

Evaluation of the Newport Banning Ranch WSA & Newport Beach UWMP

David Coffin
www.droughtmath.com
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Summary

- In Section 1
 - We find that the 2005 UWMP had projected growth of only 1,046 additional units between 2005 and 2030 and that the proposed 1,375 units for the Newport Banning Ranch project is well over that.
 - We also find that the City of Newport grew by 5,680 units which was well beyond the UWMP projections. If we factored in seasonal and recreational housing that number grew to 6,617 units. Water supply for this level of growth was not accounted for in the UWMP which reinforces why WSA's should evaluate all the conditions that impact water supply and not limit it to a simple review of the past UWMP.
- In Section 2
 - We find that the water supply did not grow along with population thus creating a deficit. In fact, the city's water supply had fallen between 2005 and 2010. This caused a decline in the city supply availability from 202 gallons per capita daily to 164.
- In Section 3
 - We find that all categories of the city's water supply sources of supply fell short of the UWMP's goals. This included groundwater and imported water.
 - We also found that the city's UWMP has not been a reliable indicator of future water supply. Both 2000 and 2005 UWMP's stated the city had much more access to water than it really had. This is called 'paper water'.
 - We also found that the 2010 UWMP dropped its water supply projections by 21% which is perhaps why NBR choose to use the older 2005 UWMP with the paper water in it.
- In Section 4
 - We find that the city has exaggerated how much imported water is available to it during local droughts.
- In Section 5
 - We find that there has been a 50% reduction of the Santa Ana River flows measured in cubic feet per second since 2007.

Conclusion:

The Newport Banning Ranch WSA is based on the 'paper water' found in the City's 2005 Urban Water Management Plan. NBR's WSA needs to be an evaluation of the city's real water supply and not simply restate a plan that greatly underestimated it. The point of SB 610 and SB 220 was to assure that there is enough water to support very large projects that may not be accounted for in the current plan. We find that unless a new WSA is performed that identifies new sources of water, then there is not enough city water supply to support it the project.

1. Projected Units

The City's UWMP accounts for only 1,046 new units while the proposed project has 1,375 units.

The City 2005 UWMP shows a net increase of 652 single family accounts, 136 multi-family accounts, and 101 commercial accounts.

To convert residential accounts to units, we need to add a 'density' multiplier of 2.904 to multi-family accounts. The density multiplier is based on the 2000 Censusⁱ for housing and provides for the average number of units per multi-family account.

Adjusting for density, the 5,048 multi-family accounts in 2005 shown in Figure 1 represents ~14,659 units. An increase of multi-family accounts to 5,184 in 2030 would represent an additional 394 units for a total of 15,054 units citywide. Single family accounts in 2005 represent 18,419 units. An increase in single family units in 2030 is 19,071 units. No density multiplier is needed for single family units and their increase during that period was projected for a total of 652ⁱⁱ units.

In total, the combined number of single family and multi-family projected units would be 1,047 for a total of 19,071 units.

The proposed project's 1,375 units exceeds the 1,047 residential units by 328 units (Figure 2). Consequently, the project cannot be accounted for in the UWMP.

Historical and Projected Water Use									
									3-2
Table 3-2. (DWR Table 12) Past, Current, and Projected Water Deliveries (AFY)									
Year	Water Use Sector	Single-Family	Multi-Family	Commercial	Industrial	Instit./Gov.	Land-scape	Agricultural	Total
2000	# of accounts	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Metered	deliveries (AFY)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2005	# of accounts	18,419	5,048	1,863	0	397	623	0	26,350
Metered	deliveries (AFY)	7,484	2,727	3,760	0	903	2,842	0	17,723
2010	# of accounts	18,588	5,052	1,914	0	399	638	0	26,591
Metered	deliveries (AFY)	8,085	2,820	3,948	0	940	3,008	0	18,801
2015	# of accounts	18,747	5,096	1,931	0	402	644	0	26,820
Metered	deliveries (AFY)	8,805	3,072	4,300	0	1,024	3,276	0	20,477
2020	# of accounts	18,909	5,140	1,948	0	405	649	0	27,051
Metered	deliveries (AFY)	8,840	3,084	4,317	0	1,028	3,289	0	20,558
2025	# of accounts	19,071	5,184	1,964	0	409	655	0	27,283
Metered	deliveries (AFY)	8,870	3,095	4,333	0	1,032	3,301	0	20,631
2030	# of accounts	19,071	5,184	1,964	0	409	655	0	27,283
Metered	deliveries (AFY)	8,870	3,095	4,333	0	1,032	3,301	0	20,631

Figure 1

2005 UWMP	2005	2010	2015	2020	2025	2030	Adjusted for density		
Accounts							net resid increase		
	2005	2030					2005	2030	
single fam	18,419	18,588	18,747	18,909	19,071	19,071	18,419	19,071	652
multi-fam	5,048	5,052	5,096	5,140	5,184	5,184	14,659	15,054	395
comm	1,863	1,914	1,931	1,948	1,964	1,964	5,410	5,703	293
Total	25,330	25,554	25,774	25,997	26,219	26,219	Projected increase		1,047
							Project proposes		1,375
							Unaccounted for in UWMP		(328)

Figure 2

The Housing Growth in the City exceeds growth accounted for in the City's UWMP.

Between 2000 and 2010ⁱⁱⁱ census reports, the city's total housing rose from 33,071 to 38,751 for a net increase of 5,680 units. The importance of a WSA is to evaluate whether or not a proposed project fits within projected supplies described in the UWMP and if not, then where the water supply will come from which could include surpluses generated by conservation.

The increase of 5,680 units is far more than the 1,047 units that was projected in the 2005 UWMP and this WSA does not allude to any new sources of water.

Adding further to the demand, if we add seasonal and recreational housing increase of 937 units the net increase would be 6,617 units. In a coastal city such Newport Beach where good weather is year round, seasonal and recreational housing may not be significantly different from 'occupied housing'.

HOUSING OCCUPANCY			HOUSING OCCUPANCY		
Total housing units	37,288	100.0	44,193	100.0	
Occupied housing units	33,071	88.7	38,751	87.7	
Vacant housing units	4,217	11.3	5,442	12.3	
For seasonal, recreational, or occasional use	1,094	5.3			
Homeowner vacancy rate (percent)	1.8	(X)			
Rental vacancy rate (percent)	8.0	(X)			

HOUSING OCCUPANCY			HOUSING OCCUPANCY		
Total housing units	37,288	100.0	44,193	100.0	
Occupied housing units	33,071	88.7	38,751	87.7	
Vacant housing units	4,217	11.3	5,442	12.3	
For rent			1,499	3.4	
Rented, not occupied			107	0.2	
For sale only			372	0.8	
Sold, not occupied			127	0.3	
For seasonal, recreational, or occasional use			2,841	6.4	
All other vacants			496	1.1	

2000 Census	2010 Census
33,071 occupied housing units	38,751 occupied housing units

The 5,680 far outstrips the 1,047 units the UWMP had planned for.

2. Population and GPCD

Available water supply fell dramatically between 2005 and 2010.

2005 Population	2010 Population
79,320	85,185

The WSA states in Table 7-2 the city's supply was 17,820 Af/y in 2005. With a population of 79,320 the average gallons per capita daily would have been 200.6 which would also include commercial, government, and landscape.

Generally I find the supply values reported in UWMP to be quite close in the year that the UWMP was published. However in future years, water agencies usually generally overestimate supply. This can be verified by comparing projected supply with historical records supplied by OCWD and MWDOC.

A public records request was made to both the MWDOC and OCWD for historical records of water sales that were made to the Newport Beach utility district. The information received was compiled and compared to the UWMP (Figure 13) which is cited in the WSA.

The WSA cites that the available water supply in 2010 would increase to 19,792 Af/y giving the city 220 GPCD. However when I look back at the 'actual amount' received by the City in 2010 at 15,688 AF and

the city's actual population figure I find the per capita supply was 25 percent less, the city's supply fell to 164.4 GPCD. (Figure 2)

The promise in the WSA of water exceeding 20,000 AF/y, year after year is merely paper water and the result is a deficit that hits the community economically and by quality of life.

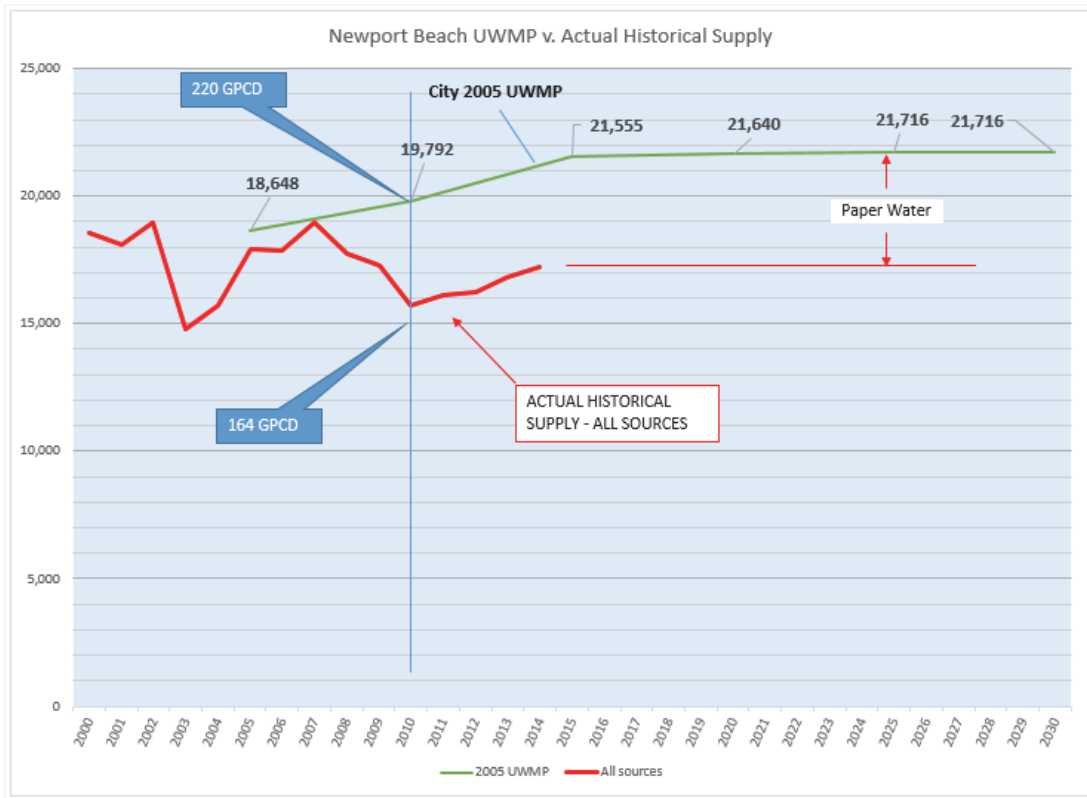


Figure 3 – Gallons per Capita Daily (GPCD)

3. Supply Projections v. Actual Delivery

Merely citing the UWMP does not provide evidence of available water supply.

A public records request was made to both the MWDOC and OCWD for historical records of water sales that were made to the Newport Beach utility district. The information received was compiled and compared to the UWMP (Figure 13) that the WSA cites as demonstrating sufficient supply for the Newport Banning Ranch project.

The WSA relies on the fact that it can build this project because it states that the City will be have and be able to maintain substantial Groundwater and Imported supplies.

Supply Source	Annual Amount (af/yr)								
	FY 05-06	FY 06-07	FY 07-08	FY 08-09	2010	2015	2020	2025	2030
MWDOC (Imported)	14,012	15,093	3,743	5,843	5,758	6,157	6,362	6,226	6,256
OCWD (Groundwater)	3,558	3,605	14,338	11,287	13,590	14,921	14,778	14,990	14,960
Recycled Water	250	311	265	299	443	477	500	500	500
Total	17,820	19,009	18,346	17,429	19,791	21,555	21,640	21,716	21,716
% Potable from Groundwater	20%	19%	79%	66%	70%	71%	70%	71%	71%

SOURCE: City UWMP (December 2005), City demand records.

Has Newport Beach been meeting these projections?

However I found that the city has not been able to meet the demands noted in the WSA and the City’s UWMP. The chart (Figure 4) shows the combined actual supply from MWDOC (imported water), OCWD wells (groundwater) and recycled water and compares that to the WSA’s projections. Any substantial year to year shortfall between the projected supply and actual historical supply is paper water.

Using UWMP data, the proposed project suggests that it has access to substantial surplus water that we find really isn’t available.

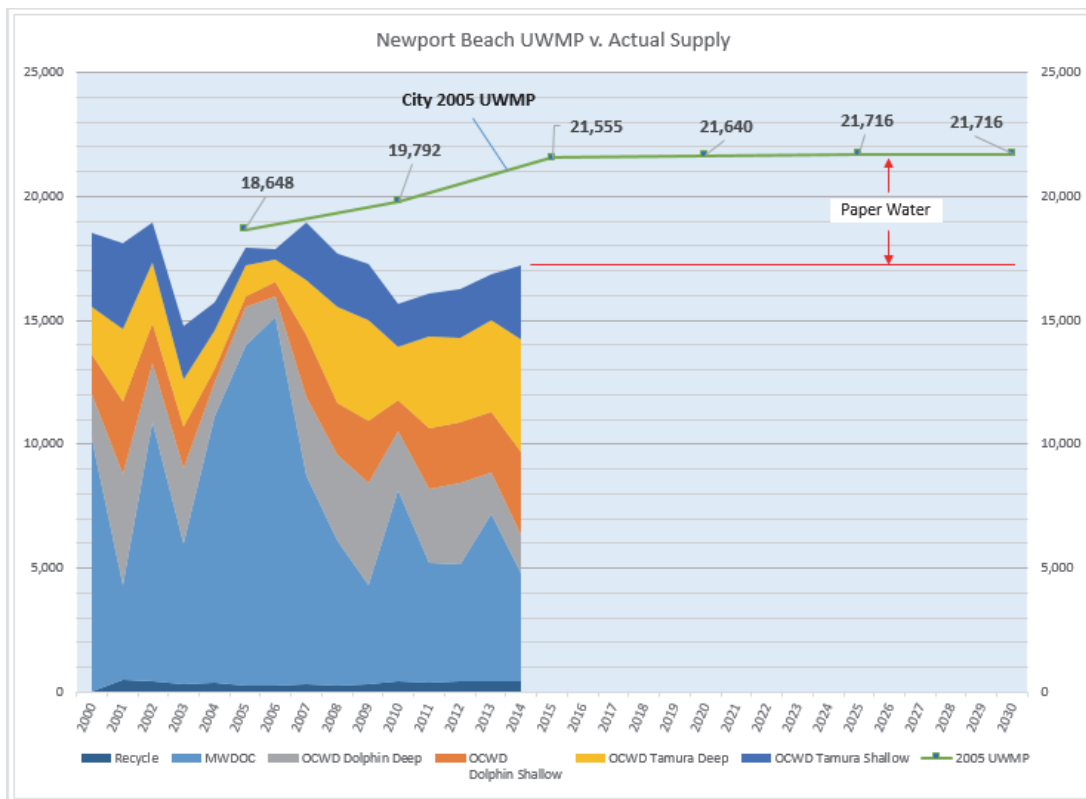


Figure 4 – Comparison of City of Newport Historical Supply to UWMP Projections

- i. **Groundwater** - The WSA suggests that the City would have available to it and would be receiving 11,287 to 14,921 Af/y of groundwater between 2008 and 2015 (Figure 5) using UWMP (Figure 6) figures. However, the average supply from the four wells belonging to the City between 2008 and 2014 has been only 10,883 Af/y.

- ii. **Imported Water** - The WSA suggests the City would have available to it and be receiving 3,743 AF/y of imported water in 2008 and increasing to 6,157 Af/y by 2015. However, the average supply to the City from MWDOC has only been 5,457 Af/y between 2008 and 2014.
- iii. **Recycled Water** - The City has no capability of treating water to produce reclaimed water". However recycled water is purchased separately from OCWD through the Green Acres Project. Over the last 5 years the City has been purchasing 422 AF/y suggesting that it met its projections.

*Newport Banning Ranch
Water Supply Assessment*

City of Newport Beach

The City's 2005 UWMP contains a comparison of projected water supply and estimated demands through the year 2030. The potable water resources necessary to meet projected demands include imported water (30%) and groundwater (70%). Existing and projected supplies to the City are shown in Table 7-2.

Table 7-2 – Existing and Projected Supplies

Supply Source	Annual Amount (af/yr)									
	FY 05-06	FY 06-07	FY 07-08	FY 08-09	2010	2015	2020	2025	2030	
MWDOC (Imported)	14,012	15,093	3,743	5,843	5,758	6,157	6,362	6,226	6,256	
OCWD (Groundwater)	3,558	3,605	14,338	11,287	13,590	14,921	14,778	14,990	14,960	
Recycled Water	250	311	265	299	443	477	500	500	500	
Total	17,820	19,009	18,346	17,429	19,791	21,555	21,640	21,716	21,716	
% Potable from Groundwater	20%	19%	79%	66%	70%	71%	70%	71%	71%	

SOURCE: City UWMP (December 2005), City demand records.

Has Newport Beach been meeting these projections?

Figure 5 – NBR WSA showing Existing and Projected Supplies

Water Supply 4-5

Table 4-8. (DWR Table 4) Current and Planned Water Supplies for the City of Newport Beach (AFY)

Water Supply Source	2005	2010	2015	2020	2025	2030
Water purchased from:						
Metropolitan	0	0	0	0	0	0
MWDOC	6,404	5,758	6,157	6,362	6,226	6,256
OCWD (Lower Santa Ana Basin)	11,927	13,590	14,921	14,778	14,990	14,960
California Domestic Water Company	0	0	0	0	0	0
Supplier-produced groundwater	0	0	0	0	0	0
Supplier surface diversions	0	0	0	0	0	0
Transfer in or out	0	0	0	0	0	0
Recycled Water (projected use)	317	444	478	500	500	500
Desalination	0	0	0	0	0	0
Other	0	0	0	0	0	0
Total	18,648	19,792	21,556	21,640	21,716	21,716

Source: City projections based on historical data

Figure 6 City 2005 UWMP Showing Planned Water Supplies

How Reliable are UWMP's Forecast Water Supply?

In 'Water for Growth' (Ellen Hanak) the article notes that "a majority of utilities are reporting substantial normal-year surpluses. The magnitudes involved—some 2 million acre-feet per year—suggest that many utilities are banking on "paper water" already being used by someone else within the state's water system."

It further cites that "land-use authorities may not be led to adequately considering the water supply consequences of growth. Second, even in jurisdictions with municipal water departments, elected officials may take a shorter-term view of resource adequacy than area residents do. If—as is often asserted—land-use authorities are aligned with pro-development forces, they may be inclined to favor growth..."

This leads us to ask how reliable are UWMP's in forecasting available water supply for the City? What I found out is they are not reliable at all. They're great for promising lots water for future growth but they misrepresent how much we really get. This is called 'Paper Water'.

The following chart shows the water supply projections in the City's last three water plans. The City's 2000 UWMP stated that the city would have in excess of 20,000 Af/y by 2005. It didn't happen. In the City's 2005 UWMP it stated that the City would have in excess of 20,000 Af/y by 2015. It didn't happen.

Both plans told city planners and residents that the city would have sufficient water for growth but instead of 20,000 Af, what came through the pipe averaged just 17,000 Af/y which created a deficit.

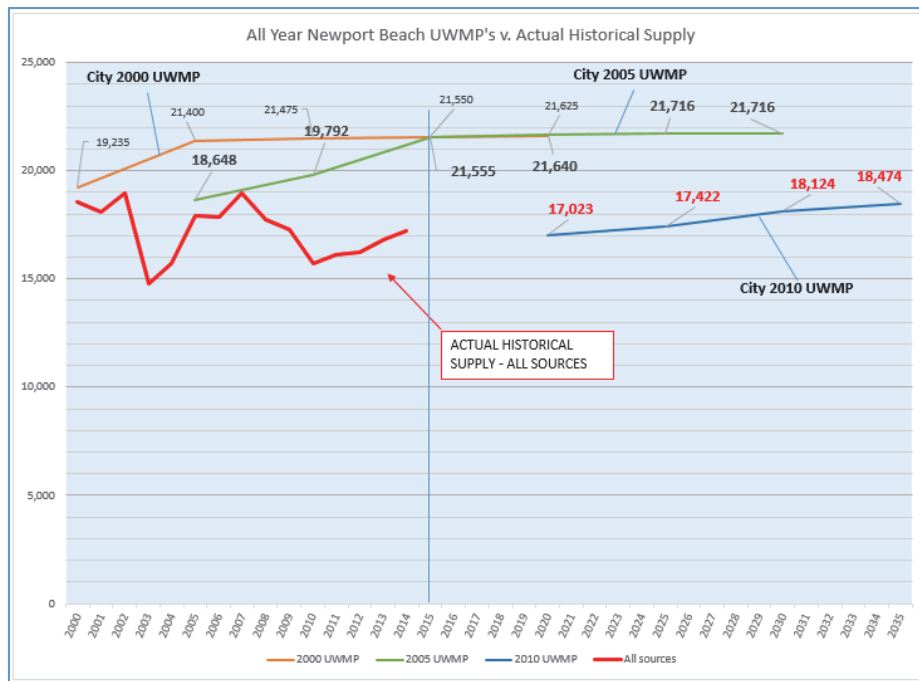


Figure 7 - The City's Promises v. What They Deliver

This chart also has some special significance since it may suggest why NBR does not want to revise the WSA using 2010 UWMP. **The new water plan projects only an average of 17,761 Af/y, down 21% water supplies than the 2005 plan.** What we find is that the project will only add demand to a very fragile supply.

Where did the water go? Nowhere. We never really had it and historical record is making that correction.

4. Dry Year Forecasts Points to Drought Recovery Flaw

WSA's Exaggerated Dry Year forecasts point to drought recovery flaw

The WSA suggests that is has substantial surplus water is available to it when the City's local ground water supplies fall short.

This is another common reporting phenomena that can be found in most urban UWMP's. In Table 4-9 of the UWMP shown in (Figure 9) and Table 8-2 (Figure 89) in the WSA we find the claim that the City can increase imported water from 140 to 160% in single and multi-dry years when local ground water is in short supply. The rationale behind this is that single and multi-dry years are a local problem and can be resolved by importing water.

However, since 2007 **the city can no longer rely on this strategy**. In that year, courts found that the huge deliveries of water through the State Water Project had a serious environmental downside and it ordered the DWR^{iv} to drastically cut back supplies to Central and Southern California. Multi-dry years were no longer a local problem, they were also a State problem as well.

Since 2007, in years that we can all agree have been either single or multi-dry years, the MWDOC supply has not kept up with the city's projections.

From 2000 to 2006 the City's average MWDOC supply was 9,933 AF/y. This dropped to an average of 5,827 AF/y between 2007 and 2014. (See Figure 13)

2015	Normal Water Year (Average)	Single Dry Year (1961)	Multiple Dry Water Years		
			2008 (1959)	2009 (1960)	2010 (1961)
Local Supply	15,399	12,840	13,670	12,041	12,840
	% of Normal	83.4%	88.8%	78.2%	83.4%
Imported Supply	6,157	9,911	8,706	10,114	9,911
	% of Normal	161.0%	141.4%	164.3%	161.0%

Figure 8 – City of Newport 2005 UWMP

Newport Banning Ranch
Water Supply Assessment

**Table 8-2 – Projected Water Supply and Demand
(Normal, Single Dry-Year, and Multiple Dry-Years)**

Description	Annual Amount (af/yr)					
	Normal Year	Single Dry- Year	Multiple Dry-Years			
			Year 1	Year 2	Year 3	
2015						
Total Projected Demand	21,555	22,751	22,376	22,155	22,751	
Available Supply	MWDOC (Imported)	6,157	9,911	8,706	10,114	9,911
	OCWD (Groundwater)	14,921	12,363	13,193	11,564	12,363
	Recycled Water	477	477	477	477	477
Total Available Supply	21,555	22,751	22,376	22,155	22,751	
% Potable Supply from Groundwater	71%	56%	60%	53%	56%	
Difference	0	0	0	0	0	

Figure 9 – Newport Banning Ranch WSA

5. Santa Ana River Supply

Santa Ana River flows are substantially reduced.

It is imperative that a new WSA be performed because the Original WSA was based on a wet period. Since then there has been reduced flows on the Santa Ana River and subsequent reduced recharge in the basin.

At a recent Westchester/Playa Water forum, Michael R Markus, General Manager of the Orange County Water District spoke about OCWD recycling program and recycling efforts of other agencies. In his remarks he stated that OCWD has been impacted by reduced Santa Ana River flows and attributed some of it to upstream water agencies that are making a better effort at recycling their sewage instead of just treating it and releasing it into the Santa Ana River. This has resulted in reduced flows and less water for OCWD to treat.

To verify what Mr. Markus intimated, I reviewed gage data located at an entry point into OCWD basin. The chart in Figure 10 shows flows of the Santa Ana River at the gage (11074000^v) below Prado Dam between 2007 and 2015 and confirms both the General Manager's comments and the comments made by Newport Beach Conservancy of reduced flows.

From Oct 2007 to Jan 2011 flows averaged 297 CFS. From Jan 2011 to Sep 2015 flows averaged just 166 CFS amounting to a 50% drop.

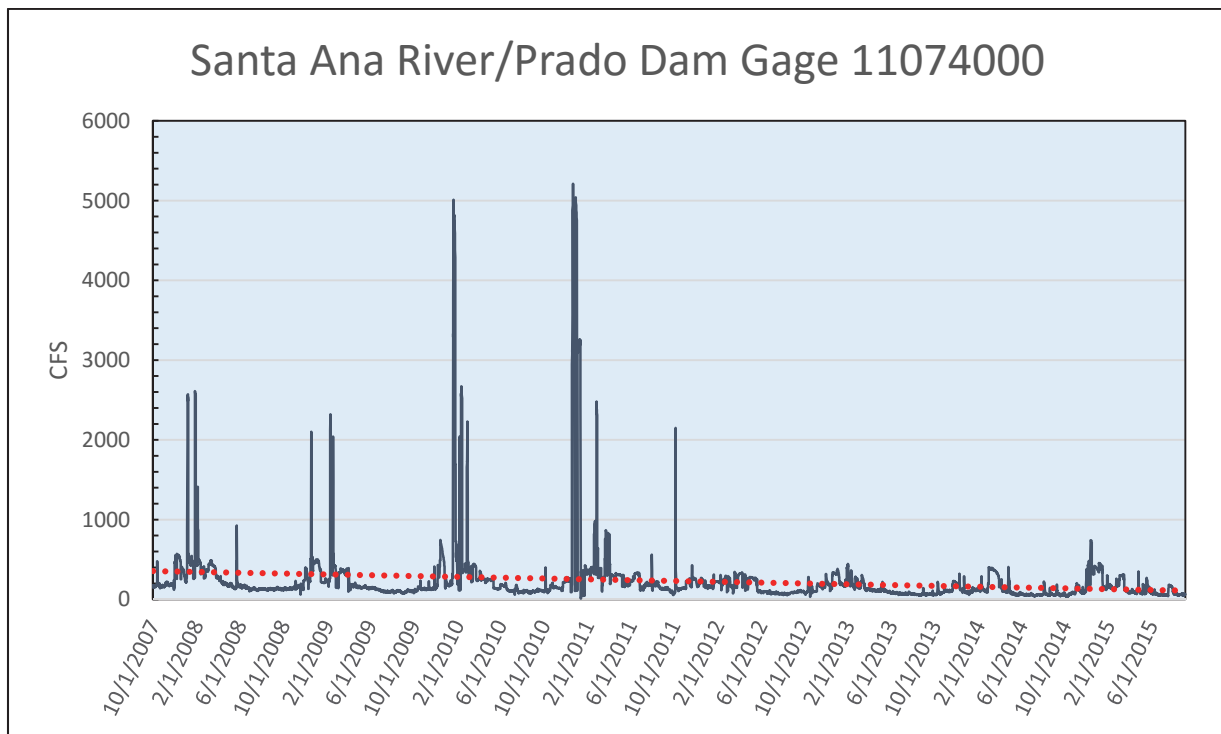


Figure 10 – Santa Ana River flow at OCWD basin

Figure 11 and Figure 12 shows us graphs from the 2015 OCWD Groundwater Management Update the relatively steep drop sources of supply contributing to the OC groundwater basin.

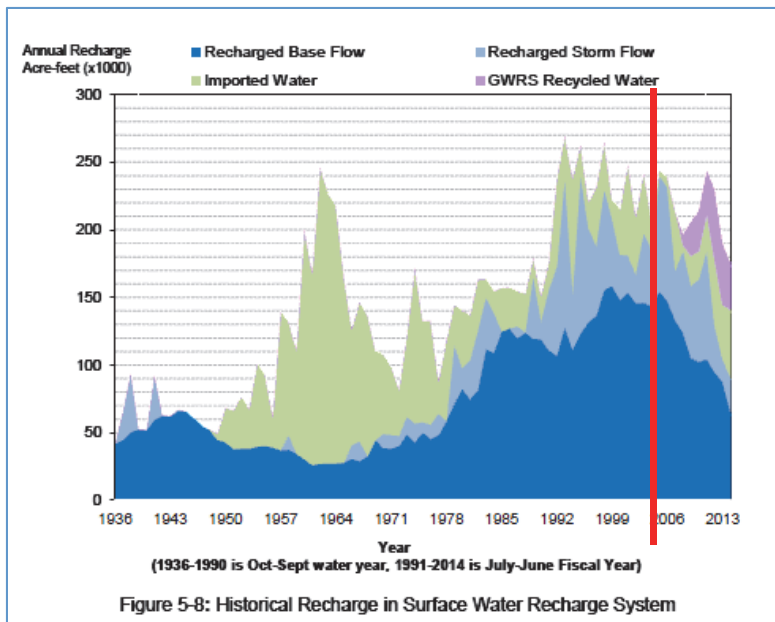


Figure 11 - Surface Water Recharge^{vi}

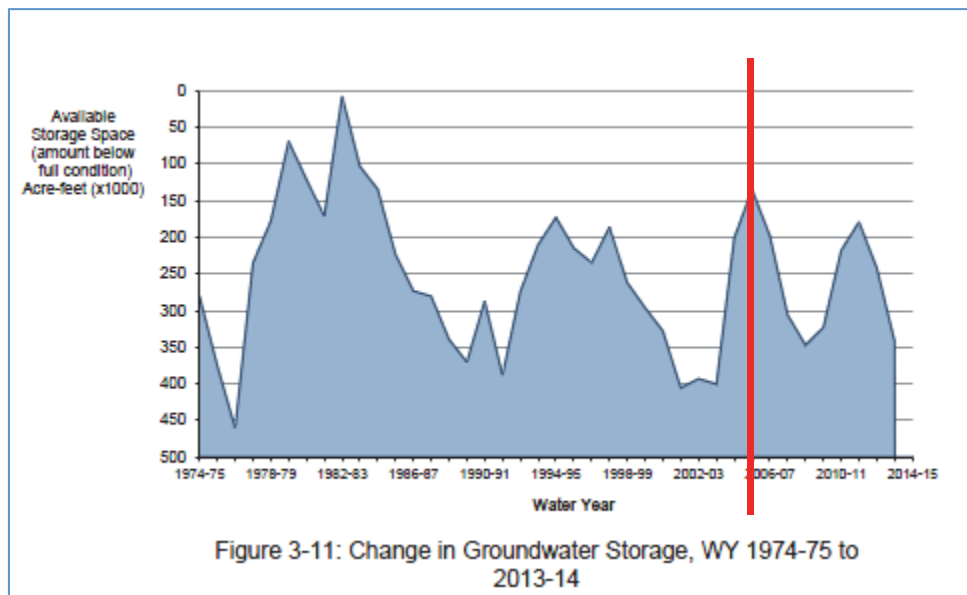


Figure 12 – Change in Groundwater Storage^{vi}

Appendix A

NEWPORT BEACH HISTORICAL SUPPLY 2000 – 2015 With 2005 Projected Supply							
Year	MWDOC	OCWD Dolphin Shallow	OCWD Dolphin Deep	OCWD Tamura Deep	OCWD Tamura Shallow	Total	2005 UWMP
2000	10,261.1	1,594.4	1,791.1	1,915.8	2,990.5	18,552.9	
2001	3,829.8	2,907.0	4,489.8	2,925.1	3,487.2	17,638.9	
2002	10,403.9	1,656.7	2,391.0	2,402.1	1,643.2	18,496.9	
2003	5,661.2	1,688.1	3,005.0	1,885.2	2,194.4	14,433.9	
2004	10,722.9	528.5	1,362.0	1,584.2	1,127.5	15,325.1	
2005	13,761.1	452.8	1,507.4	1,241.8	689.1	17,652.2	18,648
2006	14,895.8	568.8	815.9	921.6	406.8	17,608.9	
2007	8,413.9	2,493.2	3,208.5	2,184.1	2,374.1	18,673.8	
2008	5,843.8	2,113.2	3,465.9	3,834.0	2,200.9	17,457.8	
2009	3,996.7	2,520.4	4,143.6	4,030.6	2,294.6	16,985.9	
2010	7,705.2	1,277.1	2,382.1	2,125.9	1,766.2	15,256.5	19,792
2011	4,854.6	2,401.0	3,007.8	3,750.5	1,722.6	15,736.5	
2012	4,732.7	2,475.5	3,266.7	3,397.2	1,962.8	15,834.9	
2013	6,732.2	2,444.7	1,658.2	3,686.1	1,844.2	16,365.4	
2014	4,339.1	3,365.2	1,521.1	4,517.7	3,008.4	16,751.5	
2015	-	885.0	1,515.9	1,707.4	1,087.6	5,195.9	21,556
2016							
2017							
2018							
2019							
2020							21,640
2021							
2022							
2023							
2024							
2025							21,716
2026							
2027							
2028							
2029							
2030							21,716

Figure 13 – Historical Supply to Newport by OCWD and MWDOC.

Section Notes:

1a: 2000 US Census states 18,408 SFR and 14,663 MFR units. The 18,419 in the UWMP is close enough to the 18,408 noted in the census that we can conclude that single family accounts and single family units 1:1 and the same thing. Multi-family housing by definition means multiple units in a single structure which we can assume is served by a single account. If we take the 5,048 accounts and divide it multi family housing we find that there is 2.9 units per account.

$14,663/5,048 = 2.904$ units per acct.

The increase of 5,048 to 5,184 multi family units that’s noted in the UWMP would represent 394 units during that period.

1b: A WSA is supposed to evaluate whether or not proposed project of 500 units or more can be accounted for in the ‘most recent UWMP’. Merely citing the UWMP is not enough. This is a problem with how urban planners deal with WSA’s and developments built under the CEQA cap. Typically there is no effort to add up the collective demands of projects permitted over time which creates serious deficits. This is why *it is imperative that WSA’s ‘re-evaluate’ the current water supply with updated information.*

2: Population and supply

Scenario	POPULATION	Supply (AF)	GPCD
Cited in WSA (2005)	79,320 ^{vii}	17,652	198.7
WSA 2010 Pop and Supply	80,250 ^{vii}	19,792	220.2
Actual 2010 Census Pop and Historical Supply data	85,186 ⁱⁱⁱ	15,688	164.4

If I used the WSA population and not used the revised 2010 Census figure the GPCD would increase only to 169.7

3: Projected Supply

4: Dry Year Forecasts

5: Santa Ana River Flows

ⁱ Newport Beach 2000 Census. Housing Tenure. 18,408 SFR and 14,663 MFR units. $14,663/5,048 = 2.904$ units per acct. <http://www.newportbeachca.gov/home/showdocument?id=4709>

ⁱⁱ Increase from 18,419 to 19,071 single family accounts (units) between 2005 and 2030.

ⁱⁱⁱNewport Beach 2010 Census <http://www.newportbeachca.gov/home/showdocument?id=13487>

^{iv} Natural Resources Defense Council v. Kempthorne, E.D.Cal., 2007

^v USGS Gage http://waterdata.usgs.gov/usa/nwis/uv?site_no=11074000

^{vi} 2015 OCWD Groundwater Management Plan Update

^{vii} WSA, Table 5-1 on page 11