California Regional Water Quality Control Board, Los Angeles Region
531st Regularly-scheduled Meeting of November 5, 2009 (Los Angeles)

Responses Staff has prepared response matrices, organized by issue. Similar or duplicative comments are being consolidated in the following matrices:

Page Numbers

Support, Opposition, Opposition to the 2014 Deadline, and Financial Hardship Concerns

No.	Comment	Parties	Page #	Response
1	Support, in general, and support with qualifications	Angel	590	Support acknowledged. Responses to comments that qualify support are summarized in subsequent matrices.
		Baykeeper	212-229	
		Bay Restoration Commission	195-196	
		Heal the Bay	234-237	
		Maginnis	597-598	
		Rosenfeld	486	
		Surfing Association	238-240	
		Surfing Coalition	241-260	
2	Opposition	City	100-185	Opposition acknowledged. Responses to comments cited in opposition are summarized below and in subsequent matrices.
		WW Advisory Committee	186-187	
		County	188-194	
		Las Virgenes MWD	197-208	
		School District	209-210	
		All 6 'WDR Dischargers'	262-378	
		Almost all (19 out of 20) 'Other Dischargers'	380	
		Advanced Onsite	586-588	
		Ensitu	591-592	
		Thai Cuisine	599	
		Toberman	600	
		Tobias	601-602	

Support, Opposition, Opposition to the 2014 Deadline, and Financial Hardship Concerns

No.	Comment		Parties	Page #	Response
3	2014 deadline to cease discharge:	Support for 2014 deadline	Baykeeper*	219	Staff acknowledges that the 2014 schedule does not include allowances for significant delays in planning, financing, design, environmental evolutions, construction, and start up; however, it is a feasible schedule. The City has provided no evidence that the 2014 schedule s is not feasible. Latham and Watkins provides an alternate scenario based upon its expertise, but it appears to be a "worst case" schedule and staff does not agree that the worst case is inevitable. For example, staff is aware that significant planning and preliminary design work has been done by the City (see Stone 2004 and Questa 2003 and 2005), and that State Water Board funding opportunities have been initiated. * Bay Keeper: Accelerate deadline to 2012 for Civic Center, Malibu Colony, and Winter Canyon (page 219). **Heal the Bay: "...outlines a reasonable schedule..." (page 235). [Re Malibu Colony]..."A requirement to either tie into the sewer or install a disinfection system ...[within] 8 years would be acceptable...." (page 236).
			Bay Restoration Commission	196	
			Heal the Bay**	235-236	
			Surfing Association	238	
		Extend 2014 deadline	City	118	
			Latham & Watkins	470	
			Advanced Onsite	586	
			Env Engineering	594-595	
4	Opposition based on anticipated financial hardship		City	131-133	Staff has not attempted to allocate costs among users – e.g. allocating costs among homeowners versus commercial and industrial users. Financing community services, including collection and treatment of wastewaters is typically by a community, and not at the state or federal level. Likewise, finding a fair way to allocate the costs within a community is typically decided by community leaders with input from their constituents. Nevertheless, the Board has been advocating on behalf of the community, to obtain financial assistance from the state. Staff has already encouraged the City apply for a subsidized loan from the Clean Water State Revolving Fund. Also, the Board may wish to encourage community leaders to make allowances or set more flexible payment terms for users facing financial hardship, such as seniors on fixed incomes and low income homeowners. The City appears to have financial flexibility. For example, the City has high bond ratings. (See attached release dated Aug 18, 2009.)
			School District	209	
			Most 'WDR Dischargers'	262-378	
			Most 'Other Dischargers'	380-585	
			Many 'Other Dischargers'	586-602	

City of Malibu News

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FOR IMMEDIATE RELEASE:
August 18, 2009

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City of Malibu Achieves Highest Credit and Bond Ratings

Ensures New City Hall Will Be Purchased at Lowest Possible Interest Expense and Cost to the Taxpayer

MALIBU, CA – The independent bond-rating agency, Standard & Poor's, described the City of Malibu's financial performance as "very strong" and awarded its highest possible credit and bond ratings to the City – ratings that will help ensure the new City Hall will be purchased at the lowest possible interest rate and cost to the taxpayer, Mayor Andy Stern announced today.

Standard & Poor's gave the City a "AAA" credit rating and "AA+" bond rating, its highest possible rating for the general appropriations lease financing the City is undertaking. The City plans to issue nearly $20 million in Certificates of Participation to finance the purchase of an existing building and its renovation so it can serve as Malibu's new City Hall.

The City also achieved the "AAA" credit rating and "AA+" bond rating in 2005 in association with its issuance of 2006 Certificates of Participation for the purchase of the Legacy Park property where it is building an innovative stormwater and environmental restoration project.

"We are very proud that the City of Malibu has once again achieved the highest possible credit and bond ratings, especially at a time when the state and many other governmental entities have experienced a reduction in their ratings because of the difficult economic conditions," said Mayor Stern. "Maintaining outstanding ratings verifies the fiscally responsible and sound management of the City. These great bond ratings also will help ensure the new City Hall will be purchased and renovated with the lowest possible interest expense and cost to the taxpayer."

In issuing its ratings, Standard & Poor's said the City's financial performance has been "very strong, with annual operating surpluses that the city used to boost the reserves and a track record of actual performance that has exceeded budgeted performance." It also noted that Malibu enjoyed strong property values, a low unemployment rate, a low debt burden, a strong reserve and close proximity to Los Angeles' "deep and diverse" economy.

"The outlook also reflects our expectation of continued strong financial performance with substantial flexibility maintained by healthy reserves above the council's stated target," Standard & Poor's said in issuing its ratings for Malibu. "We believe the desirability of Malibu as both a permanent residence and a tourist destination should continue to provide credit stability."

Sara Oberlies, the City of Malibu's investment banker for the Certificates of Participation and a managing director at the municipal bond underwriting firm of Stone & Youngberg, said only 35 California cities have achieved a "AAA" credit rating.

(More)

"A rating of AAA is very difficult to achieve in such difficult economic times because of the volatility and uncertainty of available revenues for municipal governments," she said. "Malibu's City Council, its mayor and its staff deserve praise for their sound financial management of the City's resources and its revenues."

The City of Malibu plans to issue nearly $20 million in Certificates of Participation on Thursday for the purchase and renovation of an approximately 35,000-square-foot commercial office building that will serve as the new City Hall. The new City Hall will replace the building the City currently rents for its operations.

"In all my years on the Council, the purchase of this building was the one thing nearly everyone in town agreed was the right thing to do," said Mayor Stern.

The City also plans to retain for public and private use the new building's state-of-the-art, 500-person auditorium and one-of-a-kind recording studio that has been used by such renowned musicians as Tom Petty, Bob Dylan, Sting and Barbra Streisand.

"The purchase of this quality building in this location at this price was a unique opportunity for the City, and I applaud the City Council for their initiative in making it happen," said City Manager Jim Thorsen.

The City of Malibu was incorporated on March 28, 1991. Located in northwest Los Angeles County, the City has 21 miles of coastline along the Pacific Ocean and a population of 12,575. For more information on the city and the project, please visit http://www.ci.malibu.ca.us/ and http://www.malibulegacy.org/.

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No.	Comment	Party	Page	Response
5	Delay Nov 5th hearing. Give City time [generally unspecified] to complete five studies. Provide general public more opportunity for discussion.	City	106	The City has had almost 20 years to implement an effective wastewater management strategy. Many stakeholders, over the past decade, have expressed frustration with the City's slow progress and failure to meet past commitments. Scientific elements of staff's reports have successfully passed an external review. Staff believes that the admin record supports a determination for a prohibition, and disagrees that preliminary results of the five studies contradict findings in the admin record. CEQA does not require that the Regional Board wait for additional studies. Staff believes there is substantial evidence from the myriad of studies that have already been published. Staff has reviewed many studies (see ESR) and spoken with many experts regarding the validity of the prior data. Staff believes the research to date is still valid. Further, staff has spoken with some of the researchers of the new studies and does not believe the results will be ready timely or that the results will shed new light directly on the issues at hand. Staff notes there is disagreement about the last point.
		Las Virgenes MWD	197	
		Barscocchini (Malibu Knolls POA)	380	
		Harris	410	
		La Paz (Deleau)	412	
		La Paz (Cox)	415	
		Malibu Knolls POA	476	
		Metzler	478	
		Rosenthal	487	
		Stark	490	
		Toberman	600	
		Thai Cuisine	599	
6	Partner/take a collaborative approach with the community – instead of a prohibition.	City	133 & 134	See above response. Also see comments from Bay Restoration Commission (pg 195), BayKeeper (pg 214) and Heal the Bay (pg 234), and Surfing Association (pg 238) that suggest a more aggressive approach is needed.
		Chamber	231 & 233	
		Metzler	478	
		Rosenthal	487	
		Stark	490	
		Tobias	601	

Objections to the Regulatory Process for Adoption of the Prohibition

No.	Comment	Party	Page	Response
7	Staff did not provide direct notice of the prohibition to individual homes or business owners.	County	190	Staff met legal requirements for noticing, including publishing the notice in a paper of general circulation (Malibu Times) on Sept 3rd, Sept 10, and Sept 17th. Staff took additional discretionary efforts to outreach to the community, including a technically-oriented workshop on Sept 1st and a community meeting for affected residents on Oct 1st.
8	More outreach, workshops, 'town hall' meetings are needed.	Chamber	230 - 233	Staff held a workshop on Sept 1st, and a community meeting on the evening on Oct 1st. Staff has met with the City of Malibu many times since June, including June 17, Sept 23rd, Oct 6th, and Oct 23rd. Staff has also met with other interested parties, and provided much additional outreach through phone and e-mail.
		Benjamin	383	
		Advanced Onsite	587	
		Env Engineering	593 -596	
9	Where are meetings advertised?	Lady of Malibu Church	422	The Nov 5th hearing was noticed in the Malibu Times. Information on the Sept 1st workshop and Oct 1st community meeting was sent through Lyris announcements, Web site postings (including pdf's of handouts), and e-mail notices to WDR dischargers. Also, the City of Malibu worked with staff to notify the community of the meetings.
10	The Oct 1st Board meeting [hearing] should be rescheduled.	La Paz (Deleau)	413	Staff did not schedule the Oct 1st community meeting on the same day as the Board hearing. The prohibition item, originally scheduled for a hearing during the Oct 1st Board meeting, was rescheduled to Nov 5th. Because of this additional time, staff scheduled a community meeting on Oct 1st. To ensure that Mr. Deleau understood this, staff left a voice mail for him on Sept 22nd.
11	Staff was irresponsible in stating the Board will likely not take a strict approach toward enforcement.	La Paz (Deleau)	413	Disagree. Staff provided context, by explaining the agency's progressive approach to enforcement. The context and detail staff provided was in response to questions from several people in the audience at the Sept 1st workshop, who asked about the Board's enforcement authority and – specifically penalties (which information was subsequently misquoted in the press).

No.	Comment	Party	Page	Response
12	The Sept 1st workshop was too short and the venue was inappropriate.	La Paz (Deleau)	411	Re timing of the Sept 1st workshop, staff acknowledges that five questions had to be cut off after 1 hour and 50 minutes. However, staff had committed to vacating the Pepperdine lecture hall so that a class could start at noon. Informally, staff engaged in discussions with interested attendees on the plaza outside of the lecture hall. Also, staff contacted the five speakers afterwards (including Deleau on September 2, 2009), asked for their comments, and invited them to the next community meeting. At the Oct 1st community meeting, staff did not close the meeting until all participants had opportunity to speak, and also stayed another hour for informal discussion. Re location, staff disagrees that the venue was inappropriate. Other facilities in the prohibition area were not available. Staff consulted with City officials about the venue.
13	Peer review memos – access was not provided for timely review and comments.	City	114	Health and Safety Code section 57004 requires an external scientific peer review of the scientific basis for any rule proposed by the Regional Board. The peer reviews are publicly available but are not the subject for comments.

Objections to Staff's Analysis of Compliance (Tech Memo #1) and MOU Issues

No.	Comment	Parties	Page #	Staff Response
14	The Basin Plan amendment seems drastic and premature and is based on Regional Board oversight cases only.	City	101, 2nd paragraph	Beneficial Uses are impaired as demonstrated in Tech Memo #2 (groundwater), #3 (beaches) and #4 (lagoon). The City has had almost 20 years to implement an effective wastewater management strategy. Results of City's 2004 Stone studies are consistent with Staff's conclusion that both commercial and residential discharges have impacted groundwater quality.
15	Objections to prohibition – suggest improvement in permitting, reporting, communications and compliance between all affected parties	City	101, 2nd paragraph	See matrix for "Objections to the Regulatory Process for Adoption of the Prohibition" objections (page 6), Response to Comment #2. Also, the City has not provided satisfactory assurance that systems will be appropriately designed, located, sized, spaced, constructed and maintained. City's oversight efforts have been slow, and ineffective. For example, IWIMS, the City's wastewater management database, is inaccurate and not well populated. The City's Operating Permit Program, initiated in March 10, 2008, will take many years to cover a substantial portion of residents and small commercial dischargers since the City only requires upgrades at point of sale and remodeling. Many WDR dischargers have been repeatedly warned of violations. The Regional Board enforced all permitted facilities as much as possible in view of the limited staff resources. In addition, dischargers are responsible to self-monitor and ensure compliance as required by WDRs. Staff acknowledges the City has implemented many programs to comply with the MOU, and that the City asserts it is able to offer satisfactory assurances.
16	What criteria were used to determine violations? Why are all violations weighted similarly?	City	101, 3rd paragraph	Regarding criteria, staff applied specifications in WDRs for determination of violations. In response to comments, staff revised Tech Memo #1, Table 4 to distinguish discharge violations and non-reported parameters.
17	Notices of Violation (NOVs) contain mistakes: For example: Hughes alleges that an NOV was mistakenly issued for non-submittal and late submittal.	City	102, 1st paragraph	An amended NOV was issued to Hughes. Staff's error resulted from Hughes' incorrectly dated submittals. Further analysis of Hughes' compliance status indicated that Hughes failed to submit records of waste hauling.

Objections to Staff's Analysis of Compliance (Tech Memo #1) and MOU Issues

No.	Comment	Parties	Page #	Staff Response
18	Existing [commercial and residential] OWDSs will be replaced with advanced systems, which should eliminate concerns with older systems causing pollution. Prohibition fails to credit City's progress including upgrades and new commercial systems reusing water. Over time, all of the OWDSs in the City will be upgraded to the advanced systems. The proposed Prohibition freezes the progress. The new OWDSs will not pollute groundwater. Staff failed to consider that advanced systems would help to improve the current situation even in advance of 2014 prohibition.	City	102, 2nd paragraph 105, 2nd paragraph	Disagree. The small localized cleanups in the high density discharge area are not effective. It is worse because the high discharge violation rate results in groundwater pollution as evidenced in compliance history and Tech Memo #2. For commercial facilities, 40% (8 out of 20 commercial facilities) have advanced treatment systems. Seven out of these 8 commercial facilities have discharge violations. Only about 20% of residential systems have advanced treatment; most are still passive systems that impact water quality. For example, one residence in Serra Retreat has total system failure. An effective and timely solution is not apparent. Most individual advanced systems for commercial properties do not operate properly to protect water quality, as evidenced by the compliance history. We have similar concerns for residential advanced systems. City's Integrated Wastewater Management Information System (IWIMS) submitted in June 2009 demonstrated that IWIMS is not a tool for tracking compliance. A regional solution is needed to protect water quality in the Malibu Civic Center area.
		Latham and Watkins	442, 1st paragraph 441, 4th and 5th paragraphs	
19	Prohibition is unfair to many dischargers who invested resources upgrading the old septic systems to advanced treatment systems.	WW Advisory Committee	186	Acknowledged. However, staff is concerned that many advanced treatment systems are inadequately designed to handle seasonal or holiday peak flows. Most of the advanced treatment systems have startup problems, such as Malibu Lumber, or maintenance problems, such as the two plants in Winter Canyon. See also response to Comment No. 187. Tech Memo #1 documented compliance history including facilities with advanced treatment systems. Tech Memo #2 demonstrated wide-spread groundwater pollution from all discharges, including facilities with advanced treatment systems.
20	The Regional Board did not ensure that the septic systems are designed/operated/maintained properly	School District	210, 1st paragraph	Most of these systems were permitted by City or County and are under City or County's oversight.
21	Despite the WDRs issued by the Regional Board to dischargers, the violations of effluent limits and effluent flow continue.	Baykeeper	213, 5th paragraph	Concur. See Tech Memo #1.

Objections to Staff's Analysis of Compliance (Tech Memo #1) and MOU Issues

No.	Comment	Parties	Page #	Staff Response
22	Without a prohibition, impairment of beneficial uses and violations of water quality objectives (WQO) will continue. The existing permitted dischargers routinely violate effluent limits for nutrients and pathogens. WDR are insufficient to ensure that WQO will be met. Even the Malibu Lumber Yard "state of the art" system violates its effluent limits and can not ensure that water quality is protected.	Baykeeper	216, 6th paragraph 217, 1st paragraph	Concur. See Tech Memo #2, #3 and #4.
23	Many of Malibu's smaller businesses are simply uninformed about the current requirements for wastewater permitting.	Chamber	230, 3rd paragraph	Many commercial facilities failed to apply for WDRs resulting in the Regional Board issuing California Water Code (CWC) section 13260 directives in April 2009. The directives include detail requirements for permitting. Some facilities failed to respond to CWC section 13260 directives by the due date. Many smaller businesses continue to discharge without a permit despite Regional Board efforts.
24	For the most part these septic systems satisfactorily perform the disposal objective and do provide an effective level of treatment.	Chamber	230, 4th paragraph 231, 1st paragraph	Disagree. All commercial systems failed to comply with the WDRs as evidenced by data used to support the NOVs issued by the Regional Board between April and June 2009. Many systems aren't adequately designed and sited, and cannot handle the flow of wastewater generated by land use activities permitted by the City. (See Tech Memo #5.) See also response to Comment No. 186
25	Tech Memo #1, Table 4 mis-stated violation count of 62 which did not account for TSO extension from 1/30/06 to 8/31/06. An additional 12 violations cited late reporting by a few days.	Colony Plaza	265, 5th paragraph	Acknowledged. Staff revised Tech Memo #1, Table 4 to reflect a TSO extension granted by the Executive Officer in 2006. The correct violation count is 55 (not 62, as stated in the July 31, 2008 draft). Late reporting is a violation.
26	MOU - If the *Basin Plan* is amended, it is necessary to modify the MOU to carve out the portion of the unincorporated County within Prohibition Area.	County	190	Concur. Staff will initiate a meeting to discuss changes to the MOU if the Basin Plan amendment is adopted by the Regional Board.

Objections to Staff's Analysis of Compliance (Tech Memo #1) and MOU Issues

No.	Comment	Parties	Page #	Staff Response
27	MOU - The City of Malibu has failed to develop a truly comprehensive wastewater management plan for the Civic Center Area. City has failed to adequately regulate smaller dischargers under MOU, including the requirement to adopt ordinances requiring: a. upgrades of all OWDS within the six-month time-of-travel zone by 9/16/06 and within the Malibu Lagoon contributory area by 9/17/09, b. de-nitrification standards for residential areas within the contributory area by 9/17/06 and c. registration criteria and programs for OWDS management by 9/17/08.	Bay Restoration Commission	195	Concur. See Tech Memo #1. Also see matrix for "Objections to the Regulatory Process for Adoption of the Prohibition" page 6, Responses to Comments #1 and #2.
		BayKeeper	213-214	
28	MOU - The Regional Board is not adequately staffed to timely issue zero-discharge permits to residents.	Malibu Knolls POA	476	The Regional Board staff does not intend to issue zero-discharge permits to residents in the Civic Center Area of Malibu. In addition, the City of Malibu currently regulates residential discharges.

Objections to Staff's Analysis of Hauling Practices (Tech Memo #5)

No.	Comment	Parties	Page #	Response
29	Inaccurate reference to "Intensive land use"…."prohibition area encompasses 1,410 acres and 90% of the land is open space, undeveloped…."	City	109 § 2	Clarified by Inserting "Relative" in Tech Memo 5 ,Background section. Staff did not average the total existing flow over the entire 2.2 square miles because the commercial dischargers are clustered relatively close to each other as shown in Figure 1 of Tech Memo # 5. Some commercial developments have low Floor Area Ratio (FAR), for example Cross Creek Plaza has 0.54. In spite of the large undeveloped area in the Civic Center area, the flow and hauling data were from the clustered dischargers.
30	"Claim that seepage pits are not serving its purpose… is not supported by evidence or data.."	City	109 § 2	Disagree. The reliance of haulers on hauling large volumes of septic wastes off site is a sign that the seepage pits are no longer serving their purpose. Dischargers' hauling reports submitted to the Regional Board indicate that pumping and hauling were done not as a regular maintenance procedure.
31	Water use "has remained steady.." Staff "should rely on data from LA County Waterworks District #29"…. "..last month', the City reduced water usage by nearly 20%.."	City	109 § 4	See Tech Memo # 5, page TM5-24, which shows an increasing trend in water consumption over the past 20 years. Concur that water consumption data from LA County Waterworks District # 29 .should be used - this is indeed what staff did use. On page 109, the City states that it "reduced our water usage in the last month". While such a reduction last month is commendable, staff nevertheless refers to the long term trend.
32	The calculation of the number of residences in the Malibu Civic Center area is inaccurate.	City	110 § 2	Agree. Regional Board staff recalculated the number of residences in the Malibu Civic Center area based on the county assessor's database and revised the Tech Memo accordingly.
33	Hauling data about Cross Creek Plaza was inaccurate.	City	110 § 1	Agree. Tech Memo # 5 was revised to incorporate the correct data.
34	95% of water used within the facility goes to the septic is merely an assumption not supported by fact.	City	110 § 3	The assumption that 95% of the water consumed goes to the sewer is made by the dischargers without flow meters to measure the waste flow. The dischargers assumed that the remaining 5% of the water consumed was used for irrigation and other outdoor activities.

Objections to Staff's Analysis of Hauling Practices (Tech Memo #5)

No.	Comment	Parties	Page #	Response
35	"Spills in the Study Area" is misleading	City WW Advisory Committee	Page 110 § 4 Page 186 § 2	Spill data were deleted from Tech Memo # 5 because most of the spills occurred outside the Malibu Civic Center area. The analysis of the hauling data indicate that dischargers resort to hauling wastewater off site to avoid spills.
36	Drive-through inspection's observations do not indicate waste flow increase or lapses in City's regulatory competency.	City	112 § 2	The drive through inspection was not meant to be a compliance evaluation inspection. Staff observed and documented how much hauling is going on in the Civic Center area on a typical weekday.
37	Carbon Footprint Analysis is irrelevant to increased water flow.	City	112 § 3	The Carbon Footprint Analysis is meant to show that the frequent hauling of septic wastes off site has a potential climate change impact.
38	Appendix A (Septic Waste Flow and Hauling Data) of Tech Memo # 5 contains incorrect values.	Colony Plaza	268 § 4	Disagree. Staff considered new data (page 272), but was unable to resolve conflicting assumptions (See Supplement). **Staff further analyzed the waste flow trend, ignoring the Colony Plaza flows. This revised trend line still shows an increasing trend.**
39	Tech Memo #. 5 conclusion that hauled volumes are increasing is incorrect.	Colony Plaza	269 § 3	Disagree. Staff analyzed the hauling trend for 13 permitted facilities. Colony Plaza asserts that its waste hauling is going down. This does not change the trend for the 13 permitted facilities.
40	Regional Board's calculation of daily waste flow was inaccurate.	Gerson	314	Disagree. Technical Memo No. 5 did not include Morton Gerson-Colony Plaza in its analysis of waste flows and hauling because of the small amount of waste flow generated.
41	Supports Technical Memo # 5 as evidence for the Prohibition.	Rosenfield	486	Response acknowledged.

Supplement to Response 29 Waste Flow Trends

On October 8, 2009, Malibu Bay Company (Colony Plaza) objected to staff's analysis of waste flows (Figure 1). Colony Plaza alleges that Appendix A: Septic Waste Flow and Hauling Data (TM5-12) contained incorrect values related to its facility. Colony Plaza specifically questioned the assumptions made by staff on the waste flows from the facility for 2004 and 2005. Staff's methodology of assumptions is explained in Technical Memo #5, footnote 3. Where data are missing from monitoring reports, staff made reasonable assumptions using best professional judgment.

Integrated Performance Consultants (IPC) on behalf of Colony Plaza adjusted Colony Plaza's waste flows (Figure 2). IPC estimated that in 2004, Colony Plaza discharged 8,946,516 gallons, assuming that between January and August, the facility discharged the same amount of septic waste as it did from September to December 2004 (2,982,172 gallons, shown on Colony Plaza's pumping records). IPC also estimated that in 2005, Colony Plaza discharged 11,753,171 gallons. IPC's estimates were based on pumping records for the first 11 months of the year and best professional judgment, assuming that the volume of waste pumped in December is similar to the volumes pumped during the first 11 months of the year. (This is the same approach that staff used.)

In order to generate complete data sets for the analysis of annual waste flows in the Malibu Civic Center area, staff extrapolated from available data. IPC submitted data on waste flows and annual water consumption. IPC reported that in 2004, 8,946,516 gallons of septic waste were discharged, which is 68% of the 13,126,161 gallons of the water consumed. (IPC did not account for the missing 4,000,000 gallons.) In 2005, IPC reports that Colony Plaza discharged 11,753,171 gallons and consumed 11,7432,673 gallons (higher waste flow than water use). Staff adjusted the waste flow value for 2005 to be consistent with the value reported for 2004, which assumed the waste flow was 68% of the potable water consumed.

Figure 2 varies greatly from Figure 1. Staff estimated waste flows for Colony Plaza using the methodology described on footnote 3 of Tech Memo #5. In 2006, only the waste flow value for the fourth quarter was available. Staff multiplied this value by four to get an estimate for waste flows for the entire year. Staff estimated the waste flow for 2008 based on the data from the first and second quarters, which were available. The sum of waste flows reported for the first two quarters was doubled to provide an estimate for the entire year's waste flow. Using these assumptions, waste flow estimates for years 2006 through 2008 showed a steady annual increase. These values were extrapolated back to years 2005 and 2004, to get an estimated waste flow of 5 million gallons per year. These data were included in Figure1, which shows the annual waste flow trend for the Malibu Civic Center area.

As staff was not able to reconcile discrepancies, staff also analyzed the trend ignoring Colony Plaza's flows. Colony Plaza is one of thirteen commercial dischargers that were included in the analysis. Colony Plaza is the second largest discharger among the thirteen commercial dischargers (Malibu Water Pollution Control Plant is the largest); therefore, its waste flow has a significant impact on total annual waste flows. This explains the opposite trends shown in Figures 1 and 2. However, **even when the Colony Plaza is eliminated from the analysis, an increasing waste flow trend for the Malibu Civic Center area still remains** (Figure 3).

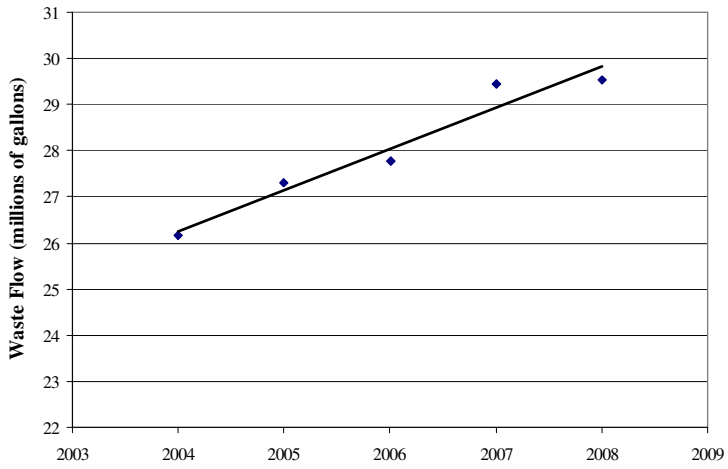


Figure 1. Staff's analysis of the waste flow trend in the Malibu Civic Center area. (Same as Technical Memorandum #5, Figure 2)

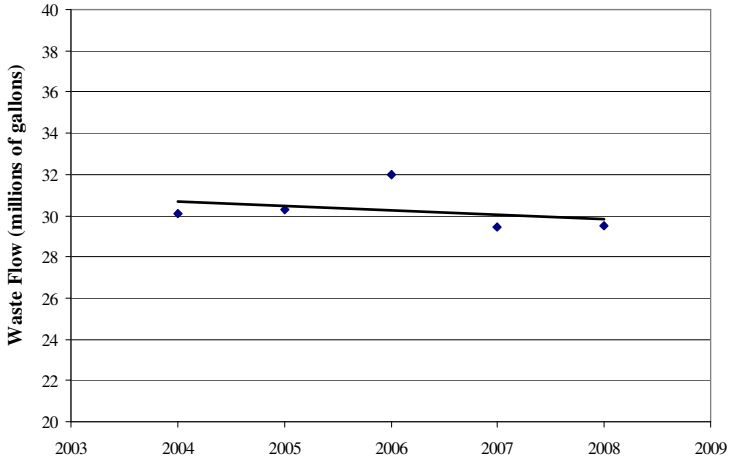


Figure 2. Colony Plaza's adjusted analysis of waste flow trend for the Malibu Civic Center. using waste flow data provided by IPC for Colony Plaza.

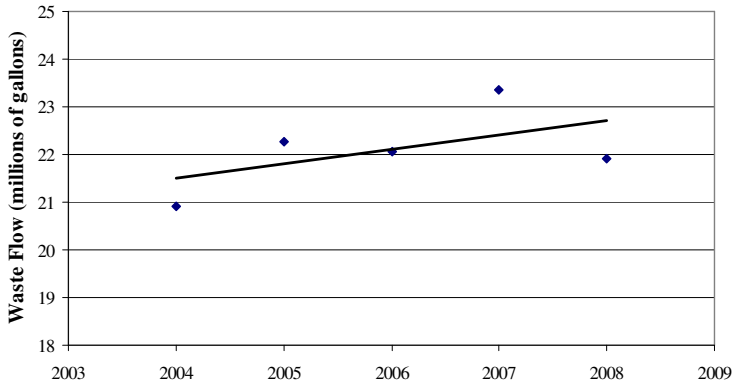


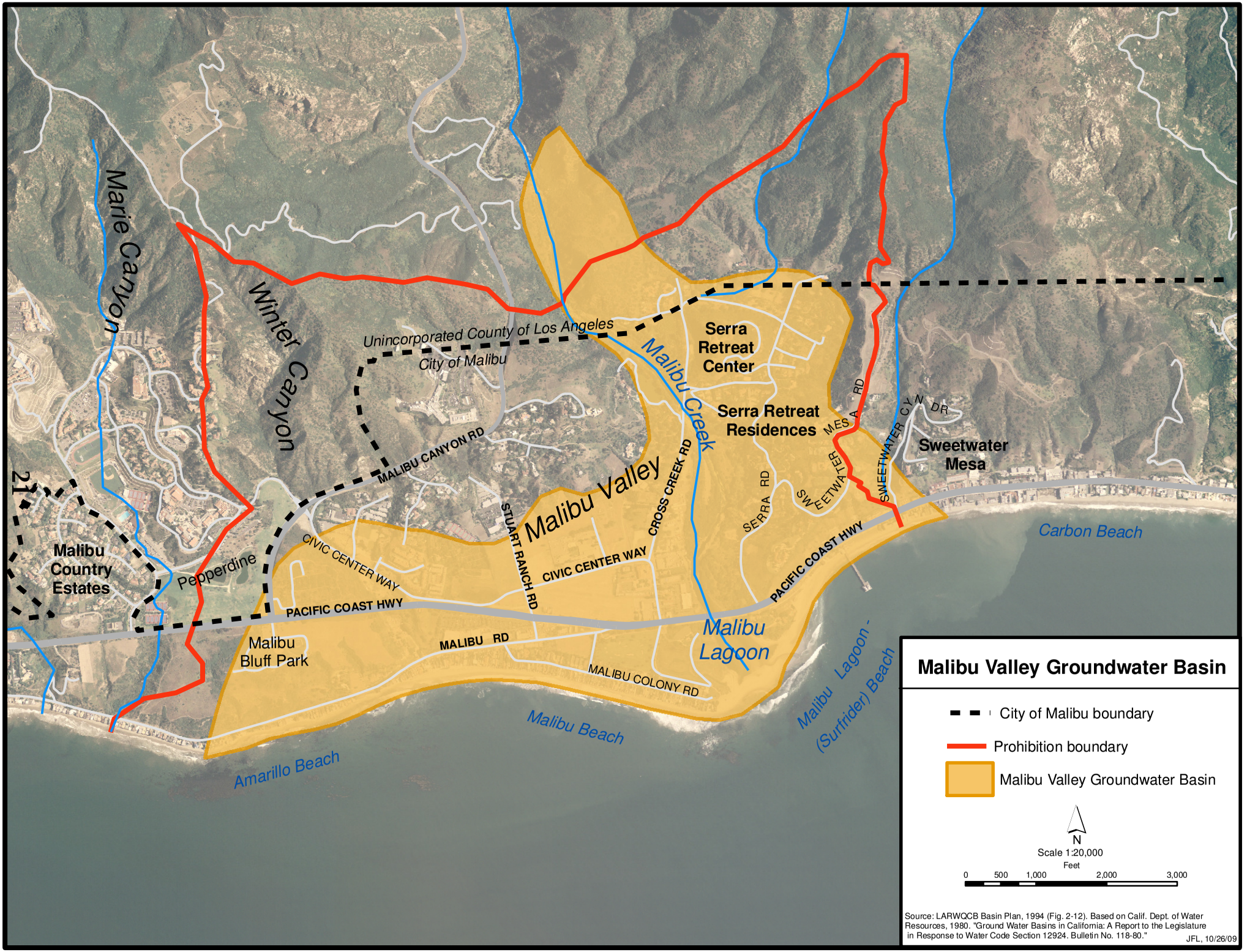
Figure 3. Waste flow trend for the Malibu Civic Center area, excluding waste flows from Malibu Colony Plaza.

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.

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.

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.

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.


Marie Canyon
Winter Canyon
Unincorporated County of Los Angeles
City of Malibu
Malibu Creek
Serra Retreat Center
Serra Retreat Residences
MESA RD
SWEETWATER CYN DR
Sweetwater Mesa
SWEETWATER MESA RD
SERRA RD
MALIBU CANYON RD
CROSS CREEK RD
STUART RANCH RD
Malibu Valley
CIVIC CENTER WAY
PACIFIC COAST HWY
Carbon Beach
Malibu Country Estates
Pepperdine
Malibu Bluff Park
MALIBU RD
MALIBU COLONY RD
Malibu Lagoon
Malibu Lagoon - (Surfrider) Beach
Malibu Beach
Amarillo Beach
21
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

Objections to Staff's Analyses of Impairments to Water Resources - Beaches (Tech Memo #3)

No.	Comment	Parties	Page #	Staff Response
54	Additional technical work is required to determine OWDS relationship to beaches via groundwater	For: City Latham & Watkins	155,162 470	Staff disagrees. See peer reviewer comments and response to peer reviews. See attachment #1 and attachment #3.. The microbiological and hydrological systems delivering bacteria to the beaches from the OWDSs are sufficiently complex that emerging information will provide more clarity, but will not disprove that under some conditions and in some places, OWDSs contribute pathogens to the beaches.
		Against: Baykeeper Surfrider Foundation	 213-216	
55	Additional technical work is required to confirm EPA's criteria relating human illness to enterococcus despite natural sources of the bacteria	For: City	 162	Staff disagrees. See response to peer reviewers comments and attachment #2 below. New criteria based on human source indicators will have the same problems as enterococcus, i.e. confusion due to transport in the food chain, large samples required to show statistical proof of human source indicators, and local variations in microbiological and hydrological conditions affecting the fate and transport of the indicator.
		Against: Heal the Bay Baykeeper Surfrider Foundation	 235 216 241	
56	The scientific method was not followed in Tech Memo #3	For: City	 162	Staff agrees that additional clarity can be provided. See changes in text and in peer review response attachment #1 on statistics. The use of frequencies to show enterococcus bacteria variations in populations of different sizes is a standard technical practice. The scientific process involves referenced journal articles, peer reviews, release of information to third parties and robust discussion.
		Against: Heal the Bay Baykeeper	 235 216	
57	Technical memo #3 does not show relationship between OWDS and beaches	For: City WW Advisory Committee Committee Colony Plaza Latham & Watkins	155 186 262 470	Staff disagrees. See three independent peer reviewer comments. See historical and recent studies in Tech Memo 3. See staff analysis in peer review response attachment #1.
		Against: Heal the Bay Baykeeper Surfrider Foundation	 235 213-216 241 316	

Objections to Staff's Analyses of Impairments to Water Resources - Beaches (Tech Memo #3)

No.	Comment	Parties	Page #	Staff Response
58	Understanding groundwater transport of bacteria pollution can allow sufficient beach protection	For: City Colony Plaza Latham & Watkins	155,162 263 439	Staff concurs that the 6-month travel time area identified in Stone (2004) continues to indicate elevated risk for transport of bacteria into surface waters where the City of Malibu agreed in the 2004 Memorandum of Understanding to replace all OWDS within this zone. However, Stone (2004) is a hydrological study which did not include a literature search of microbiology in the groundwater or on beaches. The evidence for bacteria die-off and transport is significantly more complex than modeled by Stone (2004). Also see attachment #1 to this response to comments titled: *Interpretation of Temporal and Spatial Groundwater information.* Also see response to peer reviewers' comments on bacteria transport in groundwater. The City has not considered hydrological and microbiological factors which may increase or decrease bacteria transport and identification of bacteria in well tests. Staff's analysis of data (not released by the city previously) duplicates the City 's findings that stable groundwater levels are found in the Civic Center area. The City interprets this as steady and continuous discharge of groundwater at a rate sufficient to remove pathogens. However, staff notes that the well in the Civic Center area, such as the 'c' wells, have nondetect on some occasions and were found by Vergutz (2006) to contain bacteria. As numerous literature cited here suggests, the heterogeneity of the aquifer has a larger influence on virus transport than is considered in the City's work.
		Against: Heal the Bay Baykeeper Surfrider Foundation	235 213-216 241	
59	Site specific epidemiology studies relate illness to stormwater, not OWDSs	For: City	156,160, 162	Haile et. al. (1999) includes untreated urban runoff as a source, but does not exclude groundwater discharge from OWDS. It was not a source study so it identifies urban runoff as a source, but does not eliminate OWDSs as a source. It relates illness to a location on the beach. In fact, the study did not consider groundwater discharge as a potential source, since they measured illness at that point on the beach on days when there was not overland flow. An adjacent fresh-water source, either stormwater urban flow or groundwater, would have to move through the sand of the beach to provide bacteria to the swimmers. Also see response to peer review comments on Attachment #3, bacteria in groundwater.
		Against: Heal the Bay	235	

Objections to Staff's Analyses of Impairments to Water Resources - Beaches (Tech Memo #3)

No.	Comment	Parties	Page #	Staff Response
60	Progressive cleanup of bacteria is underway	For: City Colony Plaza Latham & Watkins	158 262 470	It is not clear what "cleanup" the commenter is referring to. Board staff is aware that the stormwater containment structure began construction in September, 2009, and while permitting and upgrade activities have been described, the City has provided minimal documentation of load reductions nor has the surface water quality impact of those changes been calculated using simple technical methods. Specifically, the City's actions upgrading OWDSs between 2005 and 2007 constitutes an upgrade of about 80 of the 400 residential septic systems and 8 of the 40 commercial OWDSs within the Civic Center area. Since the sewage flow ratio of residential versus commercial estimated by the City is roughly equal, the residential change would constitute about 20% reduction in residential waste and about 20% of reduction in commercial waste, or 20% of the total waste from OWDSs. This difference is small to explain, alone, the reduction in enterococcus measures on the beach, which Board staff attributes to reduced transport of bacteria due to reduced groundwater flows. In addition, the upgraded OWDSs have shown poor performance and effluent violations which could increase the potential discharge of waste: the actual reduction of wastes would be lower than 20%.
		Against: Heal the Bay Baykeeper Surfrider Foundation	235 213-216 241	
61	Tech Memo #3 does not include sufficient statistical support	For: City	162	Tech Memo #3 concludes that the published and peer-reviewed scientific information on the issue provides a sufficient basis for regulatory action. Three independent peer reviews agree. An earlier July 31, 2009, version of Tech Memo #3 did include original research. That study of summer bacteria at all Santa Monica Bay beaches used a statistical analysis to demonstrate that the frequency of enterococcus bacteria on beaches between 2005 and 2008 was best predicted by the presence or absence of adjacent septic system, as opposed to other factors such as watershed size or number of bathers. Early technical reviewers requested more information on the analysis and revisions were made to provide clarificationAlso, see response to peer reviewer about statistical assessment.
		Against: Heal the Bay Baykeeper	235 213-216	
62	The major shortcoming of the analysis done by the LARWQCB is the fact that they ignored published hydrologic data and analyses (groundwater level data, lagoon stage, ocean stage, water level maps and modeling analyses) that show the capture zone for Malibu Lagoon. Several examples of the relevant documentation that was not considered in the LARWQCB's analyses are included in Appendix 3-1.	City Colony Plaza	158,159, 162 263	Staff finds it inappropriate to pre-judge conclusions from studies that are not complete. However, to the extent that results and preliminary findings were made available, staff considered such information. The City of Malibu first released to staff the hydrology information and interpretation described in Appendix 3-1 with their October 8 comments letter, so staff was not able to include the information in Tech Memo #3. Staff has asked for interim reports about the hydrology study since April 2008. The City has invited staff to hear an interim report on the groundwater study on November 3 or 4th when the hydrology study principals would all be in town.

Objections to Staff's Analyses of Impairments to Water Resources - Beaches (Tech Memo #3)

No.	Comment	Parties	Page #	Staff Response
63	Section 3 results end-of-pipe data. Sufficient explanation of these data is not provided. On what dates were the measurement taken?....Also these data are not relevant to…..1. concentrations of indicator bacteria that are reaching the water table….2. concentrations of indicator bacteria that reach the beaches.	City	157	Staff agrees. Brief end-of-pipe data was included to document that enterococcus bacteria are produced by OWDSs when no disinfection is present. The figures and text have been modified to reflect the comment (TM3-4).
64	Section 3 results-Bacteria in Groundwater- Figures 2 and 3 show single sample results but compare them to recreational water geometric means.	City	157	Geometric means are applicable to single sample results when multiple samples have not been collected. The City of Malibu's plots of geometric means are incorrect, as they combine values collected within a very large time period. The geometric mean was not intended to allow the averaging of all samples taken, as is apparently used in the displays provided by the City.
65	Data are from Stone's 2004 risk assessment report. The LARWQCB provides no documentation to infer that these wells represent the current groundwater quality conditions.	City	157	Staff identifies the data as collected in 2004.
66	Figure 3 Page T3-5 shows a plot of maximum enterococcus bacteria results from 27 surviving wells in the CC area. …..the Board's use of maximum frequently means one reading out of 5 years worth of data for moths of the wells, and/or fails to account for a management system whereby OWDS repairs made in 2004 or 2005 result in consistent values well below action levels.	City	157	The data is identified as maximum and is intended to show the prevalence with which the groundwater limits are exceeded in the sample period between 2004 and 2008. If OWDSs have been repaired such that adjacent groundwater is not impacted, this information should be documented and provided by the City of Malibu.
67	Section 3 Results: Bacteria in surface water- The statement "Malibu Civic Center groundwater discharge is a possible source of increased levels of enterococcus in the Lagoon" is misleading because groundwater monitoring has shown that not all the groundwater in the civic center area flow into the lagoon.	City	157	Stone (2004) stated that the majority of the groundwater from the Civic Center entered the lagoon and the majority of that water entered the ocean.
68	Table 2 labels the Mc-1,2 and 3 points, which seem to be different (inverted)	City	158	Typographical errors have been corrected.

Objections to Staff's Analyses of Impairments to Water Resources - Beaches (Tech Memo #3)

No.	Comment	Parties	Page #	Staff Response
69	Table 2 shows a site SMB-12 which is not shown in figures 4. Where is it?	City	158	A full description of the site is included in the attachment and in the referenced document CSMP. SMB-12 is Sweetwater Canyon on Carbon Beach.
70	Technical accuracy of figures is questioned.	City	158-159	Each figure was inspected again. Only one error was found, where the values in the figure showing cumulative exceedances on beaches did include double counted values. This administrative error has been corrected: enterococcus measures above 35 MPN/100mL but not above 104 MPN/100mL are now counted once (Figure 6, TM 3-10). The values in Figure 6 include non-detect values. The enterococcus exceedance numbers for 2005 are highest and lowest for 2007. Using 2006 values, where only one year is given, was considered to the least biased representation of the data.
71	Coefficient correlations do not show beaches have consistent bacteria.	City	158	Staff agrees that more clarity of the use of correlation coefficients can be provided and has made changes in the text accordingly. See peer review concurrence that frequency plots and correlation coefficients are technically defensible. Staff considered stormwater and urban runoff as likely sources and thus selected a beach study period which minimized contributions from these sources. Other non-human sources are present at all beaches and did not provide sufficient dilution of human-specific enterococcus to affect the results of the Hiale et al. (1999) epidemiology study which found correlated highly credible gastrointestintial illness rates of 14 to 35 MPN/100 mL enterococcus, within the range quoted in the 1983 EPA criteria. The frequency intervals closely approximate log intervals, but do extend the ranges above 50 to emphasize the observed differences between septic and sewered beaches. The use of figures which are able to depict relationships observed is a desirable technical method. See response to peer reviewer comments Attachment #1 on statistics.

Objections to Staff's Analyses of Impairments to Water Resources - Beaches (Tech Memo #3)

No.	Comment	Parties	Page #	Staff Response
72	"Malibu beaches have more exceedances" and incorrect reference of number of illnesses at Surfrider.	City	158	The statement that Malibu beaches exceeded the other two study areas referred to the study period 2005 to 2008. During 1995, when the data was collected for the Haile et al. study, Will Rogers beach did not have a low flow diversion to prevent overland flows from reaching the ocean. The relative enterococcus exceedances for the summer of 1995 are similar. The illness rates presented are identical for each beach on each day when enterococcus levels exceeded the water quality standards of 35 MPN/100 mL or 104 MPN/100mL. The number of illness predicted for each beach was similar in 1995.
73	TMDL reference does not identify OWDSs as a source	City	161	The Santa Monica Bay bacteria TMDL discussion includes OWDSs as a possible non-point source for beach bacteria. The Malibu Creek and Lagoon TMDL quantifies OWDSs as a source of bacteria and the Malibu Creek and Lagoon nutrient TMDL also quantifies effluent contributions from this source. All available references were reviewed. City of Malibu's Stone (2004) study limits risk from bacteria pollution to the area identified in the hydrology study as within 6 month travel time. LARQWCB used this interpretation to craft an MOU dictating the area where OWDSs would be upgraded, a task now 10% complete after 5 years.
74	No historic findings are conclusive	City	161	Staff disagrees. Historic findings need not provide a conclusive link between OWDSs and the beach in the Civic Center area to provide substantial and persuasive evidence sufficient to convince Board staff and three independent peer reviewers that such a link exists.
75	Cross section poor [Figure 11, TM 3-28]	City	162	The cross-section includes references and is constructed according to standard methods. See additional discussion in letter in response to peer reviews.
76	The prohibition on the discharge of surplus recycled water from the Tapia Water Reclamation Facility in 1997 has not resulted in reduced bacteria levels at Surfrider Beach in the years since the adoption of prohibition. On the contrary, the number of days exceeding 1,000 CFU of total coliform bacteria have increased since then.	Las Virgenes MWD	206	Acknowledged.

Attachment #1

Comment: Interpretation of temporal and spatial groundwater information is lacking and a critical factor

Staff concurs that the groundwater system was not evaluated in Tech Memo #3. The City of Malibu's Stone Environmental Inc. (2004) did a sufficient job of demonstrating that the groundwater flow system underling the Civic Center area is in hydraulic connection with the beaches. That report says more than half of the groundwater comes from OWDSs and almost all of that water eventually finds its way to the ocean.

Detailed study of groundwater elevations is not expected to provide critical evidence linking OWDSs to the beach.

Staff concurs that evaluation of the groundwater system would be beneficial to a full understanding of the transport of bacteria to the beaches, the goal behind Board staff's request to the City of Malibu in January 2008 to complete additional hydrological studies on critical conditions. Staff commented during the development of the new study, a repetition of the Stone's 2004 study extended to include 2008 data; the model design would not be able to provide the assurance that groundwater surfacing did not occur on land or the beach during the wettest days. The new study continues to look at average conditions obscuring periods when the percolation rates are exceeded by influent ground or surface flow, and did not include data collected during the wettest periods when the groundwater is observed to pond uphill from Pacific Coast Highway. City's hydrological study also assumes at uniform boundary conditions inconsistent with the pending Izbicki's work (2009) and published Boehm's studies (Boehm et al., 2004) where groundwater discharge rates are variable.

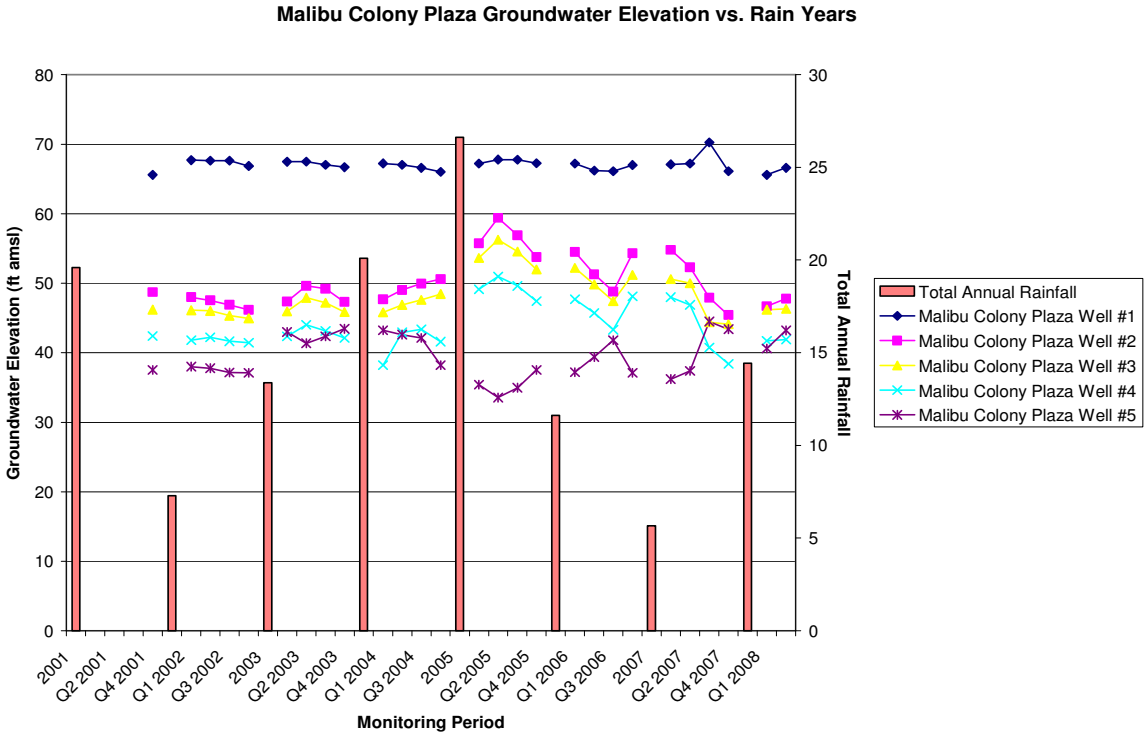
Early technical reviewers requested that staff discuss groundwater level variations and enterococcus concentrations of the very limited data set in the Civic Center area to further validate the study conclusion relating the two. Groundwater data was not available to identify bacteria and water level trends for the vicinity of most Santa Monica Bay beaches although a study of this type is needed to confirm the physical processes.

The scientific understanding of groundwater transport of pathogenic particles is less advanced than that for surface water transport of bacteria and viruses or for groundwater transport of dissolved or uniformly distributed fluids. Steady state models have been used in the Malibu Civic Center area to predict the movement of water or dissolved pollutants, but the models assume that fluid movement is continuous, along a single path and a function of physical fluid properties.

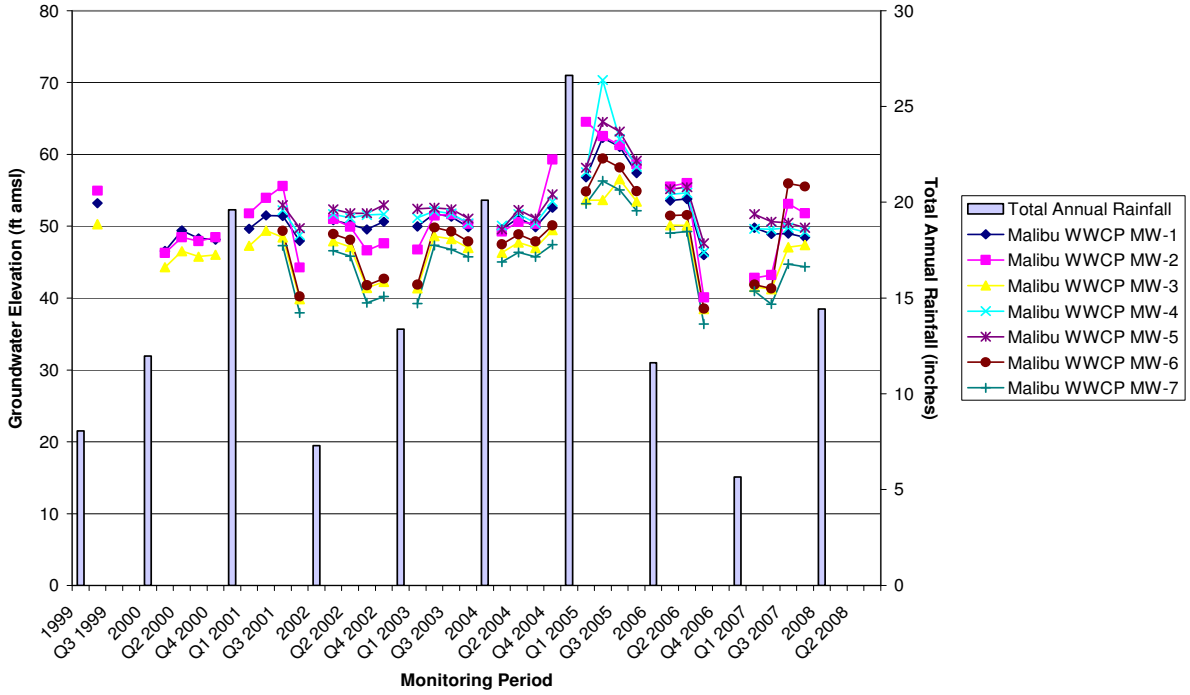
Emerging research shows that bacterial, viral, and organic particles' transport is not uniform and transport is known to vary with nutrients, time, season, tide, tortuosity of the transport path, organic materials, and even biological predation. Most models focus on dissolved pollutants. Most dissolved pollutants seek to disperse uniformly through an aquifer by diffusion, where as organic particles may become 'caked' in the soil through the processes of adhesion. As a result, the absence of bacteria or viruses in the groundwater at a specific location and time can be over-interpreted.

Groundwater and enterococcus measures found in the Civic Center area, alone, present a complex picture subject to alterative interpretations. The charts below show enterococcus densities, groundwater elevation in monitoring wells in the Malibu Civic Center and annual rainfall. Staff provides an interpretation although the data sets are not large enough for the use of statistics to quantify the strength of those correlations. The

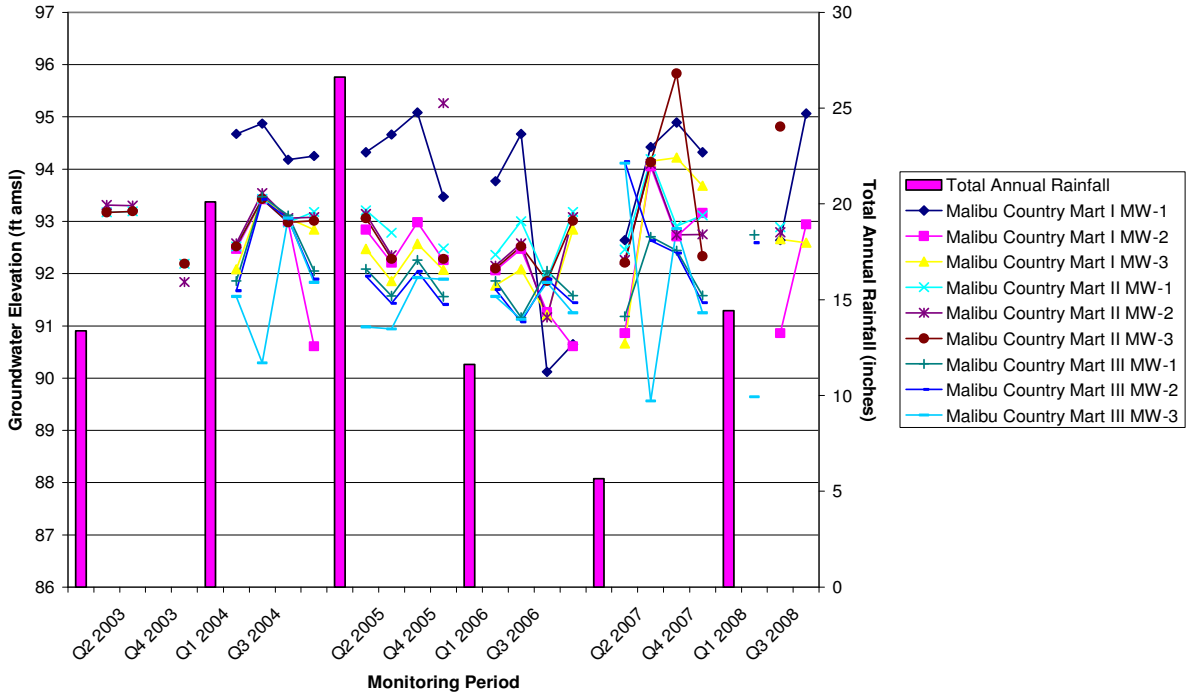
wells are located (a) in Winter Canyon at Malibu Colony Plaza and Malibu WWCP and (b) Malibu Country Marts 1, 2 and 3 near to the receiving waters of Malibu Creek. The wells in (a) show more systematic variation in groundwater level with rainfall than the wells in (b).



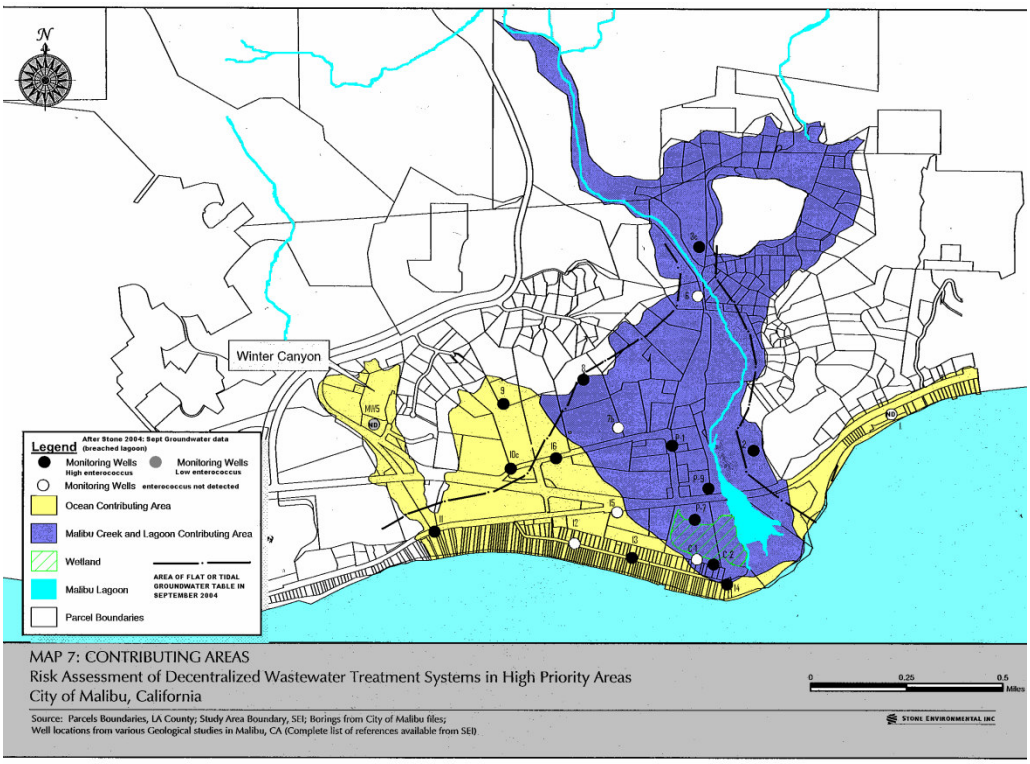
Malibu WWCP Groundwater Elevation vs. Rain Years



Malibu Country Mart I-III Groundwater Elevation vs. Rain Years



The map below shows Civic Center wells and those wells where enterococcus varied with rainfall are found outside the broken line. Groundwater levels do not vary in the wells in the center of the basin (except for tidal effects). The only wells with no detectable enterococcus in September 2004 are also found in the area with constant groundwater levels.



The simplest interpretation of these groundwater observations is that enterococcus movement in the subsurface is not via uniform dispersal but episodic transport. The lack of detections in the center of the Civic Center may be caused by preferential pathways of fluid transport as opposed to the absence of uniform bacteria density. The groundwater observations are not found to conflict with the study findings, but additional work is necessary to document the nature of bacteria transport in groundwater and the episodic nature of freshwater discharge through the aquifer in the Civic Center area.

A hydrological connection is more likely if the water table is shallow. Further evidence of a transport path for bacteria in the Civic Center beaches is shown in these charts where the water table is calculated to occur 4 to 5 feet below (see highlights) the base of the leachfield, assumed to exist at 1 foot. Groundwater elevations calculated to be less than 6 feet are also highlighted and observed a total of 24 times at these 5 wells with quarterly sampling between 2002 and 2008.

Malibu Creek Plaza (MW-1)	Surface to Groundwater Elevation	Enterococcus	Malibu Creek Plaza (MW-4	Surface to Groundwater Elevation	Enterococcus
Unit	ft	(MPN/100 ml)	Unit	ft	(MPN/100 ml)
7/12/2002		7.4	7/12/2002		49.6
9/5/2002		8.4	9/5/2002		22
11/6/2002		4.1	11/6/2002		8.2
3/12/2004	8.93	20.2	3/12/2004	8.11	48.7
5/28/2004	5.33	344.8	5/28/2004	4.67	1
8/13/2004	6.75	15.3	8/13/2004	6.07	3
11/12/2004	7.84	1	11/12/2004	7.88	1
2/15/2005	9.6	231.8	2/15/2005	8.55	2
5/1/2005	4.53	1	5/1/2005	6.92	1
9/1/2005	5.6	4.1	9/1/2005	5.2	1
11/22/2005	8.8	7.4	11/22/2005	8.14	2
2/15/2006	8.38	1	3/2/2006	7.7	1
5/3/2006	8.8	1	5/3/2006	8	2
8/22/2006	5.7	1	8/22/2006	5.1	1
11/15/2006	5.47	6.2	11/15/2006	4.9	15.6
2/13/2007	8.31	11.6	2/15/2007	8.76	1046.2
5/11/2007	6.53	1	5/11/2007	5.4	4.1
8/18/2007	7.07	42.4	8/17/2007	5.89	1
11/7/2007	7.74	1	12/6/2007	6.67	1
2/14/2008	8.78	84.5	2/14/2008	7.19	2419.2
5/13/2008	8.02	50.5	5/13/2008	6.72	2419.2
8/26/2008	6.71	9.8	8/26/2008	5.65	25.4
11/18/2008	6.24	7.2	11/18/2008	5.07	7.1

Malibu Creek Plaza (MW-2)	Surface to Groundwater Elevation	Enterococcus	Malibu Creek Plaza (MW-1)	Surface to Groundwater Elevation	Enterococcus
Unit	ft	(MPN/100ml)	Unit	ft	(MPN/100ml)
7/12/2002		2419.2	7/12/2002		7.4
9/5/2002		4.1	9/5/2002		8.4
11/6/2002		51.9	11/6/2002		4.1
3/12/2004	7.35	1	3/12/2004	8.93	20.2
5/28/2004	4.05	10.8	5/28/2004	5.33	344.8
8/13/2004	5.45	98.1	8/13/2004	6.75	15.3
11/12/2004	7.05	31.8	11/12/2004	7.84	1
2/15/2005	8.25	866.4	2/15/2005	9.6	231.8
5/1/2005	6.27	64.5	5/1/2005	4.53	1
9/1/2005	5	214.3	9/1/2005	5.6	4.1
11/22/2005	7.45	1	11/22/2005	8.8	7.4
3/2/2006	7.2	1	2/15/2006	8.38	1
5/3/2006	7.3	18.3	5/3/2006	8.8	1
8/22/2006	4.47	1	8/22/2006	5.7	1
11/15/2006	4.27	1	11/15/2006	5.47	6.2
2/13/2007	6.8	32.9	2/13/2007	8.31	11.6
5/11/2007	5.29	1	5/11/2007	6.53	1
8/18/2007	5.74	10.8	8/18/2007	7.07	42.4
11/7/2006	6.38	5.2	11/7/2007	7.74	1
2/13/2008	7.43	3	2/14/2008	8.78	84.5
5/13/2008	6.6	3	5/13/2008	8.02	50.5
8/26/2008	5.57	9.7	8/26/2008	6.71	9.8
11/18/2008	5	1	11/18/2008	6.24	7.2

Malibu Country Mart 3 (MW-3)	Groundwater Elevation	Surface Elevation	Surface to Groundwater Separation	Enterococcus
Unit	ft	ft	ft	(MPN/100ml)
3/8/2004	91.56	98.86	7.3	0
7/9/2004	90.29	98.86	8.57	0
9/23/2004	93.06	98.86	5.8	0.99
12/14/2004	91.83	98.86	7.03	13
3/15/2005	90.98	98.86	7.88	0
6/15/2005	90.94	98.86	7.92	1860
9/16/2005	91.92	98.86	6.94	0
3/20/2006	91.89	98.86	6.97	0
6/21/2006	91.56	98.86	7.3	97
9/13/2006	91.12	98.86	7.74	0
12/27/2006	91.83	98.86	7.03	23
3/20/2007	91.25	98.86	7.61	0
6/13/2007	94.11	98.86	4.75	0
9/14/2007	89.56	98.86	9.3	0
12/21/2007	92.86	98.86	6	0
4/4/2008	91.25	98.86	7.61	0
7/2/2008	89.64	98.86	9.22	0

Malibu Country Mart 1 MW-2	Groundwater Elevation	Surface Elevation	Surface to Groundwater Elevation	Enterococcus
Unit	ft	Ft	Ft	(MPN/100ml)
12/14/2004	90.61	98.16	7.55	17
3/15/2005	92.84	98.16	5.32	0
6/15/2005	92.21	98.16	5.95	120
9/15/2005	92.98	98.16	5.18	0
12/14/2005	92.26	98.16	5.9	0
3/20/2006	92.06	98.16	6.1	0
6/21/2006	92.47	98.16	5.69	52
9/13/2006	91.26	98.16	6.9	0
12/27/2006	90.61	98.16	7.55	0
3/20/2007	90.86	98.16	7.3	0
6/13/2007	94.05	98.16	4.11	0
9/14/2007	92.71	98.16	5.45	0
12/21/2007	93.16	98.16	5	0
4/4/2008	90.86	98.16	7.3	0
7/2/2008	92.94	98.16	5.22	0

Malibu Country Mart 1 MW-1	Groundwater Elevatio	Surface Elevation	Surface to Groundwater Elevation	Enterococcus
Unit	ft	Ft	ft	(MPN/100ml)
MCL	0	0	0	
Sample Date				
12/14/2004	94.25	98.87	4.62	0
3/15/2005	94.32	98.87	4.55	0
6/15/2005	94.66	98.87	4.21	3880
9/15/2005	95.08	98.87	3.79	0
12/14/2005	93.47	98.87	5.4	0
3/20/2006	93.77	98.87	5.1	0
6/21/2006	94.67	98.87	4.2	10
9/13/2006	90.12	98.87	8.75	0
12/27/2006	90.65	98.87	8.22	0
3/20/2007	92.64	98.87	6.23	0
6/13/2007	94.42	98.87	4.45	0
9/14/2007	94.89	98.87	3.98	0
12/21/2007	94.32	98.87	4.55	0
4/4/2008	92.64	98.87	6.23	0
7/2/2008	95.06	98.87	3.81	0

Attachment #2

Comment: Selection of Study Method was flawed.

Multivariate analysis was beyond the scope of this study, which relied primarily on exceedance measures. Where multiple variables were present, the power of the statistical analysis was not high enough to allow meaningful interpretation of smaller data sets, even if previous workers have used such analysis.

Staff provides a comment on each of the factors raised, but notes that the data set associated with each factor on Civic Center beaches is insufficient to provide a statistically valid measure of the factor's impact after 4 years of weekly sampling.

Statistical tools beyond student t-test or Chi square test were used, as discussed in the response to peer review. An example of the limitations of smaller data sets was requested by reviewers and is offered here. Malibu Colony is an OWDS beach, with many physical properties like Manhattan Beach Strand, which is a sewered beach. Data sets for the two beaches for 2006 are provided below. While a direct comparison is desirable, simple statistical measures did not provide clear conclusions as shown in the table below.

Manhattan Beach			MPN/100mL	Malibu Colony			MPN/100mL
SMB-MC-1	5/1/2006		20	SMB-5-1	5/7/2007	<	**10**
SMB-MC-1	5/8/2006		10	SMB-5-1	5/14/2007	<	**10**
SMB-MC-1	5/15/2006		10	SMB-5-1	5/21/2007	<	**10**
SMB-MC-1	5/22/2006		31	SMB-5-1	5/28/2007	<	**10**
SMB-MC-1	5/30/2006		31	SMB-5-1	6/4/2007	<	**10**
SMB-MC-1	6/5/2006		10	SMB-5-1	6/11/2007		10
SMB-MC-1	6/12/2006		10	SMB-5-1	6/18/2007	<	**10**
SMB-MC-1	6/19/2006		31	SMB-5-1	6/25/2007	<	**10**
SMB-MC-1	6/26/2006		63	SMB-5-1	8/6/2007	>	24192
SMB-MC-1	7/5/2006		10	SMB-5-1	8/8/2007		10
SMB-MC-1	7/7/2006		31	SMB-5-1	8/13/2007		10
SMB-MC-1	7/10/2006		10	SMB-5-1	8/20/2007	<	**10**
SMB-MC-1	7/17/2006		10	SMB-5-1	8/27/2007	<	**10**
SMB-MC-1	7/24/2006		10	SMB-5-1	9/3/2007	<	**10**
SMB-MC-1	7/31/2006		20	SMB-5-1	9/10/2007	<	**10**
SMB-MC-1	8/7/2006		10	SMB-5-1	9/17/2007	<	**10**
SMB-MC-1	8/14/2006		10	SMB-5-1	9/24/2007	<	**10**
SMB-MC-1	8/21/2006		2143	SMB-5-1	10/1/2007	<	**10**
SMB-MC-1	8/23/2006		20	SMB-5-1	10/8/2007	<	**10**
SMB-MC-1	8/28/2006		323	SMB-5-1	10/15/2007	<	**10**
SMB-MC-1	8/30/2006		84	SMB-5-1	10/22/2007	<	**10**
SMB-MC-1	9/5/2006		31	SMB-5-1	10/29/2007	<	**10**
SMB-MC-1	9/11/2006		106				
SMB-MC-1	9/13/2006		110				
SMB-MC-1	9/15/2006	<	**10**				
SMB-MC-1	9/18/2006		10				
SMB-MC-1	9/25/2006		10				
SMB-MC-1	10/2/2006		10				
SMB-MC-1	10/10/2006		10				
SMB-MC-1	10/16/2006		410				
SMB-MC-1	10/23/2006		20				
SMB-MC-1	10/30/2006	<	**10**				
student t-test beach 1 versus beach 2					0.18806401		
					= not significant difference		
student t-test beach 1 versus beach 2					**cannot be calculated**		
without minimum values							
student t-test beach 1 versus beach 2					0.012589		
without maximum values					**= significant difference at .05 level**		
student t-test natural log of beach 1 versus the					0.092144		
natural log of beach 2					**= significant difference at .1 level**		
chi-square test beach 1 with 10 values truncated versus beach 2 = 0							
					= not significant difference		
Not sufficient data to define the intervals for Quartile, Wilcoxsin or Gehan tests							

Staff responds on each of several confounding factors identified by commenters.
Bird/Avian populations are not considered to be a confounding factor. See peer review response Attachment #2.

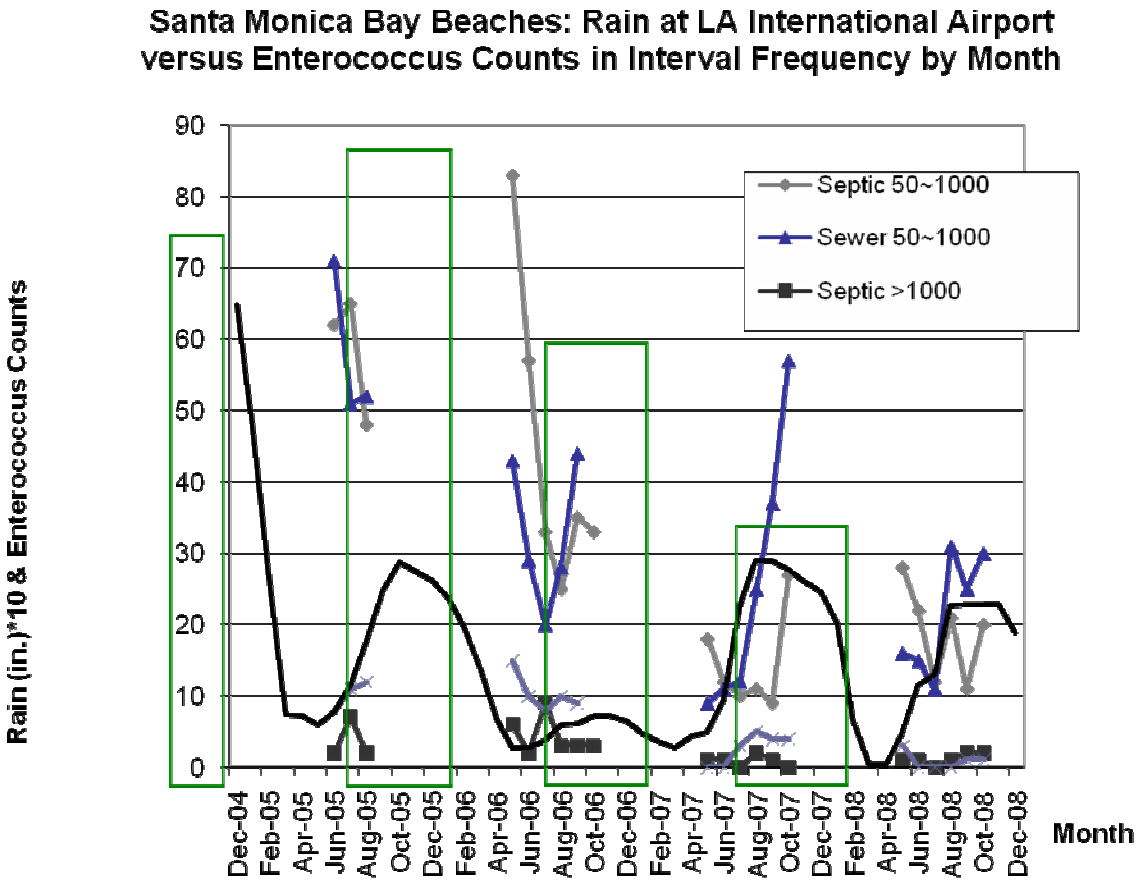
Staff's work in Technical Memo #3 identified non-human sources of stormwater/urban runoff and natural beach bacteria. This confirmed the findings of Griffith, Schiff and Lyon in 2006 (SCCWRP) that non-OWDS bacteria sources in stormwater/urban flow supply enterococcus to the beaches, although little is delivered during dry summer days. Griffith and others also found that non-human sources of enterococcus are also found on beaches. These non-human natural beach bacteria are the enterococcus found on both OWDS and sewered beaches, under all conditions that do not result in statistically significant differences between the beaches.

Staff also looked at the variation in enterococcus densities by month and year for OWDS and sewered beaches to provide a response, but notes that these observations are not supported by a measure of statistical significance.

Monthly bacteria data from sewered and OWDS beaches are presented in the figure below. The chart shows a rolling average of rainfall in inches, plotted with the number of enterococcus measures within the intervals given in MPN/100 mL for sewered and OWDS beaches against the sample date. As an example, OWDS beaches contained more than 70 enterococcus density measurements between 50 and 1000 MPN/100mL in June of 2005. The boxes outline the summer dates during which the enterococcus densities on the beaches were measured.

The chart shows that enterococcus densities between 50 and 1000 MPN/100mL are highest on both sewered and OWDS beaches in the early part of the summer and the late part of the summer, consistent with wet summer days discussed by Griffith et al. (2006). The enterococcus measures in these interval densities become less frequent following drier winters. Enterococcus densities above 1000 MPN/100 mL are seen to remain constant and measures below 50 MPN/100mL were consistently high, varied as a function of the sample size, and are not shown. The results are most simply explained by the existing hypotheses that stormwater/urban runoff causes variations in the enterococcus densities when rain events occur, especially at the beginning and end of the summer. Natural bacteria sources do supply enterococcus at densities below 50 MPN/100 mL and above 1000 MPN/100 mL on all beaches, as demonstrated in the limited variations seen in the larger measures and the persistence of the smaller measures. However, another enterococcus source or transport path must be present to explain why enterococcus densities between 50 and 1000 MPN/100mL vary more and do not go to zero when rainstorms are absent and transport across the beach berm is also absent.

Staff comments that this more detailed monthly analysis of 57 beaches does not provide a clearer understanding of the variations in enterococcus on the beaches.



The Santa Monica Bay bacteria TMDL demonstrated a link between rainfall and fecal indicator bacteria during wet weather and even for wet summer weather. Griffith and others, who completed the 2006 bacteria study upon which the TMDLs are based, did not investigate groundwater enterococcus sources, attributing correlations in bacteria density on beaches with berms to winter bird populations. However, they did not attribute all enterococcus to birds.

> "It appears that factors other than flow may be responsible for water quality exceedances at reference beaches with intact sand berms when storms are insufficient to breach berms. For example, San Mateo Creek never breached its sand berm during the sampling period, yet this reference beach had a similar frequency of bacterial water quality threshold exceedances as those of adjacent San Onofre Creek when its sand berm was breached. A possible reason for the many exceedances observed at this non-breached site was the large number of Western Gulls observed feeding on the beach during wet weather sampling (page 7)."

A simpler conclusion consistent with the results presented in Technical Memo #3 is that bacteria moved in stormwater through the beach berm.

To examine a bird source for enterococcus exceedances during dry summer months, bird counts were obtained for Zuma beach in 2003 and Malibu Lagoon in 2004. The ten minute counts show that, during the

summer, the bird counts are roughly equivalent with 183 birds in June at Zuma and with 320 birds in June at Malibu Lagoon; with 417 birds in July at Zuma and 230 birds in July at Malibu Lagoon. However, Zuma beach has consistently lower enterococcus densities than Surfrider Beach. The small sample size of two beaches limits the strength of this argument, just as it does in the 2006 SCCWRP study.

Storm or storm tides might affect the volume of groundwater discharge containing septic bacteria. However, the analysis focused on summer samples when storms and storm tides are less frequent. Based on De Seyes, the impact of elevated sea level would be to temporarily decrease the impact of human waste, meaning that if a storm is a confounding factor it would result in the under measurement of enterococcus and temporarily diminish the apparent health risk. Further, watershed size does not correlate with summer mean enterococcus values, an indicator that sources other than storm and urban flows must be present. See response to peer review Attachment #1.

Human (transient) populations are not considered to be a significant confounding factor because the enterococcus frequencies are too consistent in summer samples between 2005 and 2008.
The closure or openness of the lagoon is not considered to be a confounding factor, because the lagoon remains closed during the summers most years between May and October.
See the comments received from Tapia WWTP concerning evidence that increased discharge from higher in the watershed does not increase the bacteria concentrations at Cold Creek.

Attachment #3

Comment: Wait for additional studies.

The City of La Canada-Flintridge proposed sewer assessment districts on four dates between 1998 and 2009, each of which show an increase in the total assessment per property as construction costs rise, the number of total participants drop when some connect to a sewer line, and the property available for construction becomes more limited (pers. com. LCF Public Works).

La Canada-Flintridge Sewer Engineering Design	1998	2002	2004	2009
Assessment District	1	2	3B and 3A	5 and 6
Total Assessment per Property (to be paid over 20 years)	$8,300	$12,000	$18,200-$22,200	$50,000-$100,000
Type	Gravity	Gravity	Gravity	Low-Pressure

Past studies have shown stormwater is a source of bacteria, and the City of Malibu is taking steps to address this problem with stormwater containment. However, this simple measure is not enough, based on existing science. The Los Angeles County Fire Department reports beach goers in Malibu in 2007 was 40,000 per month in the winter and 200,000 per month in the summer. Given winter exceedances and summer exceedance rates and the illness risk provided by Haile et al. (1999), summer beaches are associated with more than twice the number of illnesses expected on winter beaches. Even with more exceedance days in the winter, more illness will result from summer beach use.

Septic system implications based on Richard Ambrose's Bacteriorides study are overstated by the City because (1) bacteriorides fate and transport is poorly studied and may be more severely limited than other fecal-indicator-bacteria , (2) the study took place in a dry year when groundwater septage transport is expected to be minimal, (3) the relationship between human illness and bacteriorides, an indicator of human illness vectors, is unknown so the significance of the bacteria is unknown, and (4) enterococcus criteria took 3 years of beach studies and 5 to 10 years of study to develop and a bacteriorides criteria is unlikely to be finalized at the state and federal level within the time that the SMB bacteria TMDL requires a load reduction. Further, Dr. Ambrose agreed via email that he had not reached final conclusions based on his findings.

Septic system implications based on John Izbicki's study are overstated by the City because (1) groundwater discharge varies with the season and the number of sampling points, yet the study based on less than two weeks of data is less-completely studied and may be more severely limited than other fecal-indicator-bacteria , (2) the study took place in a dry year when groundwater septage transport is expected to be minimal, (3) the dynamic relationship between groundwater and tides, freshwater and saltwater, can best be understood through inspection of additional beaches beyond just Surfrider Beach and even a multi-year and multi-parameter study by Dr. Izbicki in Santa Barbara failed to quantify groundwater discharge at that beach, and (4) enterococcus criteria took 3 years of beach studies and 5 to 10 years of study to develop. A full understanding of groundwater impacts at Civic Center Beaches is unlikely to be finalized and peer

reviewed within the time that the SMB bacteria TMDL requires a load reduction. Further, Dr. Izbicki agreed via email that he had not reached final conclusions based on his findings.

Septic system implications based on Stone Environmental's new groundwater modeling are overstated by the city because (1) the accuracy of groundwater modeling varies with the number of sampling points, yet the study did not place equal weight on all the groundwater data available, (including that supplied by the Regional Board staff) and limited water elevation studies to a greatly limited set of wells, (2) the study emphasized water level changes in a dry year when groundwater septage transport is expected to be minimal, (3) the dynamic relationship between groundwater and tides, freshwater and saltwater, as documented by Dr. Izbicki in the more recent study above is not consistent with model assumptions of a steady state uniform groundwater discharge to the ocean, and (4) a full understanding of groundwater impacts at Civic Center beaches is unlikely to proceed from a second study by Stone, neither of which have been reviewed by an independent peer, making such an evaluations unlikely within the time that the SMB bacteria TMDL requires a load reduction. Further, the City agreed to participate with the Regional Board staff on the study, but did not respond to requests for update or information after April, 2008.

Septic system implications based on Donna Ferguson's and Steven Weisberg's SCCWRP Bacteria study in Ramirez Creek are overstated by the City because (1) bacteria levels were higher both upstream of Paradise Cove and the Beach in 2005 and 2006, and dry weather with lower surface flows is associated by all co-authors with the recent reduction in bacteria densities, (2) additional study is being delayed until a wet year, (3) no evidence has been developed which rules out a groundwater source for the bacteria despite opportunities offered by Board staff to sample wells and creek water during the dry summer in a search for such evidence, and (4) this is an entirely different watershed from the Civic Center. Further, Mr. Weisberg agreed that additional study of groundwater contributions to the bacteria in Ramirez Creek were necessary.

Septic system implications based on Steven Weisberg's SCCWRP epidemiology study of Surfrider Beach by SCCWRP is ongoing with fieldwork conducted during the summer of 2009 are overstated by the City because (1) bacteriorides fate and transport is poorly studied and may be more severely limited than other fecal-indicator-bacteria, (2) the study took place in a dry year when groundwater septage transport is expected to be minimal, (3) the relationship between bacteriorides or other physical factors measures at the beach and human illness is unknown so the preliminary significance of the presence or absence of those physical factors or human illness is unknown, and (4) enterococcus criteria took 3 years of beach studies and 5 to 10 years of study to develop and new epidemiology criteria for the Civic Center beaches alone is unlikely to be finalized at the state and federal level within the time that the SMB bacteria TMDL requires a load reduction.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
77	Discharges of wastewater released from OWDS groundwater that is not in hydraulic connection with Malibu Lagoons transport a nitrogen load significantly in excess of the waste load allocation in TMDL. The information in the memo does not support a need for a prohibition on OWDS in the Civic Center area and the finding based on this memo is not supported by substantial evidence.	City	107, 2nd paragraph	Staff prepared the draft Tech Memo # 4 using updated information from Regional Board permit files and information from the Stone Report, Questa Report, Tetra Tech Report, Los Angeles County Assessor Parcel Web Page, and several other technical sources as listed the references. Based on staff review of the information from all these sources, it was concluded that there is a direct correlation between the high level of nitrogen discharge through the OWDS and the levels found in the Malibu Lagoon because of hydraulic connection. Figure 1 of Tech Memo #4 page TM4-37 shows a simple model of soil layers and groundwater budget. The nitrogen species, discharged to the groundwater through the OWDS, transform through the different stages of the nitrogen cycle. Once nitrogen reaches the lagoon or the ocean, it converts to the most stable form as nitrate. The City's 2004 Stone Study concluded that there is a hydraulic connection and identified six-months-travel-time zone to lagoon.
78	Technical Memo does not demonstrate that nitrogen from OWDS is a significant source of impairment to aquatic life. … The analysis did not consider loading of nitrogen from atmospheric sources… The memo does not show that a balanced scientific review was conducted by staff…	City	107, 3rd paragraph	The purpose of Technical Memo #4 is to quantify the cumulative nitrogen load from OWDS to Malibu Lagoon and compare the results with the Malibu Creek Nutrient TMDL numerical target for nitrogen. The TMDL quantifies all sources of nitrogen loading to the Lagoon, including OWDS, Tapia WWRP, fertilizer application, runoff, nutrient cycling, and atmospheric deposition, and assigns allocations to these sources. Staff used the modeling results of groundwater flow nets to distinguish different hydraulic flow transports in the groundwater and develop a quantitative water balance for the groundwater system, identify the contributing area for the surf zone and the Lagoon, estimate groundwater travel time. Therefore, the estimates of nitrogen loads in different capture zones have scientific basis and are consistent with the results of existing groundwater and surface water model analyses. Staff also carefully evaluated the OWDS nitrogen loading using a scientific approach and a mass balance model to ensure the estimate of mass loading to the Lagoon is the best fit with actual conditions, including groundwater and surface loads, as documented in the Nutrient TMDL for the Malibu Creek Watershed.
79	The proper scientific method was also not followed in the analysis….	City	108, 2nd paragraph	The Malibu Creek Nutrient TMDL, adopted by U.S. EPA on March 21, 2003, demonstrates that OWDS are a significant source of nitrogen in the Lagoon and affect aquatic life in the Lagoon. Tech Memo #4 demonstrates that current OWDS nitrogen loading causes continued exceedance of numeric targets and impairment of beneficial uses.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
80	Staff uses models for its analysis, data and trends from the Stone (2004), Questa (2005), and Tetratech (2003) reports, then applied its own conservative approach, ...	City	108, 3rd paragraph	Staff used two approaches to estimate the mass loading to the Lagoon and then employed a mass balance model to evaluate which estimate of mass loading to the Lagoon is the best fit with measured data of nitrogen in the Lagoon. Each approach has its own assumptions; however, the final estimates were compared with actual field data to justify the assumptions. Thus, staff believes that the approaches used in the Tech Memo # 4 are appropriate and the assumptions have been verified with the measured data.
81	There were 349 residential homes in the study area. Prohibition area differs from boundaries of the Risk Assessment. It includes more homes.	City	110, 2nd paragraph	Staff used the same boundaries as the Stone Report in the August draft of Tech Memo #4 and expanded to include coastal strips on Amarillo Surfrider Beaches as shown in Map 1 due to beach water quality impacts. Nutrients encourage bacteria growth. The original calculations in Tables 1 and 3 advertently exclude the coastal strip expansions. The number of homes has been adjusted to 392. The flow is 139,300 gpd.
82	Flow estimation: Residential flow is calculated by multiplying the number of bedrooms in each home for 100. "This is a faulty conclusion …" Flow estimate is based on a series of unsubstantiated assumptions…Water delivery records shall be used …. …. - the calculations for residential use do not take into account the unique nature of Malibu that many of these residences are second homes and are not inhabited on a daily basis. This is especially true for the properties in the colony and along Malibu road.	City	110, 2nd paragraph 171, Comment 1 172, Comment 13	This flow is very close to the estimated flow using two different approaches to calculate it: (a) A study of water use and onsite wastewater management needs utilized in-house surveys to derive an estimated water use of 142 gallons per capital per day (gpcd) (Peter Warshall and Associate, 1992 Malibu Wastewater Management Study (MWMS)). Based on the Census 2000, the average house hold size is 2.39 for the City Malibu. Therefore the number of houses (392) multiplied by the 2.39 and 142 gpcd results in a flow of 133,036 gpd. (b) The MWMS report indicates that the average water usage is on the order of 350 gallons per day per household. If we use this approach to calculate, the flow is 137,200 gpd (350x392). Staff estimated the flow using updated information. This updated information included a significant number of commercial dischargers who were not part of earlier studies.
83	The numerical fate and transport model is not explained… Therefore, the conclusion of the Tech Memo # 4 cannot be independently verified.	City	171, Comment 2	The previous fate and transport groundwater model developed by McDonald Morrissey Associates for the City was used for the estimate of mass loading to the Lagoon. The relationship between nitrogen mass loading from OWDS and to Malibu Lagoon was established by this previous model. Based on the estimate of mass loads from OWDS by Regional Board staff, the mass loads to the Lagoon can be obtained by this relationship. The detailed description of the estimate of nitrogen mass loadings to the Lagoon using this model was presented in the attachment 4-1 of Tech Memo # 4.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
84	The analytical (spreadsheet) fate and transport model is not explained… Therefore, the conclusion of the Tech Memo # 4 cannot be independently verified.	City	171, Comment 3	Staff provided the description of all factors considered in the analysis to estimate the percent of flow that may reach the lagoon and the ocean. The factors are: wastewater discharge location, surface topography, groundwater contours, soil and hydrology. Staff assumed that the flow contours depicted for the Malibu Valley in the 2004 Stone report were correct and we applied to the model.
85	No credible scientific basis is provided for estimation of the soil nitrogen load reduction factors (staff used values ranging from 0% to 20%). Therefore, the conclusion of the Tech Memo # 4 cannot be independently verified.	City	171, Comment 4	Staff used both credible scientific basis and information about the site (Table 3, TM4-32) to estimate the soil nitrogen load reduction. With expansion of the range to zero removable, staff used Table 3-19, page 3-29 of the USEPA Onsite Wastewater Treatment Systems Manual, February 2002 edition. Assigned percentage total nitrogen (TN) reductions were based on information about reported pumping and overflows, indicated failure, the vertical separation between the bottom of the leach field and groundwater elevation, and/or the use of seepage pits for disposal .
86	Staff's decision to not evaluate soil nitrogen load reduction for residential properties is indefensible. …load rates of effluent hydraulic loading and waste strength loading…, natural nitrogen load reduction would be greater for residential properties than for commercial properties.	City	171, Comment 5	Disagree. For calculation of the residential nitrogen load, staff assigned a nitrogen load reduction (in-tank reduction) which is equivalent to typical leachfield reductions for residential discharges when the concentration level was reduced from 60 mg/L to 45 mg/L. Also, Regional Board staff considered that many of the Malibu coastal residents lack adequate separation between groundwater and many hillside residents use bedrock seepage pits for disposal, which do not provide natural nitrogen load reduction.
87	The analytical (spreadsheet) fate and transport model is not explained in any reasonable level of detail to allow technical review; model equation, model input, and the selection of input parameters are not described.	City	171, Comment 6	Staff has provided explanations for all the inputs of each parameter of the spreadsheet in Tech Memo # 4. No model equation and model input were used in the spreadsheet calculation. The spreadsheet shows the input for each calculation.
88	No discussion of the scientific basic for establishing a numerical threshold for nitrogen concentrations in receiving surface waters habitat with respect to the question of what aquatic toxicity endpoint is used to define impairment of aquatic life.	City	172, Comment 7	Staff provided in footnote 15, page TM4-15 in Tech Memo # 4, the numerical threshold for nitrogen concentration in the receiving surface waters. The discussion of the scientific basis for establishing a specific numerical threshold was provided in the TMDL.
89	Page 1 erroneously states that commercial development is concentrated on Malibu Road. While there are a small number of parcels, it would be better to state that it is centered on Civic Center Way instead.	City	172, Comment 8	Concur. Comment incorporated.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
90	City does not have an Assessor. This reference should be to the Los Angeles County Assessor.	City	172, Comment 9	Concur. Comment incorporated.
91	Study of water usage on an assumption of 100 gpd per restroom. It would seem that the uses of low flow fixtures are more prevalent now and that a more accurate number would reflect such water conservation measure.	City	172, Comment 10	Staff corrected the text and tables in Tech Memo #4 to read 100 gpd for bedroom. This assumption of higher than national per capita usage is based on the cited references to both higher BOD and wastewater discharge volumes for luxury or affluent communities. Water consumption data from Water Works District 29 support per capita usage in the City of Malibu.
92	Area the total listed for current wastewater generated (128,469) accurate? It is not correct to say that there has been a 100% increase in use. The calculation was done in error. …the percentage increase is not actually that high.	City	172, Comment 11	The revised flow number of 127,241 gpd was based on Regional Board updated information received from monitoring reports and Report of Waste Discharge (RoWDs) applications received for unpermitted sites in the area. Tech Memo # 4 paragraph 2 of page 6 stated that the 100% percent increase is only in comparison to the (2004) Stone report inventory, which is 62,166 gpd (Table 5, page TM4-14). Your comment is based in Tetra Tech report, which is 75,000 gpd (Table 5, page TM4-14).
93	Memo does not provide sufficient data regarding the information obtained on "site visits" to the unpermitted commercial establishments.	City	172, Comment 12 Page 2 of 6,	Information is available for public review in our office.
94	A statement is made that untreated wastewater is being discharged. By whom? Why is a portion of Pepperdine included when it is on sewer?	City	172, Comment 14	Staff has amended the statement to read "The wastewater discharged from commercial facilities in Sector 1 is a mixture of primary and secondary treated wastewater." A portion of the Pepperdine University is included because inland boundaries were adjusted to correspond to watershed drainages. Also, the boundaries for the study area in the 2004 Stone Report were expanded to include coastal strips on Amarillo and Surfrider Beaches.
95	Staff gives various estimations of the percentage of flows that are reaching the lagoon from the various Sectors. What evidence are these assumptions based on?	City	172, Comment 15	Staff estimated these percentages of drainage based on groundwater contours and surface watershed drainages of the study area.
96	Staff states that Malibu Colony Plaza encompasses all the commercial area between PCH and Malibu Road. This statement is not true, because there is also the 76 Station, Post Office, Urgent Care, and abandoned gas station that are located in the specified area.	City	172, Comment 16,	Disagree. All these businesses are connected to the Malibu Colony Plaza WWTP.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
97	Clarification about the number of homes in sector IV and explanation about the sub-sectors.	City	173, Comment 17	The corrected total number of homes is 223. The sector was subdivided to estimate the contribution of this sector to the nitrogen load to the lagoon. Subsectors have a different drainage direction and therefore a different contribution to the nitrogen loading at Malibu Lagoon.
98	There is nothing but the Pacific Ocean south of Malibu Lagoon. The project document needs to include accurate directions throughout (i.e. PCH runs east – west and the ocean is to the south of the project area).	City	173, Comment 18	Concur. Correction made.
99	29 lbs/days of what is transported to Malibu Lagoon? Needed to be clarified.	City	173, Comment 19	Tech Memo #4 is about nitrogen load to the Lagoon. A revision to the nitrogen load was made after the number of homes and flow was corrected. 30.2 lbs/day of total nitrogen is transported to Malibu Lagoon.
100	Why is the last line in Table 4 different for the next load to Malibu Lagoon?	City	173, Comment 20	The last line in table 4 show results of the net load to Malibu Lagoon from different studies. It also includes the numeric and spreadsheet estimates by staff.
101	Reduction of nitrogen load from commercial facilities was not analyzed in the memo. Where were the new 15 OWDS installed?	City	173, Comment 21	Staff considered the nitrogen reduction from commercial facilities in the analysis as shown in the Tables. Tables 1 and 3 show the average effluent total nitrogen (TN) levels for those businesses with advanced OWDSs. Also, there are only 9 new OWDSs. 8 of 9 facilities were installed since 2004. The other facility, Malibu WWRP, was installed in 2001.
102	Table 2 includes properties that are incorrectly categorized: APN 4458-027-037 is actually addressed as 3547 Winter Canyon and it contains a long standing commercial use – Malibu Glass. There is no multifamily development on that property. APN 4458-027-025 is an elementary school and does not contain a 6 bed, 6 bath residence. APN 4458-027-005 is a duplex, not a single-family residence. APN 4452-019-008 is a duplex, not a single-family residence.	City	173, Comment 22	Regarding APN 4458-027-037 according to the Los Angeles County Assessor database, this is the site of Malibu Vista Pacific Condominiums, located at 3601 Vista Pacific Unit 2. Wastewater from the site is discharged to the Malibu WWRP. This APN is not listed individually in Table 2. 3547 Winter Canyon Road, which is a multi-family residence, corresponds to APN 4458-027-034. Regarding APN 4458-027-025, staff will further investigate this site because the L.A. County Assessor database listed APN 4458-027-025 as a single family residence with 6 bedrooms and 6 bathrooms, but a view through Google Earth indicates that this may be a school. Staff concurs with your comments regarding APN 4458-027-005 and APN 4452-019-008.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
103	Assumptions used in estimating nitrogen loading are explained … it is most important to recognize that the assumptions result in estimates, not actual measurements of nitrogen loading. Therefore, the language in 2.b.iii that states what flows and loads are should be changed to document that based on the assumptions.	City	173, Comment 23	Acknowledged. Language is revised.
104	Water used data show that the amount of commercial wastewater discharge has actually gone down in the area that contributes to the lagoon….	City	173, Comment 24	Disagree. See Tech Memo # 4 Table 1 for flow information and RTC # 6.
105	Stone (2004) estimated average indoor water use as 500 gpd and 20 mg/L Nitrate-N, because a high volume of indoor water use resulted in diluted wastewater with relatively low nitrate-N concentration…However, the assumption of 1 person per bathroom and an average of 3.6 bathrooms per house (1,262 total bathrooms/349 Residential units) results in an exaggerated estimate …	City	174, Comment 25	The tables used to characterize domestic wastewater in the textbooks cited already account for dilution. It is the very lowest residential TN loading value of 20 mg/L used in the Stone report that is not supported. In addition, the volume of residential wastewater estimated in the Stone report was essentially the same as used in Tech Memo #4. Staff provided several references that support the premises that luxury homes have a higher discharge volume.
106	The Technical Memorandum does not provide a rationale for the distribution of flow and does not provide any hydrologic data or analysis to support it…	City	174, Comment 26	The factors governing the flow contribution are listed in Tech Memo #4 (section cii, page TM4-9): wastewater discharge location, surface topography, and the groundwater flow contours. Staff used the groundwater flow contours for the Malibu Valley alluvium published in the 2004 Stone report. Water and wastewater flow downhill perpendicular to the elevation contours. Shallow groundwater flow in the bedrock areas follows topography.
107	The loading calculations done by LARWQCB should be recalculated using contributing area based on the region's actual hydrogeology. See the map titled Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area in Appendix 4-1.	City	174, Comment 27	Appendix 4 in the 2004 Stone report consists of materials from stakeholder presentations. The major difference between our hydrologic model and the model used in the Stone report is that Stone assumes all bedrock highland flow discharges to the edges of the Malibu Valley groundwater basin. Staff agrees that much but not all of it does, especially in areas such as the west-side of the valley with low transmissivity sediments.
108	The statement is made that "Groundwater takes the path of least resistance", and then the memo attempts to present a case, without any evidence, that the groundwater will NOT take the path of least resistance. Rather it will travel through the bedrock instead of flowing directly to the ocean down a relatively steep gradient through the permeable alluvial along the trough of Winter Canyon…	City	174, Comment 28	Geologists for the Malibu Water Company targeted bedrock fracture areas for water supply wells after wells in the porous alluvium adjacent to Malibu Creek were found to be too susceptible to pollution. There is no statement in Tech Memo #4 that Winter Canyon flow traveled in bedrock and not alluvium.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
109	There was nothing in the Memo to indicate that the beach in front of Winter Canyon has ever been found to be contaminated by discharge from Winter Canyon…Winter Canyon should be deleted from the proposed Prohibition Zone. If contribution is indeed only 1% and may be ZERO, how does this miniscule contribute justify a prohibition? Longshore current drift from the mouth of Winter Canyon cannot enter the Lagoon, because the Lagoon is topographically higher than the ocean, and is typically blocked by a sand bar.	City	175, Comment 29	The Thomas Guide shows the mouth of Winter Canyon discharges to the ocean midway between Malibu and Amarillo Beaches. Amarillo Beach does not have a monitoring station for water quality. However, the 2003 USEPA TMDL for nutrients in the Malibu Creek Watershed estimated up to 5% of the nutrient load to Malibu Lagoon was derived from tidal inflow on the basis of earlier research (2000) by Ambrose. The estimate of one percent (1%) flow contribution from those sectors of the prohibition area may potentially reach to the Lagoon. Staff agrees with the USEPA's analysis that nutrient discharges to the ocean waters adjacent to Lagoon can contribute to the Lagoon nutrient load. Tidal exchange with the ocean is greater when the berm is open, but it still occurs even when the berm is closed.
110	Reference is made to the west side of Malibu Creek and Serra Retreat is on the east side of Malibu Creek.	City	175, Comment 30	Comment noted and correction made.
111	The analysis ignores nitrate loading from inflow of Malibu Creek to the Lagoon. Available data from Heal the Bay monitoring at Arizona Crossing shows that nitrate levels in Malibu Creek can be as high as 10 mg/L See the chart titled…	City	175, Comment 31.	TN concentrations at Arizona Crossing are due to high nutrient loads in the Upper Malibu Creek Watershed, and these loads are detailed in 2003 USEPA TMDL for nutrients. The total nitrogen load allocation for the Lagoon is 27 lbs/day from all sources. This is the load which has been calculated to limit nitrogen concentration in waters of the Lagoon to 1 mg/L. Reduction is required from all sources in the Malibu Creek Watershed to meet this load allocation.
112	The discussion of nitrogen loading is only a repetition of various estimates without discussion of why there are differences. The analysis is presented with no clear basis for the Board's choice of estimate, and without documentation of the procedure for making the estimate of how much nitrogen is produced…No consideration is given as to whether existing advanced treatment systems might change the assumed nitrogen production rates. This is a very hollow results section, difficult to quantitatively review because there is no substance in it available to review.	City	175, Comment 32	Disagree. "End-of-pipe" data is used including Septic system source in both Tables 1 and 3. Only a very small proportion of commercial flow and load is estimated. The totals are the result of simple addition.
113	The wording in the main body of Technical Memo #4 implies that the numerical model was used by Board staff to estimate loading rates; however, this is appears to not be true and the ratio of total nitrogen load was used to calculate the load to the lagoon.	City	175, Comment 33	The numerical model was used in addition to the spreadsheet model for comparison.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
114	The following statement is not clear: "Since 2004, 15 additional OWDS have been installed at commercial properties in the Malibu Civic Center area." It would appear to more accurately be stated as follows: "Since 2004, 15 OWTS have been installed at existing commercial properties in the Malibu Civic Center area."	City	175, Comment 34	Acknowledged. Tech Memo #4 reflects the revision that 8 OWTS have been installed since 2004..
115	Section 4-1, Pages 33. In Table 1 of the memo addendum by Lai, various loading rates are compared. Rather than using the correct contributing area for the lagoon the staff simply assumed that 50% of total nitrogen produced in the project area will go to the lagoon. This assumption is arbitrary and completely ignores the mapped capture zone for the lagoon. See the mapped capture zones presented in the map tilted Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area, in Appendix 4-1.	City	176, Comment 35	This table shows five estimates of nitrogen mass loading to the Lagoon including three prior third-party estimates. The assumption that 50% of total nitrogen loads from OWDS will go to the Lagoon was made by Tetra Tech as part of the previously adopted Malibu Creek Watershed Nutrients TMDL. Staff reviewed three prior estimates of mass loads to the Lagoon and considered the different capture zone, hydraulic conductivity, soil characteristics, and prior groundwater modeling results to determine direction of groundwater flow and to identify which parts of the study area contribute groundwater flow to the beach and to the Lagoon. Finally, staff used a mass balance model to evaluate which estimate of the mass loads is the best fit with the measured data of nitrogen concentration in the Lagoon. See the attachment of Tech Memo # 4 for the detailed description of Table 1 and related information.
116	The presumption that the OWDSs in Malibu are responsible for the pollution in the lagoon and in the beach area is not supported by facts. The pollution is more likely to be a result of large quantities of animal fecal matter from water fowl and from terrestrial animal waste that flows down into lagoon from tens of thousands of acres of watershed ….	WW Advisory Committee	187 paragraph 2	Acknowledged. See the (2003) USEPA TMDL for the nutrient load due to fecal matter from water fowl, and other animals such as horses in the Malibu Creek Watershed.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
117	As previously referenced, Tech Memo # 4 indicates that the Winter Canyon Drainage (WCD) is not a source of Nutrients which contribute to impairments found in the Malibu Lagoon or Surfrider Beach. Lastly, we believe Tech Memo #4 contains a typographical error when it states, "Most of the wastewater discharged in Winter Canyon is assumed to discharge to Malibu Beach" [T4-9]. We believe the author meant to cite *Amarillo Beach* as the discharge point for Winter Canyon because there is ample evidence of this in the 2004 Stone Report and the 9/18/09 Earth Consultants International letter cited above. If indeed the author meant *Malibu Beach* then that assumption is not supported by any evidence…	Colony Plaza	268, paragraph 3 & 4	Acknowledged. The mouth of the Winter Canyon drainage meets the ocean mid-way between designations of Amarillo and Malibu Beach.
118	OWDSs are not the sole causative factor in the degradation of the water quality in Malibu Lagoon, but no other alternative causes are evaluated. Major conservative assumptions are made with respect to wastewater volumes passing through OWDS, bacterial and nutrient loads, groundwater flow velocities, and soil cleaning potential. Despite these large assumptions	Latham & Watkins	439, paragraph 2	Tech Memo # 4 is focus on septic system nitrogen loads and compare water quality against TMDL for septic system. Other factors contributing to degradation were detailed in the (2003) USEPA TMDL for nutrients.
119	The City has made considerable progress in regulating improvements in Civic Center (and City-wide) OWDS treatment systems in both residential and commercial systems. The Board fails to credit any of this progress by using outdated data ….	Latham & Watkins	440, paragraph 4	Disagree. Existing OWDS site specific data was used including sites regulated by the City.

Objections to Staff's Analyses of Impairments to Water Resources – Malibu Lagoon (Tech Memo #4)

No.	Comment	Parties	Page #	Response
120	Individually, any single residence's OWDS contribution is minor compared to any single commercial discharge… The City's assignment of wastewater volumes based on 100 gallons per day per bathroom is outmoded and conservative…The overall water awareness campaigns, and the price of water, have all driven water usage volumes lower, resulting in lower wastewater discharge volumes or most new structures.	Latham & Watkins	441, paragraph 2 & 3	There are 392 residences and collectively the nutrient load discharged is significant. Staff is aware that low flow toilets and water conservation practices have reduced water usage and use 100 gpd instead of 150 gpd for luxury homes. Waterworks District #29 provided 2008 water usage data for the City of Malibu with estimates of the proportion of total usage that was used in the Malibu Civic Center area.
121	The Board states that 1% of my building's wastewater contributes to pollution in Malibu Lagoon. If in fact the building's discharge actually reaches the lagoon, the correct figure, based upon the Board's own calculations for the Malibu Civic Center area, is 0.004%. The Board states that my building's wastewater discharges directly to the ocean. This is patently wrong as my building is located two houses, a road and a beach from the ocean and the waste does not flow into a water table.	Gerson	314, Comment 3	Disagree. Taken alone the discharge from one small business has little impact. However, cumulative impact from all commercial and residential dischargers is problematic. All septic discharges in areas of shallow groundwater reach the water table, and the predominant flow in the discharge area is toward the ocean And only 1% may reach Lagoon along the coastline.

Concerns About Boundaries

No.	Comment	Parties	Page #	Response
122	Boundaries are not justified/need more rationale.	City	133	These comments pertain to the July 31st draft. Subsequently, staff provided further discussion and improved maps of boundaries in Web site postings, at the Oct 1st community meeting, and in the Oct 21st draft – see Tech Memo Overview (pages 1 through 3), Environmental Staff Report (pages 1-2), and cross-references in tech memos #1 though #5.
		Heal the Bay	236	
123	Eastern boundary – expand to Carbon Beach (to include dense commercial and multi-family properties (Baykeeper)/Duke's/Las Flores (Silva).	BayKeeper	218	Staff acknowledges that there is relatively dense commercial development on PCH east of the boundary, and that many OWDSs have problems. However, staff limited the scope of this proposed prohibition to priority areas in the Civic Center area, focusing on the hydrology affecting polluted groundwater and hydraulically connected surface waters. Additional areas, such as the stretch of PCH east of the proposed prohibition, may be addressed through an enforcement strategy or future regulatory actions.
		Silna	488	
124	Western boundary – **contract**, to exclude Pepperdine…proposed boundary bisects campus.	Pepperdine	321	Staff did not use parcel boundaries in delineating the prohibition; rather, the proposed boundaries are based on technical factors, and consider the hydrology affecting polluted water resources. Staff acknowledges that the western boundary thus bisects the edge of the Pepperdine campus. Staff concurs with Pepperdine that use of recycled water on the small portion of Pepperdine property located within the prohibition boundary is not a discharge of wastewater, and that Pepperdine has backup systems in place for emergency discharge, including periods when irrigation demand is inadequate for recycling all treated wastewaters.
125	Western boundary – **expand** to include all of Malibu Rd and PCH to Corral Canyon	Silna	488	Staff acknowledges the existence of relatively dense development along PCH west of the boundary, and that many OWDSs have problems. However, staff limited the scope of this proposed prohibition to priority areas in the Civic Center area, focusing on the hydrology affecting polluted groundwater and hydraulically connected surface waters Additional areas, may be addressed through an enforcement strategy or future regulatory actions.

Concerns About Boundaries

No.	Comment		Parties	Page #	Response
126	Western Boundary – **contract** to exclude Winter Canyon)	Groundwater doesn't flow to the lagoon.	Lady of Malibu Church	422	Staff concurs that OWDS discharges do not flow to Malibu Lagoon. OWDS discharges to Winter Canyon flow to the ocean and discharge between Malibu Beach and Amarillo Beach, where longshore current can carry flow eastward to Malibu Beach. Staff proposes to include Winter Canyon in the prohibition boundary due to impacts to groundwater and Amarillo Beach and Malibu Beach, which are hydraulically connected. Also, plants that treat large volumes of wastes in Winter Canyon have poor records of compliance. (See response to comment from Embree and Malibu Canyon Village HOA.)
		Winter Canyon groundwater is not drinkable.	Colony Plaza	266-267	Staff acknowledges that groundwater monitoring data show pollution of Winter Canyon groundwater. However, there has been historical production of groundwater in Winter Canyon, and the *Basin Plan* recognizes groundwater as potential MUN. Staff is required to consider all MUN designations as the beneficial use standard until amended by the Regional Board. State Board Resolution No. 88-63 contains possible exceptions for waters that may not be suitable for drinking water, but that issue is not the subject of this prohibition See also response ***#??? (Koo's matrix).***
			Towing	503-506	
		The Winter Canyon Plant works.	Colony Plaza	265-266	Staff acknowledges Colony Plaza's statement that the plant has a life expectancy to about 2031. Staff affirms that the Winter Canyon Plant has had compliance problems since completing an upgrade in 2006, including 39 violations of effluent limits for chloride, total coliform, fecal coliform, enterococcus, BOD (biochemical oxygen demand), turbidity, nitrate-N, and suspended solids. Also, staff acknowledges a correction to the number of violations (actually, 55 versus the 61 reported in the July 31st draft). See Tech Memo #1, page TM-5). See also response ***#12??.***
		The MWPCP works.	Embree (MWPCP)	309	Staff affirms that the Malibu Water Pollution Control Plant (MWPCP) has had compliance problems since completing an upgrade in 2001, including 235 violations for effluent limits of turbidity, BOD, pH, and fecal coliform. See Tech Memo #1, page TM-5. The upgrade was $1.3 million and the operation and maintenance cost are $431,000 per year. In addition to O&M costs, there are $40,000 to $50,000 capitol equipment costs for items such as pumps, blowers, and compressors that need replacement every 5 to 10 years. Even after the upgrade, compliance is still an issue.
			Malibu Canyon Village HOA	319	
		Amarillo Beach is not impaired.	Colony Plaza	265-266	Staff acknowledges that there is not a beach monitoring station at the mouth of Winter Canyon. Much of the lower part of the stream in Winter Canyon was hydro-modified in a subsurface storm drain when PCH was improved. Given the relatively high flows of wastewater in Winter Canyon (over 50,000 gpd, see Tech Memo #4, page TM4-9) and pollutants in groundwater (reference key tables in Koo's TM#2), staff believes that pathogens in groundwater impair Amarillo beach, via groundwater flow and subsurface hydromodifications. In addition, alongshore currents carry the pollutants east to Malibu Beach. The beaches on either side of Amarillo Beach (Malibu Beach to the east, and Puerco Beach to the west) are impaired.
			Towing	503-506	

Attachment: Locations of beach monitoring stations (next page)


Marie Canyon
Winter Canyon
Malibu Creek
MALIBU CANYON RD
Malibu Valley
CROSS CREEK RD
SERRA RD
SWETWATER MESA RD
CIVIC CENTER WAY
PACIFIC COAST HWY
MALIBU RD
PACIFIC COAST HWY
Carbon Beach
Malibu Lagoon
Malibu Lagoon - (Surfrider) Beach
55
SMB-1-11
Puerco Beach
SMB-1-12
Amarillo Beach
Winter Canyon Discharge Point
Malibu Beach
SMB-MC-1
Monitoring Stations near Malibu Civic Center Area
Monitoring Station
Prohibition boundary
N
Scale 1:30,000
Feet
0 500 1,000 2,000 3,000 4,000
JFL, 10/30/09

Support or Opposition to Exemptions from the Prohibition

No.	Comment		Parties	Page #	Response
127	Repairs and upgrades		City	103	Staff concurs that, during the interim period from 2009 to 2014, all dischargers should be allowed to repair and properly maintain their OWDSs. The resolution contains such a provision. The City has proposed that residents be allowed to expand flows. Staff is concerned about the expansion of flows but supports the concept of repairs and upgrades without flow increases since the objective of the prohibition is to restore the beneficial uses of water resources in the area.
			Latham and Watkins	430 - 431	
128	Undeveloped properties	Do NOT exempt between 2009 and 2014.	BayKeeper	219	Staff considered crafting language to define a cut-off point in the City and County's permitting pipeline. However, after further discussions, the City and County agreed to provide lists of specific projects in the permitting pipeline that they propose to exempt. When language is formally proposed, staff will be able to determine whether the temporary exemption warrants support.
		Provide exemption, as developers have significant investments and should not be held hostage.	MHAB (Adamson)	479 - 481	
			MHAB (Gaines)	482 - 485	
			Latham and Watkins	428 – 431 440 - 441	
			Towing	497	
		Exemption for lots over 5 acres like in Oxnard Forebay	HRL Laboratories	318	The exemption for lots over 5 acres was provided in the Oxnard Forebay in recognition of a few large ag properties, where a small domestic septic system served a home for owners or renters on farms. Staff does not support a similar exemption for the Malibu Civic Center area.
129	'Zero Discharge' projects should be exempted.		La Paz (Cox)	419	Staff has eliminated this exemption, which was in the July 31st draft, after reviewing public comments. All of the comments, taken together, demonstrate the difficulty of proposing an exemption for "zero discharge" projects that will make progress towards the objective of restoring beneficial uses of water quality, due to design and operational constraints. However, staff will propose to the Board that specific projects, listed by the City and the County by Nov 5th, be exempted because those projects are "in the pipeline", on the condition that those exempted projects meet the 2014 deadline to terminate discharges.
			Latham and Watkins	437	
			Towing	497	
130	'Zero Discharge' projects should NOT be exempted.		Bay Restoration Commission	195	Opposition acknowledged. Staff removed this exemption in the Oct 21st draft resolution.
			BayKeeper	218	
			Heal the Bay	236	
			Malibu Surfing Assn	239	

Concerns about CEQA (California Environmental Quality Act) – Environmental Staff Report

No.	Comment	Party	Page	Response
131	Statement of Overriding Considerations, and Unavoidable Significant Adverse Impacts discussions are inadequate.	City	118 - 119	These sections of the ESR have been supplemented with additional discussion and moved to the end of the ESR. However, the conclusions remain the same.
		La Paz (Cox)	419	
132	The environmental staff report contains a redundant section. It mistakenly refers to TMDLs.	City County	119 188	Redundancy acknowledged, which included a large section (Other Environmental Considerations) in two places of the July 31st draft. Corrected in Oct 21st draft. Also, the report did mistakenly refer to the supplement environmental report for a trash TMDL – this has been corrected in the Oct 21st draft. However, discussion referring to TMDLs under Cumulative Impacts is correctly included, because the prohibition is a remedy to correct water quality impairments from OWDSs.
133	The ESR and checklist fail to adequately analyze potential environmental impacts of the compliance projects and identify mitigation measures.	City	119-120	Staff has analyzed the reasonably foreseeable environmental impacts of the potential compliance projects. Because the details of these projects do not exist, staff used its professional judgment in identifying the common foreseeable impacts, except in those cases where a foreseeable impact was discussed for a particular project. Contrary to the City's assertion, mitigation measures were set forth in most of the checklist narratives. The CEQA Guidelines require a public agency, when commenting to the lead agency, to provide either complete and detailed performance objectives for mitigation measures addressing the effects the public agency identifies or refer the lead agency to appropriate, readily available guidelines or reference documents concerning mitigation measures (Title 14, CCR, section 15086, subd (d)).
		County	192	
		Latham & Watkins	423	
		La Paz (Cox)	417	
		Towing	499	
134	In the category for 'less than significant with mitigation incorporated,' the checklist fails to identify a single mitigation measure.	City	120	Not all impacts in this category were missing mitigation measures. For those that were missing mitigation measures, staff has added appropriate measures. (See following responses to checklist revisions.)
135	Cumulative impact analysis is inadequate.	City	129	The ESR contains a revised cumulative impact analysis beginning on page 43. Staff disagrees with the comment that no CEQA methodology was used as there is a list of the other projects considered in the original analysis. The conclusion is unchanged from the original.
		Towing	499	
136	The growth inducing impacts analysis is deficient.	City	129	The ESR contains a revised analysis beginning on page 45. The conclusion is unchanged from the original.

No.	Comment	Party	Page	Response
137	The ESR fails to analyze a reasonable range of project alternatives.	City	130	The first project alternative is not "simply a restatement of the proposed project." In the absence of the prohibition, a local agency could undertake the design, planning and construction of a centralized plant which would be an alternative to the prohibition. That alternative has been a potential project for several years and therefore is an alternative project. It is also a potential compliance project but the design of the project does not have sufficient detail to enable staff to make more than a preliminary analysis of potential impacts. Other possible project alternatives proposed included a partial prohibition. That alternative was rejected by staff because there is not sufficient data about the status of individual OWDSs to make it a reasonable alternative. A partial ban would not eliminate or reduce significant environmental impacts as there would still be the need for compliance projects. Enhanced enforcement of individual permits was not considered to be a viable alternative. An analysis of the compliance of dischargers with their respective Waste Discharge Requirements resulted in a conclusion that case-by-case enforcement would not achieve the project's basic objective, i.e. restoration of the beneficial uses of water resources for the entire region. Therefore, staff concluded that the alternatives proposed were a reasonable range of feasible alternatives.
		County	193	
		School District	209	
		HRL	318	
		La Paz (Cox)	416	
		Towing	492	
138	Checklist #1.a (Earth – unstable earth conditions): What is nature of potential impacts, what is basis for conclusion? What mitigation measures will lessen impacts…?	City	121	Federal Emergency Management Agency's Flood Insurance Rate maps, California Alquist-Priolo earthquake fault zone maps, and City and County designations in zoning codes, general plans, of geologic hazards were used, in general, to evaluate potential impacts. These potential impacts include slope instability (e.g. landslides, erosion) from construction of the projects. Mitigation measures, including shoring and soil stabilization, were identified on the July 31st draft. Additional measures have been added to the Oct 21st draft, among which include review of seismic/soil hazard maps, compaction, and storm water measures. These measures that are available to mitigate risks such as a pipeline rupture from geologic hazards.
139	Checklist #1.b (Earth – disruptions….): What mitigation measures will lessen impacts…?	City	121	As identified in the July 31st draft, mitigation measures include geotechnical studies prior to construction, and standard constructions techniques including but not limited to shoring, piling, and soil stabilization.

No.	Comment	Party	Page	Response
140	Checklist #1.c (Earth – changes in topography): What is basis for concluding that infrastructure …. Could minimize impact to topography or relief?	City	121	Sewers are subsurface. Many treatment facilities – e.g. the Malibu Lumber treatment facility – require minimal grading, and have components placed subsurface.
141	Checklist #1.e (Earth – increase in wind or water erosion….): What is basis for conclusion? What are mitigation measures?	City	121	Standard construction techniques, including best management practices to prevent erosion and control sedimentation, have successfully controlled wind and water erosion at large construction sites throughout the region. Staff has no reason to assume a failure to control erosion in connection with these compliance projects. Mitigation measures include BMPs for controlling stockpiling, and standard BMPs, as noted in the July 31st draft. Staff has added additional possible mitigation measures, such as minimizing the size and duration of exposed stockpiles and re-vegetation.
142	Checklist #1.f (Earth – …changes in deposition or erosion of beach sand…..): Clarify impact category – is it 'less than significant' or 'less than significant with mitigation incorporated'? What is basis for conclusion? What are mitigation measures?	City	121	The impact refers to potential erosion that could occur through construction in sandy soils along the coast (and has been clarified in the Oct 21st draft). The impact is 'less than significant,' as indicated in the July 31st draft. The basis for staff's conclusion is our experience that conformance with existing and standard construction measures will prevent or limit impacts of erosion to beaches, rivers, streams or the ocean. In referring to mitigation measures, staff is using the term 'mitigation' in a broad sense, and referring to well established BMP techniques that would be expected to be used on standard construction sites.
143	Checklist #1.g (Earth – exposure of people/property to geologic hazards…): What is nature of potential impacts, and what is the basis for conclusions? What mitigation measures will lessen impacts…?	City	121	Federal Emergency Management Agency's Flood Insurance Rate maps, California Alquist-Priolo earthquake fault zone maps, and City and County designations in zoning codes, general plans, of geologic hazards were used, in general, to evaluate potential impacts. These potential impacts include slope instability (e.g. landslides, erosion) from construction of the projects. Mitigation measures, including shoring and soil stabilization, were identified on the July 31st draft. Additional measures have been added to the Oct 21st draft, among which include review of seismic/soil hazard maps, compaction, and storm water measures. These measures that are available to mitigate risks such as a pipeline rupture from geologic hazards.

No.	Comment	Party	Page	Response
144	Checklist #2.a (Air – substantial air emissions or deterioration of ambient air quality): Why is discussion limited to construction? What is nature of potential impacts, and what is the basis for the conclusion? What mitigation measures will lessen impacts…? Impact of idling cars is not anticipated. What are mitigation measures?	City	122	See Checklist 2.a for a discussion of air emissions during both the construction and operation phases. Staff assumed that emissions would not exceed screening levels for potential adverse construction and operation air quality impacts because air quality is highly regulated. Upon evaluation at a project level, proponents may use an emission calculation methodology specified in the SCAQMD guidance, or an SCAQMD model to estimate the construction and operational emissions. The model can be obtained at www.aqmd.gov/ceqa/models.html. Regarding the mitigation comment, we have identified and added more specific mitigation in the revised ESR. Please look at the narrative for this checklist section.
		La Paz (Cox)	417	
		Latham & Watkins	460-464	
145	Checklist #2.b (Air – creation of objectionable odors): What are the impacts, including impacts during construction of a compliance project and abandonment of OWDSs? No mitigation measures are identified.	City	123	Odor impacts during construction, including those that would occur during de-commissioning of existing OWDSs, would be of a short-term nature. SCAQMD has established specific methodologies and thresholds of significance regarding odors that should be consulted during review of the compliance projects. As described in the Checklist #10.a, during abandonment of existing OWDSs, the risk of accidental release (including accidental release of raw sewage and sludge) can be lowered by complying with local codes for proper de-commissioning. Regarding the mitigation comment, we have identified and added more specific mitigation in the revised ESR. Please look at the narrative for this checklist section.
146	Climate Change: The environmental analysis does not include impacts to climate change.	County	193	See Legal Response Matrix 2nd page.
		La Paz (Cox)	417	
		Latham & Watkins	462	

No.	Comment	Party	Page	Response
147	Checklist #3.e (Water – discharge into surface waters, or alteration of quality……): Presumed flow of 300,000 gallons per day (gpd) is understated, because it does not account for undeveloped properties once developed. [Analysis of surface water impacts from discharges is inadequate.] No sites are identified for disposal of effluent. Does not analyze an ocean outfall.	City	123	Given estimates of current discharges totaling about 270,000 gpd (see Tech Memo #4), staff assumed compliance projects would be on the order of 300,000 gpd. As the prohibition is intended to be growth neutral, relying on the City's "strategy" (as set forth in its General Plan that septic systems reduced the rate and intensity of growth) as an assumption of minimizing potential growth, staff did not feel it appropriate to assume the City would allow for significant additional development, and accordingly did not adjust for a significant future growth. Staff has added a description of surface water impacts from dewatering groundwater to 3.e, and included mitigation measures. Staff acknowledges that we did not survey possible sites for disposal facilities because the location of the potential compliance projects are speculative right now. The survey would occur during local planning and feasibility studies, and at a project level CEQA analysis when there is a specific project tied to a specific location. As the regulatory agency potentially responsible for permitting a compliance project, the Regional Board would carefully analyze the location of the disposal sites in the future. Also, staff did not analyze impacts from a possible ocean outfall, as none of the compliance projects assumed this discharge mechanism would be selected (see the description of projects on page 17 of the Env Staff Report).
		La Paz (Cox)	417	
		Latham & Watkins	463	
148	Checklist #3.f (Water – alteration of the direction or rate of flow of ground waters): No analysis of impacts. What is the basis for conclusion? What are the mitigation measures? The impact from possible salt water intrusion after groundwater discharge ceased has not been analyzed.	City	123	Based on staff's experience and knowledge, impacts include localized changes to groundwater flows from termination of OWDS discharges (for all compliance projects), and larger scale changes resulting from new discharge facilities for the Integrated Facilities and Decentralized Facilities compliance projects (see Checklist #3.f). The long-term impact is expected to be an improvement in the quality of groundwater. Regarding the mitigation comment, we have identified and added more specific mitigation in the revised ESR. Please look at the narrative for this checklist section.
		County	193	
		Towing	500	

No.	Comment	Party	Page	Response
149	Checklist #3.g (Water – changes in the quantity or quality of groundwater….): No analysis of impacts. What is the basis for conclusion? What are the mitigation measures?	City	124	Among the goals of the prohibition is to improve pollution in groundwater. This analysis is covered by the Technical Memoranda produced by staff. The long-term impact is expected to be an improvement in the quality of groundwater. See the discussions in #3.f and #3.h of the Checklist.
150	Checklist #3.i (Water – exposure of people or property to water related hazards): No analysis of impacts. What is the basis for conclusion? What are the mitigation measures?	City	124	Staff revised the #3.i discussion to note a possibility of impacts from tsunamis and flooding. Based on an expectation that projects would be sited outside of flood hazard zones, as designated by Federal Emergency Management Agency's Flood Insurance Rate maps, staff concluded that there would be a 'less than significant impact' (which is a revision of staff's original conclusion of 'no impact.' Also, staff expanded the #3.i discussion to note measures ("mitigation" measures, intended in a broad sense) contained in the City's building code, such as bulkheads or other protective barriers that would protect against such risks.
151	Checklist # 4 (Plant Life) and #5 (Animal Life): No recognition of environmentally sensitive areas	Latham & Watkins	464	See Environmental Staff Report, pages 27 to 29.
152	Checklist #6.a (Noise – increase in existing noise levels): What is nature of potential impacts, and what is the basis for conclusions? What mitigation measures will lessen impacts…?	City	124	Insignificant impacts are expected from decommissioning of the OWDSs, as most of the abandonment is expected to occur in place. However, impacts, including noise and/or vibration, would occur during installation of sewers and construction of treatment works. Based upon staff's experience, the impacts from would be of a limited duration. During operation, no significant impacts are expected. The City has noise ordinances which will restrict the noise impacts. Regarding the mitigation comment, we have identified and added more specific mitigation in the revised ESR. Please look at the narrative for this checklist section.
		Latham & Watkins	461	

No.	Comment	Party	Page	Response
153	Checklist #6.b (Noise – exposure of people to severe noise levels): What is nature of potential impacts, and what is the basis for conclusions? What mitigation measures will lessen impacts…?	City	124	Insignificant impacts are expected from decommissioning of the OWDSs, as most of the abandonment is expected to occur in place. However, impacts, including noise and/or vibration, would occur during installation of sewers and construction of treatment works. Based upon staff's experience, the impacts from that would be of a limited duration. During operation, no significant impacts are expected to the public or employees. The City has noise ordinances which will restrict the noise impacts. Different California agencies, such as Cal OSHA, have regulations that address worker safety with respect to noise. Regarding the mitigation comment, we have identified and added more specific mitigation in the revised ESR. Please look at the narrative for this checklist section.
154	Checklist #7.a (Light and Glare): Inconsistent with Traffic analysis, which includes night-time construction work as a traffic mitigation measure. Clarify impact category – is it 'less than significant' or 'less than significant with mitigation incorporated'? What mitigation measures will lessen impacts…?	City	124	Construction is not likely to produce new light or glare, unless construction is done at night. (Staff has added this clarification in the Oct 21st draft.) Staff has revised the impact category to 'Less than significant with Mitigation Incorporated.' Regarding the mitigation comment, we have identified and added more specific mitigation in the revised ESR. Please look at the narrative for this checklist section.
155	Checklist #8.a (Land Use – substantial alteration of present or planned land use): Clarify conclusion about impact. Consider impact (e.g. commercial centers shutting down) if a compliance project is not completed within five years.	City	125	Staff affirms the 'Potentially Significant' impact noted in the July 31st and Oct 21st drafts. In setting the 2014 deadline for compliance, staff set a feasible time schedule, which considers significant planning and preliminary design work that the City has already completed (see Stone 2004 and Questa 2003 and 2005). Staff disagrees with contention (La Paz – Cox) that urban blight would result; rather, staff anticipates long-term positive economic impacts from improved water quality and visitor confidence in using Civic Center area beaches. See also discussion in the second page of the matrix for Legal Concerns.
		La Paz (Cox)	417	
		Latham & Watkins	445	

No.	Comment	Party	Page	Response
156	Checklist #11. Population. a. 1. OWDSs act as a constraint on development. Without OWDSs, new development corresponding growth in population 2. Staff fails to analyze the effect of prohibition on projects in the pipeline 3. The compliance projects sized to replace existing OWDS flow without considering large undeveloped area for additional flow	City	125	The City could update its General Plan to develop a new strategy for reducing the rate and intensity of growth and further control the flow. The compliance projects will presumably be sized to provide capacity for existing wastewater flow rates or for whatever level of growth that the City decides. Without a specific compliance project to analyze, any discussion would be speculative. Staff's assumption of a growth neutral project stems from the City's General Plan statements about the restriction of growth from environmental hazards as well.
157	Checklist #12. Housing. a. City uses OWDS as a constraint on development. Without OWDS, compliance projects promote developments and affect the existing housing supply.	City	126	Staff has revised this narrative. The City could update its General Plan to develop a new strategy for reducing the rate and intensity of growth. The Malibu General plan section 7.3.3.1 states that the opportunity for development of housing is constrained by geologic hazards, flood hazards, and wildland and urban fire hazards. Also, slope instability and high groundwater are additional constraints on development. Therefore, it is unlikely that this project will create a demand for additional housing. Through the general planning process as well as zoning and other land use authorities, the City and the County have the tools to meet community goals, including housing goal.
		County	194	
158	Checklist #13. Transportation/Circulation. a. define level of impact and mitigation b. no mitigation identified c. If City can't complete compliance project within 5 years, hauling will add additional traffic impact and need mitigations. d. There are impacts to present pattern of circulation, such as, lane closures. f. Need justification for level of impact and mitigation measures.	City	126-127	a. The level of impact is revised to "potentially significant impact". Mitigation measures should be examined at a project level and could include development of a traffic mitigation plan and night-time construction schedules. b. Mitigation could include park-and-ride lots or temporary increased public transportation. c. Mitigations and impacts should be examined on a project level and potential mitigations are added in discussion on page 35 of Draft Environmental Staff Report (ESR), dated October 21, 2009. d. Checklist revised to "less than significant". Additional discussion incorporated in page 35 of Draft ESR. f. Checklist revised to "Potential significant impact". Discussion includes mitigation measures on page 35 of Draft ESR.
		Latham & Watkins	459-460	

No.	Comment	Party	Page	Response
159	Checklist #14. Public Service d. define basis for "potentially significant impact" e. Increase road maintenance if City can't comply in 5 years and will rely on hauling as a mitigation measure.	City	127-128	e. The integrated Facilities – a centralized integrated wastewater/recycled water plant – would require land for construction and operation of facility. Parks are usually used as wastewater subsurface disposal/recycle site and may have potentially significant impact. Lower road maintenance is expected after compliance project is complete. Overall, the demand for road maintenance is no impact.
160	Checklist #16 Utilities and Service System d. define basis for "potentially significant impact" and mitigations and analyze the potential impacts associated with the abandonment and removal of old septic systems f. Need discussion on disposal of solid waste generated by a wastewater treatment plant and disposal of old septic systems. Define basis for "less than significant"	City	128	d. Staff affirms its conclusion of "potentially significant impact" See added discussion under #16.d. f. Regarding other government services, staff affirms its conclusion of 'no impact.' See added discussion under #16.f.
		La Paz (Cox)	417	
161	Checklist #17.a (Human Health – creation of any health hazard…) and #17.b *exposure of people to any human health hazards): …a plant may be located near residences. Health hazards could occur from rupture of a sewer. What are mitigation measures?	City	128-129	Staff has revised its conclusion to 'less than significant with mitigation incorporated'(versus 'less than significant,' as concluded in the July 31st draft). Regarding the mitigation comment, we have identified and added more specific mitigation for both construction and operation phases in the revised ESR. Please look at the narrative for this checklist section. Also, for human health impacts, please refer to Checklist # 10.a (Risk of Upset), which includes a discussion of impacts and possible mitigation measures during the design, construction, and operation phases.
		County (pg 4)	192	
162	Checklist #18.a and b (Aesthetics): Objection to the 'less than significant' conclusion.	County	192	Staff has revised its conclusion to a 'less than significant with mitigation incorporated.' Regarding the mitigation comment, we have identified and added mitigation measures in the revised ESR. Please look at the narrative for this checklist section.

No.	Comment	Party	Page	Response
163	Checklist #20.a (Archeological/Historical): A significant portion of the area adjacent to Malibu Lagoon has been identified as an archaeological site. What are potential impacts?	City	129	Staff has revised its conclusion to a 'less than significant with mitigation incorporated,' as compliance projects, such as sewers, are expected to be located in public streets and on public property that has already undergone significant disturbance. See revised discussion under Checklist #20.a.

Legal Concerns

No.	Comment	Parties	Page #	Response
164	CWC section 13241 analysis is missing	City County	130 193	Evidence for determinations in accordance with the CWC and other codes is in both the Technical and Environmental Staff Reports. Also, staff has added a summary of this evidence, organized by code section, on pages 13 through 19 of the Overview for the Technical Staff Report.
165	Proposed findings are not supported by evidence	City	100	The weight of the evidence prepared by the staff, set forth in the technical memoranda, supports the need for the prohibition and addresses each of the legal factors required by the Water Code section 13280-13283.
166	GW as potential drinking water source not supported by record and doesn't meet 13241 or the State Board's "Sources of Drinking Water" policy, Resolution No. 88-63.	City	103	Staff is required to consider all MUN designations as the beneficial use standard until amended by the Regional Board. State Bd Resolution No. 88-63 does indeed contain exceptions for waters that may not be suitable for drinking water, but that issue is not the subject of this prohibition.
167	CEQA document is not adequate in several respects and fails to provide public with meaningful information	City	118	The Environmental Staff Report, in the checklist and narrative, identifies reasonable compliance alternatives, provides mitigation measures when feasible and discusses the reasonably foreseeable impacts from the project.
168	CEQA document fails to identify mitigation measures	City County MHAB (Gaines)	120 192 485	The original checklist had many mitigation measures. The revised checklist has included many more specific mitigation measures. A commenting public agency should provide either complete and detailed performance objectives for mitigation measures addressing the effects the public agency identifies or refer the lead agency to appropriate, readily available guidelines or reference documents concerning mitigation measures. Title 14, CCR, section 15086, subd (d).
169	Costs of compliance not adequately analyzed	City	130	In the Environmental Staff Report, in the section entitled Options for Compliance Projects, staff provides estimates (including key assumptions) of capital costs for three conceptual projects. These costs range from $17 million to $80 million. The City's comments are noted as providing an alternate view of the cost of compliance.
170	Civic Center boundaries not justified	City	130	The rationale for the boundaries is described in detail in the Technical Staff Report, beginning on page 1. See also responses provided in the Boundary matrix.

Legal Concerns

No.	Comment	Parties	Page #	Response
171	TMDLs don't indicate prohibition on OWDSs necessary	City	133	The nutrient TMDL for Malibu Lagoon allocates a nitrogen load of 6 lb/day from OWDSs. As demonstrated in Tech Memo #4, existing loads from OWDSs far exceed the target. Because the Regional Board has attempted other strategies for reducing pollutant loads from OWDSs which have not been successful in reducing the impairment and restoring the quality of water resources in the area, this prohibition is necessary. The cumulative effects of other implementation actions to attain TMDLs, other actions by the City, and this prohibition should be beneficial to restoring the water quality.
172	MOU with County doesn't give enforcement authority; need for modification to carve out target area from MOU	County	189-190	If the prohibition is adopted, the Regional Board will discuss appropriate modifications to the MOU with the County of Los Angeles.
173	Findings of 13280 etc. require adjudicative hearing process	County	190	This Basin Plan amendment is a quasi-legislative action. Therefore, the APA does not apply.
174	No discussion of impact if nothing done in 5 years	County	192	Staff does not believe that it is a reasonably foreseeable conclusion that no action will be taken by the prohibition deadline date, and thus did not evaluate the impacts from the closing of the entire Malibu Civic Center area.

No.	Comment	Parties	Page #	Response
175	No discussion of global climate change from project	County Latham & Watkins	193 462	CEQA regulations and guidance, to expand environmental reviews to include climate change, are in the process of being revised and are not yet approved. Staff believes this is more appropriate for a project level analysis when a specific project has been designed and proposed. However, staff has discussed potential climate change impacts in the checklist narratives for air, housing, transportation, and energy. The specific amount of potential greenhouse gas emissions were not calculated because of the lack of agency guidance on how to determine the significance of the greenhouse gas emissions that directly or indirectly result from the project and the lack of published thresholds of significance. The potential compliance projects discussed and analyzed in the ESR are reasonably foreseeable means of compliance but none of the projects have detailed specific designs, timetables, or any other concrete documentation. Therefore, any analysis done must be somewhat speculative, although staff has exercised its best judgment and good faith in determining the potential impacts. Mitigation measures for climate change impacts are evolving but the California Air Resources Board has published its Climate Change Scoping Plan, dated December 2008, which sets forth several potential mitigation measures that should be considered by the lead agency reviewing the compliance projects. These measures include use of energy efficient technologies or equipment, low carbon fuels, energy efficient building design and construction materials, and water system and water conservation measures. Staff concludes that determining the significance of the potential impacts of the project, or determining whether the mitigation measures can reduce that contribution to a level that is less than cumulatively considerable and thus less than significant, is uncertain and thus speculative at this time. If there are significant impacts, the project's benefits override and outweigh its potential unavoidable impacts, as set forth in the statement of override in the draft Resolution, because the benefits include restoration of the beneficial uses of water resources, which will enhance the recreational use of the Malibu beaches, improve the aquatic habitat and restore the drinking water potential of the groundwater.
176	Draft resolution doesn't have 13241 or 13280 findings	County	194	A revised draft (Oct 21, 2009) resolution addresses the issues raised and contains appropriate findings.
177	Consider less drastic alternatives	City School District	134 209	Many alternatives were considered but none met the objectives of the prohibition. A partial prohibition would not meet the objective because, based upon experience with compliance with and enforcement actions taken on individual WDRs, water quality is not improving enough to restore beneficial uses in an acceptable timeframe.

No.	Comment	Parties	Page #	Response
178	SWRCB state-wide proposed regs for OWDSs not considered by staff as a program alternative	Hughes	318	Earlier efforts to develop AB 885 regulations were not successful. The timing for a future effort by the State Board is not clear.
179	Set the effective date of prohibition 30 days after approval by OAL	Latham & Watkins	427	The legal effective date of the regulation is when OAL approves it. The tentative Resolution states that the deadline for termination of existing discharges is November 5, 2014. All other discharges are prohibited as of November 5, 2009.
180	Inadequate project description re: evaluation of compliance projects	Latham & Watkins	427	This is a program or first-tier level environmental document because it is evaluating the effects of an amendment to the *Basin Plan*. As such, the details of any compliance projects are largely hypothetical at this time. Staff has used its best judgment in forecasting reasonably foreseeable impacts for impacts that are likely to occur from any of the potential compliance projects. However, the level of specificity required by CEQA generally depends upon the degree of specificity involved in the proposed activity. An EIR on a policy or plan need not be as detailed as in EIR on the specific compliance projects that will follow. An analysis of the impacts of future actions should be undertaken when those actions are sufficiently well-defined that it is feasible to evaluate their potential impacts.
181	Enforcement of prohibition is unknown; staff should make enforcement actions explicit	Morton Gerson La Paz	314 413	Staff agrees with Schmitz and Associates that enforcement actions that *may* be taken by the Regional Board at the end of the prohibition period is currently speculative and not at issue. However, staff disagrees that there are only "two alternatives" (store and pump off-site or abandon the premises as uninhabitable). In the absence of information regarding actual compliance with the prohibition, compliance alternatives with the prohibition are still speculative as well.
182	Staff Report fails to analyze other potential causative factors to the degradation of GW quality in the MCC target area, citing State Board Resolution 88-63	Towing	500	State Board Resolution 88-63 sets forth the policy that all surface and ground waters of the State are considered to be suitable for a water supply, with several exceptions. The Regional Board must take steps to amend the *Basin Plan* beneficial uses. That is normally done during the "Triennial Review" process, which the Regional Board is currently undertaking in a separate proceeding. Therefore, until such time that beneficial use designations are changed by the Regional Board, it must be assumed that all water is suitable for a water supply.

No.	Comment	Parties	Page #	Response
183	Prohibition is a taking; denies property owners right to substantive due process because it is arbitrary and capricious as applied to AZWM.	Towing	507	Water Code section 13262, subdivision (g), specifies that there is no right to discharge waste. The contention that the prohibition is arbitrary as applied to the commenter because it lacks voting rights in the city is erroneous. The prohibition applies based upon the effects of the discharge, not based upon the identity or status of the discharger. If the commenter was correct, no land-use regulation could ever be enacted against a business entity. Nor do the property owners lack ability to affect the public policies of the City of Malibu. The property owners may properly exercise their political rights with the City of Malibu to encourage the construction of a compliance project in a timely fashion. The prohibition is not a "taking" because this regulation is being proposed to prevent harm in the nature of a nuisance to the public.
184	Prohibition denies property owners equal protection because current dischargers can continue while non-dischargers will not be able to discharge	Towing MHAB (Gaines)	507 484	Equal Protection is equality under the same conditions and among persons similarly situated. The Regional Board may make a reasonable classification of persons and pass special regulations applying to certain classes. The classification must not be arbitrary and must be based on some difference in the classes having a substantial relation to a legitimate object to be accomplished. Current dischargers must terminate their discharges by November 5, 2014. This class of persons is different from persons who are not currently discharging as staff believes it would be inappropriate to require immediate cessation of waste discharges. The commenter is being treated the same as all other property owners who are not currently discharging. This difference is not arbitrary and has a substantial relationship to the object of restoring beneficial uses of water resources, and grandfathering existing dischargers for a period of time is a well-established accommodation for the economic hardships attendant with replacing an existing infrastructure. This distinction bears a rational basis.
185	Prohibition denies property owners all reasonable, economic use of its property	Towing MHAB (Gaines)	507 483	The discharge of waste is a privilege, not a right (see Water Code section 13262, subd.(g)). The commentors have submitted no evidence that prohibiting discharges of waste from OWDSs deprives the property owners of all reasonable economic use, and the fact that most other municipalities in the state of California have constructed alternatives to the use of septic systems and nevertheless have thriving businesses tends to demonstrate the inaccuracy of the claims. The requirement to discharge waste in such a way as to not endanger public health and safety does not effect a taking in any event, since the prevention of nuisance is not a taking, and furthermore since no right has vested with these property owners who do not yet have authorized OWDSs.

Other Concerns

No.	Comment	Parties	Page #	Response
186	Serra Retreat – confusion among residents about compliance.	Serra Retreat HOA and residents	Sept 1st workshop	The Serra Retreat Center, which supports full-time staff, retreats and events, is under Regional Board jurisdiction. Staff has issued two NOVs to the Center, for three flow violations, missing perjury statements, inadequate oversight of the disposal area, and missing hauling reports. Serra Retreat single-family residences are under the City's jurisdiction. There is one documented recent spill, and one known on-going failure. About 40% of the residences have limited leachfield redundancy. The City states that these problems result from oversight practices by the County, prior to the City's incorporation.
187	The prohibition is unfair to many dischargers who invested resources upgrading the old septic systems to advanced treatment systems	WW Advisory Committee	186 263	Staff acknowledges significant investments in advanced systems, among which include the system for Malibu Lumber (which has been reported to cost from $3 million to $4-1/2 million), and Malibu Colony Plaza ($2-1/4 million). However, advanced systems have not solved the community's water quality problems. Furthermore, the systems are expensive to operate (residents in the multi-family complexes served by the MWPCP pay $188/month in operating costs), and have poor compliance records. Staff does not believe that these advanced systems, installed on an individual basis, will effectively restore water quality.
		Colony Plaza	309	
		Embree (MWPCP) Latham & Watkins	440	
188	Recommends artificial breaching of berm, to allow for twice daily flushing…..This would eliminate a barrier for steelhead trout.	Lady of Malibu Church	422	Artificial breaching was done in the past, prior to oversight by the Coastal Commission. Past proposals to allow draining of the lagoon (e.g. by insertion of a flexible pipe) were not widely accepted by stakeholders, and attention has shifted to controlling pollutant sources.
189	Tapia dumps sewage….. Tapia Water Reclamation Facility Discharge: concern that regulatory attention is misplaced, and should focus on Tapia…..Tapia is contributing to nitrogen and bacteria loading……..	Toberman	602 Sept 1st workshop	Tapia's WDR contains a discharge prohibition to Malibu Creek from April 15 to November 15 each year, except under certain conditions, including: (a) upset or operational emergencies; (b) storm events; or (c) to meet minimum flows of 2.5 ft^3/second to sustain endangered species in Malibu Creek. Tapia has had intermittent discharge to Malibu Creek since September 1, 2009 in order to comply with condition (c) above – this was not a violation. Tapia has incurred violations, including reporting deficiencies, late submittals, and effluent violations, and these violations are subject to enforcement.
		Oral comments at Sept 1st workshop from Serra Retreat residents and Surfrider Foundation member.		

Other Concerns

No.	Comment	Parties	Page #	Response
190	Tapia's effluent …[improves water quality downstream]…without summer discharge, Surfrider Beach bacteria levels have risen…… Object to staff's assumption [Environmental Staff Report, page 19] as a possible compliance project.	Las Virgenes MWD (also oral comments on Sept 1st by staff from Las Virgenes MWD)	206 198	See comment above regarding Tapia compliance. Re the objection to being considered as a possible compliance project is acknowledged: staff contacted the general manager on Sept 2nd, to explain that the compliance projects included in the Environmental Staff Report were conceptual-type projects, and that staff was not advocating for a specific manner in which the community would comply with the prohibition.