

## **Staff Report**

# **Proposed Amendments to the Water Quality Control Plan for the Los Angeles Region (Basin Plan) to Incorporate Changes to the Total Maximum Daily Load (TMDL) for Bacteria in the Malibu Creek Watershed**

**September 14, 2004**

Prepared By  
Los Angeles Regional Water Quality Control Board

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## **1. INTRODUCTION**

On March 21, 2003, the United States Environmental Protection Agency (USEPA) established a Total Maximum Daily Load (TMDL) to reduce bacteria levels in Malibu Creek and Lagoon. The USEPA TMDL describes possible implementation measures, but does not include an implementation plan or schedule. On January 29, 2004, the Los Angeles Regional Water Quality Control Board (Regional Board) adopted an amendment to the Basin Plan to incorporate a TMDL for bacteria in the Malibu Creek watershed. If approved by the State Water Resources Control Board (State Board), the Office of Administrative Law, and USEPA, the Regional Board TMDL will supercede the USEPA TMDL. The Regional Board TMDL would allow 3 to 6 years for compliance with applicable bacteria water quality standards during dry-weather conditions, and 10 years for compliance during wet-weather conditions, or up to 18 years for wet weather, if an integrated water resources approach is pursued.

In addition, the implementation plan provides minimum prescriptive criteria for identifying high-risk areas, where onsite-wastewater treatment systems (OWTS) are potentially contributing to bacteria exceedances in the Malibu Creek watershed. Local agencies (city and county health departments and/or building departments) would be required to focus their efforts to monitor and require upgrades to OWTS located in high-risk areas. In addition to the areas falling within the high-risk areas, local agencies must also use their knowledge to identify other areas, outside of the high-risk areas, that are likely to impact surface water quality due to local conditions (e.g., fractured bedrock).

## **2. PURPOSE OF THIS DOCUMENT**

The purpose of this document is to seek clarification from the Board on the minimum prescriptive criteria for identifying high-risk areas and to offer alternative criteria for the Board's consideration.

## **3. COMPLIANCE WITH CEQA**

States must provide notice and opportunity for public hearing in accordance with the California Environmental Quality Act (Public Resource Code Section 21000). The Regional Board must comply with the requirements of the California Environmental Quality Act (CEQA) when adopting Basin Plan Amendments for water quality control. CEQA authorizes the Secretary of the Resources Agency to certify a regulatory program of a State agency as exempt from the requirements for preparing Environmental Impact Reports, Negative Declarations and Initial Studies if certain conditions are met. The process that the Regional

Board is using to adopt the proposed policy has received certification from the Resources Agency to be "functionally equivalent" to the CEQA process (Title 22, California Code of Regulations, Section 15251(g)). Therefore, the staff report for the Malibu Creek and Lagoon Bacteria TMDL, adopted on January 29, 2004, is a Functional Equivalent Document and fulfills the requirements of CEQA for preparation of an environmental document. The environmental impacts that could occur as a result of the proposed action are discussed in the Environmental Checklist.

An Environmental Checklist was prepared for the draft Malibu Creek Bacteria TMDL released on October 10, 2003. This Environmental Checklist was certified by the Regional Board's Executive Officer on October 10, 2003. Subsequently, the draft TMDL was revised and released on December 5, 2003. The Regional Board's Executive Officer certified this second Environmental Checklist on December 5, 2003, reflecting the revisions.

The changes proposed in this action are minor and relate only to how the local agencies prioritize their assessment and upgrades of OSWTs. The final requirements and time schedule remain unchanged, and the Environmental Checklist certified on December 5, 2003 reflects the potential impacts. A summary of the environmental impacts contained in the Environmental Checklist is provided below.

- **Earth.** Soil excavation during construction of storage, diversion or treatment facilities for storm water maybe required. In addition, the construction of storm water or wastewater collection and treatment facilities have the potential to, increase erosion during excavation. The proposal may result in changes in deposition and erosion of beach sands if a portion of stormwater is stored and diverted to treatment facilities, rather than discharging directly to the creek or lagoon.
- **Water.** A change in surface water movement, drainage and infiltration patterns may occur, if compliance with the TMDL is achieved in part through diversion of storm water from open channels to treatment facilities. Also, on-site retention and treatment of stormwater may increase infiltration.
- **Noise.** The proposal may result in temporary increases in existing noise levels, particularly in the case of construction of facilities for stormwater or wastewater management.
- **Land Use.** The proposal may result in the change of land use of an area to provide land for construction of facilities for storm water or wastewater management.

- **Risk of Upset.** If used for disinfection, chlorine gas could pose a significant health risk in the event of an accidental release. However, many alternative disinfection processes are available including treatments with sodium hypochlorite, ultra violet light and ozone treatment.
- **Housing.** Existing housing served by onsite wastewater treatment systems maybe subject to system upgrades.
- **Transportation/Circulation.** Depending on the implementation strategy chosen, the proposal may result in temporary alterations to present traffic patterns during construction of storm water diversion or wastewater treatment facilities.
- **Public Service.** The proposal may result in the need for increased maintenance of public facilities and, specifically, storm water diversion facilities or structural best management practices (BMPs) or a centralized wastewater treatment system. The proposal will result in the need for increased bacteriological monitoring at Malibu Creek and Lagoon to track compliance with the TMDL and increased regulation of onsite sewage treatment systems.
- **Utilities and Service Systems.** Depending on the method used to implement the TMDL, upgraded wastewater treatment systems or the construction and operation of a centralized wastewater treatment system may require additional power to operate pumps, treatment equipment and/or ancillary facilities. In order to achieve compliance with the TMDL, onsite sewage treatment systems that affect water quality in Malibu Creek and Lagoon may need to be repaired, upgraded, replaced and/or adequately maintained. In order to achieve compliance with the TMDL, storm water drainage systems may need to be upgraded or re-configured to divert and/or capture and treat a portion of storm water that affects water quality in Malibu Creek and Lagoon.
- **Recreation.** Implementation of the TMDL will have a positive impact on the quality and quantity of recreational opportunities by reducing the number of days that exceed bacteriological water quality objectives in Malibu Creek and Lagoon.

Many of the environmental adverse impacts listed above are short-term construction related impacts, which may be necessary to achieve the long-term environmental benefits of implementing the Region's bacteria objectives and the TMDL for Bacteria and thereby protecting the health of swimmers, surfers, and others who contact the water in, and adjacent to at Malibu Creek and Lagoon.

#### **4. BACKGROUND**

The initial draft of the Malibu Creek and Lagoon Bacteria TMDL was released for public comment on October 10, 2003. The Notice of Public Hearing was mailed to all interested persons on the Malibu Creek watershed mailing list, totaling 92 individuals and organizations. Copies of the proposed resolution, Basin Plan amendment, draft staff report with attachments, California Environmental Quality Act (CEQA) checklist, and Notice of Filing were posted on the Regional Board website. Furthermore, Notice of Public Hearing was published in the Los Angeles Times, a newspaper of general circulation, on October 10, 2003. Regional Board staff conducted a workshop and CEQA Scoping meeting to solicit comments on the October 10, 2003 draft TMDL. The meeting and workshop were held at the City of Malibu City Council Chambers on October 22, 2003. A second workshop was conducted at the regularly scheduled Regional Board meeting on November 6, 2003. All interested persons were given until November 26, 2003, to submit written comments to the Regional Board on the proposed TMDL.

The October 2003 draft TMDL and the CEQA checklist were revised in response to comments received and direction from the Board. The revised documents were released for public comment on December 5, 2003. The Notice of Public Hearing was mailed to all interested persons and organizations on the Malibu Creek watershed mailing list. Copies of the proposed resolution, Basin Plan amendment, draft staff report with attachments, California Environmental Quality Act (CEQA) checklist, and Notice of Filing were posted on the Regional Board website. Furthermore, Notice of Public Hearing was published in the Los Angeles Times, a newspaper of general circulation, on December 6, 2003. All interested persons were given until January 20, 2004 to submit written comments to the Regional Board on the proposed TMDL.

In response to comments, staff proposed additional clarifying language in the TMDL implementation plan presented to the Board on January 29, 2004. These changes added language to the basin plan amendment Table 7-10.3 to provide guidance to responsible jurisdictions and agencies on the elements to be included in the implementation workplan to be submitted to the Regional Board. These changes were to:

- (1) provide the responsible agencies with the option of conducting a reference watershed water quality study,
- (2) encourage an integrated water resources approach by providing an option of up to 18 years for implementation of wet-weather compliance,
- (3) submittal by responsible agencies of a description of all steps to be taken to meet the 3-year summer dry-weather compliance schedule within one year of the TMDL effective date,

- (4) specific conditions which must be met by responsible agencies when requesting an extension to the summer dry-weather and/or a wet-weather compliance date,
- (5) submittal of a written report by responsible agencies to the Regional Board staff which details the rationale and criteria used to identify high-risk areas where OWSTs have the potential to impact surface water, and
- (6) criteria designating OWTS located in areas where there is less than 10-ft separation between the bottom of the disposal field and historical groundwater as high risk.

On January 29, 2004, the Regional Board held a public hearing at the regularly scheduled Board meeting, conducted at the City of Simi Valley City Council Chambers, to receive comments on the draft TMDL, as revised. A strikeout copy of the TMDL, highlighting the most recent changes, a summary of comments received, and staff's responses to comments were made available to the public at the Board meeting, prior to the public hearing.

Following the public hearing, the Board made additional changes before adopting the TMDL (Resolution No. 2004-019). These changes were a logical outgrowth of the comments made and subsequent discussion by the Board members. The changes included adding additional minimum criteria for identifying high-risk areas or OWTS. The language was added to Attachment A of the Tentative Resolution, page 10, Table 7-10.3, paragraph 3. The additional criteria were:

“. . . areas where OWTS are located less-than-250 foot from a 303(d) listed waterbody, or located in areas of a documented nitrate or human bacteria problem in the surface or groundwater.”

On April 16, 2004 a draft of this staff report, revised tentative resolution and draft Basin Plan amendment were released and a Notice of Public Hearing were mailed to all interested persons on the Malibu Creek watershed mailing list. Copies of the staff report and Notice of Filing were posted on the Regional Board website. Furthermore, the Notice of Public Hearing was published in the Los Angeles Times on April 16, 2004. All interested persons were given until May 26, 2004, to submit written comments to the Regional Board on the proposed changes outlined in the draft staff report. Regional Board staff received comments for the County of Los Angeles Department of Public Works (LADPW). The Regional Board was scheduled to consider the proposed changes at the June 10, 2004 Board Meeting. However prior to the Board meeting the City of Malibu announced the release of its draft study entitled, "Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas in the City of Malibu California" referred to herein as "the Malibu Study." Action on this item was postponed to allow staff time to consider the Malibu Study.

The draft Malibu Study was made available to the public in June 2004. The purpose of the study was to evaluate the environmental impacts of the current and future level of OWTS in the Malibu Creek and Lagoon subwatershed. The study delineated the contributing areas and high-risk areas. The term "contributing areas" refers to the portion of an aquifer that flows from a source of recharge to an area of discharge (Stone Environmental Inc, 2004). The source of recharge in this instance is the Malibu alluvium and the area of discharge is Malibu Creek and Lagoon. High-risk areas are areas where OWTS have the greatest potential to impact ground or surface water. Examples of such areas include high-density subdivisions, soils with high permeability or areas with shallow water tables. The extent of the high-risk area may vary depending in the mobility and the persistence of the pollutant of concern. The high-risk area for bacteria in the Malibu study was delineated as that portion of the Malibu alluvium with a groundwater time of travel of less than 6 months (see Figure 3). The study used travel time in groundwater as a criteria for bacterial (Stone Environmental Inc, 2004). Pathogenic bacteria typically survive only for a few weeks to a few months outside of their hosts. A six-month time of travel was identified as the high-risk criteria on which the City of Malibu plans to focus the OWTS management (Stone Environmental Inc, 2004). OWTS within the high-risk area will be required to upgrade their systems as necessary to demonstrate compliance with applicable effluent limits or receiving water quality objectives (RWQCB, 2004).

The Malibu Study demonstrates that the boundaries of the contributing and high-risk areas vary substantially based on site specific geology, pollutant fate and transport and depending on whether the lagoon is breached or open. As shown in Figure 3 and 4, the setback for the stream may range from 300 ft to 1300 ft. for bacteria, and 300 ft. to 2600 ft. for nitrogen. The differences in the setback distances are also related to the differences between the fate and transport of bacteria and nitrogen in the groundwater. Bacteria concentrations are reduced primarily by die-off, while nitrogen concentrations are reduced primarily by denitrification.

Although the Regional Board staffs views this study as an excellent initial step, staff recommends that work continue to refine the estimated contributing areas for bacteria and nutrients. Specifically, the Regional Board staff recommended including site-specific conductivity and nitrogen transformation data, as well as, an extended calibration period for the model used to estimate the contributing and high-risk areas (RWQCB, 2004a).

## **5. CLARIFICATION**

Staff is seeking clarification on two sections of Resolution 2004-019, Attachment A as adopted by the Regional Board on January 29, 2004.



**Table 7-10.3, "1 year after the effective date of this TMDL"; paragraph 3.**

- Staff assumes that the “250-foot setback from a 303(d) listed waterbody” means a waterbody listed on the 303(d) list due to exceedances of bacteria. Waterbodies within the Malibu Creek watershed are listed on the 303(d) list for a variety of pollutants including bacteria, nutrients, algae, heavy metals, and pesticides. Since this TMDL only addresses bacteria impairments, staff assumes that the reference to a 303(d)listed waterbody is a reference to waterbodies listed due to exceedances of bacteria water quality objectives. For informational purposes Figures 1 and 2 depict the Malibu Creek water bodies listed on the 303(d) list for bacteria and for nutrient related impairments, respectively. [Note: If the Regional Board decides that prescriptive criteria are no longer preferred, then clarification is not needed].
- Regional Board staff recommends a clarification in the requirement for OWTS in high-risk areas. The amendment as adopted by the regional Board in January (Table 7-10.3, row 2, paragraph 3) would appear to require OWTS in high-risk areas to install disinfection systems. However, staff recognizes that alternative systems (e.g., expanded leach fields, mound systems, etc.) may also be used to meet bacteria water quality objectives. Staff offers the following language for the Board's consideration:

"...OWTS located in high-risk areas are subject to upgrades as necessary to demonstrate compliance with applicable effluent limits and/or receiving water quality objectives."

**6. ALTERNATIVES ANALYSIS:**

**Reconsideration of Prescriptive Criteria for Identifying High Risk Areas**

Staff is requesting the Board to re-consider the minimum prescriptive criteria for identifying high-risk areas or OWTS. Staff acknowledges that local agencies will need to assess which of the approximate 2,400 OWTS within the watershed are most likely contributing to bacteria impairment. However, establishing prescriptive minimum criteria may divert local agency resources from other areas that may in fact be of greater risk due to local, site-specific conditions. If minimum prescriptive criteria are preferred, staff offers alternative criteria that are founded in existing codes and regulations. Staff notes that a 600-foot setback from a 303(d) listed waterbody is being considered by State Board staff involved in developing management / risk levels to be incorporated into the statewide regulation of OWTS. However, these regulations are in the development stage,

and final adoption is not expected for several months. Staff has also provided non-prescriptive alternative criteria for the Board's consideration. These alternatives are either codified in other state and local regulations or are consistent with the Draft General WDRs prepared by Regional Board staff.

Staff identified four alternatives for establishing minimum criteria for identifying high-risk areas for the Malibu Creek Watershed. These options and a brief discussion of the potential consequences of each are provided as follows:

#### *Watershed-wide High Risk Criteria*

- 1) No action –The amendment will be forwarded as is to the State Water Resources Control Board for approval. The public will have another opportunity to comment on the draft TMDL at a workshop, prior to the State Board's action.
- 2) No minimum prescriptive criteria – This alternative would give the responsible agencies the opportunity to identify the high-risk areas based on local knowledge and site specific studies. As an initial step, staff suggests that the responsible jurisdiction screen for high-risk areas by conducting weekly surface water monitoring upstream and downstream of OWTS clusters. Areas where bacteria and/or nitrogen levels are statistically higher in downstream samples versus upstream samples would be considered high-risk. A groundwater monitoring study, similar to the Malibu Study, could be performed to identify the boundaries of the contributing and high-risk areas. The Regional Board staff would expect any groundwater risk assessments to contain similar elements (e.g., scope of work) as the risk assessment conducted by the Malibu Study.

The benefit of such a study is that it provides the Regional Board with a scientifically based assessment that considers the site-specific characteristics of the study area and the receiving waterbody. It protects homeowners from being required to install potentially expensive upgrades in cases where they are not warranted and ensures that upgrades will result in water quality improvements. However, this alternative may, especially where groundwater monitoring is performed, require the responsible jurisdictions undertake a potentially costly study, which may take in excess of one year to complete.

- 3) Revised Prescriptive Criteria based on California Plumbing Code- Replace the existing minimum prescriptive criteria with 100 feet from Malibu Creek, Malibu Lagoon, or any surface water tributary thereto<sup>1</sup>. This alternative would identify "high risk OWTS" as systems in the Malibu Creek watershed that do

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<sup>1</sup> Staff would recommend that any setback be applied to all waterbodies because many waterbodies in the watershed have not been adequately monitored for bacteria. Local agencies are encouraged to monitor to confirm impairment before requiring system upgrades.

not meet the minimum siting criteria for seepage pits or cesspools. (horizontal distances from a streams) as contained in the California Plumbing Code and the local plumbing codes (see Table 1 on page 9). The criteria for seepage pits was selected as it provides the most stringent set-back criteria of all systems (e.g., setback criteria for septic tanks and leach fields is 50 feet from a surface water as compared to 100 feet for seepage pits). This alternative adopts a number that represents widespread consensus among health department officials and incorporates a margin of safety, by applying the most stringent setback to all types of systems. Under this alternative, this setback would be applied to all surface water bodies that are tributary to Malibu Creek or Lagoon, and would not be limited to waterbodies specifically listed on the 303(d) list. However, it should be noted that a 100 foot setback may not be protective in all areas. As demonstrated by the groundwater risk assessment conducted by the City of Malibu, OWTS areas contributing bacteria to a stream are dependent on site specific conditions. For example, the bacteria contributing area for the Malibu Lagoon changes based on whether the lagoon is closed or breached. In addition, when the lagoon is closed, the contributing areas in some stream segments are farther than 100 feet. Although the lagoon is a special case because of the tidal dynamics, it does illustrate that a “one size fits all” approach may not be appropriate for some waterbodies.

4) Revised Prescriptive Criteria based on Tentative General Waste Discharge Requirements for Residential Onsite Wastewater Treatment Systems

Replace the existing minimum prescriptive criteria with those contained in the most recent draft of the tentative WDRs for residential OWTS: High Risk Discharges are defined in the tentative WDRs as discharges from residential onsite wastewater treatment system:

- having less than a five foot vertical separation to groundwater, or
- having less than a 600 foot setback from a water body identified as impaired under section 303(d) of the Clean Water Act, or
- having less than 600 foot setback from a water supply well where the subsurface consists of alluvial material, or
- having less than 900 foot setback from a water supply well where subsurface geology consist of fractured bedrock, or
- located in an area with documented nitrate or bacterial contamination of the surface or groundwater, or
- located in an area designated as a significant aquatic, ecological area in the Basin Plan.

This definition of high-risk discharges contained in the tentative WDR is based on the latest informal draft of the State OWTS regulations. The informal draft State OWTS regulations are still in the formative stages and

have not been released for public comment. The criteria contained in the informal draft are likely to change prior to final adoption.

## 7. STAFF RECOMMENDATION

Staff recommends Alternative 2 with the clarifying language provided in Section 5. Alternative 2 is the recommended alternative for providing a minimum standard for identifying high-risk areas where OWTS have a potential to impact surface waters in the Malibu Creek watershed. Alternative 2 should provide a higher assurance that systems contributing to water quality impairments will be upgraded and unnecessary upgrades will be avoided. Using a prescriptive requirement such as a 250 or 100-foot setback assumes that the site conditions are uniform throughout a given jurisdiction; which is not the case. A groundwater risk assessment that considers the site-specific conditions such as subsurface geology and OWTS density can more accurately assess impacts from OWTS. Therefore staff recommends the following change to Table 7-10.3, paragraph 3 of the adopted basin plan amendment:

Delete the following language:

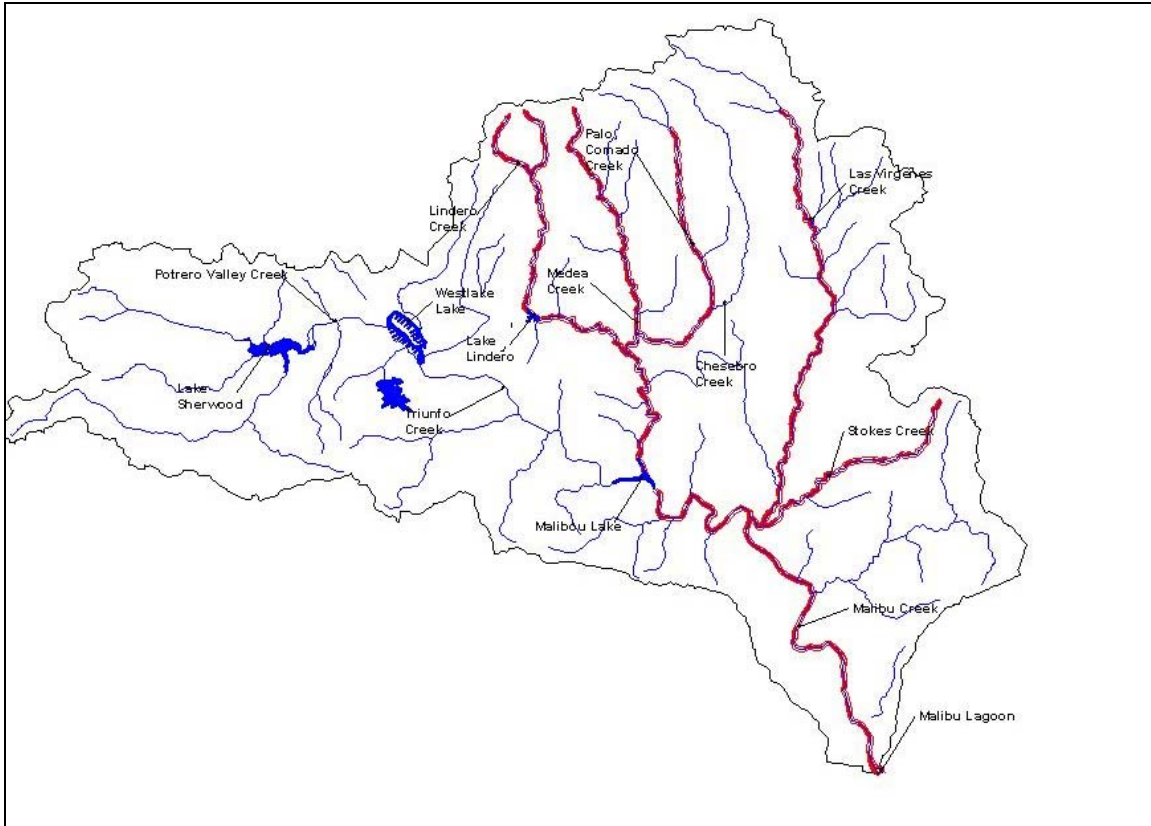
- ~~3. Local agencies regulating on-site wastewater treatment systems shall provide a written report to the Regional Board detailing the rationale and criteria used to identify high-risk areas where on-site systems have a potential to impact surface waters in the Malibu Creek watershed. On-site wastewater treatment systems located in areas where there is (1) less than 10 ft separation between the bottom of the disposal field and historical groundwater, or (2) located less than 250 foot setback from a 303(d) listed waterbody, or (3) located in areas of a documented nitrate or human bacterial problem in the surface or groundwater are considered high risk and are subject to disinfection requirements unless further assessment demonstrates that the systems are not impacting surface waters in the Malibu Creek watershed. Such demonstrations may include regional or site-specific groundwater monitoring or weekly upstream/downstream surface water monitoring.~~

Insert the following language:

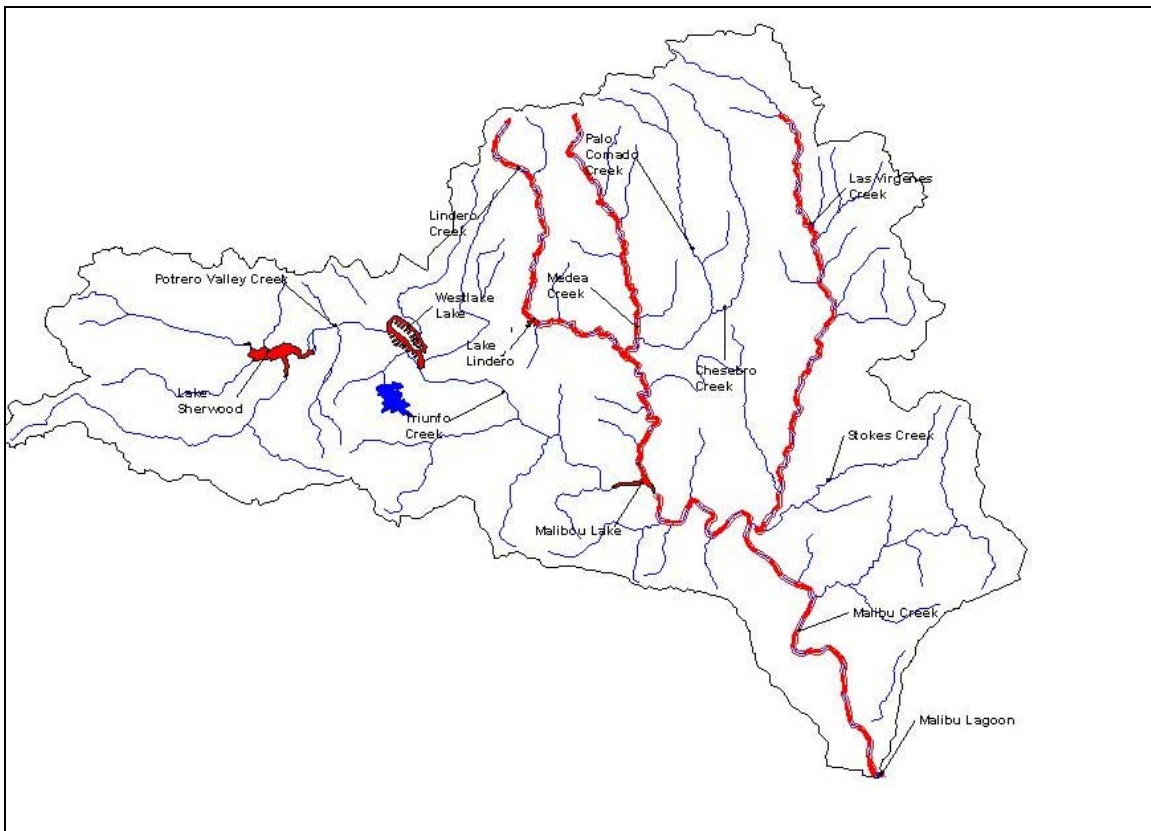
3. Local agencies regulating on-site wastewater treatment systems shall provide a written report to the Regional Board's Executive Officer detailing the rationale and criteria used to identify high-risk areas where on-site systems have a potential to impact surface waters in the Malibu Creek watershed. Local agencies may use the approaches outline in (a) and (b), or an alternative approach as approved by the Executive Officer.

- (a) Responsible agencies may screen for high-risk areas by establishing a monitoring program to determine if discharges from OWTS have impacted or are impacting water quality in Malibu Creek and/or its tributaries. A surface water monitoring program demonstration must include monitoring locations upstream and downstream of the discharge, as well as a location at mid-stream (or at the approximate point of discharge to the surface water) of single or clustered OWTS. Surface water sampling frequency will be weekly for bacteria indicators and monthly for nutrients.
  - (b) Responsible agencies may define the boundaries of high-risk or contributing areas or identify individual OWTS that are contributing to bacteria water quality impairments through groundwater monitoring or through hydrogeologic modeling as described below:
    - (1) Groundwater monitoring must include monitoring in a well no greater than 50-feet hydraulically downgradient from the furthestmost extent of the disposal area, or property line of the discharger, whichever is less. At a minimum, sampling frequency for groundwater monitoring will be quarterly. The number, location and construction details of all monitoring wells are subject to approval of the Executive Officer.
    - (2) Responsible agencies may use a risk assessment approach, which uses hydrogeologic modeling to define the boundaries of the high-risk and contributing areas. A workplan for the risk assessment study must be approved by the Executive Officer of the Regional Board.
4. OWTS located in high-risk areas are subject to system upgrades as necessary to demonstrate compliance with applicable effluent limits and/or receiving water objectives.

**Figure 1 - Bacteria Impaired Streams**

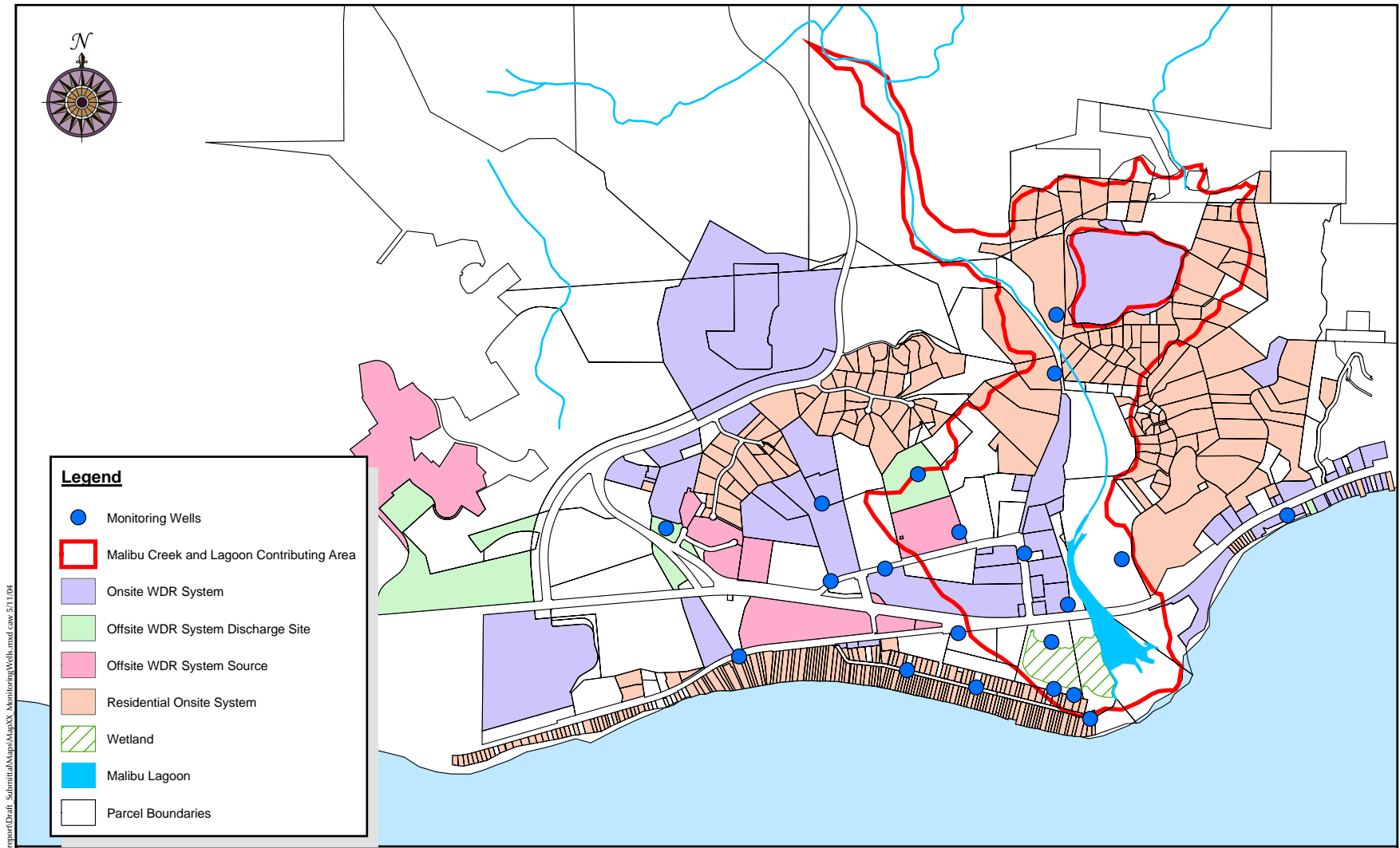


**Figure 2 - Nutrient Impaired Waterbodies**



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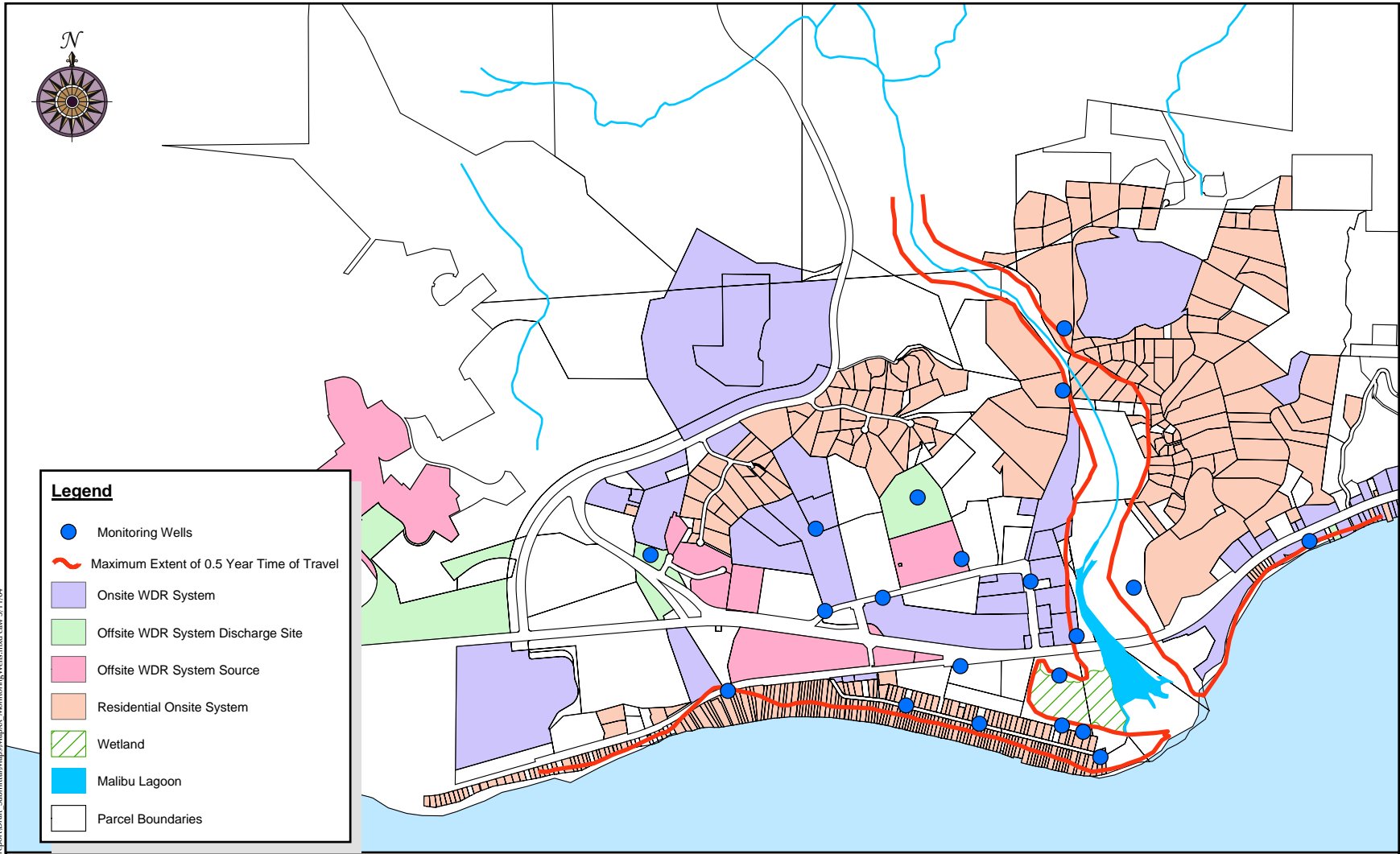


**MAP 12: NITROGEN RISK ASSESSMENT - MALIBU CREEK AND LAGOON CONTRIBUTING AREA**  
 Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas  
 City of Malibu, California

Source: Parcels Boundaries, LA County; Study Area Boundary, SEI; Borings from City of Malibu files;  
 Well locations from various Geological studies in Malibu, CA (Complete list of references available from SEI)

Figure 3 - City of Malibu High-Risk Area for Nitrogen

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**MAP 13: BACTERIA RISK ASSESSMENT - 0 TO 0.5 YEAR TIME OF TRAVEL BOUNDARY**  
 Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas  
 City of Malibu, California

Source: Parcels Boundaries, LA County; Study Area Boundary, SEI; Borings from City of Malibu files;  
 Well locations from various Geological studies in Malibu, CA (Complete list of references available from SEI)

Figure 4 - City of Malibu High-Risk Area for Bacteria

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**Table 1 - Location Distance Criteria for OWTS**

Plumbing Code	Required Distance (feet) <sup>2</sup>		
	Streams	Water Supply wells	Groundwater
State of California <sup>3</sup>	100	150	10
City of Los Angeles <sup>4</sup>	100	150	10
County of Los Angeles <sup>5</sup>	100	150	10

<sup>2</sup> The criteria used is for seepage pits or cesspools is used for the minimum distances in this table.

<sup>3</sup> California Plumbing Code, California Code of Regulations Title 24, Part 5

<sup>4</sup> City of Los Angeles Municipal Code, Section 94.1600.1, Appendix K.1 Private Sewage Disposal

<sup>5</sup> Los Angeles County Code, Title 28 Plumbing Code, Appendix K1 Private Sewage Disposal - General

## **8. REFERENCES**

Stone Environmental Inc., 2004, Draft Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas in the City of Malibu California.

Los Angeles Regional Water Quality Control Board, 2004a, Memorandum of Understanding between LARWQCB and the City of Malibu regarding Onsite Wastewater Treatment Systems.

Los Angeles Regional Water Quality Control Board, 2004b, Letter to the City of Malibu entitled, Review of the Final draft Report Risk Assessment of Decentralized Waste Water Treatment Systems in high Priority Areas in the City of Malibu, dated July 14, 2004.