From: Kunysz,Kathy

**Sent:** Friday, July 10, 2015 11:33 AM

To: Ti,Mike N

**Subject:** FW: MWD IRP UPDATE: CALLEGUAS GROUNDWATER HOMEWORK

From: Kunysz, Kathy

**Sent:** Tuesday, June 09, 2015 11:43 AM

To: CJohnson@calleguas.com; ebergh@calleguas.com; hgraumlich@calleguas.com

**Cc:** Kunysz,Kathy; Hacker,Matthew D; Sumi,David H; Nevills,Jennifer C **Subject:** MWD IRP UPDATE: CALLEGUAS GROUNDWATER HOMEWORK

Dear Member Agency Manager and Staff,

Attached is the excel spreadsheet for your agency showing draft projections for groundwater production and projections of sources and amounts of groundwater recharge in normal and multiple-dry-year situations. This information is being used in Metropolitan's 2015 update of its Integrated Resources Plan. Also attached is a slide from the IRP Member Agency Workshop #1 for Groundwater held on May 27. The slide shows a draft projection of the total regional deficit of groundwater recharge under the multiple-dry-year scenario. As part of this IRP Update, it is our objective to finalize this deficit amount with your input, and to identify strategies and policies to address it. Metropolitan is seeking to ensure that groundwater production is sustainable—groundwater is a significant element of regional water supply reliability.

Please review your spreadsheet carefully and provide corrections to the production and recharge projections in RED. Please also list the assumption/rationale for the correction in RED. When reviewing the groundwater production projections, please note that Metropolitan has assigned groundwater production within a Metropolitan member agency's service area to that member agency. Also, the data is shown by calendar year.

Please return the modified spreadsheets to David Sumi with copy to Kathy Kunysz and Matt Hacker by Monday, June 22. If you have questions, please call Kathy Kunysz (213-217-6272) or Matt Hacker (213-217-6756). We will report the adjusted projections at an IRP workshop later this summer.

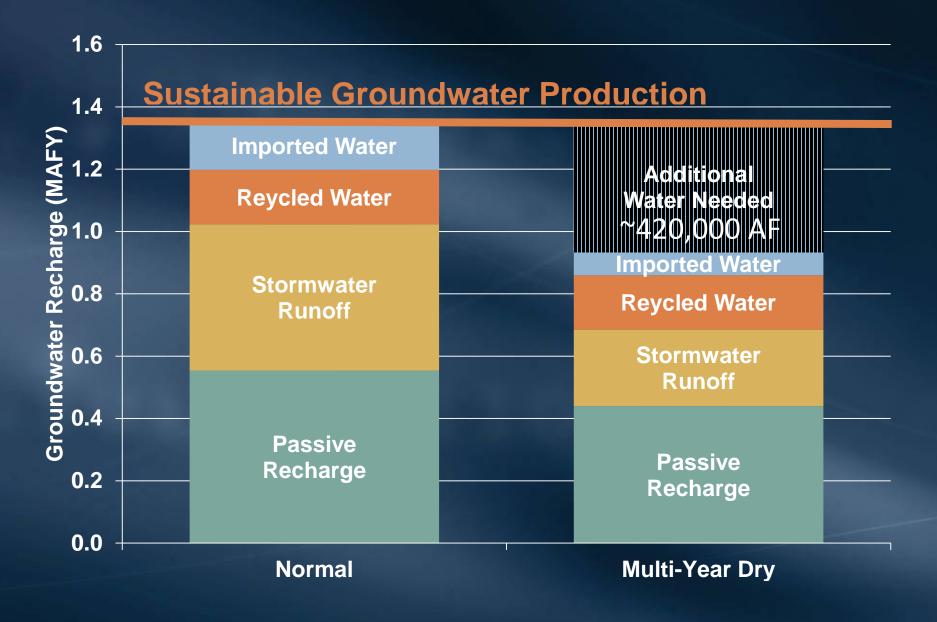
Thank you,
Kathy Kunysz
Program Manager, Groundwater Issues
Metropolitan Water District of Southern California





gw workshop reith - Calleguas alsa deficii slide... confidential or legally protected. If you are not the intended recipient, you are hereby notified that any review, disclosure, copying, dissemination, distribution or use of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately by return e-mail message and delete the original and all copies of the communication, along with any attachments or embedded links, from your system.

## How to Address Multiple-Year Dry Cycle



## Calleguas Municipal Water District

Groundwate	r							Average																																					
Agency	Type	IMP/EX	P Basin/Reservoir	2009	2010	2011 20	112 2	2009-201	3 2014																																		2048		2050
Calleguas	GW	OWN	Fox Canyon Groundwater	28,075 23	3,692 24	4,636 26,9	31 28,8	80 26,44	3 26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400	26,400 2	26,400 26	6,400 26	
Calleguas	GW	OWN	Simi Valley Area Groundw		1,280	1,232 7	87 1,3	20 1,19	4 1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200 1		1,200
Calleguas	GW	OWN	Thousand Oaks Groundwo	57	46	20	76	74 5	5 100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total GW								27,69	2 27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700 2	27,700 2		27,700
Calleguas	GWR	OWN	Fox Canyon Groundwater	0	0	6	0	51 1	1	68	77	85	93	101	109	118	126	134	142	150	159	167	175	183	192	200	208	216	224	233	241	249	257	266	274	282	290	298	307	315	323	331	340		356
Total Groundwate								27,70	3 27,700	27,768	27,777	27,785	27,793	27,801	27,809	27,818	27,826	27,834	27,842	27,850	27,859	27,867	27,875	27,883	27,892	27,900	27,908	27,916	27,924	27,933	27,941	27,949	27,957	27,966	27,974	27,982	27,990	27,998	28,007	28,015	28,023	28,031 2	28,040 21	8,048 28	8,056
									2014																																				2050
Projection	GW								27,700		27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700	27,700 2			7,700
Projection	GWR								0	68	77	85	93	101	109	118	126	134	142	150	159	167	175	183	192	200	208	216	224	233	241	249	257	266	274	282	290	298	307	315	323	331	340	348	356
Other Metropolita																																													
Calleguas	GW	IMP	Fox Canyon Groundwater	16,094 13	3,802 1	6,263 8,6	29 10,7	70 13,11	2																																				
																																													_
									2014		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047		2049	
Non-Metropolitan									13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100	13,100 1	13,100 13	13,100 13	3,100
*071812 We are us	ing a differen	t projection	for this import based on who	at Cy has told us	in the past																																								
Recharge																																													
Normal Year																																													
Calleguas	IMPOR	OWN	Fox Canyon Groundwater	Assumed to be	zero.					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calleguas	STORM	OWN	Fox Canyon Groundwater	Average of 1988	6-2005					57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632	57,632 5	57,632 5	7,632 57	7,632
Calleguas	REC	OWN	Fox Canyon Groundwater	No recycled wa	ter recharg	je				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Multiple Dry Yea	(actual 201	2-2014)																																											
Calleguas		OWN	Fox Canyon Groundwater	Assumed to be	zero					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calleguas	STORM	OWN	Fox Canyon Groundwater	Actual 2012-20	14					8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619	8,619
Calleguas	REC	OWN	Fox Canyon Groundwater	No recycled wa	ter rechare							0				0	0	0		0		0		0	. 0				0			0	0	0	0	0	0			. 0	0	0	0	0	0

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