuance of a cease and desist order under Water Code section 1831, subdivision (d). Cal-Am requested a hearing. This order (1) finds that Cal-Am: (a) failed to comply with the requirements of Order 95-10, and (b) is in violation of Water Code section 1052; and (2) issues a cease and desist order (CDO).

The State Water Board finds as follows:

## **1.0 LEGAL REQUIREMENTS FOR ISSUING A CEASE AND DESIST ORDER**

The State Water Board may issue a cease and desist order as provided in Water Code section 1831. Section 1831 provides in part:

- a) When the board determines that any person is violating, or threatening to violate, any requirement described in subdivision (d), the board may issue an order to that person to cease and desist from that violation.
- b) The cease and desist order shall require that person to comply forthwith or in accordance with a time schedule set by the board.
- c) The board may issue a cease and desist order only after notice and an opportunity for a hearing pursuant to Section 1834.
- d) The board may issue a cease and desist order in response to a violation or threatened violation of any of the following:
  - (1) The prohibition set forth in Section 1052 against the unauthorized diversions and use of water.<sup>2</sup>
  - (2) Any term or condition of a permit, license, certification, or registration issued under this division.
  - (3) Any decision or order of the board issued under this part.

Section 1832 provides:

Cease and desist orders of the board shall be effective upon issuance thereof. The board may, after notice and opportunity for hearing, upon its own motion or upon receipt of an application from an aggrieved person, modify, revoke, or stay in whole or in part an cease and desist order issued pursuant to this chapter.

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<sup>2</sup> Water Code section 1052, subsection (a) provides “[t]he diversion or use of water subject to this division other than as authorized in this division is a trespass.”

## **2.0 NOTICE OF PROPOSED CEASE AND DESIST ORDER**

On January 15, 2008, the Assistant Deputy Director for Water Rights<sup>3</sup> issued a notice of proposed cease and desist order (draft cease and desist order or draft CDO) to Cal-Am. (SWRCB-7.) Among other matters, the draft CDO alleges that:

- 1) In 1995 the Board adopted Order 95-10. The order required Cal-Am to “diligently implement” measures to terminate its illegal diversions from the river (pp. 2 and 3, Facts 5 and 9).
- 2) Cal-Am has failed to comply with Condition 2 of Order 95-10. Condition 2, requires Cal-Am to terminate its unauthorized diversions from the river (p. 5, Finding 3).
- 3) Since 1995 Cal-Am has illegally diverted at least 7,164 afa from the river (p. 5, Finding 1).
- 4) Cal-Am’s diversions continue to have adverse effects on the public trust resources of the river and should be reduced (p. 5, Finding 2).
- 5) The ongoing diversion is a violation of Water Code Section 1052 prohibiting the unauthorized diversion or use of water (p. 5, Finding 1).

The draft CDO seeks to compel Cal-Am to reduce the unauthorized diversions by specified amounts each year, starting in water year 2008-09 and continuing through water year 2014. For example, in 2008-09 Cal-Am would be required to reduce its unauthorized diversions by 15 percent; another 15 percent reduction would be required in water year 2009-2010, etc. (Staff Exhibit 7.)

## **3.0 REQUEST FOR HEARING**

On February 4, 2008, Cal-Am requested a hearing. (CAW-8, p. 2, ¶ 4.) Cal-Am’s request for hearing states, in part, that:

- 1) the terms and conditions of Order 95-10 are being met (id., p.2, ¶ 1);
- 2) the water diverted from the Carmel River is necessary to protect public health and safety (ibid.);
- 3) the schedule of reduction conflicts with the requirements of the California Public Utilities Commission (ibid.); and
- 4) the schedule for reducing diversions is not supported by the recitals in the draft cease and desist order and is unworkable (ibid.).

## **4.0 NOTICE OF HEARING**

On March 5, 2008, the State Water Board issued a notice of hearing for this proceeding. (CAW-10.) The notice stated that the purpose of the hearing is to receive evidence to

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<sup>3</sup> The Assistant Deputy Director for Water Rights who issued the draft is James W. Kassel.

determine whether to adopt the draft CDO issued to Cal-Am. (*Id.*, p. 5, Purpose of Hearing.)

The key issue noticed for hearing is as follows:

Should the State Water Board adopt the draft CDO? If the draft should be adopted, should any modifications be made to the measures in the draft order? What is the basis for each modification?

(*Id.*, p. 6, Key Issue.)

#### **4.1 Persons Intervening in the Proceeding**

The notice also provided that persons wishing to participate in the proceeding must file a Notice of Intent to Appear. In addition to the Prosecution Team and Cal-Am, the following persons filed Notices of Intent to Appear and participated in the hearing:<sup>4</sup>

Planning and Conservation League  
Public Trust Alliance  
Carmel River Steelhead Association  
Sierra Club, Ventana Chapter  
California Sportfishing Protection Alliance  
National Marine Fisheries Service  
California Salmon and Steelhead Association  
Monterey Peninsula Water Management District  
Seaside Basin Watermaster  
Division of Ratepayers Advocates, California Public Utilities Commission  
City of Monterey  
City of Seaside  
City of Sand City  
City of Carmel-by-the-Sea  
Monterey County Hospitality Association  
Pebble Beach Company

#### **5.0 BACKGROUND**

##### **5.1 The Carmel River and Cal-Am Facilities on the River**

The Carmel River is a central coast stream that flows into Carmel Bay about five miles south of the City of Monterey. The river drains a watershed area of about 255 square miles. Cal-Am owns and operates the San Clemente Dam, the Los Padres Dam and 21 downstream wells that divert water from the underflow of the river. (See Figure 1, Carmel River Watershed and Figures 2 and 3, Alluvial Groundwater Basin Showing The Location of the California American

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<sup>4</sup> Intervention by the Defenders of Wildlife and Mr. George T. Riley was denied. (May 13, 2008, Rulings on Procedural Issues, p. 4-5, Standing of Persons Filing Notices of Intent to Appear.)

Water Company Wells.) During 1994, the wells supplied “. . . about 69 percent of the water needs of Cal-Am’s customers. The balance of the water supplied to Cal-Am customers is supplied from: (1) San Clemente Dam and Los Padres reservoirs in the upper reaches of the Carmel River and (2) pumped ground water in the City of Seaside.”<sup>5</sup> (Order 95-10, pp. 2-6.)

## 5.2 Cal-Am’s Rights to Divert and Use Water from the Carmel River

Order 95-10, section 4.3 (pp. 24, 25) found that Cal-Am has the following rights to divert and use water from the river:

- 1) A pre-1914 appropriative right for 1,137 afa.
- 2) Riparian rights for use within the Carmel Valley on parcels which adjoin the surface watercourse or which overlie water flowing in the subterranean channel. These rights cannot be used to serve water outside the valley or non-riparian parcels within the valley. The order recognized 60 afa of use.
- 3) An appropriative right to divert up to 3,030 afa of water to storage in Los Padres Reservoir from October 1 to May 31 pursuant to the conditions in License 11866. The actual diversion is limited to 2,179 afa due to siltation at Los Padres Reservoir.
- 4) Order 95-10 further found that Cal-Am was diverting about 10,730 afa without a valid basis of right (p. 36, ¶2).

The foregoing findings are binding on Cal-Am.<sup>6</sup>

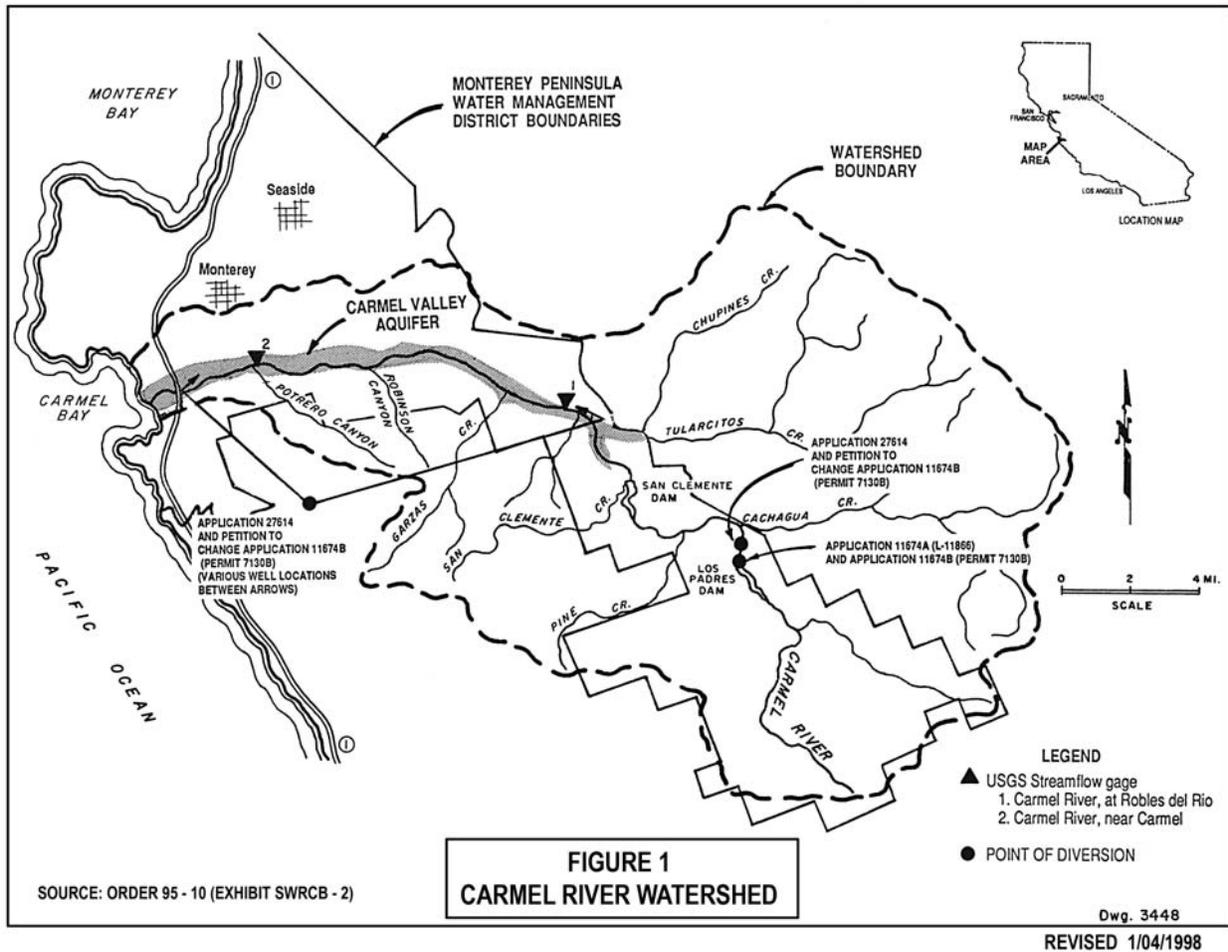
On November 30, 2007, both the Monterey Peninsula Water Management District (MPWMD) and Cal-Am jointly obtained an additional right to divert water from the river. The State Water Board issued Permit 20808A authorizing the diversion of 2,426 afa water from the river to underground storage in the Seaside Groundwater Basin from December 1 of each year to May 31 of the succeeding year at a maximum instantaneous rate of diversion of 6.7 cubic feet per second (cfs). Thus, Cal-Am’s current legal rights to water in the river that may be used to

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<sup>5</sup> The relative quantity of water delivered from the wells to Cal-Am customers has not materially changed because Cal-Am has failed to develop any meaningful new source of supply. (See 14.0 Cal-Am Has Not Complied with Condition 2 of Order 95-10, *infra*.)

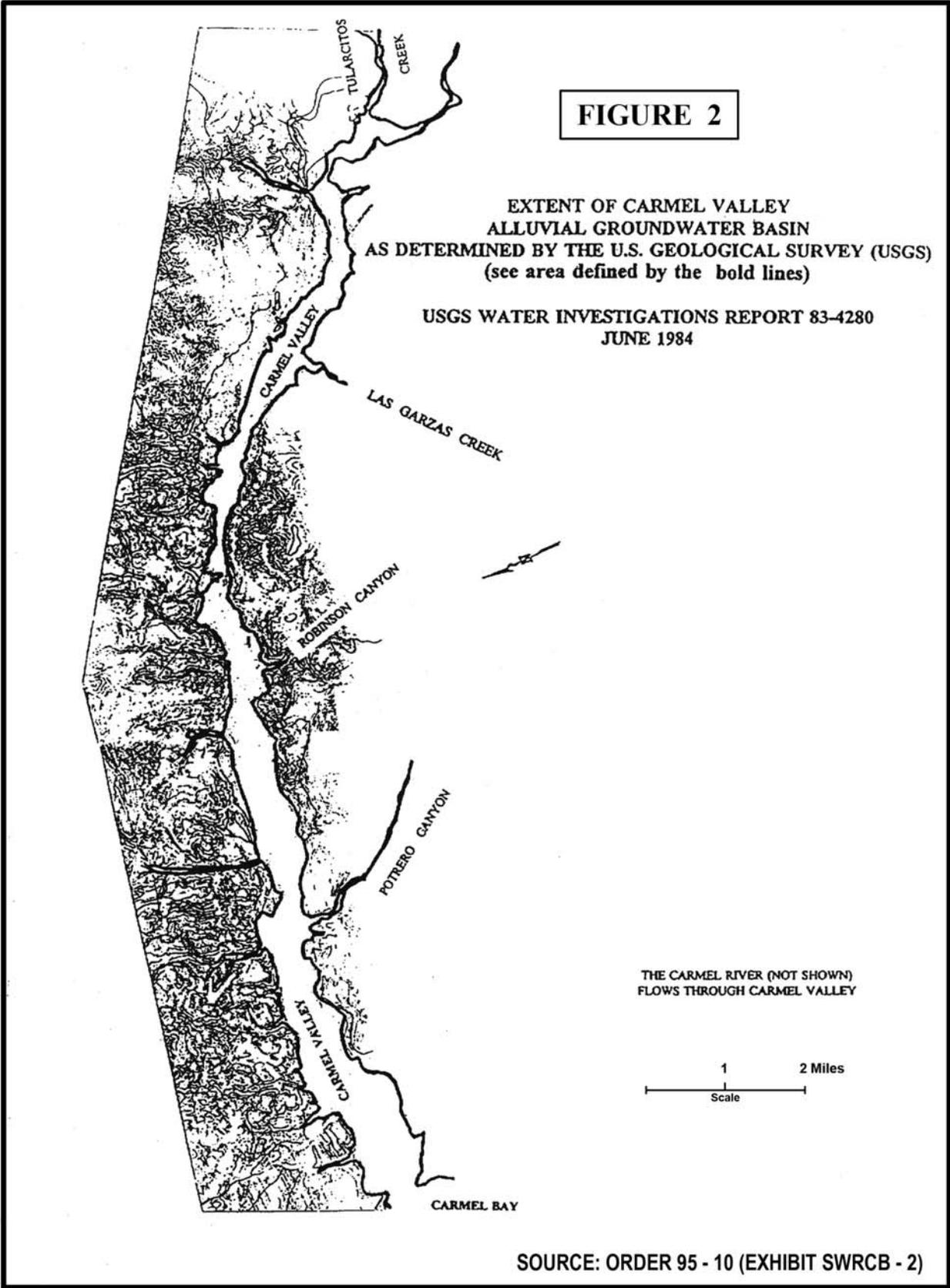
<sup>6</sup> See Wat. Code, § 1126, subd. (d); see also *People v. Simms* (1982) 32 Cal.3d 468, 477 [principles of *res judicata* and collateral estoppel apply to administrative decision in appropriate circumstances]; *Pacific Lumber Co. v. State Water Resources Control Bd.* (2006) 37 Cal.4<sup>th</sup> 921, 944 [discussing the characteristics of administrative proceedings that may be the basis for collateral estoppel]. These findings are also binding on the Monterey Peninsula Water Management District, Pebble Beach Water Company, Carmel River Steelhead Association, Residents Water Committee, Ventana Chapter of the Sierra Club, the California Department of Parks and Recreation, Willis Evans, John Williams, and the California Department of Fish and Game. (Order 95-10, p.7, 2.0 Complaints; p. 9, 2.6 Interested Persons.)

supply peninsula cities is the 3,316 afa recognized in Order 95-10<sup>7</sup> plus 2,426 afa under Permit 20808A<sup>8</sup> for a total of 5,742 afa.



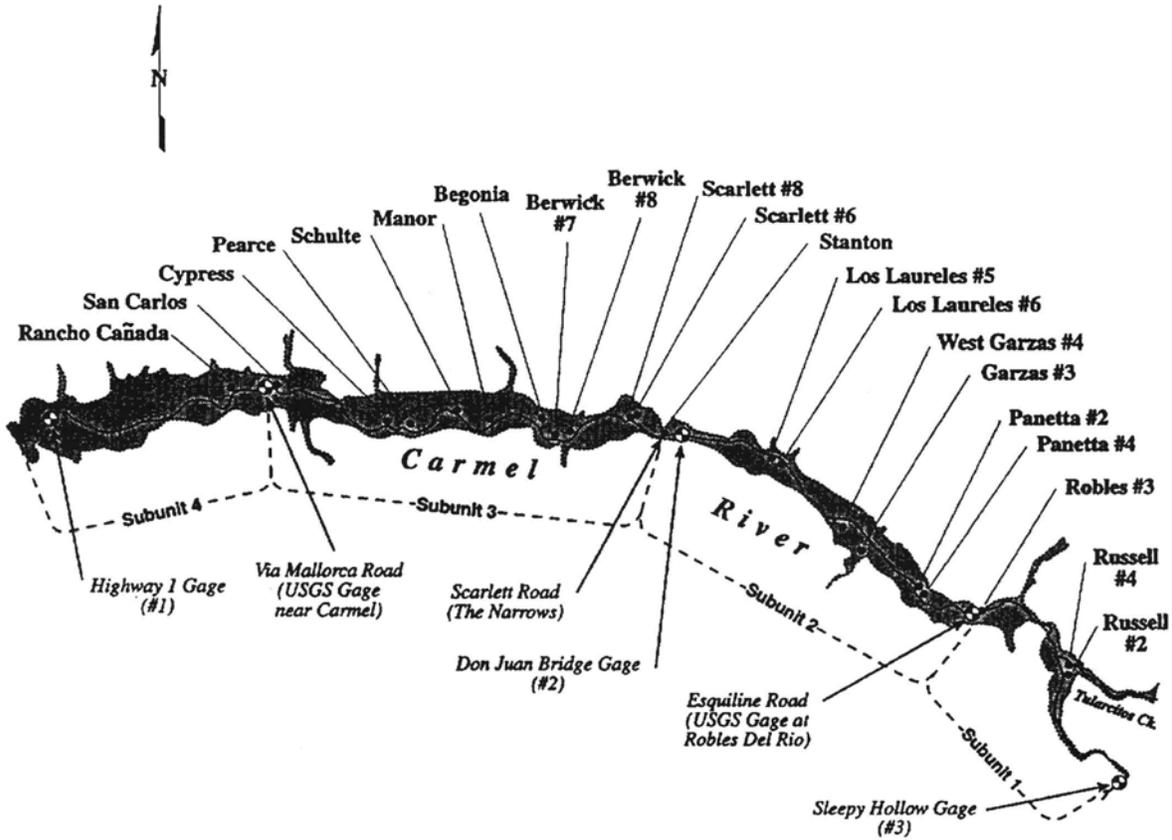
<sup>7</sup> 851 afa is subtracted from this number to adjust for storage loss due to siltation at Los Padres Reservoir.

<sup>8</sup> As will be discussed, *infra*, the actual amount of additional water supply that may be generated by this project is uncertain, but certainly much less than the face value of the permit.



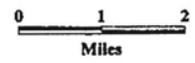
**FIGURE 3**

**ALLUVIAL GROUNDWATER BASIN SHOWING THE LOCATION OF THE CALIFORNIA-AMERICAN WATER COMPANY WELLS**



**LEGEND**

- Water Well
- ⊗ Gaging Station
- ▨ Alluvium
- - - Basin Subunit\*

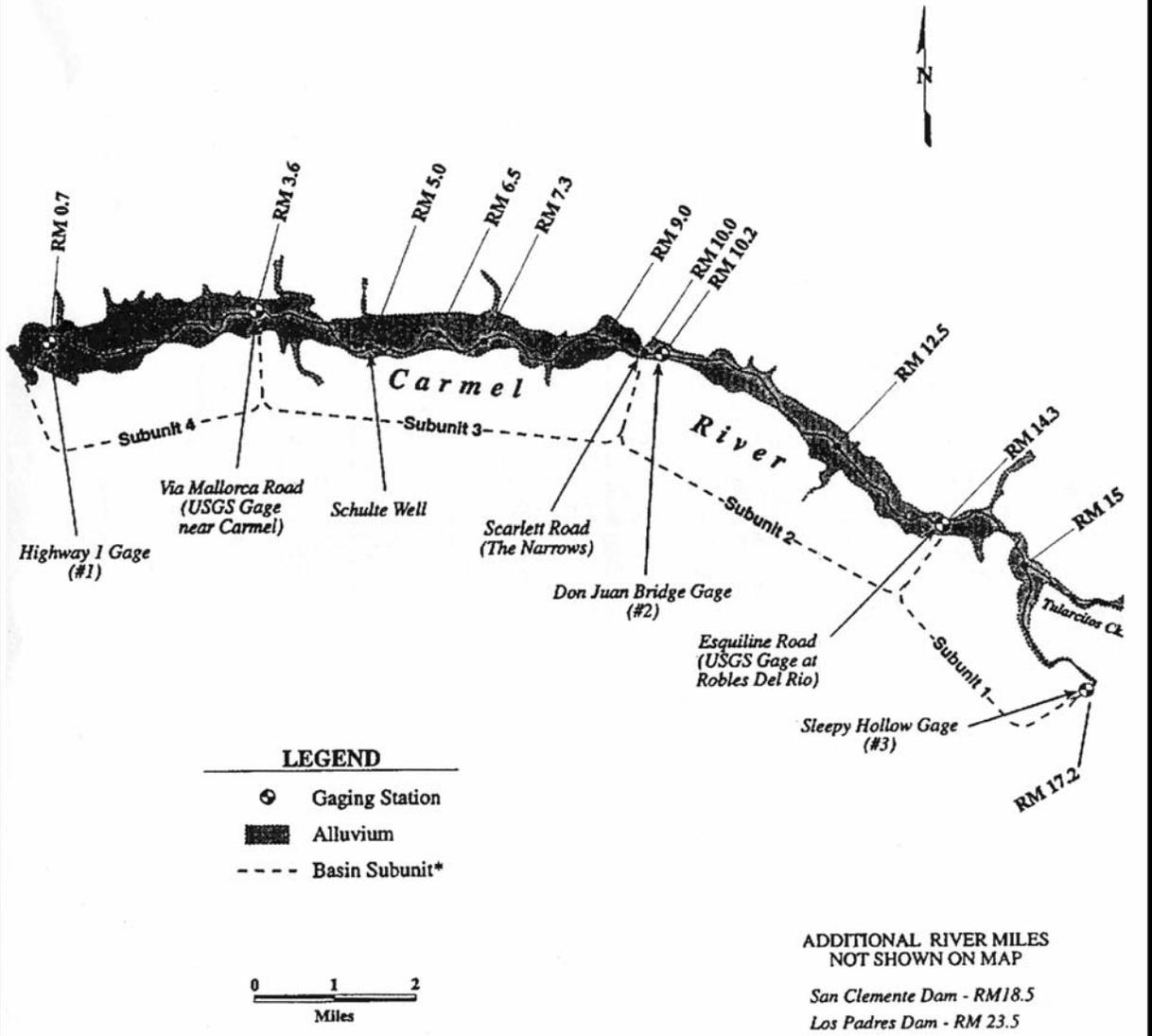


SOURCE: ORDER 95 - 10 (EXHIBIT SWRCB - 2)

\* Subunits 1-4 form the Carmel Valley Groundwater Basin. The subunit boundaries are: 1. Via Mallorca Road (USGS Gage Near Carmel), 2. Scarlett Road (The Narrows), 3. Esquiline Road (USGS Gage at Robles Del Rio), 4. Sleepy Hollow Gage. Streamgaging will occur at the Highway 1 Gage (#1), Don Juan Bridge Gage (#2), and Sleepy Hollow Gage (#3).

**FIGURE 4**

**ALLUVIAL GROUNDWATER BASIN  
IDENTIFYING RIVER MILES (RM)**



**SOURCE: ORDER 95 - 10 (EXHIBIT SWRCB - 2)**

\* Subunits 1-4 form the Carmel Valley Groundwater Basin. The subunit boundaries are: 1. Via Mallorca Road (USGS Gage Near Carmel), 2. Scarlett Road (The Narrows), 3. Esquiline Road (USGS Gage at Robles Del Rio), 4. Sleepy Hollow Gage. Streamgaging will occur at the Highway 1 Gage (#1), Don Juan Bridge Gage (#2), and Sleepy Hollow Gage (#3).

### **5.3 Effects of Cal-Am's Diversions on the Carmel River in 1995**

Order 95-10, section 5.0 (pp 25-29) found that fish and wildlife were being adversely affected by Cal-Am's legal and illegal diversions. Section 5.5 states:

To summarize, Cal-Am diversions have historically had an adverse effect on:  
(1) the riparian corridor along the river below RM<sup>9</sup> 18.5; (2) wildlife that depend on riparian habitat; and (3) steelhead and other fish which inhabit the river.

Cal-Am's combined diversions from the river have the largest single impact on instream beneficial uses of the river, although diversions by other water users also contribute to the adverse effects on fish and wildlife. (Order 95-10, 5.0 Effect of Cal-Am Diversion on Instream Beneficial Uses, p. 25.)

### **5.4 Conditions Imposed on Cal-Am by Order 95-10**

The following conditions in Order 95-10 are particularly pertinent to this proceeding:

1. Cal-Am shall forthwith cease and desist from diverting any water in excess of 14,106 afa from the Carmel River, until unlawful diversions from the Carmel River are ended.
2. Cal-Am shall diligently implement one or more of the following actions to terminate its unlawful diversions from the Carmel River: (1) obtain appropriative right permits for water being unlawfully diverted from the Carmel River; (2) obtain water from other sources of supply and make one-for-one reductions in unlawful diversions from the Carmel River, provided that water pumped from the Seaside Aquifer shall be governed by condition 4 of this Order not this condition; and/or (3) contract with another agency having appropriative rights to divert and use water from the Carmel River.
3. (a) Cal-Am shall develop and implement an urban water conservation plan. In addition, Cal-Am shall develop and implement a water conservation plan based upon best irrigation practices for all parcels with turf and crops of more than one-half acre receiving Carmel River water deliveries from Cal-Am. Documentation that best irrigation practices and urban water conservation measures have already been implemented may be substituted for plans when applicable.  
(b) Urban and irrigation conservation measures shall remain in effect until Cal-Am ceases unlawful diversions from the Carmel River. Conservation measures required by this Order in combination with conservation measures required by the District shall have a goal of achieving 15 percent conservation in the 1996 water year and 20 percent conservation in each subsequent year.<sup>10</sup> To the extent that this requirement conflicts with prior commitments (allocations) by the District, the Chief, Division of Water Rights shall have the authority to modify the conservation requirement. The base for measuring

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<sup>9</sup> "RM" means river mile. See Figures 3 and 4.

<sup>10</sup> Footnote 23 of the Order provides that "[e]ach water year runs from October 1 to September 30 of the following year."

water conservation shall be 14,106 afa. Water Conservation measures required by the order shall not supersede any more stringent water conservation requirements imposed by other agencies.

Litigation followed the adoption of Order 95-10.<sup>11</sup> The parties negotiated changes to some of the conditions in Order 95-10. Accordingly, on February 19, 1998, the State Water Board adopted [Order WR 98-04](#), replacing Condition 4 of Order 95-10 with the following:

4. Cal-Am shall maximize production from the Seaside Aquifer for the purpose of serving existing connections, honoring existing commitments (allocations), and to reduce diversions from the Carmel River to the greatest extent practicable during periods of low flow. Cal-Am shall minimize diversions from the Seaside Aquifer whenever flow in the Carmel River exceeds 40 cfs at the Highway One Bridge from November 1 to April 30. The long-term yield of the basin shall be maintained by using the practical rate of withdrawal method.

## **5.5 Decision 1632**

The State Water Board adopted [Decision 1632](#) and Order 95-10 on the same day, July 6, 1995. Decision 1632 approved Application 27614 by MPWMD and the issuance of a permit to appropriate water from the Carmel River via the New Los Padres Project.<sup>12</sup> Up to 42 cfs of water could be taken by direct diversion, and up to 24,000 afa could be diverted to storage. The decision included numerous conditions to mitigate (1) the effects of the proposed project on the fish and wildlife in the river and (2) the effects of existing diversions from the river. Condition 11, specifically prohibited the MPWMD from diverting water pursuant to Decision 1632 unless Cal-Am had obtained an alternate supply of water for its illegal diversion from the river. Condition 11 recognizes that a contract between Cal-Am and MPWMD could be one means by which Cal-Am could obtain a legal supply of water. This means of providing a legal water supply for Cal-Am did not become available, however, because in 1995 the voters of MPWMD rejected the bond issue proposed to finance the project. (CAW, Exb. 32, pp. 2, 5-7.)

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<sup>11</sup> MPWMD, CAW, the Sierra Club, the Carmel River Steelhead Association and the California Sportfishing Protection Alliance filed petitions for writs of mandate in Monterey County Superior Court (*Monterey Peninsula Water Management District, et al. v. State Water Resources Control Board* (Monterey County Superior Court No. M 33519), *Monterey Peninsula Water Management District, California-American Water Company v. State Water Resources Control Board* (Monterey County Superior Court No. M 33520), and *Sierra Club, Inc. et al. v. State Water Resources Control Board* (Monterey County Superior Court No. 105610) against the State Water Board, challenging certain provisions in Decision 1632 and Order 95-10.

<sup>12</sup> See Figure 1.

## **5.6 Administrative Civil Liability Issued to Cal-Am**

Condition 3(b) of Order 95-10 (p. 40) required Cal-Am to develop and implement an urban water conservation plan to conserve 15 percent during the 1996 water year and 20 percent during each succeeding water year. Cal-Am failed to conserve 20 percent during 1997 and on October 20, 1997, Administrative Civil Liability Complaint No. 262.10-03 (ACL) was issued to Cal-Am. (PT-4.) The ACL proposed the imposition of civil liability on Cal-Am in the amount of \$168,000 for its failure to conserve water as required by Condition 3(b) and for the continuing unauthorized diversion of water from the river. This ACL Complaint was superseded on August 19, 1998, by ACL Complaint No. 262.5-6. (PT-5.) Both ACL complaints allege that Cal-Am's ongoing diversions from the river are unauthorized and illegal. (PT-4, ¶¶ 1, 3-6; PT-5, ¶¶ 1, 3-6.)

The initial ACL complaint was superseded in response to a Cal-Am settlement proposal. Cal-Am proposed that, in lieu of paying the civil liability, it would join in a number of transactions and undertakings with the Pebble Beach Community Services District (PBCSD) that would increase the amount of potable water conserved within PBCSD by approximately 400 to 500 afa. Cal-Am's proposal took effect pursuant to ACL Complaint No. 262.5-6, which states that the increased conservation would help to reduce damage to and to restore the public trust resources of the river. (PT- 5, ¶ 10.) The proposed civil liability was suspended pending compliance with the measures Cal-Am was to undertake with the PBCSD. The final order also required Cal-Am to reduce its illegal diversions from the river by 15 percent.

## **5.7 Cal-Am is an Investor-Owned Public Utility**

Cal-Am is an investor-owned public utility holding a Certificate of Public Convenience and Necessity from the California Public Utilities Commission (PUC). Cal-Am must obtain approval from the PUC to: (a) charge higher rates; (b) recover expenses which are appropriate and prudently incurred; and (c) provide a fair return on Cal-Am's invested capital. (Exb. CAW-029, p. 2, 4-10.)

## **6.0 OFFICIAL NOTICE**

As a preliminary matter, we will address papers requesting that official notice be taken of the official acts of other agencies. The State Water Board may take official notice of such acts as may be judicially noticed by the courts of this state. (Cal. Code of Regs., tit. 23, § 648.2.) The courts may take official notice of the “[o]fficial acts of the legislative, executive, and judicial departments of the United States and of any state of the United States.” (Evid. Code, § 452, subd. (c).) Factual statements contained in officially noticed papers are subject to the rules against hearsay. Neither the parties nor the State Water Board may rely upon statements of fact in officially noticed papers to bypass normal evidentiary rules.

### **6.1 Request for Official Notice by the Sierra Club**

On November 10, 2008, the Sierra Club filed papers requesting that official notice be taken of five actions of the National Marine Fisheries Service (NMFS). (November 10, 2008, Sierra Club, Request for Official Actions of National Marine Fisheries Service etc.) The actions are:

- 1) The August 18, 1997 listing of the steelhead population within the California Central Coast as threatened under the Endangered Species Act<sup>13</sup> (ESA). (62 Fed.Reg. 43937.)
- 2) The January 5, 2006 listing reaffirming the threatened status of the steelhead population within the California Central Coast under the Endangered Species Act. (71 Fed.Reg. 834, 859.)
- 3) The September 2, 2005 listing of the Carmel River as critical habitat for the steelhead. (70 Fed.Reg. 52488.)
- 4) The July 10, 2000 promulgation of a section 4(d) rule under the ESA defining exceptions to the “takings” prohibitions of the act. (65 Fed.Reg. 42422.)
- 5) The December 30, 1997 proposed rule under section 4(d) of the ESA pertaining to “takings” of West Coast Steelhead. (64 Fed.Reg. 73479 at 73483.)

The State Water Board will take official notice of the requested actions. Some of the foregoing actions have been codified at 50 Code of Federal Regulations at sections 223.102 and 223.203. Official notice is also taken of these provisions.

### **6.2 Notices of Potentially Relevant Information by Sierra Club**

On March 25, 2009, the Sierra Club filed a Notice of Potentially Relevant Information. The notice referenced and attached a report prepared by the MPWMD staff for the March 26, 2009

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<sup>13</sup> 16 U.S.C. § 1531, et seq.

board meeting of MPWMD. Entitled “Carmel River Fishery Report for February 2009,” the report consists of three pages of summarizing information addressing (1) aquatic habitat and flow conditions in the Carmel River, (2) the breaching of the sand bar for the Carmel River Lagoon by Monterey County Public Works, (3) the adult steelhead count at the San Clemente Dam for the early months of 2009 (See Figure 1), (4) the adult steelhead count at Los Padres Dam for the same period, and (5) a report of fish released from the Sleepy Hollow Steelhead Rearing Facility on February 20, 2009. While not expressly requesting that official notice be taken of the MPWMD staff report, the Sierra Club expresses the view that official notice may be taken of the staff report. Thereafter, on April 10, 2009, counsel for Cal-Am filed a paper entitled “Partial Opposition to Sierra Club Notice of Potentially Relevant Information.” Cal-Am objects to official notice being taken of the staff report on the basis that the report is not an official act of an agency.

On May 21, 2009, the Sierra Club filed a second Notice of Potentially Relevant Information. The notice referenced and attached a report prepared by the MPWMD staff for the May 21, 2009, board meeting of MPWMD. Entitled “Carmel River Fishery Report for April 2009,” the report consists of three pages updating the information addressed in the previous report. Counsel for the Sierra Club contends, without supporting papers, that the staff report was prepared in the regular course of business by MPWMD employees. The State Water Board declines to take official notice of the reports offered by the Sierra Club. In our view, the nature of the information is such that Cal-Am should have the opportunity to fully test the offer of such information and to rebut the information before it is admitted into the record. In addition, it is late in this proceeding to attempt to augment the record in a material way. Further, reopening the evidentiary record would substantially delay reaching a decision on the evidentiary record that ended on August 8, 2008.

Finally, on July 16, 2009, the Sierra Club filed a Notice of Potentially Relevant Information. The notice identifies four items that are relevant to some of the issues in this proceeding. These documents are:

1. PUC Decision 09-07-023, dated July 9, 2009, which among other matters, provides that outdoor watering may be restricted, adopts a rationale for rationing the use of water for outdoor irrigation and authorizes the use of flow restrictors on water meters for the repeated waste of water. Appended to the PUC decision are:

- (a) Settlement Agreement between the Division of Ratepayers/Advocates, MPWMD and Cal-Am on Water Conservation and Rationing.
  - (b) Rule 14.1, Water Conservation and Rationing Plan, for MPWMD, as amended and effective on February 11, 2009.
2. PUC Decision 09-02-009, dated February 20, 2009, which among other matters provides that Cal-Am may provide confidential customer water use information to MPWMD.

Official notice is taken of these papers.

### **6.3 Request for Official Notice by Cal-Am**

On February 3, 2009, Cal-Am filed a request for official notice. Cal-Am requests that the State Water Board take official notice of the draft Environmental Impact Report (EIR) for the Coastal Water Project published by the California PUC on January 30, 2009. Official notice is taken of the publication of the draft EIR.

### **6.4 Request by the Public Trust Alliance**

On February 11, 2009, the Public Trust Alliance (PTA) filed a request for official notice. PTA requests that the State Water Board take official notice of the recent opinion of the California Supreme Court (Opinion No. S155589), *Morongo Band of Mission Indians v. State Water Resources Control Board* (2009) 45 Cal.4th 731. The State Water Board takes official notice of the opinion.<sup>14</sup>

### **6.5 Request by the National Marine Fisheries Service**

On August 26, 2009, NMFS filed written comments on the draft cease and desist order released by the State Water Board on July 27, 2009. Among other matters, the comments note that findings made in “Section 17.4 Mitigation Measures to be Implemented Pursuant to Settlement” of the draft CDO are based upon a 2006 agreement that is no longer in effect and that a new agreement, dated March 3, 2009, between the National Oceanic and Atmospheric Administration (NOAA), the California Department of Fish and Game (DFG) and Cal-Am is now

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<sup>14</sup> A request for official notice or other notification is not required for the State Water Board to consider decisional law of the courts of this state. (See Evid. Code, §§ 451, 455.)

the controlling agreement. The State Water Board will treat the letter as a request that official notice be taken of the 2009 agreement and official notice is taken of the agreement.

## **7.0 EVIDENCE PERTAINING TO PUBLIC TRUST RESOURCES**

The May 13, 2008 Ruling on Procedural Issues provided that “consideration would be given to the public trust within the context of the enforcement proceeding. . .”<sup>15</sup> (Evidence Pertaining to Public Trust Resources Within an Enforcement Proceeding, p. 4, § 4.0.)

Based upon the Notices of Intent<sup>16</sup> filed by some intervening parties, it appeared that these parties would seek to have the State Water Board apply the public trust doctrine to Cal-Am’s legal diversions in addition to the unauthorized diversions subject to the notice of hearing. Cal-Am filed a motion seeking to exclude such testimony from this proceeding. (CAW, Prehearing Brief on Procedural Matters, III. Scope of Hearing, pp. 8-15.) The May 13, 2008, Rulings on Procedural Issues provided that any attempt to apply the public trust doctrine to Cal-Am’s legal diversions was outside the scope of the issues noticed for this proceeding. Further, the Hearing Officers declined to initiate an ancillary proceeding to consider whether to apply the public trust doctrine to Cal-Am’s legal diversions. (*Ibid.*)

## **8.0 HEARING HELD**

On April 1, 2008, the State Water Board held a public hearing in Monterey to receive public policy statements from anyone concerned with the draft CDO issued to Cal-Am. Seven days of evidentiary proceedings were held in Sacramento on June 19 and 20; July 23, 24, and 25; and August 7 and 8, 2008.

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<sup>15</sup> “The extent of harm to the public trust may be relevant to determining how long the schedule should be for achieving compliance. A cease and desist order may also include measures to avoid or mitigate adverse effects on public trust uses during a period of continuing violations before full compliance is achieved. Where the parties propose different remedies, public trust impacts will also be relevant to the . . . choice of remedies.” (*Ibid.*)

<sup>16</sup> Persons seeking to intervene in a State Water Board proceeding must file a Notice of Intent. The Notice of Intent requires the filer to indicate the name of proposed witnesses and the subject of proposed testimony.

## 9.0 CAL-AM HAS BEEN PROVIDED A FAIR HEARING

Alleging the State Water Board has failed to provide due process protection, Cal-Am requests that this action be dismissed. (October 9, 2008 Closing Brief, p. 25, 8-17; also see CAW April 23, 2008, Motion to Ensure Due Process.) In its April 23, 2008 Motion to Ensure Due Process, Cal-Am states the State Water Board must afford Cal-Am its constitutional due process protections and alleges, that “[t]he structure of the proceeding gives rise to concerns that such protections do not exist in this proceeding.” Cal-Am has not alleged that those participating in the proceeding are or may be biased; rather, Cal-Am seeks a hearing that contains no appearance of bias. In Cal-Am’s view, the specific matters giving rise to an appearance of bias include the involvement of the following persons in this proceeding: (1) Mr. James W. Kassel, Assistant Deputy Director for Water Rights; (2) Ms. Kathy Mrowka, Senior Engineer in the Compliance Unit of the Division of Water Rights; and (3) Mr. M. G. (Buck) Taylor, Senior Staff Counsel assisting the Hearing Officers in this proceeding. Cal-Am made no allegation of improper bias on the part of either Hearing Officer.

During the conduct of administrative proceedings, the adjudicative function must be separated from the investigative, prosecutorial, and advocacy functions within an agency. (Gov. Code, § 11425.10, subd. (a)(4).) Cal-Am’s appearance of bias claims arise out of the fact that some of the personnel in this proceeding have had responsibilities in other proceedings or other State Water Board activities that are claimed to be inconsistent with their roles in this proceeding. More specifically, Mr. Kassel, who is part of the Prosecution Team in this proceeding, has general managerial responsibilities over personnel who include staff assisting the Hearing Officers in this proceeding. In addition, Ms. Mrowka, a witness called by the Prosecution Team in this proceeding, assisted the Hearing Officers and the State Water Board at the time Order 95-10 was adopted, and has reviewed and drafted responses to quarterly compliance reports filed by Cal-Am since the adoption of Order 95-10.

Cal-Am’s fair hearing argument relies on the view that an appearance of bias, without evidence of actual bias, is sufficient to deny due process. In *Morongo Band of Mission Indians v. State*

*Water Resources Control Bd* (2009) 45 Cal.4th 731, the California Supreme Court rejected that view.<sup>17</sup> The court concluded:

In construing the constitutional due process right to an impartial tribunal, we take a more practical and less pessimistic view of human nature in general and of state administrative agency adjudicators in particular. In the absence of financial or other personal interest, and when rules mandating an agency's internal separation of functions and prohibiting *ex parte* communications are observed, the presumption of impartiality can be overcome only by specific evidence demonstrating actual bias or a particular combination of circumstances creating an unacceptable risk of bias. Unless such evidence is produced, we remain confident that state administrative agency adjudicators will evaluate factual and legal arguments on their merits, applying the law to the evidence in the record to reach fair and reasonable decisions.

(*Id.* at p. 741.)

Both separation of functions and *ex parte* prohibitions were in effect throughout this proceeding.

The March 5, 2008 Notice of Hearing included the following:

#### Hearing Officer and Hearing Team

State Water Board Members Arthur G. Baggett, Jr., and Gary Wolff will preside as hearing officers over this proceeding. Other members of the State Water Resources Control Board may be present during the pre-hearing conference, the meeting to receive public policy statements, and the hearing. State Water Board staff hearing team members will include Staff Counsel Buck Taylor, Engineering Geologist Paul Murphey, Water Resources Control Engineer Ernest Mona and Environmental Specialist Jane Farwell. The hearing staff will assist the hearing officers and other members of the [State Water Board] throughout this proceeding.

A staff prosecutorial team will be a party in this hearing. State Water Board prosecutorial team members will include Yvonne West, Staff Counsel, and Reed Sato, Director of the Office of Enforcement. Other members of the Prosecution Team from the Division of Water rights include Jim Kassel, Assistant Deputy Director for Water Rights, John O'Hagan, Supervising Water Resource Control Engineer, Mark Stretars, Senior Water Resource Control Engineer, and John Collins, Staff Environmental Scientist.

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<sup>17</sup> Cal-Am's appearance of bias test was supported by only one published opinion. (*Quintero v. City of Santa Ana* (2003) 114 Cal.App.4th 810, 817 (*Quintero*)). In addition, Cal-Am inappropriately cited the Court of Appeal's opinion in *Morongo Band of Mission Indians v. State Water Resources Control Board*, even though California Supreme Court had granted review. (See Cal. Rules of Court, rule 8.1105, subd. (d)(1) [when the California Supreme Court grants review, the Court of Appeal's opinion is no longer considered published; see also *id.*, rule 8.1115 [unpublished opinions should not be cited or relied on].) In *Morongo Band of Mission Indians v. State Water Resources Control Board*, the California Supreme Court disapproved of *Quintero* to the extent that it is inconsistent with the Supreme Court's decision. (45 Cal.4th 731, 740.)

The Prosecution Team is separated from the hearing team, and is prohibited from having *ex parte* communications with the hearing officers, other members of the State Water Board and members of the hearing team regarding substantive issues and controversial procedural issued within the scope of this proceeding.<sup>18</sup>

In addition, on May 13, 2008, various procedural rulings were made addressing Cal-Am's *ex parte* concerns. The rulings enlarged and made more explicit the prohibition against *ex parte* contacts within the State Water Board as follows:

Cal-Am's motion may be understood as a request for clarification as to the role of the Board personnel who were copied on the email and of other personnel. Those persons are: Michael Lauffer, Andy Sawyer, Larry Lindsay, Les Grober, Vicky Whitney, Tom Howard, and Dorothy Rice. These persons and Chief Deputy Director Jonathan Bishop are not involved in the day-to-day work of this proceeding but as part of management will be kept advised of the work of this proceeding. Some of these persons also exercise authority over the work of members of the hearing team in this proceeding. As a matter of practice in this and other water right proceedings, the State Water Board applies the same *ex parte* rules to supervisors and managers who are substantially involved in an advisory function, either through their supervision on the work of the hearing team members in the proceeding or through advice to Board members in the proceeding, as apply to hearing team members. These supervisory and management personnel do not accept *ex parte* communications from the Prosecution Team or the parties.

(April 13, 2008, Rulings on Procedural Issues Involving Considerations of a Cease and Desist Order Against California American Water (Cal Am) for Unauthorized Diversion of Water from the Carmel River in Monterey County.)<sup>19</sup>

The separation of investigatory and prosecutorial and adjudicatory functions is facilitated by the manner in which the Division of Water Rights is organized. The Division is divided into three major sections: the Permitting Section, the Hearings and Special Programs Section and the Enforcement Section. The first point at which all three sections share common management is

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<sup>18</sup> In addition to the foregoing, the hearing notice included an attachment entitled "Information Concerning Appearance at the Water Rights Hearing." The attachment provided the following guidance re *ex parte* contacts:

7. *Ex Parte* Contacts: During the pendency of this proceeding, commencing no later than the issuance of the Notice of Hearing, there shall be no *ex parte* communications between either the State Water Board members or State Water Board hearing staff and any of the other participants, including the members of the prosecution team, regarding substantive issues with the scope of this proceeding. (Gov. Code, §§ 11430.10-11430.80.) Communications regarding non-controversial procedural matters are permissible and should be directed to the State Water Board staff attorney on the hearing team, not State Water Board members. (Gov. Code § 11430.20.) A document regarding *ex parte* communications entitled "*Ex Parte* Questions and Answers" is available upon request or from our website at: <http://www.waterboards.ca.gov/docs/exparte.pdf>.

<sup>19</sup> This discussions goes on to state that the hearing notice will be updated to make clear the role of supervisors and managers in this proceeding. The May 13, 2008 rulings on procedural issues were sent to all of the parties, but no subsequent hearing notice was issued regarding the *ex parte* issue.

at the level of the Assistant Deputy Director for Water Rights (Assistant Deputy Director), Mr. Kassel's position. (RT, Ph. 2, Vol.1, pp. 222, 17 - 223, 25.)

### **9.1 Mr. Kassel's Involvement in this Proceeding has not Violated Cal-Am's Due Process Rights**

Mr. Kassel issued the draft CDO to Cal-Am. As the Assistant Deputy Director, he has managerial responsibilities over all the functions within the Division of Water Rights, including the Hearings and Special Programs Section and the Enforcement Section. However, his role as a manager over the Hearings and Special Programs Section is circumscribed once a notice of proposed cease and desist order is issued. That is, he is prohibited by *ex parte* rules from communicating with the hearing staff, the Hearing Officers and all the State Water Board members in regard to this matter. (CAW-10, p. 3, ¶ 4.)

Mr. Kassel testified during this proceeding at the request of counsel for Cal-Am. In response to questions from Cal-Am's counsel, Mr. Kassel testified to the following: (1) he approved the issuance of the draft CDO; (2) the draft CDO was prepared under his direction and the direction of Mr. O'Hagan; (3) before sending the draft CDO to Mr. Turner at Cal-Am, he discussed the draft order with Mr. O'Hagan and his counsel; (4) in accordance with his delegation of authority from the State Water Board (the delegation requires him to inform his superiors of controversial issues), copies of the draft CDO were provided to his supervisor (Ms. Whitney) and her supervisor (Mr. Howard); (5) following issuance of the draft order, he discussed the order with a number of persons outside of the State Water Board and the State Water Board's public affairs officer; (6) since issuance of the draft CDO order, Mr. Kassel has not spoken to anyone employed by the State Water Board about this matter other than members of the Prosecution Team and Enforcement Section; (7) his supervisor, Ms. Whitney, is responsible for supervising the Hearings and Special Programs Section with regard to an enforcement proceeding; and, finally, (8) that only he is responsible for the management and supervision of the Enforcement Section with regard to an enforcement proceeding. (RT, Ph. 2, Vol. 1, p. 216,13 – p. 231,25.)

Mr. Kassel's testimony shows that he and the management of the Division of Water Rights have separate duties and responsibilities with regard to the (a) adjudicative and (b) investigative, prosecutorial and advocacy function in enforcement proceedings and that the separated duties and responsibilities are consistent with the *ex parte* prohibitions set forth in the March 5, 2008 Notice of Hearing and with the separation of functions required by the due process requirements of the Administrative Procedures Act. (See Gov. Code, §§ 11425.10, subd. (a)(4), 11425.30.)

We conclude that Mr. Kassel's involvement in this matter has not violated Cal-Am's due process.

## **9.2 Ms. Mrowka's Involvement in this Proceeding has not Violated Cal-Am's Due Process Rights**

Ms. Mrowka is a Senior State Water Board Engineer. She was a member of the hearing team that assisted the State Water Board when Order 95-10 was adopted in 1995. (PT-2, p.2, Order 95-10 and Decision 1632, ¶ 1.) Among other matters, Condition 13 of the Order 95-10 required Cal-Am to file quarterly compliance reports. Ms. Mrowka reviewed the reports and drafted correspondence to Cal-Am for the Division. (PT-2, p. 6, *Compliance With the Order.*) Cal-Am did not introduce testimony or other evidence nor does the record contain testimony or other evidence demonstrating that Ms. Mrowka's evaluations of Cal-Am's quarterly compliance reports were prepared as part of an investigation leading to the issuance of the draft CDO.

For some years, Ms. Mrowka has served within the Permitting Section of the Division of Water Rights. (PT-1; RT, Ph. 1, Vol. 1 p. 31, 21 – p. 32, 6.) No one in the Enforcement Section has any managerial or supervisory responsibility over the Permitting Section. (*Id.*, p. 23, 8-18.) Finally, no one within the Division of Water Rights consulted with Ms. Mrowka before issuance of the draft CDO. (*Id.*, p. 91, 24 – p. 92, 4.)

Ms. Mrowka's direct testimony consists of a series of statements summarizing: (1) her professional background; (2) a description of the Carmel River watershed; (3) the background and history leading up to Order 95-10; (4) the contents of Order 95-10 and changes to the order; (5) her views on the intent of Order 95-10, as amended; and (5) Cal-Am's compliance, or lack thereof, with the requirements of Order 95-10. With minor exceptions, her testimony is no more than a summary of information found in the State Water Board's public records. The staff of the Enforcement Office discussed the draft CDO with Ms. Mrowka only after she was asked if she would appear as a witness. (*Id.*, p. 94, 5-25.) Ms. Mrowka was asked to be a witness shortly before the Notices of Intent to appear were due, that is after the draft CDO was already issued.<sup>20</sup> (*Id.*, p. 95, 1-4.) Ms. Mrowka, did not discuss her testimony or opinions on the draft CDO with any member of the hearing team. (*Id.*, p. 23, 15-19.)

Prior to this proceeding, Ms. Mrowka: (1) had not previously met or worked with Hearing Officer Wolff or any other member of the State Water Board as part of a hearing team other than

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<sup>20</sup> The March 5, 2008, Notice of Hearing required the Notices of Intent to be filed by March 14, 2008.

Hearing Officer Mr. Baggett; and (2) had not worked with Mr. Baggett as part of a hearing team since 2004. (*Id.*, p. 20, 23-25.)

Ms. Mrowka's testimony shows she did not participate in an investigation leading to the issuance of the draft CDO for this proceeding, nor has she participated in the advocacy or prosecution of this case other than as a witness. Further, she has not assisted the State Water Board in its adjudicative functions for four years. Accordingly, we conclude that Ms. Mrowka's participation as a witness in this proceeding has not violated the requirement that the State Water Board must separate its (a) adjudicatory function from its (b) investigative, prosecutorial and advocacy functions and that her involvement in this proceeding has not violated Cal-Am's due process.

### **9.3 Other Due Process Concerns**

Cal-Am contends that its due process rights were violated when Cal-Am's compliance with Order 95-10 was discussed during a meeting with State Water Board staff and Mr. Turner, the President of Cal-Am, because both Ms. Mrowka and Mr. Taylor were present. (October 9, 2008, Closing Brief, p. 25, 14; RT, Ph. 1, Vol. 1, p. 92, 16 -19; RT, Ph. 1, Vol. 2, p. 455, 19 – p. 456, 23.) The meeting occurred on December 13, 2007, before the draft CDO was issued. (RT, Ph. 1, Vol. 1, p. 92, 16-19.) The draft CDO was issued on January 15, 2008. Cal-Am alleges that this meeting reflects an improper mixing of advisory and prosecutorial roles and the action should be dismissed. (October 9, 2008, Closing Brief, p. 25, 15-17.)

Cal-Am points to nothing in the transcripts or exhibits, nor have we found anything in the record, that shows that Mr. Taylor was involved in the investigation, prosecution or advocacy functions of this proceeding. Further, Cal-Am has not pointed to anything in the record showing that Ms. Mrowka was involved in the investigation leading up to the issuance of the draft CDO. Indeed, her testimony shows quite the opposite. Ms. Mrowka was not identified as a member of the Prosecution Team in the Notice of Hearing and only became involved in this proceeding when asked if she would testify as a witness. (See 9.2 above, Ms. Mrowka's Involvement in this Proceeding Does Not Violate Due Process, ¶ 3.) We conclude that Cal-Am's due process concerns with regard to Ms. Mrowka's and Mr. Taylor's participation in a meeting with Cal-Am are not supported by the record in this proceeding.

#### **9.4 The State Water Board Complied with *Ex Parte* Prohibitions**

In its April 23, 2008 Motion to Ensure Due Process, Cal-Am also made claims that certain communications among staff were *ex parte* communications and that the composition of the Prosecution Team creates an appearance of bias. These communications include:

(1) Mr. Kassel sending copies of the notice of proposed CDO sent to Cal-Am to Thomas Howard, State Water Board Chief Deputy Director, to Victoria Whitney, Deputy Director for Water Rights, and to Andy Sawyer, Assistant Chief Counsel; and (2) Mr. Larry Lindsay sending copies of an email sent to the parties to various members of State Water Board management. Cal-Am also contends that listing Mr. Kassel as a member of the Prosecution Team creates an appearance of bias. We find that our Hearing Officers' April 13, 2008 responses to these concerns are appropriate and, by reference, affirm and adopt those responses in this order. (April 13, 2008, Rulings on Procedural Issues Involving Considerations of a Cease and Desist Order Against California American Water (Cal-Am) for Unauthorized Diversion of Water from the Carmel River in Monterey County.)

#### **9.5 Cal-Am's Request for Dismissal Denied**

Cal-Am's request that this proceeding be dismissed for lack of due process is unsupported by either the law or the record in this proceeding. More specifically, the record demonstrates there has been no improper mixing of the: (a) adjudicatory and (b) investigatory, prosecutorial and advocacy functions of the State Water Board. We conclude that Cal-Am has been provided a fair hearing and that its request for dismissal should be denied.

#### **10.0 ORDER WR 95-10 DOES NOT AUTHORIZE CAL-AM TO DIVERT WATER FROM THE RIVER IN EXCESS OF ITS WATER RIGHTS**

The notice of proposed CDO alleged two bases for issuing a CDO: (1) violation of condition 2 of Order 95-10; and (2) unlawful diversion of water in violation of Water Code section 1052. (Draft CDO at p. 5, Staff Exhibit 7.) Cal-Am contends that a CDO may be issued only on the first basis, that is, for a violation of Order 95-10. Further, Cal-Am contends that Order 95-10 authorizes Cal-Am to divert water from the Carmel River (even though Cal-Am does not hold water rights for those diversions) and that a CDO may not be issued for a violation of Water Code section 1052.

Cal-Am contends that Order 95-10 required the imposition of a physical solution and authorized Cal-Am to continue its diversions from the river in exchange for the performance of mitigation measures. (April 23, 2008, CAW Opposition to Pre-Hearing Briefs, p. 5, 10 – 6, 15; Cal-Am's October 9, 2008 Closing Brief, B. The State Water Board Can Issue a CDO Against Cal-Am Only If The Board Finds Cal-Am is Threatening To Violate Or has Violated Condition 2 Of Order 95-10, p. 5, 13 - 7, 9.) Cal-Am states "Order 95-10 is a unique, interim physical solution, which provides CAW with a non-traditional authorization to extract water in excess of its water rights." (Oct. 9, 2008 Closing Brief, p.4, 22-p.5, 1.)

The concept of a physical solution is a judicial development following the adoption of article X, section 2 of California's Constitution in 1928. Article X, section 2 provides, in part:

The right to water or to the use of flow of water in or from a natural stream or water course in this state is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable method of use or unreasonable method of diversion of water.

The judiciary, and the State Water Board in appropriate circumstances, may impose a physical solution, providing a practical remedy that avoids waste or unreasonable use and is consistent with the water rights of the parties. (*City of Barstow v. Mojave Water Agency* (2000) 23 Cal.4th 1224, 1249.) This is an equitable remedy developed by the courts to comply with article X, section 2. (*Ibid.*) The doctrine is used to develop solutions that maximize the beneficial use that can be obtained from a limited supply of water among competing claimants who have valid water rights. (See [State Water Board Order WR 2004-0004](#) at p. 15.) The courts have never used the physical solution doctrine to authorize the diversion and use of water in the absence of a legal right to divert and use water. (See *People v. Shirokow* (1980) 26 Cal.3d 301, 309 ["The rights not subject to the statutory appropriation procedures are narrowly circumscribed . . . and include only riparian rights and [pre-1914 rights]."]; *id.* at pp. 308-309 [water right permitting requirements are in furtherance of article X, section 2 of the California Constitution; Wat. Code, § 1025 [same]; cf. *City of Barstow v. Mojave Water Agency* (2000) 23 Cal.4th 1224, 1243 [A physical solution must protect water right priorities to the extent those priorities do not lead to unreasonable use].)

The State Water Board has no power to authorize the diversion and use of water except in compliance with the Water Code. Section 1225 of the Water Code provides that "[n]o right to

appropriate or use water subject to appropriation shall be initiated or acquired except in compliance with the provisions of this division.” Persons seeking authorization to appropriate water must file an application with the State Water Board.<sup>21</sup> (Cal. Code Regs. tit. 23, § 650.)

Even assuming that the State Water Board has the authority to authorize the appropriation of water as a physical solution – without following the statutory procedures for approving a new appropriation – nothing in Order 95-10 suggests that the State Water Board intended to do so.

Cal-Am cites language indicating that the State Water Board issued Order 95-10 instead of referring the matter to the Attorney General for enforcement, but that language merely indicates that the board was using its prosecutorial discretion, not that the board believed it was conferring a water right.

In conclusion, we find that the conditions in Order 95-10 requiring Cal-Am to mitigate the adverse effects of its unlawful diversions do not authorize Cal-Am to divert water from the river in excess of its water rights. Accordingly, the State Water Board may issue a CDO for the unauthorized diversion of water in violation of Water Code section 1052, even if the State Water Board concludes that Cal-Am is in compliance with Order 95-10.

#### **11.0 ORDER 95-10 REQUIRES CAL-AM TO DILIGENTLY IMPLEMENT ACTIONS TO TERMINATE ITS UNLAWFUL DIVERSIONS**

Condition 2 of Order 95-10 (p. 40.) states:

2. Cal-Am *shall diligently implement* one or more of the following *actions to terminate its unlawful diversions* from the Carmel River: (1) obtain appropriative right permits for water being unlawfully diverted from the Carmel River, (2) obtain water from other sources of supply and make one-for-one reductions in unlawful diversions from the Carmel River . . . and/or (3) contract with another agency having appropriative rights to divert and use water from the Carmel River. (Italics added.)

Notwithstanding the plain meaning of Condition 2, Cal-Am has taken the position that Condition 2 of Order 95-10 merely requires it to *pursue* actions to obtain supplemental water supplies.

(CAW-8, p.2, ¶1.) By the use of such semantics, Cal-Am seeks to convert the requirement to

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<sup>21</sup> Cal-Am has an application (A30215) to appropriate water from the Carmel River that might lead to a permit authorizing the diversions and use of water. In the absence of a final environmental impact report (EIR) prepared pursuant to the California Environmental Quality Act (Pub. Resources Code § 21000 et seq.), the State Water Board may not act upon the application. The MPWMD is the lead agency and has not certified a final EIR. (CAW - 032, pp. 2, 7-25.)

implement actions to terminate its unlawful diversions into a requirement that it merely pursue such actions.

Order 95-10 determined Cal-Am's water rights, or lack thereof, and the effect its diversions were having on fish and wildlife. (Order 95-10, pp. 25-29.) The order found that Cal-Am was diverting substantial amounts of water in excess of its rights (*id.* at pp. 17-24) and that its diversions, legal and illegal, were having an adverse effect on fish, wildlife and riparian habitat in and along the river. (*Id.* at pp. 24-29.)

Having found that Cal-Am was diverting water in violation of Water Code section 1052, the State Water Board could have initiated an enforcement action. (Wat. Code, § 1052, subds. (b)-(d).) But the State Water Board found that there were circumstances militating against the use of its enforcement options. The order states in part:

In the short term, Cal-Am cannot significantly reduce its extraction from the wells along the Carmel River. As previously stated, most of Cal-Am's supply is obtained from wells along the river. The people and businesses of the Monterey Peninsula must continue to be served water from the Carmel River in order to protect public health and safety.

Cal-Am introduced exhibits during the hearing which show that during 1980 and 1981, on the basis of available information the [State Water Board] was not of the opinion that the water pumped by the wells would require a permit from the Board. Further, Cal-Am does not contend that the wells are not extracting water from the subterranean stream. Indeed, Cal-Am has filed an application to appropriate water with the [State Water Board].

Cal-Am also supports the New Los Padres Project proposed by the District as one means for providing a reliable and legal supply of water for its customers. Finally, Cal-Am has cooperated with the District, [Department of Fish and Game], and others to develop and implement measures to mitigate the effect of its diversions on the instream resources of the river.

Under circumstances such as these, the imposition of monetary penalties makes little sense. Rather, the [State Water Board's] primary concern should be the adoption of an order which, until a legal supply of water can be developed or obtained, will require that Cal-Am: (1) minimize its diversions from the Carmel river, (2) mitigate the environmental effects of its diversions, and (3) prepare a plan setting forth: (a) specific actions to develop or obtain a legal supply of water and (b) the dates specific actions will have occurred so that progress can be objectively monitored.

(Order 95-10 at pp. 37-38 [citations omitted].)

Finally, the order states:

5. The [State Water Board] can request the Attorney General to take action under Section 1052. Alternatively, the [State Water Board] *can suspend such a referral provided that Cal-Am takes appropriate actions* to: mitigate the effect of its diversions on the environment and develop and diligently pursue a plan for obtaining water from the Carmel River on other sources consistent with California water law. The [State Water Board's] primary concern should be the adoption of an order requiring Cal-Am to (1) prepare a plan setting forth (a) specific actions which will be taken to develop or obtain a legal supply of water and (b) the dates specific actions will have occurred so that progress on the plan can be objectively monitored; (2) minimize its diversions for [*sic*] the Carmel River; and (3) mitigate the environmental effects of its diversions.

(*Id.* at pp. 39-40 [*italics added*].)

Condition 1 of the order places a cap on Cal-Am's diversions from the river until unlawful diversions are ended. Condition 2 requires Cal-Am to diligently implement one or more actions to terminate its unlawful diversion. (*Id.* at p. 40.) Condition 3 requires Cal-Am to implement water conservation measures to reduce its diversions from the river. Condition 4 requires Cal-Am to maximize production from the Seaside aquifer to reduce its diversions from the river. (*Id.* at pp. 40-41.) Conditions 5 through 10 are measures aimed at mitigating the adverse environmental effects of Cal-Am's diversions. (*Id.* at pp. 41-43.)

When the order is viewed in its entirety, we conclude that Condition 2 requires that Cal-Am diligently implement actions to terminate its unlawful diversions. We also conclude that Cal-Am's failure to comply with Condition 2 is adequate reason for the State Water Board to conclude that its suspension of an enforcement action for violations of section 1052 of the Water Code is no longer appropriate.

## **12.0 THE STATE WATER BOARD IS NOT ESTOPPED FROM ISSUING A CEASE AND DESIST ORDER**

Cal-Am contends that the State Water Board is equitably estopped from issuing a cease and desist order pursuant to Water Code section 1052 and that "[t]he Board must allow CAW to continue to extract in excess of its water rights." The contention is based on the *City of Long*

*Beach v. Mansell* (1970) 3 Cal.3d 462, 487-501. Four elements must be present in order to apply equitable estoppel:<sup>22</sup>

- 1) the party to be estopped must be appraised of the facts;
- 2) the party to be estopped must intend that his conduct shall be acted upon, or must so act that the party asserting the estoppel had a right to believe it was so intended;
- 3) the party asserting estoppel must be ignorant of the true state of facts; and
- 4) the party asserting estoppel must rely upon the conduct to his or her injury.

Cal-Am's contention founders on the second, third and fourth elements necessary to prove estoppel. Order 95-10 requires Cal-Am to diligently implement actions to terminate its unlawful diversions. As discussed in the Section 10.0, Order 95-10 does not authorize Cal-Am's unauthorized diversions, and the State Water Board never intended Order 95-10 to be interpreted that way. Cal-Am has been on continuous notice that its unlawful diversions are viewed as a violation of Water Code section 1052 and subject to enforcement since the adoption of Order 95-10.

Cal-Am contends that until it received the notice of proposed CDO that initiated these proceedings, it had not received any communication from the State Water Board indicating that Cal-Am might be in violation of the law. This contention is inconsistent with Order 95-10, which found that Cal-Am was illegally diverting from the Carmel River. However, even if it were true, it would not provide a basis for estoppel. Even where an agency has not taken an enforcement action for over a period of many years, it is not reasonable to assume the law will never be enforced. (*Feduniak v. California Coastal Com'n* (2007) 148 Cal.App.4th 1346, 1369.)

Moreover, the State Water Board made clear in subsequent communications, not just in Order 95-10, that Cal-Am was in violation of Water Code section 1052. In 1997 and 1998 the State Water Board issued an ACL to Cal-Am for failing to comply with Condition 3(b) of Order 95-10. An ACL may be issued for violations of Water Code Section 1052. Both ACL's allege that Cal-Am is in violation of section 1052 and find that such violations are occurring. (PT-4, ¶¶ 1, 3-6; PT- 5, ¶¶ 1, 3-6). The ACL's were issued because Cal-Am failed to implement the conservation measures required by condition 3(b). In addition, on June 5, 1998, the Chief, Division of Water Rights, advised MPWMD that Order 95-10 ". . . is only an interim measure to provide some relief during development of a water supply project and does not provide a basis

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<sup>22</sup> *Lents v. McMahon* (1989) 49 Cal.3d 393, 399. Estoppel may be asserted against the government where justice and right require it, but will not be applied against the government if to do so would effectively nullify a strong rule of policy, adopted for the benefit of the public. (*Ibid.*)

of right for continued diversion of water.” (PT-6, p.3.) Mr. Larry Foy of Cal-Am was sent a copy of the letter. Thus, Cal-Am has been and is on notice that the State Water Board could take action under Water Code section 1052 if it was dissatisfied with Cal-Am’s progress in complying with Order 95-10.

Thus, the second and third elements for estoppel clearly have not been established. The State Water Board clearly did not intend for Cal-Am to believe its diversions were legal, and Cal-Am knew its diversions were illegal. The fourth element, detrimental reliance, has not been established, either. Cal-Am introduced evidence that it has invested in the planning of long-term water supply projects, but offers no explanation as to how it has been harmed by that investment.

Even if the four elements for estoppel have been established, estoppel will not be applied to a public agency if a strong public policy will be violated. (*Phelps v. State Water Resources Control Board* (2007), 157 Cal.App. 4th 89, 114.) In particular “[p]ublic policy must be considered where a party raises estoppel to prevent enforcement of environmental statutes.” (*Ibid.*) In providing authority for the State Water Board to issue CDOs, the Legislature has declared, “that the state should take vigorous action to . . . prevent the unlawful diversion of water.” (Wat. Code, § 1825.) Preventing the State Water Board from issuing a CDO would be inconsistent with this policy. This principle applies with particular force under the circumstances presented here, where Cal-Am’s claim of estoppel is based on a State Water Board decision to forego enforcement in reliance on an order intended to eliminate Cal-Am’s unlawful diversions, but those unlawful diversions have not been eliminated over a decade later.

The proposed CDO does not seek to punish Cal-Am for failure to diligently implement actions to terminate its unlawful diversions. Rather the proposed CDO seeks to bring Cal-Am into compliance by compelling Cal-Am to annually reduce the unauthorized diversions by specified amounts starting in water year 2008 and continuing through water year 2014. (CAW- 7.)

If the State Water Board cannot compel Cal-Am to reduce its unlawful diversions, Cal-Am will have obtained a de facto right to divert the water from the river in violation of the statutory requirements for obtaining appropriative water rights, a result contrary to law and public policy. As this State Water Board explained in Order WR 2004-0004:

[A]fter the enactment of the 1913 Water Commission Act, a water user cannot establish a new water right simply by using water; the water user either must have an existing water right under some theory or must acquire an appropriative right by complying with Division 2 of the Water Code. The exclusive means of obtaining an appropriative right to divert and use water from a surface stream is by complying with the provisions of Division 2 of the Water Code. (Wat. Code, § 1225.) Equitable estoppel is not available. The [State Water Board] cannot give the respondents, through equitable estoppel, a water right that it could not give them in the absence of following the statutorily prescribed procedures. (*American Federation of Labor v. Unemployment Insurance Appeals Board* (1996) 13 Cal.4th 1017, 1039 [56 Cal.Rptr.2d 109,122].)

Also, the California Supreme Court has made it clear that a water user cannot prescriptively acquire a water right against the state. (*People v. Shirokow* (1980) 26 Cal.3d 301 [162 Cal.Rptr. 30].) Based on the *Shirokow* decision, a water user cannot obtain equitable relief such as estoppel against the [State Water Board]'s enforcing the requirement that water users must obtain appropriative water rights under the Water Code if they do not have other water rights.

(*Id.* at p. 14.)

### **13.0 RES JUDICATA AND COLLATERAL ESTOPPEL ARE NOT A BAR TO ISSUING A CEASE AND DESIST ORDER**

Cal-Am contends that the doctrines of *res judicata* and collateral estoppel preclude consideration of the same claims and issues raised by the draft CDO as were decided by Order 95-10.<sup>23</sup> (Oct 9, CAW Closing Brief, 3. The Law Bars a Finding by the State Water Board that CAW has Committed a Trespass if it Complies With Order 95-10, pp 7-10.) *Res judicata* is a doctrine providing that when there is a final judgment on the merits of an issue, the same parties may not relitigate the same issue, giving the former judgment conclusive effect in subsequent litigation. (*People v. Barragan* (2004) 32 Cal.4th 236, 252.)<sup>24</sup> In its primary aspect, known as claim preclusion, it operates to bar a second suit between the same parties on the same cause of action. (*Ibid.*) In its secondary aspect, known as collateral estoppel, the prior judgment operates in a second suit as a conclusive determination as to issues in the second suit that were actually litigated and determined in the first suit. (*Ibid.*) The elements for applying the doctrine are: (1) a claim or issue raised in the present action is identical to a claim or issue

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<sup>23</sup> MPWMD and the Seaside Basin Watermaster (SBW) make the same contention. (Oct. 9, 2008 Brief, p. 2, 18 - p. 4, 7.)

<sup>24</sup> The doctrine of collateral estoppel has been applied to the decisions of administrative agencies. (*People v. Sims* (1982) 32 Cal.3d 468; see also *Pacific Lumber Co. v. State Water Resources Control Bd.* (2006) 37 Cal.4th 921, 944.)

litigated in a prior proceeding; (2) the prior proceeding resulted in a final judgment on the merits; and (3) the party against whom the doctrine is being asserted was a party or in privity with a party to the prior proceeding. (*Ibid.*) The doctrine will not be applied if injustice would result or if the public interest requires that the new action not be foreclosed. (*Citizens for Open Access to Sand and Tide, Inc. v. Seadrift Ass'n* (1998) 60 Cal.App. 4th 1053, 1065; 71 Cal.Rptr. 2d 77.)

Cal-Am contends, correctly, that Order 95-10: (1) determined Cal-Am's rights to the use of water from the Carmel River; and (2) identified the effects of Cal-Am's diversions from the river on fish and wildlife along the lower 18.5 miles of the stream in 1995. (See sections 5.2 and 5.3 of this order.) Cal-Am also contends, correctly, that some of the parties to the first proceeding are also parties to this proceeding. Those parties include Cal-Am, MPWMD, the Pebble Beach Company (PBC), Sierra Club, Carmel River Steelhead Association (CRSA), and the California Sportfishing Protection Alliance (CSPA). While some of the issues presented in this case are identical to those adjudicated in Order 95-10, some of the issues clearly are not identical.

For example, the issues are identical, and findings in Order 95-10 are binding on Cal-Am and other parties to Order 95-10, insofar as the extent of Cal-Am's rights for water diversion and use from the Carmel River are concerned, except where Cal-Am obtained water rights through the State Water Board's issuance of a water right permit after Order 95-10 was issued. On the other hand, issues concerning the appropriate remedy for violations that are occurring or threatening to occur at the time of these proceedings are not necessarily identical to issues concerning the appropriate remedy for violations occurring when Order 95-10 was issued over a decade ago.

In particular, there is no basis for Cal-Am's claim that principles of *res judicata* or collateral estoppel preclude the issuance of a CDO for the unauthorized diversion or use of water in violation of section 1052 of the Water Code. That issue was not considered or decided in Order 95-10. At the time Order 95-10 was issued, the State Water Board did not have authority to issue a CDO for the unauthorized diversion or use of water. (See Stats. 2002, ch. 652, § 6 [amending Wat. Code, § 1831 to authorize issuance of a CDO for the unauthorized diversion or use of water or for violation of a State Water Board order]. See also Stats. 1980, ch. 933, § 13, p. 2968 [under the prior version of Wat. Code, § 1831, a CDO could be issued only for violation of a term or condition of a water right permit or license].) Obviously, the issue of whether a CDO may be issued under current law, based on violations that are occurring or are threatened

currently, presents a different issue from the issue whether a CDO could have been issued in 1995 based on violations then occurring and the law then in effect.

Cal-Am also contends that because its illegal diversions have continued unabated since the adoption of Order 95-10, no new evidence should be allowed as to the effects of its diversions from the river. Prior to the presentation of evidence on May 13, 2008, the Hearing Officers ruled that evidence as to the effects of Cal-Am diversions on the public trust resources would be considered within the context of this enforcement proceeding. Such evidence may be relevant to the State Water Board's consideration of what remedy may be most appropriate in this proceeding:

For example, the extent of harm to the public trust may be relevant to determining how long the schedule should be for achieving compliance. A cease and desist order may also include measures to avoid or mitigate adverse effects on public trust uses during a period of continuing violations before full compliance is achieved. Where the parties propose different remedies, public trust impacts will also be relevant to the . . . choice of remedies.

(May 13, 2008, Ruling On Procedural Issues at p. 4.)

This issue of how impacts on public trust resources should affect the remedy adopted in a CDO is somewhat different from the issue presented in Order 95-10. If Cal-Am's unauthorized diversions are continuing for a longer period than was anticipated in 1995 or those diversions are claimed to have impacts that differ from what those impacts were understood to be in 1995, those are relevant issues for the State Water Board's consideration.

Finally, the following events have occurred since the adoption of Order 95-10, on July 6, 1995:

- 1) The New Los Padres Project was not constructed. Order 95-10 was predicated, in part, upon the anticipated construction of the New Los Padres Project by MPWMD and Cal-Am's ability to use the water developed by that project to substitute a legal supply of water for its illegal diversions. (See Decision 1632, Cond. 11; Order 95-10, Cond. 2 (3).)
- 2) California Central Coast Steelhead has been determined to be a threatened species under the federal rare and endangered species act.
- 3) The Carmel River has been designated as habitat critical to the survival of the steelhead.
- 4) Cal-Am has made no meaningful progress in implementing actions to reduce its unlawful diversions from the Carmel River for 13 years. (See section 14.1 of this order.)

Because a CDO looks forward -- establishing appropriate terms to obtain compliance and to avoid or reduce impacts of threatened or continuing violations, as opposed to imposing penalties for past violations -- the State Water Board can and should consider this kind of evidence. The State Water Board is not limited to the facts as determined in Order 95-10. (See also Wat. Code, § 1832 [After notice and an opportunity for a hearing, the State Water Board may modify a CDO.].)

We conclude that the doctrines of *res judicata* and collateral estoppel are not a bar to the Prosecution Team and other parties introducing evidence as to (1) whether a CDO should be issued, and (2) what modifications, if any, should be made to the remedies proposed in the draft CDO.

#### **14.0 CAL-AM IS COMMITTING VIOLATIONS FOR WHICH A CEASE AND DESIST ORDER MAY BE ISSUED**

##### **14.1 Cal-Am has not Complied with Condition 2 of Order 95-10, and is Violating the Prohibition in Section 1052 of the Water Code Against the Unauthorized Diversion or Use of Water**

As discussed above, the draft CDO alleges two bases for issuing a CDO: (1) Cal-Am is violating Condition 2 of Order 95-10, which requires Cal-Am to diligently implement actions to terminate its unlawful diversions; and (2) Cal-Am is unlawfully diverting water in violation of Water Code section 1052.

The Prosecution Team's case-in-chief that Cal-Am has not complied with Condition 2 may be summarized as follows:

- 1) Cal-Am has the legal right to divert only 3,376 afa from the Carmel River.
- 2) Cal-Am has annually diverted an average of 10,978 afa from the river since Order 95-10 was adopted. (PT Exb. 11A; RT, Ph. 1, Vol. 1, p. 40, 12-14.)
- 3) Cal-Am has diverted an average of 7,632 afa without a basis of right for the past 13 years.<sup>25</sup> (Id., p. 41, 12-14.)
- 4) Thus, Cal-Am has not diligently implemented actions to terminate its unlawful diversions as required by under Condition 2.

The Prosecution Team presented evidence sufficient to support all four contentions. Further, Cal-Am offered no evidence to rebut the first three contentions made by the Prosecution Team.

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<sup>25</sup> Between 1995 and 2007 Cal-Am's unlawful diversions ranged between 9,471 afa and 7,007 afa. Water year 1998/1999 was the year in which unlawful diversions were lowest. (PT Exb. 11A, John Collins written testimony, Table 1.)

Notwithstanding the foregoing, Cal-Am contends that it is in compliance with Condition 2 and that if Cal-Am is in compliance with Condition 2, the State Water Board is precluded from issuing a CDO based on Cal-Am's violation of section 1052 of the Water Code.

Cal-Am advanced the following propositions in support of its contention that the State Water Board is precluded from issuing a CDO if Cal-Am is in compliance with condition 2 of Order 95-10:

- 1) Order 95-10 is an interim physical solution that authorizes Cal-Am to extract water in excess of that permitted under its water rights. (CAW Oct. 9, 2008, Closing Brief, pp. 4-6.)
- 2) Equitable estoppel precludes the issuance of a CDO. (CAW Oct. 9, 2008, Closing Brief, p. 15, 10 – p.17, 5.)
- 3) The doctrines of collateral estoppel and *res judicata* bar a finding by the State Water Board that Cal-Am has committed a trespass if Cal-Am has complied with Order 95-10. (CAW Oct. 9, 2008, Closing Brief, p. 7, 10 – p.10, 9.)

Each of these contentions is addressed and rejected earlier in this order. Thus, Cal-Am is in violation of the prohibition in section 1052 of the Water Code against the unauthorized diversion or use of water, which would establish adequate grounds for issuance of a CDO even if no violation of Order 95-10 had been proven.

We also conclude, as explained in section 14.2, below, that Cal-Am has not complied with Condition 2 of Order 95-10 requiring that Cal-Am diligently implement actions to terminate its unlawful diversions.<sup>26</sup> Violation of Condition 2 of Order 95-10 provides a second basis for issuing a CDO.

#### **14.2 Efforts by Cal-Am to Comply with Condition 2 of Order 95-10**

Cal-Am presented evidence that it has made efforts to comply with the requirements of Condition 2. Initially, Cal-Am looked to MPWMD to construct the New Los Padres Project approved by the State Water Board in Decision 1632 for a legal source of water. Before proceeding with the project, however, MPWMD sought to obtain public approval of the New Los Padres Project and authorization to fund the project. In late 1995, the project approval vote failed. (CAW-029, p.2, 21-25.)

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<sup>26</sup> Cal-Am contends that Condition 2 of Order 95-10 does not require Cal-Am to reduce its unlawful diversions, so long as Cal-Am maintains an effort to acquire alternative water supplies. (CAW Oct 9, 2008 Closing Brief, pp. 10-12.) This argument is addressed and rejected in Section 11.0 above.

In 1996, Cal-Am began pursuing the Carmel River Dam and Reservoir Project. This project has not proceeded for a number of reasons, including but not limited to the following. First, in 1996 the United States Fish and Wildlife Service (USFWS) listed the California Red-legged Frog as a threatened species and in 1997 NMFS listed the steelhead population as a threatened species under the Endangered Species Act. Second, on August 6, 1998, the PUC required that Cal-Am prepare a long term contingency plan describing how the company would obtain a supply of water if the new dam project did not go forward. Third, in 1998 Assembly Bill 1182 was enacted. (Stats. 1988, ch. 797.) The bill requires the PUC, as opposed to Cal-Am, to study all available alternatives to the proposed Carmel River Dam and prepare a long-term contingency plan. (CAW-032, p. 2, 26 - p. 3, 2.) The PUC's planning process involved a four-step process culminating in Plan B in 2002. (CAW-032, p. 3, 7 - p. 4, 11.) In Plan B, the principal alternative to the Carmel River Dam Project is the Coastal Water Project, a proposed 10,370 acre-feet (af) desalinization project.<sup>27</sup> (CAW-029, p. 3, 1-3.) On February 11, 2003, Cal-Am requested the PUC to replace the proposed dam project with the Coastal Water Project. (CAW-032, p. 5, 25-27.) During the hearing, the PUC was preparing an EIR for the Coastal Water Project. On January 30, 2009, the PUC gave notice that a draft EIR was available for public comment for the Coastal Water Project. Project approval awaits a PUC decision on a final EIR and on the Coastal Water Project.

While pursuing the Coastal Water Project, Cal-Am has evaluated, to some degree, smaller project alternatives for obtaining a legal water supply including: (1) the evaluation of 3 million gallons per day (MGD) and 7 MGD desalinization plants; (2) additional groundwater production from the Paralta well in the Seaside groundwater basin (the inland area of the Seaside groundwater basin); (3) injection of treated wastewater at the mouth of the Carmel River and deep bedrock sources; (4) dredging the San Clemente and Los Padres Reservoirs; (5) importing water from the Arroyo Seco, Lower Salinas and Big (or Little) Sur Rivers; (6) purchasing water from the State Water Project and from local Carmel Valley holders of water rights; and (7) surface impoundments in the Seaside/Fort Ord area and Laguna Seca. (CAW-029, p. 4, 13-23.)

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<sup>27</sup> CAW contributed substantial resources to the study of project alternatives required by the PUC (CAW-032, p. 5, 23-25; CAW-032C, p. 3, 2 - p. 6, 19; CAW-032D p. 3, 26 - p. 10, 18.) Subject to PUC approval, CAW can recover the cost for studying project alternatives.

Beyond mere evaluation, Cal-Am has gone forward on several projects, including: (1) gathering information for seeking approval of Cal-Am's water right Application 30215A, an application to appropriate up to 2,964 afa from the Carmel River; (2) negotiations seeking to obtain a temporary water supply from (a) the Margaret Eastwood Trust and Clint Eastwood from the Odello well fields and (b) water rights associated with the Rancho Cañada Golf Course; (3) a negotiated agreement to temporarily obtain water surplus to the needs of Sand City from the desalinization plant being built by the city; and (4) implementation of Phase I of the Aquifer Storage and Recovery project (ASR). (CAW-029, p. 3, 17- p. 4, 5; p. 4, 24 - p. 5,17.) Cal-Am's failure to complete negotiations to obtain a temporary water supply from the Eastwood Trust, Odello well fields and from the Rancho Cañada Golf Course is not explained.

On November 30, 2007, both MPWMD and Cal-Am jointly obtained an additional right to water from the river, Permit 20808A. This permit is a spin-off from the permit authorized in Decision 1632 in 1995 for MPWMD for the development of the New Los Padres. Permit 20808A authorizes the diversion of up to 2,426 afa of water from the Carmel River to underground storage in the Seaside groundwater basin from December 1 of each year to May 31 of the succeeding year at a maximum instantaneous rate of diversion of 6.7 cfs. The project is commonly identified as the Phase I ASR project. Thus, Cal-Am's current legal rights to water in the river that may be used to supply peninsula cities is the 3,316 afa recognized in Order 95-10<sup>28</sup> plus 2,426 afa under Permit 20808A, for a total of 5,742 afa. As will be discussed *infra*, the actual amount of additional water supply that may be generated by this project is uncertain, and certainly much less than the face value of the permit.

We are fully cognizant of the complex legal and institutional framework within which Cal-Am must operate to develop or obtain additional supplies of water. However, we find that nearly 14 years after the adoption of Condition 2 in Order 95-10, Cal-Am has implemented astonishingly few actions to reduce its unlawful diversions from the river. Most of Cal-Am's efforts toward obtaining additional water supplies have been directed toward large projects that could provide enough water both to offset its illegal diversions and to provide water for growth in its service area. We understand why such projects are desirable from the viewpoint of a utility, its customers and the PUC. Nevertheless, Cal-Am's only achievements toward reducing its illegal diversions have been the work done on two projects yielding small amounts of water. Significantly, these projects are in place largely due to the efforts made by other agencies, i.e.,

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<sup>28</sup> 851 afa is subtracted from this number to adjust for storage loss due to siltation at Los Padres Reservoir.

MPWMD and the City of Sand City. But for the efforts of these agencies, Cal-Am would not have made any reductions in its illegal diversions from the river during the past 14 years, except conservation savings compelled by the ACLs issued by the State Water Board in 1997 and 1998. We conclude that Cal-Am should have made and should make greater efforts toward implementing smaller projects, and that Cal-Am should make such efforts irrespective of whether the PUC approves the Coastal Water Project or one of its alternatives.

Condition 2 of Order 95-10 requires Cal-Am to diligently implement measures to terminate its unlawful diversions, and not merely to evaluate, propose, or otherwise pursue lawful alternatives. While Order 95-10 requires Cal-Am to implement these measures diligently, not instantaneously, it has taken far too long, and the reductions in Cal-Am's unlawful diversions to date have been too small to satisfy the requirement for diligence. In reaching this conclusion, we are mindful that (a) the steelhead are threatened, (b) miles of the steelhead's critical habitat, the river, are dry five to six months of the year and (c) the manager of MPWMD estimates that the earliest that Cal-Am will be able to eliminate its illegal pumping from the river with deliveries from the proposed Coastal Water Project is 2016; 21 years after the adoption of Order 95-10. (RT, Ph. 2, Vol. IV, p. 953, 7 – p. 954, 23.)

#### **15.0 CAL-AM'S DIVERSIONS CONTINUE TO HAVE AN ADVERSE EFFECT ON FISH, WILDLIFE AND RIPARIAN HABITAT OF THE CARMEL RIVER, INCLUDING THE THREATENED STEELHEAD**

Order 95-10 found that fish and wildlife were being adversely affected by Cal-Am's legal and illegal diversions. (Order 95-10, pp. 25-29.) The order states:

Cal-Am's diversions, standing alone, are not the sole cause of current conditions in the Carmel River. Other causes include the diversion and use of water by other persons and, significantly, a series of dry and critically dry years during the late 1980s and early 1990s. Nevertheless, Cal-Am's combined diversions from the Carmel River constitute the largest single impact to instream beneficial uses of the river.

(Order 95-10, p. 25.)

Cal-Am is responsible for approximately 85 percent of the total water diversions from the Carmel River and its associated subterranean flow. (PT- 45, p. 1, ¶ 2.)

Wells supply about 69 percent of the water needs of Cal-Am's customers. The balance of the water supplied to Cal-Am customers is supplied from: (1) San Clemente Dam and Los Padres reservoirs in the upper reaches of the Carmel River and (2) pumped groundwater in the City of Seaside.

(Order 95-10, p. 2.)

Order 95-10 concludes

[t]o summarize, Cal-Am diversions have historically had an adverse effect on: (1) the riparian corridor along the river below RM 18.5, (2) wildlife that depend on riparian habitat, and (3) steelhead and other fish which inhabit the river.

(*Id.* at p. 28.)

A fisheries biologist for the National Marine Fisheries Service, Ms. Joyce Ambrosius, testified during the hearing that Cal-Am's diversions result in a number of adverse impacts to steelhead. (RT. Ph. 1, Vol. 1, p. 45, 18-21.) As a result of direct diversions of water by Cal-Am and others, the Carmel River usually goes dry downstream from the Narrows (River Mile 9.5) by July of each year. From July until the winter rains begin, the only water remaining in the lower river is in isolated pools that gradually dry up as the groundwater table declines in response to pumping. Surface flow into the Carmel River Lagoon normally recedes after the rainy season in late spring and ceases in summer as rates of water extraction from the river and alluvial aquifer exceed the flow in the river. (PT-39, p. 4.) This results in the loss of river habitat and food production needed by juvenile steelhead. Steelhead are stranded in pools, and predation increases. (RT. Ph. 1, Vol. 1, p. 65.) Competition for food increases in the areas of the river that remain wetted. (*Id.*, p. 44.) Cal-Am's illegal diversions also reduce the flow to the lagoon, which is very important to ocean survival of steelhead smolts. (*Id.*, p. 44; CRSA-3, p. 7. See also PT-39, p. 4; PT-45, p. 3, ¶ 2 and p. 7, last ¶ - p. 7, ¶ 1.)

Riparian vegetation along the Carmel River has died off due to Cal-Am's diversions, and this has caused bank erosion. To fix the bank erosion, many property owners have installed riprap to protect their property. Riprap is destructive to stream habitat because it decreases the amount of riparian vegetation allowed to grow on the bank. The erosion also increases sedimentation in the river that adversely impacts the fish, and there is a decrease in the availability of large woody debris to the river.<sup>29</sup> (RT, Ph. 2, Vol. 1, p. 45, 1-11; CRSA-3, p. 5.)

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<sup>29</sup> Although not directly stated in the testimony, sedimentation is a problem because it (1) cements the gravel needed for spawning habitat and (2) settles and blankets bottom-dwelling organisms that are part of the food chain. Large woody debris is important because it provides cover for fish and reduces predation.

Since the adoption of Order 95-10, a number of regulations have been enacted for the protection of the South-Central California Coast (SCCC) steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss*). These regulations include:

- 1) The August 18, 1997 listing of the steelhead population within the California Central Coast as threatened under the Endangered Species Act (ESA). (62 Fed.Reg. 43937.)
- 2) The January 5, 2006 listing reaffirming the threatened status of the steelhead population within the California Central Coast under the Endangered Species Act. (71 Fed.Reg. 834, 859.)
- 3) The September 2, 2005 listing of the Carmel River as critical habitat for the steelhead. (70 Fed.Reg. 52488.)

We find that Cal-Am's illegal diversions continue to have an adverse impact on fish, wildlife and the riparian habitat of the Carmel River. The regulations listing the SCCC steelhead as a threatened species and the Carmel River as critical habitat for the steelhead underscore the importance of reducing and terminating Cal-Am's illegal diversions from the Carmel River at the earliest possible date and of adopting conditions to mitigate the effect of the diversions.

## **16.0 PROJECTS AND ACTIONS THAT MAY AFFECT CAL-AM'S NEED TO DIVERT WATER FROM THE CARMEL RIVER**

The following sections discuss projects and actions that may affect Cal-Am's need to divert water from the Carmel River.

### **16.1 Adjudication of the Seaside Groundwater Basin**

Cal-Am produces water from the Seaside groundwater basin to serve customers in its main system. (MPWMD HS-13; RT, Ph. 2, Vol. V, p. 1324, 20 – p. 1325, 8.) Cal-Am gets approximately 25 percent of its supply from the Seaside basin. (RT, Ph. 2, Vol. III, p. 753, 11-12.) Currently, Cal-Am may extract up to 3,504 afa from the basin. However, the basin has been adjudicated.<sup>30</sup> (MPWMD-HS13, RT, Ph. 2, Vol. III, p. 754, 13-16.) The judgment ordered mandatory reductions of the operating yield by 10 percent triennially beginning in 2009 until the operating yield equals the natural safe yield. (SBW-1, p. 2, 17-21.) Each triennial reduction will be implemented unless: (1) the basin is replenished from new water sources or (2) the level of

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<sup>30</sup> A judgment has been entered in the Monterey Superior Court case, *California American Water Company v. City of Seaside et al*, Monterey Superior Court, Case No. M66343, dated March 27, 2006. The judgment adjudicated and limited rights to produce groundwater from the Seaside Groundwater Basin and implemented a physical solution for the management and protection of the basin. (SBW-2, ¶ 2.)

the groundwater is sufficient to prevent seawater intrusion. (*Id.*) The watermaster appointed pursuant to the judgment in the adjudication anticipates that the 10 percent reduction will be ordered every three years, and that this will result in a 417 af reduction in the water available to Cal-Am in 2009, and eventually a reduction of 2,010 afa by 2021. (SBW-1, p. 3, 4-9.) The 417 afa reduction represents about a 2.8 percent reduction in the supply of water available to Cal-Am and its customers.<sup>31</sup> We find that the adjudication will decrease the supply of water available to Cal-Am for its customers. Nevertheless, we conclude that Cal-Am should be prohibited from increasing its diversions from the river to offset the loss in production from the groundwater basin. Water to offset the loss of groundwater production may be found by aggressively implementing: (1) the retrofit program; (2) the program to reduce the use of potable water for outdoor irrigation; and (3) the main replacement program and demand management by programs such as MPWMD's Regulation XV, prohibiting waste and non-essential water use. (MPWMD-SP3.) Such efforts may offset the loss of groundwater production over a period of years.

## **16.2 Aquifer Storage and Recovery Project**

Cal-Am and MPWMD have developed a small supplemental supply of water by diverting water from the river during periods of high flow for storage in the Seaside groundwater basin. Water diverted during periods of high flow is piped to the basin and injected via wells into the groundwater. Water stored in the basin can be subsequently recovered for use. Permit 20808A authorizes the diversion of up to 2,426 afa of water from the river to underground storage in the basin from December 1 of each year to May 31 of the succeeding year at a maximum instantaneous rate of diversion of 6.7 cfs. The average annual quantity of water that may be obtained by the operation of the ASR project is estimated to be 920 af. A witness for MPWMD estimated that 400 af per year will become available in 2009, with the remaining 520 af available in 2010. (MPWMD-HS14B; RT, Ph. 2, Vol. III, p. 814, 11-22, p. 822, 23 – p. 830,10.)

Cal-Am and MPWMD may only divert water from the river when minimum flow requirements in the river are being met. Depending upon the water year type, the quantity that may be diverted to storage can range from zero up to 2,426 af. When no carry-over storage is available from the

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<sup>31</sup> Between 1996 and 2007 Cal-Am diverted approximately 10,967 afa from the Carmel River. (MPWMD- Exhibit DF2.) This includes the legal and illegal diversions occurring within the limit set on diversions by Conditions 1 and 2 of Order 95-10. During 2008 Cal-Am could produce up to 3,504 afa from the Seaside basin. (MPWMD- Exhibit DF5, slide 7, Status of Cal-Am's Compliance with Seaside Basin Adjudication in WY 2008.) These combined sources provide a supply of 14,471 afa to Cal-Am.

previous year and no water may be diverted from the river in the current year, no water will be available from ASR operations. (RT, Ph. 2, Vol. III, p. 816, 16 -21.)

Permit 20808A is derived from and based upon Permit 20808 issued to MPWMD for the construction of the New Los Padres Dam. Permit 20808 was authorized by Decision 1632. Condition 11 of the decision provides: "Permittee shall not divert water under this permit unless and until California American Water Company (Cal-Am) has obtained an alternate supply of water for its illegal diversions from the Carmel River." Accordingly, any new water supply derived from Permits 20808 and 20808A must first be applied to reduce Cal-Am's illegal diversions from the river. We conclude that water developed by the ASR project should be used to reduce illegal diversions from the river. Although the operation of the ASR project under Permit 20808A is outside the scope of this proceeding, the water diverted illegally from the river by Cal-Am is within the scope of the proceeding. Accordingly, we conclude that Cal-Am's illegal diversions from the river should be reduced to the extent that water is available from the ASR project to supply Cal-Am customers.

### **16.3 Sand City Desalinization Project will Reduce Cal-Am's Diversions from the Carmel River**

The City of Sand City is constructing a 300 afa desalinization plant. The plant was scheduled to deliver water to Cal-Am in the first quarter of 2009. (Sand City-1, p. 1, 20-23.) Of the 300 afa, 94 afa will be used to replace water being diverted from the Carmel River by Cal-Am for existing water use within Sand City; thus, once the plant becomes operational the city should no longer receive water illegally diverted from the Carmel River. The balance of the plant's production, 206 afa, is for future growth. Pending the need for the remaining 206 afa, Cal-Am may use the water to meet the needs of its customers. (Sand City 1, p. 3, 16-21.) Thus, using the production from the Sand City desalinization plant, Cal-Am can permanently reduce diversions from the river by 94 afa and, temporarily, by another 206 afa. Assuming the desalinization plant is operated at a constant rate and no production is used for future growth, the plant could reduce diversions from the river by about 0.8 af per day, or about 0.4 cfs.

### **16.4 Reduction of System Losses**

Unaccounted loss is defined as the difference between metered production and metered consumption. (RT, Ph. 2, Vol. IV, pp. 1004-1005.) As a general statement, all large water supply systems have losses between the point where water is diverted and the point where

water is delivered for use; such losses may be referred to as real losses. Cal-Am is no exception. The industry standard for unaccounted losses is 10 percent of total annual production. Cal-Am's losses are about 12 percent. (RT, Ph., 2, Vol. III, p. 746, 4 - 9.)

MPWMD has adopted a regulation requiring Cal-Am to reduce its losses to 7 percent. (MPWMD-SP3, p.1, Rule 160, G.) The prosecution team estimates that 549 afa could be saved if Cal-Am reduced its system losses from 12 percent to 7 percent. (RT, Ph. 2, Vol. 1, p. 53, 24 - p. 54, 4; PT-49, p. 2.) Some unknown fraction of Cal-Am's losses may be due to faulty meter readings. (RT, Ph. 2, Vol. III, p. 811, 1 - p. 812, 1.) The General Manager of MPWMD is of the opinion that water supply mains must be replaced to reduce Cal-Am's real system losses. (RT, Ph. 2, Vol. III, p. 811, 21 – p. 812, 1.) Cal-Am proposes to undertake a 10 to 12 year program to replace its larger mains. However, Cal-Am is seeking PUC approval before commencing work on its main replacement program. (*Id.*, p. 812, 2-7; *id.*, p. 812, 9-17.) No evidence was introduced to substantiate that 10 or more years would be required to reduce system losses to an acceptable level.

Given the chronic shortage of water available for supply within Cal-Am's service area, evidenced by the nearly 14 years of ongoing illegal diversions from the river, about half of the 12 percent system loss may be viewed as preventable "waste or unreasonable use or unreasonable method of diversion" under Water Code section 100. The State Water Board has authority to compel Cal-Am to reduce its system losses. (Cal. Const., art. X, § 2; *Environmental Defense Fund v. East Bay Muni. Dist.* (1980) 26 Cal. 3d 183.) We are of the opinion that Cal-Am can proceed with a main replacement program at any time and that Cal-Am's wish to obtain PUC approval before proceeding with a main replacement program is only to assure that the funds expended for main replacement may be recovered from its customers.<sup>32</sup>

We conclude that Cal-Am should be required to: (a) reduce its system losses by about 549 afa; and (b) immediately commence work to reduce the losses. Further, we are of the opinion that with the application of sufficient resources it should be feasible for Cal-Am to accomplish the

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<sup>32</sup> In general, private businesses acting illegally are not excused from immediately complying with the law in order to make sure they can recoup their costs from their customers.

work of replacing its mains within eight years.<sup>33</sup> Thus, Cal-Am should be required to reduce its diversions from the river by about 68 af per year until it has achieved 549 afa of savings.<sup>34</sup>

## 16.5 Water Conservation

Order 95-10 included a condition requiring Cal-Am to develop and implement an urban water conservation plan. (Condition 3.) The condition required that conservation measures have a goal of achieving a 15 percent reduction in water usage in 1996 and 20 percent in each subsequent water year. Compliance with this condition is not at issue in this hearing. However, ten years have passed since the 20 percent reduction goal was ordered, and consideration should be given to how additional conservation measures may reduce the need to illegally divert water from the river. MPWMD and Cal-Am work together to implement conservation measures in the peninsula cities. (PUC Decision 09-07-023, pp. 1-2; Attachment 1 [Settlement Agreement Among the Division of Ratepayer Advocates, MPWMD and Cal-Am On Water Conservation and Rationing Issues for the Monterey Peninsula; Attachment 2, Rule 14.1 [Water conservation and Rationing Plan, Monterey District'.]) MPWMD has a greater array of regulatory tools. (MPWMD-SP12, p.10, 15 – p.11, 26 and p. 20, 3-5.) Block rate pricing of water also affects the use of water. Cal-Am must obtain approval from the PUC to impose or modify block rates. MPWMD has a retrofit program for toilets, showerheads and faucets. Retrofits are required for all title changes and for use and expansion changes. An estimated 664 afa has been saved since 1987. About two-thirds of the properties within MPWMD have been retrofitted. (MPWMD-SP12, p. 9, 8-16; RT, Ph. 2, Vol., IV, p. 1066, 12 - p. 1068, 11.) In our view, most of the remaining properties will probably be retrofitted within the next eight years, i.e., within 30 years of 1987. Over eight years, as much as 330 afa of water may be saved through continued retrofitting of properties, or roughly 41 af of additional savings per year for eight years.<sup>35</sup> We conclude that water saved by retrofitting properties should be used to reduce Cal-Am's diversions from the river.

Reduction in the use of potable water for outdoor use offers the possibility for additional water savings. (MPWMD-SP12, p. 7, 15 -20.) Outdoor water usage is estimated to be about 500 afa;

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<sup>33</sup> Time can be saved on reducing system losses if Cal-Am does not wait for PUC approval before beginning work.

<sup>34</sup> The State Water Board recognizes that it is unlikely that exactly 68 af will be saved for each year Cal-Am replaces system mains to reduce losses and that during any given year the water saved may be more than or less than 68 af.

<sup>35</sup> The State Water Board recognizes that the actual amount of water saved by the retrofitting program during any given year may be more or less than 41 af.

less than 5 percent of total potable water use. (RT, Ph. 2, Vol. IV, p. 1062, 8-23.) MPWMD recognizes that reductions in outdoor irrigation could save about 100 afa. (MPWMD-SP12, p. 8, 6-9.) Service addresses that use less water are rewarded with a lower block rate. An increasing block rate structure has been in place since 1997. Cal-Am has requested additional blocks for non-residential users in the current General Rate Case filing with the PUC (MPWMD-SP12, p.18, 6-9.) We conclude that the use of potable water for outdoor irrigation should be reduced. Greater efforts to minimize the use of potable water for outdoor irrigation will result in incremental water savings. We are of the opinion that it may be feasible to save 100 af over eight years, or roughly 12 af per year.<sup>36</sup> We also conclude that the water saved by reducing the use of potable water for outdoor irrigation should be used to reduce Cal-Am's diversions from the river.

## **16.6 Demand Management**

Water conservation is a concept that encompasses a wide variety of potential actions in addition to retrofit programs and reducing the use of potable water for outdoor recreating. Water conservation also includes programs to encourage or require people to use less water. MPWMD has enacted regulations that may be used to manage user demand. (MPWMD-SP3 [MPWMD Regulation XV].) Cal-Am has entered into an agreement with MPWMD for the coordinated exercise of their respective powers in order to manage user demand. (PUC Decision 09-07-023, attachment [Settlement Agreement Among the Division of Ratepayer Advocates, MPWMD, and Cal-Am On Water Conservation and Rationing Issues].) In the agreement, Cal-Am agrees to implement Rule 14.1 Water Conservation and Rationing Plan as set forth in Appendix A in accord with MWPMD's Regulation XV as modified by Ordinance 137. Among other matters, the agreement provides that demand management or rationing may be initiated in response to a final CDO by the State Water Board. Joint Cal-Am and MPWMD efforts to manage user demand may be used to reduce Cal-Am's need to illegally divert water from the river. We conclude that Cal-Am, in conjunction with MPWMD, should undertake demand management to reduce Cal-Am's need to illegally divert water from the river.

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<sup>36</sup> The State Water Board recognizes that the actual amount of water saved by reducing the quantity of water for outdoor use may be greater or less than 100 af and that the quantity of water saved in any given year may be more or less than 12 af.

## **16.7 Small Projects**

Cal-Am introduced evidence that it had entered into negotiations to obtain a temporary supply of water from the Margaret Eastwood Trust and Clint Eastwood from the Odello well fields and from the Rancho Canada Golf Course. Cal-Am's failure to complete negotiations was not explained. (See section 14.2, ¶ 5, supra.) Other small projects that could provide a temporary supply of water may also be available. The addition of temporary small water supply projects would reduce Cal-Am's need to illegally divert water from the river. We conclude that Cal-Am should be required to develop small projects to provide a temporary supply of water for its customers and to reduce the illegal diversions from the river.

## **16.8 Cal-Am has Options for Responding to the Loss of Supply.**

The subjects discussed in Section 16.2 through 16.7 illustrate the range of projects and actions that are available to Cal-Am to respond to the provisions in this order requiring that illegal diversions from the river be reduced (Condition 2) and for the loss of supply from the Seaside Groundwater Basin. In general, it is up to Cal-Am and to determine how it may best serve its customers while reducing its unlawful diversions from the Carmel River. Efforts to reduce the use of potable water may aid Cal-Am efforts to serve its customers while reducing illegal diversions from the river. Cal-Am can also seek to serve its customers and reduce illegal diversions by developing and operating temporary water supply projects until the proposed Coastal Water Project or the Regional Project sponsored by the Marina Coast Water District is constructed and becomes operational.

## **17.0 EFFORTS TO MITIGATE THE EFFECTS OF CAL-AM'S DIVERSIONS ON FISH AND WILDLIFE**

This section addresses efforts to mitigate the effects on fish and wildlife of diversions, principally Cal-Am's, from the Carmel River. Mitigation efforts must be viewed in a larger context because the effects of Cal-Am's illegal diversions cannot be isolated from its legal diversions and the diversions of others. The following discussion is relevant to an understanding of what actions may be appropriate for consideration in the CDO adopted by the State Water Board.

## 17.1 Releases from San Clemente Dam<sup>37</sup>

Because the Carmel River usually goes dry downstream from the Narrows (River Mile 6.5) by July of each year, DFG annually negotiates with Cal-Am and MPWMD a flow bypass for San Clemente Dam. The objective of the negotiations is to keep as much stream channel wetted below San Clemente Dam as possible during the low flow season. Per the agreements, releases from SCD are generally around 5 cfs during late summer. (PT-39, p. 4, ¶ 2.) The operation of San Clemente Dam pursuant to the bypass flow agreements with DFG is outside the scope of this proceeding.

## 17.2 Steelhead Rescue Efforts

Because the Carmel River bed begins to go dry in July downstream from the Narrows, MPWMD and the CRSA<sup>38</sup> make organized efforts to rescue steelhead stranded in pools. Rescue efforts are labor-intensive. Fish are scooped into buckets and transported to the lagoon or to upstream areas that have water. (CRSA-3, p. 6.) MPWMD annually rescues steelhead stranded due to dewatering between the Narrows and the Lagoon. From 1995 through 2005, a total of 208,015 juvenile steelhead were rescued. (PT-39, p. 5.)

The annual rescue effort only saves a portion of the steelhead lost in the lower river. Further, once rescued, the fish are subject to mortality due to a variety of factors such as capture, adverse conditions from competition and overcrowding in upper river segments or in the Sleepy Hollow Fish Facility (facility). MPWMD has spent over \$300,000 to improve rearing operations at the facility. The improvements, involving operational protocols, have resulted in increasing rearing survival. (MPWMD-KU1, pp.1, 6.) Nevertheless, fish mortality has been over 50 percent at the facility for a variety of reasons including high water temperatures, disease and predation. The fish that survive the summer and fall are released back into the river once winter flow reconnects the lower river to the lagoon. The State Water Board lauds the efforts being made by MPWMD and CRSA to rescue juvenile steelhead, but rescuing juvenile steelhead and rearing them over the summer cannot assure the recovery of steelhead populations and is not an acceptable long-term solution. (PT-39, p. 5, 12-14.) We find that these desperate efforts

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<sup>37</sup> See Figure 1 for the location of San Clemente Dam.

<sup>38</sup> For more than 35 years, volunteers associated with the Carmel River Steelhead Association have been rescuing and rearing steelhead stranded on the Carmel River. (CRSA-3, pp. 5-6.) A voluntary effort of this duration is an extraordinary achievement.

and their tenuous success underscore the importance of reducing Cal-Am's diversions from the river by all practicable measures. Further, we conclude that Cal-Am should be prohibited from increasing diversions from the river and should be required to reduce the quantity of water diverted from the river for existing service connections.

### **17.3 Preservation of Riparian Vegetation**

A close connection has been demonstrated between groundwater diversions and both the health of the riparian vegetation and channel stability. Plant stress is directly related to soil water availability and depth to groundwater. MPWMD determined that mitigation in the form of irrigation can be used to prevent plant mortality along the riparian corridor, thus contributing to habitat for wildlife and stable riverbanks. A monitoring system was implemented to measure plant stress, soil moisture, and depth to groundwater. When necessary, supplemental irrigation is applied to help mitigate the effects of unacceptable vegetation stress. (MPWMD-TC16, pp. 3-4.) For example, in 2007 MPWMD applied a total of 11.81 af of supplemental irrigation water to offset stress to riparian vegetation associated with water diversions from the Carmel River. (*Ibid.*, p.18.) We find that the recovery of riparian habitat and associated channel stability in the lower part of the river will not occur until the level of the underflow in the river is close enough to the surface of the river bed to supply water to the roots of riparian vegetation. Thus, significant improvements in the preservation of riparian habitat and increased channel stability will not be possible until Cal-Am's illegal pumping from the river is terminated. Some marginal improvement to riparian habitat and channel stability may be possible if Cal-Am is required to reduce its pumping from the river. Thus, we conclude that Cal-Am should be prohibited from increasing its diversions from the river. In addition, we find that Cal-Am should be required to reduce the quantity of water diverted from the river for existing service connections.

### **18.0 WATER NECESSARY FOR PUBLIC HEALTH AND SAFETY**

Under the heading titled "8.1 Considerations Mitigating Against the Use of Punitive Enforcement Options," Order 95-10 found that "[i]n the short term Cal-Am cannot significantly reduce its extraction from wells along the Carmel River." The order went on to state "[t]he people and businesses on the Monterey Peninsula must continue to be served water from the Carmel River to protect public health and safety." The order did not make a finding of what quantity of water was necessary for public health and safety in Cal-Am's service area. Indeed,

condition 3 of the order required a 20 percent reduction in the quantity of water diverted from the river. No single fixed quantity of water per customer will protect public health and safety in all water supply systems. The quantity of water required to protect public health and safety will vary from system to system and will vary, over time, within a particular system depending upon how the water supply system is built, modified and operated, and upon measures taken by the end users of water to conserve the use of water. Fourteen years have passed since Order 95-10 was adopted, making it appropriate to consider requiring Cal-Am to further reduce its illegal diversions from the river, even without a substitute supply.

Cal-Am contends that reducing the quantity of water currently being diverted from the river would jeopardize its ability to deliver water to its customers. (Nov. 11, 2008, CAW Reply Brief, p. 17.) Having sufficient water to operate a water treatment and supply system is a valid concern. Simply stated, sufficient water must be taken into the treatment system to meet daily user demand for water. If water is not available to supply user demand, some areas of Cal-Am's system will not have enough water to maintain pressure for delivery to users or for an emergency, such as a fire. We should not give too much weight to this contention, however, for three reasons. First, Cal-Am continues to make new connections to its system. If Cal-Am were truly concerned that the existing supply of water is inadequate, it could act to end new connections pursuant to Water Code section 350, et. seq., or seek an order from the PUC prohibiting new service connections in accordance with Public Utility Code section 2708. Second, having sufficient water to operate its system reliably is typically a problem for one day a year, although it could be for as long as 3 to 5 days at a time. (RT, Ph. 2, Vol. V, p. 1292, 2-7.) Finally, having enough water to meet user demand can also be accomplished by reducing user demand. Such reductions can be accomplished by water conservation and standby rationing programs similar to that administered by MPWMD. (MPWMD - SP12, p. 4, 17-25; MPWMD - SP3, Regulation XV.)

MPWMD is a special-purpose district created to provide water resource management in the Monterey Peninsula area. It regulates all water distribution systems within its boundaries, including Cal-Am's. (MPWMD-1, p. 4, 1 – p. 6, 21; RT, Ph. 2, Vol. IV. p. 925, 14-25.) In the interim between the adoption of Order 95-10 and the hearing for this proceeding, MPWMD has treated the quantity of water that Cal-Am is taking from the river as part of the supply of water available to serve the needs of peninsula communities. (RT, Ph. 2, Vol. IV, p.1008, 25 – p.1011, 24; p. 936, 5 - 21.) During this proceeding, MPWMD and many peninsula cities took the position that all of the water being diverted from the river by Cal-Am is necessary for public

health and safety. (RT, Ph. 2, Vol. IV, p. 1046, 13-21.) Further, MPWMD and many peninsula cities also wish to have water for growth. MPWMD's water allocation program sets aside water for growth within the limits of the supply of water available within its jurisdiction, including the water being illegally diverted from the river by Cal-Am. (RT, Ph. 2, Vol. IV, p. 953, 7 – p. 954, 23; p. 1046, 13 – p. 1047, 21; Carmel-1, p. 2, 3-22; Monterey-1, p. 2, ¶ 4; City of Seaside-4, p. 3, 19 - 24.) An unintended consequence of this arrangement may be that because the peninsula cities have had water both for existing uses and for growth, their residents have had little incentive to support or pay for a project or projects to obtain a legal supply of water that can be substituted for the illegal diversions from the river. In addition, diverting water from the river for growth is unacceptable when (a) Cal-Am has no legal right to divert the water, (b) the steelhead in the river has been declared a threatened species, (c) the river has been designated critical habitat for the steelhead and (d) miles of the river bed are dry for five to six months a year. Accordingly, we conclude that water should not be diverted from the river for growth and that the quantity of water that is illegally diverted by Cal-Am should be reduced over a period of years until illegal diversion from the river is ended.

The water available to supply Cal-Am's customers, from all sources (including Cal-Am's illegal diversions from the Carmel River), is in rough equilibrium with current customer needs. MPWMD's regulations to encourage conservation, the reduction of losses within Cal-Am's water system, and other measures can offset modest reductions in supply that are gradually implemented without presenting a threat to public health and safety. An immediate and substantial reduction in the quantity of water that Cal-Am diverts from the river could present a threat to public health and safety unless Cal-Am's customers can be required to scale back their use of water by an amount equal to the quantity of reduced diversions. MPWMD's regulation adopted to curtail consumption within the peninsula communities depends heavily upon public education and the cooperation of water users. (MPWMD-SP12, p. 18, 21 - p. 20, 11; RT, Ph. 2, Vol. IV. p. 1029, 4 – p. 1036, 6.) Effective control over the quantity of water used by many thousands of users through voluntary cooperation is an uncertain undertaking at best. Thus, an immediate and substantial reduction in the quantity of water that Cal-Am diverts from the Carmel River could present a threat to public health and safety.<sup>39</sup> The State Water Board concludes that an order requiring Cal-Am to immediately make substantial reductions in the

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<sup>39</sup> The peninsula area economy is also dependent upon the vitality of the hospitality industry. A marked and substantial reduction in the quantity of water that Cal-Am may divert from the river would, in all likelihood, affect the number of visitors that can be served by the hospitality industry and the economy of the area. (MPHA-001, p. 4, 9-17; MPHA-010, p. 3, 14-25.)

quantity of water illegally diverted from the river could present an unacceptable risk to public health and safety. On the other hand, modest reductions in the quantity of water Cal-Am diverts from the river that are gradually implemented can be offset by the types of projects and actions previously described in this order<sup>40</sup> and do not present a threat to public health and safety. Thus, the State Water Board also concludes that Cal-Am should be required to make modest and continuing reductions in the quantity of water diverted from the Carmel River until such time as it has developed a project or projects capable of providing a new source of water to supply the needs of its customers to substitute for its unlawful diversions of water from the Carmel River.

## **19.0 OTHER MATTERS**

### **19.1 Pebble Beach Company should be Subject to Limitations Imposed upon Cal-Am's Diversions from the Carmel River**

The State Water Board strongly supports the use of recycled water for nonpotable water uses where recycled water is available in order to maximize the beneficial use of the state's scarce water supplies. In the past, the State Water Board has required that recycled water be used, instead of potable water for nonpotable uses, such as irrigation, pursuant to Water Code sections 13550 and 13551. (E.g., Decision 1625; see also Decision 1623-Amended; see also Order WQ 84-7 [requiring dischargers in water short areas who propose to discharge treated wastewater to the ocean to evaluate the potential for water reclamation].) Water recycling promotes the constitutional policy that the water of the state be put to beneficial use to the maximum extent possible. (Cal. Const., art. X, § 2; Wat. Code, §§ 100, 275.)

Pebble Beach Company (PBC) has a 365 afa water entitlement<sup>41</sup> from MPWMD for developing properties within Del Monte Forest. The entitlement is used for making new service connections to Cal-Am's water system. The entitlement was granted as part of a contractual arrangement wherein PBC agreed to financially guarantee public financing of a wastewater reclamation project. PBC seeks to have its water entitlement for new growth excluded from any limitation that may be placed upon Cal-Am's withdrawals from the Carmel River. (Oct. 14, 2008, Closing Brief of PBC, p. 13, 20-22.). In addition, PBC contends that, during 2005-06, it relied upon findings and representations by the State Water Board when undertaking additional financial

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<sup>40</sup> Section 16.0. Projects and Actions that may Affect Cal-Am's Need to Divert Water from the Carmel River, subsections 16.1 – 16.4.

<sup>41</sup> In addition to PBC's 365 afa, the entitlement includes 10 afa for S. Lohr and 5 afa for W. Griffin, who are subject to conditions contained in this order.

arrangements to further upgrade the wastewater reclamation plant and when acquiring a reservoir to store reclaimed wastewater.

The Pebble Beach Community Services District (PBCSD) and the Carmel Area Wastewater District (CAWD) operate the CAWD-PBCSD Wastewater Reclamation Project. (PBC-2, p. 1, 25-27.) The project provides reclaimed wastewater for irrigation of the golf courses and other recreational open spaces located in the unincorporated Del Monte Forest area of Monterey County. (PBC 1, p. 2, 7-9.) The project was designed to deliver not less than 800 afa of reclaimed water and to free an equal amount of potable water for other uses. Operationally, some potable water was necessary to control salinity levels in the reclaimed water used for golf course irrigation and to meet irrigation needs during times of peak demand. (PBC-1, p. 2, 16-23.) During 13 years of operation, between 1994-95 and 2006-07, the project supplied an average of 706 afa of reclaimed water; 267 afa of potable water was required for salinity control and to meet peak irrigation demand. (PBC-2, p. 3, 1-28.) Public project financing was facilitated by private financial guarantees. The PBC guaranteed: (a) \$33.9 million in capital costs for the project, and (b) net project operating deficiencies. In return for the financial guarantee, PBC was granted a 365 afa potable water entitlement by MPWMD for future development of lands owned by PBC. (PBC-1, p. 3, 19 – p. 4, 2.) Based on this entitlement, water has been sold to over 500 homeowners in the Del Monte Forest. (RT, Ph. 2, Vol. II, p. 556, 14-15.)

During 2005-2006, the project was upgraded through the addition of 325 af of storage for reclaimed water and by improvements to the wastewater treatment plant to reduce the level of salinity in the reclaimed water. During 2009, these improvements should result in the project being able to operate without the need for potable water. (*Id.*, p. 4, 1-17.) The upgraded project cost \$34 million. PBC obtained the funds for the upgrade by selling 175 afa of the entitlement obtained from MPWMD to landowners in Del Monte Forest. (PBC-1, p. 3, 25 – p. 4, 2.)

A footnote in Order 95-10 recognizes the supply of water made available to Cal-Am customers by the project:

In addition to supplies from the Carmel River and pumped ground water in the area of Seaside, reclaimed water is available to some Cal-Am users from the Carmel Area Wastewater District Pebble Beach Community Services District Wastewater Reclamation Project. The Project will provide 800 acre-feet of reclaimed water for the irrigation of golf courses and open space in the Del Monte Forest. In return for

financial guarantees, the Pebble Beach Company and other sponsors received a 380 af of potable water entitlement from the District for development within Del Monte Forest. As of the end of fiscal 1993-1994, the District had not allocated the remaining 420 af of project yield.

(Order 95-10 at p. 6, fn. 2.)

On March 27, 1998, the Chief, Division of Water Rights, wrote MPWMD and Cal-Am concerning the relation of the project to the water being diverted from the river by Cal-Am and Order 95-10.

(PBC-7.) The letter states, in part:

The [State Water Board] has recognized that the Pebble Beach Company and other sponsors were project participants in, and assisted in funding, the wastewater reclamation project which enabled Cal-Am to reduce its delivery of potable water to Del Monte Forest property and thereby reduce the demand on the Carmel River by at least 500 afa and potentially 800 afa. Upon completion of the Del Monte Forest property, 380 afa will be diverted from the Carmel River by Cal-Am for delivery to these lands. Thus, there will be no net increase in Carmel River diversions in the future over the level of past documented diversions as a result of developing these projects. As a result of the reclamation project and especially during the interim period while the Del Monte Forest property is being developed, the net diversion from the Carmel River to serve Del Monte Forest properties will be less than the level that would have occurred if the wastewater reclamation project had not been developed. Thus under Footnote 2 of Order WR 95-10, the 380 afa is available to serve the projects.

As a result, Order WR 95-10 does not preclude service by Cal-Am to the Del Monte Forest property under the 380 afa entitlement granted by the District. As you are aware, the [State Water Board] is requiring Cal-Am to maintain a water conservation program with the goal of limiting annual diversions from the Carmel River to 11,285 afa until full compliance with Order WR 95-10 is achieved. While Cal-Am has been exceeding the limit, it is not the intent of the [State Water Board] to penalize the developers of the wastewater reclamation project for their efforts to reduce reliance upon the potable water supply via utilization of treated wastewater.

Thus, the [State Water Board] will use its enforcement discretion to not penalize Cal-Am for excess diversions from the Carmel River as long as their diversions do not exceed 11,285 afa plus the quantity of potable water provided to the Pebble Beach Company and other sponsors under this entitlement for use on these lands. This enforcement discretion will be exercised as long as the wastewater reclamation project continues to produce as much as, or more than, the quantity of potable water delivered to the Del Monte Forest property, and the reclaimed water is utilized on lands within the Cal-Am service area.

Footnote 2 of Order 95-10 deals with the issue of water use for purposes of projects in the Del Monte Forest. Consequently, the order does not provide discretion to address any projects involving the use of the unassigned 420 afa (800 afa minus 380 afa identified in the footnote equals 420 afa) developed by the wastewater treatment facility.

On October 18, 2001, the Chief, Division of Water Rights, sent another letter to MPWMD concerning this subject. The letter stated in part:

You specifically asked whether the use of a portion of the original Pebble Beach Company water entitlement from the CAWD reclamation project can be used on non-Pebble Beach Company properties within (1) the Del Monte Forest and (2) outside the Del Monte Forest. Cal-Am may distribute the new potable water supply anywhere in its service area, subject to the Carmel River diversion requirements of Order 95-10 (and any subsequent modification approved by the State Water Resources Control Board) and requirements (a) and (b) above.<sup>42</sup>

(PBC-8.)

The letter expresses an intent not to penalize Cal-Am for excess diversions from the Carmel River to supply Pebble Beach as long as their diversions do not exceed 11,285 afa plus the quantity of potable water provided to the PBC and other sponsors under the entitlement from MPWMD.<sup>43</sup>

The letters cannot be understood as a binding commitment that the State Water Board will never take an enforcement action that might affect PBC or others relying on the entitlement from MPWMD. Because the March 27, 1998 letter expressly identifies the State Water Board's action as an exercise of enforcement discretion, it serves as a warning that Cal-Am's excess diversions constitute an ongoing violation and that the State Water Board could take enforcement action. Nevertheless, as noted in the March 27, 1998, letter to MPWMD, the reclamation project constructed with PBC funding guarantees will not result in a net increase in diversions from the Carmel River and, in the interim before while Del Monte property is being developed, the net diversions from the river to serve Del Monte Forest properties will be less than the level that would have occurred if the reclamation project had not been developed.

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<sup>42</sup> The reference to the "requirements of (a) and (b) above" refers to the following: "Continual records must be maintained, on both a monthly and total annual basis, to document that (a) the new use of potable water does not exceed the historic quantity of potable water provided by the California-American Water Company (Cal-Am) to the Del Monte property and (b) the quantity of treated wastewater put to beneficial use equal or exceeds the potable water use."

<sup>43</sup> The letter of October 18, 2001, is also problematic. It should be noted, however, that the letter expressly states that Cal-Am's diversions from the river for the PBC are subject to Order 95-10 and any subsequent modification to the order approved by the State Water Board. This order is such a modification.

We conclude, therefore, that the State Water Board should not prohibit any increased diversions from the river by Cal-Am for deliveries made under PBC's entitlement from MPWMD. Nevertheless, any water users who receive water under the PBC entitlement should not be exempted from any conservation program or other effort to reduce Cal-Am's unauthorized diversions.

**19.2 Any Monterey Peninsula Community that Wishes to Develop Water from a New Source for Growth Must First Apply Water from the New Source to Reduce its Share of the Water Being Illegally Diverted by Cal-Am; Only after its Share of Illegal Diversions from the River is Ended may Water from the New Source be Used for Growth**

Some additional water has been developed for growth in Cal-Am's service area since entry of Order 95-10. The City of Sand City independently made an effort to develop water for growth within its jurisdiction. The city sought assurances from the State Water Board that any new water it developed would not be reduced to offset Cal-Am's illegal diversions from the river. (Sand City -1, Attachment A.) Whatever assurances may have been provided in the past, such assurances should not be provided in the future. All communities receiving water from Cal-Am are obtaining some portion of that water from illegal diversions from the river. Any community or combination of communities seeking to develop a new source supply must first apply water from a new source to reduce its share of the water being illegally diverted by Cal-Am. Water from a new source of supply should not become available for growth until after the community has fully substituted water from the new source for its share of the water being illegally diverted from the river by Cal-Am. Monterey Peninsula communities and their residents have little incentive to support efforts to develop new water supplies to replace the water being illegally pumped from the river by Cal-Am if water can be obtained for growth without having to reduce their pro-rata share of water illegally pumped from the river. Nearly 14 years after the adoption of Order 95-10, Cal-Am is unable to tell the State Water Board what project may be built to end its illegal diversions, when a project will be approved or when construction might be commenced. Indeed, there is no assurance that any project will be approved during the next several years.

### 19.3 Affirmation and Adoption of Rulings by the Hearing Officers

Unless otherwise expressly addressed in this order, all rulings of the Hearing Officers are affirmed and adopted by this order.

#### CONCLUSIONS

Order 95-10 does not authorize Cal-Am to divert water from the Carmel River in excess of its water rights, and Cal-Am is illegally diverting water from the Carmel River in violation of Order 95-10 and Water Code section 1052. The doctrines of *res judicata* and collateral estoppel are not a bar to the State Water Board's adoption of a CDO.

Condition 2 of the Order 95-10 requires Cal-Am to diligently implement actions to terminate its unlawful diversions. Cal-Am has diverted an average of 7,602 afa from the river without a basis of right for the past 14 years, and in the roughly 10-year period since it achieved the 20 percent reduction required by Condition 3 of Order 95-10, Cal-Am has not made any meaningful progress toward reducing the amount of its unlawful diversions. Further, Cal-Am has not diligently implemented smaller water supply projects that could have enabled Cal-Am to reduce its illegal diversion from the river and to alleviate the serious condition affecting the survival of steelhead.

Thus, Cal-Am has not diligently implemented actions to terminate its unlawful diversions under Condition 2. Cal-Am's only action reducing its illegal diversions has been the work done on two projects yielding small amounts of water: the ASR project and the Sand City Desalinization Plant. Significantly, these projects are in place due largely to the efforts made by other agencies, i.e., MPWMD and the City of Sand City.

The lower 6.5 miles of the riverbed are dry for five to six months of each year, due primarily to Cal-Am's diversions.<sup>44</sup> Cal-Am's diversions from the river continue to have an adverse effect on the fish, wildlife and riparian habitat of the river, including the threatened steelhead. Since the adoption of Order 95-10, the California Central Coast steelhead has been declared as threatened under the Endangered Species Act, and the Carmel River has been declared as critical habitat for the survival of the steelhead.

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<sup>44</sup> See discussion under Section 15.0, supra.

The adjudication of the Seaside groundwater basin will decrease the supply of water available to supply Cal-Am's customers by 417 af in 2009, or by about 2.8 percent of the available supply. Other projects or regulatory actions can make additional water available to Cal-Am, including: (1) the Phase I and II ASR project; (2) the City of Sand City Desalinization Project; (3) the development of temporary small water supply projects (4) the reduction of system losses within the Cal-Am distribution system; (5) the retrofit program; (6) reducing the use of potable water for outdoor irrigation; and (7) other measures to reduce consumer demand for potable water.

MPWMD's water allocation program sets aside water for growth within the limits of the supply of water available within its jurisdiction. MPWMD views water illegally diverted from the river by Cal-Am as available water supply for growth. Because water has been available for growth, the peninsula cities and their residents have had little incentive to support or pay for a project or projects to obtain a legal supply of water that can be substituted for the illegal diversions from the river.

In consideration of the foregoing, we conclude that Cal-Am should be prohibited from further degrading conditions in the river by diverting water from the river for new service connections, and that Cal-Am should be required to reduce the amount of water being diverted from the river to serve existing service connections.<sup>45</sup> In reaching this conclusion, we are particularly mindful that (a) the lower 6.5 miles of the Carmel River bed are dry for 5 to 6 months of each year, (b) the steelhead is a threatened species, (c) the river has been declared to be critical habitat for the steelhead, and (d) the earliest date which Cal-Am's illegal diversions may be brought to an end is 2016, some 21 years after the adoption of Order 95-10.

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<sup>45</sup> Cease and desist orders are exempt from the requirements of CEQA. (*Pacific Water Conditioning Ass'n., Inc. v. City Council* (1977) 73 Cal. App.3d 546,556.)

## ORDER

**NOW, THEREFORE, IT IS ORDERED THAT** Cal-Am shall cease and desist from the unauthorized diversion of water from the Carmel River in accordance with the following schedule and conditions.<sup>46</sup>

1. Cal-Am shall diligently implement actions to terminate its unlawful diversions from the Carmel River and shall terminate all unlawful diversions from the river no later than December 31, 2016.
2. Cal-Am shall not divert water from the Carmel River for new service connections or for any increased use of water at existing service addresses resulting from a change in zoning or use. Cal-Am may supply water from the river for new service connections or for any increased use at existing service addresses resulting from a change in zoning or use after October 20, 2009, provided that any such service had obtained all necessary written approvals required for project construction and connection to Cal-Am's water system prior to that date.<sup>47</sup>
3. At a minimum, Cal-Am shall adjust its diversions from the Carmel River in accordance with the following:
  - a. Commencing on October 1, 2009,<sup>48</sup> Cal-Am shall not divert more water from the river than the base of 10,978 afa,<sup>49</sup> as adjusted by the following:
    - (1) Immediate Reduction: Commencing on October 1, 2009, Cal-Am shall reduce diversions from the river by 5 percent, or 549 afa.

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<sup>46</sup> Attachment 1 to this order, "Table 1, Projected Reductions in Illegal Diversions from the Carmel River," shows the reductions in illegal diversions from the Carmel River that should result from conditions 1, 2 and 3 of this order.

<sup>47</sup> Multiunit residential, commercial or industrial sites may currently be served by a single water meter. The installation of additional meters at an existing service will not be viewed as a new service connection provided that the additional metering does not result in an increase in water use. Metering each unit of a multiunit building tends to increase accountability in the use of water and the effectiveness of water conservation requirements.

<sup>48</sup> Each water year runs from October 1 to September 30 of the following year.

<sup>49</sup> Cal-Am diverts 3,376 afa under legal rights and, on average, 7,602 afa without a basis of right. (3,376 + 7,602 = 10,978 afa).

- (2) Annual Reductions: Commencing on October 1, 2011, the base shall be further reduced by 121 afa per year through savings that will accrue from reduced system losses, the retrofit program, the reduction of potable water used for outdoor irrigation, demand reduction and similar measures. The 121 af reduction shall be cumulative. For example, 121 af shall be reduced in the first year and 242 af shall be reduced in the second year. Commencing on October 1, 2015, annual reductions shall increase to 242 af per year. The 242 af per year reduction shall also be cumulative. Annual reductions shall continue until all unlawful Cal-Am diversions from the river have been terminated.
- (3) ASR Project: The amount of water diverted to underground storage under Permit 20808A (Application 27614A) as of May 31 of each year and which will be supplied to Cal-Am customers after that date shall be subtracted from the base.<sup>50</sup> On June 1 of each year, Cal-Am shall submit an operating plan to the Deputy Director for Water Rights specifying the quantity of water it intends to supply from ASR Project for its customers after May 1 of each year. Water pumped from the project for delivery to customers should be consistent with the requirements of paragraph "c" below.
- (4) Sand City Desalination Plant: Once the Sand City Desalinization Plant becomes operational, 94 af shall be subtracted from the base. In addition, based on actual production from the plant, any other water that is produced and not served to persons residing within the City of Sand City shall be subtracted from the base amount for each water year.
- (5) Small Projects: Water produced from new sources developed pursuant to Condition 4 of this order shall be subtracted from the base.
- (6) Pebble Beach: Within 90 days following adoption of the order, the Pebble Beach Company shall certify, under penalty of perjury, the total quantity of water annually used under its water entitlement from MPWMD (for the funding assurances provided for the construction and expansion of the CAWD-PBCSD

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<sup>50</sup> This condition shall apply to Phase I and Phase II of the ASR project.

wastewater reclamation project).<sup>51</sup> Ten percent (10%) of the amount reported shall be added to the adjusted base to allow Cal-Am to divert water from the river to supply water for PBC water entitlements initiated in the following 12 months. Thereafter, the PBC shall annually submit, on September 30, a report to the Deputy Director for Water Rights accounting for any additional water that is diverted from the Carmel River as the result of an increased use of its MPWMD water entitlement. Increased diversions from the river by Cal-Am to satisfy PBC entitlements from MPWMD shall be added to the adjusted base, and are not subject to section 2 of this order. Water Diverted from the river by Cal-Am for PBC entitlements can only be served to properties that have received a PBC entitlement from MPWMD and which are located in the Cal-Am's service area. Cal-Am shall not divert water from the Carmel River after December 31, 2016, to supply PBC's water entitlement from MPWMD.

- b. Either Cal-Am or the MPWMD may petition the State Water Board Deputy Director for Water Rights for relief from annual reductions imposed under condition 3., a (2). No relief shall be granted unless all of the following conditions are met: (a) Within 18 months of the adoption of this order, Cal-Am has imposed a moratorium on new service connections pursuant to Water Code section 350 or has obtained an order prohibiting new connections from the PUC pursuant to Public Utility Code section 2708 or MPWMD has imposed a moratorium on new service connections under its authority; (b) the demand for potable water by Cal-Am customers has been reduced by 13 percent;<sup>52</sup> and (c) a showing is made that public health and safety will be threatened if relief is not granted. Any relief granted shall remain in effect only as long as (a) a prohibition on new service connections remains in effect, and (b) the 13 percent conservation requirement remains in effect.
- c. ASR project water stored in the Seaside groundwater basin under Permit 20808A (Application 27614A) should be used to mitigate the effect of Cal-Am's illegal diversions from the river. ASR water should be supplied to Cal-Am customers only during months when water is most needed in the river to preserve steelhead.

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<sup>51</sup> Water currently diverted from the river by Cal-Am to supply PBC entitlements is accounted for in the existing base.

<sup>52</sup> For purposes of measuring compliance, the 13 percent reduction shall be measured against the adjusted base required by this condition for the year in which the conservation requirement is imposed.

Commencing no later than June 1 of each year, Cal-Am should use stored groundwater to supply the needs of its customers and reduce diversions from the river. Consistent with Cal-Am's operating plan, water should be pumped from the groundwater basin at the maximum practicable rate for as long as possible. This condition shall apply to both Phase I and Phase II of the ASR project. The river's habitat and fish may receive greater benefits from a substitution regime that differs from that called for by this condition, a regime requiring that substitution commence at a different date, at a different rate or be coordinated with the level of flow in the river. In addition, it may be desirable to hold stored water from one year to the next to assure that more water is available for the steelhead and its habitat in years when the potential for steelhead survival may be greater. Several substitution trials may be necessary to determine which regime will have the greatest benefit. The National Marine Fisheries Service and the California Department of Fish and Game are encouraged to negotiate different substitution regimes with Cal-Am. The State Water Board will honor such agreements, provided Cal-Am submits the written agreement to the Deputy Director for Water Rights no later than May 1 of each year and the written agreement is approved by the Deputy Director.

4. Cal-Am shall reduce its illegal diversions from the river at the same rate ASR Project water is pumped from the groundwater basin as long as stored water is available under the operating plan.
5. Cal-Am shall implement one or more small projects that, when taken together, total not less than 500 afa to reduce unlawful diversions from the river. Within 90 days of entry of this order, Cal-Am shall identify to the Deputy Director for Water Rights the projects that it will implement and shall implement the projects within 24 months of entry of this order. Cal-Am may petition the Deputy Director for additional time in which to implement the projects. However, no time extension shall be considered unless the petition is accompanied by detailed plans and time schedules for each project. Detailed justification shall be provided for additional time. Detailed justification shall be provided for any request for an extension to allow Cal-Am time to obtain prior approval from the PUC. To the maximum practicable extent, small projects shall be operated to reduce illegal diversions from the river during the months when surface flow in the river begins to go dry and through the months when surface flow in the river disappears below river mile 6.5.

6. Starting three months following adoption of this order, Cal-Am shall post quarterly reports on its website and file the quarterly reports with the Deputy Director for Water Rights. The quarterly reports shall include the following:
  - (a) Monthly summaries of the quantity of water it diverts from the river.
  - (b) Monthly summaries of the quantity of ASR project water diverted from the river under Permit 20808A and stored in the Seaside ground water basin. The monthly reporting shall also state the quantity of water beneficially used under Permit 20808A and the current balance of water in storage.
  - (c) Monthly summaries of the quantity of water being produced by the Sand City desalinization plant. The reporting shall identify new service connections within Sand City and thereafter report the quantity of water being delivered to the new connections. The monthly reports shall specify the quantity of water used to reduce diversions from the river during the reporting period.
  - (d) Monthly summaries of the quantity of water saved by reducing system losses.
  - (e) Monthly summaries of reductions in demand for potable water due to conservation actions such as increased water rates, MPWMD's retrofit program, efforts to reduce potable water for outdoor water use and demand reduction initiatives.
  - (f) Monthly summaries identifying all new service connections. The report shall include the Cal-Am account number, the service address, the name of each authority granting any approval required for connecting to Cal-Am's system and the name of each authority granting any approval required before commencing construction; the issuer of the each approval and the date of each approval shall be separately listed for each service address.
  - (g) Monthly summaries identifying existing service addresses that receive an increased supply of water due to a change in zoning or use. The report shall include Cal-Am account number, the service address and the name of each authority authorizing a change of use or of zoning and the date of such change.

- (h) Each quarterly report submitted by Cal-Am shall be certified under penalty of perjury and shall include the following declaration: *“I declare under penalty of perjury, under the laws of the State of California, that all statements contained in this report and any accompanying documents are true and correct, with full knowledge that all statements made in this report are subject to investigation and that any false or dishonest statement may be grounds for prosecution.”*
7. Starting six months after adoption of this order, Cal-Am shall file quarterly reports of its progress toward implementing Condition 3 (small project implementation) and note specifically any problems with its schedule of implementation.
8. The Deputy Director for Water Rights is authorized to modify the timing and the content of the reporting required by all of the provisions of this order to more effectively carry out the intent of this order.
9. Cal-Am shall comply with all requirements of Order 95-10, except as follows:
- (a) Condition 1 of Order 95-10 is superseded by Condition 2 of this order.
- (b) Condition 3(b) of Order 95-10 is superseded by Condition 2 of this order.
- (c) The last sentence of Condition 4 is deleted because the Seaside groundwater basin watermaster will determine the manner in which water may be withdrawn from the groundwater basin.
- (d) All other conditions of Order 95-10 shall remain in full force and effect until fully implemented.
10. The Deputy Director for Water Rights is directed to closely monitor Cal-Am’s compliance with Order 95-10 and this order. Appropriate action shall be taken to insure compliance with these orders including the issuance of additional cease and desist orders under Water Code section 1831, the imposition of administrative civil liability under Water Code section 1055, and referral to the Attorney General under Water Code section 1845 for injunctive relief and for civil liability. If additional enforcement action becomes

necessary, the Deputy Director is directed to consider including in such actions all Cal-Am's violations of Water Code section 1052 since the adoption of Order 95-10.

11. The conditions of this order and order 95-10 shall remain in effect until (a) Cal-Am certifies, with supporting documentation, that it has obtained a permanent supply of water that has been substituted for the water illegally diverted from the Carmel River and (b) the Deputy Director for Water Rights concurs, in writing, with the certification.

### CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 20, 2009.

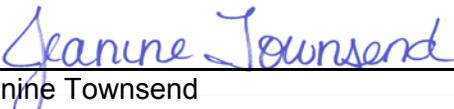
AYE: Chairman Charles R. Hoppin  
Vice Chair Frances Spivy-Weber  
Board Member Arthur G. Baggett, Jr.

NAY: Board Member Tam M. Doduc

ABSENT: None

ABSTAIN: Board Member Walter G. Pettit

Clerk

  
\_\_\_\_\_  
Jeanine Townsend  
to the Board

## ATTACHMENT 1

**TABLE 1**  
**PROJECTED REDUCTIONS IN ILLEGAL DIVERSIONS FROM THE CARMEL RIVER**  
(all amounts are in acre-feet)

Water Year (Oct - Sept)	Base Amount <sup>1</sup>	Mandatory Cumulative Annual Reduction <sup>2</sup>	Estimated ASR Project Operational Yield <sup>3</sup>	Estimated Sand City Desalinization Plant <sup>4</sup>	Estimated Small Project Output <sup>5</sup>	Estimated Coastal Water Project Output <sup>6</sup>	Total to Base Amount	Total Estimated Amount Diverted from Carmel River	Estimated Amount Diverted w/o Valid Basis of Right
2009-10	10,978	549	145	75	0	0	769	10,209	6,833
2010-11	10,978	549	145	290	0	0	984	9,994	6,618
2011-12	10,978	670	145	280	0	0	1,095	9,883	6,507
2012-13	10,978	791	145	270	0	0	1,206	9,772	6,396
2013-14	10,978	912	145	260	0	0	1,317	9,661	6,285
2014-15	10,978	1,033	145	250	0	0	1,428	9,550	6,174
2015-16	10,978	1,275	145	240	0	0	1,660	9,318	5,942
2016-17	10,978	1,517	145	230	0	11,730	1,892	3,376	0

- 1) Cal-Am diverts 3,376 afa under legal rights and, on average, 7,602 afa without a valid basis of right (60 afa of the 3,376 afa is assumed diverted under riparian right to riparian vegetation along Carmel River).
- 2) Reduction in 2009-2010 and 2010-2011 is initial amount of 5% (549 ac-ft). Starting October 1, 2011, add 121 af each year until October 1, 2015, when the annual reduction becomes 242 afa.
- 3) Average amount diverted for Phase 1 ASR project from water year 1994-1995 to 2006-2007 (R.T. Phase 1, Vol. I pp. 41-42). Amount may increase when Phase 2 of the ASR project becomes operational.
- 4) Number may vary based on actual production from desalinization plant. Assumes 3 months of operation in 2009-10.
- 5) Production from small projects cannot be estimated at this time.
- 6) Estimated production of Coastal Water Project (R.T. Phase 2, Vol. V, p. 1333).

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**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

In the Matter of the Application of California-American Water Company (U 210 W) for a Certificate of Public Convenience and Necessity to Construct and Operate its Coastal Water Project to Resolve the Long-Term Water Supply Deficit in its Monterey District and to Recover All Present and Future Costs in Connection Therewith in Rates.

Application 04-09-019  
(Filed September 20, 2004;  
Amended July 14, 2005)

**REBUTTAL TESTIMONY OF  
MARK P. BERKMAN AND DAVID L. SUNDING  
ON BEHALF OF MARINA COAST WATER DISTRICT**

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Attorneys for  
MARINA COAST WATER DISTRICT

May 27, 2010

1 ~~for boron reduction be eliminated. DRA has not considered the costs to ratepayers~~  
2 ~~as well as the environmental risks to ratepayers in a sufficiently rigorous way to~~  
3 ~~make that latter request.~~

4  
5 Finally, we think that it is important to consider that the failure to proceed with the  
6 regional facility will have substantial economic impacts on CAW's residential,  
7 commercial and industrial customers. A conservatively-estimated 50% water  
8 supply reduction will have negative consequences for residential customers. A  
9 reduction of this magnitude will create substantial hardships including reduced  
10 bathing, clothes washing, and waste removal and eliminate recreational and  
11 aesthetic benefits of water use. A conservative quantification of this hardship is  
12 between \$17 and \$51 million annually. Industrial and commercial customers will  
13 be forced to reduce output and employment to cope with reduced water supplies.  
14 We estimate that annual industrial sales losses within the CAW service territory  
15 will be \$261 million, annual commercial sales losses will be \$742 million and  
16 employment losses will total almost 6,000 jobs.

17  
18 ~~Q6. What is your disagreement with DRA/MPWMD regarding their assertion that the~~  
19 ~~allocation of the benefits from the regional project to the costs is unfair?~~

20 ~~A6. Fairness is a difficult thing to measure, but for discussion purposes we will~~  
21 ~~consider that an allocation of benefits is fair if the ratio of benefits to costs is~~  
22 ~~equal for all participants. This is consistent with a standard approach to cost~~  
23 ~~allocation used by the Tennessee Valley Authority, which in turn is based on~~  
24 ~~economic theory.<sup>†</sup> We have calculated the benefits to CAW and MCWD from the~~  
25 ~~regional project by comparing their costs of the regional project to the costs of the~~  
26 ~~next best alternative. These costs are calculated as the net present value of annual~~  
27

28 <sup>†</sup> For a discussion of this concept see for example, Peyton Young, "Methods and Principles of Cost Allocation." In  
Peyton Young, editor, *Cost Allocation: Methods, Principles, Applications*, Elsevier Science Publishers, 1985.

~~The sum of potential health, litigation, and crop loss risk reductions compared to the modest capital and operating costs associated with boron controls is likely to support the investment.~~

~~**BEC 6. Boron Induced Crop Loss Under Varying Assumptions of Crop Sensitivity Assuming 1,200 Acres of Strawberries or Lettuce are Cultivated**~~

<b>Crop</b>	<b>Boron Induced Crop Loss</b>				
	<b>10%</b>	<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>
<b>Strawberries</b>	<del>\$7,141,407</del>	<del>\$17,853,518</del>	<del>\$35,707,035</del>	<del>\$53,560,553</del>	<del>\$71,414,070</del>
<b>Lettuce</b>	<del>\$883,442</del>	<del>\$2,208,606</del>	<del>\$4,417,211</del>	<del>\$6,625,817</del>	<del>\$8,834,423</del>

~~Notes:~~

~~(1) Total yield is calculated using the average reported production per acre in 2007 and 2008 (33.67 per ton for strawberries and 866 per etn for lettuce), assuming 1,200 acres of production.~~

~~(2) Total value is calculated using the average reported value of production in 2007 and 2008 (\$1,768 per ton for strawberries and \$8.50 per etn for lettuce), assuming 1,200 acres of production.~~

~~(3) The boron induced crop loss is the product of total yield multiplied by value per ton, multiplied by the percent reduction.~~

~~Source:~~

~~(1) Monterey County Crop Report, 2008.~~

~~(2) Ayers and Westcott, "Water Quality for Agriculture," FAO Irrigation and Drainage Paper, 29 Rev.1, Reprinted 1989, 1994.~~

Q10. Please describe the economic impact analysis you prepared at MCWD's request.

A10. We conservatively estimated the economic impacts assuming a 50% reduction in water supply to the CAW service territory, which is consistent with the minimum supply reduction associated with the loss of the Carmel River water supply. We defined economic impacts as: (1) consumer surplus loss; (2) lost sales; (3) lost payroll; and (4) lost jobs.

Q11. What does consumer surplus measure?

A11. Consumer surplus measures the economic loss to consumers from restricted water access. It represents how much a consumer would be willing to pay to avoid the water loss. This is a standard economic measure. See for example, the National Academy Report.

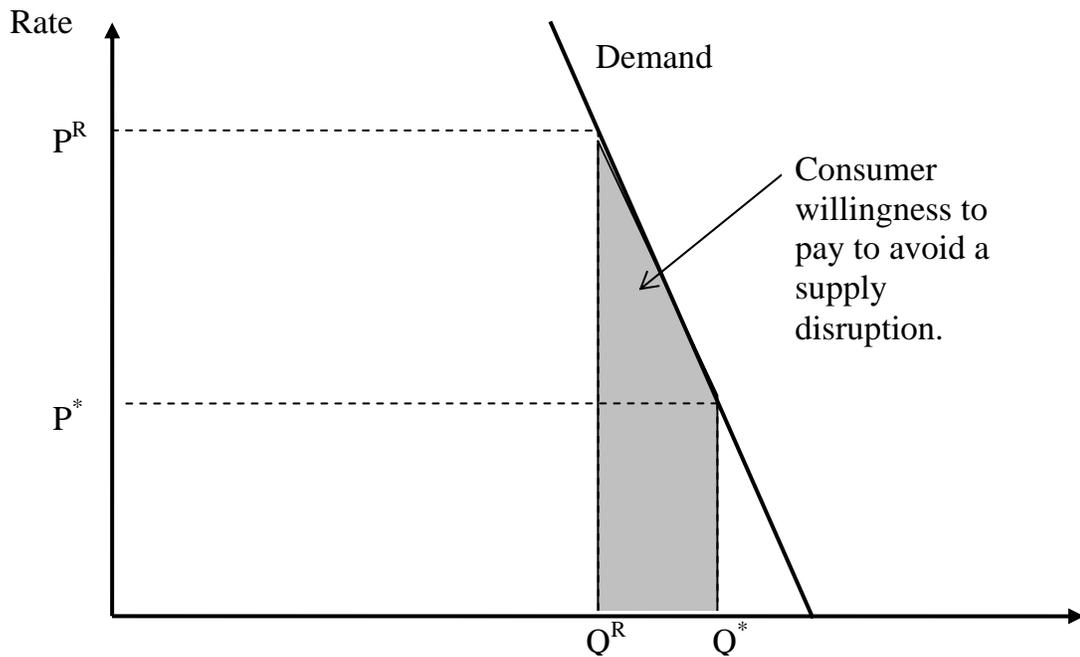
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Figure BEC-7 depicts a schedule of consumer willingness to pay for different units of water as a household demand curve for water that orders values from highest valued uses to lowest valued uses. Consumer willingness to pay for water, which sums the willingness to pay of households for individual water units, is the area under the household demand curve. Prior to a water supply disruption, a household facing a volumetric water rate of  $P^*$  consumes all units of water for which consumer willingness to pay for the unit exceeds the price households must pay for the water unit, which leads to a level of household consumption of  $Q^*$  units. Additional units of water consumption beyond this level have value for the household, but the value of each unit to the household in these relatively low valued uses beyond the quantity  $Q^*$  is not high enough to justify paying the volumetric rate to acquire these units.

In the event of a service disruption, consumer willingness to pay to avoid a water service interruption rises with the magnitude of the supply shortage. Consumer willingness to pay to avoid a water shortage sums the willingness to pay for each unit of water from the baseline level ( $Q^*$ ) to the disrupted level ( $Q^R$ ), which is depicted as the shaded region in Figure BEC-7. The value of the last unit of water used under rationing, which is consumer willingness to pay for the individual unit  $Q^R$ , rises from  $P^*$  to  $P^R$  in response to the reallocation of water to meet only the highest valued uses.

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Figure BEC-7: Consumer Willingness to Pay to Avoid a Supply Disruption



The economic loss calculation in this report places special significance on prevailing water rates in a region prior to a period of supply disruption. Urban water consumers are faced with a given set of water rates that are chosen by their local purveyor, and, given these rates, consumers are generally free to purchase their desired quantities of water. At lower water rates, consumers make landscaping choices that devote a greater quantity of water to outdoor irrigation uses than they would facing higher water rates, so that the potential for water conservation is greater (and the economic losses are accordingly smaller) in regions with initially lower water rates. The reason is that consumers purchase a quantity of water that equates consumer willingness to pay for the last unit of water consumption to the water price established by the local rate structure.

Q12. What did you determine the consumer surplus loss to be?

1 A12. Conservatively, we estimate that the consumer surplus loss would be at least \$17  
2 million annually and as much as \$51 million. This converts to an average annual  
3 loss per service connection of between \$500 and \$1,500 assuming 33,781  
4 residential customer connections. The range reflects the application of different  
5 water price elasticities, which measure how much consumers change their water  
6 consumption as water price changes. We have estimated these elasticities using  
7 regression analysis enabling us to control for lot size, rainfall, income, and  
8 existing conservation investments. These surplus loss estimates, however, fail to  
9 convey the implications of a 50% water supply loss. The remaining water  
10 available would be about 2 times the United Nations minimum water standard – a  
11 value that just allows for survival. A loss of this magnitude would require  
12 households to limit bathing, washing, and toilet flushing. Other uses including  
13 gardening and recreation would be precluded.  
14

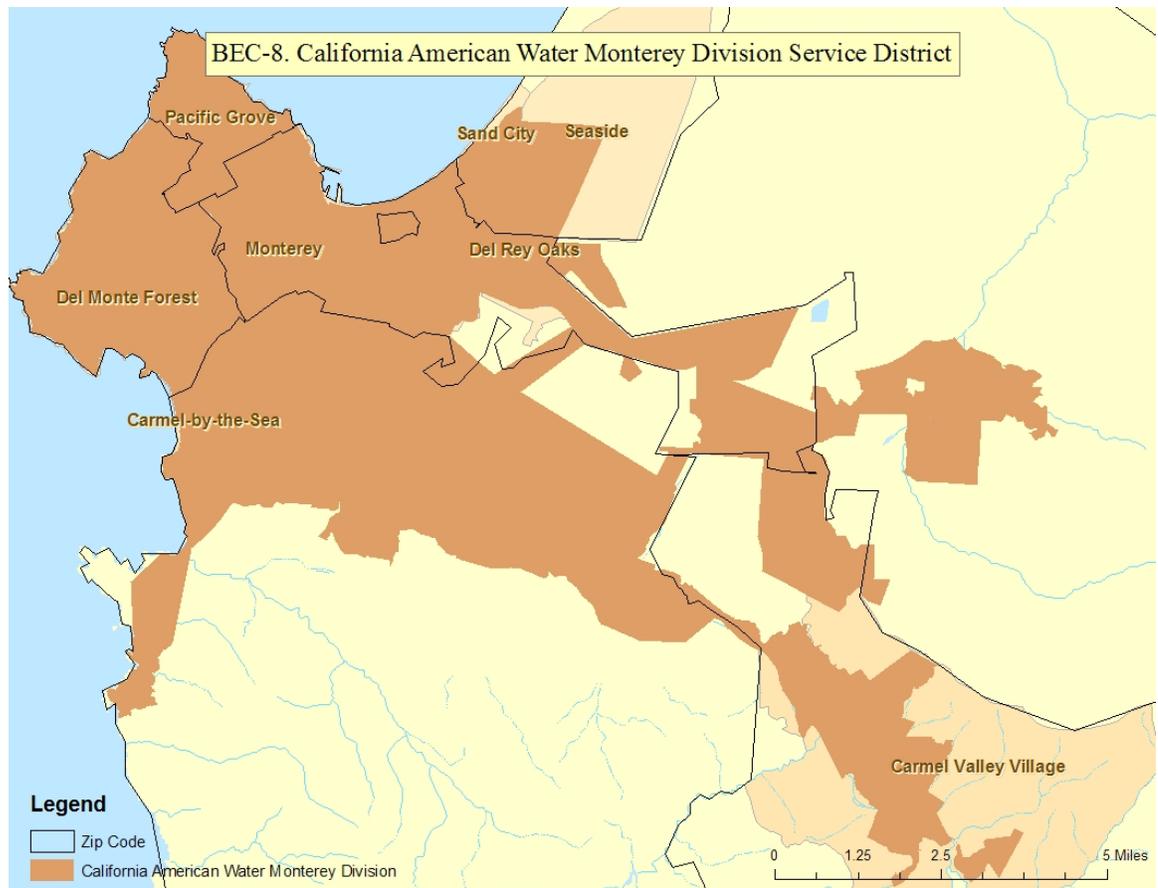
15 Q13. What did you determine regarding sales, payroll and employment impacts from  
16 the water shortage?

17 A13. Impacts within the CAW service territory of a fifty percent shortage total \$261  
18 million in sales losses in the industrial sector (primarily food processing) and  
19 \$742 million in the commercial sector (including grocery stores, restaurants,  
20 hotels, laundries, and hospitals). Payroll losses range from more than \$7 million  
21 in the industrial sector to \$223 million in the commercial sector, which represents  
22 approximately 179 industrial jobs (22% of such jobs in the service territory) and  
23 more than 5,600 commercial sector jobs (10% of such jobs in the service  
24 territory).  
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26 Q14. Can you describe the methodology you employed to determine the losses?  
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A14. We used Geographic Information System (GIS) software to analyze the revenue and payroll losses within the CAW Monterey District service territory. As the finest level of data available are only available at the County or zip code level we determined which zip codes overlap with the CAW service territory. As the water district's boundaries do not perfectly overlap with zip codes' boundaries, the share of the area of the zip code that is covered by the water district in the county was determined. The map below (BEC-8) shows the allocation of zip codes, the county and CAW that is analyzed in this study.



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Q15. What data sources did you rely on for your analysis?

A15. We relied on the following data sources:

1. US Census 2007 County Business Patterns data – Data on number of establishments available by zip code, by NAICS code.<sup>9</sup> Total payroll and number of employees data available by zip code.
2. UC Census 2007 Economic Census data – Total sales revenues data available by county.
3. MHB Consultants Study<sup>10</sup> - Industrial and commercial elasticities reported in the study are for 0% to 15% and 15% to 30% reductions in water supply.

Q16. Can you describe how the sales revenue losses are calculated?

A16. Sales losses are calculated by multiplying the base level of sales revenue by the percent water shortage and the elasticity. An elasticity is a measure of how consumers or producers respond to a change in price. Here we are concerned with how industrial and commercial firms change their output levels as water prices increase. This calculation is performed for each sector (industrial or commercial). The best available data on sales revenue are given by NAICS code at the county level. In order to allocate the sales revenue within CAW, we determined the share of establishments located within CAW of total establishments in the county, and applied this share to the county level sales data.

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<sup>9</sup> NAICS refers to the North American Industry Classification System used by the U.S. Department of Commerce.  
<sup>10</sup> MHB Consultants, Inc., “The Economic Impact of Water Delivery Reductions on the San Francisco Water Department’s Commercial and Manufacturing Customers,” 1994.

1 We used the County Business Patterns data to determine the share of  
2 establishments by NAICS code and zip code, within CAW. The numerator is the  
3 number of establishments in a zip code-NAICS code combination that overlaps the  
4 CAW boundary. This number is weighted by the share of the zip code that lies  
5 within the CAW boundary, within Monterey County. The denominator is the  
6 number of establishments in a zip code-NAICS code combination, in the County.  
7 The denominator is then weighted by the share of the area of the zip code that lies  
8 within the County.

9  
10 Q17. Is a similar process used to calculate the payroll losses?

11 A17. In similar fashion to the sales losses, the payroll impacts are calculated by  
12 multiplying the base level of annual payroll by the elasticity and the percentage of  
13 rationing. The equivalent job losses are estimated by dividing the lost payroll by  
14 the average payroll per employee in each sector within the CAW territory.

15  
16 Unlike the sales revenue data, the most refined data available on employment are  
17 given by zip code. However, employment data are only available by zip code and  
18 are not disaggregated by NAICS code. We calculated a weighted average of the  
19 number of establishments by zip code and applied it to the employment data.  
20 Specifically, we multiplied the share of establishments in a given zip code and  
21 NAICS code by the annual payroll and number of employees in the zip code, to  
22 approximate the annual payroll and number of employees in a zip code-NAICS  
23 code combination. This number was weighted by the share of the zip code that is  
24 covered by the CAW service territory. We aggregated the annual payroll and  
25 employment data by sector within the CAW service territory.

26  
27 Q18. What elasticities are used to calculate the losses?  
28

1 A18. To calculate the output elasticities, we took an average of the industrial and  
2 commercial output elasticities, weighted by the annual sales revenue data. The  
3 industrial sector includes NAICS codes 31-33 and the commercial 42-81.  
4

5 Sales revenue data in many cases is suppressed “to avoid disclosing data for  
6 individual companies.”<sup>11</sup> In cases where a more detailed NAICS code’s sales  
7 revenue was given (such as 5411) but a higher level’s was not (such as 54) the  
8 higher level sales revenue data was filled in with the lower level, as the higher level  
9 NAICS code should encompass any NAICS codes of finer distinction.

10 To calculate the payroll elasticities, we took an average of the industrial and  
11 commercial payroll elasticities, weighted by the annual payroll data within CAW.  
12

13 Note that there are two elasticities for each sector, which depend on the level of  
14 water reduction. Output is relatively elastic for a 0-15% shortage and relatively  
15 inelastic in the event of a 15-30% shortage. Thus, in estimating the economic  
16 impacts of a 20% or 30% shortage, we would apply the more elastic elasticity to the  
17 first 15% of water restrictions, and then apply the inelastic elasticity to the  
18 remainder of the water reduction. Elasticities for shortages beyond 30% are not  
19 readily available as these magnitudes of shortages have not been studied. The  
20 reported shortage losses may be understated as the elasticities we used for water  
21 shortages beyond 30% are the same as those reported for 15-30% shortages.  
22

23 Q19. What is the magnitude of the losses in the CAW service territory relative to the  
24 output and employment in the CAW service territory and in Monterey County?  
25  
26

27 \_\_\_\_\_  
28 <sup>11</sup> US Census Bureau, 2007 Economic Census data, available at  
[http://factfinder.census.gov/servlet/MetadataBrowserServlet?type=domainValue&id=RCPTOT\\_F&dataset=EC0700A1&dsspName=ECN\\_2007&value=D&\\_lang=en](http://factfinder.census.gov/servlet/MetadataBrowserServlet?type=domainValue&id=RCPTOT_F&dataset=EC0700A1&dsspName=ECN_2007&value=D&_lang=en), accessed on May 13, 2010.

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A19. As shown in table BEC-9 below, output losses within CAW comprise 57% of the sales revenue of the industrial sector within CAW and 19% of the commercial. These losses represent 12 and 6 percent of the County’s industrial and commercial sales, respectively.

**BEC-9. Sales Losses within California American Water Monterey District (CAW) Service Territory Due to a 50% Water Shortage**

	<b>CAW Service Territory Shortage Sales Loss (millions)</b>	<b>CAW Service Territory Sales (millions)</b>	<b>Monterey County Sales (millions)</b>	<b>Shortage Loss as Percent of CAW Service Territory Sales</b>	<b>Shortage Loss as Percent of County Sales</b>
	<b>(I)</b>	<b>(II)</b>	<b>(III)</b>	<b>(IV)=(I)/(II)</b>	<b>(V)=(I)/(III)</b>
<b>Industrial</b>	\$261	\$461	\$2,228	57%	12%
<b>Commercial</b>	\$742	\$3,932	\$12,949	19%	6%

Notes:

- 1) The Industrial sector is NAICS codes 31-33.
- 2) The Commercial sector is NAICS codes 42-81.
- 3) Total Sales includes all sales, shipments, receipts, and revenues in the industrial and commercial NAICS codes for Monterey County.
- 4) Weighted-average industrial and commercial output elasticities were calculated using MHB output elasticities and 2007 Economic Census data. The elasticities reported in the MHB study are for 0% to 15% and 15% to 30% reductions in water supply.
- 5) Elasticities for shortages beyond 30% are not readily available as these magnitudes of shortages have not been studied. Reported shortages may be understated as the elasticities used for water shortages beyond 30% are the same as those reported for 15-30% shortages.
- 6) To determine the amount of sales revenue by sector within the CAW territory, sales revenue was adjusted by the weighted average of the number of establishments by NAICS code, within the CAW territory to the total number in the County. The number of establishments is given by NAICS, by zip code in the 2007 County Business Patterns data.
- 7) Some NAICS codes have data suppressed in the Economic Census to protect anonymity; this may influence the calculated average elasticity.

Sources:

- 1) GIS shape file on California American Monterey District service territory.
- 2) MHB Consultants, Inc., “The Economic Impact of Water Delivery Reductions on the San Francisco Water Department’s Commercial and Manufacturing Customers,” 1994.
- 3) 2007 Economic Census Data for Monterey County.
- 4) 2007 County Business Patterns Data.

1 Employment and payroll losses within CAW comprise 22% of the employment and  
 2 payroll of the industrial sector within CAW and 10% of the commercial. These  
 3 losses represent three and two percent of the County’s industrial and commercial  
 4 employment and payroll. Employment and payroll losses are shown in Tables BEC-  
 5 10 and BEC-11.

8 **BEC-10. Payroll Losses within California American Water Monterey District (CAW) Service Territory  
 Due to a 50% Water Shortage**

	CAW Service Territory Shortage Payroll Loss (thousands) <b>(I)</b>	CAW Service Territory Payroll (thousands) <b>(II)</b>	Monterey County Payroll (thousands) <b>(III)</b>	Shortage Loss as Percent of CAW Service Territory Payroll <b>(IV)=(I)/(II)</b>	Shortage Loss as Percent of County Payroll <b>(V)=(I)/(III)</b>
<b>Industrial</b>	\$7,061	\$31,676	\$212,239	22%	3%
<b>Commercial</b>	\$223,044	\$2,157,993	\$8,948,984	10%	2%

14 Notes:

- 15 1) The Industrial sector is NAICS codes 31-33.
- 16 2) The Commercial sector is NAICS codes 42-81.
- 17 3) Total Payroll includes all payroll in the industrial and commercial NAICS codes for Monterey County.
- 18 4) Weighted-average industrial and commercial payroll elasticities were calculated using MHB payroll elasticities and 2007 Census County Business Patterns data. The elasticities reported in the MHB study are for 0% to 15% and 15% to 30% reductions in water supply.
- 19 5) Elasticities for shortages beyond 30% are not readily available as these magnitudes of shortages have not been studied. Reported shortages may be understated as the elasticities used for water shortages beyond 30% are the same as those reported for 15-30% shortages.
- 20 6) To determine the amount of payroll by sector within the CAW territory, payroll was adjusted by the weighted average of the number of establishments by NAICS code, within the CAW territory to the total number in the County. The number of establishments is given by NAICS, by zip code in the 2007 County Business Patterns data.

21 Sources:

- 22 1) GIS shape file on California American Monterey District service territory.
- 23 2) MHB Consultants, Inc., “The Economic Impact of Water Delivery Reductions on the San Francisco Water Department’s Commercial and Manufacturing Customers,” 1994.
- 24 3) 2007 County Business Patterns Data.

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**BEC-11. Employment Losses within California American Water Monterey District (CAW) Service Territory**

**Due to a 50% Water Shortage**

	CAW Service Territory Shortage Employment Loss (I)	CAW Service Territory Employment (II)	Monterey County Employment (III)	Shortage Loss as Percent of CAW Service Territory Employment (IV)=(I)/(II)	Shortage Loss as Percent of County Employment (V)=(I)/(III)
<b>Industrial</b>	179	801	5,425	22%	3%
<b>Commercial</b>	5,631	54,478	233,543	10%	2%

Notes:

- 1) The Industrial sector is NAICS codes 31-33.
- 2) The Commercial sector is NAICS codes 42-81.
- 3) Total employment includes all employment in the industrial and commercial NAICS codes for Monterey County.
- 4) Weighted-average industrial and commercial payroll elasticities were calculated using MHB payroll elasticities and 2007 Economic Census data. The elasticities reported in the MHB study are for 0% to 15% and 15% to 30% reductions in water supply.
- 5) Elasticities for shortages beyond 30% are not readily available as these magnitudes of shortages have not been studied. Reported shortages may be understated as the elasticities used for water shortages beyond 30% are the same as those reported for 15-30% shortages.
- 6) Employment Losses are calculated by determining the payroll losses by sector and dividing it by the average payroll per employee by sector.
- 7) To determine the amount of payroll revenue by sector within the CAW territory, payroll was adjusted by the weighted average of the number of establishments by NAICS code, within the CAW territory to the total number in the County. The number of establishments is given by NAICS, by zip code in the 2007 County Business Patterns data.

Sources:

- 1) GIS shape file on California American Monterey District service territory.
- 2) MHB Consultants, Inc., "The Economic Impact of Water Delivery Reductions on the San Francisco Water Department's Commercial and Manufacturing Customers," 1994.
- 3) 2007 County Business Patterns Data.

Q20. Does this conclude your rebuttal testimony?

A20. Yes, it does.

**ATTACHMENT 7. ECONOMIC ANALYSIS – WATER SUPPLY COSTS AND BENEFITS  
CARMEL RIVER LAGOON AND BEACH STUDIES**

Project Costs: \$305,000 (planning and design portion); \$1,135,000 for engineering and construction/installation work; total of \$1,435,000 for years one through 4.

These are the total costs for the project in which the ultimate deliverable is an Ecosystem Protective Barrier running along the north side of the Carmel River Lagoon. This total project cost includes the planning and engineering design phases for which the grant funds requested in Round 1 are \$210,500 and including local match, total \$300,500.

Grant Funds Requested in January 2011 Round for Initial Phases of Project: \$210,500

Grant funds that will be requested in subsequent Implementation Grant Round proposals: \$1,135,000 (local match will offset a portion of those funds).

**Water Supply Benefits (for Exhibit C) and Water Quality and Other Expected Benefits (for Exhibit D)**

The primary water supply benefits are periodic increased depth (2-3 feet) and volume (up to 400 af) of the Lagoon, as well as improved water quality in terms of temperature, salinity, and dissolved oxygen. Presently the Lagoon water quality decreases markedly during the dry season when virtually no fresh water is entering the Lagoon from the main stem of the River. The only exception is treated water that is periodically pumped in from the Carmel Area Wastewater District in collaboration with the Carmel River Steelhead Association, which increases the amount of water in the Lagoon during low-flow periods. During the driest part of the season the Lagoon depth is typically about two feet at which time the surface volume in the Lagoon is approximately two acres. If the proposed EPB allows the depth of the Lagoon to increase to the NGVD'29 13-foot level, the surface area could increase to as much as 80 acres—a forty-fold increase. The volume of the water in the Lagoon could increase from approximately 400 acre feet to 800 acre feet. However, it is estimated that a level of 12 feet (or an additional 259 AF could reasonably be achieved. (Source: Initial Study Mitigated Negative Declaration for the Carmel River State Beach Lagoon Water Level Management Project July 2008 by the CA Department of Parks and Recreation, Figure 4)

Water Quality: In addition, especially during the dry season, high waves often overtop the barrier beach, significantly increasing the salinity of the Lagoon water (the high saline water sinks to the bottom of the Lagoon) and driving the steelhead up toward the surface to find fresher water where predation occurs much more readily. The temperature of the water above the saline layer also increases during the dry season, and dissolved oxygen levels tend to decrease.

Without this project, the water quantity (the deeper the lagoon, the higher likelihood of improved water quality) and quality in the Lagoon will degrade during the dry season and particularly during drought or low-flow years. The MPWMD has been monitoring and testing the water quality and depth in the Lagoon and can verify the degradation of the water quality and depth during the dry season (see Addendum F).

The beneficiaries of this project are the threatened species (steelhead and CA red-legged frogs) whose rearing habitat in the Lagoon could be significantly improved by increasing the water depth and volume of the Lagoon. The benefits would be achieved during each year following the installation of the EPB. There is some uncertainty as to how long the increased water volume will remain in the Lagoon due to the loss or outflow of Lagoon water through the barrier beach at low tide and when the height of the Lagoon is greater than the height of the ocean on the opposite side of the barrier beach.

The current target water level of 10 feet prior to final closure can be increased to 12 feet with a barrier (see Project Work Plan, Addendum H). The cost per acre-foot of water from the regional project, which is scheduled to come online in 2016, is estimated to be \$5,600/AF (see Economic Analysis for ASR Project).

Table 2: Stage-Volume Relationship based on Survey Data Collected Between 2003 and 2007

Elevation NGVD 29 <sup>a</sup> (ft)	Incremental Stage Volume acre-ft	Cumulative Volume (acre-feet)
-2.0	1.5	1.52
-1.0	1.2	2.76
0.0	1.8	4.61
1.0	3.3	7.90
2.0	5.8	13.68
3.0	10.6	24.31
4.0	16.8	41.12
5.0	23.2	64.36
6.0	35.6	99.98
7.0	49.4	149.35
8.0	62.9	212.25
9.0	76.3	288.58
10.0	93.9	382.48
11.0	117.9	500.39
12.0	140.8	641.19
13.0	162.8	803.96
14.0	187.8	991.80
15.0	225.3	1,217.14

<sup>a</sup> All survey data were originally in NAVD 88. The VERTCON conversion calculator provided by the National Geodetic Survey (NGS) recommended a shift of -2.736 feet to convert from NAVD 88 to NGVD 29.

Table 3: 1997 Stage-Volume Analysis<sup>a</sup>

Elevation (ft, NGVD 29)	Cumulative Volume (acre-feet)
-2.00	0.002
-1.00	0.04
0.00	0.19
1.00	0.50
2.00	1.50
3.00	4.57
4.00	12.55
5.00	30.18
6.00	60.58
7.00	103.31
8.00	155.77
9.00	217.25
10.00	285.77

<sup>a</sup> Source: MPWMD Technical Memorandum 05-01, "Surface Water Dynamics at the Carmel River Lagoon. Water Years 1991 through 2005" (October, 2005).

**Table 11- Annual Cost of Project**  
 (All costs should be in 2009 Dollars)  
 Carmel River Lagoon and Beach Studies

	Initial Costs	Operations and Maintenance Costs <sup>(1)</sup>					Discounting Calculations		
YEAR	(a) Grand Total Cost From Table 7 (row (f), column(d))	(b) Admin <sup>(2)</sup>	(c) Operation and Installation	(d) Maintenance	(e) Replacement	(f) Other	(g) Total Costs (a) +... + (f)	(h) Discount Factor	(i) Discounted Costs(g) x (h)
2009							\$0	1.000	\$0
2010							\$0	0.943	\$0
2011	\$70,000						\$70,000	0.890	\$62,300
2012	\$165,500						\$165,500	0.840	\$139,020
2013	\$65,000						\$65,000	0.792	\$51,480
2014	\$1,135,000						\$1,135,000	0.747	\$847,845
2015		\$10,000	\$40,000	\$40,000			\$90,000	0.705	\$63,450
2016		\$10,000	\$40,000	\$40,000			\$90,000	0.665	\$59,855
2017		\$10,000	\$40,000	\$40,000			\$90,000	0.627	\$56,467
2018		\$10,000	\$40,000	\$40,000			\$90,000	0.592	\$53,271
2019		\$10,000	\$40,000	\$40,000			\$90,000	0.558	\$50,256
2020		\$10,000	\$40,000	\$40,000			\$90,000	0.527	\$47,411
2021		\$10,000	\$40,000	\$40,000			\$90,000	0.497	\$44,727
2022		\$10,000	\$40,000	\$40,000			\$90,000	0.469	\$42,196
2023		\$10,000	\$40,000	\$40,000			\$90,000	0.442	\$39,807
2024		\$10,000	\$40,000	\$40,000			\$90,000	0.417	\$37,554
2025		\$10,000	\$40,000	\$40,000			\$90,000	0.394	\$35,428
2026		\$10,000	\$40,000	\$40,000			\$90,000	0.371	\$33,423
2027		\$10,000	\$40,000	\$40,000			\$90,000	0.350	\$31,531
2028		\$10,000	\$40,000	\$40,000			\$90,000	0.331	\$29,746
2029		\$10,000	\$40,000	\$40,000			\$90,000	0.312	\$28,062
2030		\$10,000	\$40,000	\$40,000	\$75,000		\$165,000	0.294	\$48,536
2031		\$10,000	\$40,000	\$40,000			\$90,000	0.278	\$24,975
2032		\$10,000	\$40,000	\$40,000			\$90,000	0.262	\$23,562
2033		\$10,000	\$40,000	\$40,000			\$90,000	0.247	\$22,228
2034		\$10,000	\$40,000	\$40,000			\$90,000	0.233	\$20,970
2035		\$10,000	\$40,000	\$40,000			\$90,000	0.220	\$19,783
2036		\$10,000	\$40,000	\$40,000			\$90,000	0.207	\$18,663
2037		\$10,000	\$40,000	\$40,000			\$90,000	0.196	\$17,607
2038		\$10,000	\$40,000	\$40,000			\$90,000	0.185	\$16,610
2039		\$10,000	\$40,000	\$40,000			\$90,000	0.174	\$15,670
2040		\$10,000	\$40,000	\$40,000			\$90,000	0.164	\$14,783
2041		\$10,000	\$40,000	\$40,000			\$90,000	0.155	\$13,946
2042		\$10,000	\$40,000	\$40,000			\$90,000	0.146	\$13,157
2043		\$10,000	\$40,000	\$40,000			\$90,000	0.138	\$12,412
2044		\$10,000	\$40,000	\$40,000			\$90,000	0.130	\$11,709
2045		\$10,000	\$40,000	\$40,000			\$90,000	0.123	\$11,047
2046		\$10,000	\$40,000	\$40,000			\$90,000	0.116	\$10,421
2047		\$10,000	\$40,000	\$40,000			\$90,000	0.109	\$9,831
2048		\$10,000	\$40,000	\$40,000			\$90,000	0.103	\$9,275
2049		\$10,000	\$40,000	\$40,000			\$90,000	0.097	\$8,750
2050		\$10,000	\$40,000	\$40,000			\$90,000	0.092	\$8,255
2051		\$10,000	\$40,000	\$40,000			\$90,000	0.087	\$7,787
2052		\$10,000	\$40,000	\$40,000			\$90,000	0.082	\$7,347
2053		\$10,000	\$40,000	\$40,000			\$90,000	0.077	\$6,931
2054		\$10,000	\$40,000	\$40,000			\$90,000	0.073	\$6,539
2055		\$10,000	\$40,000	\$40,000			\$90,000	0.069	\$6,168
2056		\$10,000	\$40,000	\$40,000			\$90,000	0.065	\$5,819
2057		\$10,000	\$40,000	\$40,000			\$90,000	0.061	\$5,490
2058		\$10,000	\$40,000	\$40,000			\$90,000	0.058	\$5,179
2059		\$10,000	\$40,000	\$40,000			\$90,000	0.054	\$4,886
2060		\$10,000	\$40,000	\$40,000			\$90,000	0.051	\$4,609
<b>Project Life</b>	<b>\$1,435,500</b>	<b>\$460,000</b>	<b>\$1,840,000</b>	<b>\$1,840,000</b>	<b>\$75,000</b>	<b>\$0</b>	<b>\$5,650,500</b>	...	
<b>Total Present Value of Discounted Costs (Sum of Column (i))</b>									<b>\$2,166,774</b>
Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries									
Comments: 2011-2013 costs of \$300,500 for Ph. I-VI - part of Round 1 Implementation Grant funding Costs for 2014 to life of project are estimated and are not a part of Round 1 Implementation Grant funding Dry side pumps replaced in 2030									

**Table 12 - Annual Water Supply Benefits**

(All benefits should be in 2009 dollars)

**Carmel Lagoon and Beach Studies**

(a) Year	(b) Type of Benefit	(c) Measure of Benefit  (Units)	(d) Without Project	(e) With Project	(f) Change Resulting from Project (e) - (d)	(g) Unit \$ Value  (1)	(h) Annual \$ Value  (f) x (g)  (1)	(i) Discount Factor  (1)	(j) Discounted Benefits  (h) x (i)  (1)
2009	..				0		\$0	1.000	\$0
2010	..				0		\$0	0.943	\$0
2011	..				0		\$0	0.890	\$0
2012	..				0		\$0	0.840	\$0
2013	..				0		\$0	0.792	\$0
2014	Lagoon water volume increase of at least 259 acre-ft	acre-foot	0	259	259	\$5,600	\$1,450,400	0.747	\$1,083,449
2015	same as 2014		0	259	259	\$5,600	\$1,450,400	0.705	\$1,022,532
2016	same as 2014		0	259	259	\$5,600	\$1,450,400	0.665	\$964,516
2017	same as 2014		0	259	259	\$5,600	\$1,450,400	0.627	\$909,401
2018	same as 2014		0	259	259	\$5,600	\$1,450,400	0.592	\$858,637
2019	same as 2014		0	259	259	\$5,600	\$1,450,400	0.558	\$809,323
2020	same as 2014		0	259	259	\$5,600	\$1,450,400	0.527	\$764,361
2021	same as 2014		0	259	259	\$5,600	\$1,450,400	0.497	\$720,849
2022	same as 2014		0	259	259	\$5,600	\$1,450,400	0.469	\$680,238
2023	same as 2014		0	259	259	\$5,600	\$1,450,400	0.442	\$641,077
2024	same as 2014		0	259	259	\$5,600	\$1,450,400	0.417	\$604,817
2025	same as 2014		0	259	259	\$5,600	\$1,450,400	0.394	\$571,458
2026	same as 2014		0	259	259	\$5,600	\$1,450,400	0.371	\$538,098
2027	same as 2014		0	259	259	\$5,600	\$1,450,400	0.350	\$507,640
2028	same as 2014		0	259	259	\$5,600	\$1,450,400	0.331	\$480,082
2029	same as 2014		0	259	259	\$5,600	\$1,450,400	0.312	\$452,525
2030	same as 2014		0	259	259	\$5,600	\$1,450,400	0.294	\$426,418
2031	same as 2014		0	259	259	\$5,600	\$1,450,400	0.278	\$403,211
2032	same as 2014		0	259	259	\$5,600	\$1,450,400	0.262	\$380,005
2033	same as 2014		0	259	259	\$5,600	\$1,450,400	0.247	\$358,249
2034	same as 2014		0	259	259	\$5,600	\$1,450,400	0.233	\$337,943
2035	same as 2014		0	259	259	\$5,600	\$1,450,400	0.220	\$319,088
2036	same as 2014		0	259	259	\$5,600	\$1,450,400	0.207	\$300,233
2037	same as 2014		0	259	259	\$5,600	\$1,450,400	0.196	\$284,278
2038	same as 2014		0	259	259	\$5,600	\$1,450,400	0.185	\$268,324
2039	same as 2014		0	259	259	\$5,600	\$1,450,400	0.174	\$252,370
2040	same as 2014		0	259	259	\$5,600	\$1,450,400	0.164	\$237,866
2041	same as 2014		0	259	259	\$5,600	\$1,450,400	0.155	\$224,812
2042	same as 2014		0	259	259	\$5,600	\$1,450,400	0.146	\$211,758
2043	same as 2014		0	259	259	\$5,600	\$1,450,400	0.138	\$200,155
2044	same as 2014		0	259	259	\$5,600	\$1,450,400	0.130	\$188,552
2045	same as 2014		0	259	259	\$5,600	\$1,450,400	0.123	\$178,399
2046	same as 2014		0	259	259	\$5,600	\$1,450,400	0.116	\$168,246
2047	same as 2014		0	259	259	\$5,600	\$1,450,400	0.109	\$158,094
2048	same as 2014		0	259	259	\$5,600	\$1,450,400	0.103	\$149,391
2049	same as 2014		0	259	259	\$5,600	\$1,450,400	0.097	\$140,689
2050	same as 2014		0	259	259	\$5,600	\$1,450,400	0.092	\$133,437
2051	same as 2014		0	259	259	\$5,600	\$1,450,400	0.087	\$126,185
2052	same as 2014		0	259	259	\$5,600	\$1,450,400	0.082	\$118,933
2053	same as 2014		0	259	259	\$5,600	\$1,450,400	0.077	\$111,681
2054	same as 2014		0	259	259	\$5,600	\$1,450,400	0.073	\$105,879
2055	same as 2014		0	259	259	\$5,600	\$1,450,400	0.069	\$100,078
2056	same as 2014		0	259	259	\$5,600	\$1,450,400	0.065	\$94,276
2057	same as 2014		0	259	259	\$5,600	\$1,450,400	0.061	\$88,474
2058	same as 2014		0	259	259	\$5,600	\$1,450,400	0.058	\$84,123
2059	same as 2014		0	259	259	\$5,600	\$1,450,400	0.054	\$78,322
2060	same as 2014		0	259	259	\$5,600	\$1,450,400	0.051	\$73,970
<b>Project Life</b>					<b>12,173</b>		<b>\$68,168,800</b>	...	
<b>Total Present Value of Discounted Benefits Based on Unit Value (Sum of the values in Column (j) for all Benefits shown in table)</b>									<b>\$17,912,440</b>
Comments:									
(b) the current target level of 10 feet prior to final closure can be increased to 12 feet with a barrier (see Project Work Plan, Addendum H)									
(g) the cost per acre-foot of water from the regional project, which is scheduled to come come online in 2016, is estimated to be \$5,600/AF (see Economic Analysis for ASR Project).									

**Table 13 - Annual Costs of Avoided Projects**  
 (All avoided costs should be in 2009 dollars)  
 Project: Carmel River Lagoon and Beach Studies

(a)	Costs				Discounting Calculations	
	(b)	(c)	(d)	(e)	(f)	(g)
YEAR	Alternative (Avoided Project Name): <b>Mechanical (artificial) Breaching</b>				Discount Factor	Discounted Costs (e) x (f)
	Avoided Project Description: <i>Estimated difference between current O&amp;M for breaching and future O&amp;M to maintain a barrier and pumps</i>					
	Avoided Capital Costs	Avoided Replacement Costs	Avoided Operations and Maintenance Costs	Total Cost Avoided for Individual Alternatives (b) + (c) + (d)		
2009				\$ -	1.000	\$0
2010				\$ -	0.943	\$0
2011				\$ -	0.890	\$0
2012				\$ -	0.840	\$0
2013				\$ -	0.792	\$0
2014			\$ 3,000	\$ 3,000	0.747	\$2,241
2015			\$ 3,000	\$ 3,000	0.705	\$2,115
2016			\$ 3,000	\$ 3,000	0.665	\$1,995
2017			\$ 3,000	\$ 3,000	0.627	\$1,882
2018			\$ 3,000	\$ 3,000	0.592	\$1,776
2019			\$ 3,000	\$ 3,000	0.558	\$1,675
2020			\$ 3,000	\$ 3,000	0.527	\$1,580
2021			\$ 3,000	\$ 3,000	0.497	\$1,491
2022			\$ 3,000	\$ 3,000	0.469	\$1,407
2023			\$ 3,000	\$ 3,000	0.442	\$1,327
2024			\$ 3,000	\$ 3,000	0.417	\$1,252
2025			\$ 3,000	\$ 3,000	0.394	\$1,181
2026			\$ 3,000	\$ 3,000	0.371	\$1,114
2027			\$ 3,000	\$ 3,000	0.350	\$1,051
2028			\$ 3,000	\$ 3,000	0.331	\$992
2029			\$ 3,000	\$ 3,000	0.312	\$935
2030			\$ 3,000	\$ 3,000	0.294	\$882
2031			\$ 3,000	\$ 3,000	0.278	\$833
2032			\$ 3,000	\$ 3,000	0.262	\$785
2033			\$ 3,000	\$ 3,000	0.247	\$741
2034			\$ 3,000	\$ 3,000	0.233	\$699
2035			\$ 3,000	\$ 3,000	0.220	\$659
2036			\$ 3,000	\$ 3,000	0.207	\$622
2037			\$ 3,000	\$ 3,000	0.196	\$587
2038			\$ 3,000	\$ 3,000	0.185	\$554
2039			\$ 3,000	\$ 3,000	0.174	\$522
2040			\$ 3,000	\$ 3,000	0.164	\$493
2041			\$ 3,000	\$ 3,000	0.155	\$465
2042			\$ 3,000	\$ 3,000	0.146	\$439
2043			\$ 3,000	\$ 3,000	0.138	\$414
2044			\$ 3,000	\$ 3,000	0.130	\$390
2045			\$ 3,000	\$ 3,000	0.123	\$368
2046			\$ 3,000	\$ 3,000	0.116	\$347
2047			\$ 3,000	\$ 3,000	0.109	\$328
2048			\$ 3,000	\$ 3,000	0.103	\$309
2049			\$ 3,000	\$ 3,000	0.097	\$292
2050			\$ 3,000	\$ 3,000	0.092	\$275
2051			\$ 3,000	\$ 3,000	0.087	\$260
2052			\$ 3,000	\$ 3,000	0.082	\$245
2053			\$ 3,000	\$ 3,000	0.077	\$231
2054			\$ 3,000	\$ 3,000	0.073	\$218
2055			\$ 3,000	\$ 3,000	0.069	\$206
2056			\$ 3,000	\$ 3,000	0.065	\$194
2057			\$ 3,000	\$ 3,000	0.061	\$183
2058			\$ 3,000	\$ 3,000	0.058	\$173
2059			\$ 3,000	\$ 3,000	0.054	\$163
2060			\$ 3,000	\$ 3,000	0.051	\$154
<b>Total Present Value of Discounted Costs (Sum of Column (g))</b>						<b>\$37,043</b>
<b>(%) Avoided Cost Claimed by Project</b>						<b>100%</b>
<b>Total Present Value of Discounted Avoided Project Costs Claimed by alternative Project (Total Present Value of Discounted Costs x % Avoided Cost Claimed by Project)</b>						<b>\$37,043</b>
<b>Comments:</b>						

**Table 15. Total Water Supply Benefits**

(All benefits should be in 2009 dollars)

Project: Carmel River Lagoon and Beach Studies

<b>Total Discounted Water Supply Benefits (a)</b>	<b>Total Discounted Avoided Project Costs (b)</b>	<b>Other Discounted Water Supply Benefits (c)</b>	<b>Total Present Value of Discounted Benefits (d) (a) + (c) or (b) + (c)</b>
\$17,912,440	\$37,043	\$0	\$17,949,483

**Comments:**

**ECONOMIC ANALYSIS – WATER SUPPLY COSTS AND BENEFITS  
CITY OF MONTEREY – SOLID WASTE REMOVAL TECHNOLOGY (FROM STORM WATER)**

Table 11- Annual Cost of Project (All costs should be in 2009 Dollars) Project: Solid Waste Removal Technology (from storm water)									
	Initial Costs	Operations and Maintenance Costs <sup>(1)</sup>						Discounting Calculations	
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
YEAR	Grand Total Cost From Table 7 (row (i), column(d))	Admin	Operation	Maintenance	Replacement	Other	Total Costs (a) +...+ (f)	Discount Factor	Discounted Costs(g) x (h)
2009							\$0	1.000	\$0
2010							\$0	0.943	\$0
2011	\$750,000	\$3,200		\$4,800			\$758,000	0.890	\$674,620
2012		\$3,200		\$4,800			\$8,000	0.840	\$6,720
2013		\$3,200		\$4,800			\$8,000	0.792	\$6,336
2014		\$3,200		\$4,800			\$8,000	0.747	\$5,976
2015		\$3,200		\$4,800	\$1,000		\$9,000	0.705	\$6,345
2016		\$3,200		\$4,800			\$8,000	0.665	\$5,320
2017		\$3,200		\$4,800			\$8,000	0.627	\$5,016
2018		\$3,200		\$4,800			\$8,000	0.592	\$4,736
2019		\$3,200		\$4,800	\$1,000		\$9,000	0.558	\$5,022
2020		\$3,200		\$4,800			\$8,000	0.527	\$4,216
2021		\$3,200		\$4,800			\$8,000	0.497	\$3,976
2022		\$3,200		\$4,800			\$8,000	0.469	\$3,752
2023		\$3,200		\$4,800	\$1,000		\$9,000	0.442	\$3,978
2024		\$3,200		\$4,800			\$8,000	0.417	\$3,336
2025		\$3,200		\$4,800			\$8,000	0.394	\$3,152
2026		\$3,200		\$4,800			\$8,000	0.371	\$2,968
2027		\$3,200		\$4,800	\$1,000		\$9,000	0.350	\$3,150
2028		\$3,200		\$4,800			\$8,000	0.331	\$2,648
2029		\$3,200		\$4,800			\$8,000	0.312	\$2,496
2030		\$3,200		\$4,800			\$8,000	0.294	\$2,352
2031		\$3,200		\$4,800	\$1,000		\$9,000	0.278	\$2,502
2032		\$3,200		\$4,800			\$8,000	0.262	\$2,096
2033		\$3,200		\$4,800			\$8,000	0.247	\$1,976
2034		\$3,200		\$4,800			\$8,000	0.233	\$1,864
2035		\$3,200		\$4,800	\$1,000		\$9,000	0.220	\$1,980
2036		\$3,200		\$4,800			\$8,000	0.207	\$1,656
2037		\$3,200		\$4,800			\$8,000	0.196	\$1,568
2038		\$3,200		\$4,800			\$8,000	0.185	\$1,480
2039		\$3,200		\$4,800	\$1,000		\$9,000	0.174	\$1,566
2040		\$3,200		\$4,800			\$8,000	0.164	\$1,312
2041		\$3,200		\$4,800			\$8,000	0.155	\$1,240
2042		\$3,200		\$4,800			\$8,000	0.146	\$1,168
2043		\$3,200		\$4,800	\$1,000		\$9,000	0.138	\$1,242
2044		\$3,200		\$4,800			\$8,000	0.130	\$1,040
2045		\$3,200		\$4,800			\$8,000	0.123	\$984
2046		\$3,200		\$4,800			\$8,000	0.116	\$928
2047		\$3,200		\$4,800	\$1,000		\$9,000	0.109	\$981
2048		\$3,200		\$4,800			\$8,000	0.103	\$824
2049		\$3,200		\$4,800			\$8,000	0.097	\$776
2050		\$3,200		\$4,800			\$8,000	0.092	\$736
2051		\$3,200		\$4,800	\$1,000		\$9,000	0.087	\$783
2052		\$3,200		\$4,800			\$8,000	0.082	\$656
2053		\$3,200		\$4,800			\$8,000	0.077	\$616
2054		\$3,200		\$4,800			\$8,000	0.073	\$584
2055		\$3,200		\$4,800	\$1,000		\$9,000	0.069	\$621
2056		\$3,200		\$4,800			\$8,000	0.065	\$520
2057		\$3,200		\$4,800			\$8,000	0.061	\$488
2058		\$3,200		\$4,800			\$8,000	0.058	\$464
Total Present Value of Discounted Costs (Sum of Column (i))									\$788,766
Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries									
Comments: Admin cost includes annual quarterly reports and outfall testing. Maintenance cost includes annual quarterly cleanings. Replacement cost is for media fine particle filtration cartridge replacement. This project actually increase the maintenance I									

**ECONOMIC ANALYSIS – WATER SUPPLY COSTS AND BENEFITS  
MICROBIAL SOURCE TRACKING IN THE CITIES OF MONTEREY AND PACIFIC GROVE**

Table 11- Annual Cost of Project (All costs should be in 2009 Dollars) Project: Microbial Source Tracking in the Cities of Monterey and Pacific Grove									
	Initial Costs	Operations and Maintenance Costs <sup>(1)</sup>						Discounting Calculations	
YEAR	(a) Grand Total Cost From Table 7 (row (i), column(d))	(b) Admin	(c) Operation	(d) Maintenance	(e) Replacement	(f) Other	(g) Total Costs (a) +...+ (f)	(h) Discount Factor	(i) Discounted Costs(g) x (h)
2009							\$0	1.000	\$0
2010							\$0	0.943	\$0
2011	\$ 230,076.00						\$230,076	0.890	\$204,768
2012	\$21,924						\$21,924	0.840	\$18,416
...								...	
...								...	
Project Life								...	
Total Present Value of Discounted Costs (Sum of Column (i)) Transfer to Table 20, column (c), Exhibit F: Proposal Costs and Benefits Summaries									\$223,184
Comments: This will be a two-year project with the microbial source tracking study conducted over the first 12 month period. The second year will entail data analysis, completion of a report, and outreach and technical follow-up with the local jurisdictions to identify appropriate management measures									

(1) The incremental change in O&M costs attributable to the project.

Note: The target for this project – i.e., elimination of human sources by repairing failed sewer systems or illegal sewer discharges into the water sheds – is qualitative. No quantitative analysis is performed for the project.