

SUMMARY OF MPWMD ALLOCATIONS

The MPWMD is the only California water agency that has allocated supply among planning agencies within its jurisdiction. The District's allocation is intended to equitably distribute available capacity so that each city and the County can plan land use recognizing water as a constraint and to set a maximum limit for consumption by a jurisdiction. The allocation is thus a means of ensuring that no one agency uses all the available capacity and that each agency has incentive to shepherd its share.

The current allocation (adopted April, 1981) assumes that 20,000 acre feet of water resources are available to Cal Am. This figure is 2,000 AF lower than the PUC's estimate of Cal Am's normal year capacity to provide a drought reserve. This figure also excludes approximately 2,000 AF of usage reserved for private wells and approximately 1,000 acre feet of usage which has been dedicated to other water suppliers.

Cal Am's 20,000 AF capacity has been allocated among the cities and County based on projected year 2000 need within the existing Cal Am Service Area. It is the District Board's policy that the allocation should attempt to put the water where the market would have dictated growth. This policy would achieve comparable equity by allowing each jurisdiction to plan into the future with an amount of water equivalent to their projected needs.

To accomplish this goal, the District retained a regional economic consultant, Dick Recht of Recht, Hausrath & Associates, to project growth. Dick Recht used economic, demographic and land use trends and data to develop projections of residential development and employment by jurisdiction. The number of new single family dwelling units as well as the number of new commercial and industrial employees were developed. These projections are shown in columns 2, 5, 8 and 11 respectively of the allocation summary chart attached as Exhibit A.

To convert these land use and economic projections into water use, the District adopted the Cal Am average use per unit and employee in 1979 (adjusted to 15,000 AF). Column 3, 6, 9 and 12 show the use per unit figures for single family residential, multifamily residential, commercial and industrial. These use rates were derived by ~~dividing total Cal Am deliveries in the residential~~ categories by the respective dwelling unit counts for the service area and in the commercial/industrial categories by the respective employee counts. Carmel Valley residential projections used higher rates to reflect the larger properties and higher water use.

By multiplying the units by the use per unit, the District estimated the projected new water demand in each of these categories for each jurisdiction.

The year 2000 projections shown in Column 14 of Exhibit A is simply the sum of the projected new demands from the four categories and the 1979 adjusted demand shown in Column 1. The total water use in the Cal Am service area was then divided by the projected demand in each jurisdiction to provide the percentage of the total demand for that jurisdiction. This percentage times the 20,000 AF available results in the jurisdiction's allocation.

It should be noted that this allocation does not provide water for areas currently outside Cal Am. Areas such as Carmel Valley and Monterey II which are currently outside Cal Am do not have an allocation. However, jurisdictions have the right to apply a portion of their allocation as long as sufficient water is retained to meet the needs of the existing service area.

The allocation can also be amended where territory is annexed to a city from the County. In this situation, the County's allotment would decrease by the actual existing use in that area, which would become part of the city's allotment. Additionally, water to cover future demand within the annexed area may be transferred.

An unresolved issue in the allocation regards reclamation. The District Board has not determined if the water supplanted by reclamation should be awarded to the agency in which the project is located or reallocated to all agencies.

The projections do not account for future conservation resulting from new fixtures or price elasticity. The District has set a goal of reducing total demand by 15% by the year 2020; however, each jurisdiction is encouraged to maximize its allocation by cooperating in the conservation program.

Finally, it should be noted that the District has unallocated reserves that may be appropriated by new water systems. The USGS has indicated that the Seaside basin can produce 6,000 AF of water annually, whereas current consumption is only 3,000 AF. This 3,000 AF surplus is currently unappropriated.

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CALCULATION OF THE MONTEREY PENINSULA WATER MANAGEMENT DISTRICT'S ALLOCATION CAL-AM SERVICE AREA

Col:	Base use; 1979 adj.	ADDITIONAL USE TO THE YEAR 2000												PROJECTED, Year 2000. (1)+(4)+(7)+(10)+(13)	PERCENT of Col. 14	WITH SUPPLY OF 20,000 af
		SFDU			MFDU			INDUSTRIAL			COMMERCIAL					
		no. of units	unit, af/DU	new use, af	no. of units	unit, af/DU	new use, af	no. emp.	unit, af/emp	new use, af	no. emp.	unit, af/emp	new use, af			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
CARMEL	967	120	.282	33.8	80	.167	13.3	-	-	-	500	.123	61.5	1075.6	5,542	1108
DEL REY OAKS	206	-	-	-	240	.167	40.0	-	-	-	80	.123	9.8	255.8	1,318	264
MONTEREY	4225	540	.282	152.3	1740	.167	289.9	1300	.137	178.1	9350	.123	1150.0	5995.3	30,890	6173
PACIFIC GROVE	2106	150	.282	42.3	650	.167	108.3	-	-	-	1600	.123	196.8	2453.4	12,641	2528
SAND CITY	59	-	-	-	1000	.167	166.7	700	.137	95.9	180	.123	22.1	349.2	1,799	360
SEASIDE	2067	-	-	-	800	.167	133.3	-	-	-	2400	.123	295.2	2495.5	12,858	2572
17000: Valley	5370	550	.366	201.3	700	.313	219.1	-	-	-	2540	.123	312.4	6783.6	34,952	6990
Other	-	2120	.282	597.8	500	.167	83.0	-	-	-	-	-	-	-	-	-
SubΣ	-	-	-	799.1	-	-	302.1	-	-	-	-	-	-	-	-	-
TOTAL	15,000													19,408.4	100.000	20,000

The District's allocation appears in col. 15, as a percent of the available supply. Cols. 15 and 16 are calculated by J. Logan and may differ - trivially - from those of the District.

RESIDENTIAL RELATED ADDITIONAL WATER DEMAND PROJECTIONS TO YEAR  
2000 IN THE CAL AM SERVICE AREA

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	# NEW SF DU *1	USE/*2 SF DU (AF/DU)	NEW SF WATER DEMAND (AF)	# NEW MF DU *1	USE/*2 MF DU (AF/DU)	NEW MF WATER DEMAND (AF)	TOTAL NEW WATER DEMA (AF)
CARMEL	120	.212	25.4	80	.126	10.1	35.5
DEL REY OAKS	---	---	---	240	.193	46.3	46.3
MONTEREY CITY	540	.246	132.8	1740	.159	276.7	409.5
PACIFIC GROVE	---	.217	---	500	.155	77.5	77.5
SAND CITY	---	.197	---	700	.134	67	67
SEASIDE	---	.273	---	800	.193	154.4	154.4
MONTEREY COUNTY	2670	.366	977.2	1200	.313	375.6	1352.8
TOTAL/CAL AM	3330	---	1135.4	5260	---	1007.6	2143.0

RESIDENTIAL RELATED ADDITIONAL WATER DEMAND PROJECTIONS TO YEAR 2000  
OUTSIDE CAL AM BUT IN MPWMD (EXCLUDING FORT ORD)

MONTEREY COUNTY	3260	.366	1193.2	4050	.313	1267.7	2460.9
SAND CITY	---	---	---	300	.134	40.2	40.2
TOTAL MPWMD	6590	---	2328.56	9410	---	2275.3	4644.1

RESIDENTIAL RELATED DEMAND IN CAL AM MONTEREY II ANNEX AREA

MONTEREY	200	.366	73.2	400	.313	125.2	198.4
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Source: Reicht Economic & Demographic Projections

\*2 Source: Cal Am Water Deliveries Divided by Housing Counts Supplied by Jurisdiction

EMPLOYMENT RELATED ADDITIONAL WATER DEMAND PROJECTIONS TO YEAR  
2000 IN THE CAL AM SERVICE AREA

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	IND*1 EMP.	USE/ *2 EMP. (AF/EMP)	IND. WATER DEMAND (AF)	COMM*1 EMP.	USE/ *2 EMP. (AF/EMP)	COM. WATER DEMAND (AF)	TOTAL WA DEMAND (AF)
CARMEL	---	---	---	500	.123	61.5	61.5
DEL REY OAKS	---	---	---	80	.123	9.8	9.8
MONTEREY CITY	1300	.137	178.1	9,350	.123	1150.0	1328.1
PACIFIC GROVE	---	---	---	1600	.123	196.8	196.8
SAND CITY	700	.137	95.9	180	.123	22.1	118.0
SEASIDE	---	---	---	2400	.123	295.2	295.2
MONTEREY COUNTY	---	---	---	2540	.123	312.4	312.4
TOTAL/CAL AM	2000	---	274	16,650	---	2047.8	2321.8

EMPLOYMENT RELATED ADDITIONAL WATER DEMAND PROJECTIONS TO YEAR 2000  
OUTSIDE CAL AM BUT IN MPWMD (EXCLUDING FORT ORD)

MONTEREY COUNTY	---	---	---	820	.123	100.8	100.8
SAND CITY	40	.137	5.5	---	---	---	5.5
SUB TOTAL	40	---	---	820	---	100.86	106.3
TOTAL MPWMD	2080	---	279.5	3540	---	2148.6	2428.1

EMPLOYMENT RELATED DEMAND IN CAL AM MONTEREY II ANNEXATION AREA

MONTEREY COUNTY	---	---	---	1300	.123	9.9	159.9
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1 Source: Recht Economic & Demographic Projections

\*2 Source: Cal Am Deliveries Divided by MCTC Employment Count

## YEAR 2000 WATER PROJECTIONS IN CAL AM SERVICE AREA

	(1)	(2)	(3)	(4)
	ADJUSTED BASE CAL AM USE (AF) *1	ADDED RES. DEMAND (AF) *2	ADDED COMM. DEMAND (AF) *3	(PROJECTED CAL AM WATER USE (AF))
CARMEL	967	35.5	61.5	1064
DEL REY OAKS	206	46.3	9.8	262.1
MONTEREY CITY	4225	409.5	1328.1	5962.6
PACIFIC GROVE	2046	77.5	196.8	2320.3
SAND CITY	59	67.0	118.0	241.0
SEASIDE	2067	154.4	295.2	2516.6
MONTEREY COUNTY	5430	1352.8	312.4	7095.2
TOTAL/CAL AM	15,000	2143.0	2321.8	19,464.8

YEAR 2000 WATER PROJECTIONS OUTSIDE CAL AM BUT IN MPWMD  
(EXCLUDING FORT ORD)

	OTHER USE (AF)	ADDED RES. DEMAND (AF)	ADDED (AF) COMM. DEMAND	PROJECTED (AF)
MONTEREY COUNTY	500	2460.9	100.8	3061.7
SEASIDE	500	---	---	500
SAND CITY	---	38.9	5.5	44.4
TOTAL DISTRICT	16,000	4603.9	2428.1	23,070.9

## WATER DEMAND IN CAL AM MONTEREY II ANNEX AREA

MONTEREY COUNTY	---	73.2	159.9	233.1
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\*1 Source: Cal Am Water Deliveries

\*2 Source: See Page 1

\*3 Source: See Page 2

TO: Monterey Peninsula Water Management District  
Technical Advisory Committee

FROM: Sub-Committee on Allocation Formulas

DATE: November 1, 1994

As requested by the MPWMD TAC, the Water Allocation Sub-Committee consisting of Narayan Thadani, Rick Tooker, and Clayton Neill have met and considered various alternatives for allocating the 150 acre feet of water that would be available from the Carmel Area Wastewater treatment plant/Pebble Beach reclamation project.

Three alternative allocations were considered for the 150 acre feet from the wastewater reclamation project. These alternatives are discussed below:

Alternative A: Use the desalination allocation formula as presented to the MPWMD board on April 30, 1993 from the MPWMD TAC. Details of how this could be applied are given below.

1. that there be no additional deductions from Cal-Am water distribution system losses in the allocation of water
2. that there be a set aside of 8 AF for use as both a contingency reserve and for projects of regional community benefit
3. that the 150 AF allocated to new connections be set aside as shown on Table 1
4. that the distribution of the rolling block allocation be as shown on Table 2
5. that the borrowing of water between jurisdictions not be allowed at this time
6. that the jurisdictions be allowed to borrow from future rolling blocks.

Allocation for the first two year period would be as shown on Table 3.

Alternative B: The sub-committee recognized that application of the desalination formula to the 150 AF that may be available was not very practical, partially due to the fact that this is a much smaller supply of water than the desalination project would have provided for. The sub-committee is therefore recommending the following modified desalination allocation methodology.

1. that no reserve, whether for contingency or community benefit, be set aside.

2. 1/3 of the 150 AF be divided equally between the eight member jurisdictions, with each jurisdiction guaranteed 6.75 AF.
3. the remaining 100 AF should be broken out according to the desal allocation: a] based 1/3 on vacant lots of record. b] based 1/3 on past permit activity. c] based 1/3 on historic use of water.
4. No rolling blocks of water should be considered.
5. No borrowing of water be allowed between jurisdictions.

Table 4 shows the allocation of water to each of these jurisdictions.

Alternative C: The sub-committee suggests that the TAC may also wish to consider the option of dividing the 150 SF equally between the jurisdictions. This allocation is shown on Table 5.

The sub-committee considered various other alternatives but could not find sufficient merit in these to analyze them in further detail or make recommendations. These included: a] first come, first served for the entire 150 AF, and b] a small set aside for each jurisdiction with the bulk of the allocation on a first come, first served basis.

The sub-committee also recommends that no time limit be set for using this water allocation and that this decision be left to be made by the individual jurisdictions.

Table 1

	<u>Acre-Feet</u>
Reserve	8
Fixed Block Allocations	
8 Jurisdictions @ 4 AF each	32
Rolling Allocations	
First 2 year period	22
Second 2 year period	22
Third 2 year period	22
Fourth 2 year period	22
Fifth 2 year period	<u>22</u>
<b>TOTAL</b>	<b>150</b>

Table 2

<u>Jurisdiction</u>	<u>% of Rolling-Block Water</u>
City of Carmel-by-the-Sea	5.172
City of Del Rey Oaks	1.208
City of Monterey	26.470
City of Pacific Grove	8.882
City of Sand City	10.507
City of Seaside	17.571
Monterey County	29.321
Monterey County Airport District	<u>0.868</u>
<b>TOTAL</b>	<b>100.000</b>

Table 3

<u>Jurisdiction</u>	<u>Fixed Block</u>	<u>Rolling Block</u>	<u>Total Allocation</u>
City of Carmel-by-the-Sea	4.0	1.14	5.14
City of Del Rey Oaks	4.0	0.27	4.27
City of Monterey	4.0	5.82	9.82
City of Pacific Grove	4.0	1.95	5.95
City of Sand City	4.0	2.31	6.31
City of Seaside	4.0	3.87	7.87
Monterey County	4.0	6.45	10.45
Monterey County Airport District	<u>4.0</u>	<u>0.19</u>	<u>4.19</u>
<b>TOTAL</b>	<b>32.0</b>	<b>22.00</b>	<b>54.00</b>

Table 4

<u>Jurisdiction</u>	<u>Fixed Allocation</u>	<u>Additional Allocation</u>	<u>Total Allocation</u>
City of Carmel-by-the-Sea	6.25	5.172	12.922
City of Del Rey Oaks	6.25	1.208	7.958
City of Monterey	6.25	26.470	33.220
City of Pacific Grove	6.25	8.882	15.632
City of Sand City	6.25	10.507	17.257
City of Seaside	6.25	17.571	24.321
Monterey County	6.25	29.321	36.071
Monterey County Airport District	<u>6.25</u>	<u>0.868</u>	<u>7.618</u>
<b>TOTAL</b>	<b>50.00</b>	<b>100.000</b>	<b>150.000</b>

Table 5

City of Carmel	18.75
City of Del Rey Oaks	18.75
City of Monterey	18.75
City of Pacific Grove	18.75
City of Sand City	18.75
City of Seaside	18.75
Monterey County	18.75
Airport District	<u>18.75</u>
	150.00