

WATER QUESTIONS

February 2012

- LATEST INFORMATION, LATEST DATA
- CONSERVATION TRENDS
- PLANNING FOR 2017 and 2021
- SCHEDULE AND TIMING
- COSTS AND FINANCING

CONCLUSIONS

- USE CURRENT DATA
- REVISE PROJECTIONS OF NEED
- MAXIMIZE LOWER COST SUPPLIES
- EVALUATE DESAL OPTIONS
- MAXIMIZE PUBLIC FINANCING

FURTHERMORE, CLARIFY

SWRCB & Table 13 permits, 1000afy (smaller desal)

CA reduce leaks, 500 afy (smaller desal)

Lots of record, 1000 afy (larger desal)

WATER USE & CONSERVATION TRENDS

MONTEREY PENINSULA (Info from MPWMD on Cal Am usage reports)

Prepared by Citizens for Public Water Revised February 4, 2012

Category	Water Year 1988 in acre feet	Water Year 2005 in acre feet	4 year Average 2006 - 2009	2 year Average 2010 - 2011
Residential	7954	6154	6340	5822
Multi- residential	2261	1263	1279	1293
Commercial	3836	3020	2949	2886
Industrial	100	80	78	67
Golf Course	1271	368	323	254
Public authority	1649	1067	965	698
Other	208	43	115	156
Total	17,279	11,995	12,049	11,176
% change from 1988		-31%	-31%	-35%

Voluntary conservation impacts continue. Higher cost block rates went into effect in Feb. 2010, corresponding with recent reductions. (This excludes est 12% water loss in CA system.)

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ACRONYMS (fyi)

AFY: acre feet/year, a measure of water volume (1 af serves 5+ families for 1 yr)
 ASR: Aquifer Storage & Recovery (winter excess river water stored for later use)
 CA: CAW, Cal Am: California American Water
 CDO: Cease and Desist Order 95-10 (state order to reduce pumping from Carmel River)
 CPUC: CA Public Utilities Commission (oversees all corporate utilities)
 DRA: Division of Ratepayer Advocates (independent arm of CPUC)
 GWR: Ground Water Recharge, purified waste water stored in ground for later use.
 MCWD: Marina Coast Water District (host agency for Regional Desal)
 MCWRA: Monterey County Water Resources Agency
 MPWMD: Monterey Peninsula Water Management District
 MRWPCA: Monterey Regional Water Pollution Control Agency, source of GWR
 RPD: Regional Desal Project (3 partners—Cal Am, MCWD, and Monterey County Water Resources Agency (appointed by Board of Supervisors))
 SGWB: Seaside Ground Water Basin: over-drafted water supply, location for storage
 SWRCD: State Water Resources Control Board (issued CDO 95-10)

RAMP DOWN DETAILS w/o DESAL

From: Peninsula Water Ratepayers Alliance georgetriley@gmail.com 2/2/2012

Important points:

- Updated data in 2011 requires new thinking.
- The ramp down schedule becomes serious in 2018, not sooner.
- The data below are conservative. They do not include the safety margins from increased conservation, reduced leaks in the Cal Am system, and water from the Sand City Desal; together estimated at 400 afy.

Category \ Year	2015	2016	2017⁽¹⁾	2018-2020⁽²⁾	2021⁽²⁾
Acre feet/year	afy	afy	afy	afy	afy
Updated water needs data ⁽³⁾	13,300	13,300	13,300	13,300	13,300
Legal water available					
Carmel River	9,945	9,703	4,813	3,376	3,376
Seaside Basin	<u>2,299</u>	<u>2,299</u>	<u>2,299</u>	<u>1,820</u>	<u>1,474</u>
Subtotal legal water	12,244	12,002	7,112	5,196	4,850
Approved new ASR 1 & 2 supply ⁽⁴⁾ approx	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>	<u>2,000</u>
a) Total legal & approved water	14,244	14,002	9,112	7,196	6,850
Water cushion or (gap) (rounded)	1,000	700	(4,200)	(6,100)	(6,500)
Non-desal new water					
GWR ⁽⁵⁾ (up to 5000afy)			2,700	2,700	2,700
ASR 3 (up to 2000afy)			1,000	1,000	1,000
b) Subtotal new non-desal			<u>3,700</u>	<u>3,700</u>	<u>3,700</u>
c) Total supply w/ legal & new water (rounded) (a+b=c)	14,250	14,000	12,800	10,900	10,500
Water supply gap (for desal?)	1,000	700	(500)	(2,400)	(2,800)

Notes:

1. Year the State ordered Carmel River Cease and Desist Order (CDO) goes into full effect.
2. Years the court ordered adjudication of the Seaside Basin goes into full effect.
3. Average of current use data presented by MPWMD at meeting of 9/19/2011.
4. Aquifer Storage and Recovery, the process of storing excess winter runoff from the Carmel River in the Seaside Basin for use later in year.
5. Groundwater Recharge, the process of purifying reclaimed waste water and storing it in the Seaside Basin for use later in the year.

WHAT SIZE DESAL?

The basic question requires three evaluations: total need, the mix of supply sources, and costs. The following chart suggests three scenarios for a range of need estimates, and options for lower cost supplies, in order to estimate the size for the higher cost desal.

The legal ramp downs allow 7,112 afy in 2017, and only 4850 afy in 2021:

	Year 2017	Year 2021
Carmel River	4,813	3,376
Seaside Basin	<u>2,299</u>	<u>1,474</u>
Total legal water	7,112	4,850

Options to be considered:

- A. Plan for 15,200 afy, as in the Regional Desal Project?
- B. Plan for 14,100 afy, representing 2006-07 water year when it was critically dry and the economy was good, as stated by Monterey Peninsula Water Management District?
- C. Plan for 13,300 afy, an average of recent water use reported by MPWMD?
- D. Plan for maximizing lower cost water supply options for 2017? For 2021?

PLAN FOR 2017	15,200 afy (based on 5 year old data)	14,100 afy (based on 2006-07 water year)	13,300 afy (based on current use)
Total legal (includes 2000 ASR)	9,112	9,112	9,112
Water (gap) rounded	(6,100)	(5,000)	(4,200)
Add water from planned ASR & GWR	3,700	3,700	3,700
Remaining (gap) for desal size	(2,400)	(1,300)	(500)
PLAN FOR 2021			
Add need (gap) for 2021	(2,262)	(2,262)	(2,262)
Total supply (gap) (rounded)	(4,660)	(3,560)	(2,760)
Plan A: If desal were maximized	5,000 afy	4,000 afy	3,000 afy
Plan B: If ASR (+1,000) and GWR (+2,300) were maximized	3,300	3,300	3,300
Desal needs	1,360 afy	260 afy	0
Plan C: Mix A and B for desal	3,000 afy	2,500 afy	1,500 afy

AFY: Acre feet per year, the standard measurement for water production.

ASR: Aquifer Storage and Recovery, winter excess river runoff stored for later use.

GWR: Ground Water Recharge, purified waste water stored for later use.