No.	Comment	Parties	Page #	Response
42	Groundwater is unsuitable as a potential source of drinking water. Staff's analysis is not pertinent to the lower aquifer, which was used as water supply historically but discontinued due to seawater intrusion.	City	103-104 137 140	The Regional Board has designated groundwater in the Malibu Valley Groundwater Basin as a potential supply of municipal and domestic water (MUN). See *Basin Plan*, 1994, page 5-7). Accordingly, staff is required to apply this designation until the Regional Board changes it through a Basin Plan amendment, in accordance with the State Board and Regional Board Sources of Drinking Water Policies (Resolution 88-63). Groundwater resources, while not sufficient to meet demands of the entire community, may nonetheless meet partial demand or meet emergency demand. Staff acknowledges that seawater intrusion may have contributed to degradation of water quality. In restoring and managing potential future groundwater production, the City or other utility will need to evaluate the storage and safe yield of the aquifer, and ensure that pumping patterns and replenishment with high quality waters are properly designed and managed. Early studies of water resources were of limited scope, and were undertaken after production levels and pumping patterns had already caused sea water intrusion (Bailey, 1950 and 1951). Sustainable production of groundwater in the future will require an understanding and management of safe yields, replenishment, and pumping patterns.

Response to Objections on Staff's Analyses of Groundwater Impairment (Tech Memo #2)

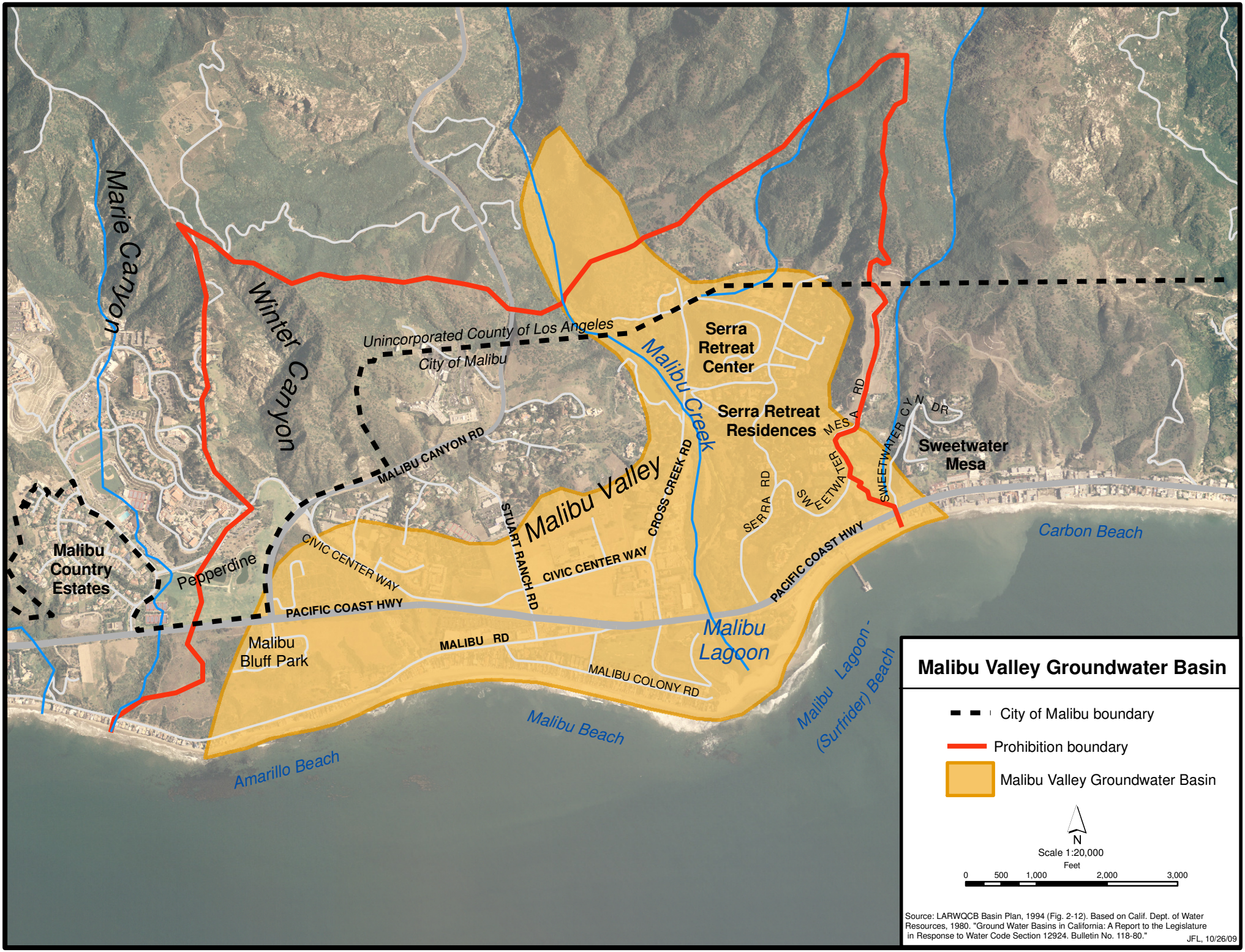
No.	Comment	Parties	Page #	Response
43	The Malibu Valley Groundwater Basin does not include Winter Canyon. Winter Canyon is not a potential source of drinking water.	Colony Plaza	266-267	Disagree. The Malibu Valley Groundwater Basin does include lower Winter Canyon (see attached figure showing the basin outline, enlarged from the *Basin Plan*). As the Board has designated this basin for 'potential MUN,' staff has treated groundwater in lower Winter Canyon accordingly. (See comment in above row.) Furthermore, groundwater upgradient (e.g. upper Winter Canyon) of major basins identified in the *Basin Plan* are to be protected as designated in downgradient basins (*Basin Plan*, Table 2-2, footnote 'ac'). Also, wastewater management in Malibu Valley is linked to Winter Canyon – a significant flow from the Malibu Colony Plaza is lifted over to Winter Canyon for disposal into a four-acre field.
44	There are other sources of nitrogen, such as agriculture, lawn fertilization, and stormwater pollution.	City	104 136 138	Staff agrees that other sources can contribute to the groundwater pollution. However, in assessing the presence of those other possible sources versus the pollutant loading from OWDSs, staff believes that OWDSs are predominately responsible for pollution seen in the wells evaluated in Tech Memo #2.
45	There is no MCL for ammonia and therefore it should not be included in the analysis. Several wells would not be considered contaminated wells if ammonia had not been included.	City	104 137 140	Staff clearly explained, in Tech Memo #2, that there is no MCL for ammonia, and that the ammonia analyses were provided because of the expectation that this contaminant would convert to nitrite and nitrate. Staff submits that this is a prudent analysis, and that it is consistent with the Regional Board's permitting strategy.

Response to Objections on Staff's Analyses of Groundwater Impairment (Tech Memo #2)

No.	Comment	Parties	Page #	Response
46	Staff double counts wells. [In staff's attempt to clarify this, the City stated that two wells -- #7b and #8) are the same as SMBRP 7b and SMBRP 8.]	City	104	Thank you. Staff acknowledges that there are two duplicate wells (#7b is the same as SMBRP7b, and #8 is the same SMBRP 8). This error arose because the wells had different data sets (different sampling dates, and different water quality values). Nevertheless, based on the remaining 57 wells, staff's conclusion in Tech Memo #2 remains the same.
47	Staff over-counts total and fecal coliform MCL exceedances …should not include [hits] from new wells…..	City	139	Staff is not clear on the rationale behind this comment. Staff assumes that representative samples were correctly collected, and that the first data point for wells is not from well development.
48	Opposition to the way the number of samples that failed to meet the MCL is reported.	City	138 139	The historical monitoring results for 57 wells (excluding the two duplicates) are summarized in Table 2. Any time a well failed to meet the MCL, a "yes" value is designated. Even though a well have been in compliance since 2003, it's still helpful to know of longer term trends. Because this is a comprehensive analysis, all data points were considered.
49	This line is intentionally blank.			
50	All monitoring well samples are arbitrarily lumped together and there is no evaluation of results based on whether water quality has changed over time. The analysis does not include site specific data. Raises questions pertaining to objective evaluation.	City	138	The purpose of this study is to answer the question – is groundwater impaired as a potential source of drinking water, and staff used a comprehensive approach to answer this question.

Response to Objections on Staff's Analyses of Groundwater Impairment (Tech Memo #2)

No.	Comment	Parties	Page #	Response
51	No mention of upgrades of, and replacement of, septic systems including advance treatment systems.	City	136	Staff's analysis, using data through early 2009, reflects the performance of OWDS upgrades. Staff has not been able to validate basin-wide improvements to water quality.
52	Ammonia is erroneously counted twice because all the tables in Attachment 2-1 include a column that is the summation of Ammonia + Nitrate + Nitrite + TKN	City	140	Disagree. Although staff included TKN in the data compilation in the July 31st draft (so that a reader could get a comprehensive understanding of all species of nitrogen), staff did not add TKN values in calculating exceedances. To eliminate confusion in the Oct 21st draft, staff deleted the TKN column. Staff's results and conclusions do not change.
53	Ignores other published sources that are seen as quite relevant.	City	106 136	Re the studies that the City lists on page 136, yes – staff did consider these data. Re the studies that the City lists on page 106, no – these data haven't been made available.


Malibu Valley Groundwater Basin
City of Malibu boundary
Prohibition boundary
Malibu Valley Groundwater Basin
N
Scale 1:20,000
Feet
0 500 1,000 2,000 3,000
Source: LARWQCB Basin Plan, 1994 (Fig. 2-12). Based on Calif. Dept. of Water Resources, 1980. "Ground Water Basins in California: A Report to the Legislature in Response to Water Code Section 12924. Bulletin No. 118-80."
JFL, 10/26/09
Marie Canyon
Winter Canyon
Unincorporated County of Los Angeles
City of Malibu
Malibu Creek
Serra Retreat Center
Serra Retreat Residences
Sweetwater Mesa
MESA RD
SWEETWATER CYN DR
SWEETWATER
SERRA RD
MALIBU CANYON RD
Malibu Valley
CROSS CREEK RD
STUART RANCH RD
CIVIC CENTER WAY
PACIFIC COAST HWY
Malibu Country Estates
Pepperdine
Malibu Bluff Park
MALIBU RD
MALIBU COLONY RD
Malibu Lagoon
Carbon Beach
Malibu Lagoon - (Surfrider) Beach
Malibu Beach
Amarillo Beach