California Regional Water Quality Control Board, Los Angeles Region

STAFF REPORT

2008-2010 Triennial Review:

Presentation and Selection of Basin Planning Issues

January 19, 2010

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I. INTRODUCTION

The Water Quality Control Plan for the Los Angeles Region (Basin Plan) contains water quality standards for the Los Angeles Region. In California, water quality standards include designated beneficial uses for surface and ground waters, narrative or numeric water quality objectives to protect those beneficial uses, and a policy to maintain high quality waters (i.e., antidegradation). Basin Plans also include implementation plans for water quality objectives, through various regulatory programs including total maximum daily loads (TMDLs), waste discharge requirements (WDRs), NPDES permits, waivers, and remediation programs among others. Basin Plans fulfill statutory requirements for water quality planning in California Water Code (CWC) section 13240 and the federal Clean Water Act (CWA) section 303(c).

The Regional Board first adopted an interim water quality control plan in 1971. After several revisions, the first comprehensive Basin Plans for the region (one for the Santa Clara River Basin and one for the Los Angeles River Basin) were adopted by the Regional Board and approved by the State Board in March 1975. Subsequently, several amendments were adopted between 1976 and 1991. A comprehensive update to the Basin Plans was adopted in 1994, at which time the two Basin Plans were combined into one concise Basin Plan for the entire region.

Both State and federal laws mandate the periodic review, and if necessary, update of Basin Plans. Federal law [CWA section 303(c)(1)] requires that a State's water quality standards be reviewed every three years – a process known as a triennial review. The primary purpose of a triennial review is to review water quality standards and take public comment on issues the Regional Board should address in the future through the Basin Plan amendment process. The triennial review process may or may not result in amendments to the Basin Plan over the course of the 3-year review cycle.[1] At the start of the triennial review process the Regional Board develops and adopts a prioritized list of Basin Planning issues that it determines should be investigated over the next three years. This list of priorities is then transmitted to the State Board and the US EPA. This report and the Board resolution, when adopted, as well as any subsequent Basin Plan amendments, fulfill State and federal requirements for triennial review of water quality standards. The triennial review process is cyclical, meaning that at the end of one three-year review period, the review process begins again with the next three-year period. In this sense, the review process is on-going, reflecting the continuing planning process followed by the Water Boards. It does not conclude with the Regional Board's adoption of Basin Planning priorities or with any individual Basin Plan amendment that may be prioritized in the review process. Moreover, a triennial review is not the only occasion where Basin Plan modifications are contemplated. Indeed, since 1994, fifty-nine Basin Plan amendments have been adopted including revisions to objectives and beneficial

[1] As stated, the identification of an issue during a triennial review does not necessarily mean that any amendment will be made to the Basin Plan. The decision on whether or not to proceed with a proposed Basin Plan amendment is only made after the Regional Board reviews the technical and legal considerations associated with an issue and determines that development of a Basin Plan amendment is supported by evidence and appropriate. Amending the Basin Plan involves preparing a staff report outlining alternatives and environmental impacts and, in the case of water quality standards, economic considerations; a CEQA environmental checklist; and the actual amendment (i.e., changes to the Basin Plan). Amendments are mailed out for public review 45 days in advance of the public hearing, typically held at a regularly scheduled Regional Board meeting. The Regional Board must adopt amendments, and then transmit them for review and approval by the State Board and Office of Administrative Law, as well as by US EPA if the amendment involves surface water quality standards or implementation provisions for these standards.

uses, new and revised implementation plans and policies, and TMDLs, some in the context of a triennial review, and others outside that process.

The following staff report briefly summarizes Basin Planning issues identified by Regional Board staff and those presented by stakeholders for consideration during this Triennial Review. These issues were presented to the Regional Board during a publicly held Board workshop on April 2, 2009, to solicit Board members' preferences on which to address. A discussion of the resources available for Basin Planning projects is also provided. Stakeholder issues fell under three broad classifications: 1) review of beneficial uses, 2) review of water quality objectives and 3) development of implementation provisions, and were grouped into twenty-four different categories (see Appendix 1). Basin Planning issues recommended by staff were selected based on outstanding issues from the 2005-2007 Triennial Review priorities list, which included Basin Planning priorities from Regional Board staff and management along with input from key staff in U.S. EPA Region IX.

Upon consideration of stakeholder concerns and staff recommendations, the Regional Board provided guidance on the focus of this Triennial Review period (see Table 4). Based on this guidance, and in consideration of available staff resources, staff recommends that three issues are addressed over the next three years. This would require an estimated three "personnel years" (3 PYs) from the Basin Planning Program. The Basin Planning Program currently operates with 1.5 PYs per year, and 4.5 PYs over a three-year period. Basin Planning PYs are primarily funded from the Water Boards' General Fund allocations from the State of California. The Water Boards do not have authority to expend funds from fees or penalty assessments for Basin Planning. The Water Boards likewise do not have authority to expend funds from other special fund sources or federal grants for Basin Planning, unless specifically authorized by the special fund source or grant. One and a half (1.5) Basin Planning PYs are required to complete ongoing projects, participate in statewide Basin Planning initiatives, and support other Board programs, leaving three Basin Planning PYs available over the next three years to address the projects selected during this Triennial Review.

The report is organized as follows. Section II provides background on the triennial review process, including public participation components. Section III, presents the issues addressed during the 2005-2007 period. Section IV presents issues being addressed during the current triennial review period. Section V discusses the Basin Planning issues initially recommended by staff for consideration during this Triennial Review. Section VI summarizes stakeholder issues under twenty-four categories, including the top three priorities as presented by some stakeholders in response to staff request to do so. Section VII identifies the Regional Board's preferences, elicited during the Board workshop, on which issues should be addressed, along with staff recommendations for prioritization.

II. TRIENNIAL REVIEW PROCESS

Section 303(c)(1) of the federal Clean Water Act contains a requirement for States to review water quality standards at least once every three years, in a process known as a triennial review. This requirement is based upon recognition that the science of water quality is constantly advancing; its purpose is to ensure that standards are based on current science, methodologies, and US EPA mandates, recommendations and

guidance. The triennial review does not involve the revision of all standards every three years. Federal law only requires modifications "*as appropriate*". Modifications to the Basin Plan are usually made to incorporate new scientific and technical information, in response to EPA's mandates, recommendations and guidelines, to address stakeholder concerns, where it is appropriate to do so, and to address issues identified in due course by the Regional Board itself or its staff during the regular course of business.

The availability of new scientific information or methodological developments may not directly translate into a change to standards during a triennial review cycle. The state of the science also has to be taken into consideration, as is currently the case with the region's bacteria objectives for example. In this case, it would be premature to modify standards while scientific understanding is actively evolving and new methodologies are being developed and tested (i.e. on-going research on new criteria, including local epidemiological studies and methodological developments in the fields of rapid indicators and microbial source tracking). Moreover, notwithstanding the evolution of applicable scientific knowledge or policy considerations, federal or state law or regulations may preclude changes that might otherwise be deemed desirable by stakeholders. Therefore, it is common for standards to remain unchanged as a result of a triennial review process. Even where changes are appropriate and lawful, the State's Continuing Planning Process, and other federally approved documents, recognize that the process of modifying water quality standards is resource intensive, and typically limited by staffing and budgetary constraints. As such, the Triennial Review process assists in identifying the most important or compelling projects and allows the States to prioritize those as resources allow.

This federal requirement for a triennial review of the Basin Plan is complemented by the provision in Section 13240 of the Porter-Cologne Water Quality Control Act that requires a periodic review of the Basin Plan and allows for revisions.

The triennial review occurs in three phases. During the first phase, the Board reviews water quality standards and identifies issues for possible Basin Plan amendments. In the second phase, the Board prioritizes the standards-related issues that will be further researched and addressed through subsequent Basin Plan amendments. Finally, during the third phase, the Board develops projects addressing these issues and adopts any resulting changes to the Basin Plan as individual Basin Plan amendments over the course of the three-year review period. Public input is a key component of each phase. Stakeholder input is solicited on issues of concern, on prioritization, and during the development of each individual Basin Plan amendment. The triennial review process may ultimately result in some amendments to the Basin Plan to adopt or modify water quality standards and implementation provisions.

The last triennial review was conducted from 2005-2007. The current triennial review began in the fall of 2008. On September 25, 2008, Regional Board staff sent out a solicitation letter to interested parties requesting data and information on water quality standards and other Basin Planning issues that they felt should be addressed for the Los Angeles Region, during the review. The comment submission deadline was November 10, 2008. In all, Regional Board staff received 68 comment letters representing various cities, counties, and coalitions; industry and agricultural interests; environmental organizations; water and sanitation districts; and private citizens. Stakeholder issues of concern contained in these comment letters were reviewed and summarized. A separate set of issues, which reflected staff recommendations, was also compiled. These issues

were selected based on outstanding issues from the 2005-2007 Triennial Review priorities list (see section IV). The fall solicitation and the reconsideration of previous priorities constituted phase I of this triennial review period.

On March 2, 2009 Regional Board staff noticed a public workshop to all interested persons. The notice was also posted on the Regional Board's website and published in the Los Angeles Times and the Ventura County Star on March 12, 2009 and March 14, 2009, respectively. The workshop was held on April 2, 2009, during a regularly scheduled Board meeting, with the purpose of providing the public and the Board members an opportunity to discuss and begin to identify priority Basin Planning issues to be addressed during the current triennial review period. Staff presented the Board with issues to be prioritized, which included those submitted by stakeholders as well as those identified by Regional Board staff. All stakeholders were provided the opportunity to present their top three priorities at the workshop. The Board was asked for guidance on which projects to select, taking into consideration the available staff resources.

Regional Board members were asked to consider a number of factors in determining projects to be carried forward. These included whether the project:

(i) Ensures protection of water quality and beneficial uses
(ii) Addresses and is consistent with legal requirements
(iii) Facilitates implementation of other Board programs
(iv) Provides regulatory flexibility
(v) Improves the clarity of the Basin Plan
(vi) Addresses concerns/needs of Board staff, EPA and/or stakeholders

Based on these considerations, the Regional Board indicated their preferences regarding which issues should be addressed. This was the second phase of this Triennial Review period, which will close upon the adoption of a resolution identifying the specific projects to be further considered during the current review period, at a public hearing scheduled for April 1, 2010.

III. PROJECTS ADDRESSED DURING THE PRECEDING TRIENNIAL REVIEW PERIOD

During the previous triennial review period (2005-2007) the Board acted on Basin Plan amendments some of which have increased protection of water quality and beneficial uses, and others which have provided greater flexibility for the regulated community.

Adopted Basin Plan Amendments

Variance Provision for Mineral Quality Objectives for Groundwater Basins with Designated Municipal and Domestic Supply (MUN) Beneficial Use

The Statewide Sources of Drinking Water Policy (State Board Resolution No. 88-63) broadly defines "sources of drinking water" as those water bodies with beneficial uses designated as suitable, or potentially suitable, for municipal and domestic supply (MUN).Through the policy, the State Board required that the Regional Boards designate all surface and ground waters as suitable, or potentially suitable, for municipal and domestic supply with certain exceptions, including the presence of elevated levels of total dissolved solids (TDS). Regional Boards were given the prerogative to apply the exceptions to water bodies in the region or to designate all water bodies as potentially suitable as municipal and domestic supply if they were not already so designated.

Most groundwater basins in the Los Angeles Region were already designated as existing or potential MUN in the Basin Plan, predating State Board's adoption of the Sources of Drinking Water Policy. Upon adopting the statewide policy into the Los Angeles Region Basin Plan in 1989, the Regional Board did not invoke any of the exceptions to designation for groundwater basins in the region. More recently, several requests were received from the regulated community and other interested parties to de-designate the Municipal and Domestic Supply (MUN) beneficial use from portions of groundwater basins. The primary justification given for these requests was the presence of naturally elevated levels of total dissolved solids (TDS) in the groundwater.

Though portions of some groundwater basins have poor mineral quality (i.e. high concentrations of TDS that exceed the policy's threshold of 3,000 mg/L), Regional Board staff recommended against de-designating the MUN use for these groundwater areas. Consideration was given to the increasing regional demand for water, periodic water shortages, controversy over imported water supplies, and current desalinization technology, all of which indicate that the groundwaters proposed for de-designation may be used directly or indirectly as water supplies at some future time.

Regional Board staff did recommend, however, a variance from the mineral quality objectives for groundwater basins - limited in application to coastal aquifers in situations where elevated concentrations of minerals are caused by natural sources due to an aquifer's proximity to the coast, including seawater intrusion, presence of marine sediments or tidal fluctuations. The Regional Board adopted this Basin Plan amendment on March 9, 2006.

Water-effect Ratios (WERs) to Modify the Copper Water Quality Objectives for Lower Calleguas Creek and Mugu Lagoon in the Calleguas Creek Watershed

A Water-Effect Ratio (WER) is a criteria adjustment factor accounting for the effect of site-specific water characteristics on pollutant bioavailability and toxicity to aquatic life. It is one of the tools used to develop site-specific objectives (SSO) for particular pollutants in a waterbody. The application of WERs can result in a higher (or lower) allowable

concentration of a constituent than the national criteria and/or Basin Plan objectives, while still providing an appropriate level of protection of beneficial uses. Higher allowable objectives can result in significant cost savings to the regulated community, and when developed in a technically sound manner, there is no cost to the environment.

The California Toxics Rule (CTR) was promulgated in May 2000 and established criteria for metals and organic compounds for aquatic life and human health protection. As part of this rule, EPA gave California discretion to adjust the aquatic life criteria for metals to reflect site-specific conditions through the use of a "water-effect ratio". Since the toxicity of a metal to aquatic life can be influenced by a variety of physical and chemical characteristics of both the site water and the metal itself, application of a site-specific water-effect ratio ensures that the metals criteria are appropriate for the chemical conditions under which they are applied. The procedure for deriving a site-specific water-effect ratio compares the bioavailability and toxicity of a specific pollutant in receiving waters to laboratory waters and provides a ratio by which the CTR criterion is adjusted.

EPA has issued specific guidance on determination and use of water-effect ratios for metals. Regional Board staff oversaw the development of WERs for copper in lower Calleguas Creek and Mugu Lagoon to account for site specific conditions in these two waterbodies, which have been shown to reduce the toxicity of copper to aquatic life. The intention of these WERs were to modify the water quality objectives for copper applicable to these waters such that the modified objectives are intended to be as protective of the aquatic life in these waterbodies as the criteria set forth in the CTR. This Basin Plan Amendment was adopted by the Regional Board on November 9, 2006.

Site-specific Objectives for Ammonia in Select Waterbodies in the Santa Clara, Los Angeles and San Gabriel River Watersheds

Ammonia is a pollutant routinely found in the wastewater effluent of Publicly Owned Treatment Works (POTWs), landfill leachate, and runoff from agricultural fields where commercial fertilizers and animal manure are applied. Because ammonia is toxic to aquatic life, the United States Environmental Protection Agency (US EPA) Office of Water determined that control of ammonia discharges to surface waters of the United States is necessary to protect aquatic life uses in surface waters of the United States.

When developing its 1985 water quality criteria for ammonia, the US EPA reviewed data regarding the relationship of ammonia toxicity to various physicochemical properties of the test water, especially temperature and pH. The US EPA concluded in the 1985 document that ammonia toxicity can also depend on the ionic composition of the exposure water, but the effects were not clear and consistent enough to include other variables in the criterion. In 1999, the US EPA published an update to its 1985 ambient water quality criteria for ammonia titled "1999 Update of Ambient Water Quality Criteria for Ammonia." The US EPA reiterated, "[t]here is still insufficient understanding and information to account for these effects in the criterion and they will have to be addressed using water-effect ratios or other site-specific approaches." Studies cited in the 1999 update indicate that ammonia toxicity may be reduced in waterbodies with high hardness and elevated concentrations of certain ions.

The hardness and ionic concentrations of many waterbodies in the Los Angeles Region are much higher than concentrations found in the laboratory water used in the national studies that were the basis for the national ammonia criteria. Regional Board staff oversaw the development of site-specific 30-day average objectives for a subset of

inland surface waters in the Los Angeles River, San Gabriel River, and the Santa Clara River watersheds to account for the effects of the ionic composition on ammonia toxicity in local receiving waters. These site-specific objectives (SSOs) are protective of aquatic life beneficial uses in the applicable waterbodies, while also providing greater flexibility to the regulated community. The SSOs were derived using US EPA's "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses," "1999 Update of Ambient Water Quality Criteria for Ammonia," and "Interim Guidance on Determination and Use of Water-Effect Ratios for Metals" (US EPA 1985, 1999, 1994). This Basin Plan Amendment was adopted by the Regional Board on June 7, 2007.

Subdivision of Reach 4 of the Santa Clara River

Reaches are linear segments of flowing surface waters that exhibit consistent hydrological, water quality, or adjacent land use characteristics. They were first defined for surface waters in the Los Angeles Region in 1975; and are contained in Chapter 2, "Beneficial Uses," of the current Basin Plan for surface waters in the region. Over the years, the Regional Board has redefined certain reaches based on new information or significant alterations of hydrology, land uses, monitoring locations, or water quality.

The Santa Clara River (SCR) originates on the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and flows into the Pacific Ocean between the cities of San Buenaventura (Ventura) and Oxnard. Reach 4 is one of the upper reaches of the SCR and is located west of the Los Angeles – Ventura County Line. Reach 4 contains several unique hydrogeologic features that affect chloride and other water quality parameters in its upper and lower segments. Its key hydrological feature is a dry gap where surface water in the upper portion of Reach 4 infiltrates into the underlying groundwater basin (Piru Basin) under dry weather conditions. Flow resurfaces approximately six miles downstream. Flow from a major tributary (Piru Creek) also infiltrates into the Piru Basin under dry weather conditions. Both the surface water and groundwater upstream of the Piru Creek confluence with Reach 4 contain higher levels of chloride than the surface and groundwater levels downstream from the Piru Creek confluence due to water reclamation plant discharges into reaches upstream of Reach 4.

The Basin Plan recognizes the unique hydrogeology in the Piru Basin by establishing different groundwater objectives for chloride upstream and downstream of Piru Creek. However, the difference is not addressed in the chloride objective for the surface water. It is the same upstream and downstream of Piru Creek.

Regional Boars staff proposed subdividing Reach 4 into two reaches that would better represent the unique hydraulic regime between the downstream portion of Reach 4 (i.e. Reach 4A) and the upstream portion (Reach 4B). The reaches differ significantly in terms of channel morphology, loss in transit, and inflows from tributaries. The subdivided reaches also better coincide with the Basin Plan descriptions of the groundwater basins underlying them and would limit the scope of any site-specific objectives that may be developed for the SCR. The Regional Board adopted this Basin Plan amendment on November 1, 2007.

Conditional Site Specific Objectives for Chloride in the Upper Santa Clara River Watershed

Chloride levels in the upper Santa Clara River (USCR) and in nearby groundwater basins have increased over the past three decades due to increased salt loadings from water imported into the Santa Clarita Valley and the increased number of self regenerating water softeners in the Santa Clarita Valley. Since the 1970s, growth in the Santa Clarita Valley has led to chloride levels that exceed the water quality objective and impair beneficial uses for agricultural supply.

The Regional Board first adopted a Total Maximum Daily Load (TMDL) in 2000. Source analysis for this TMDL determined that loading to the Santa Clara River is primarily from Water Reclamation Plants serving residential, commercial and industrial users in the Santa Clarita Valley. The predominant source of chloride in these discharges is that contained in the imported source water along with additions from domestic uses, such as self regenerating water softeners. The source analysis also showed that the water quality objectives could not be met with source control alone, and that some type of advanced treatment would be necessary.

The identification of remedies for chloride impairments was challenging due to stakeholders with varying interests in Los Angeles and Ventura Counties and the potentially costly implementation measures. These factors led to a remand of the TMDL by the State Water Resources Control Board and, after reconsideration by the Regional Board, a revised TMDL became effective on May 5, 2005. A key provision of this TMDL included a requirement to consider site-specific chloride objectives for the Upper Santa Clara River.

Regional Board staff oversaw special studies that addressed: (i) the levels of chloride required to support irrigation of salt sensitive crops; (ii) the interaction of surface water and groundwater and the fate and transport of chloride in the USCR and; (iii) the effects of chloride on threatened and endangered fish in the USCR. Results from these studies indicated that applying conditional site-specific objectives in conjunction with some treatment could effectively reduce chloride loadings to the Upper Santa Clara River and protect beneficial uses. The proposed conditional site-specific objectives for the Upper Santa Clara River watershed, which were adequately protective of the most sensitive beneficial uses (agricultural supply (AGR)), were considered by the Regional Board and adopted on December 11, 2008, along with a revised implementation plan for the chloride TMDL.

Adopted Total Maximum Daily Loads (TMDLs)

During the 2005-2007 triennial review period, the Regional Board adopted twenty TMDLs as Basin Plan amendments. These TMDLs address numerous pollutant-waterbody combinations. Of these, three were revisions to previously adopted TMDLs. Table 1 lists the adopted TMDLs and their current status.

Table 1: TMDLs adopted by the Board during the 2005-2007 triennial review period

Resolution No.	TMDL	Adoption date	Effective Date
2005-006	Los Angeles River Metals TMDL	Jun 2, 2005	Jan 11, 2006
2005-007	Ballona Creek Metals TMDL	Jul 7, 2005	Jan 11, 2006
2005-008	Ballona Creek Toxics TMDL	Jul 7, 2005	Jan 11, 2006
2005-009	Calleguas Creek Toxicity TMDL	July 7, 2005	Mar 24, 2006

Resolution No.	TMDL	Adoption date	Effective Date
R05-010	Calleguas Creek OC Pesticide & PCBs	July 7, 2005	Mar 24, 2006
R05-012	Marina Del Rey Harbor Toxics	Oct 6, 2005	Mar 22, 2006
R06-011	Ballona Creek, Ballona Estuary & Sepulveda Channel Bacteria	Jun 8, 2006	April 22, 2007
R06-012	Calleguas Creek Metals	Jun 8, 2006	Mar 26, 2007
R06-014	San Gabriel River Metals & Selenium	Jul 13, 2006	Superseded by EPA's TMDL Mar 26, 2007
R06-016	Santa Clara River Chloride (Revised)	Aug 3, 2006	Jun 12, 2008
R07-006	Machado Lake Trash	Jun 7, 2007	Mar 6, 2008
R07-007	Revolon Slough & Bearsley Wash Trash	Jun 7, 2007	Mar 6, 2008
R07-008	Ventura River Estuary Trash	Jun 7, 2007	Mar 6, 2008
R07-009	Lake Elizabeth, Munz Lake, and Lake Hughes Trash	Jun 7, 2007	Mar 6, 2008
R07-010	Legg Lake Trash	Jun 7, 2007	Mar 6, 2008
R07-012	Los Angeles River Watershed Trash	Aug 9, 2007	Sep 23, 2008
R07-014	Los Angeles River Metals (Revised)	Sep 6, 2007	Oct 29, 2008
R07-015	Ballona Creek Metals (Revised)	Sep 6, 2007	Oct 29, 2008
R07-016	Calleguas Creek Watershed Salts	Oct 4, 2007	Dec 2, 2008
R07-017	Ventura County Harbor Beaches Bacteria	Nov 1, 2007	Dec 18, 2008

IV. PROJECTS ADDRESSED DURING THE CURRENT TRIENNIAL REVIEW PERIOD

Adopted Basin Plan Amendments

Malibu Civic Center Septic Systems Prohibition

Without community sewers and wastewater treatment infrastructure, residents, businesses, and public facilities in the City of Malibu use thousands of on-site disposal systems to discharge their sewage to the subsurface and underlying groundwater. In several areas of the City, high flows of wastewaters coupled with unfavorable hydrogeologic conditions raised concerns about reliance on this wastewater disposal strategy. The Malibu Civic Center is an area of particular concern as relatively intensive land use activities by more than 400 dischargers result in the release of wastewaters to the subsurface at a rate that Regional Board staff estimated to be as high as 270,000 gallons per day (gpd). While supporting a residential population estimated at almost 2,000, the Malibu Civic Center also serves as the core of the City of Malibu's business, cultural, commercial and recreational activities.

Regional Board staff proposed an amendment to the Basin Plan to prohibit subsurface disposal systems (on-site wastewater disposal systems, or OWDSs), used in the Malibu Civic Center area. For the purpose of this amendment "Malibu Civic Center area" is defined as the area within the lower Winter Canyon watershed, Malibu Valley watershed and adjacent coastal strips between and including Amarillo Beach and Surfrider Beach. This entire area is within the City of Malibu and the unincorporated area of County of Los Angeles.

On November 5, 2009, the Regional Board adopted a resolution, amending the Basin Plan to prohibit on-site wastewater disposal systems (septic systems) in the Malibu Civic Center area. The prohibition applies to all dischargers in the Civic Center area, including commercial and industrial facilities, public facilities, and residences. Except for certain specific projects which have already progressed through the entitlement process, new septic discharges are no longer allowed and existing commercial and industrial dischargers and public facilities must cease discharge by November 2015, while residential discharges must cease by November 2019.

Total Maximum Daily Loads (TMDLs)

During the current triennial review period, the Regional Board has adopted six TMDLs as Basin Plan amendments. These TMDLs address several pollutant-waterbody combinations. Of these, two were revisions to previously adopted TMDLs. Table 2 lists the adopted TMDLs and their current status.

Table 2: TMDLs adopted and amended by the Board during the current triennial review period

Resolution No.	TMDL	Adoption date	Effective Date
R08-006	Machado Lake Nutrient	May 1, 2008	March 11, 2009
R08-007	Malibu Creek Trash	May 1, 2008	July 7, 2009
R08-009	Calleguas Creek Nitrogen (Revised Waste Load Allocations)	Sept 11, 2008	Oct 15, 2009
R08-012	Upper Santa Clara River Chloride	Dec 11, 2008	pending OAL and

Resolution No.	TMDL	Adoption date	Effective Date
	(Revised water quality objectives and reconsideration of Implementation Plan)		EPA approval
R09-05	Colorado Lagoon Pesticides, PAHs, PCBs, and Metals	Oct 1, 2009	pending State Board, OAL and EPA approval
R09-06	McGrath Lake PCBs, Pesticides, and Sediment Toxicity	Oct 1, 2009	pending State Board, OAL and EPA approval

Other TMDLs likely to be considered by the Board during the current Triennial Review period include:

- Los Angeles River Metals TMDL (Reconsideration of Implementation Plan for POTWs)
- Los Angeles River Watershed Bacteria TMDL
- Santa Monica Bay Beaches Bacteria TMDL (Reconsideration of Wasteload Allocations and Wet Weather Implementation Schedule)
- Marina del Rey Bacteria TMDL (Reconsideration of Wasteload Allocations and Wet Weather Implementation Schedule)
- Santa Clara River Bacteria TMDL
- Santa Monica Bay Marine Debris TMDL
- Ventura River Algae TMDL
- Machado Lake Toxics TMDL
- Los Angeles Harbor Toxics TMDL

Other Basin Planning Projects

Other issues identified during previous triennial review cycles are also being addressed, but have not yet been formally acted upon by the Board. They require further work before they can be developed into Basin Plan amendments.

Tiered Aquatic Life Uses

In urban environments, the physical modifications to water bodies can place limitations on the type, quality and diversity of the resident biological community. As a result, regardless of the water quality, the aquatic community may be limited by the physical configuration of the water body. Tiered Aquatic Life Uses (TALUs) provide more appropriate goals for protecting aquatic life that account for these inherent physical limitations. Such adjustments to aquatic life uses must be based on biological assessments and biological indices.

The concept of tiered aquatic life uses has been under discussion by U.S. EPA for some time and several states have implemented these tiered uses in their state water quality assessments and water quality standards. However, there are few examples of the application of TALU in Western semi-arid streams and, in particular, no examples of how a state might identify and implement TALU in semi-arid coastal streams, where it is vital to protect downstream sensitive and ecologically rich coastal water bodies.

Regional Board staff was directed to work with stakeholders to develop more tailored water quality standards (through beneficial use designations and associated biocriteria) that would be protective of the biological communities within the region's urban coastal

streams. Tetra Tech, Inc. and the Southern California Coastal Research Project (SCCWRP) was contracted to build upon EPA's national TALU framework and forthcoming *Methods Document* by evaluating the application of TALU to semi-arid urban coastal streams. This effort identified some of the largest technical and potential policy barriers for implementation and produced a list of 13 projects that should be undertaken to help resolve these barriers and develop scientifically defensible tiered aquatic life uses, and integrate these tiered uses into the existing water quality standards program. Further work on this issue will be dictated by the availability of funding and Basin Planning staff resources.

Design Storm

Per direction of the Regional Board, in 2005 staff convened a wet-weather task force (WWTF) comprised of representative stakeholders in the Region to identify a menu of project concepts addressing wet-weather concerns as they relate to achieving water quality standards. Development of a design storm standard for water quality was identified by the WWTF as a high priority issue. The design storm concept involves the identification of a storm of specific size, intensity and/or duration to use in the design of stormwater controls to achieve water quality standards.

A Project Steering Committee (PSC) was set up to investigate the feasibility of such an approach and SCCWRP and GeoSyntec Consulting were contracted to explore design storm concepts that could be used to implement TMDLs and permit requirements and that would protect and restore water quality in the Los Angeles Region. The focus of the study was (i) to determine the size of storm to be treated in order to meet water quality targets (concentration or load-based) in the receiving water body, and (ii) to investigate the feasibility of treating storms of the determined size (in terms of technology, cost and other considerations).

The study examined two conceptual approaches to developing design storm criteria, and conducted pilot studies to test their applicability. Results of the study indicated that a design storm approach to addressing wet weather water quality would be feasible. However, significant work needs to be done to address technical and policy issues before it can be incorporated into a regulatory framework. Regional Board staff brought the results of this effort before the Board as an information item on December 6, 2007. Further work on this issue will be dictated by the availability of funding from outside sources and Basin Planning staff resources.

Basin Plan Updates

Regional Board staff has been consistently working on updates to the Basin Plan through the previous triennial review period to the present. A part of this update involves the creation of a new Chapter 7 (Total Maximum Daily Loads), which will contain Basin Plan amendments incorporating Total Maximum Daily Loads (TMDLs). As the development and adoption of TMDLs is an on-going process, it is likely that this chapter will be adopted as a "living" document to be updated with each new or revised TMDL. In addition the maps and reach delineations in Chapter 2 (Beneficial Uses) of the Basin Plan are being updated. Chapter 3 (Water Quality Objectives) will also be updated to incorporate previously adopted new and modified objectives as well as objective-specific implementation provisions. These updates may be brought before the Board individually, as they are completed.

V. ISSUES IDENTIFIED BY STAFF AS REQUIRING FURTHER CONSIDERATION

Staff initially identified ten key issues as important to consider addressing over the next three years. These issues were selected from those outstanding from the 2005 to 2007 Triennial Review priorities list, which included Basin Plan priorities from Board staff and management, along with input from program staff at USEPA Region IX. A description of these issues follows.

Re-evaluate how bacteria water quality objectives should be applied in compliance determination, based on more recent monitoring results

The Basin Plan bacteria objectives that are set to protect REC-1 are consistent with US EPA's recommended criteria and State regulations that established minimum bacteriological standards for public beaches and water sports areas.[2] EPA's most recent recommended criteria are contained in *Ambient Water Quality Criteria for Bacteria – 1986* (US EPA 1986). Because many states had not adopted EPA's recommended criteria, on November 8, 2004, EPA promulgated water quality standards for coastal and Great Lakes recreation waters, based on its 1986 recommended criteria, consistent with the statutory requirements of the Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000. However, in its November 8, 2004 Water Quality Standards for Coastal and Great Lakes Recreation Waters; Final Rule, EPA recognized that the bacteria objectives set to protect water contact recreation that were adopted by the Los Angeles Regional Board met the requirements of Clean Water Act section 303(i) (69 *Fed. Reg.* 220, p. 67243). As a result, in its final rule, EPA did not apply the bacteria criteria that were promulgated for other coastal areas of California and the nation to coastal recreation waters within the jurisdiction of the Los Angeles Regional Board. Rather, EPA upheld that the State's objectives for coastal recreation waters within the Los Angeles Region will apply. At present, EPA continues to recommend States use these 1986 criteria.

However, during the rule-making associated with the Beach Act, EPA provided a range of options to states for implementing bacteria objectives. Additionally, during the adoption of the Santa Monica Bay Beaches Bacteria TMDL, the Board stated that it would consider aspects of implementation of bacteria objectives during the reconsideration of that TMDL. Aspects of the bacteria objectives to be evaluated may include, but may not be limited to:

- Further developing the natural source exclusion approach.
- Removing fecal coliform objectives for freshwaters. The previous fecal coliform objectives were retained in the 2001 revision of the bacteria objectives to provide for a transition period from fecal coliform-based objectives to *E. coli* objectives. However, since that time, various agencies have researched the ratio between fecal coliform and *E. coli* in local waters and, knowledgeable about that relationship, have been using the IDEXX™ chromogenic substrate method for enumerating *E. coli* for comparing ambient samples to both *E. coli* and fecal coliform objectives.
- Evaluating alternatives for using the single sample and geometric mean objectives in regulatory programs, and evaluating statistical approaches to calculating geometric means for comparison with objectives. In the BEACH Rule, EPA provides flexibility to States regarding how to calculate the geometric mean when implementing bacteria objectives. The options EPA presents include using: a rolling average; a calendar

[2] The State's minimum protective bacteriological standards for waters adjacent to public beaches and public water-contact sports areas are set forth in Title 17 of the California Code of Regulations, section 7958.

month average; or the average over a recreational season. In the case of southern California, averaging over the recreational season would, in effect, mean calculating a year-round average, given that recreational use occurs throughout the year. This leaves the options of re-evaluating the use of a rolling average and evaluating a calendar month average; EPA assumes that most states will use a rolling average.

Develop a region-wide policy that complements work by the State Board on the Wetland and Riparian Area Protection Policy

The alteration away from a natural state of stream flow or the beds or banks of rivers, streams, or creeks, including ephemeral washes, is generally referred to as a hydromodification. Over time, many of the water courses in the Los Angeles Region have been altered from their natural state into constructed waterways. While constructed waterways have aided regional development and flood control, there have been undesirable consequences as well. These modifications impair beneficial uses by modifying or eliminating instream and riparian habitat; degrading or eliminating benthic communities; increasing scour and erosion as a result of increased velocities; and changing the ability of natural systems to filter pollutants from surface waters. Hardening of channels may also eliminate opportunities for groundwater recharge and reduce recreational opportunities in some areas.

The Board adopted a resolution in 2005 to reiterate its existing authority to regulate hydromodification of water courses in the Los Angeles Region (Regional Board Resolution No. R05-002). At that time, the Board directed staff to develop a hydromodification policy to incorporate criteria and evaluation requirements to be used by Board staff when evaluating projects for water quality certification under Clean Water Act section 401, or issuing waste discharge requirements, and setting conditions for certification or approval. The goals of such a policy would be to strongly encourage the preservation of water courses in their natural state and to reduce negative water quality impacts associated with their alteration in the manner described above. It would also facilitate other board programs such as the stormwater program, and complement similar on-going policy development at State Board and in other regions.[3]

Recently, staff applied for and received grant funding (ARRA 604(b), i.e. federal stimulus funding) to begin the technical work required prior to policy development. This work includes an examination of the impact of in-stream hydromodification on water quality in some waterbodies within our region. This work will be conducted by the Southern California Coastal Water Research Project. Staff resources will still be required for development of the actual policy which will include (i) documentation of existing in-stream hydromodification throughout the Los Angeles Region and (ii) an assessment of existing regulatory tools and the effectiveness of their application, along with a consideration of new tools to strengthen what already exists.

[3] State Board's Wetland and Riparian Area Protection Policy was begun on April 15, 2008 with passage of State Board Resolution No. 2008-0026 directing staff to develop a policy in three phases. The first phase, now scheduled for State Board consideration in mid-2010, has similar goals, including to provide protection from dredge and fill activities and to design a regulatory mechanism based on the US Army Corps of Engineers 404(b)(1) guidelines that establish the "avoidance-minimization-mitigation" hierarchical project implementation criteria for these activities.

Re-evaluate recreational beneficial uses for specific engineered channels that are concrete lined, fenced, and have no public access, where appropriate

Many waterways in the Los Angeles Region have been engineered to reduce the incidence of flooding in urbanized areas by conveying stormwater runoff to the ocean as efficiently as possible. To accomplish this goal, the waterways are usually lined, at the bottom and on the sides, with rip-rap or concrete. These modifications create life-threatening "swift-water" conditions during and immediately following storm events, making it unsafe for recreational activities in, or in proximity to, such waterbodies. In addition, the vertical walls and/or steep-sided slopes of these channels, in conjunction with restrictive fencing, usually limit, to varying degrees, direct access to channelized creeks and streams for the purpose of recreational use. Furthermore, many of these channels have minimal flows and low water levels in the dry periods that occur throughout the year. Given these conditions, the appropriateness of assigning the water contact recreation (REC-1) use to engineered channels is frequently being challenged by numerous public flood control agencies. Concerns have also been expressed regarding the potential for such beneficial use designations to encourage recreational activities in areas that are unsafe.

Where requested by stakeholders, staff may re-evaluate, where appropriate, recreational beneficial uses for engineered channels with conditions that may not be conducive to fully supporting their REC-1 designation. Any such evaluations would be conducted with the recognition that existing beneficial uses[4] cannot be removed, downstream uses must be protected, and in conformance with federal regulations at 40 CFR 131.10(g) as well as US EPA's recommendations for conducting use attainability analyses and developing a subcategory of a designated use that is not an existing use.

Continue groundwork in support of developing numeric biocriteria. Develop a narrative objective for biological integrity.

Individual water quality objectives do not always fully protect beneficial uses from multiple stressors or the cumulative effects of multiple pollutants. Furthermore, new chemicals are constantly emerging in the environment, and it is not always possible to immediately identify the cause of biological impairment. Biocriteria are effective regulatory tools for assessing the overall health of the aquatic community and for identifying possible impairments or degradation caused by cumulative impacts or emerging chemicals that might not otherwise be identified using physical and chemical measures alone.

The Los Angeles Region and others in California have begun to include biological condition monitoring in their assessments, however, there are currently no biological objectives to protect against impaired conditions. State Board is in the process of developing the technical tools and infrastructure needed to directly measure biological endpoints, and will eventually establish a regulatory framework for using these tools. Recently, State Board received grant funding (ARRA 604(b), i.e. federal stimulus funding) to be applied towards further developing these objectives. Work to be conducted under this grant includes the compilation and generation of statewide GIS data on natural attributes (such as hydrology, geology and climate) and anthropogenic stressors (such as land use, hydromodification, and population density) that influence

[4] Existing uses are those uses that have been present in the waterbody on or after November 28, 1975, or those where water quality has been sufficient to support such uses on or after November 28, 1975.

biological conditions. Based on this information, potential reference sites will be identified and grouped to determine how many natural classes of streams are needed to support statewide bio-objectives. Grouping will based on similarities in biological conditions, which will be determined from existing biological data. Finally the information collected will be used to describe the relationship(s) between human development stressors and biological response. The projected is scheduled to commence by the end of January 2010.

Regional Board staff will provide support, as necessary, in developing a statewide narrative objective for biological integrity, and the development of numeric objectives for biological integrity.

Develop guidance on incorporation of TMDL requirements into permits.
TMDLs are not self-implementing, meaning that the requirements of TMDLs must subsequently be incorporated into various permits, enforcement orders, or other regulatory tools available to the Regional Board. As more and more TMDLs are adopted, it would be useful to describe how the requirements of different types of TMDLs, including TMDL allocations, will be incorporated into permits and other regulatory mechanisms to ensure their implementation. To date, the Regional Board has incorporated allocations and other requirements from three TMDLs into the Los Angeles County MS4 permit, and seven into the Ventura County MS4 permit. Given the differing nature of the pollutant groups in the various TMDLs and the TMDL-specific requirements that need to be incorporated, it would be valuable to develop guidance in the form of "prototypes," for each pollutant group, for future incorporation of TMDLs into MS4 permits and other regulatory mechanisms to ensure their timely implementation.

Evaluate and apply a high flow suspension of the REC-1 and REC-2 uses to engineered channels in Ventura County, consistent with the amendment adopted for Los Angeles County.
The inherent danger of recreating in engineered channels during and immediately following storm events, as mentioned earlier, is widely recognized and is already addressed by county policies. On this basis, the Regional Board adopted an amendment that temporarily suspends the recreational beneficial uses in a number of engineered channels during and immediately following significant storm events in Los Angeles County (Regional Board Resolution R03-010). At the time of adoption, data on engineered channels in Ventura County were not readily available. Therefore, though similar "swift-water" conditions exist in engineered channels in Ventura County, the high-flow suspension is not currently applied there. A similar amendment for engineered channels in Ventura County may be developed to ensure consistency in regional policies.

Administrative Updates to the Basin Plan
Since 1994, fifty-nine amendments to the Basin Plan have been adopted by the Regional Board. These amendments need to be integrated into the relevant chapters of the Basin Plan, through an administrative update of the Basin Plan, in order to provide a single up-to-date document. Additionally, the boundaries of many watersheds, groundwater basins and reaches within water bodies have been modified since the 1994 Basin Plan update. As a result, the maps in the current version of the Basin Plan need to be updated.

When the maps were composed for the 1994 Basin Plan, Geographic Information System (GIS) technology was new to the Regional Board. The data available were limited to a few layers obtained from the Teale Data Center. The Basin Plan maps were based primarily on three of these layers: EPA Reach File 3 (RF3), Calwater 1.0, and the California Department of Water Resources Groundwater Basins (DWR Bulletin 118). RF3 was the basemap of flowing waters (rivers and streams), standing waters (lakes and ponds), and wetlands—both natural and manmade—at a scale of 1:100,000. Calwater 1.0 was the set of standardized watershed boundaries derived from several other layers at a scale of 1:24,000. DWR Bulletin 118 was the set of groundwater basins and sub-basins at a scale of 1:250,000.

In the fifteen years since these maps were generated these layers have undergone several revisions. The layers most commonly used today are part of *The National Map* produced by the United States Geological Survey (USGS). The USGS National Hydrography Dataset (NHD) replaces RF3 and is a comprehensive set of surface waters in the United States using common features such as lakes, ponds, streams, rivers, canals, stream gages, and dams. The NHD is now available for all of California at a scale of 1:24,000. The USGS Watershed Boundary Dataset (WBD) replaces Calwater 1.0 and defines the perimeter of drainage areas into six different levels of hierarchy, with the smallest averaging about 30,000 acres. It is now available for the entire state of California as well. Also, DWR Bulletin 118 has been updated twice since the Basin Plan was adopted, most recently in 2003.

Other relevant data has become available in recent years as well. The Los Angeles County Department of Public Works (LACDPW) has recently made two important layers available. One is a layer of watersheds that represent the drainage basins as used for the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit. The other is a layer of the MS4 physical infrastructure owned, operated, and maintained by multiple jurisdictions. Similar data for Ventura County were provided by the Ventura County Watershed Protection District.

Furthermore, Basin Plan amendments over the years have changed the way reach breaks are defined in some watersheds. New maps have yet to be composed to reflect all of these changes.

With advances in GIS technology and improved data references the potential for generating more accurate and complex maps has increased dramatically. The newer data have more attributes of interest and the new technology offers better ways of processing and displaying the data.

Taking these factors into consideration the time has come to update the Basin Plan maps with newer versions that will more accurately and descriptively portray the conditions that exist today. These updated maps will be valuable tools for staff, Board members, and stakeholders alike.

Concurrently, it will also be necessary to update and reconcile the list of water bodies and associated beneficial uses in the Beneficial Use Tables in Chapter 2 according to the newly revised maps. Another aspect of the Basin Plan update that should be conducted is a clarification of the boundaries of estuaries, harbors and enclosed bays, including the transition point(s) to marine/ocean waters and to inland fresh waters. This is of particular importance since different regulatory requirements apply depending on

whether a water body is an inland surface water, estuary, enclosed bay or ocean water. These updates would be based on more current geographical, hydrologic, and other water body information that has been, and is still being compiled since the last Basin Plan update. They are likely to be non-regulatory, that is they would not impose new requirements on regulated entities, but would rather clarify existing regulatory requirements and provide hydrologic delineations consistent with other state and federal agencies.

Develop a general policy for interpreting narrative objectives

Many of the objectives in our Basin Plan are stated in narrative form (e.g. bioaccumulation, biostimulatory substances, color, exotic vegetation, floating material). That is, there is no specific numeric limit for the pollutant or stressor, instead the objective is generally worded as follows: "Waters shall not contain [pollutant or stressor] in concentrations that cause nuisance or adversely affect beneficial uses". However, staff must consistently interpret these narrative objectives when developing numeric targets in TMDLs and translating these narrative objectives into numeric effluent limits in permits. To facilitate the consistent translation of these narrative objectives, a policy or new language in Chapter 3 of the Basin Plan, may be developed to outline what considerations should be taken into account when the need for such translations arises. These considerations may include: correlation between beneficial use impacts and levels of the pollutant/stressor; all relevant information submitted by the discharger and interested parties; and relevant numerical criteria and guidelines developed and/or published by other state agencies (such as the Department of Fish and Game or the Office of Environmental Health Hazard Assessment), federal agencies (such as the US EPA or US Fish and Wildlife Service), foreign government agencies, international agencies, or from the scientific literature. A policy or implementation provisions in Chapter 3 could outline a decision process for interpreting narratives using appropriate numeric limits.

Evaluate what hardness value(s) should be used in the calculation of permit limits (or TMDLs) for hardness-dependent metals.

The California Toxics Rule (CTR) contains freshwater aquatic life criteria for certain metals that are expressed as a function of hardness. Hardness, or water quality characteristics that are usually correlated with hardness, can reduce or increase the toxicity of some metals. Hardness is used as a surrogate for a number of water quality characteristics that affect the toxicity of metals in a variety of ways. Increasing hardness has the effect of decreasing the toxicity of metals. National Pollutant Discharge Elimination System (NPDES) permit writers have used average hardness values or median hardness values when setting CTR-based final effluent limitations for hardness-dependent metals. However, there are no statewide implementation provisions or guidance for determining which representative numerical value for hardness (e.g. lowest measured value, average, median, established percentile) to use in the development of TMDLs or effluent limits in permits. In addition, while the CTR and State Implementation Policy (SIP)[5] specify that the hardness of the receiving water should be used for adjusting the CTR criteria, it is not clear whether the upstream or downstream hardness values should be used, or whether effluent hardness should be used where effluent makes up the entire flow of a waterbody during certain times of the year. Such

[5] "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP)." California State Water Resources Control Board. 2005.

implementation provisions would be valuable to promote consistency in the application of these objectives.

State Board is currently developing a statewide hardness policy for implementation of the hardness-based metals criteria that will ensure protective effluent limitations for metals. Regional Board staff will continue to provide support for the development of this policy.

Continue groundwork in support of developing nutrient criteria as required by US EPA.

Nutrient-related pollution significantly affects drinking water supplies, aquatic life, and recreational water quality. These impacts occur in all types of waterbodies – rivers, streams, lakes, estuaries, and coastal areas. Nutrient pollution is manifested in waterbodies as eutrophicaton. Eutrophication is defined by increased nutrient loading to a waterbody resulting in increased growth of phytoplankton and other aquatic plants. Additionally, other parameters such as decreased dissolved oxygen and water clarity can also indicate eutrophic conditions. Phosphorus and nitrogen are recognized as key nutrients for the growth of phytoplankton, algae, and aquatic plants and are responsible for the eutrophication of surface waters.

A waterbody's biological response to nutrient loading is often what actually impairs the waterbody's beneficial uses. For example, increased nitrogen and phosphorus loading can lead to harmful algal blooms, which impair the beneficial uses of the waterbody. It is most useful to evaluate nutrient-related pollution in terms of both nutrient concentrations and biological response indicators. Therefore, efforts to develop nutrient objectives have focused on both nutrient concentrations and biological response indicators.

To date, through the combined work of the EPA Regional Technical Advisory Group (RTAG) and the State Board's State and Regional Technical Advisory Group (STRTAG), the *Technical Approach to Develop Nutrient Numeric Endpoints (NNE) for California* (July 2006) has been completed. This document provides technical information and NNE tools linking nutrient concentrations and biological response indicators for freshwater lakes and streams. The NNE framework and tools for lakes and streams are being evaluated in case studies and TMDLs throughout California. For example, an assessment of Malibu Creek was completed as one of four statewide NNE case studies, and Regional Board staff applied the NNE approach as part of the Machado Lake Nutrient TMDL. Additionally, there is a current STRTAG team developing an NNE framework and tools for California estuaries; Regional Board staff is part of this effort.

The development of a NNE framework and tools for waterbodies in California is a critical step in developing nutrient water quality objectives. The State Board, with cooperation from the STRTAG, has assumed responsibility for the development of both the NNE and nutrient objectives for the State of California. Staff will continue to actively participate in the STRTAG in support of nutrient objectives as required by US EPA.

VI. ISSUES IDENTIFIED BY STAKEHOLDERS AS REQUIRING FURTHER CONSIDERATION

Stakeholder input on potential issues to be addressed during this triennial review cycle was solicited through a request for information sent out on September 25, 2008. In the solicitation, staff requested data and information on water quality standards that stakeholders felt should be evaluated for possible modification over the next three years. In total, 68 letters were received in response to this solicitation. The letters represented a number of stakeholder groups, including (i) 59 cities, counties and municipal coalitions; (ii) 12 industry and agriculture groups; (iii) 6 environmental organizations; (iv) 5 sanitation districts; and (v) 2 private citizens.

Staff compiled an inventory of all the issues raised by these stakeholders in the document provided as Appendix 1 to this Staff Report. These issues were not prioritized. Rather, staff grouped them into 24 topical categories and indicated how many stakeholders commented on each. A summary of the general issues raised within each category is provided below in italicized text. Where any of the issues are being addressed or may be addressed in the future by the Basin Planning program or other Regional Board programs, staff has indicated as much following the issue summary. For specific issues and greater detail, the appendix should be consulted. Also, the issues in their entirety and staff responses to them are contained in the responsiveness summary, which will be provided as a separate document and available for public review prior to the Board hearing.

General Beneficial Uses

Stakeholders requested that clear, rational criteria for creating and applying beneficial use designations be developed through a collaborative process involving local stakeholders and responsible agencies. They also asked that a protocol for the completion of use attainability analyses (UAAs) should be developed to re-evaluate existing uses and to support seasonal and/or tiered use designations. A request was also made to complete the tiered aquatic life use (TALU) study that was initiated as part of the 2004 Triennial Review.

The Basin Plan clearly defines and identifies all of the beneficial uses designated for surface and ground waters within the Los Angeles Region in Chapter 2. In addition, existing uses are defined by federal regulation as “those beneficial uses that have been attained on a waterbody on, or after November 28, 1975”; this was the basis for the designation of existing uses in the Basin Plan. Staff considers additional criteria unnecessary for identifying existing beneficial uses, since any additional criteria established by the Regional Board could not substitute for the requirements set forth in federal regulation. As for any future considerations of new or revised beneficial uses, as required for all potential Basin Plan amendments, the public would receive timely notice of these, and be given an opportunity to provide input.

With regard to the re-evaluation of beneficial uses via a use attainability analysis (UAA), federal regulations restrict States from removing designated beneficial uses. Specifically 40 CFR § 131.10 (h) prohibits States from removing designated uses if:

1. They are existing uses, as defined in 40 CFR § 131.3, unless a use requiring more stringent criteria is added; or
2. Such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Act and by implementing cost-effective and reasonable best management practices.

Furthermore, 40 CFR § 131.10 (i) states that where existing water quality standards specify designated uses less than those which are presently being attained, the State shall revise its standards to reflect the uses actually being attained (i.e. existing uses).

States may remove a designated use which is not an existing use, as defined in 40 CFR § 131.3, or establish sub-categories of a use, if the State can demonstrate that attaining the designated use is not feasible because of factors set forth in 40 CFR § 131.10 (g). Staff has identified re-evaluating the REC beneficial uses in certain waterbodies as an issue that may be considered by the Board during this triennial review. EPA has guidance on conducting UAAs[6], which staff has used previously to sub-categorize the REC-1 use in one reach of Ballona Creek, and de-designated the REC-1 use in another reach. This guidance would be used during any re-evaluation of recreational uses. Should the need arise for the re-evaluation of other beneficial uses, the applicable guidance will be used. Given the intensive volume of resources this task would require, coupled with the fact that the goals of the federal Clean Water Act and Porter-Cologne Act favor protection of waterbodies (not decreasing protection), a wholesale reassessment of the attainability of every designated use in the Basin Plan (and concomitant consideration of use removals or modifications) cannot feasibly be considered except where specific information about the specific attainability of a particular use in a particular waterbody or reach is presented that demonstrates that the designated use may be inappropriate.

Potential Beneficial Uses

Some stakeholders requested a revision of current Basin Plan "potential" use designations based on clear, rational criteria that would be developed for creating and applying beneficial use designations. Others suggested that the Regional Board establish a definition and criteria to designate a probable future use and re-evaluate designated uses to reflect actual, or "probable" uses. It was also suggested that all potential uses in the Basin Plan be either eliminated or changed to probable future uses, consistent with the language of the California Water Code.

The Basin Plan provides the basis for designating potential uses, which includes consideration of:
i. plans to put the water to such future use,
ii. potential to put the water to such future use,
iii. designation of a use by the Regional Board as a regional water quality goal, or
iv. public desire to put the water to such future use.

As discussed earlier, staff has indicated that consideration should be given to the re-evaluation of certain REC-1 uses. Given that the removal of existing uses is prohibited by federal regulation, the recreational uses that could be evaluated are the potential uses where conditions may not be supportive of such uses. This request emanates from the trial court decision in the matter of *Cities of Arcadia v. State Water Resources Control Board*, a matter which is currently stayed, and pending appeal. Even if the case

[6] United States Environmental Protection Agency (USEPA). Federal Register, 40 CFR Part 131. "Water Quality Standards Regulation; Proposed Rules". Tuesday July 7, 1998.
United States Environmental Protection Agency (USEPA). "Implementation Guidance for Ambient Water Quality Criteria for Bacteria". May 2002 Draft.
United States Environmental Protection Agency (USEPA). "Water Quality Standards Handbook: Second Edition". Report No. EPA-823-8-94-005a. August, 1994.

is affirmed, it is not clear, however, as the commenters seem to believe, that any of the uses designated as "potential" are not in fact "past, present, or probable future" uses, to which no change would be appropriate, even under their interpretation of the applicable law.

Specific Beneficial Uses

(i) *Several stakeholders requested that the Regional Board reassess various beneficial use designations (MUN, IND, GWR, WARM, SHELL, PROC, FRSH, COLD and AGR) in a number of specific reaches. Stakeholders felt these designations did not reflect actual existing uses, and that the waterbodies could not support such uses.*

The re-evaluation of designated uses that are not existing uses can be addressed on a case-by-case basis, depending on available staff resources, should the Regional Board direct staff to do so.

(ii) *Stakeholders requested that the Regional Board address and redress the impacts of anthropogenic activities such as the elimination of riparian wildlife corridors and hardscaping tributaries on beneficial uses such as habitat and groundwater recharge.*

The Regional Board addresses the impact of "dredge and fill" activities on water quality through the imposition of conditions (through CWA 401 certification or waste discharge requirements) to ensure that such activities will not cause violations of water quality standards. In addition to this, staff has identified the need for a hydromodification policy to better address impacts of hardscaping on water quality (see description under Section V).

REC-1 and REC-2 Beneficial Uses

Issues related to REC-1 and REC-2 (water contact and non contact recreation) were those most frequently raised. Stakeholders who raised this issue requested a re-evaluation of REC-1 and REC-2 uses, particularly for waterbodies where such uses are limited by physical characteristics (for example, flood control channels with restricted access). They requested that these uses be removed or revised where it was determined that they could not be supported. It was also suggested that the Basin Plan's recreational use definitions be revised.

The re-evaluation of recreational use designations for reaches with certain physical conditions that may not support such uses, has already been identified by staff as an issue that may be addressed in this triennial review cycle (see Section V).

Flood Control Function

Stakeholders requested that the Regional Board recognize flood protection and public safety as necessary uses of waterbodies, and develop a policy for addressing incompatibilities between these functions and waterbody beneficial uses. Requests were also made to develop and adopt a category or designation for flood control purposes to account for the actual regional use of storm water conveyance systems except for those limited areas where the actual or probable contact recreation would occur. It was also expressed that in designating beneficial uses for flood control channels, consideration should be given to the fact that plans and funding resources do not exist to return many of the concrete-lined flood control channels to natural waterbodies and such planning and funding may take decades to achieve, if even possible.

Regional Board staff has acknowledged, and continues to acknowledge that flood control is a reality that is necessary to factor into some of the Board's decisions (e.g., the Board's adoption of a suspension of recreational uses and associated bacteria objectives in engineered channels during wet weather; the Board's ongoing 401 certification of routine and emergency operation and maintenance of flood control channels). However, staff does not agree that "flood protection" is a "beneficial use" of waters of the State as beneficial uses are defined in the California Water Code. Flood protection is not considered a "use" of the water as are drinking, swimming, and fishing, and it does not fit into the regulatory structure in this way. That notwithstanding, even if it were appropriate for flood protection to be a "beneficial use", it would not remove the requirements to protect other designated beneficial uses of waters of the State.

Effluent Dominated Waters

Stakeholders requested a number of considerations regarding effluent dominated waters in the region including that the Regional Board (i) consider either a new waterbody category or beneficial use designation for effluent dominated waters, (ii) consider the appropriateness of beneficial use designations for effluent dominated waters, and (iii) update current Basin Plan objectives to reflect conditions relevant and appropriate for effluent dominated waters.

There has been much discussion of the concept of "effluent dominated waterbodies" (EDWs), particularly among the regulated community. The discussion ranges from what defines an EDW to whether different beneficial uses and water quality objectives should apply. This issue has received significant attention in the semi-arid southwest, in particular, where streams that were once ephemeral are now perennial due to the introduction of large volumes of treated wastewater.

EDWs support beneficial uses and these uses must be protected. Where the beneficial uses supported by these waterbodies discounted, then effluent discharge would have the potential to negatively impact human health, aquatic communities and overall environmental quality. Furthermore, as with discharges to any waterbody, consideration of downstream impacts is federally required and particularly important in the case of EDWs in coastal southern California. Since flows from EDWs are diluted less than other discharges, their impacts on water quality and beneficial uses can be greater. In coastal regions, all flows terminate at the ocean or coastal bays, estuaries or lagoons. These areas support a variety of aquatic life and wildlife, including threatened and endangered species as well as sensitive early life stages of these species, and serve as important draws for tourism. In southern California, many streams have been concrete-lined in an attempt to control flooding. Since this is also a semi-arid region, most streams are naturally ephemeral. By eliminating contact between effluent and natural streambeds, important assimilation and attenuation processes are also eliminated. Essentially concrete-lined channels, in EDWs, serve as conduits for treated wastewater, conveying it quickly and efficiently to the coast. It is essential to recognize and protect against the possible impacts such an arrangement can have on downstream resources.

Also, there are a number of compliance concerns for discharges to EDWs. In most cases these concerns stem from the beneficial use designations of the EDW, which largely drive the water quality objectives applicable to the EDW. Of particular concern are the aquatic life beneficial uses and the municipal and domestic supply (MUN) beneficial use. There is a suite of existing regulatory tools available to address some of these compliance concerns. In some cases, the concern may be addressed through a

statewide policy, while in others the concern may need to be dealt with on a regional or site-specific basis taking into consideration the unique characteristics of the EDW, discharge and beneficial uses.

Some of the tools already available or under development include site-specific objectives (SSOs), translators, use attainability analyses (UAAs), tiered aquatic life uses (TALUs), and case-by-case exceptions (under the SIP). Other potential tools that may warrant exploration include limited term variances for certain pollutants. These tools may allow the State Board and Regional Boards to protect the beneficial uses of EDWs, while also addressing the compliance concerns of dischargers to these waters.

General Water Quality Objectives
Stakeholders requested that water quality objectives and standards be reviewed and updated to ensure that they have scientific validity; and that water quality objectives should be defined in terms of frequency, magnitude and duration.

Water quality standards contained in the current Basin Plan were based on sound science and adopted in conformance with applicable state and federal laws. These standards are subject to review every three years – the triennial review period. This review is required in order to ensure that standards are based on current science, methodologies, and US EPA mandates, recommendations and guidance. Where appropriate, standards are updated.

Staff agrees that objectives should be defined in terms of magnitude, frequency and duration. Most numeric objectives in the Basin Plan contain these basic elements, although they are not always explicitly stated. Where the duration is not explicitly stated, the assumption is that it is an instantaneous standard. Staff has been involved with groundwork to develop a policy for addressing peak storm flows and how objectives should apply to infrequent and/or substantial storm flows (i.e. work completed by SCCWRP on the Design Storm Project under contract to the Regional Board; see Section IV).

Specific Water Quality Objectives
Stakeholders raised several issues relating to specific water quality objectives which are detailed in Appendix 1 and also addressed individually in the "response to comments" document. The broader issues related to these comments are presented below.

(i) *Stakeholders requested that the application of mineral objectives be clarified.*

There has been debate over the interpretation of the averaging period in the Basin Plan for mineral quality objectives. As worded, the objectives have been applied as instantaneous maxima. However, in the 1975 Basin Plan for the Santa Clara River Basin there was a footnote indicating that the mineral objectives were to be applied as flow weighted averages over a period of time. The footnote was not included in the 1994 Basin Plan, and this has implications on the way the mineral objectives are implemented, particularly for the Publicly Owned Treatment Works that discharge to the Santa Clara River and Calleguas Creek. With the footnote, mineral concentrations were averaged over a year and then compared to the objectives, allowing individual peaks to be moderated and compliance to be more easily achieved. Conversely, without the footnote the objectives must be met at all times, making the objective an instantaneous maximum and compliance more stringent. Resolving this debate is important to facilitate

the calculation of effluent limits, determination of impairment, TMDL development, and is also important to stakeholders in the region. This issue has been addressed in the Santa Clara River Watershed through the adoption of conditional site-specific chloride objectives in the upper Santa Clara River (Regional Board Resolution R08-012). The Regional Board may eventually re-consider averaging periods for mineral water quality objectives in other watersheds.

(ii) *Stakeholders requested specific clarification of how the municipal drinking water (MUN) objectives are to be applied including (a) specifying that the objectives apply on same annual averaging basis as Title 22 Maximum Contaminant Levels (MCLs) and (b) noting that MCLs should not be applied if treatment of water prior to delivery as drinking water would reduce concentrations to appropriate levels.*

The Basin Plan incorporates by reference, some of the provisions of Title 22, which include the MCLs for inorganic chemicals, fluoride, organic chemicals, and radioactivity. These MCLs serve as water quality objectives for waters designated as MUN. However, the Basin Plan does not incorporate other provisions of Title 22, such as the quarterly monitoring provision or the annual compliance provision.

The Basin Plan currently does not specify how the Title 22 MCLs should be implemented in permits. Regional Board staff have relied on 40 CFR part 122.45 (d)(2), which requires the following:

> (d) Continuous discharges. For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as:
>
> (2) Average weekly and average monthly discharge limitations for POTWs.

Therefore, in POTW NPDES permits for the Los Angeles Region, the MCL-based effluent limitations are expressed as monthly averages and monthly monitoring, as required by federal regulation, to determine compliance with the limitations.

Secondary MCLs, which are aesthetic standards, are used to translate the Basin Plan's narrative Water Quality Objectives into numeric effluent limitations, for the protection of human health associated with the MUN beneficial use of the ground water and for the protection of human health associated with the REC-1 and/or MUN beneficial use in surface waters.
For priority pollutants, the SIP procedures must be used to calculate maximum daily and average monthly water quality based effluent limitations. The Title 22 MCLs for carcinogens are similar to the CTR criteria, in that they have the same one-in-a-million cancer risk associated with them. Therefore, setting monthly average limitations for the MCL-based effluent limitations for the protection of human health is consistent with the methodologies in both the SIP and in the USEPA's Technical Support Document.

With respect to not applying MCLs to waters that may be treated prior to use as drinking water, it is EPA's policy for drinking water that contaminants from natural sources do not have to be removed but those from anthropogenic sources do. The Safe Drinking Water Act (SDWA), amended in 1996, promotes a multiple-barrier approach to safeguarding the nation's water supply. This multiple-barrier approach goes beyond the traditional emphasis on treatment to address new challenges and reflects a better understanding of

the need for a coordinated source water protection effort. Preventing contamination of drinking water sources is one of the key elements of the approach. Per EPA, "[r]eliance solely on drinking water treatment, beyond that which is needed to address naturally occurring pollutant concentrations, imposes an unfair burden on communities to address preventable problems caused by man-made sources of pollution".[7]

(iii) *Stakeholders requested that the Regional Board incorporate an approach for determining appropriate hardness values for use in calculating water quality objectives for hardness dependent metals.*

Regional Board staff identified this issue earlier as one that may be addressed in this triennial review period (see Section V).

(vi) *Stakeholders requested that the Regional Board (a) develop appropriate methods for interpreting water quality objectives that relate to "natural conditions," such as temperature, turbidity and pH, and (b) develop implementation provisions that specify how to determine natural conditions and deviations from natural conditions with regard to waste discharges when applying these objectives.*

In the Basin Plan, the temperature, turbidity and pH objectives are tied in part to deviations from "natural conditions." Because many of our watercourses have been altered, determining natural conditions can pose challenges. The Basin Plan states that ambient pH levels shall not be changed by more than 0.5 unit or 0.2 unit from natural conditions as a result of waste discharge for inland waters and enclosed bays or estuaries, respectively. For waters designated WARM or COLD, water temperature shall not be altered by more than 5 degrees F above the natural temperature. Also, the Basin Plan's numeric objective for turbidity states, "Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%." Natural turbidity is not fully defined in the Basin Plan, resulting in ambiguity during the permitting and enforcement processes. Given these objectives, it is important to understand and define what constitutes "natural conditions."

(v) *Stakeholders requested that the Regional Board develop clear translators for narrative standards to indicate how these criteria will be interpreted for use in permits and other regulatory processes/programs.*

This is another issue that has been discussed earlier and identified by staff as one that may be addressed during this triennial review period (see Section V).

(vi) *Stakeholders requested that the Regional Board develop and adopt new water quality objectives for exotic species, algal growth, phosphorus, emerging contaminants, biological community integrity, and revise the Water Quality Objectives for Nitrogen, Nitrate, and Nitrite to provide appropriate protection of aquatic life.*

As discussed earlier, the State Board is in the process of developing the technical tools and infrastructure needed to directly measure biological endpoints, and will eventually establish a regulatory framework for using these tools. Also EPA and State Board are

[7] EPA Memorandom to Regional Water Management Division Directors titled "Effective use of Water Quality Standards to protect Sources of Drinking Water". October 1, 2003.

working in parallel to develop nutrient objectives for California. Regional Board staff will continue their efforts in support of developing nutrient criteria as required by US EPA. Both of these issues are discussed in greater detail in Section V.

(vii) *Stakeholders requested that the Regional Board adopt the sediment quality objectives (SQOs) being developed by the State Water Resources Control Board, and discontinue use of Sediment Quality Guidelines (SQGs).*

The State Water Resources Control Board initiated a process to develop sediment quality objectives (SQOs) for enclosed bays and estuaries in May of 2003. To date, State Board has developed (i) narrative sediment quality objectives to protect benthic communities, which utilize an approach based upon multiple lines of evidence (triad approach), (ii) narrative sediment quality objectives to protect human health from exposure to contaminants in fish tissue, and (iii) an implementation program for the narrative sediment quality objectives based upon input from a scientific steering committee, Sediment Quality Advisory Committee, and staff of the State Board and the Regional Boards, and staff from other state and federal agencies. The work that has been completed, to date, is Phase 1 of the sediment quality objectives program; Phase 1 requirements were adopted by the State Board as part of the Enclosed Bays and Estuaries Plan, which was established through Resolution No. 2008-0070.

Additionally, State Board has initiated a second phase of the sediment quality objectives program (Phase 2), which includes extensive sediment sampling in the Delta; further development of the estuarine chemistry, sediment toxicity, and benthic community indicators; and completion of a more prescriptive framework to address human health and exposure to contaminants in fish tissue. The tools, indicators, and framework developed under Phase 2 will be adopted into the Statewide Enclosed Bays and Estuaries Plan in 2010. Phase 3 is proposed as the development, within available resources, of a framework to protect fish and/or wildlife from the effects of pollutants in sediment. During Phases 2 and 3, staff would continue to evaluate the tools developed during the initial phase and the implementation language. As the Boards' experience grows, the plan would be updated and amended as necessary to more effectively interpret and implement the narrative objectives.

The Regional Board will follow the triad approach developed by the State Board as set forth in the Statewide Enclosed Bays and Estuaries Plan. It is likely, however, that Sediment Quality Guidelines will still be used where applicable in interpreting and implementing the narrative objectives until such a time as State Board develops an alternative approach.

(viii) Stakeholders requested that the Regional Board prioritize and strengthen the water quality objective for toxicity to adequately protect aquatic life.

Narrative objectives are often hard to implement because it is difficult to identify the most appropriate numeric criteria to use when applying them. The US EPA Region IX and X Guidance for Implementing Whole Effluent Toxicity (WET) Testing Programs document provides guidance to permit writers and States on how to best implement EPA's National Pollutant Elimination System (NPDES) regulations regarding appropriate WET limitations and monitoring requirements in NPDES permits. The guidance incorporates information on whole effluent toxicity requirements from supporting EPA documents such as the Technical Support Document for Water Quality-based Toxics Control

[EPA/505/2-90-001, March 1991], commonly referred to as the TSD. The US EPA Region IX and X Guidance for Implementing Whole Effluent Toxicity Testing Programs document is designed to implement national policy on the issues, however, it is not intended to supersede any established State program. In the State Implementation Policy (SIP) the State Board provided some guidance for California regarding toxicity, however, the SIP lacked specificity.

NPDES permit writers in Region 4 used US EPA Region IX and X Guidance for Implementing Whole Effluent Toxicity Testing Programs, the TSD, and the SIP as the basis for including numeric final effluent limitations for chronic toxicity in NPDES permits for Publicly Owned Treatment Works (POTWs). US EPA, environmental groups and other Regional Boards supported that approach. However, the permits were petitioned to the State Board [SWRCB/OCC Files A-1496 & A-1496(a) Los Coyotes/Long Beach Petitions]. The State Board reviewed the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential. On September 16, 2003, at a public hearing, the State Board adopted Order No. WQO 2003-0012, deferring the issue of numeric chronic toxicity effluent limitations until Phase II of the SIP is adopted. In the meantime, the State Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TUC trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This issue is presently under review, but national litigation on the WET program (now resolved) postponed this issue such that it could not be addressed as part of the Phase II revisions to the SIP.

NPDES permit writers in Region 4 are currently using 1 TUc as a trigger for accelerated monitoring, based on the State Board's precedential Order No. WQO 2003-0012. The permits also contain a reopener to allow the Regional Board to modify the permit, if necessary, consistent with any new policy, law, or regulation. State Board is currently developing numeric toxicity objectives and will be proposing objectives of 1 TUc and 1 TUa, and the use of the new EPA test of Significant Toxicity statistical method for determining compliance. Future Regional Board permits and TMDLs will reflect the final adopted objectives.

(ix) *Stakeholders requested that the Regional Board use dissolved metal concentrations to develop permit limits, establish TMDL LAs and WLAs, and determine compliance — as dissolved metals are the bioavailable form of metals and pose the greatest risk to aquatic life.*

While metals criteria established in the CTR are expressed in terms of dissolved metals, NPDES permits are required in most cases to express permit limits as total recoverable metals (see 40 CFR 122.45(c)). As a result, TMDL Load Allocations and Wasteload Allocations are often expressed in terms of total recoverable metals. Staff believes that expressing WLAs and LAs in terms of total recoverable metals also addresses the potential for changes in the partitioning between adsorbed and dissolved forms of a metal.

Bacteria Objectives

(i) *Stakeholders requested that implementation provisions or guidance be developed for indicator bacteria to allow for prioritization of human sources in determining compliance with objectives. Requests were also made to address natural loads and background conditions, as well as to develop allowable number of exceedance days for inland waters based on inland and local conditions.*

EPA has not differentiated between human and non-human sources in setting its recommended national ambient water quality criteria for bacteria. This is because, to date, there are no definitive epidemiological studies demonstrating that the level of risk associated with only non-human sources is substantially less than that of human sources. However, the Regional Board addresses the issue of controlling natural sources of bacteria through its reference system/antidegradation and natural sources exclusion approaches that are a part of the implementation provisions for the region's bacteria objectives. Using the reference system approach, exceedances of the objectives are allowed under certain circumstances where the exceedances are no more frequent than those that are observed in a "reference" system (i.e., a largely pristine, undeveloped area). A beach reference system was identified for use in several bacteria TMDLs in the region. In addition, the Southern California Coastal Water Research Project (SCCWRP) completed a study of reference inland streams in 2008, the results of which may be used in future bacteria TMDLs for inland surface waters. The natural sources exclusion approach is applicable for situations in which an appropriate reference system cannot be identified for the target waterbody, or in instances where natural sources are the sole source of bacteria contamination (i.e. where anthropogenic sources are not present or have been fully controlled). This approach may be further developed for specific watersheds, where supported by adequate data (see Section V).

(ii) *Stakeholders requested the Regional Board revise the bacteria objectives based on an extensive review of the current state of science on bacteria issues.*

The Regional Board is participating in several local and national research efforts that are underway to evaluate potential new water quality objectives for bacteria, including epidemiological studies and methodological developments in the fields of rapid indicators and microbial source tracking. However, final conclusions and recommendations from these efforts are not yet available. Therefore, it would be premature to modify standards while our scientific understanding is still evolving and new methodologies are being developed.

Stormwater and Water Quality Objectives

(i) *Stakeholders requested that the Regional Board re-evaluate the applicability of beneficial uses during wet weather flows, and clarify the applicability of water quality objectives (particularly CTR criteria) to storm water flows.*

Cities have grown very concerned about the regulatory and financial burden associated with the Regional Board's application of the Basin Plan surface water quality standards to storm water. The water quality standards contained in the Basin Plan and other prevailing standards such as those established in the California Toxics Rule (CTR) are applicable to all surface waters. Where surface waters are dominated by stormwater discharges, it is clear that these discharges must be controlled to achieve in-stream water quality standards. Where waterbodies are not achieving water quality standards, TMDLs must be developed, including allocations for stormwater, in order to attain water quality standards. Staff has spent a significant amount of time on related issues in the recent past, providing regulatory flexibility where appropriate, including the Basin Plan amendment to suspend the recreational uses (REC-1 and REC-2) and associated bacteria objectives in engineered channels during wet weather conditions characterized by high flows and a use attainability analysis of the water contact recreation (REC-1) beneficial use of the upper reaches of Ballona Creek. In addition, staff has identified the

evaluation and application (where appropriate) of the high-flow suspension of the recreational uses to engineered channels in Ventura County as an issue that may be addressed in this triennial review cycle (see Section V).

Natural Loading and Site Specific Objectives

(i) *Stakeholders requested that the Regional Board account for natural conditions in re-evaluating Water Quality Objectives. Some suggested that the Board broaden application of the "natural sources exclusion" used in bacterial TMDLs to other naturally occurring constituents based on the SCCWRP natural loadings study*.

A number of chemical constituents are naturally occurring in the environment. These include, but are not limited to, nutrients (nitrogen and phosphorus), minerals and metals. In some cases, these constituents may be naturally elevated above the water quality objective and may exceed the objective more frequently than currently allowed by the objective. In these cases, it may be appropriate to allow exceedances of the objective comparable to those observed in a reference system. Furthermore, it is important in the development of TMDLs to be able to quantify the background levels of the pollutant of concern when setting wasteload allocations and load allocations to achieve the numeric targets in the TMDL.

While this issue was not expressly identified as one that should be addressed during this triennial review period, the Regional Board may eventually consider developing, where appropriate, implementation provisions for water quality objectives where natural sources of a pollutant cause it to be elevated above the current objective, or to exceed the objective more frequently than currently allowed. This has previously been addressed by the Regional Board for mineral quality objectives in coastal groundwater basins (see Section III).

(iii) *Stakeholders requested that the Regional Board establish site-specific objectives (SSO) for various water bodies and pollutants of concern.*

Development of a Site Specific Objective is usually initiated by a formal request from member(s) of the regulated community seeking regulatory relief. Such requests are considered by the Regional Board based on the justification provided by the project proponent as detailed in the SIP. Recently, the Regional Board has adopted SSOs for ammonia in the San Gabriel, Los Angeles, and Santa Clara River watersheds (effective April 23, 2009), modified water quality objectives based on site-specific Water Effect Ratios (WERs) for copper in Lower Calleguas Creek and Mugu Lagoon (effective August 23, 2007), and modified permit limits based on copper WERs for the San Buenaventura Wastewater Treatment Plant (effective March 6, 2008). Regional Board staff has also been actively involved in the development of a copper WER to modify copper permit limits for three POTWs that discharge to the Los Angeles River and the Burbank Western Channel, a tributary to the Los Angeles River. Staff has released for public comment a proposed revision to the implementation plan for the Los Angeles River Watershed Metals TMDL and, specifically, the WLAs assigned to the three POTWs on the basis of the WER. Other SSOs under development in the Los Angeles Region include watershed-wide copper WERs for the Los Angeles River and its tributaries.

Exceedances as a result of Natural Events

Stakeholders requested that the Regional Board develop implementation provisions to allow for exceedances of certain water quality objectives, including metals, nutrients,

mineral quality objectives, and certain organic pollutants such as PAHs and dioxin, as a result of wildfires.

In addition to increased sediment loading to surface waters, studies suggest that wildfires have the potential to impact surface water quality by increased loading of other pollutants such as nutrients, organic compounds and trace metals. However, the magnitude and the duration of these impacts are not well documented. This information is necessary to account for the influence of wildfires on the ability of surface waters to attain water quality standards. The Southern California Coastal Research Project (SCCWRP) recently initiated a study to investigate the fate of water quality constituents that are released during wildfires in southern California. The study will include quantification of the effects of post-fire runoff on downstream loads of metals and organic compounds. The study will also investigate contributions of runoff from burn areas relative to other sources such as ash fallout. Regional Board staff will continually review the state of the science on this issue.

Porter Cologne §13000 and §13241/Economic Factors

Stakeholders requested that the Regional Board (i) revise water quality standards as applied to stormwater, in consideration these factors, (ii) develop protocols to ensure that these factors are adequately considered in the future, and (iii) consider the costs to communities of complying with water quality standards.

The superior court, in *Cities of Arcadia v. State Water Resources Control Board*, issued a writ of mandate pertaining to these issues in November 2008. However, the *Arcadia* case is currently under appeal, and the writ is currently stayed.

Implementation

(i) *Stakeholders requested that the Regional Board develop guidelines for implementation program development, consistent with the requirements of Porter-Cologne Section 13242, for existing and future Basin Plan water quality standards.*

The superior court, in *Cities of Arcadia v. State Water Resources Control Board*, issued a writ of mandate pertaining to these issues in November 2008. However, the *Arcadia* case is currently under appeal, and the writ is currently stayed.(ii) *Stakeholders requested that the Regional Board consider developing a policy on pollution trading/offsets for inclusion in the Basin Plan using the U.S. EPA guidance document, Water Quality Trading Policy, January 13, 2003.*

Pollutant trading is an approach that potentially offers efficiency in achieving water quality goals on a watershed basis. It allows one source to meet its regulatory obligations by using pollutant reductions by another source that has lower pollution control costs. Trading capitalizes on economies of scale and the control cost differentials among and between sources.

The U.S. EPA believes that under certain circumstances market-based approaches such as pollutant trading may provide greater flexibility and have greater potential to achieve water quality and environmental benefits than would otherwise be achieved under more traditional regulatory approaches. Market-based programs can potentially achieve water quality goals at substantial economic savings.

U.S. EPA has issued a policy to encourage states, interstate agencies and tribes to develop and implement water quality trading programs for nutrients, sediments and other pollutants where opportunities exist to achieve water quality improvements at reduced costs. More specifically, the policy is intended to encourage voluntary trading programs that facilitate implementation of TMDLs, reduce the costs of compliance with CWA regulations, establish incentives for voluntary reductions and promote watershed-based initiatives. A number of states are in various stages of developing trading programs. U.S. EPA's policy provides guidance for states, interstate agencies and tribes to assist them in developing and implementing such programs. The Regional Board does not consider this issue as one of its priorities at this time.

(iii) *Stakeholders requested that the Regional Board consider adopting a variance policy or general permit for short-term discharges with no significant impact.*

Currently the Regional Board does not have the authority without a variance policy to grant exceptions to water quality standards. However, there may be situations, such as groundwater dewatering during construction, where because the discharge is small, of a limited duration, and has no significant potential environmental impacts, a variance may be appropriate for certain constituents (e.g., salts). Such a policy would not apply to any priority pollutants. According to EPA, water quality standard variances require similar substantive and procedural requirements to removing a designated use, but unlike removing a use, variances are discharger and pollutant specific, are for a limited period of time, and do not remove the underlying beneficial use(s) of the water body. A variance policy has been developed for groundwater mineral quality objectives where mineral concentrations are elevated due to proximity to the coast (see Section III). While it would be worthwhile to explore the feasibility of developing a similar "categorical" variance policy for surface waters that would outline the conditions under which a variance might be granted; limited resource preclude staff from identifying this issue as a priority.

Total Maximum Daily Loads (TMDLs)

(i) *Stakeholders requested that the Regional Board establish clear guidelines for the preparation and approval of TMDL implementation Plans (so that responsible agencies' implementation efforts are in accordance with an adopted implementation compliance plan).*

TMDL Staff Reports and Basin Plan language generally contain clear guidelines for the preparation and approval of TMDL Implementation Plans. The purpose of such plans is to detail the manner in which implementing agencies intend to achieve compliance with applicable wasteload allocations and/or load allocations in a given TMDL. Implementation plans are generally developed with input from Regional Board staff and other interested parties. This is standard practice for all TMDLs; any further guidance runs the risk of over-prescribing the actions of responsible jurisdictions.

(ii) *Stakeholders requested that the Regional Board include a provision in the Basin Plan to allow adopted TMDLs to be modified and updated with the most recent findings established while developing newer TMDLs for similar impairments in other watersheds.*

Several of the TMDLs adopted by the Regional Board include a provision to reconsider the TMDL to incorporate results and findings from pertinent on-going or future studies. In addition, stakeholders have the option to request the reconsideration of any TMDL based on relevant new findings.

(iii) *Stakeholders requested that the Regional Board develop guidance or a policy on incorporation of TMDL requirements into permits.*

TMDLs are not self-implementing; their requirements must subsequently be incorporated into various permits, enforcement orders, or other regulatory tools available to the Regional Board or other regulatory. Basin Plan language generally describes the regulatory mechanism(s) through which the associated wasteload allocations and load allocations will be implemented. However, greater specificity on how these requirements will be incorporated into these mechanisms may be valuable.

Stormwater

Stakeholders requested that the Regional Board develop a separate chapter on stormwater in the Basin Plan to include relevant information and applicable regulatory requirements and references.

Regulating stormwater discharges has become more of a priority over the past decade as large point sources of pollution have been largely addressed. With the increased regulatory focus on stormwater, it may be useful to update and expand the discussion of stormwater in the Basin Plan and to compile all existing regulatory requirements or references to stormwater requirements into one section.

While compiling all relevant information on stormwater in a separate section may be useful, separating out water quality regulations as they pertain to stormwater is misleading. The water quality objectives in the Basin Plan apply to the receiving waters, not to types of discharges. While there may be consideration of the source of the discharge in terms of compliance and enforcement actions, the water quality objectives will always be applicable to the surface waters in the absence of UAAs, variances or modifications through SSOs.

Hydromodification

Stakeholders requested that the Regional Board develop regional hydromodification and low impact development (LID) policies with their input.

Regional Board staff has identified the development of a hydromodification policy as an issue that may be addressed during this triennial review period. As previously discussed in Section V, the Regional Board is working towards a comprehensive policy to control the water quality related impacts of hydromodification in order to protect wetlands and stream systems and their beneficial uses in the Los Angeles Region. Recently, the Regional Board received stimulus funds for a technical component of this project that will be completed by SCCWRP. The related policy component will be developed by Board staff as resources allow. These efforts complement the work of the State Board and the North Coast and San Francisco Bay Regional Boards on the Wetland and Riparian Areas Protection Policy, which is intended to protect and restore the physical integrity of streams, riparian areas, estuaries and wetlands in order to enhance water quality and support beneficial uses. Stakeholder input will be actively and sought and encouraged during the development of this policy. With regard to LID, the Regional Board in its recent adoption of the Ventura County MS4 Permit has incorporated significant requirements with regard to LID for new development and redevelopment. Similar requirements will be proposed for other MS4 permits as they are renewed.

Design Storm

Stakeholders requested that the Regional Board develop and incorporate water quality and/or storm sizing criteria or requirements for design of control measures, and for enforcement considerations.

During the previous Triennial Review, several stakeholders suggested the formation of a Wet Weather Task Force to discuss and identify potential solutions to the challenges involved in complying with water quality standards and total maximum daily loads (TMDLs) during wet weather. Specifically, the agencies suggested that this task force serve as a forum for identifying and evaluating potential project ideas, including revisions to water quality standards, where appropriate, and mechanisms for complying with water quality standards and TMDLs under wet weather conditions.

The Regional Board endorsed this idea, acknowledging the significant challenge in complying with water quality standards and TMDLs during wet weather. At the March 3, 2005 Board hearing to prioritize projects for the Triennial Review, the Regional Board added an item to the list of priorities to convene a wet weather task force. Specifically, the Regional Board committed to convening a wet weather task force, initially led by the Regional Board and comprised of representative stakeholders in the Region, to identify a menu of project concepts addressing wet weather concerns as they relate to water quality standards.

Staff convened two initial meetings of the Wet Weather Task Force (WWTF) on July 27, 2005 and October 19, 2005. The meetings were attended by representatives of cities, the County of Los Angeles, County Sanitation Districts of Los Angeles County, the construction and building industry, Heal the Bay, and various consultants. The group discussed broad goals for the task force as well as more specific questions and then identified and prioritized project ideas.

As a result of these meetings, the WWTF convened a Project Steering Committee (PSC) for a specific project to evaluate design storm criteria for achieving TMDL requirements and water quality standards during wet weather. The members of the PSC include representatives from the County of Los Angeles, City of Los Angeles, County Sanitation District, Cities of Downey and Signal Hill, Building Industry Association of Southern California, Heal the Bay, and several consultants, among others. The Regional Board contracted with SCCWRP to develop potential design storm criteria and evaluate these concepts and study findings with the PSC. The Regional Board, SCCWRP and the PSC met eight times over a period of two years on this project. The initial phase of the project was completed in 2007, resulting in a conceptual framework and pilot modeling application that were endorsed by the members of the PSC.

However additional work needs to be taken before the concepts developed in this project can be translated into a Regional Board policy. First, it is necessary to evaluate how consistent the results are across different pollutants, land uses and watersheds. Second, additional data collection and modeling of variability in runoff quality and BMP effluent quality would result in more precise estimates of the probability of achieving a certain reduction in pollutant load or frequency of exceedance of a water quality standard. Finally, there are a number of policy issues related to implementation of design storm criteria such as how the criteria would apply to new development, redevelopment and existing development within a watershed. It will be essential to consider these issues

and an implementation strategy before adopting any design storm criteria. Unfortunately, the Regional Board has, to date, been unable to secure funding to complete this work.

Atmospheric Deposition

(i) *Stakeholders requested that the Regional Board consider atmospheric deposition when establishing beneficial uses and water quality objectives.*

While atmospheric deposition may contribute to background levels of certain pollutants, it cannot be viewed as a natural source to be factored into the development of water quality objectives and/or the consideration of beneficial uses. The Regional Board is aware of the contribution of atmospheric deposition to impairments in different waterbodies. In developing TMDLs, contributions from atmospheric deposition may in some circumstances be subtracted from pollutant loads before allocations are assigned to responsible jurisdictions to prevent responsible agencies under the TMDL from being unfairly assigned responsibility for pollutants beyond their control. However federal law requires that the total load of each pollutant in each water body be accounted for in one manner or another.

UCLA researchers and SCCWRP are currently working to quantify atmospheric deposition in southern California for a number of constituents, some of which are pollutants. These include trace metals (copper, zinc, lead), hydrophobic organic compounds (DDT, PCB, PAH) and macro- and micro-nutrients (iron, nitrogen, phosphorus). These data can help provide better estimates of the atmospheric contribution to pollution loadings in aquatic systems.

Atmospheric deposition is a controllable anthropogenic source. However, because it is generated from a different media it is necessary to work in conjunction with regulators of air pollution to come up with a comprehensive approach of dealing with its impacts on water quality. The Regional Board has initiated several discussions with the ARB and South Coast AQMD on this issue.

Tributary Rule

Stakeholders requested that the Regional Board clarify the application of the tributary rule as well as re-evaluate and revise it as necessary.

Because not all water bodies are individually listed in the Basin Plan, Chapter 2 includes two statements to extend protection to water bodies not specifically identified in Tables 2-1 through 2-4 (generally smaller streams and creeks). First, it states that "beneficial uses of inland surface waters generally include REC-1 (swimmable) and WARM, COLD, SAL, or COMM (fishable), reflecting the goals of the federal Clean Water Act. In addition, inland waters are usually designated as IND, PROC, REC-2, WILD, and are sometimes designated as BIOL and RARE." Second, it states that "those waters not specifically listed (generally smaller tributaries) are designated with the same beneficial uses as the streams, lakes, or reservoirs to which they are tributary. This is commonly referred to as the 'tributary rule'."[8] A similar rule applies to groundwater basins. (See Basin Plan, p. 2-

[8] For ocean waters, the California Ocean Plan (2005) includes a similar statement, "the beneficial uses of the ocean waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation…; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting." And, for groundwater, the Basin Plan includes a similar statement, "many groundwater basins are designated MUN, reflecting the importance of groundwater as a source of drinking water in the Region…other beneficial uses for groundwater are generally IND, PROC, and AGR." A footnote to Table 2-3 further states that, "groundwaters outside of

4; Table 2-1, Footnote a; Table 2-2, Footnote ac; Table 2-3, Footnote a; Table 2-4, Footnote a.)

Some stakeholders have questioned the Board's application of the tributary rule. Specifically, there have been questions regarding how the rule is applied when an unnamed freshwater stream is tributary to the ocean where the beneficial uses and water quality objectives for marine waters are not necessarily appropriate for freshwater systems. Others have raised concerns about what constitutes a "tributary" and whether the rule is applied too broadly. For example, there are questions regarding whether agricultural drainages, storm water conveyances and ephemeral washes are considered "tributaries". It may be helpful to clarify the Board's application of this rule in regulatory decisions and to correct misconceptions about the application of this rule.

Recycled Water/Stormwater Reuse

Stakeholders requested that the Regional Board develop policy or guidance on recycled (reclaimed) water and stormwater reuse that is consistent with the State Recycled Water Policy and adequately addresses the issues of groundwater quality and quantity.

Groundwater is an important source of water in Los Angeles County, providing approximately 40% of the total demand. Groundwater reserves also provide an emergency supply of water during droughts and natural disasters that disrupt normal water deliveries. The Central and West Coast Groundwater Basins are artificially replenished by spreading and injecting replacement water. One of the three sources of the replacement water is highly treated recycled water (reclaimed wastewater), purchased from the Los Angeles County Sanitation District, which is conveyed to various spreading grounds.

In dry years water agencies must import water from the State Water Project, where chloride concentrations can exceed the groundwater recharge standards. Water conservation efforts increase the mineral content of wastewater, making it difficult to conserve water, while meeting water quality standards.

The State Water Resources Control Board adopted a Recycled Water Policy in February 2009 (effective date May 14, 2009). The purpose of this Policy is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code section 13050(n), in a manner that implements state and federal water quality laws. The State Board expects to develop additional policies to encourage the reuse of stormwater, water conservation, and the conjunctive use of surface and groundwater, as well as to improve the use of local water supplies. The Regional Board intends to fully comply with the directives of the Recycled Water Policy including the requirement to support the development of Salt and Nutrient Management Plans.

Basin Plan Updates

Stakeholders requested several updates to the Basin Plan, including updates to maps and tables, incorporation of applicable State, Regional Board, and other plans and

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the major basins are either potential or existing sources of water for downgradient basins, and as such beneficial uses in the downgradient basins shall apply to these areas."

policies, and other pertinent water quality plans and policies, revisions to existing chapters and the addition of new chapters. These are detailed in Appendix 1.

Administrative updates to the Basin Plan have been identified by staff as one of the issues that should be addressed during this triennial review period. This will include updates to maps and beneficial use tables and inclusion of information for clarification purposes, and the incorporation by reference of relevant regulations and policy that are already in effect. See additional discussion of this issue in Section V. However, any further updates, beyond these administrative updates, that require additional Board action would have to be addressed separately on a case-by-case basis as staff resources allow.

National Pollutant Discharge Elimination System (NPDES) Issues

(i) *Stakeholders requested that the Regional Board examine or re-examine the relationship between stringent numeric limits and water quality standards for toxicity, as well as the reasonableness of stringent numeric limits themselves.*

As discussed earlier, State Board reviewed the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential. On September 16, 2003, at a public hearing, the State Board adopted Order No. WQO 2003-0012, deferring the issue of numeric chronic toxicity effluent limitations until Phase II of the SIP is adopted. In the meantime, the State Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TUc trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This issue is presently under review, but national litigation on the WET program (now resolved) postponed this issue such that it could not be addressed as part of the Phase II revisions to the SIP. See Section V for additional discussion.

(ii) *Stakeholders requested that the Regional Board develop guidelines to address how the Regional Board will determine dilution factors and assimilative capacity.*

The Basin Plan stipulates that, on a case-by-case basis, although rare in inland waters, the Regional Board may allow a *mixing zone* for compliance with receiving water objectives. In rivers and streams, an approved mixing zone may not extend more than 250 feet from the point of discharge or be located less than 500 feet from an adjacent mixing zone. In lakes or reservoirs, it may not extend more than 25 feet in any direction from the discharge point, and the sum of mixing zones may not be more than 5% of the volume of the water body. Mixing zones are also addressed for priority toxic pollutants (but not conventional pollutants) in the State Implementation Policy. As detailed in the State's Ocean Plan, ocean dilution zones are determined using standard models. Since many of the streams in the Region have minimal upstream flows and therefore minimal dilution of effluent, mixing zones are usually not appropriate.

It may be helpful to Regional Board staff and dischargers to further clarify under what conditions mixing zones may be allowed, and under what conditions they would be prohibited. Other regions have considered this question in a "Point of Application" policy. For example, two conditions may be required to allow any mixing zone: a) upstream flow of better water quality to create a mixing zone, and b) the waterbody may not be listed as impaired on the CWA section 303(d) list of water quality limited segments. Consideration also might be given to the nature of the pollutant (e.g., discharge of residual chlorine might be allowed a short zone of volatilization).

PRIORITIZED STAKEHOLDER ISSUES

Stakeholders were encouraged to present their top three priorities at the Board Workshop on April 2, 2009; and were given additional time (until April 16, 2009) to submit these priorities in writing. Staff received 14 comment letters listing stakeholder priorities as requested. These issues are listed in Table 3 below.

Table 3: Stakeholder's top three priorities for consideration during the 2008-2010 Triennial Review

Stakeholder	Priority (1)	Priority (2)	Priority (3)
Boeing	Evaluate Natural Background Conditions.	Consider the actual morphology of the receiving stream when establishing water quality objectives.	Establish a Design Storm
Calleguas Creek Management Plan	A top priority should be to review and address all beneficial use and objective issues associated with the bacteria standards	Exclusion modify the Basin Plan to recognize the use of a natural sources exclusion for pollutants other than bacteria	In 2006, the CCWMP submitted a proposed recalculation of the nickel CTR criteria as SSOs in Mugu Lagoon and the Lower South San Francisco Bay to the Regional Board staff for consideration. The application of the Nickel SSO can be considered on a region-wide scale and is appropriate for evaluation during the triennial review process.
City of Los Angeles	Recycled Water Maximum Benefit and Salt/Nutrient Management Plans. Amend the Basin Plan to include a policy or guidance to promote the use of recycled water and' the use of storrnwater..	Re-open TMDLs to Incorporate Scientific Studies (NH4 & Cu), adjust Implementation Schedules and apply Dissolved Metals Criteria and hardness for determining compliance	Revisit recreational standards (uses and objectives) for inland surface water bodies
County Sanitation Districts of Los Angeles County	Address the shortcomings in the existing Basin Plan before undertaking any major efforts to develop new criteria for inclusion in the Basin Plan; given the restriction on staffing resources available to the Regional Board	Honor existing commitments to reopen adopted Total Maximum Daily Loads (TMDLs) before moving forward with development of new criteria for inclusion in the Basin Plan.	Continue existing projects initiated under the 2004 Triennial Review Two of these existing projects are development of a design storm and development of tiered aquatic life beneficial uses.
Executive Advisory Committee	Develop a Basin Plan stormwater chapter that recognizes the many unique attributes of stormwater	A more comprehensive revision to existing flood control channel beneficial uses is needed. Flood Protection (FLOOD) and Treated Effluent Conveyance (EFFLUENT) beneficial uses should be added to the Basin Plan.	Beneficial Uses and waterquality objectives should be adjusted to account for natural loadings

Stakeholder	Priority (1)	Priority (2)	Priority (3)
Heal the Bay	Address the issue of euthrophication: prioritize developing a water quality objective for total phosphorus, modifying the water quality objective for total nitrogen which is inappropriately based on a drinking water guideline, and including a water quality objective for excess algal growth.	Adopt a WQO Based on Biocriteria. Currently, there is no WQO in the Basin Plan to comprehensively protect the biological integrity in the surface water environment. The biocriteria developed by CDFG is a good place to start the WQO development process.	Strengthen the water quality objective for toxicity The Basin Plan's narrative toxicity water quality objectives are absolutely critical for protecting many of the beneficial uses in the region's waters, and we strongly suggest they be strengthened to reflect current scientific understanding by adding a numeric chronic toxicity objective.
Las Virgenes MWD	New water quality objectives must consider their economic impact on the regulated community and the public per Water Code §13241.	The Basin Plan should recognize natural limits to beneficial uses and Water Quality Objectives- as a result of naturally occurring pollutants. .	Defer the development of bioassessments as water quality objectives and water quality indicators, as current science does not support it.
Rutan & Tucker	Conduct a comprehensive review of the Water Quality Standards in the Basin Plan ("Standards"), in light of the factors and considerations under Water Code §§ 13241 and 13000.	Delete the "potential" use designations in the Basin Plan in their entirety, or delete and replace with properly designated "probable future" use designations.	Create a separate "Stormwater Chapter" to address the peculiarities and differences between Stormwater runoff and traditional point source discharges.
Santa Mmonica BayKeeper	Regional Board should prioritize the development of an exotic species WQO during the Triennial Review process or modify the existing exotic vegetation WQO to incluide "exotic species."	Update the Basin Plan to state that bacteria standards can be met via either existing E. coli density levels or the Enterococcus standards included in the EPA's 1986 Ambient Water Quality Criteria.	The Regional Board has no authority to weaken the California Toxics Rule, pathogen standards for coastal recreation waters, and standards for trash
State Department of Parks and Recreation	Conduct a Use Attainability Analysis (UAA) to evaluate and address the appropriate designation of REC-1 beneficial uses for both the Santa Clara River Estuary and McGrath Lake.		
Ventura County Coastkeeper	Do not Select for Review the Basin Plan's REC-1 and REC-2 Beneficial Use Definitions and Designation for the Purpose of Weakening Current Protections.	Do not Review Bacteria Water Quality Objectives in the Basin Plan for the Purpose of Weakening Water Quality Protections.	Do not select for Review the Development and Adoption of a "Flood Control" Beneficial Use Designation.
Ventura County SWQMP	Revise REC1 and REC2 uses to be consistent with EPA guidance and	Remove the fecal coliform objective from the Basin Plan for	Criteria for number of exceedances days and single sample maximum

Stakeholder	Priority (1)	Priority (2)	Priority (3)
	develop criteria for suspension of water quality objectives due to dangerously high flows or low flows that limit body contact.	freshwaters, and consider removing both the fecal and total coliform objectives for marine waters.	allowable densities (SSMs) should be based on confidence levels described in EPA's Criteria Document and local conditions, and the controllability issues should be acknowledged.
Ventura County Watershed Protection District	Assess the appropriateness of applying recreational (REC-1 and REC-2) beneficial use designations to situations where body contact is highly unlikely such as artificial or improved drainage channels, especially channels where public access is restricted, or dry periods when there are very low flows.	Ambient and natural loads should be evaluated in several situations. Consider whether bacteria water quality objectives should be revised to account for non-human ambient loads, to reflect wet and dry period variability, and to optimize health and ecological risk attenuation using both risk based and cost benefit approaches. Also, the narrative Basin Plan sediment standards should be considered to reflect ambient and natural sediment loads, and the beneficial role that transported sediment has in beach nourishment and erosion control.	Consider revisions and updates to Basin Plan tables listing federal and state maximum contamination levels using the most current available data and information. This should be done in all areas, but specifically please re-evaluate Ventura County's groundwater and surface water objectives (Basin Plan Tables 3-8 and 3-10) using available data generated since 1994.
West Basin MWD	Consider recycled water issues in general, a top priority for the Basin and local water supplies. A mechanism in Basin Plans allowing for individual evaluation of specific water quality requirement on a project by project basis would be helpful so that the best quality water can be delivered to this region.	Consider background levels of chloride when setting recycled water standards. Rising chloride levels due to state water allocations are affecting both potable and non-potable water industries. West Basin receives water which is increasing in chloride but has more stringent standards than the potable industry (secondary drinking water standards set as compliance level for recycled water). When evaluating recycled water use for the Basin, we request that the Board consider background levels of raw water coming into the region and again, allowing for a mechanism for	While flushing permits are covered in a different permit and policy, it is Important to note that recycled water distribution systems must be maintained similar to potable, with occasional flushing to keep the water quality has high as possible. A Basin Plan that would prioritize recycled water consistency should again have a mechanism to discharge water in limited amounts to the basin on an agency by agency basis allow some relief if basin plan limits might be slightly exceeded for a short period of time.

Stakeholder	Priority (1)	Priority (2)	Priority (3)
		compliance relief if water agencies are utilizing the best technology and methods available under the specific water requirements.	

VII. REGIONAL BOARD PREFERENCES AND STAFF RECOMMENDATIONS ON TRIENNIAL REVIEW PRIORITIES

At the April 2, 2009 Board workshop, Regional Board members expressed the desire to address those issues that would protect water quality, while addressing the concerns of the regulated community. General Issues identified are contained in Table 4 below; explanations are provided following Table 4 for those issues not recommended by staff. Staff will present these final recommendations to the Board for formal adoption at the April 1, 2010 Board Hearing.

Table 4: Regional Board Preferences Regarding Issues to be Addressed during this Triennial Review Period

Board Preferences	Stakeholder Issue	Staff Recommendation
Continue work on the Design Storm	Yes	As funding allows
Reconsider the application of REC-1 and REC-2 beneficial uses in specific instances, where appropriate	Yes	Recommended
Develop guidance on the incorporation of TMDLs into permits	Yes	Recommend using pollutant-specific prototypes developed during process of permit revisions and renewals
Re-evaluate how bacteria water quality objectives should be applied in compliance determination, based on more recent monitoring results	Yes	Recommended
Develop a separate stormwater chapter in the Basin Plan	Yes	Recommend updating current stormwater discussion in Basin Plan (Chapter 4), and including any new policy that may result from the completion of the Design Storm project in Chapter 5, Plans and Policies, of the Basin Plan
Administrative Update of Basin Plan, including maps for clarity	Yes	Recommended – including update on stormwater section (see above item)
Consider developing a comprehensive data base on the current state of water quality in the region – in the long-term	No	Recommend relying on already existing statewide databases
Consider economic impacts when developing Basin Plan Amendments	Yes	Recommend clearly distinguishing economic considerations from other components of future Basin Plan amendments

Continue work on the Design Storm

As discussed previously, work on the Design Storm project has been stalled by a lack of funding to complete the work necessary to form the basis of a policy that addresses wet weather compliance with water quality objectives. Should funding be made available staff should continue efforts towards developing this policy.

Develop guidance on incorporating TMDLs into permits

To date, the Regional Board has incorporated numerous TMDLs into municipal permits, three TMDLs into the MS4 permit for Los Angeles County, and seven TMDLs into the Ventura County MS4 permit. Since the incorporation of TMDLs into the Ventura County MS4 permit, staff determined that greater specificity was advantageous in establishing (i) how waste load allocations (WLAs) are expressed, (ii) how compliance with the WLAs will be determined, (iii) enforcement triggers, and (iv) monitoring and reporting requirements. This specificity is provided in the recently incorporated Los Angeles River Watershed Trash TMDL in the Los Angeles County MS4 Permit. In providing a greater degree of specificity, as exhibited in the recently incorporated provisions, the unique elements of different TMDLs for different types of pollutants become more evident. Guidance that broadly covers incorporation of all TMDLs into permits may not adequately reflect these distinctions. Therefore, staff recommends that prototypes be developed on a pollutant-by-pollutant basis as part of the process of renewing MS4 permits as well as other types of NPDES permits, waste discharge requirements, and waivers. This will result in all TMDLs for a given pollutant or group of pollutants being incorporated in a consistent manner. The incorporation of the Santa Monica Bay Beaches Dry Weather Bacteria TMDL into the Los Angeles County MS4 Permit served as a template for the incorporation of the Marina del Rey Harbor Dry Weather Bacteria TMDL. In a similar vein, the Los Angeles River Watershed Trash TMDL incorporation will likely serve as the prototype for all future trash TMDLs incorporated into MS4 permits. Staff strongly recommends that the Regional Board sanction this approach to TMDL incorporation in lieu of a single policy that may not capture the distinguishing elements of different pollutant TMDLs.

Develop a separate stormwater chapter in the Basin Plan

The Basin Plan discusses stormwater in Chapter 4 – Strategic Planning and Implementation, along with other point and non-point source discharges. However, this section could benefit from an update based upon the information currently available. Such an update could be performed as part of the recommended administrative update of the Basin Plan. The challenges involved with stormwater compliance with water quality standards are to be addressed through the Design Storm Project, and any resulting stormwater policy would be contained in Chapter 5 – *Plans and Policies* of the Basin Plan.

Develop a comprehensive database on the current state of water quality in the region

State Board programs such as the California Integrated Water Quality System (CIWQS), the Groundwater Ambient Monitoring and Assessment (GAMA) Program and the Surface Water Ambient Monitoring Program (SWAMP) are comprehensive databases, which generate and compile water quality data statewide. The CIWQS is one of the Water Boards' primary regulatory information tracking systems. It is a web-based relational database for core regulatory water quality data for use by staff, management, and the public, that allows for more efficient and effective performance of regulatory and

other functions. It improves data integration between programs, and access to much data that would otherwise not be easily available to the public. The SWAMP database is a standardized data management, evaluation and reporting system, which serves as the mechanism for data sharing among project participants. Data sharing produces an integrated hydrologic unit assessment of the State's surface waters. SWAMP represents an initial effort toward data standardization among regions, agencies, and laboratories, and protocols adopted by this program can be used for data sharing across other projects in the State. SWAMP also hosts a web portal "My Water Quality", accessible from the State Board website, which presents California water quality monitoring data and assessment information which can be viewed across space and time.

The GAMA program collects data by testing the untreated, raw water in different types of wells for naturally occurring and man-made chemicals. These test results and existing groundwater quality data from several agencies are compiled into a publicly accessible database. These databases are constantly evolving to keep up with management needs.

In addition, the section 303(d) List of Impaired Waterbodies and companion reports are available on the State Board and all Regional Board websites, and include fact sheets that provide water quality data and information for waterbodies across the state.

In consideration of what is already available, development of a region-specific comprehensive database is not necessary and would be redundant with these other statewide databases.

Consider economic impacts when developing Basin Plan Amendments

Regional Board staff has always given consideration to economic impacts in developing Basin Plan amendments, and in considerable detail in our more recent TMDLs. For clarity and transparency, staff recommends that these considerations are clearly distinguished in public notice documents from other components of future Basin Plan amendments.

STAFF RECOMMENDATIONS

The Basin Planning Program currently consists of 1.5 PYs; some of these resources are used towards supporting other programs and for on-going projects. Therefore, the number of projects that can be addressed this triennial review period is limited. Based on available resources, stakeholder input, and Board preferences, staff recommends the following list of issues for consideration during this period:

- Determine how bacteria water quality objectives should be applied in compliance determination based on more recent monitoring results;
- Reconsider the application of REC-1 and REC-2 beneficial uses in specific instances, where appropriate;
- Complete an administrative update of the Basin Plan;
- Complete work on the Design Storm project (should funding become available);
- Continue work on the Hydromodification Policy;
- Provide support to other Regional Board Programs including TMDLs, Municipal Permitting, and Stormwater Permitting; and
- Address legal and regulatory mandates (where required).