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**From:** Kunysz,Kathy  
**Sent:** Wednesday, July 15, 2015 7:31 AM  
**To:** Ti,Mike N  
**Subject:** RE: MWD IRP UPDATE: ORANGE CO BASIN GROUNDWATER HOMEWORK

So does my email and your comments in red give you the history that you need?

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**From:** Ti,Mike N  
**Sent:** Tuesday, July 14, 2015 7:33 PM  
**To:** Kunysz,Kathy  
**Subject:** RE: MWD IRP UPDATE: ORANGE CO BASIN GROUNDWATER HOMEWORK

Hi Kathy,  
Thank you for the detailed discussion on OC Basin projection. Please see my comments (red fonts) – see below.

Mike

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**From:** Kunysz,Kathy  
**Sent:** Tuesday, July 14, 2015 4:24 PM  
**To:** Ti,Mike N  
**Cc:** Hacker,Matthew D  
**Subject:** FW: MWD IRP UPDATE: ORANGE CO BASIN GROUNDWATER HOMEWORK

Mike,  
Discussion/assumptions regarding the attached spreadsheet for MWDOC and Orange Co Basin.  
Kathy Kunysz

1. We received feedback from MWDOC only. We did not get any response from Anaheim, Santa Ana or Fullerton. As a result, there is no change to the 3 cities information. **The three cities will be forecasted using the same BPP, with no replenishment. All replenishment activities for the OC Basin are assumed to be coordinated through MWDOC.**
2. I spoke with both Kevin Hostert at MWDOC and John Kennedy at OCWD regarding the attached sheet with changes for MWDOC.
3. Spreadsheet line 5: San Gabriel Basin. The change is due to an adjusted average and results in about 300afy more imported gw from Main San Gabriel Basin. **OUTCOME: Make no change to Met's original projection. O.k.**
4. Spreadsheet line 8: La Habra Basin. No clear justification was provided for the change in annual gw production. **OUTCOME: Make no change to Met's original projection. O.k.**
5. Spreadsheet line 9: Orange Co Basin. Projection provided by John Kennedy. Per discussion with John, the projection values were estimated by taking the projected groundwater production from the basin, subtracting off estimated production for Santa Ana, Anaheim and Fullerton. Balance assigned to MWDOC. OCWD board policy is to move to a consistent 75 percent BPP in future years. In near term years, OCWD expects a 70 percent BPP until basin is recovered from the drought. John indicated that the difference between Met's original projection values and the values the attached revised spreadsheet are within the 'noise'. Based on discussion with Mike Ti regarding Met's process of dividing up the total retail demand for MWDOC (in and outside the basin) and the 3 cities, it makes most sense to: **OUTCOME maintain Met's projection methodology for Orange Co. Reflect John Kennedy's lower MWDOC OC basin production in near term years by using a 70 percent BPP in CY2015 –CY 2018. Use 75 percent BPP beginning in CY 2019 through 2050. O.k. Projections for the three cities will base on the same BPPs.**

6. Spreadsheet line 13: GWR in OC Basin. Kevin Hostert indicated that MWDOC's subagencies participating in gw recovery indicated that the AFY would not grow. OUTCOME: Use Kevin's projection of 22,000 AFY through 2050. **GW recovery projects are forecasted using our internal models. If the cap is 22,000 AFY, then well cap the ultimate yield at such to prevent over projection.**
7. Spreadsheet line 21: Surface water—Irvine Lake/Santiago Reservoir. Kevin indicated that Met's initial projection included only water used for M&I. He has revised the data and the projections to also include water used for agriculture. OUTCOME: Use Kevin's projection of 7835 AFY through 2050. **Agree. We need to get the AG portion for our database.**
8. Spreadsheet line 28: Imported recharge. OCWD signed a contract with MWDOC to take 650,000 AF over the next 10 years 2016-2025. MWDOC/OCWD have extended the 65,000 AFY average imported recharge water through 2050. OUTCOME: Change the Met projection to 65,000AFY for 2025-2050. **I suggest that we adhere to the contract terms – 10 years, because we know with a greater degree certainty that they'll take the water. As for 2026 -2050, we should categorize that proposal as a "planned" project, lesser degree of certainty.**
9. Spreadsheet lines 34 and 35. Line 34 Dry-Year Stormwater Recharge. Per Kevin Hostert, leave Met projection as is. Changes shown on sheet line 34 should be entered on line 35 for recycled replenishment and seawater barrier. The MWDOC/OCWD changes show recycled recharge jumping to 130,000AFY in 2022—this is a POTENTIAL expansion of GWRS that is proposed, but not existing or under construction. OUTCOME: No change to Met's projections on Lines 34 and 35. **O.k.**

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**From:** Kevin Hostert [<mailto:KHostert@mwdoc.com>]  
**Sent:** Thursday, June 18, 2015 3:54 PM  
**To:** Sumi,David H  
**Cc:** Kunysz,Kathy; Hacker,Matthew D; Keith Lyon; Harvey De La Torre  
**Subject:** RE: MWD IRP UPDATE: ORANGE CO BASIN GROUNDWATER HOMEWORK

All,

Please see the attached file regarding groundwater projections for the MWDOC service area. Please let me know if you have any questions.

Kevin Hostert  
Water Resources Analyst  
Municipal Water District of Orange County  
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18700 Ward Street  
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**From:** Kunysz,Kathy [<mailto:kkunysz@mwdh2o.com>]  
**Sent:** Tuesday, June 09, 2015 11:45 AM  
**To:** [AShaikh@anaheim.net](mailto:AShaikh@anaheim.net); [mrmoore@anaheim.net](mailto:mrmoore@anaheim.net); David Schickling ([davids@ci.fullerton.ca.us](mailto:davids@ci.fullerton.ca.us)); Harvey De La Torre; Robert Hunter; Karl Seckel; Kevin Hostert; [nsaba@santa-ana.org](mailto:nsaba@santa-ana.org); Richard Bell; [AFernandez@santa-ana.org](mailto:AFernandez@santa-ana.org); [jkennedy@ocwd.com](mailto:jkennedy@ocwd.com); Mike Markus ([mmarkus@ocwd.com](mailto:mmarkus@ocwd.com)); Joe Berg

**Cc:** Kunysz,Kathy; Hacker,Matthew D; Sumi,David H; Nevills,Jennifer C  
**Subject:** FW: MWD IRP UPDATE: ORANGE CO 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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