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**From:** Kunysz,Kathy  
**Sent:** Friday, July 10, 2015 11:30 AM  
**To:** Ti,Mike N  
**Subject:** FW: MWD IRP UPDATE: RAYMOND BASIN GROUNDWATER HOMEWORK  
**Attachments:** Raymond\_Basin.xlsx

I confirmed with Kevin Smead that there are no changes to the Raymond Basin projections.

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**From:** Kevin Smead [mailto:kevins@stetsonengineers.com]  
**Sent:** Monday, June 22, 2015 10:37 AM  
**To:** 'Tony Zampielo'; 'Kelly Gardner'; Sumi,David H; Kunysz,Kathy; Hacker,Matthew D  
**Cc:** 'Jenny Arevalo'; 'Steve Johnson'  
**Subject:** RE: MWD IRP UPDATE: RAYMOND BASIN GROUNDWATER HOMEWORK

David,

In response to the data request from MWD staff dated June 9, 2015, attached is the modified spreadsheet. This information is provided at the request of the Raymond Basin Management Board staff. Corrections/assumptions and rationale are provided in RED as requested. Please feel to contact this office with any comments/requested clarifications.

Thank you

Kevin Smead  
Stetson Engineers Inc  
861 Village Oaks Drive, Suite 100  
Covina, CA 91724  
PH: 626-967-6202

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**From:** Kunysz,Kathy [mailto:kkunysz@mwdh2o.com]  
**Sent:** Tuesday, June 09, 2015 11:44 AM  
**To:** Boman, Brad; Takara, Gary ([gtakara@cityofpasadena.net](mailto:gtakara@cityofpasadena.net)); [ddrugin@fmwd.com](mailto:ddrugin@fmwd.com); Nina Jazmadarian ([nina.jaz@fmwd.com](mailto:nina.jaz@fmwd.com).); Shane Chapman ([shane@usgvmwd.org](mailto:shane@usgvmwd.org)); [reymundo@usgvmwd.org](mailto:reymundo@usgvmwd.org); [garry.hofer@amwater.com](mailto:garry.hofer@amwater.com); Tony Zampielo; Kelly Gardner  
**Subject:** MWD IRP UPDATE: RAYMOND BASIN GROUNDWATER HOMEWORK

Dear Member Agency and Groundwater Managers and Staff,

Attached are the excel spreadsheets for your agency and groundwater basin 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.

Where there are multiple member agencies overlying a groundwater basin, we have sent the spreadsheets to all overlying member agencies and to the groundwater basin manager. The intent is for a coordinated review. Please review your spreadsheet(s) 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

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## Raymond Basin Summary

### Groundwater

Agency	Type	IMP/EXP	Basin/Reservoir	2009	2010	2011	2012	2013	Average 2009-2013	2014	2015	2020	2025	2030	2035	2040	2045	2050
Foothill	GW	OWN	Raymond Basin	4,802	3,922	4,315	6,308	6,572	5,184		5,200	5,200	5,200	5,200	5,200	5,200	5,200	5,200
Pasadena	GW	OWN	Raymond Basin	12,064	9,559	12,600	13,602	12,355	12,036		12,036	12,036	12,036	12,036	12,036	12,036	12,036	12,036
Upper San Gabriel	GW	OWN	Raymond Basin	5,648	3,957	2,526	2,855	4,395	3,876		3,900	3,900	3,900	3,900	3,900	3,900	3,900	3,900
San Marino	GW	OWN	Raymond Basin	1,905	1,623	1,639	1,785	2,123	1,815		1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
<b>Total</b>				<b>24,419</b>	<b>19,061</b>	<b>21,080</b>	<b>24,550</b>	<b>25,445</b>	<b>22,911</b>		<b>22,936</b>	<b>22,936</b>	<b>22,936</b>	<b>22,936</b>	<b>22,936</b>	<b>22,936</b>	<b>22,936</b>	<b>22,936</b>

### Active Recharge

Agency	Type	IMP/EXP	Basin/Reservoir	Notes	2014	2015	2020	2025	2030	2035	2040	2045	2050
<b>Normal Year</b>													
Pasadena	IMPORT	OWN	Raymond Basin	Assume 0.		0	0	0	0	0	0	0	0
Pasadena	STORM	OWN	Raymond Basin	Average 1986-2005		9,503	9,503	9,503	9,503	9,503	9,503	9,503	9,503
Pasadena	REC	OWN	Raymond Basin	No recycled water for Pasadena.		0	0	0	0	0	0	0	0
<b>Total</b>						<b>9,503</b>	<b>9,503</b>	<b>9,503</b>	<b>9,503</b>	<b>9,503</b>	<b>9,503</b>	<b>9,503</b>	<b>9,503</b>
<b>Multiple Dry Year (actual 2012-2014)</b>													
Pasadena	IMPORT	OWN	Raymond Basin	Assume 0.		0	0	0	0	0	0	0	0
Pasadena	STORM	OWN	Raymond Basin	Average 2012-2014		3,345	3,345	3,345	3,345	3,345	3,345	3,345	3,345
Pasadena	REC	OWN	Raymond Basin	No recycled water for Pasadena.		0	0	0	0	0	0	0	0
<b>Total</b>						<b>3,345</b>	<b>3,345</b>	<b>3,345</b>	<b>3,345</b>	<b>3,345</b>	<b>3,345</b>	<b>3,345</b>	<b>3,345</b>