State of California
California Regional Water Quality Control Board, Los Angeles Region

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Draft Technical Staff Report

Evidence in support of an
Amendment to the
Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

to Prohibit On-site Wastewater Disposal System in the Malibu Civic Center Area

Technical Memorandum 5:

Dischargers with Unsuitable Hydrogeologic Conditions for High Flows of Wastewaters Resort to Hauling Liquid Sewage and Sludge to Communities that have Sewer and Wastewater Treatment Facilities

by
Dionisia Rodriguez, Environmental Scientist
Ryan Thacher, Student Intern
Groundwater Permitting Unit

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DRAFT JULY 31 2009

1. Background

Septic systems, also known as on-site wastewater disposal systems (OWDSs), are used to reduce or eliminate the pathogenic organisms that are found in wastewater. Pathogenic organisms in wastewater pose a relatively minor threat to water resources when OWDSs are properly sited, designed, constructed, and operated. On the other hand, improperly, designed or operated OWDS can be a significant source of surface water and groundwater contamination that can lead to waterborne disease outbreaks and other adverse health effects. The bacteria and viruses found in the wastewater can cause numerous diseases including gastrointestinal illness, cholera, hepatitis A, and typhoid. Nitrogen, which is also found in the wastewater, primarily from urine, feces, and food waste, can cause methemoglobinemia (blue baby syndrome) in infants.[1]

Malfunctioning OWDSs can lead to illicit discharges of septic waste, which is the subsurface or surface release, for any reason or cause, of sewage, wastewater effluent, or any material or substance from an improperly functioning OWDS. An illicit discharge includes dumping, leaking, overflowing, pumping and spilling. This technical memo will quantify reliance on pumping and hauling off-site of septic waste to control wastewater generated by intensive land use activity in the Malibu Civic Center area.

Proper operation and maintenance of the OWDSs is a crucial preventive measure to avoid septic system failures. Inadequate septic system operation and maintenance can lead to failure even when systems are designed and constructed according to regulations; therefore, dischargers pump their OWDSs at regular intervals to avoid potential problems or complete failure of the system. Local health officers recommend that residential septic systems be pumped at least once every three years and commercial systems be pumped twice a year. They also recommend that restaurants, as part of their Best Management Practices, pump out their grease interceptors once a month. The presence of grease in the septic system causes scum formation that can lead to septic failure. However, it has come to the attention of Regional Board staff that some of the large commercial establishments in the Malibu Civic Center area are pumping their septic systems multiple times per week, for large volumes of waste. Regional Board staff believes that the septic systems may be adequately treating a portion of the wastewater generated by intensive land use activities, but lack sufficient on-site capacity to dispose of the effluent. Many of the seepage pits

[1] EPA Source Water Protection Practices Bulletin, "*Managing Septic Systems to Prevent Contamination of Drinking Water.*"

and leach fields in the area have been in use for decades and can no longer serve their purpose. Also there are hydrogeologic constraints, such as the lack of suitable surface area for new leach fields, as well as the extremely limited vertical separation between leach field disposal sites and the groundwater table, that further limit wastewater disposal on-site. These factors cause a trend of increasing reliance on septic pumping and hauling off-site.

2. Sources of Data

Within the study area, there are twenty commercial dischargers (Table 1) with Waste Discharge Requirements (WDRs) from the Los Angeles Regional Water Quality Control Board (Regional Board). There are five commercial facilities with discharges of less than 2,000 gallons per day (gpd) that were permitted by the Regional Board, but oversight was transferred to the City of Malibu in February 2005. Septic waste hauling data for each discharger was gathered from quarterly monitoring reports submitted by these dischargers, including waste hauling dates, quantity of waste hauled, and information on the hauling companies. The City of Malibu does not collect hauling data for the commercial facilities under their oversight; therefore, no data are available for them. There are thirteen unpermitted dischargers within the study area, and no hauling information is available for these dischargers.

Table 1. Dischargers permitted by the Regional Board in the Malibu Civic Center area.

Discharger Name
Cross Creek Plaza/Malibu Creek Reservation
Los Angeles County Fire Station #88
Hughes Research Labs (HRL)
Checker Board Properties (Jack in the Box)
Malibu Beach Inn
Malibu Admin. Center (Malibu Civic Center)
Malibu Colony Plaza/ Colony Plaza LLC
Malibu Country Mart I (MCM 1)
Malibu Country Mart II (MCM II)
Malibu Country Mart III (MCM III)
Malibu Lumber
Malibu Pier State Park
Malibu Shores Motel
Malibu WPCP
Mira Mar Properties (MiraMar Investments Co).
Prudential Malibu Realty
Morton Gerson
Road Maintenance Yard 336
Serra Retreat
Surfrider Beach

The five commercial facilities under oversight from the City of Malibu are: Equilon Enterprises, J & P Limited, Malibu Animal Hospital, Malibu Professional Arts Building, and Malibu Road, LLC.

DRAFT JULY 31 2009

Seven dischargers in the study area are left out in this analysis. MiraMar Investments Co. is omitted because it did not submit monitoring reports (subsequently the Regional Board issued a Notice of Violation (NOV) to MiraMar Investments Co. for non-submittal of monitoring reports). Prudential Malibu Realty and Fire Station #88 are not included in the study due to relatively insignificant annual waste flows and volumes of septic waste hauled off site. Malibu Pier State Park data is omitted as well, due to relatively small volumes of septic waste hauled off site. In 2008, Malibu Pier State Park disconnected its treatment system from the existing leach field and began transporting the effluent to an upgraded system at the Malibu Pier Wastewater Treatment Plant. During its start-up period, Malibu Pier State Park hauled septic waste off-site frequently, but hauling was minimal before and after this time. Cross Creek Plaza was responsible for more combined hauling than any other discharger from 2004 to 2007 (combined total of 6.56 million gallons of septic waste hauled off-site), but in late 2007 they completed an upgrade of their treatment and disposal systems. Very little hauling has been necessary at Cross Creek Plaza since October of 2007. Malibu Lumber was permitted in late 2008 by the Regional Board, and is not included in this analysis due to a lack of relevant data.

Commercial dischargers are the main focus of this analysis, but it is also important to consider the impacts from the large number of residential septic systems within the study area. Using the list of residential properties in "Risk Assessment of Decentralized Waste Water Treatment System, City of Malibu" prepared by the Stone Environmental, Inc. in August 2004, Regional Board staff determined that there are 349 residential homes in the study area. Regional Board staff determined the number of bedrooms in each residence using information gathered from the Los Angeles County assessor's database. The waste flows generated from each residence was estimated by multiplying the number of bedrooms in each house by 100 gallons per day, which is an accepted assumption of waste discharge from homes. It was estimated that 126,300 gallons of wastewater per day are discharged from the residences in the study area. These residences are regulated by the City of Malibu, which currently does not maintain septic hauling records for residences. However, local health officials recommend pumping residential septic systems once every three to five years depending on tank size, wastewater volume, and types of solid entering the system.[2]

3. Wastewater Generation Analysis

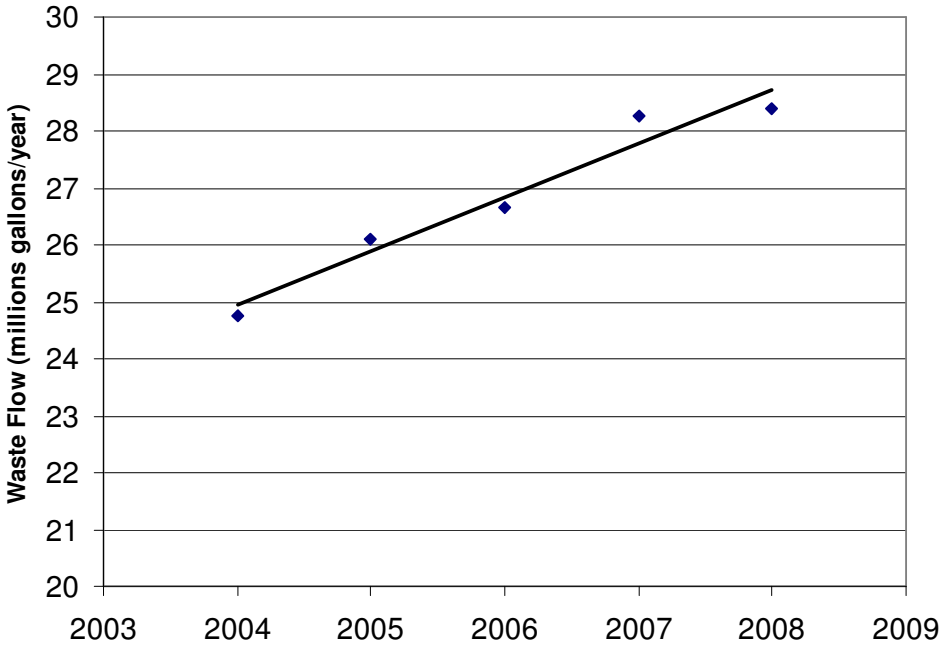
Waste flow volumes have been steadily increasing in the City of Malibu as shown in Figure 1. Most dischargers do not use continuous flow meters to measure waste flows, but instead assume that 95% of the water used within the facility goes to the OWDSs. The remaining 5% accounts for water use outdoors (i.e., hose use, irrigation). As a result the waste flow values presented are estimates, based on repeated assumptions.

The twelve dischargers included in Figure 1 are MCM I, MCM II, MCM III, Surfrider Beach, HRL, Malibu Shores Motel, Malibu Colony Plaza, Serra Retreat Center, Malibu WPCP, Malibu

[2] EPA Source Water Protection Practices Bulletin, "*Managing Septic Systems to Prevent Contamination of Drinking Water*".

DRAFT JULY 31 2009

Figure 1. Combined annual waste flow trend for select dischargers in Malibu.



Civic Center[3], Road Maintenance Yard No. 336, and Jack in the Box. The combined annual waste flows for the dischargers listed above have increased 15% from 24.8 million gallons in 2004 to 28.4 million gallons in 2008.

A breakdown of the total annual waste flows within the study area is shown in Figure 2. This outlines the biggest contributors to wastewater flows in the Civic Center area; specifically Malibu WPCP and Malibu Colony Plaza.

4. Wastewater Hauling Analysis

Septic waste hauling has been steadily increasing in Malibu as shown in Figure 3. Data for 2006 was omitted from Figure 3 due to a drastic and uncharacteristic increase in hauled sewage from Malibu Colony Plaza (see Figure 4 for explanation).

The dischargers used for the above figure are MCM I, MCM II, MCM III, Surfrider Beach, Malibu Beach Inn, Malibu Shores Motel, Malibu Colony Plaza, Serra Retreat Center, Malibu WPCP, and Jack in the Box. Malibu Civic Center, Road Maintenance Yard No. 336, HRL, and Malibu Pier State Park were left out due to insignificant quantities of septic waste hauled off site.

[3] The dischargers at Malibu Civic Center claimed in the 2007 monitoring report that over 3 million gallons of wastewater had been discharged to the septic system. This number was 95% of the total water use in 2007 at the Civic Center. Upon issuance of a NOV for flow violation, the discharger responded with a letter saying only 23% of consumed water entered the septic system, and that the other 77% was due to irrigation, an irrigation leak, and water used for washing city vehicles. Regional Board staff adjusted data accordingly.

DRAFT JULY 31 2009

Septic waste hauling increased 29% from 1.52 million gallons in 2004 to 1.96 million gallons in 2008. Septic waste hauling data and the waste flow data are attached in Appendix A.

DRAFT JULY 31 2009

Figure 2. Combined annual waste flows for select dischargers. (Dischargers included in Figure 1 but absent from Figure 2 were omitted due to insignificant waste flows on the scale presented above.)

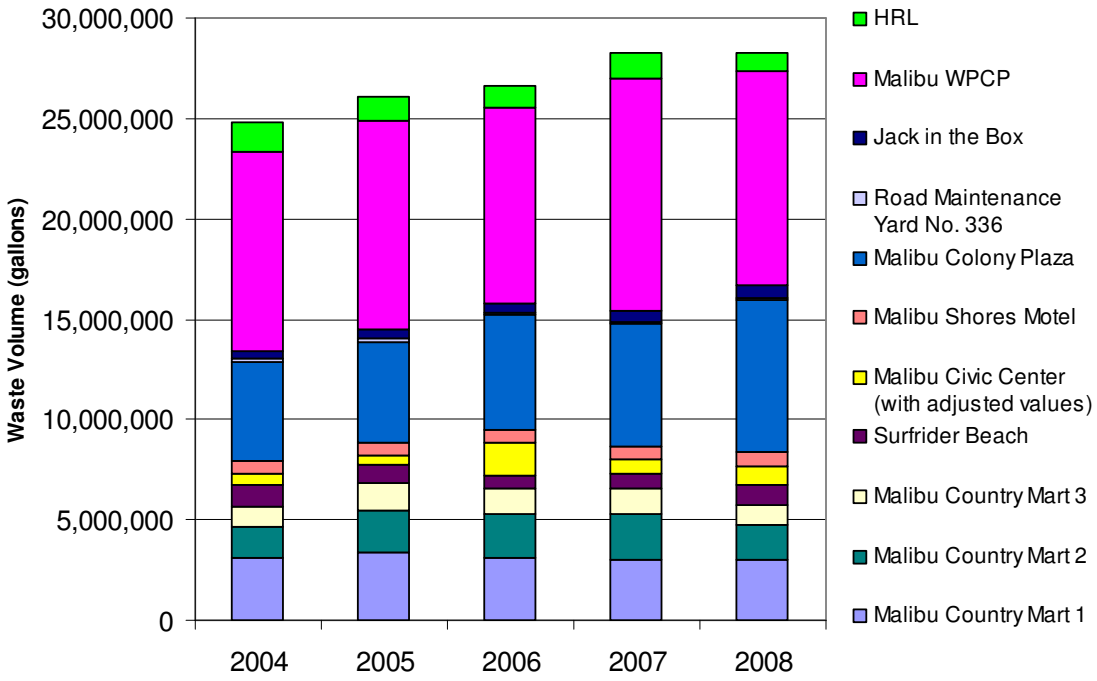
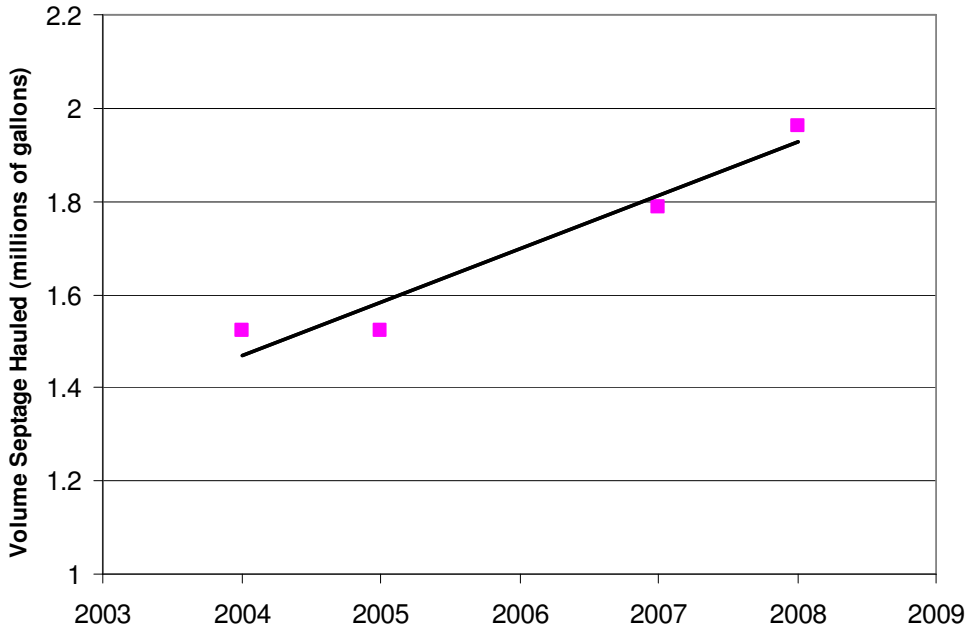
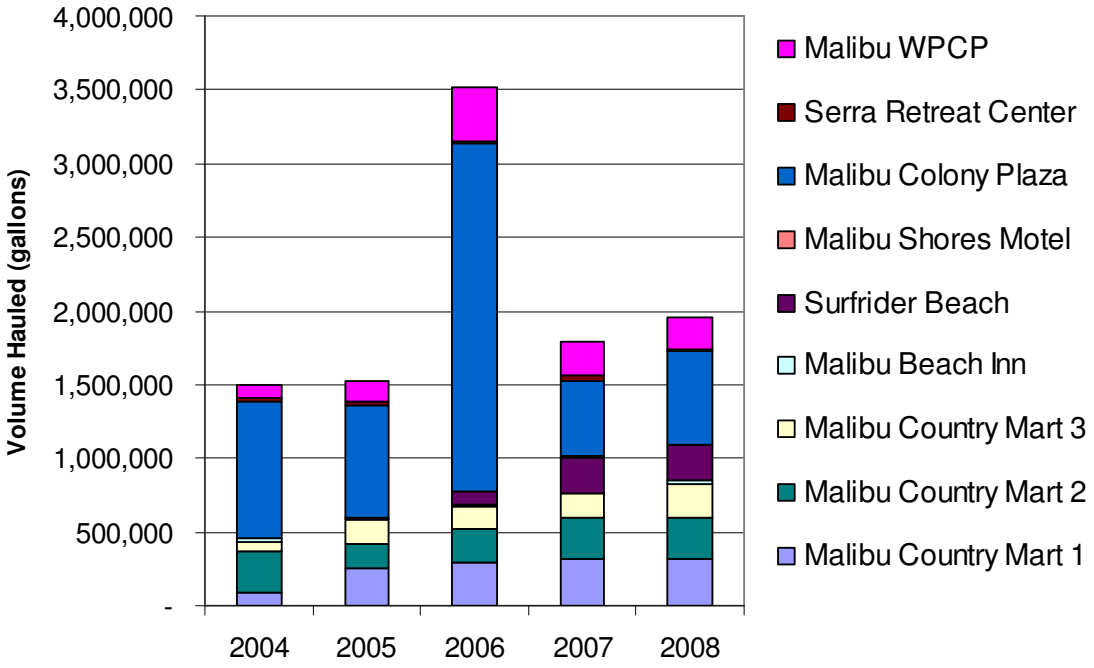


Figure 3. Septic waste hauling trend for Malibu Civic Center area outlines continual rise in waste hauling.



A breakdown of annual hauling by discharger is shown in Figure 4. Most septic waste hauled off-site came from Malibu Colony Plaza, Malibu WPCP, MCM I, MCM II, and MCM III. Septic waste hauling records for all three Malibu Country Marts show increasing hauling trends since 2004.

Figure 4. Combined annual septic waste hauling for select dischargers. Three facilities with relatively insignificant hauled volumes included in Figure 3 are excluded here. The large spike in hauled waste in 2006 from Malibu Colony Plaza was due to the completion and start-up of the Winter Canyon Wastewater Treatment Plant. The plant was unable to meet the effluent limitations during its start-up period and the waste had to be hauled off-site for treatment.



In 2004, about 6% of generated waste within the study area was hauled off-site for treatment, and this increased to 7% in 2008. Certain dischargers contribute much more to the percent of annual hauled septic waste to total waste flows than others. For example in 2008, Malibu Colony Plaza hauled 41% of their total waste flow off-site, MCM III hauled 23.2% of their total waste flow off-site, and MCM II hauled 16% of their total waste flow off-site. More data on annual percentages of septic waste hauled are included in Appendix A.

5. Septic Pumping and Hauling Regulations

Regional Board staff also reviewed regulations related to the pumping and hauling of septic waste. The firms that engage in the business of cleaning of septic tanks, chemical toilets, cesspools, sewage seepage pits, or disposing of the cleanings are regulated under California Health and Safety Code Section 117400-1177450. These firms must register with the local health officer before they can engage in these activities. In Los Angeles and Ventura counties, the county health officers regulate these firms. A public information bulletin from the City of Malibu

DRAFT JULY 31 2009

lists five firms that are engaged in hauling septic waste in the area. They are A & B Malibu Pumping, County Sanitation Company, Ely Jr's. Pumping, McDermott Pumping and W.A.S.T.E.C. All these firms have valid registrations from Los Angeles County Environmental Health. The registrations are good for one year and their vehicles are scheduled for annual inspection each June. The vehicles are inspected to make sure that they are not leaking, that their openings can be tightly closed and that the pumps are functioning properly. The inspectors also make sure that the drivers of the trucks are trained to handle septic waste properly. In the case of a spill, the drivers must make sure that the discharge is contained and the spill area properly sanitized.

There is one recorded complaint against septic waste haulers in the Civic Center area. Residents complained about an odor caused by septic wastes being transferred from a "milk run" truck to a bigger truck for disposal. There are no regulations related to the transfer of waste from one truck to another. However, City of Malibu local health officers directed the truck drivers to transfer waste at locations away from residences to mitigate the odor nuisance.

To further gather information regarding the transportation of septic waste, two Regional Board staff conducted a drive-through type of inspection on June 16, 2009. They observed waste being pumped from one of the dischargers in the study area. The observations of that inspection are documented in the inspection report included as Appendix B.

6. Carbon Footprint Analysis

i. Sources of Data

Three pumping companies do the majority of septic pumping and hauling in the City of Malibu: Ely Jr's Pumping, A & B Malibu Pumping, and McDermott Pumping. Regional Board staff interviewed representatives from the pumping companies to gather information on the types of trucks used to haul waste and the frequency of waste pick-up done in the City of Malibu. Regional Board staff used this information to calculate the carbon footprint. A carbon footprint analysis was done to determine the impact of septic waste hauling trucks on climate change. A reasonable estimate of carbon dioxide emissions from a truck is based on the miles traveled per trip, the miles driven per gallon of fuel burned, and the amount of carbon dioxide generated per gallon of fuel burned. Miles per gallon estimates were based on truck information provided by each pumping company, and miles per trip estimates were based on the distance from the company's headquarters to the pumping sites, pumping sites to the disposal location, and disposal location back to headquarters.

ii. Data Analysis

Regional Board Staff used the data obtained from septic waste hauling contractors and septic waste hauling information from monitoring reports to develop Table 2.

DRAFT JULY 31 2009

Table 2. Tons of carbon dioxide produced each year by the three main septic waste pumping companies in Malibu.[4]

Pumping Contractors	Round trip Route (miles)	MPG	Frequency[5] (days/week)	# Trucks	Tons CO2 per year
A&B Malibu Pumping	67	6	3	1	19
Ely Jr's. Pumping	178	6	5	2	171
McDermott Pumping	64	6	5	2	62
				sum	**252**

Diesel engines produce approximately 22.2 pounds of carbon dioxide per gallon of fuel burned according to *Emission Facts: Average Carbon Dioxide Emissions Resulting from Gasoline and Diesel Fuel.*[6] The diesel trucks used for hauling are estimated to get anywhere from four to ten miles per gallon, but more often on the lower end of that scale. Due to constant stop and go driving on the Pacific Coast Highway, six miles per gallon is used for the calculation. The result of 252 tons of carbon dioxide produced per year from septic waste hauling within the study area is an estimate (see footnote 5).

Manhattan Beach, California, is a coastal city with almost three times the population of Malibu, and the city inventories its emissions. In 2005, Manhattan Beach officials calculated 6,245 tons of carbon dioxide were released into the atmosphere. The inventory includes emissions associated with city operated facilities and parks, vehicle fleet fuel usage, employee commute emissions, water and sewage pump stations, street lights, and traffic signals[7]. If the City of Manhattan Beach reduced its emissions by 252 tons per year (estimated amount of CO_2 produced from hauling in Malibu per year), this would equate to a 4% decrease in carbon dioxide emissions from municipal activities.

iii. Implications

The California Air Resource Board, Local Government Action for Climate Change, does not have standards for Greenhouse Gas Emissions for each municipality at present. Most actions taken by the municipalities are voluntary. Some cities such as Manhattan Beach have conducted an inventory of Greenhouse Gas Emissions from their municipal activities for the purpose of studying how to reduce such emissions, and help meet Kyoto Protocol type goals.

[4] Information gathered from interviews with Ely Simental of Ely Jr's' Pumping and Amy McDermott of McDermott Pumping Company.
[5] Both trip frequency and the number of trucks in service at once were determined from conversations with representatives from pumping contractors. The representatives could only provide educated guesses regarding trip frequency and average number of trucks out at once.
[6] http://www.epa.gov/oms/climate/420f05001.html
[7] http://www.ci.manhattan-beach.ca.us/Index.aspx?page=1510

DRAFT JULY 31 2009

Although currently the State of California does not have a mandate base for carbon dioxide emissions, eliminating septic waste hauling in the City of Malibu has the potential to lower greenhouse gases emitted from Civic Center activities.

7. Discussion of Spills in the Study Area

Another manner in which an illicit discharge occurs is spilling of septic waste. Regional Board staff gathered information regarding spills in the City of Malibu from the Los Angeles County Department of Public Health's sewage discharge incident report webpage. Additional data came from the California Integrated Water Quality System (CIWQS) and the Office of Emergency Services (OES) databases. The information from these databases includes the location, time and duration of the spill, the quantity of sewage spilled, the quantity of sewage contained, and the quantity of sewage that entered a drain or surface water. It also lists the cause of the spill and what remedial action was taken.

From August 2006 through March 2009, forty-two spill incidents were reported in the City of Malibu, for a combined discharge of nearly 15,000 gallons of sewage. Although only three of these spills were within the study area, uncontrolled illicit discharges are another common problem with septic systems. Sewage spills from septic systems can result from a variety of causes, yet the majority of spills are a result of poor management of the OWDS. Six of the reported spills involved discharge to either a storm drain or surface water. The spill incidents that occurred in the City of Malibu are included as Appendix C.

8. Conclusion

Our study shows that the volume of waste generated by the facilities in our study area has increased since 2004 by 15%. Consequently, septic waste hauling has increased at an even greater rate, with 2008 values 29% higher than 2004. Currently within the study area, 7% of the annual waste flow is pumped and hauled off site for disposal. Because of the pumping frequency and volumes of waste involved that is hauled off-site, Regional Board staff concludes that the waste is being hauled off site for disposal and not just part of regular septic system maintenance.

Our study also shows that the ongoing practice of frequently hauling septic waste off-site emits an estimated 252 tons of carbon dioxide per year. All vehicles on the road contribute to greenhouse gas emissions, but tanker trucks contribute much more due to their poor miles per gallon rating, and because they run on diesel fuel.

Wastewater flows in the Civic Center area have been increasing consistently each year. Many of the discharge sites are constrained by hydrogeologic conditions mentioned earlier, making them unsuitable for disposal of high flows of wastewater. Many commercial facilities produce wastewater flows at rates that exceed their capacity to discharge on-site. These dischargers rely on pumping significant volumes into tanker trucks that haul liquid sewage and sludge via public roadways to communities that have sewer and wastewater treatment facilities.

DRAFT JULY 31 2009

Appendix A: Septic Waste Flow and Hauling Data

* See last page of Appendix A for assumptions used in data sets marked with an asterisk

Discharger	Year	Annual Total Hauled (gal)	Monthly Average (gal)	Annual Waste Flow (gal)	Daily Capacity (gal)	Monthly Capacity (gal)	Percent Annual Flow Hauled
Malibu Country Mart 1							
*	2004	85,000	7,083	3,116,916	18,000	540,000	2.73
	2005	255,000	21,250	3,331,380	18,000	540,000	7.65
	2006	290,000	24,167	3,126,045	18,000	540,000	9.28
	2007	320,000	26,667	3,002,800	18,000	540,000	10.66
	2008	320,000	26,667	3,022,084	18,000	540,000	10.59
Malibu Country Mart 2							
	2004	280,000	23,333	1,537,140	14,000	420,000	18.22
	2005	160,000	13,333	2,094,399	14,000	420,000	7.64
	2006	230,000	19,167	2,182,840	14,000	420,000	10.54
	2007	280,000	23,333	2,265,040	14,000	420,000	12.36
	2008	280,000	23,333	1,753,612	14,000	420,000	15.97
Malibu Country Mart 3							
*	2004	70,000	5,833	991,976	5,000	150,000	7.06
*	2005	163,000	9,417	1,388,200	5,000	150,000	11.74
	2006	150,000	12,500	1,249,280	5,000	150,000	12.01
	2007	160,000	13,333	1,292,000	5,000	150,000	12.38
	2008	230,000	19,167	991,576	5,000	150,000	23.20

DRAFT JULY 31 2009

Discharger	Year	Annual Total Hauled (gal)	Monthly Average (gal)	Annual Waste Flow (gal)	Daily Capacity (gal)	Monthly Capacity (gal)	Percent Annual Flow Hauled
Malibu Beach Inn							
	2004	17,000			12,000		
	2005	17,000			12,000		
	2006	15,000			12,000		
	2007	1,400			12,000		
	2008	26,700	2,225	964,600	12,000	360,000	2.77
Surfrider Beach							
	2004	2,500		1,105,817	2,250	67,500	0.23
	2005	2,500	208	968,801	2,250	67,500	0.26
	2006	86,853	7,238	652,985	2,250	67,500	13.30
	2007	245,430	20,453	764,006	2,250	67,500	32.12
*	2008	238,267	19,856	971,022	2,250	67,500	24.54
Malibu Civic Center							
	2004	8,000		502,514	16,000		
	2005			449,254	16,000		
	2006			1,602,989	16,000		
	2007			745,999	16,000		
	2008	4,800		899,056	16,000		

DRAFT JULY 31 2009

Discharger	Year	Annual Total Hauled(gal)	Monthly Average (gal)	Annual Waste Flow (gal)	Daily Capacity (gal)	Monthly Capacity(gal)	Percent Annual Flow Hauled
Malibu Shores Motel							
	2004			647,928	2,500		
	2005			647,928	2,500		
	2006	6,500		631,629	2,500		
	2007			625,494	2,500		
	2008	3,000		706,767	2,500		
Malibu Colony Plaza							
*	2004	918,500	76,542	5,000,000	45,000	1,350,000	18.37
*	2005	752,450	62,704	5,000,000	45,000	1,350,000	15.05
*	2006	2,359,700	196,642	5,753,176	45,000	1,350,000	41.02
	2007	515,600	42,967	6,099,999	45,000	1,350,000	8.45
*	2008	625,500	104,250	7,616,840	45,000	1,350,000	8.21

Discharger	Year	Annual Total Hauled (gal)	Monthly Average (gal)	Annual Waste Flow (gal)
Public Works Road Maintenance Yard No. 336				
	2004	0		123,218
	2005	0		126,929
	2006	0		81,943
	2007	1,500		96,573
*	2008	0		91,919

DRAFT JULY 31 2009

Discharger	Year	Annual Total Hauled (gal)	Monthly Average (gal)	Annual Waste Flow (gal)	Daily Capacity (gal)	Percent Annual Flow Hauled
Jack in the Box	2004	24,550	2,046	412,085	1,200	5.96
	2005	2,500	208	488,005	1,200	0.51
	2006	15,000	1,250	470,941	1,200	3.19
	2007	200	17	548,139	1,200	0.04
	2008	10,000	833	607,299	1,200	1.65
Malibu WPCP						
	2004	90,000	7,500	9,935,987	45,000	0.91
	2005	140,000	11,667	10,413,640	45,000	1.34
*	2006	369,280	30,773	9,750,365	45,000	3.79
	2007	222,720	18,560	11,584,832	45,000	1.92
	2008	215,540	17,962	10,707,434	45,000	2.01
HRL						
	2004			1,389,829		
*	2005			1,192,739		
*	2006	22,000		1,141,598		
	2007	11,000		1,251,311		
*	2008	8,000		923,572		

DRAFT JULY 31 2009

Serra Retreat Center	Date	Volume Hauled (gal/Q)	Monthly Hauled (gal/month)	Est Daily Discharge (gal/day)	Est. Monthly Discharge (gal/month)	Septic System Volume (gal)	Percent of total discharge/month hauled
	2004			720	21600	4266	
	Q1	6700	2233				10.3
	Q2	3750	1250				5.8
	Q3	9850	3283				15.2
	Q4	9000	3000				13.9
	Sum	**29300**	9767				
	2005						
	Q1	2200	733				3.4
	Q2	8000	2667				12.3
	Q3	8300	2767				12.8
	Q4	8050	2683				12.4
		26550	8850				
	2006						
	Q1	2700	900				4.2
	Q2	0	0				0.0
	Q3	0	0				0.0
	Q4	10000	3333				15.4
		12700	4233				
	2007						
	Q1	19400	6467				29.9
	Q2	10200	3400				15.7
	Q3	3000	1000				4.6
	Q4	3900	1300				6.0
		36500	12167				
	2008						
	Q1	4200	1400				6.5
	Q2	3200	1067				4.9
	Q3	3000	1000				4.6
	Q4	3000	1000				4.6
		13400	4467				

DRAFT JULY 31 2009

Assumptions for Sewage Hauling Data

Malibu Country Mart I:

2004, Q1: 10,000 gallons hauled, based on hauling data from Q2

2004, Q4: Waste flow estimated from Q3 volumetric flow rate

Malibu Country Mart III:

2004, Q4: Hauled volume chosen based on trends seen from Q1-Q3

2004, Q4: Waste flow estimated based on trends seen from Q1-Q3

2005, Q1: Hauled volume chosen to match that of Q2

2005, Q1: Waste flow estimated based on trends from Q1-Q3

Surfrider Beach:

2008, Q4: Q4 data missing, used average values from first three quarters.

Malibu Colony Plaza

2004: Annual waste flow estimated to be 5 million gallons

2005: Annual waste flow estimated to be 5 million gallons

2006, Q4: Hauled volume estimated to be the same as Q3

2006: Annual waste flow estimated as four times the value reported in Q4 (the only quarter with data provided)

2008: Annual waste flow estimated as two times the sum of Q1 and Q2 (Q3 and Q4 waste flow data missing)

Malibu WPCP

2006: No Q4 data, used average of other three quarters

Public Works Road Maintenance Yard No. 336

2008: Q3 and Q4 monitoring reports missing. Doubled the sum of data from Q1 and Q2

HRL

2005: No Q4 data; used average of other three quarters

2006: Only Q3 data available; used as data for other three quarters

2008: No Q3 data; used average of other three quarters

DRAFT JULY 31 2009

Appendix B:

INSPECTION REPORT

CITY OF MALIBU HAULERS

Name of Inspectors: Dionisia Rodriguez
Ryan Thacher

Date of Inspection: June 16, 2009

PURPOSE

In order to gather some information about septic waste hauling in the City of Malibu, we decided to conduct a drive-through the city. The following pictures were taken during that drive-through conducted on Tuesday, June 16, 2009 between 10:00 a.m. and 11:30 a.m.

OBSERVATIONS

We chose Malibu Colony Plaza as our primary destination due to the frequent pumping of large volumes of waste from its septic system as reported by quarterly Monitoring Reports. We believed this site would provide us the best probability of seeing a pumping truck. This photo is the entrance of Malibu Colony Plaza, at the intersection of the Pacific Coast Highway and Webb Way.

DRAFT JULY 31 2009

Behind the Malibu Colony Plaza, just off of Malibu Road, we observed an Ely Jr's Pumping truck.

The operator was preparing to pump, so we waited and watched to observe any notable information about this process.

DRAFT JULY 31 2009

While pumping, there was a very strong stench of raw sewage, and noise levels required raising your voice significantly for conversation. No spills or leaks were observed during the pumping process.

We were interested in observing pumping in a residential area, so we arbitrarily chose to drive north on Winter Canyon Road. At this location at 11:00 a.m. we encountered a large, unmanned sewage hauling truck belonging to Ely Jr's Pumping. We believe it was parked next to the leach field at Winter Canyon Road.

DRAFT JULY 31 2009

Upon further inspection, we noticed a length of piping with one end attached to the truck's tank, and the other laying freely on the side of the road.

DRAFT JULY 31 2009

Driving on the Pacific Coast Highway we saw three separate pumping vehicles belonging to McDermott Plumbing, apparently pumping residential septic tanks. We were only able to photograph one shown below at 11:20 a.m. It was unclear whether these trucks were performing routine sludge removal or pumping due to septic tank capacity problems.

CONCLUSION

We will use this inspection report for our technical memo regarding septic hauling in Malibu for the Malibu Prohibition case.

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Ryan Thacher

Report Approved by: Dr. Rebecca Chou

DRAFT JULY 31 2009

Appendix C: LA County Department of Public Health Sewage Discharge Incident Reports for Malibu, CA.

Date	Location	Discharged (gal)	Contained (gal)	Into Drain / River (gal)	Cause
3/21/2009	6625 Sea Level Drive, Malibu, CA, 90265	100	100	0	Blockage
3/4/2009	24255 Pacific Coast Highway, Malibu, CA, 90263	10	10	0	Blockage
3/3/2009	Castlerock and Wavecrest, Malibu, CA	10	10	0	Roots
1/13/2009	Malibu Cyn Rd, Malibu, CA, 90263	Unknown	Unknown	0	Pump failure
12/13/2008	6338 Paseo Canyon, Malibu CA, 90265	900	Unknown	Unknown	Unknown
10/6/2008	6225 Point Lechuza Dr, Malibu, CA, 90265	300	300	0	Unknown
9/8/2008	Malibu Cyn Rd, Malibu, CA, 90265	10000	Unknown	0	Rock
7/25/2008	28128 Pacific Coast Highway, Malibu, CA	Unknown			Possibly septic failure
7/21/2008	21150 Pacific Coast Highwway, Malibu, CA, 90265	10	10	0	Pump failure
7/19/2008	29600 Pacific Coast Highway, Malibu, CA, 90265	100	100	0	Septic tank overflow
7/19/2008	28128 Pacific Coast Highway, Malibu, CA	Unknown			
7/6/2008	29600 Pacific Coast Highway, Malibu, CA, 90265	100	100	0	Overflowing septic system
5/14/2008	28128 Pacific Coast Highway, Malibu, CA	125	125		
4/29/2008	28128 Pacific Coast Highway, Malibu, CA	300			Septic failure
4/25/2008	28128 Pacific Coast Highway, Malibu, CA	5	5		Clean-out
4/4/2008	28128 Pacific Coast Highway, Malibu, CA	5	5		Clean-out
3/3/2008	28128 Pacific Coast Highway, Malibu, CA	Unknown			From manhole/Septic failure
2/6/2008	21544 Rambla Vista, Malibu, CA, 90265	Unknown	All	0	Private line
2/5/2008	3917 Spray Lane, Malibu, CA,	100	Unknown	100	Roots
11/26/2007	6338 Paseo Canyon, Malibu CA, 90265	900	900	0	Influent at treatment plant

DRAFT JULY 31 2009

Date	Location	Discharged (gal)	Contained (gal)	Into Drain / River (gal)	Cause
11/19/2007	28128 Pacific Coast Highway, Malibu, CA	10			Blockage
10/7/2007	28128 Pacific Coast Highway, Malibu, CA	50			Septic failure
9/22/2007	28128 Pacific Coast Highway, Malibu, CA	Unknown			Septic overflow
9/21/2007	28128 Pacific Coast Highway, Malibu, CA	Unknown			From manhole
9/21/2007	28128 Pacific Coast Highway, Malibu, CA	Unknown	0		From manhole
9/21/2007	28128 Pacific Coast Highway, Malibu, CA	10			Septic failure
9/13/2007	28128 Pacific Coast Highway, Malibu, CA	200	200	0	Unknown
9/10/2007	28128 Pacific Coast Highway, Malibu, CA	150	0	150	Flowed into street
9/4/2007	18700 Topanga Beach Rd, Malibu, CA	200	170	30	Unknown
8/24/2007	28128 Pacific Coast Highway, Malibu, CA	200	200	0	Unknown
8/15/2007	28128 Pacific Coast Highway, Malibu, CA	Unknown			Reported by resident
7/20/2007	28128 Pacific Coast Highway, Malibu, CA	150	0	Ramirez Creek	Septic overflow
7/15/2007	Malibu Creek Plaza	50	0		Septic overflow
6/25/2007	22935 Pacific Coast Highway, Malibu CA	Unknown	Unknown	Unknown	Pump failure
5/16/2007	23440 Civic Center Way, Malibu, CA	200	200	0	Pump failure
5/13/2007	22761 Pacific Coast Highway, Malibu, CA	0	All	0	No discharge
5/9/2007	28128 Pacific Coast Highway, Malibu, CA	200	200	0	Unknown
5/1/2007	5939 Kanan-Dune Rd, Malibu, CA, 90265	1	1	0	Unknown
5/1/2007	28128 Pacific Coast Highway, Malibu, CA	200		Walnut Canyon Creek	Cracked pipe
4/30/2007	28128 Pacific Coast Highway, Malibu, CA	200		Walnut Canyon Creek	Sewage Spill
9/17/2006	28128 Pacific Coast Highway, Malibu, CA	Unknown			Repored by resident
8/19/2006	28128 Pacific Coast Highway, Malibu, CA	Unknown			Reported by Owner

DRAFT JULY 31 2009