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**From:** Kunysz,Kathy  
**Sent:** Tuesday, July 14, 2015 10:09 AM  
**To:** Ti,Mike N  
**Subject:** FW: MWD IRP UPDATE: ULARA GROUNDWATER HOMEWORK  
**Attachments:** Los Angeles DRAFT RESPONSE (6-19-2015) \_updated 7-14-2015.xlsx

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**From:** Sumi,David H  
**Sent:** Tuesday, July 14, 2015 9:34 AM  
**To:** Kunysz,Kathy; Hacker,Matthew D  
**Cc:** Dugan, Peter; Hsu, Chiun-Gwo (Simon); Viramontes, Rafael; Almaraz, Jaime  
**Subject:** FW: MWD IRP UPDATE: ULARA GROUNDWATER HOMEWORK

Peter, thank you. I'm forwarding the revised GW projections to Kathy Kunysz and Matt Hacker.

David Sumi

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**From:** Dugan, Peter [<mailto:Peter.Dugan@ladwp.com>]  
**Sent:** Tuesday, July 14, 2015 9:21 AM  
**To:** Sumi,David H  
**Cc:** Hsu, Chiun-Gwo (Simon); Viramontes, Rafael; Almaraz, Jaime  
**Subject:** RE: MWD IRP UPDATE: ULARA GROUNDWATER HOMEWORK

David,

Attached are revised GW projections. The San Fernando Basin projections are revised down by 15 TAF and 30 TAF in 2023 (from 107,000 to 92,000) and 2024 (from 122,000 to 92,000) respectively, and remain at 92,000 AFY through the end of the projection period. The 30 TAF that was previously accounted for is due to Groundwater Replenishment (GWR) from RW. Since, GWR is accounted for in our RW projections, we are removing it from here to avoid double counting.

Let me know if you have any questions,

**Peter Dugan**  
Water Resources  
Los Angeles Department of Water & Power  
Office: (213) 367-1192  
[peter.dugan@ladwp.com](mailto:peter.dugan@ladwp.com)

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**From:** Hsu, Chiun-Gwo (Simon)  
**Sent:** Monday, June 22, 2015 8:58 AM  
**To:** Sumi,David H  
**Cc:** Hacker,Matthew D; Kunysz,Kathy; Reed, Greg; Yegiazaryan, Heather; Acevedo, Mario; Tsunehara, Yoshiko; Kwan, Delon; Viramontes, Rafael; Almaraz, Jaime; Dugan, Peter  
**Subject:** RE: MWD IRP UPDATE: ULARA GROUNDWATER HOMEWORK

David,

Attached is LA's completed homework on both ULARA and Central-West Coast groundwater basins.

Simon

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**From:** Kunysz, Kathy [<mailto:kkunysz@mwdh2o.com>]

**Sent:** Tuesday, June 09, 2015 11:40 AM

**To:** Dugan, Peter; Hsu, Chiun-Gwo (Simon); Kwan, Delon; Viramontes, Rafael; Pettijohn, David; Falcon, Penny; Yegiazaryan, Heather; Reed, Greg; Lacombe, Sarah; [BDoxsee@burbankca.gov](mailto:BDoxsee@burbankca.gov); [AUmphenour@burbankca.gov](mailto:AUmphenour@burbankca.gov); [Rtakidin@GlendaleCA.GOV](mailto:Rtakidin@GlendaleCA.GOV); [CMarcareello@sfcity.org](mailto:CMarcareello@sfcity.org); [TSalazar@sfcity.org](mailto:TSalazar@sfcity.org)

**Cc:** Kunysz, Kathy; Hacker, Matthew D; Sumi, David H; Nevills, Jennifer C

**Subject:** MWD IRP UPDATE: ULARA 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 component 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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City of Los Angeles

Groundwater				2009	2010	2011	2012	2013	Average 2009-2013	2014	2015	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	2048	2049	2050	
Los Angeles	GW	OWN	Central Basin	11,573	9,018	5,637	8,748	8,633	8,722	8,462	8,200	9,668	15,000	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500	18,500			
Los Angeles	GW	OWN	Eagle Rock Basin	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	0	0	0	0	0	0	0	
Los Angeles	GW	OWN	San Fernando Valley Basin	53,680	57,662	42,996	49,098	56,340	51,955	85,265	87,000	62,800	59,800	71,600	68,600	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000	92,000
Los Angeles	GW	OWN	Sylmar Basin	1,744	1,667	1,282	1,264	1,299	1,451	553	1,800	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170	4,170
Los Angeles	GW	OWN	West Coast Basin	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	0	0	0	0	0	0	0	
Groundwater Projection				67,800	97,000	76,638	78,970	94,270	91,270	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	114,670	

Reed, Greg: LADWP has an adjudicated water right to produce the safe yield from Eagle Rock Basin, however LADWP does not pump groundwater from this basin.

Reed, Greg: Corrected 2012 actual production by LADWP.

Reed, Greg: Provided actual 2014 production by LADWP.

Reed, Greg: Updated 2015-2016 projections for production by LADWP.

Reed, Greg: Complete Mission Wellfield Improvement Project to restore LADWP pumping capacity in Sylmar Basin.

Reed, Greg: Complete Manhattan Wellfield Improvement Project to restore LADWP pumping capacity in Central Basin.

Reed, Greg: Complete LADWP Groundwater Remediation project in San Fernando Basin.

Dugan, Peter: 30TAF due to Groundwater Replenishment is accounted for in our RW projections, and is removed from these projections to avoid double counting. (It was erroneously added in two 15TAF increments in 2023 and 2024)

Reed, Greg: Increased production to recapture artificial recharge of purified recycled water.

Reed, Greg: LADWP discontinued pumping groundwater from West Coast Basin in 1981.

Reed, Greg: Corrected 2009-2014 actual production by LADWP.

Reed, Greg: Resume pumping from Mission Well No. 6.

Reed, Greg: LADWP has an adjudicated water right to 1,503 AFY in West Coast Basin. However anticipates producing these groundwater entitlements from the Central Basin - as allowed under the Third Amended Judgment for Central Basin.

Recharge

Normal Year				2014	2015	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	2048	2049	2050				
Los Angeles	IMPORT	OWN	San Fernando Valley Basin	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	0	0			
Los Angeles	STORM	OWN	San Fernando Valley Basin	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	26,818	
Los Angeles	REC	OWN	West Coast Basin	18,000	18,000	18,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	
Los Angeles	REC	OWN	San Fernando Valley Basin	0	0	0	0	0	0	0	0	0	15,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
Multiple Dry Year (actual 2012-2014)				12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	12,188	

Reed, Greg: Per WRD Chief Hydrogeologist (T. Johnson): complete transition to 100% RCW @ WCB Barrier and Dominguez Gap Barrier by 2018.

Tsunehara, Yoshiko: Purified recycled water process in place. AWWP requires 6 months of testing us thus no water may be available for spreading for 6 months.

Reed, Greg: Per WRD Chief Hydrogeologist (T. Johnson): Currently using approx 7,000 AF imported and 18,000 AF RCW @ WCB Barrier and Dominguez Gap Barrier.

Reed, Greg: Per WRD Chief Hydrogeologist (T. Johnson): Currently using approx 7,000 AF imported and 18,000 AF RCW @ WCB Barrier and Dominguez Gap Barrier.

Reed, Greg: Per WRD Chief Hydrogeologist (T. Johnson): complete transition to 100% RCW @ WCB Barrier and Dominguez Gap Barrier by 2018.

Tsunehara, Yoshiko: Purified recycled water process in place. AWWP requires 6 months of testing us thus no water may be available for spreading for 6 months.